

**DEVELOPMENT OF REGIONAL IMPACT (DRI)
TRAFFIC IMPACT STUDY REPORT**

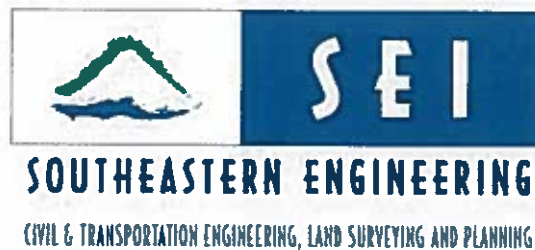
FOR

**Woodbury Park
(DRI #2654)
Fulton County, Georgia**

Prepared For:

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EXECUTIVE SUMMARY

Southeastern Engineering Inc. (SEI) has conducted a traffic study to determine the impacts of a proposed mixed used development in the Fulton County, Georgia. The proposed project site is bounded by Fulton Industrial Boulevard on the northwest side, Campbellton Road on the south and southeast sides, and Riverside Drive on the northeast side.

The project is expected to generate 24,354 net trips to a mix of office, residential, industrial, and commercial space. The project consists of 2.2 million square feet of warehouse/distribution space; 185,831 square feet of commercial space; 108,000 square feet of office space; and 126 townhome units. Separate assignments were used for the car and truck traffic due to influence of the industrial site.

The site has six separate sections, which will be built out in various stages. The recommended traffic improvements will be needed with the specific build-outs of each section because each of them have a difference influence on the expected traffic.

The project will involve the addition of turn lanes on Camp Creek Parkway, Campbellton Road and Riverside Drive, as well as the potential installation of a traffic signal at one of the proposed driveways and at the intersection of Fulton Industrial Boulevard and Riverside Drive to improve traffic flow. The improvements to SR 70 and Riverside will be needed once the site sections with access on SR 70 are built, but the improvements to Camp Creek Parkway and Riverside will not be needed until the commercial area on the southeast corner is built.

Capacity analyses and level of service evaluations of the intersections in the project area were conducted for existing conditions, future conditions without the project (No Build), and future conditions with the proposed project (Build). Evaluations were used to determine any potential mitigation that might be recommended to resolve traffic issues resulting from the proposed project.

The traffic analysis has shown that the system of roads can support the proposed development and maintain similar levels of service with recommended improvements to what would be experienced without the development in the future condition.

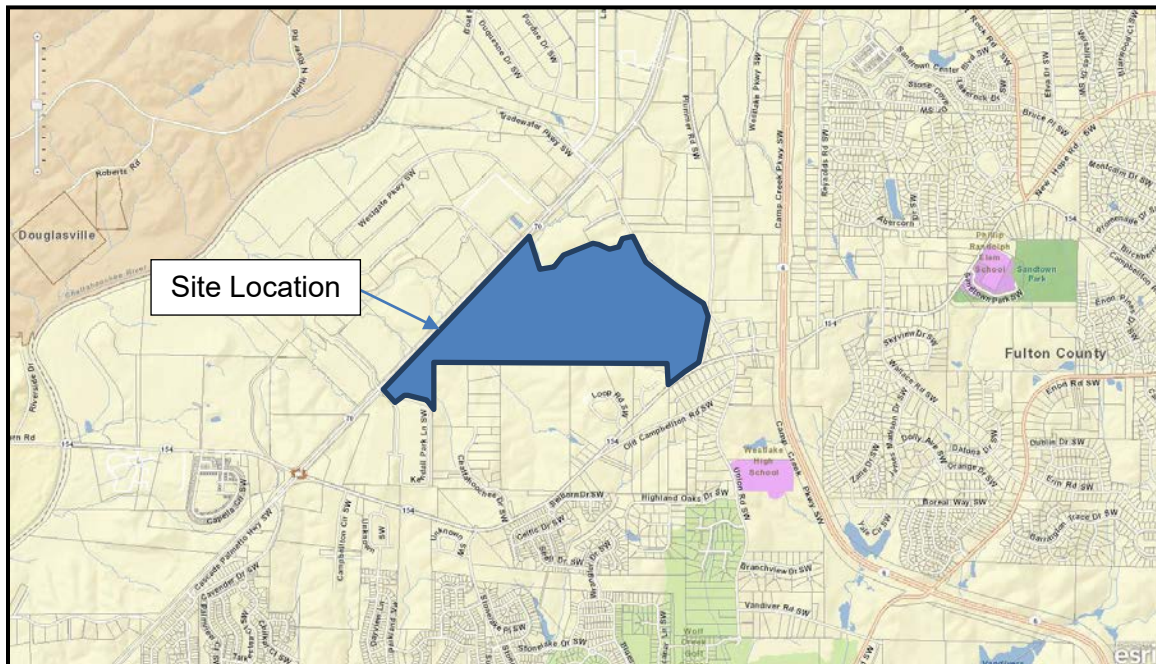
Recommendations are made for 7 intersections in the study area.

INTRODUCTION

Background

Southeastern Engineering, Inc. (SEI) performed a traffic study for the Development of Regional Impact (DRI) review package for the proposed Woodbury Park Mixed Use Development in Fulton County, GA. The site is located in Fulton County on SR 70/Fulton Industrial Boulevard north of SR 166/SR 154 (Campbellton Road) and southwest of Riverside Drive. The distribution center is currently scheduled to open in 2022. The proposed site location is shown in Figure 1.

Figure 1: Site Location



Surrounding Area

The study area consists of seven existing intersections along Fulton Industrial Boulevard, Riverside Drive/Union Road at Campbellton Road/SR 154, Camp Creek Parkway at Campbellton Road, Plummer Road at Riverside Drive, Stonewell Tell Road at Campbellton Road/SR 154 as well as eleven proposed driveways: four on Riverside Drive, three on Campbellton Road/SR 154, three on Fulton Industrial Boulevard/SR 70, and one on Kendall Park Lane. The study area is bounded by Boat Rock Boulevard to the north and Campbellton Road/SR 154 to the south, both of which intersect Fulton Industrial Boulevard/SR 70. The transportation facilities within the study area are described as follows:

Overall Study Area Roadways

The following section provides a written description of the study area facilities, followed by Table 1 which displays the functional classification of study-area facilities.

Fulton Industrial Boulevard (SR 70)

Fulton Industrial Boulevard is a four-lane divided state roadway north of its intersection with Campbellton Road (SR 166) and a two-lane undivided roadway south of Campbellton Road. In the vicinity of this project, the roadway has primarily a northeast-southwest orientation.

Classified as an urban minor arterial, Fulton Industrial Boulevard is a four-lane divided highway with a grassy median and 10-foot shoulders north of and alongside the site. On the northern side, the sidewalk stretches alongside industrial use. The road is clearly striped, but is showing initial signs of deterioration such as long cracks and potholes. South of the site the median, one lane in each direction, and shoulders drop as it turns into Cascade Palmetto Highway.

Campbellton Road (SR 166 & 154)

Campbellton Road is a two-lane undivided roadway that serves as an east-west roadway through the vicinity of the proposed project site. Within the study area, GDOT classifies this road as an urban minor arterial.

Camp Creek Parkway (SR 6)

Camp Creek Parkway is a four-lane divided roadway with a north-south orientation in the vicinity of the proposed project site. GDOT classifies this road as an urban principal arterial.

Camp Creek Parkway (SR 6) does not directly border the site, but it is a major urban arterial east of the development. The four-lane divided highway has a grassy median and 4-foot shoulders.

Riverside Drive

Riverside Drive is a two-lane undivided roadway. This road is an urban local street, with a north-south orientation.

Plummer Road

Plummer Road is two-lane undivided urban local street that runs north to south between Fulton Industrial Boulevard and Riverside Drive.

Boat Rock Road/Boat Rock Boulevard

Boat Rock Road is a two-lane undivided urban collector street that provides an east-west connection between Fulton Industrial Boulevard and Campbellton Road. Table 1 displays the functional classification of the overall study-area facilities.

Table 1: Study Area Roadway Classifications

Roadway	Number of Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification
Fulton Industrial Boulevard (SR 70)	4-divided / 2 (south of Campbellton Road)	55	Urban Minor Arterial
Campbellton Road (SR 166/154)	2	55	Urban Minor Arterial
Camp Creek Parkway (SR 6)	4-divided	55	Urban Principal Arterial
Riverside Drive	2	40	Urban Local Road
Plummer Road	2	40	Urban Local Road
Boat Rock Boulevard	2	40	Urban Collector Street

Heavy vehicles are prohibited from utilizing the following roadways within the study area listed below:

- Boat Rock Boulevard
- Stonewell Tell Road

These roads are also shown graphically on Figure 2.

Figure 2: Adjacent Roadways with Truck Prohibition Signs



Study Intersections

Based on the December 28, 2016, DRI Letter of Understanding, the following intersections were included in the study area:

1. Riverside Drive/Union Road at Campbellton Road/SR 154
2. Fulton Industrial Boulevard at Tradewater Parkway/Riverside Drive
3. Fulton Industrial Boulevard/Cascade Palmetto Highway at Cambellton Road/SR 154/Fairburn Road
4. Fulton Industrial Boulevard at Boat Rock Boulevard
5. Camp Creek Parkway at Cambellton Road
6. Fulton Industrial Boulevard at Plummer Road
7. Plummer Road at Riverside Drive
8. Fulton Industrial Boulevard at Fastenal Driveway
9. Fulton Industrial Boulevard at Bosch Driveway

10. Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway

11. Stonewell Tell Road at Cambellton Road/SR 154

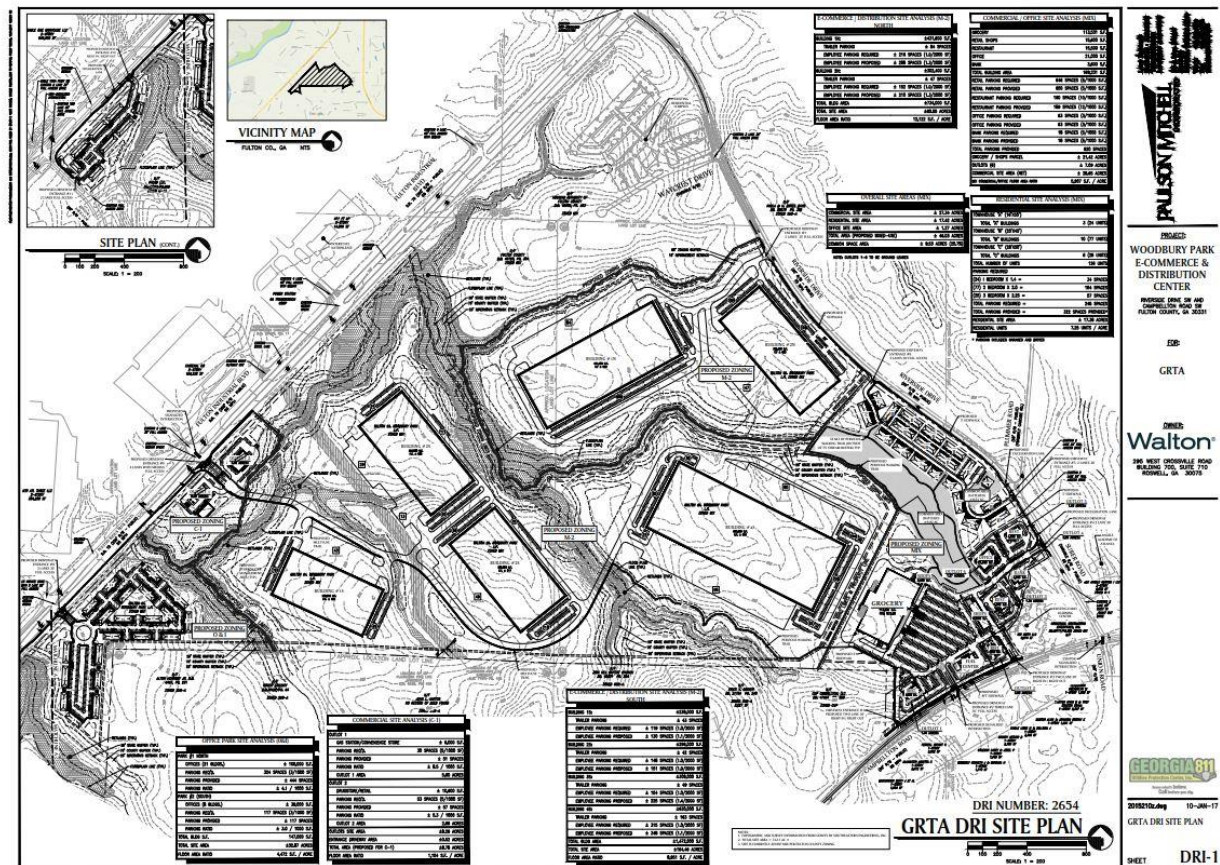
PROJECT DESCRIPTION

The Woodbury Park Mixed Use Development project will consist of office, retail, industrial warehousing, townhouses, shopping center, grocery store, and outparcels (bank, fast food, sit down restaurants) on 56 acres. The project consists of 2.2 million square feet of warehouse/distribution space; 185,831 square feet of commercial space; 108,000 square feet of office space; and 126 townhome units. The study reference name in the GRTA review process is **DRI 2654 Woodbury Park**. The December 28, 2016, Letter of Understanding for this project is included in Appendix A.

Site Plan

The proposed site plan is shown in Figure 3 below.

Figure 3: Site Plan



Consistency with Adopted Comprehensive Plans

This development is within the Fulton County and is consistent with the current land use zoning plan, included in Appendix B, and the 2016 Fulton County Comprehensive Plan Update.

Project Phasing Schedule

The projected build out year for this DRI is 2022 in a single phase.

Vehicle Site Access

The proposed development will have three access points on Fulton Industrial Boulevard, three access points on Campbellton Road, an access point on Kendall Park Lane and four access points on Riverside Drive.

Bicycle and Pedestrian Access and Facilities Description

Fulton Industrial Boulevard is a urban minor arterial and does not have existing sidewalk facilities adjacent to the proposed development. Internal sidewalk facilities will be provided to adjoin buildings with parking areas.

There are currently no designated bicycle lanes or other facilities within the study area. Next to the proposed development, Fulton Industrial Boulevard would not be a primary candidate for recreational bicycle routes due to limited shoulder availability and a 55 mph posted speed limit.

Transit Access and Facilities Description

Publicly funded transit operates in Fulton County, Georgia, under the Metropolitan Atlanta Rapid Transit Authority (MARTA) bus system. MARTA Bus Line 73 operates from H.E. Holmes station to LaGrange Boulevard and Boat Rock Boulevard in South Fulton County along M L King Jr. Drive, Fulton Industrial Boulevard, Bakers Ferry Road, and Boat Rock Road. The closest bus stop found on Fulton Industrial Boulevard is at Cascade Road. There are also a couple of bus stops on Boat Rock Road at LaGrange Boulevard and Bakers Ferry Road. These bus stops are just outside the study area, but it may be feasible that MARTA consider adding bus stops in the study area in the future due to this development.

Table 2: MARTA Bus Timetable – Line 180						
MARTA Rail Line	Travel Direction	Service Hours		Weekday Service Frequency		
		Start	End	Peak	Midday	Off-Peak
MARTA Bus Line 73 (northbound)	Hamilton E. Holmes Station	5:22 AM	1:10 PM	12	15	24
	Lagrange Blvd and Boat Rock Rd.	4:41 AM	12:45 AM	12	15	24
MARTA Bus Line 180 (southbound)	Hamilton E. Holmes Station	5:10 AM	12:45 AM	12	15	24
	Lagrange Blvd and Boat Rock Rd.	5:41 AM	1:17 AM	12	15	24

Gross Trip Ends Analysis

The Woodbury Park Mixed Use Development project will consist of office, retail, industrial warehousing, townhouses, shopping center, grocery store, and outparcels (bank, fast food, sit-down restaurants) on 107 acres. The project consists of 2.2 million square feet of warehouse/distribution space; 185,831 square feet of commercial space; 108,000 square feet of office space; and 126 townhome units. Trip generation for the proposed development was calculated from the total square footage as based on the rates and equations from the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition report.

The ITE trip generation rate includes both truck and passenger car traffic. After discussion with Walton Development and Management GA, LLC about the potential operations of the e-commerce/distribution facilities, 40% of trip generation was assumed as passenger vehicle traffic, while the remaining 60% was truck traffic. This assumption was based on previous experience with similar facilities in the Southeast. The truck traffic for the commercial/office and residential areas was determined to negligible.

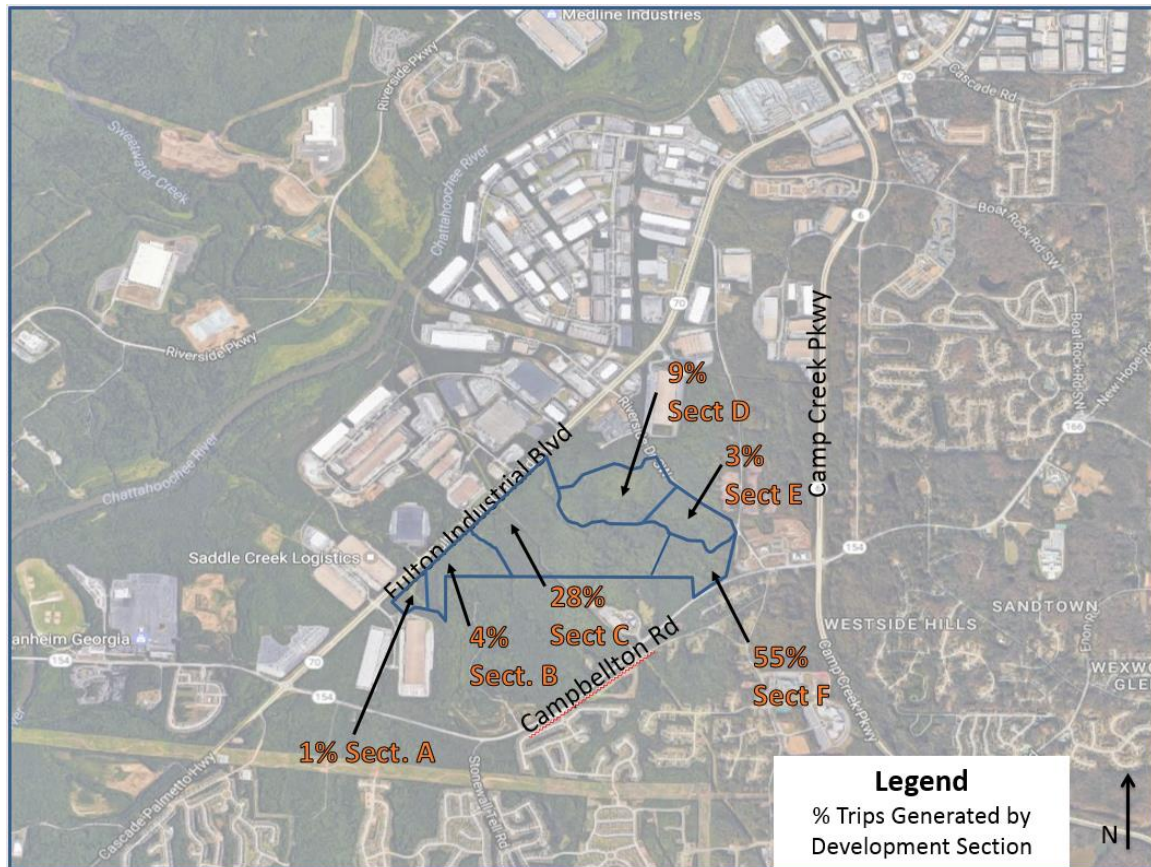
The trip generation results are shown in Table 3.

Table 3: Woodbury Park Site Plan - Gross Trip Generation

ITE Code	Land Use	Size	AM Peak Hour (vph)			PM Peak Hour (vph)			Daily Traffic (vpd)
			Enter	Exit	Total	Enter	Exit	Total	Two-Way
Section A (southwestern most corner, access from SR 70 and Kendall Park Lane)									
710	Office Park (south)	39,000 SF	54	7	61	10	48	58	430
Section B (western side, access from SR 70)									
710	Office Park (north)	108,000 SF	148	20	168	27	134	161	1191
Section C (western side, access from SR 70)									
150	Buildings #1S-4S	1,472,000 SF	349	93	442	118	353	471	5240
881	Drugstore	10,600 SF	19	18	37	53	52	105	1027
944	Gas Station	10 Pumps	62	60	122	70	69	139	1686
Section D (eastern side, access from Riverside Drive)									
150	Buildings #1-2N	734,000 SF	174	46	220	59	176	235	2613
Section E (eastern side, access from Riverside Drive)									
230	Townhouses	126 units	9	46	55	44	22	66	732
Section F (southeastern most corner, access from Riverside Drive and Campbellton Road)									
710	Office	21,000 SF	29	4	33	5	26	31	232
820	Shopping Centers	15,600 SF	9	6	15	28	30	58	666
850	Grocery Store	113,531 SF	239	147	386	549	527	1076	11607
912	Bank	3,600 SF	25	18	43	44	43	87	533
932	Sit Down Restaurants	13,500 SF	80	66	146	80	53	133	1717
934	Fast Food Restaurant	2,000 SF	46	45	91	34	31	65	992
Total (No Reductions Applied)			1243	576	1819	1121	1564	2685	28666

Figure 4 graphically shows what percentage of gross trips are produced by each section of the development. Although section F has a smaller area by square footage, due to its land use, it is expected to generate the most trips of any section.

Figure 4: Development Trip Generation Percentages by Section



Net Trip Ends Analysis

Internal capture (reductions made in the trip generation to account for the interaction between land uses within the project) and pass-by (reductions for trips already on the roadway network that are diverted to the new development) are not appropriate for this development type. A modal analysis reduction was made based on the proximity of MARTA Bus Route 73. Net trip generation results are shown in Table 4.

Modal Analysis

Fulton Industrial Boulevard is served by the MARTA Bus Line 73 within the vicinity of the proposed development. Some employees are expected to take transit to work rather than taking their personal vehicles. A 5% transit reduction was used for the passenger vehicle portion of the site-generated traffic, as documented in the December 28, 2016 DRI Letter of Understanding.

Table 4: Woodbury Park Site Plan - Net Trip Generation

ITE Code	Land Use	Size	AM Peak Hour (vph)			PM Peak Hour (vph)			Daily Traffic (vpd)
			Enter	Exit	Total	Enter	Exit	Total	Two-Way
Section A (southwestern most corner, access from SR 70 and Kendall Park Lane)									
710	Office Park (south)	39,000 SF	54	7	61	10	48	58	430
Section B (western side, access from SR 70)									
710	Office Park (north)	108,000 SF	148	20	168	27	134	161	1191
Section C (western side, access from SR 70)									
150	Buildings #1S-4S	1,472,000 SF	349	93	442	118	353	471	5240
881	Drugstore	10,600 SF	19	18	37	53	52	105	1027
944	Gas Station	10 Pumps	62	60	122	70	69	139	1686
Pass-By Reductions			-35	-35	-70	-29	-29	-58	-774
Section D (eastern side, access from Riverside Drive)									
150	Buildings #1-2N	734,000 SF	174	46	220	59	176	235	2613
Section E (eastern side, access from Riverside Drive)									
230	Townhouses	126 units	9	46	55	44	22	66	732
Section F (southeastern most corner, access from Riverside Drive and Campbellton Road)									
710	Office	21,000 SF	29	4	33	5	26	31	232
820	Shopping Centers	15,600 SF	9	6	15	28	30	58	666
850	Grocery Store	113,531 SF	239	147	386	549	527	1076	11607
912	Bank	3,600 SF	25	18	43	44	43	87	533
932	Sit Down Restaurants	13,500 SF	80	66	146	80	53	133	1717
934	Fast Food Restaurant	2,000 SF	46	45	91	34	31	65	992
Pass-By Reductions			0	0	0	-34	-34	-68	-495
Internal Capture Reductions			-45	-45	-90	-76	-76	-152	-1761
Overall									
Total Passenger Vehicles (Pass-By and Internal Capture Reductions Applied)			850	412	1262	876	1107	1983	20924
Total Trucks (60% of industrial site traffic)			313	84	397	106	318	424	4712
Total Woodbury Park Site Plan			1163	496	1659	982	1425	2407	25636
Alternative Mode 5% Reduction			-58	-25	-83	-49	-71	-120	-1282
Total (All Reductions Applied)			1105	471	1576	933	1354	2287	24354

STUDY METHODOLOGY

Trip Distribution and Assignment

Trip distribution is the percentage of site traffic that travels on each of the various roadways to and from a site. Proposed trip distribution was based on the May 2016 traffic data gathered in the study area and feedback from the DRI Pre-Review and Methodology meeting held on December 19, 2016. Recorded traffic volumes entering and exiting the study area were used to determine typical traffic flows. Because office/warehouse distribution centers have a high percentage of truck traffic, different distribution percentages were calculated for passenger cars and truck trips, as shown in Table 5. The overall site distribution is shown on Figure 5 for trucks and Figure 6 for passenger cars.

Table 5 Study Trip Distributions		
Roadway Name	Passenger Car Distribution	Truck Distribution
Camp Creek Parkway/SR 6 (to/from north)	19%	27%
Fulton Industrial Boulevard/SR 70 (to/from east/northeast)	29%	32%
Campbellton Road/SR 166 (to/from east)	9%	3%
Camp Creek Parkway/SR 6 (to/from south)	19%	29%
Stonewall Tell Road (to/from south)	4%	1%
Cascade Palmetto Highway/SR 70 (to/from south/southwest)	11%	5%
Fairburn Industrial Boulevard/SR 154 (to/from west/northwest)	9%	3%
Total	100%	100%

Figure 5: Overall Site Truck Distribution

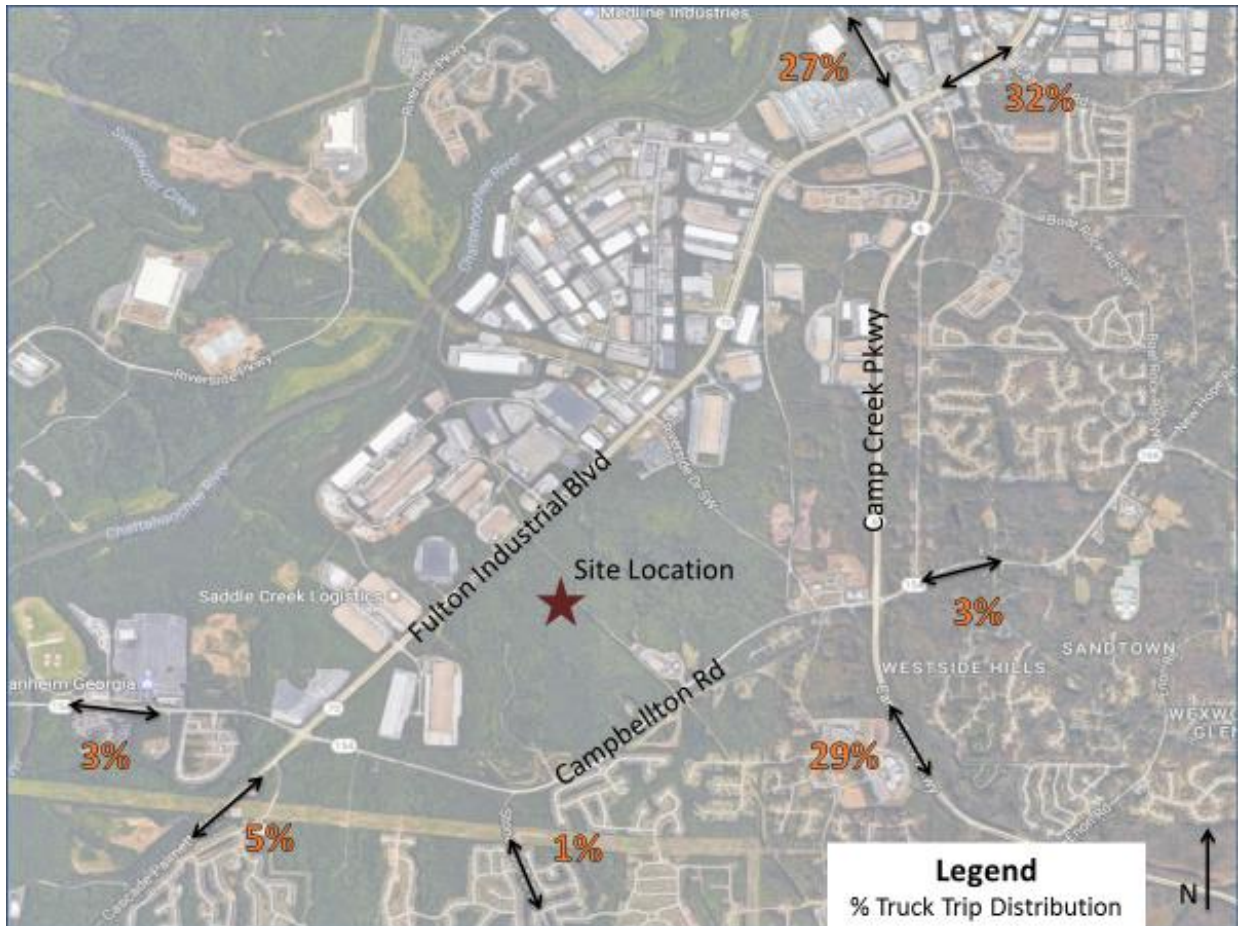


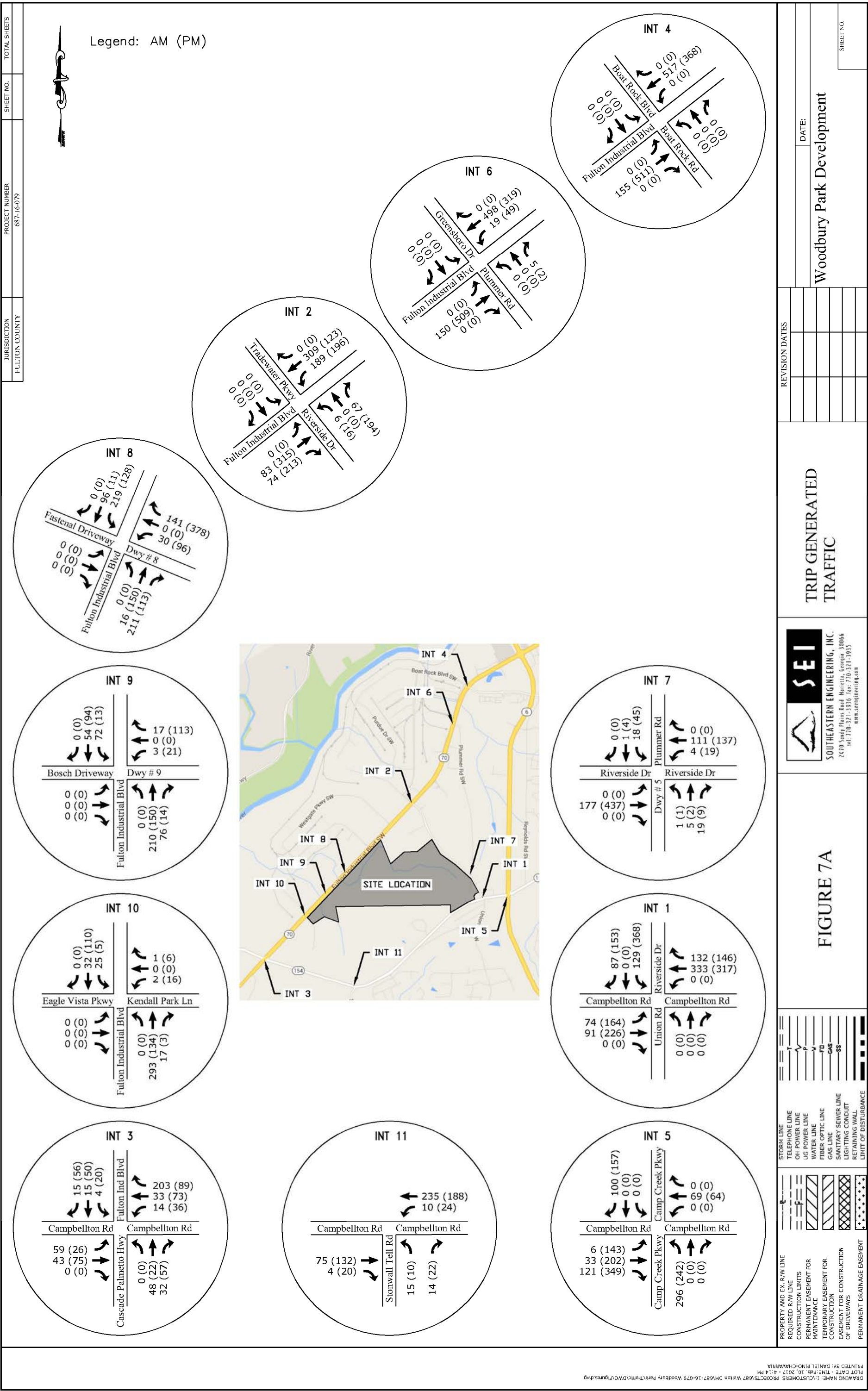
Figure 6: Overall Site Passenger Cars Distribution



The above distributions were considered for the proposed development's DRI report. Truck distribution and assignment were limited by the local restriction on truck traffic, as detailed in Figure 2.

Trip assignment uses the most likely path for the "distributed" vehicles to travel to and from the site. It can be combined with the overall site distribution percentage to shown a site distribution by percentage to and from the proposed development.

These percentages were used with the net trip ends analysis to obtain the site-generated traffic volumes at the study intersections, as shown in Figure 7.



Field Data Collection

SEI conducted two site visits to observe details to include in the calibration of the models in the capacity analysis. In addition, SEI has collected traffic volume and turning movement data in the study area. The following data was taken for this project:

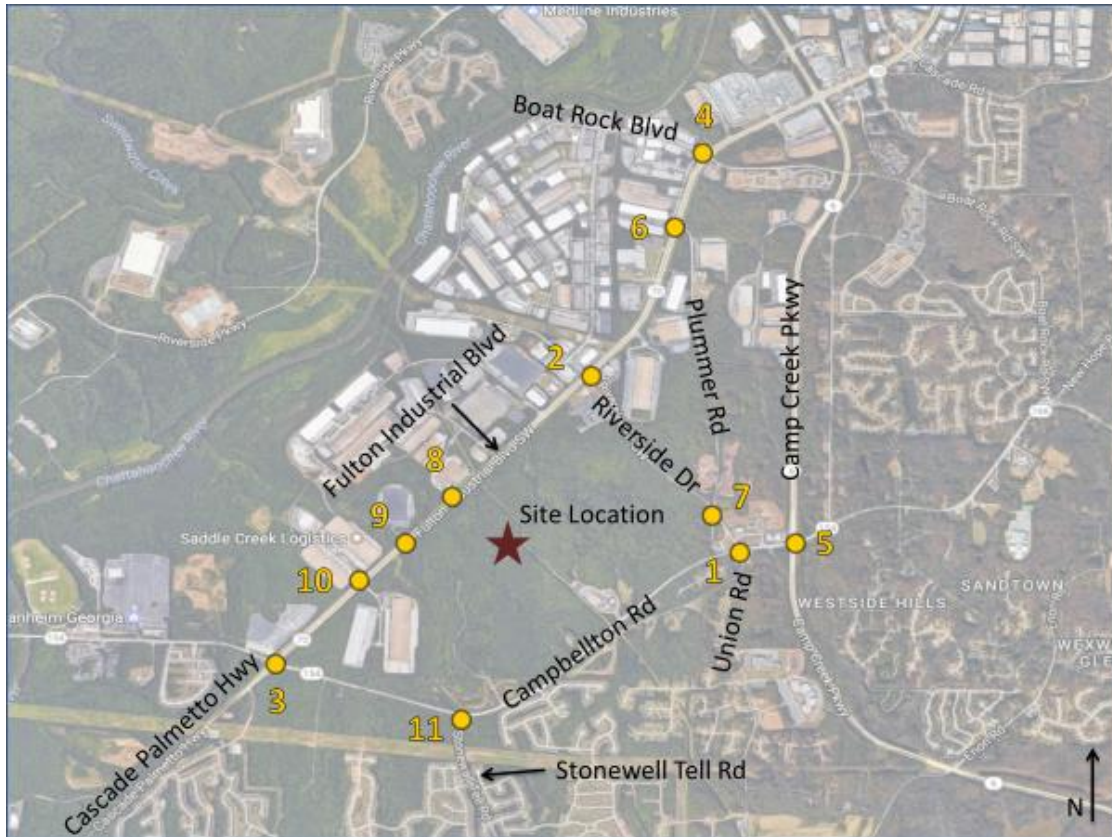
Turning Movement Counts

Turning movement counts were performed during the weekday AM and PM peak periods (7:00-9:00 AM and 4:00-6:00 PM, respectively) at the following intersections:

1. Riverside Drive/Union Road & Campbellton Road/SR 154 (unsignalized)
2. Fulton Industrial Boulevard and Tradewater Parkway/Riverside Drive (unsignalized)
3. Fulton Industrial Boulevard/Cascade Palmetto Highway & Campbellton Road/SR 154/Fairburn Road (signalized)
4. Fulton Industrial Boulevard & Boat Rock Boulevard (signalized)
5. Camp Creek Parkway & Campbellton Road (signalized)
6. Fulton Industrial Boulevard & Plummer Road (unsignalized)
7. Plummer Road & Riverside Drive (unsignalized)
8. Fulton Industrial Boulevard & Fastenal Driveway (unsignalized)
9. Fulton Industrial Boulevard & Bosch Driveway (unsignalized)
10. Fulton Industrial Boulevard & Kendall Park Lane/Eagle Vista Parkway (unsignalized)
11. Stonewell Tell Road & Campbellton Road/SR 154 (unsignalized)

Peak hour turning movement counts were performed during May 2016 in order to capture traffic volumes before the end of the school calendar year. The counts were collected during the AM and PM peak hour periods of 7:00 AM – 9:00 AM and 4:00 PM - 6:00 PM. Four consecutive 15-minute interval volumes, summed to produce the highest volume at each intersection, will be determined. These volumes make up the peak hour traffic volumes for the intersections counted. The traffic count locations can be seen in Figure 8 below.

Figure 8: Intersection Weekday Turning Movement Count Locations



The raw traffic count information is included in Appendix C.

Study Area

Based on the December 28, 2016 DRI Letter of Understanding, the following intersections were included in the study area:

1. Riverside Drive/Union Road at Campbellton Road/SR 154
2. Fulton Industrial Boulevard at Tradewater Parkway/Riverside Drive
3. Fulton Industrial Boulevard/Cascade Palmetto Highway at Campbellton Road/SR 154/Fairburn Road
4. Fulton Industrial Boulevard at Boat Rock Boulevard

5. Camp Creek Parkway at Cambellton Road
6. Fulton Industrial Boulevard at Plummer Road
7. Plummer Road at Riverside Drive
8. Fulton Industrial Boulevard at Fastenal Driveway
9. Fulton Industrial Boulevard at Bosch Driveway
10. Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway
11. Stonewell Tell Road at Campbellton Road/SR 154

The traffic volume data for the eleven study intersections was used in the traffic analysis and is shown in Figure 9.

TRAFFIC ANALYSIS

The study intersections were analyzed for the existing conditions, future conditions without the project, and future conditions with the project.

Level of Service Methodology

Intersection capacity analyses were performed to determine the existing traffic conditions within the study area. Intersection capacity analyses were performed using the methodology outlined in the 2010 Highway Capacity Manual (HCM). This methodology is the industry standard for the evaluation of intersection capacity and delay. In order to facilitate the analysis, computer software Synchro and HCS 2010 were used. This software conforms to the methodology of the HCM. The vehicular delay value that results from the Synchro analysis is used to determine the level of service of an intersection.

Level of service (LOS) is a letter designation used to describe traffic operating conditions, on a declining scale from A to F. LOS "A" represents free-flow traffic conditions and LOS "F" represents extreme delays with stopped traffic conditions. SEI will examine traffic impacts to the study intersections and segments using Synchro and/or HCS Software to determine intersection operations and level of service (LOS), based on the methodology outlined in the 2010 Highway Capacity Manual (HCM) by the Transportation Research Board. This methodology is the industry standard for the evaluation of intersection capacity and delay. The standard LOS used for this analysis is LOS D.

Table 6 and Table 7 below indicate the relationship between delay and LOS for unsignalized and signalized intersections.

Table 6 LOS for Unsignalized Intersections	
Level of Service	Control Delay Per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Table 7 LOS for Signalized Intersections	
Level of Service	Control Delay Per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Existing Conditions

The results of the existing intersection capacity analyses are summarized in Table 8. For unsignalized side-street stop intersections, delay and LOS are given for the minor streets only. The intersection capacity analyses worksheets are included in Appendix D.

Table 8: Existing Year-2017 Level of Service				
Intersection	Type of Control*	Approach or Overall	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Campbellton Road at Riverside Drive/Union Road	Signalized	Overall	17 (B)	9 (A)
Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway	Side Street Stop	Westbound	>300 (F)	>300 (F)
Fulton Industrial Boulevard at Campbellton Road	Signalized	Overall	25 (C)	16 (B)
Fulton Industrial Boulevard at Boat Rock Road/Boat Rock Boulevard	Signalized	Overall	14 (B)	14 (B)
Camp Creek Parkway at Campbellton Road	Signalized	Overall	31 (C)	21 (C)
Fulton Industrial Boulevard at Plummer Road/Greensboro Drive	Side Street Stop	Eastbound	51 (F)	25 (C)
Plummer Road at Riverside	Side Street Stop	Overall	8 (A)	8 (A)
Fulton Industrial Boulevard at Fastenal Driveway	Side Street Stop	Eastbound	22 (C)	55 (F)
Fulton Industrial Boulevard at Bosch Driveway	Side Street Stop	Eastbound	45 (E)	39 (E)
Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway	Side Street Stop	Eastbound	41 (E)	93 (F)
Campbellton Road at Stonewall Tell Road	Side Street Stop	Northbound	>300 (F)	228 (F)

*Worst approach is considered for side street stops

Under existing conditions there are several intersections that are not operating at acceptable levels of service. An intersection must receive an LOS at or above the minimum LOS D during AM and PM peak hours to be considered acceptable.

The delay at the intersection of Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway was well above the minimum in both the AM and PM peak periods due to the northwest approach of Riverside Drive experiencing high delay.

The intersection of Campbellton Road at Stonewall Tell Road was well above the minimum in both the AM and PM peak periods due to the northbound approach of Stonewall Tell Road experiencing high delay.

Other intersections experiencing failing levels of service were Fulton Industrial Boulevard at Plummer Road/Greensboro Drive (AM peak period), Fulton Industrial Boulevard at Fastenal driveway (PM peak period), Fulton Industrial Boulevard at Bosch driveway (AM and PM peak period), and Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway (AM and PM peak period).

Future Conditions Capacity Analysis

Future No Build conditions were analyzed by projecting traffic volumes to the opening (2022) project year. The future traffic volumes were projected by evaluating historical growth information to select an annual growth rate. The projected No Build traffic volumes were evaluated using the existing roadway geometry to obtain expected future No Build traffic operations.

Historic Traffic Volume and Growth

SEI determined historic traffic growth trends based on the past fifteen years of data provided at Georgia Department of Transportation (GDOT) count stations. Trend line graphs were prepared for five, ten, and fifteen year trends that conform to specific Design Manual Guidance.

To estimate future traffic volumes, the existing traffic volumes will be increased to account for background traffic growth not related directly to the proposed development. The following table comes from historical average daily traffic (ADT) volumes recorded by GDOT count stations located in Fulton County. SEI has performed a trend analysis that conforms to specific GDOT Design Manual Guidance. Historical data from the GDOT count stations in the study area were analyzed, and a rate of 2.79% was derived as shown in Table 9. The growth rates for roadways in the area using the ARC Travel Demand Model were also analyzed. The average growth rate derived using the ARC model was lower at 1.16% and can be seen in Table 10.

The Woodbury Park Mixed Use Development is currently scheduled to open in the year 2022. A background traffic growth of 1.0% will be applied as an exponential factor over five years, to increase traffic from existing (2017) to future (2022) conditions, as documented in the December 28, 2016 DRI Letter of Understanding.

Planned Adjacent Developments

A 1.0% background traffic growth rate was applied to all roadways over five years. After checking with Fulton County Planning and Zoning it was determined that there are no nearby planned adjacent developments other than a gas station planned to be built at the southeast corner of Campbellton Road and Cascade Palmetto Highway.

Planned GDOT/TIP Improvement Projects

Research was done to determine what local, state, or federal roadway/improvement projects are planning within the study area. Two projects were identified within the study area. One is an intersection improvement project for the intersection of Stonewall Tell Road and Campbellton Road/SR 154/SR 166 that does not have a schedule for construction at this point. This project is approximately 1,800 feet long and requires the realignment of Campbellton Road to improve sight distance due to the existing high point of the roadway. Additionally, Stonewall Tell Road will be realigned approximately 165 feet to the west to improve the intersection skew angle. The intersection would also be improved by adding left and right turn lanes. The other project is a sidewalk project that is currently in design phase to add 8-foot wide sidewalks and pedestrian lighting along Boat Rock Road between Campbellton Road and Fulton Industrial Boulevard, which is approximately 1.6 miles long.

Table 9: GDOT Historical Traffic Growth					
County	Station	Location	5-Year Growth Rate	10-Year Growth Rate	15-Year Growth Rate
Fulton County	1210980	Camp Creek Parkway south of Campbellton Road	13.87%	1.99%	0.34%
	1210982	Camp Creek Parkway north of Campbellton Road and south of Fulton Industrial Boulevard	0.79%	-1.30%	-0.26%
	1210983	Camp Creek Parkway north of Fulton Industrial Boulevard	4.95%	2.56%	0.44%
	1210260	Fulton Industrial Boulevard north of Campbellton Road and south of Riverside Drive	14.31%	3.60%	3.79%
	1210400	Campbellton Road west of Fulton Industrial Boulevard	4.22%	-0.69%	-0.24%
	1215262	Fulton Industrial Boulevard northeast of Camp Creek Parkway	3.60%	4.28%	3.48%
	1210402	Campbellton Road east of Fulton Industrial Boulevard and west of Stonewall Tell Road	1.39%	-1.24%	-0.86%
	1210404	Campbellton Road east of Stonewall Tell Road and west of Camp Creek Parkway	6.96%	5.19%	5.86%
	1210406	Campbellton Road east of Camp Creek Parkway	-0.82%	0.61%	1.82%
5-Year, 10-Year, and 15-Year Averages			5.47%	1.67%	1.60%
Weighted Average			2.79%		

Table 10: ARC Historical Traffic Growth	
Roadway	Average Growth
Fulton Industrial Boulevard	1.25%
Campbellton Road	1.14%
Camp Creek Parkway	1.09%
Average Growth Rate	1.16%



Legend: AM (PM)



FIGURE 11B

DRIVEWAYS
BUILD YEAR (2022)
PEAK HOUR TRAFFIC



Woodbury Park Development

DATE: _____

SHEET NO.

REVISION DATES

PROPERTY AND EX. R/W LINE		STORM LINE	
REQUIRED R/W LINE		TELEPHONE LINE	
CONSTRUCTION LIMITS		OH- POWER LINE	
PERMANENT EASEMENT FOR MAINTENANCE		UG- POWER LINE	
TEMPORARY EASEMENT FOR CONSTRUCTION		WATER LINE	
EASEMENT FOR CONSTRUCTION OF DRIVEWAYS		FIBER OPTIC LINE	
PERMANENT DRAINAGE EASEMENT		GAS LINE	
		SANITARY SEWER LINE	
		RETAINING WALL	
		LIMIT OF DISTURBANCE	

No Build-2022 Traffic Operations (Without Project)

The level of service for the future background conditions was determined using the same method as discussed previously in the Existing Conditions – Level of Service section. Future No Build intersection capacity analyses were performed on the future traffic volumes using the existing roadway geometry. The LOS values for the intersections were similar to the existing conditions.

The same intersections that experienced failing levels of service in the existing conditions were experiencing it in the future background condition, with some failing in both the AM and PM peak periods rather than just one. This included Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway, Fulton Industrial Boulevard at Plummer Road/Greensboro Drive, Fulton Industrial Boulevard at Fastenal driveway, Fulton Industrial Boulevard at Bosch driveway, Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway, and Campbellton Road at Stonewall Tell Road.

Table 11: No Build Year-2022 Level of Service				
Intersection	Type of Control	Approach or Overall	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Campbellton Road at Riverside Drive/Union Road	Signalized	Overall	33 (C)	11 (B)
Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway	Side Street Stop	Eastbound	>300 (F)	>300 (F)
Fulton Industrial Boulevard at Campbellton Road	Signalized	Overall	28 (C)	17 (B)
Fulton Industrial Boulevard at Boat Rock Road/Boat Rock Boulevard	Signalized	Overall	15 (B)	16 (B)
Camp Creek Parkway at Campbellton Road	Signalized	Overall	34 (C)	23 (C)
Fulton Industrial Boulevard at Plummer Road/Greensboro Drive	Side Street Stop	Eastbound	56 (F)	83 (F)
Plummer Road at Riverside	Side Street Stop	Overall	8 (A)	8 (A)
Fulton Industrial Boulevard at Fastenal Driveway	Side Street Stop	Eastbound	23 (C)	65 (F)
Fulton Industrial Boulevard at Bosch Driveway	Side Street Stop	Eastbound	51 (F)	44 (E)
Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway	Side Street Stop	Eastbound	49 (E)	146 (F)
Campbellton Road at Stonewall Tell Road	Side Street Stop	Northbound	>300 (F)	>300 (F)

For side street stop control intersections, delay and LOS are given for minor street only

Build-2022 Traffic Operations

The future Build conditions were evaluated using the described assumptions and the 2022 traffic volumes shown in Figure 11. The results of the intersection capacity analysis for the 2022 opening design Build years are summarized in Table 12. The intersection capacity analyses worksheets are included in Appendix D.

Table 12: Build Year-2022 Level of Service				
Intersection	Type of Control	Approach or Overall	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Campbellton Road at Riverside Drive/Union Road	Signalized	Overall	62 (E)	140 (F)
Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway	Side Street Stop	Eastbound	>300 (F)*	>300 (F)*
Fulton Industrial Boulevard at Campbellton Road	Signalized	Overall	70 (E)	40 (D)
Fulton Industrial Boulevard at Boat Rock Road/Boat Rock Boulevard	Signalized	Overall	17 (B)	27 (C)
Camp Creek Parkway at Campbellton Road	Signalized	Overall	61 (E)	63 (E)
Fulton Industrial Boulevard at Plummer Road/Greensboro Drive	Side Street Stop	Eastbound	>300 (F)*	>300 (F)*
Riverside Drive at Plummer Road/Driveway #5	Side Street Stop	Overall	9 (A)	23 (C)
Fulton Industrial Boulevard at Fastenal Driveway/Driveway #8	Side Street Stop	Eastbound	169 (F)	>300 (F)*
Fulton Industrial Boulevard at Bosch Driveway/Driveway #9	Side Street Stop	Eastbound	178 (F)	152 (F)
Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway	Side Street Stop	Eastbound	106 (F)	>300 (F)*
Campbellton Road at Stonewall Tell Road	Side Street Stop	Northbound	>300 (F)*	>300 (F)*
Campbellton Road at Driveway #1	Side Street Stop	Southbound	12 (B)	21 (C)
Campbellton Road at Driveway #2	Side Street Stop	Southbound	>300 (F)*	>300 (F)*
Campbellton Road at Driveway #3	Side Street Stop	Southbound	14 (B)	28 (D)

Intersection	Type of Control	Approach or Overall	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Riverside Drive at Driveway #4	Side Street Stop	Eastbound	10 (B)	16 (C)
Riverside Drive at Driveway #6	Side Street Stop	Northbound	10 (B)	13 (B)
Riverside Drive at Driveway #7	Side Street Stop	Northbound	16 (C)	33 (D)
Fulton Industrial Boulevard at Driveway #10	Side Street Stop	Westbound	20 (C)	10 (B)
Kendall Park Lane at Driveway #11	Side Street Stop	Southbound	8 (A)	9 (A)

For side street stop control intersections, delay and LOS are given for minor street only

*No numerical values are available in Synchro report due to extremely high delays

Values were rounded up to match LOS rating on Synchro report

Intersections that were failing in the existing and no-build conditions continue to fail in the build condition. The newly added driveways to the site that do not form a four-legged intersection with an existing driveway, other than driveway #2, all operate at an acceptable level of service in the build condition. Several improvements are recommended to mitigate the effects of the development.

Future Needs Analysis (Background and Future)

Several of the intersections in the study area are failing in the build condition. The LOS for those intersections is called out again along with the recommended improvements in Table 13. In further analysis, different recommendations are made each intersection based on the type of delay they are experiencing and the type of intersection.

Table 13: Build Year-2022 Level of Service (Failing Intersections)

Intersection	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)	Recommendations
Campbellton Road at Riverside Drive/Union Road	62 (E)	140 (F)	Add receiving lanes and additional approach lanes (southbound right, westbound through and eastbound through) and lengthen southbound left turn bay
Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway	>300 (F)*	>300 (F)*	Add traffic signal
Fulton Industrial Boulevard at Campbellton Road	70 (E)	40 (D)	Add eastbound left turn lane
Camp Creek Parkway at Campbellton Road	61 (E)	63 (E)	Add northbound left turn lane
Fulton Industrial Boulevard at Plummer Road/Greensboro Drive	>300 (F)*	>300 (F)*	No change is recommended
Fulton Industrial Boulevard at Fastenal Driveway/Driveway #8	169 (F)	>300 (F)*	Provide a channelized right run for northwest Driveway #8 approach
Fulton Industrial Boulevard at Bosch Driveway/Driveway #9	178 (F)	152 (F)	No change is recommended
Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway	106 (F)	>300 (F)*	No change is recommended
Campbellton Road at Stonewall Tell Road	>300 (F)*	>300 (F)*	Add right turn lane for northbound approach
Campbellton Road at Driveway #2	>300 (F)*	>300 (F)*	Add traffic signal

For side street stop control intersections, delay and LOS are given for minor street only

*No numerical values are available in Synchro report due to extremely high delays

Values were rounded up to match LOS rating on Synchro report

For the intersections Fulton Industrial Boulevard at Plummer Road/Greensboro Drive, Fulton Industrial Boulevard at Bosch Driveway/Driveway #9, and Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway no change is currently recommended. Although based on the HCM capacity analysis, these were experiencing high delays, based on field observations and some preliminary microsimulation, the downstream signals provided enough gaps for the vehicles on the side streets to make their necessary movements. In addition the volumes on these side streets were not enough to warrant a signal.

Two of the existing signalized intersections, Fulton Industrial Boulevard at Campbellton Road and Camp Creek Parkway at Campbellton Road, are at crossroads of major

arterials and access points to the site. They both experience a heavy increase in left turn volume due to vehicles heading toward the site. This can be mitigated by adding an eastbound and northbound left turn at each intersection respectively.

The intersections of Fulton Industrial Boulevard at Fastenal Driveway/Driveway #8 and Campbellton Road at Stonewall Tell Road do not have enough volumes to warrant a signal or large traffic improvement measure such as a roundabout, but the site does add several right turns to the northbound approach. The delay experienced by the vehicles on the northbound approach could be reduced by adding a right turn lane. This improvement was on the 2014 Fulton County Capital Improvement Program, but has since been removed. With the expected development, this project should be revisited.

The intersection of Campbellton Road and Driveway #2 does not perform at an acceptable level of service in the build condition. However, based on traffic projections, it may have enough volume to warrant a signal. This intersection should be considered as a candidate for signalization. A signal warrant study will be needed as part of the permitting process with GDOT once the traffic volumes increase.

Similarly Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway should be considered for signalization. With the existing volumes, it passes warrants 2 and 3. However, with the future projected volumes, it passes the warrant analysis for warrants 1, 2, and 3. A preliminary multi-lane roundabout analysis was conducted as well. It has approaches with a level of service of E in both the AM and PM future conditions. In addition, a high portion of the site traffic traveling through the intersections is trucks; the ability of a truck to traverse a roundabout is less than that of a vehicle. Based on the preliminary analysis, a traffic signal is recommended at this intersection, but a full traffic engineering study would be required once the volumes increase.

The final intersection needing improvements is the intersection of Campbellton Road at Riverside Drive/Union Road. This intersection is currently signalized and only has one through lane in each direction, which is enough to handle the current volume. However, over 50% of the site traffic is generated by section F, which is in the vicinity of this intersection. In addition some additional traffic would be driving through to the office (section A) and residential areas (E). Due to this, the intersection would require increased capacity. The recommendation is to add receiving lanes and additional approach lanes (southbound right, westbound through and eastbound through) and to lengthen southbound left turn bay. These improvements would not be needed until the full build-out of section F.

The new level of service with the recommended improvements can be seen in Table 14.

Table 14: Build Year-2022 (with Improvements) Level of Service

Intersection	Type of Control	Approach or Overall	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Campbellton Road at Riverside Drive/Union Road	Signalized	Overall	27 (C)	49 (D)
Fulton Industrial Boulevard at Riverside Drive/Tradewater Parkway	Signalized	Eastbound	24 (C)	16 (B)
Fulton Industrial Boulevard at Campbellton Road	Signalized	Overall	47 (D)	45 (D)
Camp Creek Parkway at Campbellton Road	Signalized	Overall	49 (D)	49 (D)
Fulton Industrial Boulevard at Plummer Road/Greensboro Drive	Side Street Stop	Eastbound	>300 (F)	>300 (F)
Fulton Industrial Boulevard at Fastenal Driveway/Driveway #8	Side Street Stop	Eastbound	233 (F)	>300 (F)
Fulton Industrial Boulevard at Bosch Driveway/Driveway #9	Side Street Stop	Eastbound	178 (F)	152 (F)
Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway	Side Street Stop	Eastbound	106 (F)	>300 (F)
Campbellton Road at Stonewall Tell Road	Side Street Stop	Northbound	245 (F)	>300 (F)
Campbellton Road at Driveway #2	Signalized	Southbound	17 (B)	30 (C)

CONCLUSIONS

SEI has conducted an analysis of the existing and future conditions for the Woodbury Park project in Fulton County, Georgia. The traffic analysis has shown that the system of roads with recommended improvements can support the proposed development and maintain similar levels of service to what would be experienced without the development in the future condition.

All of the new driveways creating T-intersections, except for Driveway #2, will operate at acceptable levels of service. The new driveways fitting into existing driveways may experience delays, but the vehicles should have enough gaps provided by the downstream intersections. Two intersections (Fulton Industrial Boulevard at Riverside Drive and Campbellton Road at Driveway #2) would need additional analysis once the site is built, and the volumes become high enough to possibly warrant a signal.

Appendix A

DRI Letter of Understanding

Appendix B

Fulton County Zoning Map

Appendix C

Traffic Count Data

Appendix D

Synchro Outputs

Appendix E

Roundabout Analysis Outputs

Appendix F

PC Warrants Outputs

Appendix A

DRI Letter of Understanding



LETTER OF UNDERSTANDING

December 28, 2016

Rick Shmurak
Walton DM
295 Crossville Road
Building 700, Suite 710
Roswell, GA 30075

RE: **DRI 2654 Woodbury Park**

Dear Mr. Shmurak:

The purpose of this letter is to document the discussions during the Pre-Review and Methodology Meeting held at ARC's office on December 19, 2016 and DCA Initial Information Form filed on December 13, 2016 regarding **DRI 2654 Woodbury Park**. Some of the following items were discussed in this meeting and should assist you and your consultant team in preparing the DRI Review Package.

PROJECT OVERVIEW

The project is located in unincorporated Fulton County (future City of South Fulton) roughly bounded by SR 70/Fulton Industrial Boulevard on the west, Riverside Drive on the east, and SR 154/Campbellton Road on the south.

- The proposed project overlaps with a significant portion of a previous DRI known as Riverside Park (DRI #1132), reviewed by ARC in 2006.
- The DRI trigger for this development is a rezoning.
- The proposed development is a mixture of office, retail, industrial warehousing, townhouses, shopping center, grocery store and outparcels (bank, fast food, sit down restaurants). The project consists of 2.2 million SF of warehouse/distribution space; 185,831 SF of commercial space; 108,000 SF of office space; and 126 townhome units.
- Trip generation is estimated at 24,763 net daily trips using Institute of Transportation Engineer (ITE) Trip Generation, 9th Edition, 2012. Net assumes a mixed use and pass-by reductions.
- The projected build out for this DRI is 2022.
- The applicant is applying for approval under GRTA's non-expedited review process.

METHODOLOGY

- All intersections identified as within the study network shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future "no-build" conditions [may not be applicable for the site driveways], and (3) future "build" conditions. This DRI shall be reviewed in one phase to be completed by 2022.

- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA. As appropriate, pedestrian counts and heavy vehicle counts shall be collected with vehicle counts and considered within the capacity analysis. Turning movement counts shall be collected while local schools are in session and ordinarily not between the week of Thanksgiving and the second week of January or any week of a major holiday.
- A 1.0% background traffic growth rate shall be used for all roadways.
- The level of service standard for all analyses shall be LOS D.
- Mixed use and pass-by trip reductions are allowed. A 5% alternative mode trip reductions is allowed.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account.
- The applicant shall research TIP, STIP, RTP, and GDOT's construction work program, as well as any local government plans (SPLOST, CIP, etc.), to determine the open-to-traffic date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. This information shall be included within the traffic analysis.

STUDY NETWORK

1. Riverside Drive/Union Road at Campbellton Road/SR154
2. Fulton Industrial Boulevard at Tradewater Parkway/Riverside Drive
3. Fulton Industrial Boulevard/Cascade Palmetto Highway at Campbellton Road/SR 154/Fairburn Road
4. Fulton Industrial Boulevard at Boat Rock Boulevard
5. Camp Creek Parkway at Campbellton Road
6. Fulton Industrial Boulevard at Plummer Road
7. Plummer road at Riverside Drive
8. Fulton Industrial Boulevard at Festenal Driveway
9. Fulton Industrial Boulevard at Bosch Driveway
10. Fulton Industrial Boulevard at Kendall Park Lane/Eagle Vista Parkway
11. Stonewell Tell Road at Campbellton Road/SR 154
12. All site driveways

ADDITIONAL INFORMATION

Every roadway segment and intersection listed above will be analyzed for "required improvements." If the existing LOS for the segment or intersection is below the applicable level of service for a particular time period (e.g., A.M. peak period, P.M. peak period, etc.), then the measured LOS service for that segment and time periods is the standard by which the "base" and "future" traffic conditions will be designed. For example, if the County's LOS standard is LOS D, but an intersection or segment currently operates at LOS E for a certain peak period, then the LOS standard for that intersection or segment for "base" and "future" conditions becomes LOS E (only for that intersection and only for that peak period). The "base" is the phase year traffic without the development traffic (also called future "no-build" conditions) and the "future" is the phase year with the development traffic (also called future "build" conditions). As required in the technical guidelines, specific "required improvements" will be identified to bring the "base" LOS and "future" LOS for every roadway segment and intersection up to the applicable LOS standard. If the existing LOS for the segment or intersection is LOS F, then the future "no-build" and future "build" LOS standard will be LOS E. The improvements required to achieve the desired LOS standard will be provided in a table and graphic within the study. The traffic study should indicate the existing roadway laneage at each studied intersection as well as the laneage required (to meet the LOS standard) for future "no-build" and future "build" conditions. The improvements may include both programmed improvements and improvements identified in the study.

The planned and programmed improvement should indicate the project sponsor, the anticipated funding by source (federal, state, city/county, developer, CID, etc.), the year open-to-traffic, and estimate of the total project cost. All other required improvements identified in the study should, to the extent known, identify the cost, sponsor, funding, and timing. If any of these elements are not known, please state as "unknown."

The future "no-build" and the future "build" analyses should NOT automatically include/assume the additional lanes/capacity associated with planned and programmed improvement projects unless those roadway projects are currently under construction. Instead, the traffic consultant should recommend the additional laneage required to satisfy the level of service standard.

DRI REVIEW PACKAGE CHECKLIST

Please use the DRI Review Package Checklist to help you prepare your GRTA DRI Review Package for expedited review of your application. The Checklist reflects the understandings set forth in this letter, and is incorporated into this letter by reference.

The site plan shall be prepared in accordance with Section 4-104 of the DRI Review Package Technical Guidelines and it shall be dated, and shall be at a scale of 1"= 200' or larger (showing more detail). The site plan shall be consistent with GRTA's Site Plan Information Guidelines, which represents the minimum required information on site plans.

The applicant shall indicate on the site plans all adjacent land uses, current zoning, and future land use as indicated on the future land use map. Additionally, all existing and proposed sidewalks, existing and proposed pedestrian trails, and existing and proposed roadway laneage should be indicated on the site plan.

DRI REVIEW PACKAGE SUBMITTAL

At the time you are ready to submit your DRI Review Package to GRTA, please note the following:

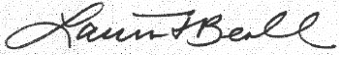
- All Initial Information forms should be filed online with the GA Department of Community Affairs (DCA).
- Provide one (1) paper copy of all materials:
 - Transportation Analysis
 - Site Plan
- Provide one (1) CD-ROM with electronic versions of all submittal documents:
 - Provide a PDF of each document
 - Provide the native format for each document
 - .dwg is the preferred CAD format (AutoCAD)
 - .doc is the preferred word processing format (Word)
 - .xls is the preferred spreadsheet format (Excel)
 - .sy6, .sy7, .sy8 or .sy9 is the preferred capacity analysis format (Synchro)

As part of the completeness certification process, please have your consultant forward one copy of the completed GRTA DRI Review Package (transportation analysis, site plan, CD) to the GDOT District Office, Regional Commission and local government Planning & Development and/or Transportation group(s) (contact information provided below). GRTA shall be copied on each of the transmittal letters.

GDOT DISTRICT 7	ATLANTA REGIONAL COMMISSION	FULTON COUNTY
Paul DeNard 5025 New Peachtree Rd, NE Chamblee, GA 30341	Andrew Smith 40 Courtland St, NE Atlanta, GA 30303	Morgan Ellington 5440 Fulton Industrial Blvd Atlanta, GA 30336

We encourage your consultant team to verify the items covered in this letter prior to compiling the submittal materials. If you have any questions, please feel free to contact Annie Gillespie at 404-893-6123 (agillespie@georgiatolls.com).

Sincerely,



Laura F. Beall, AICP
Program Manager

cc:

Jon West, DCA
Andrew Smith, ARC
Paul DeNard, GDOT District 7
Greg Floyd, MARTA

Morgan Ellington, Fulton County
Lem Ward, Dentons
Steven Foy, Southeastern Engineering Inc,
Phillip Takacs, Paulson Mitchell, Inc.

Appendix B

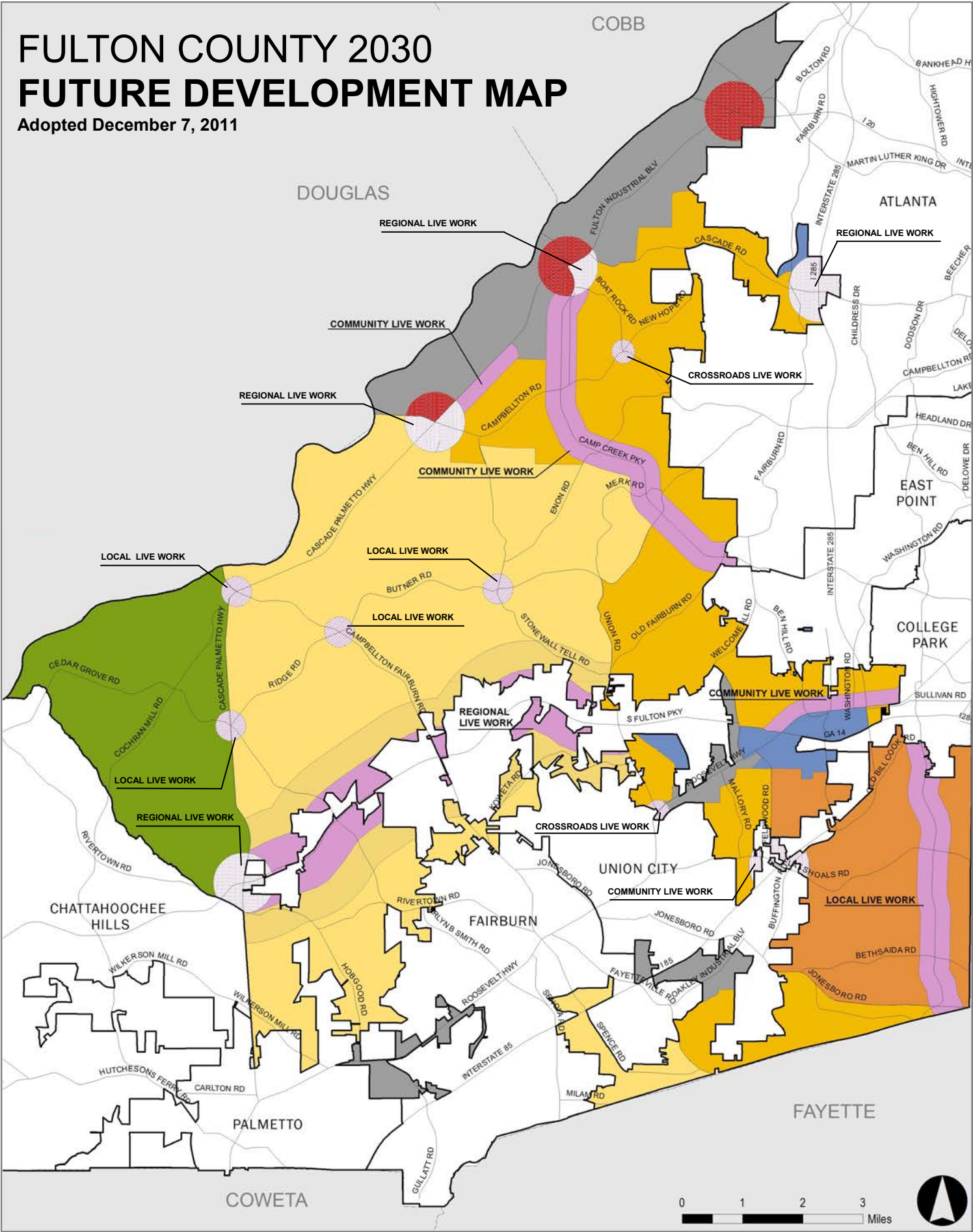
Fulton County Zoning Map

The Character Areas are grouped based on three essential development patterns that when combined define a complete community. They provide a basic framework to describe how certain areas should function and develop. These three Community Areas are as follows:

Character Area	General Characteristics	Development Types	Suggested Compatible Land Use Categories		Suggested Active Compatible Zoning Classifications
NEIGHBORHOOD					
Agricultural	Area with agricultural character and defined by agricultural uses and very low density residential; Public infrastructure is limited as the area is currently lacking sewers; Large active agricultural uses (horse, farm, timber); Single family homes on individual lots not in subdivisions.	• Agricultural uses such as farms, open pastures, timbering • Very low-density single family detached • Natural areas including areas preserved by conservation development	Residential (1 unit or less/ acre)	Open Space	AG-1, R-1, R-2, CUP, SH
			Agricultural, Forestry & Estate Residential	Public, Semi-Public & Institutional	
Rural	Area characterized by low density residential, represents a transition between agricultural and suburban character areas; Public infrastructure is available but may not be extended to all properties; Low to medium density residential in subdivisions.	• Established single family homes on large lots • Newer traditional style subdivisions • Civic uses such as schools, places of worship, community centers & facilities • Natural areas including areas preserved by conservation subdivisions	Residential (1 unit or less, 1 to 2 units/acre, 1 to 3 units/acre*)	Open Space	R-2A, CUP, NUP, SH (All Rural)
South Fulton Pkwy Transitional			Agricultural, Forestry & Estate Residential	Public, Semi-Public & Institutional	R-3*, R-3A* * (Transitional Zone Only)
Suburban	Area characterized by medium density residential located closest to urbanized areas; Wide diversity of housing types and affordability; Public infrastructure is available.	• Medium-density single family • Civic uses such as schools, place of worship, community centers & facilities • Natural areas including areas preserved by conservation subdivisions	Residential (2 to 3 units/ acre, 3 to 5 units/acre *)	Public, Semi-Public & Institutional	R-3, R-3A, R-4A, CUP,NUP , SH (Suburban I & II)
Suburban I				Open Space	R-4*, R-5*, R-5A*,TR* * (Suburban II only)
Suburban II					
BUSINESS DISTRICT					
Industrial	Area that accommodates intense industrial uses, including manufacturing and warehousing; Highest intensity industrial uses requiring the most stringent regulations and site control; Large buffers and separation of uses to limit the impacts of use.	• Industrial uses such as wholesale trade distribution centers, manufacturing, etc. • Industrial parks • Large-scale distribution activities	Industrial	Open Space	M-1, M-1A, M-2
				Public, Semi-Public & Institutional	
Business Park	Area that accommodates multiple businesses of less intense industrial uses; Less intense industrial, office park and warehousing uses.	• Industrial parks • Industrial uses such as wholesale trade distribution centers, manufacturing, etc.	Office	Open Space	M-1, M-1A
			Business Park	Public, Semi-Public & Institutional	
Industrial Marketplace	Area that provides commercial/retail uses providing services to industrial uses; Commercial/retail services located at major transportation intersections; Residential uses are not appropriate.	• Shopping centers, convenience retail • Industrial uses such as wholesale trade distribution centers, manufacturing, etc. • Industrial parks	Retail Industrial	Open Space	M-1 , M-1A, M-2,
			Business Park	Industrial	C-1, C-2,
			Commercial & Office	Public, Semi-Public & Institutional	O-I
MIXED-USE DISTRICT					
Crossroads	Based on a 1000 foot distance, an area located at historic or emerging intersections providing locally serving retail and services. Residential development is not appropriate.	• Convenience retail • Small scale commercial/service such as banks, drug stores, etc. • Small multi-tenant shopping centers • Office in existing structure	Crossroads Live Work	Open Space	C-1, C-2, O-I, SH
				Public, Semi-Public & Institutional	
Local	Based on 1/4 mile distance, an area at an intersection or along a corridor that provides for a balanced mix of uses to create a live work environment. Medium density residential development is appropriate.	• Small scale commercial/service such as banks, drug stores, etc. • Small multi-tenant shopping centers • Office in existing structure • Single family residential	Local Live Work	Open Space	MIX, C-1, C-2, O-I, SH
				Public, Semi-Public & Institutional	
Community	Based on a 1/2 mile distance for nodes and 1/4 mile distance for corridors, an area at an intersection or along a corridor that provides for a balanced mix of uses to create a live work environment. Medium to high density residential development is appropriate.	• Convenience retail • Commercial/service such as banks, drug stores, etc. • Multi-tenant shopping centers • Office • Single family duplex, townhomes, etc.	Community Live Work	Open Space	MIX C-1, C-2 O-I, SH
				Public, Semi-Public & Institutional	
Regional	Based on a 1/2 mile distance for nodes and corridors. An area at an intersection or along a corridor that provides for a balanced mix of uses to create a live work environment. High density residential development is appropriate.	• Big box retail, major grocery stores, home improvement centers • High density residential such as apartments • Office • Single family duplex, townhomes, apartments, etc.	Regional Live Work	Open Space	MIX, C-1, C-2, O-I, SH
				Public, Semi-Public & Institutional	

FULTON COUNTY 2030 FUTURE DEVELOPMENT MAP

Adopted December 7, 2011

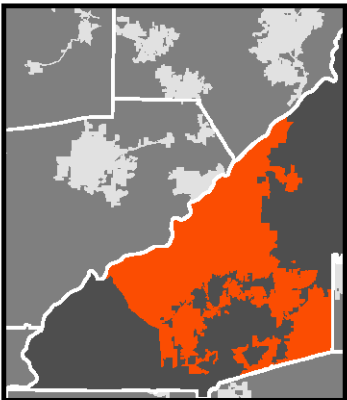


CHARACTER AREAS

- NEIGHBORHOOD DISTRICT**
- AGRICULTURAL NEIGHBORHOOD
 - RURAL NEIGHBORHOOD
 - SOUTH FULTON PARKWAY
 - TRANSITIONAL ZONE
 - SUBURBAN I NEIGHBORHOOD
 - SUBURBAN II NEIGHBORHOOD

- BUSINESS DISTRICT**
- INDUSTRIAL ZONE
 - INDUSTRIAL MARKETPLACE
 - BUSINESS PARK

- MIXED USE DISTRICT**
- CROSSROADS CENTER
 - LOCAL CENTER
 - COMMUNITY CENTER
 - REGIONAL CENTER
 - CORRIDOR



LOCATION KEY

Appendix C

Traffic Count Data

Project ID: 16-9163-001

Location: Fulton Industrial Blvd & Boat Rock Blvd_Boat Rock Rd

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Fulton Industrial Blvd Northbound					Fulton Industrial Blvd Southbound					Boat Rock Blvd_Boat Rock Rd Eastbound					Boat Rock Blvd_Boat Rock Rd Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	2	351	9	0	362	3	103	57	0	163	34	4	1	0	39	7	4	3	1	14	578
7:15 AM	3	308	10	0	321	0	122	59	0	181	31	7	0	0	38	2	1	6	0	9	549
7:30 AM	7	350	16	0	373	1	143	70	0	214	32	2	0	0	34	4	3	3	0	10	631
7:45 AM	6	332	15	0	353	2	125	66	0	193	26	4	0	0	30	5	7	6	0	18	594
Total	18	1341	50	0	1409	6	493	252	0	751	123	17	1	0	141	18	15	18	1	51	2352
8:00 AM	4	300	16	0	320	2	120	50	0	172	25	3	0	0	28	3	2	0	0	5	525
8:15 AM	4	226	3	0	233	0	107	60	0	167	14	5	1	0	20	3	7	3	0	13	433
8:30 AM	3	225	7	0	235	1	132	53	0	186	21	1	0	2	22	3	6	5	0	14	457
8:45 AM	2	219	4	0	225	4	106	44	0	154	25	2	0	0	27	2	3	2	0	7	413
Total	13	970	30	0	1013	7	465	207	0	679	85	11	1	2	97	11	18	10	0	39	1828
BREAK																					
4:00 PM	2	141	3	0	146	3	204	21	0	228	49	6	5	0	60	4	0	5	0	9	443
4:15 PM	2	127	3	0	132	4	232	22	0	258	28	4	4	0	36	2	0	5	0	7	433
4:30 PM	2	185	7	0	194	1	241	19	1	261	61	6	12	0	79	7	2	2	1	11	545
4:45 PM	0	134	2	0	136	3	292	18	0	313	42	5	6	0	53	8	2	7	0	17	519
Total	6	587	15	0	608	11	969	80	1	1060	180	21	27	0	228	21	4	19	1	44	1940
5:00 PM	1	173	4	1	178	6	269	10	0	285	76	6	5	0	87	11	1	4	1	16	566
5:15 PM	0	120	7	1	127	12	286	14	0	312	50	2	5	0	57	17	0	6	0	23	519
5:30 PM	0	173	5	0	178	5	295	14	0	314	35	3	1	0	39	11	2	6	0	19	550
5:45 PM	0	129	3	0	132	9	278	13	0	300	31	3	4	0	38	6	2	7	0	15	485
Total	1	595	19	2	615	32	1128	51	0	1211	192	14	15	0	221	45	5	23	1	73	2120
Grand Total	38	3493	114	2	3645	56	3055	590	1	3701	580	63	44	2	687	95	42	70	3	207	8240
Apprch %	1.0	95.8	3.1	0.1		1.5	82.5	15.9	0.0		84.4	9.2	6.4	0.3		45.9	20.3	33.8	1.4		
Total %	0.5	42.4	1.4	0.0	44.2	0.7	37.1	7.2	0.0	44.9	7.0	0.8	0.5	0.0	8.3	1.2	0.5	0.8	0.0	2.5	
Cars, PU, Vans	28	3104	114	2	3246	56	2668	490	1	3214	475	63	42	2	580	95	42	70	3	207	7247
% Cars, PU, Vans	73.7	88.9	100.0	100.0	89.1	100.0	87.3	83.1	100.0	86.8	81.9	100.0	95.5	100.0	84.4	100.0	100.0	100.0	100.0	100.0	87.9
Heavy Trucks	10	389	0		399	0	387	100		487	105	0	2		107	0	0	0		0	993
%Heavy Trucks	26.3	11.1	0.0	0.0	10.9	0.0	12.7	16.9	0.0	13.2	18.1	0.0	4.5	0.0	15.6	0.0	0.0	0.0	0.0	0.0	12.1

Project ID: 16-9163-001

Location: Fulton Industrial Blvd & B

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				oat Rock Blvd_Boat Rock R Eastbound				oat Rock Blvd_Boat Rock R Westbound				
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
7:00 AM	2	351	9	362	3	103	57	163	34	4	1	39	7	4	3	14	578
7:15 AM	3	308	10	321	0	122	59	181	31	7	0	38	2	1	6	9	549
7:30 AM	7	350	16	373	1	143	70	214	32	2	0	34	4	3	3	10	631
7:45 AM	6	332	15	353	2	125	66	193	26	4	0	30	5	7	6	18	594
Total Volume	18	1341	50	1409	6	493	252	751	123	17	1	141	18	15	18	51	2352
% App. Total	1.3	95.2	3.5	100	0.8	65.6	33.6	100	87.2	12.1	0.7	100	35.3	29.4	35.3	100	
PHF	0.944				0.877				0.904				0.708				
Cars, PU, Vans	15	1250	50	1315	6	416	222	644	93	17	1	111	18	15	18	51	2121
% Cars, PU, Vans	83.3	93.2	100.0	93.3	100.0	84.4	88.1	85.8	75.6	100.0	100.0	78.7	100.0	100.0	100.0	100.0	90.2
Heavy Trucks	3	91	0	94	0	77	30	107	30	0	0	30	0	0	0	0	231
%Heavy Trucks	16.7	6.8	0.0	6.7	0.0	15.6	11.9	14.2	24.4	0.0	0.0	21.3	0.0	0.0	0.0	0.0	9.8

PM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				oat Rock Blvd_Boat Rock R Eastbound				oat Rock Blvd_Boat Rock R Westbound				
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
4:45 PM	0	134	2	136	3	292	18	313	42	5	6	53	8	2	7	17	519
5:00 PM	1	173	4	178	6	269	10	285	76	6	5	87	11	1	4	16	566
5:15 PM	0	120	7	127	12	286	14	312	50	2	5	57	17	0	6	23	519
5:30 PM	0	173	5	178	5	295	14	314	35	3	1	39	11	2	6	19	550
Total Volume	1	600	18	619	26	1142	56	1224	203	16	17	236	47	5	23	75	2154
% App. Total	0.2	96.9	2.9	100	2.1	93.3	4.6	100	86.0	6.8	7.2	100	62.7	6.7	30.7	100	
PHF	0.869				0.975				0.678				0.815				
Cars, PU, Vans	1	499	18	518	26	1039	38	1103	184	16	15	215	47	5	23	75	1911
% Cars, PU, Vans	100.0	83.2	100.0	83.7	100.0	91.0	67.9	90.1	90.6	100.0	88.2	91.1	100.0	100.0	100.0	100.0	88.7
Heavy Trucks	0	101	0	101	0	103	18	121	19	0	2	21	0	0	0	0	243
%Heavy Trucks	0.0	16.8	0.0	16.3	0.0	9.0	32.1	9.9	9.4	0.0	11.8	8.9	0.0	0.0	0.0	0.0	11.3

Project ID: 16-9163-002

Location: Fulton Industrial Blvd & Plummer Rd

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Fulton Industrial Blvd Northbound					Fulton Industrial Blvd Southbound					Plummer Rd Eastbound					Plummer Rd Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	7	351	1	0	359	3	107	5	1	115	1	1	7	0	9	2	1	5	0	8	491
7:15 AM	6	318	2	0	326	3	123	3	0	129	2	1	3	0	6	1	1	2	0	4	465
7:30 AM	3	367	4	0	374	5	142	0	0	147	2	1	1	0	4	0	0	7	0	7	532
7:45 AM	4	346	4	0	354	7	113	2	0	122	1	1	0	0	2	0	3	8	0	11	489
Total	20	1382	11	0	1413	18	485	10	1	513	6	4	11	0	21	3	5	22	0	30	1977
8:00 AM	5	315	4	0	324	10	109	3	0	122	2	1	1	0	4	0	0	6	0	6	456
8:15 AM	2	232	0	0	234	3	103	3	0	109	1	0	0	0	1	0	0	2	0	2	346
8:30 AM	8	226	3	0	237	8	126	4	0	138	2	0	2	0	4	4	0	7	0	11	390
8:45 AM	3	213	1	0	217	6	108	3	0	117	6	1	2	0	9	0	0	6	0	6	349
Total	18	986	8	0	1012	27	446	13	0	486	11	2	5	0	18	4	0	21	0	25	1541
BREAK																					
4:00 PM	1	131	3	0	135	2	197	2	0	201	7	0	7	0	14	0	0	5	0	5	355
4:15 PM	1	128	1	0	130	5	238	3	0	246	4	0	6	0	10	2	0	3	0	5	391
4:30 PM	0	148	0	0	148	6	243	4	0	253	43	3	16	0	62	3	0	9	0	12	475
4:45 PM	1	124	1	0	126	3	291	2	0	296	6	0	9	0	15	6	0	7	0	13	450
Total	3	531	5	0	539	16	969	11	0	996	60	3	38	0	101	11	0	24	0	35	1671
5:00 PM	1	164	0	0	165	5	280	2	0	287	6	0	14	0	20	9	0	4	0	13	485
5:15 PM	0	108	2	0	110	4	320	1	0	325	5	0	5	0	10	2	0	9	1	11	456
5:30 PM	0	167	2	0	169	8	305	2	1	315	3	0	3	0	6	2	0	8	0	10	500
5:45 PM	0	130	0	0	130	4	290	0	0	294	2	0	2	0	4	0	0	7	0	7	435
Total	1	569	4	0	574	21	1195	5	1	1221	16	0	24	0	40	13	0	28	1	41	1876
Grand Total	42	3468	28	0	3538	82	3095	39	2	3216	93	9	78	0	180	31	5	95	1	131	7065
Apprch %	1.2	98.0	0.8	0.0		2.5	96.2	1.2	0.1		51.7	5.0	43.3	0.0		23.7	3.8	72.5	0.8		
Total %	0.6	49.1	0.4	0.0	50.1	1.2	43.8	0.6	0.0	45.5	1.3	0.1	1.1	0.0	2.5	0.4	0.1	1.3	0.0	1.9	
Cars, PU, Vans	40	3102	28	0	3170	69	2734	23	2	2826	76	8	72	0	156	28	5	82	1	115	6267
% Cars, PU, Vans	95.2	89.4	100.0	0.0	89.6	84.1	88.3	59.0	100.0	87.9	81.7	88.9	92.3	0.0	86.7	90.3	100.0	86.3	100.0	87.8	88.7
Heavy Trucks	2	366	0		368	13	361	16		390	17	1	6		24	3	0	13		16	798
%Heavy Trucks	4.8	10.6	0.0	0.0	10.4	15.9	11.7	41.0	0.0	12.1	18.3	11.1	7.7	0.0	13.3	9.7	0.0	13.7	0.0	12.2	11.3

Project ID: 16-9163-002

Location: Fulton Industrial Blvd & Pl

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Plummer Rd Eastbound				Plummer Rd Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	7	351	1	359	3	107	5	115	1	1	7	9	2	1	5	8	491
7:15 AM	6	318	2	326	3	123	3	129	2	1	3	6	1	1	2	4	465
7:30 AM	3	367	4	374	5	142	0	147	2	1	1	4	0	0	7	7	532
7:45 AM	4	346	4	354	7	113	2	122	1	1	0	2	0	3	8	11	489
Total Volume	20	1382	11	1413	18	485	10	513	6	4	11	21	3	5	22	30	1977
% App. Total	1.4	97.8	0.8	100	3.5	94.5	1.9	100	28.6	19.0	52.4	100	10.0	16.7	73.3	100	
PHF	0.945				0.872				0.583				0.682				
Cars, PU, Vans	19	1303	11	1333	16	413	9	438	3	4	11	18	2	5	18	25	1814
% Cars, PU, Vans	95.0	94.3	100.0	94.3	88.9	85.2	90.0	85.4	50.0	100.0	100.0	85.7	66.7	100.0	81.8	83.3	91.8
Heavy Trucks	1	79	0	80	2	72	1	75	3	0	0	3	1	0	4	5	163
%Heavy Trucks	5.0	5.7	0.0	5.7	11.1	14.8	10.0	14.6	50.0	0.0	0.0	14.3	33.3	0.0	18.2	16.7	8.2

PM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Plummer Rd Eastbound				Plummer Rd Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
4:45 PM	1	124	1	126	3	291	2	296	6	0	9	15	6	0	7	13	450
5:00 PM	1	164	0	165	5	280	2	287	6	0	14	20	9	0	4	13	485
5:15 PM	0	108	2	110	4	320	1	325	5	0	5	10	2	0	9	11	456
5:30 PM	0	167	2	169	8	305	2	315	3	0	3	6	2	0	8	10	500
Total Volume	2	563	5	570	20	1196	7	1223	20	0	31	51	19	0	28	47	1891
% App. Total	0.4	98.8	0.9	100	1.6	97.8	0.6	100	39.2	0.0	60.8	100	40.4	0.0	59.6	100	
PHF	0.843				0.941				0.638				0.904				
Cars, PU, Vans	2	467	5	474	18	1102	3	1123	15	0	30	45	18	0	26	44	1686
% Cars, PU, Vans	100.0	82.9	100.0	83.2	90.0	92.1	42.9	91.8	75.0	0.0	96.8	88.2	94.7	0.0	92.9	93.6	89.2
Heavy Trucks	0	96	0	96	2	94	4	100	5	0	1	6	1	0	2	3	205
%Heavy Trucks	0.0	17.1	0.0	16.8	10.0	7.9	57.1	8.2	25.0	0.0	3.2	11.8	5.3	0.0	7.1	6.4	10.8

Project ID: 16-9163-003

Location: Fulton Industrial Blvd & Tradewater Pkwy_Riverside Dr

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	10:00 AM
PM	3:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Fulton Industrial Blvd Northbound					Fulton Industrial Blvd Southbound					Tradewater Pkwy_Riverside Dr Eastbound					Tradewater Pkwy_Riverside Dr Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	17	359	14	0	390	2	94	11	0	107	1	1	4	2	6	8	14	8	0	30	533
7:15 AM	22	320	3	0	345	3	108	10	1	121	7	4	7	1	18	4	7	13	0	24	508
7:30 AM	30	347	3	0	380	6	121	12	0	139	7	3	7	0	17	13	6	10	0	29	565
7:45 AM	24	331	10	0	365	2	100	17	0	119	7	2	3	1	12	17	2	12	0	31	527
Total	93	1357	30	0	1480	13	423	50	1	486	22	10	21	4	53	42	29	43	0	114	2133
8:00 AM	24	313	4	0	341	8	93	9	0	110	7	1	4	0	12	8	6	9	0	23	486
8:15 AM	16	214	4	0	234	4	85	11	0	100	7	1	3	1	11	7	9	11	0	27	372
8:30 AM	10	228	4	0	242	5	109	17	0	131	9	1	2	0	12	7	5	9	0	21	406
8:45 AM	7	202	6	0	215	3	95	10	1	108	5	3	6	0	14	14	8	8	1	30	367
Total	57	957	18	0	1032	20	382	47	1	449	28	6	15	1	49	36	28	37	1	101	1631
9:00 AM	9	136	3	0	148	3	96	8	0	107	10	2	8	0	20	8	2	6	0	16	291
9:15 AM	7	115	2	0	124	7	107	13	0	127	5	2	6	3	13	9	2	9	0	20	284
9:30 AM	5	132	1	0	138	2	81	13	1	96	11	0	6	1	17	7	4	1	1	12	263
9:45 AM	7	108	3	1	118	4	100	11	0	115	11	0	3	1	14	11	3	3	0	17	264
Total	28	491	9	1	528	16	384	45	1	445	37	4	23	5	64	35	11	19	1	65	1102
BREAK																					
10:00 AM	3	102	9	0	114	0	106	9	1	115	14	6	3	0	23	7	2	6	0	15	267
10:15 AM	5	120	5	0	130	7	99	14	0	120	4	1	6	0	11	5	1	7	0	13	274
10:30 AM	6	94	6	0	106	2	92	12	0	106	13	0	5	0	18	8	3	3	0	14	244
10:45 AM	5	107	3	0	115	3	92	13	0	108	6	2	6	0	14	6	3	9	0	18	255
Total	19	423	23	0	465	12	389	48	1	449	37	9	20	0	66	26	9	25	0	60	1040
11:00 AM	5	137	7	0	149	1	102	4	0	107	21	2	6	0	29	3	5	7	0	15	300
11:15 AM	4	140	4	0	148	1	98	10	0	109	8	2	5	2	15	9	4	6	0	19	291
11:30 AM	1	127	7	0	135	6	100	8	0	114	13	4	6	2	23	3	2	4	0	9	281
11:45 AM	5	114	5	0	124	7	122	13	0	142	14	3	6	0	23	5	4	8	0	17	306
Total	15	518	23	0	556	15	422	35	0	472	56	11	23	4	90	20	15	25	0	60	1178
12:00 PM	7	132	12	0	151	6	110	13	0	129	17	2	7	1	26	5	2	6	0	13	319
12:15 PM	8	147	1	0	156	6	108	20	1	134	8	2	6	2	16	3	4	10	0	17	323
12:30 PM	5	130	5	0	140	8	109	9	0	126	7	2	3	1	12	5	0	8	0	13	291
12:45 PM	4	109	5	0	118	9	121	16	0	146	8	2	1	1	11	10	7	4	0	21	296
Total	24	518	23	0	565	29	448	58	1	535	40	8	17	5	65	23	13	28	0	64	1229
1:00 PM	3	142	11	0	156	3	123	14	0	140	17	3	5	0	25	5	1	5	0	11	332
1:15 PM	6	110	4	0	120	4	123	13	0	140	9	2	5	2	16	6	1	5	0	12	288
1:30 PM	8	101	3	0	112	3	124	18	1	145	16	5	8	1	29	8	1	3	0	12	298
1:45 PM	4	123	4	0	131	12	134	9	0	155	11	5	8	2	24	6	1	5	0	12	322

2:00 PM	6	151	7	0	164	4	128	11	0	143	19	9	2	1	30	14	4	7	0	25	362
2:15 PM	8	129	10	0	147	6	107	11	0	124	5	6	11	0	22	16	5	3	0	24	317
2:30 PM	10	146	10	0	166	12	159	7	0	178	9	8	13	0	30	6	7	7	0	20	394
2:45 PM	10	135	8	0	153	3	121	11	0	135	12	3	11	0	26	13	13	6	0	32	346
Total	34	561	35	0	630	25	515	40	0	580	45	26	37	1	108	49	29	23	0	101	1419

BREAK

3:00 PM	12	155	27	0	194	6	147	12	0	165	13	12	11	0	36	5	9	6	0	20	415
3:15 PM	12	122	16	0	150	8	187	15	0	210	12	6	12	2	30	8	5	5	1	18	408
3:30 PM	5	180	15	0	200	11	180	8	0	199	11	11	22	1	44	2	4	7	0	13	456
3:45 PM	5	111	14	0	130	12	157	8	0	177	6	4	21	2	31	5	3	6	0	14	352
Total	34	568	72	0	674	37	671	43	0	751	42	33	66	5	141	20	21	24	1	65	1631

4:00 PM	1	117	7	0	125	11	199	6	0	216	17	8	31	0	56	10	2	6	0	18	415
4:15 PM	2	115	11	0	128	12	235	6	1	253	6	0	18	2	24	3	2	4	0	9	414
4:30 PM	4	115	12	0	131	9	268	7	0	284	12	7	27	1	46	6	2	3	0	11	472
4:45 PM	3	105	6	0	114	9	288	8	0	305	11	8	19	1	38	10	5	6	0	21	478
Total	10	452	36	0	498	41	990	27	1	1058	46	23	95	4	164	29	11	19	0	59	1779

5:00 PM	10	128	16	0	154	16	293	6	0	315	15	10	52	0	77	8	4	12	0	24	570
5:15 PM	6	83	8	0	97	6	301	10	0	317	8	9	14	0	31	10	4	5	0	19	464
5:30 PM	6	155	18	0	179	17	289	13	1	319	10	3	24	1	37	5	5	4	0	14	549
5:45 PM	2	103	11	0	116	9	278	9	1	296	10	4	12	0	26	6	5	12	0	23	461
Total	24	469	53	0	546	48	1161	38	2	1247	43	26	102	1	171	29	18	33	0	80	2044

6:00 PM	4	91	13	0	108	9	220	6	0	235	8	5	17	0	30	4	0	4	0	8	381
6:15 PM	2	100	10	0	112	7	260	5	1	272	2	5	11	0	18	4	1	1	0	6	408
6:30 PM	6	90	5	0	101	10	189	6	0	205	5	0	4	0	9	2	2	8	0	12	327
6:45 PM	3	79	7	0	89	6	170	9	0	185	5	3	10	0	18	3	2	3	0	8	300
Total	15	360	35	0	410	32	839	26	1	897	20	13	42	0	75	13	5	16	0	34	1416

Grand Total	374	7150	379	1	7903	310	7128	511	10	7949	469	184	487	35	1140	347	193	310	3	850	17842
Apprch %	4.7	90.5	4.8	0.0		3.9	89.7	6.4	0.1		41.1	16.1	42.7	3.1		40.8	22.7	36.5	0.4		
Total %	2.1	40.1	2.1	0.0	44.3	1.7	40.0	2.9	0.1	44.6	2.6	1.0	2.7	0.2	6.4	1.9	1.1	1.7	0.0	4.8	
Cars, PU, Vans	298	6175	343	1	6816	290	6117	268	10	6675	281	158	392	35	831	305	160	282	3	747	15069
% Cars, PU, Vans	79.7	86.4	90.5	100.0	86.2	93.5	85.8	52.4	100.0	84.0	59.9	85.9	80.5	100.0	72.9	87.9	82.9	91.0	100.0	87.9	84.5
Heavy Trucks	76	975	36		1087	20	1011	243		1274	188	26	95		309	42	33	28		103	2773
%Heavy Trucks	20.3	13.6	9.5	0.0	13.8	6.5	14.2	47.6	0.0	16.0	40.1	14.1	19.5	0.0	27.1	12.1	17.1	9.0	0.0	12.1	15.5

Project ID: 16-9163-003

Location: Fulton Industrial Blvd & Tr

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				radewater Pkwy_Riverside D Eastbound				radewater Pkwy_Riverside D Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
7:00 AM	17	359	14	390	2	94	11	107	1	1	4	6	8	14	8	30	533
7:15 AM	22	320	3	345	3	108	10	121	7	4	7	18	4	7	13	24	508
7:30 AM	30	347	3	380	6	121	12	139	7	3	7	17	13	6	10	29	565
7:45 AM	24	331	10	365	2	100	17	119	7	2	3	12	17	2	12	31	527
Total Volume	93	1357	30	1480	13	423	50	486	22	10	21	53	42	29	43	114	2133
% App. Total	6.3	91.7	2.0	100	2.7	87.0	10.3	100	41.5	18.9	39.6	100	36.8	25.4	37.7	100	
PHF	0.949				0.874				0.736				0.919				
Cars, PU, Vans	89	1290	30	1409	12	365	34	411	12	10	15	37	39	26	43	108	1965
% Cars, PU, Vans	95.7	95.1	100.0	95.2	92.3	86.3	68.0	84.6	54.5	100.0	71.4	69.8	92.9	89.7	100.0	94.7	92.1
Heavy Trucks	4	67	0	71	1	58	16	75	10	0	6	16	3	3	0	6	168
%Heavy Trucks	4.3	4.9	0.0	4.8	7.7	13.7	32.0	15.4	45.5	0.0	28.6	30.2	7.1	10.3	0.0	5.3	7.9

NOON

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				radewater Pkwy_Riverside D Eastbound				radewater Pkwy_Riverside D Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
2:00 PM	6	151	7	164	4	128	11	143	19	9	2	30	14	4	7	25	362
2:15 PM	8	129	10	147	6	107	11	124	5	6	11	22	16	5	3	24	317
2:30 PM	10	146	10	166	12	159	7	178	9	8	13	30	6	7	7	20	394
2:45 PM	10	135	8	153	3	121	11	135	12	3	11	26	13	13	6	32	346
Total Volume	34	561	35	630	25	515	40	580	45	26	37	108	49	29	23	101	1419
% App. Total	5.4	89.0	5.6	100	4.3	88.8	6.9	100	41.7	24.1	34.3	100	48.5	28.7	22.8	100	
PHF	0.949				0.815				0.900				0.789				
Cars, PU, Vans	25	464	33	522	23	431	17	471	28	22	28	78	47	25	22	94	1165
% Cars, PU, Vans	73.5	82.7	94.3	82.9	92.0	83.7	42.5	81.2	62.2	84.6	75.7	72.2	95.9	86.2	95.7	93.1	82.1
Heavy Trucks	9	97	2	108	2	84	23	109	17	4	9	30	2	4	1	7	254
%Heavy Trucks	26.5	17.3	5.7	17.1	8.0	16.3	57.5	18.8	37.8	15.4	24.3	27.8	4.1	13.8	4.3	6.9	17.9

PM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				radewater Pkwy_Riverside D Eastbound				radewater Pkwy_Riverside D Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
4:45 PM	3	105	6	114	9	288	8	305	11	8	19	38	10	5	6	21	478
5:00 PM	10	128	16	154	16	293	6	315	15	10	52	77	8	4	12	24	570

5:30 PM	6	155	18	179	17	289	13	319	10	3	24	37	5	5	4	14	549
Total Volume	25	471	48	544	48	1171	37	1256	44	30	109	183	33	18	27	78	2061
% App. Total	4.6	86.6	8.8	100	3.8	93.2	2.9	100	24.0	16.4	59.6	100	42.3	23.1	34.6	100	
PHF	0.760				0.984				0.594				0.813				
Cars, PU, Vans	19	393	47	459	47	1088	24	1159	32	30	103	165	32	18	26	76	1859
% Cars, PU, Vans	76.0	83.4	97.9	84.4	97.9	92.9	64.9	92.3	72.7	100.0	94.5	90.2	97.0	100.0	96.3	97.4	90.2
Heavy Trucks	6	78	1	85	1	83	13	97	12	0	6	18	1	0	1	2	202
%Heavy Trucks	24.0	16.6	2.1	15.6	2.1	7.1	35.1	7.7	27.3	0.0	5.5	9.8	3.0	0.0	3.7	2.6	9.8

Project ID: 16-9163-004

Location: Plummer Rd & Riverside Dr

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	2:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Plummer Rd Northbound					Plummer Rd Southbound					Riverside Dr Eastbound					Riverside Dr Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	2	0	0	0	2	0	29	0	0	29	0	23	6	0	29	60
7:15 AM	0	0	0	0	0	3	0	0	0	3	0	21	0	0	21	0	13	3	0	16	40
7:30 AM	0	0	0	0	0	2	0	0	0	2	0	14	0	0	14	0	27	8	0	35	51
7:45 AM	0	0	0	0	0	2	0	0	0	2	0	20	0	0	20	0	22	6	0	28	50
Total	0	0	0	0	0	9	0	0	0	9	0	84	0	0	84	0	85	23	0	108	201
8:00 AM	0	0	0	0	0	0	0	1	0	1	0	12	0	0	12	0	18	3	0	21	34
8:15 AM	0	0	0	0	0	2	0	1	0	3	0	11	0	0	11	0	20	7	0	27	41
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	11	0	0	11	0	18	3	0	21	33
8:45 AM	0	0	0	0	0	1	0	1	0	2	1	14	0	0	15	0	26	4	0	30	47
Total	0	0	0	0	0	4	0	3	0	7	1	48	0	0	49	0	82	17	0	99	155
BREAK																					
2:00 PM	0	0	0	0	0	1	0	1	0	2	1	21	0	0	22	0	18	2	0	20	44
2:15 PM	0	0	0	0	0	2	0	1	0	3	2	17	0	0	19	0	22	0	0	22	44
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	20	2	0	22	46
2:45 PM	0	0	0	0	0	2	0	0	0	2	0	18	0	0	18	0	31	0	0	31	51
Total	0	0	0	0	0	5	0	2	0	7	3	80	0	0	83	0	91	4	0	95	185
3:00 PM	0	0	0	0	0	1	0	0	0	1	0	45	0	0	45	0	15	2	0	17	63
3:15 PM	0	0	0	0	0	3	0	1	0	4	1	25	0	0	26	0	13	3	0	16	46
3:30 PM	0	0	0	0	0	5	0	0	0	5	0	28	0	0	28	0	11	4	0	15	48
3:45 PM	0	0	0	0	0	3	0	0	0	3	0	25	0	0	25	0	15	2	0	17	45
Total	0	0	0	0	0	12	0	1	0	13	1	123	0	0	124	0	54	11	0	65	202
4:00 PM	0	0	0	0	0	8	0	0	0	8	0	25	0	0	25	0	10	1	0	11	44
4:15 PM	0	0	0	0	0	3	0	0	0	3	0	21	0	0	21	0	12	2	0	14	38
4:30 PM	0	0	0	0	0	6	0	0	0	6	2	24	0	0	26	0	13	0	0	13	45
4:45 PM	0	0	0	0	0	3	0	0	0	3	0	21	0	0	21	0	17	1	0	18	42
Total	0	0	0	0	0	20	0	0	0	20	2	91	0	0	93	0	52	4	0	56	169
5:00 PM	0	0	0	0	0	5	0	0	0	5	0	35	0	0	35	0	20	1	0	21	61
5:15 PM	0	0	1	0	1	4	0	0	0	4	0	26	1	0	27	0	24	7	0	31	63
5:30 PM	0	0	1	0	1	8	1	0	0	9	0	31	0	0	31	0	10	4	0	14	55
5:45 PM	0	0	0	0	0	1	0	0	0	1	0	15	0	0	15	0	17	5	0	22	38
Total	0	0	2	0	2	18	1	0	0	19	0	107	1	0	108	0	71	17	0	88	217
Grand Total	0	0	2	0	2	68	1	6	0	75	7	533	1	0	541	0	435	76	0	511	1129
Apprch %	0.0	0.0	100.0	0.0		90.7	1.3	8.0	0.0		1.3	98.5	0.2	0.0		0.0	85.1	14.9	0.0		
Total %	0.0	0.0	0.2	0.0	0.2	6.0	0.1	0.5	0.0	6.6	0.6	47.2	0.1	0.0	47.9	0.0	38.5	6.7	0.0	45.3	

% Cars, PU, Vans	0.0	0.0	100.0	0.0	100.0	92.6	100.0	50.0	0.0	89.3	71.4	95.1	100.0	0.0	94.8	0.0	94.0	94.7	0.0	94.1	94.2
Heavy Trucks	0	0	0		0	5	0	3		8	2	26	0		28	0	26	4		30	66
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	7.4	0.0	50.0	0.0	10.7	28.6	4.9	0.0	0.0	5.2	0.0	6.0	5.3	0.0	5.9	5.8

Project ID: 16-9163-004

Location: Plummer Rd & Riverside D

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Plummer Rd Northbound				Plummer Rd Southbound				Riverside Dr Eastbound				Riverside Dr Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	0	0	0	0	2	0	0	2	0	29	0	29	0	23	6	29	60
7:15 AM	0	0	0	0	3	0	0	3	0	21	0	21	0	13	3	16	40
7:30 AM	0	0	0	0	2	0	0	2	0	14	0	14	0	27	8	35	51
7:45 AM	0	0	0	0	2	0	0	2	0	20	0	20	0	22	6	28	50
Total Volume	0	0	0	0	9	0	0	9	0	84	0	84	0	85	23	108	201
% App. Total	0.0	0.0	0.0	0	100.0	0.0	0.0	100	0.0	100.0	0.0	100	0.0	78.7	21.3	100	
PHF	0.000				0.750				0.724				0.771				
Cars, PU, Vans	0	0	0	0	9	0	0	9	0	83	0	83	0	79	22	101	193
% Cars, PU, Vans	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	98.8	0.0	98.8	0.0	92.9	95.7	93.5	96.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	6	1	7	8
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.2	0.0	7.1	4.3	6.5	4.0

PM

	Plummer Rd Northbound				Plummer Rd Southbound				Riverside Dr Eastbound				Riverside Dr Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 02:00 PM to 06:00 PM																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
4:45 PM	0	0	0	0	3	0	0	3	0	21	0	21	0	17	1	18	42
5:00 PM	0	0	0	0	5	0	0	5	0	35	0	35	0	20	1	21	61
5:15 PM	0	0	1	1	4	0	0	4	0	26	1	27	0	24	7	31	63
5:30 PM	0	0	1	1	8	1	0	9	0	31	0	31	0	10	4	14	55
Total Volume	0	0	2	2	20	1	0	21	0	113	1	114	0	71	13	84	221
% App. Total	0.0	0.0	100.0	100	95.2	4.8	0.0	100	0.0	99.1	0.9	100	0.0	84.5	15.5	100	
PHF	0.500				0.583				0.814				0.677				
Cars, PU, Vans	0	0	2	2	18	1	0	19	0	111	1	112	0	70	13	83	216
% Cars, PU, Vans	0.0	0.0	100.0	100.0	90.0	100.0	0.0	90.5	0.0	98.2	100.0	98.2	0.0	98.6	100.0	98.8	97.7
Heavy Trucks	0	0	0	0	2	0	0	2	0	2	0	2	0	1	0	1	5
%Heavy Trucks	0.0	0.0	0.0	0.0	10.0	0.0	0.0	9.5	0.0	1.8	0.0	1.8	0.0	1.4	0.0	1.2	2.3

Project ID: 16-9163-005

Location: Riverside Dr_Union Rd & Campbellton Rd_SR-154

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	2:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Riverside Dr_Union Rd Northbound					Riverside Dr_Union Rd Southbound					Campbellton Rd_SR-154 Eastbound					Campbellton Rd_SR-154 Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	0	1	13	0	14	23	1	5	0	29	10	236	1	0	247	9	60	27	0	96	386
7:15 AM	3	4	35	0	42	21	0	6	0	27	11	200	0	0	211	30	62	22	0	114	394
7:30 AM	2	11	69	0	82	15	2	8	0	25	12	194	1	0	207	44	61	30	0	135	449
7:45 AM	2	10	86	0	98	15	2	9	0	26	18	173	1	0	192	49	67	20	0	136	452
Total	7	26	203	0	236	74	5	28	0	107	51	803	3	0	857	132	250	99	0	481	1681
8:00 AM	4	5	90	0	99	17	7	5	0	29	10	166	0	0	176	80	67	22	0	169	473
8:15 AM	4	3	101	0	108	10	1	4	0	15	7	111	3	0	121	39	76	28	0	143	387
8:30 AM	4	7	75	0	86	12	5	4	0	21	3	141	0	0	144	20	73	16	0	109	360
8:45 AM	2	1	26	0	29	13	0	1	0	14	9	177	0	0	186	11	70	26	0	107	336
Total	14	16	292	0	322	52	13	14	0	79	29	595	3	0	627	150	286	92	0	528	1556
BREAK																					
2:00 PM	1	1	16	0	18	19	2	6	0	27	3	76	5	0	84	16	81	14	0	111	240
2:15 PM	0	3	19	0	22	17	0	3	0	20	1	87	0	0	88	11	115	22	0	148	278
2:30 PM	2	2	18	0	22	29	1	5	0	35	4	84	1	0	89	11	118	24	0	153	299
2:45 PM	1	0	12	0	13	21	0	2	0	23	9	99	3	0	111	14	105	28	0	147	294
Total	4	6	65	0	75	86	3	16	0	105	17	346	9	0	372	52	419	88	0	559	1111
3:00 PM	3	3	12	0	18	38	3	2	0	43	2	85	1	0	88	18	113	14	1	145	294
3:15 PM	2	0	17	0	19	25	2	1	0	28	2	99	2	0	103	38	150	12	0	200	350
3:30 PM	10	4	106	0	120	26	5	8	0	39	3	81	1	0	85	33	114	10	0	157	401
3:45 PM	6	2	62	0	70	21	3	4	1	28	5	106	1	1	112	24	138	15	0	177	387
Total	21	9	197	0	227	110	13	15	1	138	12	371	5	1	388	113	515	51	1	679	1432
4:00 PM	2	1	32	0	35	28	3	8	0	39	2	95	0	0	97	29	156	11	1	196	367
4:15 PM	1	3	34	0	38	18	1	6	0	25	2	103	1	0	106	39	172	11	0	222	391
4:30 PM	5	2	34	0	41	36	3	9	0	48	5	88	1	0	94	33	174	13	0	220	403
4:45 PM	7	2	45	0	54	21	4	5	0	30	4	111	2	0	117	39	209	19	0	267	468
Total	15	8	145	0	168	103	11	28	0	142	13	397	4	0	414	140	711	54	1	905	1629
5:00 PM	8	2	43	0	53	33	1	9	0	43	4	91	3	0	98	25	186	26	0	237	431
5:15 PM	4	2	34	0	40	20	2	10	0	32	5	120	2	0	127	21	167	22	0	210	409
5:30 PM	5	2	35	0	42	44	7	11	0	62	8	116	1	1	125	35	190	20	0	245	474
5:45 PM	4	2	21	0	27	22	1	13	1	36	7	111	0	0	118	32	189	25	0	246	427
Total	21	8	133	0	162	119	11	43	1	173	24	438	6	1	468	113	732	93	0	938	1741
Grand Total	82	73	1035	0	1190	544	56	144	2	744	146	2950	30	2	3126	700	2913	477	2	4090	9150
Apprch %	6.9	6.1	87.0	0.0		73.1	7.5	19.4	0.3		4.7	94.4	1.0	0.1		17.1	71.2	11.7	0.0		
Total %	0.9	0.8	11.3	0.0	13.0	5.9	0.6	1.6	0.0	8.1	1.6	32.2	0.3	0.0	34.2	7.7	31.8	5.2	0.0	44.7	

% Cars, PU, Vans	100.0	98.6	98.6	0.0	98.7	94.7	98.2	100.0	100.0	96.0	97.9	95.6	96.7	100.0	95.7	97.6	97.2	94.8	100.0	97.0	96.7
Heavy Trucks	0	1	14		15	29	1	0		30	3	131	1		135	17	82	25		124	304
%Heavy Trucks	0.0	1.4	1.4	0.0	1.3	5.3	1.8	0.0	0.0	4.0	2.1	4.4	3.3	0.0	4.3	2.4	2.8	5.2	0.0	3.0	3.3

Project ID: 16-9163-005

Location: Riverside Dr_Union Rd & C

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Riverside Dr_Union Rd Northbound				Riverside Dr_Union Rd Southbound				Campbellton Rd_SR-154 Eastbound				Campbellton Rd_SR-154 Westbound				
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
7:15 AM	3	4	35	42	21	0	6	27	11	200	0	211	30	62	22	114	394
7:30 AM	2	11	69	82	15	2	8	25	12	194	1	207	44	61	30	135	449
7:45 AM	2	10	86	98	15	2	9	26	18	173	1	192	49	67	20	136	452
8:00 AM	4	5	90	99	17	7	5	29	10	166	0	176	80	67	22	169	473
Total Volume	11	30	280	321	68	11	28	107	51	733	2	786	203	257	94	554	1768
% App. Total	3.4	9.3	87.2	100	63.6	10.3	26.2	100	6.5	93.3	0.3	100	36.6	46.4	17.0	100	
PHF	0.811				0.922				0.931				0.820				
Cars, PU, Vans	11	29	280	320	67	11	28	106	49	713	2	764	201	246	91	538	1728
% Cars, PU, Vans	100.0	96.7	100.0	99.7	98.5	100.0	100.0	99.1	96.1	97.3	100.0	97.2	99.0	95.7	96.8	97.1	97.7
Heavy Trucks	0	1	0	1	1	0	0	1	2	20	0	22	2	11	3	16	40
%Heavy Trucks	0.0	3.3	0.0	0.3	1.5	0.0	0.0	0.9	3.9	2.7	0.0	2.8	1.0	4.3	3.2	2.9	2.3

PM

	Riverside Dr_Union Rd Northbound				Riverside Dr_Union Rd Southbound				Campbellton Rd_SR-154 Eastbound				Campbellton Rd_SR-154 Westbound				
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
4:45 PM	7	2	45	54	21	4	5	30	4	111	2	117	39	209	19	267	468
5:00 PM	8	2	43	53	33	1	9	43	4	91	3	98	25	186	26	237	431
5:15 PM	4	2	34	40	20	2	10	32	5	120	2	127	21	167	22	210	409
5:30 PM	5	2	35	42	44	7	11	62	8	116	1	125	35	190	20	245	474
Total Volume	24	8	157	189	118	14	35	167	21	438	8	467	120	752	87	959	1782
% App. Total	12.7	4.2	83.1	100	70.7	8.4	21.0	100	4.5	93.8	1.7	100	12.5	78.4	9.1	100	
PHF	0.875				0.673				0.919				0.898				
Cars, PU, Vans	24	8	155	187	115	13	35	163	21	415	8	444	120	741	86	947	1741
% Cars, PU, Vans	100.0	100.0	98.7	98.9	97.5	92.9	100.0	97.6	100.0	94.7	100.0	95.1	100.0	98.5	98.9	98.7	97.7
Heavy Trucks	0	0	2	2	3	1	0	4	0	23	0	23	0	11	1	12	41
%Heavy Trucks	0.0	0.0	1.3	1.1	2.5	7.1	0.0	2.4	0.0	5.3	0.0	4.9	0.0	1.5	1.1	1.3	2.3

Project ID: 16-9163-006

Location: Camp Creek Pkwy & Campbellton Rd_SR-154

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	2:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Camp Creek Pkwy Northbound					Camp Creek Pkwy Southbound					Campbellton Rd_SR-154 Eastbound					Campbellton Rd_SR-154 Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	48	145	16	0	209	16	257	25	0	298	48	95	134	0	277	21	21	13	0	55	839
7:15 AM	46	200	19	0	265	22	222	30	0	274	54	94	102	0	250	22	62	13	0	97	886
7:30 AM	62	205	12	0	279	11	272	32	0	315	55	87	116	0	258	15	46	6	0	67	919
7:45 AM	58	181	13	0	252	13	191	18	0	222	72	115	104	0	291	27	67	16	0	110	875
Total	214	731	60	0	1005	62	942	105	0	1109	229	391	456	0	1076	85	196	48	0	329	3519
8:00 AM	60	159	10	0	229	20	194	28	0	242	58	91	107	0	256	9	72	17	0	98	825
8:15 AM	44	149	27	0	220	24	209	22	0	255	69	97	88	0	254	22	63	12	0	97	826
8:30 AM	69	157	38	0	264	25	232	17	0	274	42	90	89	0	221	22	49	8	0	79	838
8:45 AM	50	115	12	0	177	13	225	12	0	250	41	78	122	0	241	28	42	21	0	91	759
Total	223	580	87	0	890	82	860	79	0	1021	210	356	406	0	972	81	226	58	0	365	3248
BREAK																					
2:00 PM	56	129	14	0	199	8	145	16	0	169	12	34	60	0	106	13	48	11	0	72	546
2:15 PM	62	136	14	0	212	13	132	19	0	164	26	43	62	0	131	13	57	16	0	86	593
2:30 PM	68	148	14	0	230	10	161	22	0	193	25	34	77	0	136	14	65	17	0	96	655
2:45 PM	88	167	10	0	265	11	141	18	0	170	17	37	67	0	121	14	57	14	0	85	641
Total	274	580	52	0	906	42	579	75	0	696	80	148	266	0	494	54	227	58	0	339	2435
3:00 PM	79	145	10	0	234	13	145	21	0	179	28	49	81	0	158	15	48	10	0	73	644
3:15 PM	86	166	17	0	269	14	135	36	0	185	29	42	59	0	130	15	90	24	0	129	713
3:30 PM	71	185	18	0	274	8	189	29	0	226	38	58	103	0	199	13	64	19	0	96	795
3:45 PM	96	172	25	0	293	16	176	18	0	210	47	78	77	0	202	17	57	18	0	92	797
Total	332	668	70	0	1070	51	645	104	0	800	142	227	320	0	689	60	259	71	0	390	2949
4:00 PM	82	185	23	0	290	11	165	36	1	212	29	77	69	0	175	17	84	13	0	114	791
4:15 PM	103	189	32	0	324	12	141	42	0	195	27	55	61	0	143	31	91	25	0	147	809
4:30 PM	86	230	22	0	338	17	207	47	0	271	39	63	66	0	168	24	99	35	0	158	935
4:45 PM	109	219	26	0	354	22	175	50	0	247	22	78	92	0	192	18	96	33	0	147	940
Total	380	823	103	0	1306	62	688	175	1	925	117	273	288	0	678	90	370	106	0	566	3475
5:00 PM	99	212	22	1	333	18	177	53	0	248	51	60	82	0	193	18	74	21	0	113	887
5:15 PM	126	252	25	1	403	24	198	60	0	282	33	53	72	0	158	42	53	53	0	148	991
5:30 PM	107	258	23	0	388	14	178	61	3	253	34	44	96	0	174	29	97	44	0	170	985
5:45 PM	73	192	31	0	296	24	188	53	0	265	53	54	81	0	188	22	101	24	0	147	896
Total	405	914	101	2	1420	80	741	227	3	1048	171	211	331	0	713	111	325	142	0	578	3759
Grand Total	1828	4296	473	2	6597	379	4455	765	4	5599	949	1606	2067	0	4622	481	1603	483	0	2567	19385
Apprch %	27.7	65.1	7.2	0.0		6.8	79.6	13.7	0.1		20.5	34.7	44.7	0.0		18.7	62.4	18.8	0.0		
Total %	9.4	22.2	2.4	0.0	34.0	2.0	23.0	3.9	0.0	28.9	4.9	8.3	10.7	0.0	23.8	2.5	8.3	2.5	0.0	13.2	

% Cars, PU, Vans	95.2	87.5	99.6	100.0	90.5	94.2	87.3	99.0	100.0	89.4	99.6	97.6	93.6	0.0	96.2	99.6	98.2	94.6	0.0	97.8	92.5
Heavy Trucks	87	535	2		624	22	564	8		594	4	38	132		174	2	29	26		57	1449
%Heavy Trucks	4.8	12.5	0.4	0.0	9.5	5.8	12.7	1.0	0.0	10.6	0.4	2.4	6.4	0.0	3.8	0.4	1.8	5.4	0.0	2.2	7.5

Project ID: 16-9163-006

Location: Camp Creek Pkwy & Camp

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Camp Creek Pkwy Northbound				Camp Creek Pkwy Southbound				Campbellton Rd_SR-154 Eastbound				Campbellton Rd_SR-154 Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	48	145	16	209	16	257	25	298	48	95	134	277	21	21	13	55	839
7:15 AM	46	200	19	265	22	222	30	274	54	94	102	250	22	62	13	97	886
7:30 AM	62	205	12	279	11	272	32	315	55	87	116	258	15	46	6	67	919
7:45 AM	58	181	13	252	13	191	18	222	72	115	104	291	27	67	16	110	875
Total Volume	214	731	60	1005	62	942	105	1109	229	391	456	1076	85	196	48	329	3519
% App. Total	21.3	72.7	6.0	100	5.6	84.9	9.5	100	21.3	36.3	42.4	100	25.8	59.6	14.6	100	
PHF	0.901				0.880				0.924				0.748				
Cars, PU, Vans	204	634	60	898	59	843	103	1005	229	390	440	1059	85	196	43	324	3286
% Cars, PU, Vans	95.3	86.7	100.0	89.4	95.2	89.5	98.1	90.6	100.0	99.7	96.5	98.4	100.0	100.0	89.6	98.5	93.4
Heavy Trucks	10	97	0	107	3	99	2	104	0	1	16	17	0	0	5	5	233
%Heavy Trucks	4.7	13.3	0.0	10.6	4.8	10.5	1.9	9.4	0.0	0.3	3.5	1.6	0.0	0.0	10.4	1.5	6.6

PM

	Camp Creek Pkwy Northbound				Camp Creek Pkwy Southbound				Campbellton Rd_SR-154 Eastbound				Campbellton Rd_SR-154 Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 02:00 PM to 06:00 PM																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
4:45 PM	109	219	26	354	22	175	50	247	22	78	92	192	18	96	33	147	940
5:00 PM	99	212	22	333	18	177	53	248	51	60	82	193	18	74	21	113	887
5:15 PM	126	252	25	403	24	198	60	282	33	53	72	158	42	53	53	148	991
5:30 PM	107	258	23	388	14	178	61	253	34	44	96	174	29	97	44	170	985
Total Volume	441	941	96	1478	78	728	224	1030	140	235	342	717	107	320	151	578	3803
% App. Total	29.8	63.7	6.5	100	7.6	70.7	21.7	100	19.5	32.8	47.7	100	18.5	55.4	26.1	100	
PHF	0.917				0.913				0.929				0.850				
Cars, PU, Vans	429	849	96	1374	76	647	224	947	139	231	319	689	106	320	148	574	3584
% Cars, PU, Vans	97.3	90.2	100.0	93.0	97.4	88.9	100.0	91.9	99.3	98.3	93.3	96.1	99.1	100.0	98.0	99.3	94.2
Heavy Trucks	12	92	0	104	2	81	0	83	1	4	23	28	1	0	3	4	219
%Heavy Trucks	2.7	9.8	0.0	7.0	2.6	11.1	0.0	8.1	0.7	1.7	6.7	3.9	0.9	0.0	2.0	0.7	5.8

Project ID: 16-9163-007

Location: Fulton Industrial Blvd & Festenal Dwy (South)

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	10:00 AM
PM	3:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Fulton Industrial Blvd Northbound					Fulton Industrial Blvd Southbound					Festenal Dwy (South) Eastbound					Festenal Dwy (South) Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	1	342	0	0	343	0	101	4	0	105	2	0	1	1	3	0	0	0	0	0	451
7:15 AM	9	339	0	0	348	1	89	8	0	98	0	0	0	1	0	0	0	0	0	0	446
7:30 AM	2	364	0	0	366	1	113	9	0	123	1	0	0	0	1	0	0	0	0	0	490
7:45 AM	7	386	0	0	393	2	75	7	0	84	0	0	0	0	0	0	0	0	0	0	477
Total	19	1431	0	0	1450	4	378	28	0	410	3	0	1	2	4	0	0	0	0	0	1864
8:00 AM	1	332	0	0	333	1	71	1	0	73	2	0	0	0	2	0	0	0	0	0	408
8:15 AM	2	222	0	0	224	2	86	3	0	91	0	0	0	0	0	0	0	0	0	0	315
8:30 AM	4	240	0	0	244	1	92	3	0	96	1	0	1	0	2	0	0	0	0	0	342
8:45 AM	2	196	0	0	198	0	81	7	0	88	1	0	2	0	3	0	0	0	0	0	289
Total	9	990	0	0	999	4	330	14	0	348	4	0	3	0	7	0	0	0	0	0	1354
9:00 AM	3	136	0	0	139	1	72	2	0	75	2	0	1	0	3	0	0	0	0	0	217
9:15 AM	1	104	0	0	105	0	89	4	0	93	1	0	0	0	1	0	0	0	0	0	199
9:30 AM	2	125	0	0	127	0	80	4	0	84	2	0	1	1	3	0	0	0	0	0	214
9:45 AM	0	106	0	0	106	0	77	8	0	85	1	0	2	0	3	0	0	0	0	0	194
Total	6	471	0	0	477	1	318	18	0	337	6	0	4	1	10	0	0	0	0	0	824
BREAK																					
10:00 AM	0	103	0	0	103	1	89	2	0	92	2	0	0	0	2	0	0	0	0	0	197
10:15 AM	1	99	0	0	100	1	84	6	0	91	7	0	0	0	7	0	0	0	0	0	198
10:30 AM	1	90	0	0	91	2	79	7	0	88	5	0	1	0	6	0	0	0	0	0	185
10:45 AM	5	101	0	0	106	1	81	5	0	87	3	0	1	0	4	0	0	0	0	0	197
Total	7	393	0	0	400	5	333	20	0	358	17	0	2	0	19	0	0	0	0	0	777
11:00 AM	1	109	0	0	110	0	81	2	0	83	10	0	3	0	13	0	0	0	0	0	206
11:15 AM	1	112	0	0	113	0	79	3	0	82	2	0	1	1	3	0	0	0	0	0	198
11:30 AM	1	102	0	0	103	1	94	4	0	99	2	0	3	1	5	0	0	0	0	0	207
11:45 AM	0	112	0	0	112	1	98	2	0	101	0	0	1	0	1	0	0	0	0	0	214
Total	3	435	0	0	438	2	352	11	0	365	14	0	8	2	22	0	0	0	0	0	825
12:00 PM	0	95	0	0	95	1	97	3	0	101	4	0	7	0	11	0	0	0	0	0	207
12:15 PM	0	125	0	0	125	0	88	3	0	91	1	0	1	1	2	0	0	0	0	0	218
12:30 PM	2	106	0	0	108	0	86	1	0	87	2	0	1	0	3	0	0	0	0	0	198
12:45 PM	1	90	0	0	91	1	90	4	0	95	3	0	2	0	5	0	0	0	0	0	191
Total	3	416	0	0	419	2	361	11	0	374	10	0	11	1	21	0	0	0	0	0	814
1:00 PM	3	111	0	0	114	2	95	3	0	100	2	0	1	0	3	0	0	0	0	0	217
1:15 PM	1	96	0	0	97	2	97	4	0	103	2	0	1	0	3	0	0	0	0	0	203
1:30 PM	1	107	0	0	108	1	128	3	0	132	5	0	1	2	6	0	0	0	0	0	246
1:45 PM	0	98	0	0	98	1	117	5	0	123	1	0	0	0	1	0	0	0	0	0	222

2:00 PM	2	121	0	0	123	3	107	3	0	113	9	0	3	1	12	0	0	0	0	0	248
2:15 PM	1	119	0	0	120	0	92	4	0	96	4	0	4	0	8	0	0	0	0	0	224
2:30 PM	1	137	0	0	138	0	171	3	0	174	3	0	2	0	5	0	0	0	0	0	317
2:45 PM	2	115	0	0	117	0	135	7	0	142	4	0	1	0	5	0	0	0	0	0	264
Total	6	492	0	0	498	3	505	17	0	525	20	0	10	1	30	0	0	0	0	0	1053

BREAK

3:00 PM	1	109	0	0	110	1	172	4	0	177	7	0	1	0	8	0	0	0	0	0	295
3:15 PM	3	90	0	0	93	0	189	8	0	197	5	0	1	0	6	0	0	0	0	0	296
3:30 PM	2	159	0	0	161	1	210	2	0	213	6	0	3	0	9	0	0	0	0	0	383
3:45 PM	1	105	0	0	106	2	191	2	0	195	5	0	2	0	7	0	0	0	0	0	308
Total	7	463	0	0	470	4	762	16	0	782	23	0	7	0	30	0	0	0	0	0	1282

4:00 PM	0	90	0	0	90	0	249	1	0	250	1	0	4	0	5	0	0	0	0	0	345
4:15 PM	1	95	0	0	96	0	245	6	0	251	3	0	2	0	5	0	0	0	0	0	352
4:30 PM	1	94	0	0	95	2	301	1	0	304	2	0	1	0	3	0	0	0	0	0	402
4:45 PM	2	83	0	0	85	0	312	0	0	312	5	0	3	0	8	0	0	0	0	0	405
Total	4	362	0	0	366	2	1107	8	0	1117	11	0	10	0	21	0	0	0	0	0	1504

5:00 PM	1	100	0	0	101	3	369	1	0	373	10	0	2	0	12	0	0	0	0	0	486
5:15 PM	0	83	0	0	83	1	314	0	0	315	4	0	2	0	6	0	0	0	0	0	404
5:30 PM	0	118	0	0	118	0	317	1	0	318	2	0	3	0	5	0	0	0	0	0	441
5:45 PM	0	95	0	0	95	0	283	0	0	283	0	0	3	0	3	0	0	0	0	0	381
Total	1	396	0	0	397	4	1283	2	0	1289	16	0	10	0	26	0	0	0	0	0	1712

6:00 PM	2	83	0	0	85	0	235	1	0	236	2	0	1	0	3	0	0	0	0	0	324
6:15 PM	0	87	0	0	87	0	244	2	0	246	3	0	1	0	4	0	0	0	0	0	337
6:30 PM	1	71	0	0	72	0	187	1	0	188	3	0	1	0	4	0	0	0	0	0	264
6:45 PM	0	79	0	0	79	0	159	1	0	160	1	0	3	0	4	0	0	0	0	0	243
Total	3	320	0	0	323	0	825	5	0	830	9	0	6	0	15	0	0	0	0	0	1168

Grand Total	73	6581	0	0	6654	37	6991	165	0	7193	143	0	75	9	218	0	0	0	0	0	14065
Apprch %	1.1	98.9	0.0	0.0		0.5	97.2	2.3	0.0		65.6	0.0	34.4	4.1		0.0	0.0	0.0	0.0		
Total %	0.5	46.8	0.0	0.0	47.3	0.3	49.7	1.2	0.0	51.1	1.0	0.0	0.5	0.1	1.5	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	71	5914	0	0	5985	34	6257	157	0	6448	134	0	74	9	208	0	0	0	0	0	12641
% Cars, PU, Vans	97.3	89.9	0.0	0.0	89.9	91.9	89.5	95.2	0.0	89.6	93.7	0.0	98.7	100.0	95.4	0.0	0.0	0.0	0.0	0.0	89.9
Heavy Trucks	2	667	0		669	3	734	8		745	9	0	1		10	0	0	0		0	1424
%Heavy Trucks	2.7	10.1	0.0	0.0	10.1	8.1	10.5	4.8	0.0	10.4	6.3	0.0	1.3	0.0	4.6	0.0	0.0	0.0	0.0	0.0	10.1

Project ID: 16-9163-007

Location: Fulton Industrial Blvd & Festenal Dwy

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Festenal Dwy (South) Eastbound				Festenal Dwy (South) Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 10:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	1	342	0	343	0	101	4	105	2	0	1	3	0	0	0	0	451
7:15 AM	9	339	0	348	1	89	8	98	0	0	0	0	0	0	0	0	446
7:30 AM	2	364	0	366	1	113	9	123	1	0	0	1	0	0	0	0	490
7:45 AM	7	386	0	393	2	75	7	84	0	0	0	0	0	0	0	0	477
Total Volume	19	1431	0	1450	4	378	28	410	3	0	1	4	0	0	0	0	1864
% App. Total	1.3	98.7	0.0	100	1.0	92.2	6.8	100	75.0	0.0	25.0	100	0.0	0.0	0.0	0	
PHF	0.922				0.833				0.333				0.000				
Cars, PU, Vans	19	1390	0	1409	4	334	28	366	3	0	1	4	0	0	0	0	1779
% Cars, PU, Vans	100.0	97.1	0.0	97.2	100.0	88.4	100.0	89.3	100.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	95.4
Heavy Trucks	0	41	0	41	0	44	0	44	0	0	0	0	0	0	0	0	85
%Heavy Trucks	0.0	2.9	0.0	2.8	0.0	11.6	0.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6

NOON

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Festenal Dwy (South) Eastbound				Festenal Dwy (South) Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 10:00 AM to 03:00 PM																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
2:00 PM	2	121	0	123	3	107	3	113	9	0	3	12	0	0	0	0	248
2:15 PM	1	119	0	120	0	92	4	96	4	0	4	8	0	0	0	0	224
2:30 PM	1	137	0	138	0	171	3	174	3	0	2	5	0	0	0	0	317
2:45 PM	2	115	0	117	0	135	7	142	4	0	1	5	0	0	0	0	264
Total Volume	6	492	0	498	3	505	17	525	20	0	10	30	0	0	0	0	1053
% App. Total	1.2	98.8	0.0	100	0.6	96.2	3.2	100	66.7	0.0	33.3	100	0.0	0.0	0.0	0	
PHF	0.902				0.754				0.625				0.000				
Cars, PU, Vans	6	419	0	425	3	447	17	467	20	0	10	30	0	0	0	0	922
% Cars, PU, Vans	100.0	85.2	0.0	85.3	100.0	88.5	100.0	89.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	87.6
Heavy Trucks	0	73	0	73	0	58	0	58	0	0	0	0	0	0	0	0	131
%Heavy Trucks	0.0	14.8	0.0	14.7	0.0	11.5	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4

PM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Festenal Dwy (South) Eastbound				Festenal Dwy (South) Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 03:00 PM to 07:00 PM																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
4:45 PM	2	83	0	85	0	312	0	312	5	0	3	8	0	0	0	0	405
5:00 PM	1	100	0	101	3	369	1	373	10	0	2	12	0	0	0	0	486

5:30 PM	0	118	0	118	0	317	1	318	2	0	3	5	0	0	0	0	441
Total Volume	3	384	0	387	4	1312	2	1318	21	0	10	31	0	0	0	0	1736
% App. Total	0.8	99.2	0.0	100	0.3	99.5	0.2	100	67.7	0.0	32.3	100	0.0	0.0	0.0	0	
PHF	0.820				0.883				0.646				0.000				
Cars, PU, Vans	3	334	0	337	4	1249	2	1255	20	0	10	30	0	0	0	0	1622
% Cars, PU, Vans	100.0	87.0	0.0	87.1	100.0	95.2	100.0	95.2	95.2	0.0	100.0	96.8	0.0	0.0	0.0	0.0	93.4
Heavy Trucks	0	50	0	50	0	63	0	63	1	0	0	1	0	0	0	0	114
%Heavy Trucks	0.0	13.0	0.0	12.9	0.0	4.8	0.0	4.8	4.8	0.0	0.0	3.2	0.0	0.0	0.0	0.0	6.6

Project ID: 16-9163-008

Location: Fulton Industrial Blvd & Bosch Dwy

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	10:00 AM
PM	3:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Fulton Industrial Blvd Northbound					Fulton Industrial Blvd Southbound					Bosch Dwy Eastbound					Bosch Dwy Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	0	331	0	0	331	0	99	3	0	102	1	0	0	1	1	0	0	0	0	0	434
7:15 AM	1	335	0	0	336	0	92	0	0	92	2	0	0	1	2	0	0	0	0	0	430
7:30 AM	3	387	0	0	390	0	110	4	0	114	1	0	0	0	1	0	0	0	0	0	505
7:45 AM	1	375	0	0	376	0	72	8	0	80	0	0	0	0	0	0	0	0	0	0	456
Total	5	1428	0	0	1433	0	373	15	0	388	4	0	0	2	4	0	0	0	0	0	1825
8:00 AM	2	344	0	0	346	0	63	2	0	65	0	0	0	0	0	0	0	0	0	0	411
8:15 AM	1	233	0	0	234	0	80	1	0	81	0	0	0	0	0	0	0	0	0	0	315
8:30 AM	1	241	0	0	242	0	88	3	0	91	1	0	0	0	1	0	0	0	0	0	334
8:45 AM	1	205	0	0	206	1	90	1	0	92	0	0	2	0	2	0	0	0	0	0	300
Total	5	1023	0	0	1028	1	321	7	0	329	1	0	2	0	3	0	0	0	0	0	1360
9:00 AM	0	128	0	0	128	1	70	2	0	73	0	0	0	0	0	0	0	0	0	0	201
9:15 AM	0	103	0	0	103	0	86	3	0	89	0	0	1	1	1	0	0	0	0	0	193
9:30 AM	1	121	0	0	122	1	80	1	0	82	5	0	0	1	5	0	0	0	0	0	209
9:45 AM	1	100	0	0	101	0	76	1	0	77	0	0	0	0	0	0	0	0	0	0	178
Total	2	452	0	0	454	2	312	7	0	321	5	0	1	2	6	0	0	0	0	0	781
BREAK																					
10:00 AM	0	105	0	0	105	0	87	3	0	90	2	0	0	0	2	0	0	0	0	0	197
10:15 AM	3	91	0	0	94	0	85	0	0	85	3	0	0	0	3	0	0	0	0	0	182
10:30 AM	1	89	0	0	90	1	76	4	0	81	0	0	0	0	0	0	0	0	0	0	171
10:45 AM	1	104	0	0	105	0	78	3	0	81	3	0	0	0	3	0	0	0	0	0	189
Total	5	389	0	0	394	1	326	10	0	337	8	0	0	0	8	0	0	0	0	0	739
11:00 AM	0	97	0	0	97	1	82	1	0	84	10	0	2	0	12	0	0	0	0	0	193
11:15 AM	2	108	0	0	110	0	74	7	0	81	4	0	0	1	4	0	0	0	0	0	195
11:30 AM	0	102	0	0	102	0	96	2	0	98	3	0	2	0	5	0	0	0	0	0	205
11:45 AM	3	109	0	0	112	0	93	7	0	100	3	0	1	0	4	0	0	0	0	0	216
Total	5	416	0	0	421	1	345	17	0	363	20	0	5	1	25	0	0	0	0	0	809
12:00 PM	1	89	0	0	90	1	102	2	0	105	9	0	0	1	9	0	0	0	0	0	204
12:15 PM	0	117	0	0	117	0	87	4	0	91	2	0	0	0	2	0	0	0	0	0	210
12:30 PM	1	108	0	0	109	0	83	4	0	87	1	0	1	0	2	0	0	0	0	0	198
12:45 PM	0	88	0	0	88	2	87	2	0	91	5	0	1	1	6	0	0	0	0	0	185
Total	2	402	0	0	404	3	359	12	0	374	17	0	2	2	19	0	0	0	0	0	797
1:00 PM	0	111	0	0	111	0	94	2	0	96	1	0	1	0	2	0	0	0	0	0	209
1:15 PM	1	100	0	0	101	0	98	0	0	98	2	0	0	1	2	0	0	0	0	0	201
1:30 PM	0	101	0	0	101	1	128	2	0	131	3	0	1	1	4	0	0	0	0	0	236
1:45 PM	0	96	0	0	96	0	113	2	0	115	1	0	0	0	1	0	0	0	0	0	212

2:00 PM	1	120	0	0	121	0	114	3	0	117	2	0	0	1	2	0	0	0	0	0	240
2:15 PM	0	114	0	0	114	0	84	4	0	88	1	0	3	0	4	0	0	0	0	0	206
2:30 PM	2	120	0	0	122	1	165	3	0	169	14	0	10	1	24	0	0	0	0	0	315
2:45 PM	1	118	0	0	119	0	133	0	0	133	5	0	3	0	8	0	0	0	0	0	260
Total	4	472	0	0	476	1	496	10	0	507	22	0	16	2	38	0	0	0	0	0	1021

BREAK

3:00 PM	2	110	0	0	112	0	181	1	0	182	5	0	5	0	10	0	0	0	0	0	304
3:15 PM	1	84	0	0	85	1	179	2	0	182	2	0	3	1	5	0	0	0	0	0	272
3:30 PM	1	133	0	0	134	0	204	2	0	206	28	0	20	0	48	0	0	0	1	0	388
3:45 PM	0	99	0	0	99	0	183	0	0	183	12	0	2	0	14	0	0	0	0	0	296
Total	4	426	0	0	430	1	747	5	0	753	47	0	30	1	77	0	0	0	1	0	1260

4:00 PM	0	94	0	0	94	0	246	1	0	247	3	0	7	0	10	0	0	0	0	0	351
4:15 PM	0	86	0	0	86	0	237	1	0	238	6	0	2	0	8	0	0	0	0	0	332
4:30 PM	0	88	0	0	88	1	309	0	0	310	6	0	4	0	10	0	0	0	0	0	408
4:45 PM	0	87	0	0	87	0	311	2	0	313	3	0	2	0	5	0	0	0	0	0	405
Total	0	355	0	0	355	1	1103	4	0	1108	18	0	15	0	33	0	0	0	0	0	1496

5:00 PM	0	97	0	0	97	0	351	0	0	351	3	0	0	0	3	0	0	0	0	0	451
5:15 PM	0	66	0	0	66	0	345	0	0	345	1	0	1	0	2	0	0	0	0	0	413
5:30 PM	0	129	0	0	129	1	308	0	0	309	1	0	1	0	2	0	0	0	0	0	440
5:45 PM	0	89	0	0	89	0	300	0	0	300	1	0	2	0	3	0	0	0	0	0	392
Total	0	381	0	0	381	1	1304	0	0	1305	6	0	4	0	10	0	0	0	0	0	1696

6:00 PM	0	82	0	0	82	0	235	0	0	235	2	0	2	0	4	0	0	0	0	0	321
6:15 PM	0	87	0	0	87	0	253	0	0	253	0	0	0	0	0	0	0	0	0	0	340
6:30 PM	0	70	0	0	70	1	186	0	0	187	0	0	0	0	0	0	0	0	0	0	257
6:45 PM	0	77	0	0	77	0	158	0	0	158	0	0	0	0	0	0	0	0	0	0	235
Total	0	316	0	0	316	1	832	0	0	833	2	0	2	0	4	0	0	0	0	0	1153

Grand Total	33	6468	0	0	6501	14	6951	93	0	7058	157	0	79	12	236	0	0	0	1	0	13795
Apprch %	0.5	99.5	0.0	0.0		0.2	98.5	1.3	0.0		66.5	0.0	33.5	5.1		0.0	0.0	0.0	0.0		
Total %	0.2	46.9	0.0	0.0	47.1	0.1	50.4	0.7	0.0	51.2	1.1	0.0	0.6	0.1	1.7	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	28	5840	0	0	5868	11	6254	61	0	6326	124	0	73	12	197	0	0	0	1	0	12391
% Cars, PU, Vans	84.8	90.3	0.0	0.0	90.3	78.6	90.0	65.6	0.0	89.6	79.0	0.0	92.4	100.0	83.5	0.0	0.0	0.0	100.0	0.0	89.8
Heavy Trucks	5	628	0		633	3	697	32		732	33	0	6		39	0	0	0		0	1404
%Heavy Trucks	15.2	9.7	0.0	0.0	9.7	21.4	10.0	34.4	0.0	10.4	21.0	0.0	7.6	0.0	16.5	0.0	0.0	0.0	0.0	0.0	10.2

Project ID: 16-9163-008

Location: Fulton Industrial Blvd & B

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Bosch Dwy Eastbound				Bosch Dwy Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 10:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	0	331	0	331	0	99	3	102	1	0	0	1	0	0	0	0	434
7:15 AM	1	335	0	336	0	92	0	92	2	0	0	2	0	0	0	0	430
7:30 AM	3	387	0	390	0	110	4	114	1	0	0	1	0	0	0	0	505
7:45 AM	1	375	0	376	0	72	8	80	0	0	0	0	0	0	0	0	456
Total Volume	5	1428	0	1433	0	373	15	388	4	0	0	4	0	0	0	0	1825
% App. Total	0.3	99.7	0.0	100	0.0	96.1	3.9	100	100.0	0.0	0.0	100	0.0	0.0	0.0	0	
PHF	0.919				0.851				0.500				0.000				
Cars, PU, Vans	5	1386	0	1391	0	330	12	342	1	0	0	1	0	0	0	0	1734
% Cars, PU, Vans	100.0	97.1	0.0	97.1	0.0	88.5	80.0	88.1	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	95.0
Heavy Trucks	0	42	0	42	0	43	3	46	3	0	0	3	0	0	0	0	91
%Heavy Trucks	0.0	2.9	0.0	2.9	0.0	11.5	20.0	11.9	75.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	5.0

NOON

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Bosch Dwy Eastbound				Bosch Dwy Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 10:00 AM to 03:00 PM																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
2:00 PM	1	120	0	121	0	114	3	117	2	0	0	2	0	0	0	0	240
2:15 PM	0	114	0	114	0	84	4	88	1	0	3	4	0	0	0	0	206
2:30 PM	2	120	0	122	1	165	3	169	14	0	10	24	0	0	0	0	315
2:45 PM	1	118	0	119	0	133	0	133	5	0	3	8	0	0	0	0	260
Total Volume	4	472	0	476	1	496	10	507	22	0	16	38	0	0	0	0	1021
% App. Total	0.8	99.2	0.0	100	0.2	97.8	2.0	100	57.9	0.0	42.1	100	0.0	0.0	0.0	0	
PHF	0.975				0.750				0.396				0.000				
Cars, PU, Vans	2	406	0	408	1	442	4	447	14	0	14	28	0	0	0	0	883
% Cars, PU, Vans	50.0	86.0	0.0	85.7	100.0	89.1	40.0	88.2	63.6	0.0	87.5	73.7	0.0	0.0	0.0	0.0	86.5
Heavy Trucks	2	66	0	68	0	54	6	60	8	0	2	10	0	0	0	0	138
%Heavy Trucks	50.0	14.0	0.0	14.3	0.0	10.9	60.0	11.8	36.4	0.0	12.5	26.3	0.0	0.0	0.0	0.0	13.5

PM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Bosch Dwy Eastbound				Bosch Dwy Westbound				
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analysis from 03:00 PM to 07:00 PM																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
4:45 PM	0	87	0	87	0	311	2	313	3	0	2	5	0	0	0	0	405
5:00 PM	0	97	0	97	0	351	0	351	3	0	0	3	0	0	0	0	451

5:30 PM	0	129	0	129	1	308	0	309	1	0	1	2	0	0	0	0	440
Total Volume	0	379	0	379	1	1315	2	1318	8	0	4	12	0	0	0	0	1709
% App. Total	0.0	100.0	0.0	100	0.1	99.8	0.2	100	66.7	0.0	33.3	100	0.0	0.0	0.0	0	
PHF	0.734				0.939				0.600				0.000				
Cars, PU, Vans	0	333	0	333	1	1258	1	1260	7	0	3	10	0	0	0	0	1603
% Cars, PU, Vans	0.0	87.9	0.0	87.9	100.0	95.7	50.0	95.6	87.5	0.0	75.0	83.3	0.0	0.0	0.0	0.0	93.8
Heavy Trucks	0	46	0	46	0	57	1	58	1	0	1	2	0	0	0	0	106
%Heavy Trucks	0.0	12.1	0.0	12.1	0.0	4.3	50.0	4.4	12.5	0.0	25.0	16.7	0.0	0.0	0.0	0.0	6.2

Project ID: 16-9163-009

Location: Fulton Industrial Blvd & Kendall Park Ln_Eagle Vista Pkwy

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Fulton Industrial Blvd Northbound					Fulton Industrial Blvd Southbound					Kendall Park Ln_Eagle Vista Pkwy Eastbound					Kendall Park Ln_Eagle Vista Pkwy Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	3	338	7	0	348	2	95	3	0	100	3	0	4	0	7	0	0	3	0	3	458
7:15 AM	5	346	4	0	355	1	85	5	0	91	2	0	2	0	4	0	0	1	0	1	451
7:30 AM	8	366	6	0	380	6	86	13	0	105	3	0	1	0	4	0	0	0	0	0	489
7:45 AM	11	381	3	0	395	7	56	4	0	67	5	0	2	0	7	0	0	1	0	1	470
Total	27	1431	20	0	1478	16	322	25	0	363	13	0	9	0	22	0	0	5	0	5	1868
8:00 AM	5	331	5	0	341	4	63	2	0	69	3	0	0	0	3	0	0	2	0	2	415
8:15 AM	2	214	3	0	219	1	78	3	0	82	3	0	4	0	7	0	0	3	0	3	311
8:30 AM	6	246	0	0	252	3	78	7	0	88	4	0	1	0	5	0	0	1	0	1	346
8:45 AM	2	194	3	0	199	4	82	6	0	92	0	0	2	0	2	0	0	2	0	2	295
Total	15	985	11	0	1011	12	301	18	0	331	10	0	7	0	17	0	0	8	0	8	1367
BREAK																					
4:00 PM	3	74	3	0	80	6	238	5	0	249	11	0	8	0	19	8	0	3	0	11	359
4:15 PM	3	77	3	0	83	6	232	4	0	242	9	0	7	0	16	8	0	6	0	14	355
4:30 PM	1	69	5	0	75	9	295	5	0	309	8	0	6	0	14	5	0	10	0	15	413
4:45 PM	2	75	6	0	83	4	310	6	0	320	5	0	8	0	13	6	0	3	0	9	425
Total	9	295	17	0	321	25	1075	20	0	1120	33	0	29	0	62	27	0	22	0	49	1552
5:00 PM	2	84	3	0	89	3	357	7	0	367	7	0	8	0	15	3	1	5	0	9	480
5:15 PM	4	73	3	0	80	3	312	5	0	320	5	0	7	0	12	3	0	5	0	8	420
5:30 PM	0	99	0	0	99	3	311	4	0	318	4	0	8	0	12	6	0	11	0	17	446
5:45 PM	3	91	1	0	95	3	286	0	0	289	4	0	7	0	11	3	0	0	0	3	398
Total	9	347	7	0	363	12	1266	16	0	1294	20	0	30	0	50	15	1	21	0	37	1744
Grand Total	60	3058	55	0	3173	65	2964	79	0	3108	76	0	75	0	151	42	1	56	0	99	6531
Apprch %	1.9	96.4	1.7	0.0		2.1	95.4	2.5	0.0		50.3	0.0	49.7	0.0		42.4	1.0	56.6	0.0		
Total %	0.9	46.8	0.8	0.0	48.6	1.0	45.4	1.2	0.0	47.6	1.2	0.0	1.1	0.0	2.3	0.6	0.0	0.9	0.0	1.5	
Cars, PU, Vans	49	2924	47	0	3020	38	2813	41	0	2892	37	0	53	0	90	35	0	36	0	71	6073
% Cars, PU, Vans	81.7	95.6	85.5	0.0	95.2	58.5	94.9	51.9	0.0	93.1	48.7	0.0	70.7	0.0	59.6	83.3	0.0	64.3	0.0	71.7	93.0
Heavy Trucks	11	134	8		153	27	151	38		216	39	0	22		61	7	1	20		28	458
%Heavy Trucks	18.3	4.4	14.5	0.0	4.8	41.5	5.1	48.1	0.0	6.9	51.3	0.0	29.3	0.0	40.4	16.7	100.0	35.7	0.0	28.3	7.0

Project ID: 16-9163-009

Location: Fulton Industrial Blvd & K

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				ndall Park Ln_Eagle Vista Pk Eastbound				ndall Park Ln_Eagle Vista Pk Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	
7:00 AM	3	338	7	348	2	95	3	100	3	0	4	7	0	0	3	3	458
7:15 AM	5	346	4	355	1	85	5	91	2	0	2	4	0	0	1	1	451
7:30 AM	8	366	6	380	6	86	13	105	3	0	1	4	0	0	0	0	489
7:45 AM	11	381	3	395	7	56	4	67	5	0	2	7	0	0	1	1	470
Total Volume	27	1431	20	1478	16	322	25	363	13	0	9	22	0	0	5	5	1868
% App. Total	1.8	96.8	1.4	100	4.4	88.7	6.9	100	59.1	0.0	40.9	100	0.0	0.0	100.0	100	
PHF	0.935				0.864				0.786				0.417				
Cars, PU, Vans	24	1404	20	1448	8	296	18	322	3	0	2	5	0	0	0	0	1775
% Cars, PU, Vans	88.9	98.1	100.0	98.0	50.0	91.9	72.0	88.7	23.1	0.0	22.2	22.7	0.0	0.0	0.0	0.0	95.0
Heavy Trucks	3	27	0	30	8	26	7	41	10	0	7	17	0	0	5	5	93
%Heavy Trucks	11.1	1.9	0.0	2.0	50.0	8.1	28.0	11.3	76.9	0.0	77.8	77.3	0.0	0.0	100.0	100.0	5.0

PM

	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				ndall Park Ln_Eagle Vista Pk Eastbound				ndall Park Ln_Eagle Vista Pk Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	
4:45 PM	2	75	6	83	4	310	6	320	5	0	8	13	6	0	3	9	425
5:00 PM	2	84	3	89	3	357	7	367	7	0	8	15	3	1	5	9	480
5:15 PM	4	73	3	80	3	312	5	320	5	0	7	12	3	0	5	8	420
5:30 PM	0	99	0	99	3	311	4	318	4	0	8	12	6	0	11	17	446
Total Volume	8	331	12	351	13	1290	22	1325	21	0	31	52	18	1	24	43	1771
% App. Total	2.3	94.3	3.4	100	1.0	97.4	1.7	100	40.4	0.0	59.6	100	41.9	2.3	55.8	100	
PHF	0.886				0.903				0.867				0.632				
Cars, PU, Vans	6	299	8	313	7	1249	6	1262	10	0	27	37	16	0	19	35	1647
% Cars, PU, Vans	75.0	90.3	66.7	89.2	53.8	96.8	27.3	95.2	47.6	0.0	87.1	71.2	88.9	0.0	79.2	81.4	93.0
Heavy Trucks	2	32	4	38	6	41	16	63	11	0	4	15	2	1	5	8	124
%Heavy Trucks	25.0	9.7	33.3	10.8	46.2	3.2	72.7	4.8	52.4	0.0	12.9	28.8	11.1	100.0	20.8	18.6	7.0

Project ID: 16-9163-010

Location: Fulton Industrial Blvd_Cascade Palmetto Hey & Campbellton Rd_SR-154_Fairburn Rd

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	2:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	n Industrial Blvd_Cascade Palmetto					n Industrial Blvd_Cascade Palmetto					Campbellton Rd_SR-154_Fairburn Rd					Campbellton Rd_SR-154_Fairburn Rd					
	Northbound					Southbound					Eastbound					Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	8	208	52	0	268	7	53	44	0	104	121	144	9	0	274	7	46	7	0	60	706
7:15 AM	11	229	53	0	293	4	48	33	0	85	131	191	13	0	335	11	40	9	0	60	773
7:30 AM	21	235	43	0	299	3	50	34	0	87	117	145	18	0	280	8	58	19	0	85	751
7:45 AM	24	239	43	0	306	3	31	23	0	57	135	137	9	0	281	15	62	9	0	86	730
Total	64	911	191	0	1166	17	182	134	0	333	504	617	49	0	1170	41	206	44	0	291	2960
8:00 AM	24	232	50	0	306	1	37	24	0	62	102	132	0	0	234	16	61	18	0	95	697
8:15 AM	11	143	34	0	188	8	38	34	0	80	81	126	8	0	215	27	54	20	0	101	584
8:30 AM	24	122	30	0	176	7	44	29	1	80	104	119	4	0	227	5	68	14	0	87	570
8:45 AM	9	126	15	0	150	7	47	32	0	86	60	78	3	0	141	8	50	2	0	60	437
Total	68	623	129	0	820	23	166	119	1	308	347	455	15	0	817	56	233	54	0	343	2288
BREAK																					
2:00 PM	5	62	8	0	75	6	58	37	0	101	40	56	15	0	111	16	57	6	0	79	366
2:15 PM	7	57	14	0	78	12	53	43	0	108	42	49	12	0	103	16	75	10	0	101	390
2:30 PM	9	65	15	0	89	13	86	79	0	178	38	71	8	0	117	17	71	7	0	95	479
2:45 PM	11	66	14	0	91	8	66	51	0	125	28	53	16	0	97	16	78	8	0	102	415
Total	32	250	51	0	333	39	263	210	0	512	148	229	51	0	428	65	281	31	0	377	1650
3:00 PM	11	48	16	0	75	16	90	79	0	185	40	56	6	0	102	6	92	10	0	108	470
3:15 PM	9	52	14	0	75	9	104	76	0	189	18	59	13	0	90	11	98	8	0	117	471
3:30 PM	17	60	22	0	99	16	121	105	0	242	37	50	14	0	101	19	98	10	0	127	569
3:45 PM	5	55	19	0	79	9	103	72	0	184	30	54	10	0	94	26	106	8	1	140	497
Total	42	215	71	0	328	50	418	332	0	800	125	219	43	0	387	62	394	36	1	492	2007
4:00 PM	13	42	20	0	75	15	131	108	0	254	28	48	11	0	87	16	112	13	0	141	557
4:15 PM	7	57	22	0	86	19	146	81	0	246	23	61	13	0	97	22	126	4	0	152	581
4:30 PM	10	51	19	0	80	17	146	132	0	295	18	68	11	0	97	23	119	6	0	148	620
4:45 PM	9	43	15	0	67	24	166	137	0	327	31	67	10	0	108	41	133	9	0	183	685
Total	39	193	76	0	308	75	589	458	0	1122	100	244	45	0	389	102	490	32	0	624	2443
5:00 PM	7	51	20	0	78	21	180	162	0	363	22	56	20	0	98	30	140	4	0	174	713
5:15 PM	18	56	22	0	96	13	201	121	0	335	28	66	13	0	107	27	139	9	0	175	713
5:30 PM	15	64	30	0	109	16	190	128	0	334	25	70	9	0	104	23	160	5	0	188	735
5:45 PM	16	64	18	0	98	13	167	117	0	297	28	49	10	0	87	23	147	8	0	178	660
Total	56	235	90	0	381	63	738	528	0	1329	103	241	52	0	396	103	586	26	0	715	2821
Grand Total	301	2427	608	0	3336	267	2356	1781	1	4404	1327	2005	255	0	3587	429	2190	223	1	2842	14169
Apprch %	9.0	72.8	18.2	0.0		6.1	53.5	40.4	0.0		37.0	55.9	7.1	0.0		15.1	77.1	7.8	0.0		
Total %	2.1	17.1	4.3	0.0	23.5	1.9	16.6	12.6	0.0	31.1	9.4	14.2	1.8	0.0	25.3	3.0	15.5	1.6	0.0	20.1	

% Cars, PU, Vans	99.3	94.0	99.7	0.0	95.5	73.4	93.5	97.0	100.0	93.7	96.6	96.9	96.9	0.0	96.8	99.3	98.7	75.3	100.0	97.0	95.6
Heavy Trucks	2	146	2		150	71	153	54		278	45	62	8		115	3	28	55		86	629
%Heavy Trucks	0.7	6.0	0.3	0.0	4.5	26.6	6.5	3.0	0.0	6.3	3.4	3.1	3.1	0.0	3.2	0.7	1.3	24.7	0.0	3.0	4.4

Project ID: 16-9163-010

Location: Fulton Industrial Blvd_Cas

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	dustrial Blvd_Cascade Pal				dustrial Blvd_Cascade Pal				bellton Rd_SR-154_Fairbur				bellton Rd_SR-154_Fairbur				
	Northbound				Southbound				Eastbound				Westbound				
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	8	208	52	268	7	53	44	104	121	144	9	274	7	46	7	60	706
7:15 AM	11	229	53	293	4	48	33	85	131	191	13	335	11	40	9	60	773
7:30 AM	21	235	43	299	3	50	34	87	117	145	18	280	8	58	19	85	751
7:45 AM	24	239	43	306	3	31	23	57	135	137	9	281	15	62	9	86	730
Total Volume	64	911	191	1166	17	182	134	333	504	617	49	1170	41	206	44	291	2960
% App. Total	5.5	78.1	16.4	100	5.1	54.7	40.2	100	43.1	52.7	4.2	100	14.1	70.8	15.1	100	
PHF	0.953				0.800				0.873				0.846				
Cars, PU, Vans	64	893	191	1148	8	165	125	298	494	603	47	1144	41	204	41	286	2876
% Cars, PU, Vans	100.0	98.0	100.0	98.5	47.1	90.7	93.3	89.5	98.0	97.7	95.9	97.8	100.0	99.0	93.2	98.3	97.2
Heavy Trucks	0	18	0	18	9	17	9	35	10	14	2	26	0	2	3	5	84
%Heavy Trucks	0.0	2.0	0.0	1.5	52.9	9.3	6.7	10.5	2.0	2.3	4.1	2.2	0.0	1.0	6.8	1.7	2.8

PM

	dustrial Blvd_Cascade Pal				dustrial Blvd_Cascade Pal				bellton Rd_SR-154_Fairbur				bellton Rd_SR-154_Fairbur				
	Northbound				Southbound				Eastbound				Westbound				
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Int. Total
Peak Hour Analysis from 02:00 PM to 06:00 PM																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
4:45 PM	9	43	15	67	24	166	137	327	31	67	10	108	41	133	9	183	685
5:00 PM	7	51	20	78	21	180	162	363	22	56	20	98	30	140	4	174	713
5:15 PM	18	56	22	96	13	201	121	335	28	66	13	107	27	139	9	175	713
5:30 PM	15	64	30	109	16	190	128	334	25	70	9	104	23	160	5	188	735
Total Volume	49	214	87	350	74	737	548	1359	106	259	52	417	121	572	27	720	2846
% App. Total	14.0	61.1	24.9	100	5.4	54.2	40.3	100	25.4	62.1	12.5	100	16.8	79.4	3.8	100	
PHF	0.803				0.936				0.965				0.957				
Cars, PU, Vans	48	196	87	331	61	714	539	1314	93	251	50	394	121	568	20	709	2748
% Cars, PU, Vans	98.0	91.6	100.0	94.6	82.4	96.9	98.4	96.7	87.7	96.9	96.2	94.5	100.0	99.3	74.1	98.5	96.6
Heavy Trucks	1	18	0	19	13	23	9	45	13	8	2	23	0	4	7	11	98
%Heavy Trucks	2.0	8.4	0.0	5.4	17.6	3.1	1.6	3.3	12.3	3.1	3.8	5.5	0.0	0.7	25.9	1.5	3.4

Project ID: 16-9163-011

Location: Stonewall Tell Rd & Campbellton Rd_SR-154

City: Atlanta

Day: Tuesday

Date: 4/19/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	2:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Stonewall Tell Rd Northbound					Stonewall Tell Rd Southbound					Campbellton Rd_SR-154 Eastbound					Campbellton Rd_SR-154 Westbound					
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	26	0	61	0	87	0	0	0	0	0	0	180	29	0	209	33	33	0	0	66	362
7:15 AM	16	0	52	0	68	0	0	0	0	0	0	213	29	0	242	33	49	0	0	82	392
7:30 AM	37	0	84	0	121	0	0	0	0	0	0	180	22	0	202	31	53	0	0	84	407
7:45 AM	30	0	56	0	86	0	0	0	0	0	0	166	14	0	180	18	64	0	0	82	348
Total	109	0	253	0	362	0	0	0	0	0	0	739	94	0	833	115	199	0	0	314	1509
8:00 AM	21	0	42	0	63	0	0	0	0	0	0	173	18	0	191	18	68	0	0	86	340
8:15 AM	26	0	38	0	64	0	0	0	0	0	0	124	25	0	149	32	69	0	0	101	314
8:30 AM	19	0	28	0	47	0	0	0	0	0	0	133	27	0	160	16	69	0	0	85	292
8:45 AM	21	0	25	0	46	0	0	0	0	0	0	87	20	0	107	25	41	0	0	66	219
Total	87	0	133	0	220	0	0	0	0	0	0	517	90	0	607	91	247	0	0	338	1165
BREAK																					
2:00 PM	18	0	27	0	45	0	0	0	0	0	0	53	8	0	61	25	55	0	0	80	186
2:15 PM	16	0	23	0	39	0	0	0	0	0	0	59	17	0	76	21	89	0	0	110	225
2:30 PM	17	0	23	0	40	0	0	0	0	0	0	68	21	0	89	28	79	0	0	107	236
2:45 PM	16	0	39	0	55	0	0	0	0	0	0	70	12	0	82	26	87	0	0	113	250
Total	67	0	112	0	179	0	0	0	0	0	0	250	58	0	308	100	310	0	0	410	897
3:00 PM	22	0	29	0	51	0	0	0	0	0	0	57	16	0	73	28	89	0	0	117	241
3:15 PM	17	0	31	0	48	0	0	0	0	0	0	73	18	0	91	39	95	0	0	134	273
3:30 PM	19	0	31	0	50	0	0	0	0	0	0	70	14	0	84	32	104	0	0	136	270
3:45 PM	19	0	28	0	47	0	0	0	0	0	0	60	17	0	77	31	123	0	0	154	278
Total	77	0	119	0	196	0	0	0	0	0	0	260	65	0	325	130	411	0	0	541	1062
4:00 PM	23	0	26	0	49	0	0	0	0	0	0	61	20	0	81	40	116	0	0	156	286
4:15 PM	16	0	24	0	40	0	0	0	0	0	0	83	22	0	105	28	131	0	0	159	304
4:30 PM	20	0	20	0	40	0	0	0	0	0	0	69	28	0	97	55	132	0	0	187	324
4:45 PM	25	0	42	0	67	0	0	0	0	0	0	77	32	0	109	51	149	0	0	200	376
Total	84	0	112	0	196	0	0	0	0	0	0	290	102	0	392	174	528	0	0	702	1290
5:00 PM	39	0	27	0	66	0	0	0	0	0	0	71	31	0	102	44	146	0	0	190	358
5:15 PM	36	0	38	0	74	0	0	0	0	0	0	81	20	0	101	60	137	0	0	197	372
5:30 PM	33	0	44	0	77	0	0	0	0	0	0	79	31	0	110	44	141	0	0	185	372
5:45 PM	33	0	44	0	77	0	0	0	0	0	0	65	26	0	91	43	153	0	0	196	364
Total	141	0	153	0	294	0	0	0	0	0	0	296	108	0	404	191	577	0	0	768	1466
Grand Total	565	0	882	0	1447	0	0	0	0	0	0	2352	517	0	2869	801	2272	0	0	3073	7389
Apprch %	39.0	0.0	61.0	0.0		0.0	0.0	0.0	0.0		0.0	82.0	18.0	0.0		26.1	73.9	0.0	0.0		
Total %	7.6	0.0	11.9	0.0	19.6	0.0	0.0	0.0	0.0	0.0	0.0	31.8	7.0	0.0	38.8	10.8	30.7	0.0	0.0	41.6	

% Cars, PU, Vans	98.6	0.0	99.4	0.0	99.1	0.0	0.0	0.0	0.0	0.0	0.0	94.3	99.4	0.0	95.3	99.6	96.6	0.0	0.0	97.4	96.9
Heavy Trucks	8	0	5		13	0	0	0		0	0	133	3		136	3	77	0		80	229
%Heavy Trucks	1.4	0.0	0.6	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.6	0.0	4.7	0.4	3.4	0.0	0.0	2.6	3.1

Project ID: 16-9163-011

Location: Stonewall Tell Rd & Campb

City: Atlanta

PEAK HOURS

Day: Tuesday

Date: 4/19/2016

AM

	Stonewall Tell Rd Northbound				Stonewall Tell Rd Southbound				Campbellton Rd_SR-154 Eastbound				Campbellton Rd_SR-154 Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	
7:00 AM	26	0	61	87	0	0	0	0	0	180	29	209	33	33	0	66	362
7:15 AM	16	0	52	68	0	0	0	0	0	213	29	242	33	49	0	82	392
7:30 AM	37	0	84	121	0	0	0	0	0	180	22	202	31	53	0	84	407
7:45 AM	30	0	56	86	0	0	0	0	0	166	14	180	18	64	0	82	348
Total Volume	109	0	253	362	0	0	0	0	0	739	94	833	115	199	0	314	1509
% App. Total	30.1	0.0	69.9	100	0.0	0.0	0.0	0	0.0	88.7	11.3	100	36.6	63.4	0.0	100	
PHF	0.748				0.000				0.861				0.935				
Cars, PU, Vans	109	0	251	360	0	0	0	0	0	719	94	813	114	194	0	308	1481
% Cars, PU, Vans	100.0	0.0	99.2	99.4	0.0	0.0	0.0	0.0	0.0	97.3	100.0	97.6	99.1	97.5	0.0	98.1	98.1
Heavy Trucks	0	0	2	2	0	0	0	0	0	20	0	20	1	5	0	6	28
%Heavy Trucks	0.0	0.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	2.7	0.0	2.4	0.9	2.5	0.0	1.9	1.9

PM

	Stonewall Tell Rd Northbound				Stonewall Tell Rd Southbound				Campbellton Rd_SR-154 Eastbound				Campbellton Rd_SR-154 Westbound				Int. Total
Start Time	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	
4:45 PM	25	0	42	67	0	0	0	0	0	77	32	109	51	149	0	200	376
5:00 PM	39	0	27	66	0	0	0	0	0	71	31	102	44	146	0	190	358
5:15 PM	36	0	38	74	0	0	0	0	0	81	20	101	60	137	0	197	372
5:30 PM	33	0	44	77	0	0	0	0	0	79	31	110	44	141	0	185	372
Total Volume	133	0	151	284	0	0	0	0	0	308	114	422	199	573	0	772	1478
% App. Total	46.8	0.0	53.2	100	0.0	0.0	0.0	0	0.0	73.0	27.0	100	25.8	74.2	0.0	100	
PHF	0.922				0.000				0.959				0.965				
Cars, PU, Vans	133	0	150	283	0	0	0	0	0	286	114	400	199	563	0	762	1445
% Cars, PU, Vans	100.0	0.0	99.3	99.6	0.0	0.0	0.0	0.0	0.0	92.9	100.0	94.8	100.0	98.3	0.0	98.7	97.8
Heavy Trucks	0	0	1	1	0	0	0	0	0	22	0	22	0	10	0	10	33
%Heavy Trucks	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	7.1	0.0	5.2	0.0	1.7	0.0	1.3	2.2

Appendix D

Synchro Outputs

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	733	2	203	257	94	11	30	280	68	11	28
Future Volume (vph)	51	733	2	203	257	94	11	30	280	68	11	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.864			0.893	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1845	0	1787	1827	1568	1805	1637	0	1770	1697	0
Flt Permitted	0.590			0.237			0.730			0.348		
Satd. Flow (perm)	1078	1845	0	446	1827	1568	1387	1637	0	648	1697	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						101		196			30	
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		2263			1128			539			1072	
Travel Time (s)		28.1			14.0			10.5			18.3	
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
Heavy Vehicles (%)	4%	3%	0%	1%	4%	3%	0%	3%	0%	2%	0%	0%
Adj. Flow (vph)	55	788	2	218	276	101	12	32	301	73	12	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	790	0	218	276	101	12	333	0	73	42	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	22.0	22.0		22.0	22.0	
Total Split (s)	48.0	48.0		48.0	48.0	48.0	22.0	22.0		22.0	22.0	
Total Split (%)	68.6%	68.6%		68.6%	68.6%	68.6%	31.4%	31.4%		31.4%	31.4%	
Maximum Green (s)	42.0	42.0		42.0	42.0	42.0	16.0	16.0		16.0	16.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	35.1	35.1		35.1	35.1	35.1	11.5	11.5		11.5	11.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59	0.59	0.19	0.19		0.19	0.19	
v/c Ratio	0.09	0.72		0.83	0.26	0.10	0.04	0.70		0.58	0.12	
Control Delay	6.1	13.7		40.5	6.8	1.8	21.7	19.2		43.4	12.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	6.1	13.7		40.5	6.8	1.8	21.7	19.2		43.4	12.3	
LOS	A	B		D	A	A	C	B		D	B	
Approach Delay		13.2			18.3			19.2			32.1	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 59.3

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 17.0

Intersection LOS: B

Intersection Capacity Utilization 92.6%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd

 Ø2	 Ø4
22 s	48 s
 Ø6	 Ø8
22 s	48 s

Intersection												
Int Delay, s/veh	59.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕	↕		↕		↕	↕↕	↕	↕	↕↕	↕
Traffic Vol, veh/h	22	10	21	42	29	43	93	1357	30	13	423	50
Future Vol, veh/h	22	10	21	42	29	43	93	1357	30	13	423	50
Conflicting Peds, #/hr	13	0	11	3	0	5	11	0	3	5	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	165	300	-	215
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, %	46	0	29	7	10	0	4	5	0	8	14	32
Mvmt Flow	23	11	22	45	31	46	99	1444	32	14	450	53
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1439	2137	249	1915	2137	740	463	0	0	1449	0	0
Stage 1	491	491	-	1646	1646	-	-	-	-	-	-	-
Stage 2	948	1646	-	269	491	-	-	-	-	-	-	-
Critical Hdwy	8.42	6.5	7.48	7.64	6.7	6.9	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	7.42	5.5	-	6.64	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.42	5.5	-	6.64	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.96	4	3.59	3.57	4.1	3.3	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	63	50	675	~ 39	44	364	1081	-	-	434	-	-
Stage 1	428	552	-	98	144	-	-	-	-	-	-	-
Stage 2	207	159	-	700	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 16	43	662	~ 27	38	359	1071	-	-	429	-	-
Mov Cap-2 Maneuver	~ 16	43	-	~ 27	38	-	-	-	-	-	-	-
Stage 1	384	528	-	89	130	-	-	-	-	-	-	-
Stage 2	124	144	-	635	504	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	\$ 454.9			\$ 901.3			0.5			0.4		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR				
Capacity (veh/h)	1071	-	-	47	20	662	429	-	-			
HCM Lane V/C Ratio	0.092	-	-	2.58	1.702	0.034	0.032	-	-			
HCM Control Delay (s)	8.7	-	\$ 901.3	\$ 746.5	10.6	13.7	-	-				
HCM Lane LOS	A	-	-	F	F	B	B	-	-			
HCM 95th %tile Q(veh)	0.3	-	-	12.8	4.6	0.1	0.1	-	-			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017

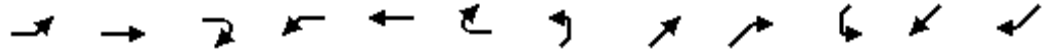


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	504	617	49	41	206	44	64	911	191	17	182	134
Future Volume (vph)	504	617	49	41	206	44	64	911	191	17	182	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				1.00					1.00		0.98
Frt		0.989			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1840	0	1805	1809	0	1805	3539	1615	1180	3312	1509
Flt Permitted	0.598			0.224			0.632			0.192		
Satd. Flow (perm)	1113	1840	0	426	1809	0	1201	3539	1615	238	3312	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			18				199			140
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)	1					1				1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	4%	0%	1%	7%	0%	2%	0%	53%	9%	7%
Adj. Flow (vph)	525	643	51	43	215	46	67	949	199	18	190	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	525	694	0	43	261	0	67	949	199	18	190	140
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	42.0	42.0		42.0	42.0		28.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		22.0	22.0	22.0	22.0	22.0	22.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	33.1	33.1		33.1	33.1		20.9	20.9	20.9	20.9	20.9	20.9
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.94	0.75		0.20	0.29		0.18	0.85	0.31	0.24	0.18	0.25

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	45.2	19.3		12.2	9.9		19.0	31.0	4.6	27.7	17.8	5.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	19.3		12.2	9.9		19.0	31.0	4.6	27.7	17.8	5.1
LOS	D	B		B	A		B	C	A	C	B	A
Approach Delay		30.4			10.3			26.0			13.2	
Approach LOS		C			B			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.2

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 24.8

Intersection LOS: C

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd

 Ø2	 Ø4
28 s	42 s
 Ø6	 Ø8
28 s	42 s

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	17	1	18	15	18	18	1341	50	6	493	252
Future Volume (vph)	123	17	1	18	15	18	18	1341	50	6	493	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99		1.00	1.00				0.97
Frt		0.998			0.952			0.995				0.850
Flt Protected	0.950	0.964			0.983		0.950			0.950		
Satd. Flow (prot)	1383	1471	0	0	1770	0	1543	3362	0	1805	3112	1442
Flt Permitted	0.950	0.964			0.983		0.455			0.104		
Satd. Flow (perm)	1378	1468	0	0	1769	0	737	3362	0	198	3112	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			19			5				271
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		552			441			707			603	
Travel Time (s)		10.8			7.5			8.8			7.5	
Confl. Peds. (#/hr)	2		2	1		1	2		1	1		2
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
Heavy Vehicles (%)	24%	0%	0%	0%	0%	0%	17%	7%	0%	0%	16%	12%
Adj. Flow (vph)	132	18	1	19	16	19	19	1442	54	6	530	271
Shared Lane Traffic (%)	43%											
Lane Group Flow (vph)	75	76	0	0	54	0	19	1496	0	6	530	271
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	22.0	22.0		22.0	22.0		46.0	46.0		46.0	46.0	46.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%		51.1%	51.1%		51.1%	51.1%	51.1%
Maximum Green (s)	16.0	16.0		16.0	16.0		40.0	40.0		40.0	40.0	40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effect Green (s)	9.3	9.3			7.2		45.1	45.1		45.1	45.1	45.1
Actuated g/C Ratio	0.13	0.13			0.10		0.65	0.65		0.65	0.65	0.65
v/c Ratio	0.41	0.38			0.27		0.04	0.68		0.05	0.26	0.27

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	36.9	35.5			26.8		10.2	15.4		11.5	9.3	2.4
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.9	35.5			26.8		10.2	15.4		11.5	9.3	2.4
LOS	D	D			C		B	B		B	A	A
Approach Delay		36.1			26.8			15.3			7.0	
Approach LOS		D			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 69.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 14.1

Intersection LOS: B

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

 Ø2	 Ø4	 Ø8
46 s	22 s	22 s
 Ø6		
46 s		

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	391	456	85	196	48	214	731	60	62	942	105
Future Volume (vph)	229	391	456	85	196	48	214	731	60	62	942	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3610	1553	1805	3610	1468	1719	3195	1615	1719	3282	1583
Flt Permitted	0.450			0.513			0.110			0.320		
Satd. Flow (perm)	855	3610	1553	975	3610	1468	199	3195	1615	579	3282	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200			182			182			182
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	4%	0%	0%	10%	5%	13%	0%	5%	10%	2%
Adj. Flow (vph)	239	407	475	89	204	50	223	761	63	65	981	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	407	475	89	204	50	223	761	63	65	981	109
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	15.0	27.0	27.0	10.0	22.0	22.0	15.0	42.0	42.0	11.0	38.0	38.0
Total Split (%)	16.7%	30.0%	30.0%	11.1%	24.4%	24.4%	16.7%	46.7%	46.7%	12.2%	42.2%	42.2%
Maximum Green (s)	9.0	21.0	21.0	4.0	16.0	16.0	9.0	36.0	36.0	5.0	32.0	32.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	28.4	21.5	21.5	18.0	14.0	14.0	43.0	36.1	36.1	34.5	29.4	29.4
Actuated g/C Ratio	0.33	0.25	0.25	0.21	0.16	0.16	0.50	0.42	0.42	0.40	0.34	0.34
v/c Ratio	0.62	0.45	0.88	0.37	0.35	0.13	0.86	0.57	0.08	0.22	0.87	0.16
Control Delay	30.6	30.4	39.2	26.8	33.9	0.7	50.0	22.1	0.2	13.2	36.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.6	30.4	39.2	26.8	33.9	0.7	50.0	22.1	0.2	13.2	36.5	1.0
LOS	C	C	D	C	C	A	D	C	A	B	D	A
Approach Delay	34.2			27.2			26.7			31.8		
Approach LOS	C			C			C			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 30.7

Intersection LOS: C

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
11 s	42 s	10 s	27 s
 Ø5	 Ø6	 Ø7	 Ø8
15 s	38 s	15 s	22 s

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	6	4	11	3	5	22	20	1382	11	18	485	10
Future Vol, veh/h	6	4	11	3	5	22	20	1382	11	18	485	10
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
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, %	50	0	0	33	0	18	5	6	0	11	15	10
Mvmt Flow	6	4	12	3	5	24	22	1486	12	19	522	11
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1351	2103	-	1838	2097	751	523	0	0	1499	0	0
Stage 1	561	561	-	1536	1536	-	-	-	-	-	-	-
Stage 2	790	1542	-	302	561	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.5	-	8.16	6.5	7.26	4.2	-	-	4.32	-	-
Critical Hdwy Stg 1	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4	4	-	3.83	4	3.48	2.25	-	-	2.31	-	-
Pot Cap-1 Maneuver	72	52	0	33	53	320	1019	-	-	402	-	-
Stage 1	376	513	0	90	180	-	-	-	-	-	-	-
Stage 2	261	178	0	603	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	58	48	-	29	49	319	1019	-	-	402	-	-
Mov Cap-2 Maneuver	58	48	-	29	49	-	-	-	-	-	-	-
Stage 1	368	488	-	88	176	-	-	-	-	-	-	-
Stage 2	229	174	-	569	488	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s				51.4			0.1			0.5		
HCM LOS	-			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1019	-	-	-	109	402	-	-				
HCM Lane V/C Ratio	0.021	-	-	-	0.296	0.048	-	-				
HCM Control Delay (s)	8.6	-	-	-	51.4	14.4	-	-				
HCM Lane LOS	A	-	-	-	F	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	0.2	-	-				

Intersection

Intersection Delay, s/veh 7.5
Intersection LOS A

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	9	0	0	0	0	84	0
Future Vol, veh/h	0	0	0	0	0	9	0	0	0	0	84	0
Peak Hour Factor	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	1	0
Mvmt Flow	0	0	0	0	0	9	0	0	0	0	85	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	0	7.6	7.5
HCM LOS	-	A	A

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	0%	0%	0%	100%
Vol Thru, %	100%	79%	100%	0%
Vol Right, %	0%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	108	84	9
LT Vol	0	0	0	9
Through Vol	0	85	84	0
RT Vol	0	23	0	0
Lane Flow Rate	0	109	85	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.12	0.095	0.011
Departure Headway (Hd)	4.239	3.97	4.014	4.432
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	903	893	798
Service Time	2.324	1.992	2.039	2.513
HCM Lane V/C Ratio	0	0.121	0.095	0.011
HCM Control Delay	7.3	7.5	7.5	7.6
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.4	0.3	0

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	85	23
Future Vol, veh/h	0	0	85	23
Peak Hour Factor	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	7	4
Mvmt Flow	0	0	86	23
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	7.5
HCM LOS	A

Intersection

Int Delay, s/veh 0.2

Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	3	1	19	1431	4	378	28
Future Vol, veh/h	3	1	19	1431	4	378	28
Conflicting Peds, #/hr	0	3	3	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	320	-	310	-	200
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	3	0	12	0
Mvmt Flow	3	1	20	1506	4	398	29

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1202	205	401	0	1099	-	0
Stage 1	409	-	-	-	-	-	-
Stage 2	793	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	180	808	1169	-	292	-	-
Stage 1	645	-	-	-	-	-	-
Stage 2	411	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	176	804	1166	-	292	-	-
Mov Cap-2 Maneuver	176	-	-	-	-	-	-
Stage 1	643	-	-	-	-	-	-
Stage 2	403	-	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	21.8	0.1	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR
Capacity (veh/h)	1166	-	219	292	-	-
HCM Lane V/C Ratio	0.017	-	0.019	0.014	-	-
HCM Control Delay (s)	8.1	-	21.8	17.5	-	-
HCM Lane LOS	A	-	C	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection

Int Delay, s/veh 0.1

Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	4	0	5	1428	0	373	15
Future Vol, veh/h	4	0	5	1428	0	373	15
Conflicting Peds, #/hr	4	4	4	0	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	315	-	300	-	340
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	75	0	0	3	0	12	20
Mvmt Flow	4	0	6	1587	0	414	17

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1226	215	418	0	1158	-	0
Stage 1	418	-	-	-	-	-	-
Stage 2	808	-	-	-	-	-	-
Critical Hdwy	8.3	6.9	4.1	-	6.4	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-	-
Critical Hdwy Stg 2	7.3	-	-	-	-	-	-
Follow-up Hdwy	4.25	3.3	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	95	796	1152	-	267	-	-
Stage 1	460	-	-	-	-	-	-
Stage 2	255	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	94	791	1148	-	267	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-	-
Stage 1	458	-	-	-	-	-	-
Stage 2	253	-	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	45.2	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR
Capacity (veh/h)	1148	-	94	267	-	-
HCM Lane V/C Ratio	0.005	-	0.047	-	-	-
HCM Control Delay (s)	8.2	-	45.2	0	-	-
HCM Lane LOS	A	-	E	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

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	13	0	9	0	0	5	27	1431	20	16	322	25
Future Vol, veh/h	13	0	9	0	0	5	27	1431	20	16	322	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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	77	0	78	0	0	100	11	2	0	50	8	28
Mvmt Flow	14	0	9	0	0	5	28	1506	21	17	339	26
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1183	1936	169	1766	1936	753	339	0	0	1506	0	0
Stage 1	373	373	-	1563	1563	-	-	-	-	-	-	-
Stage 2	810	1563	-	203	373	-	-	-	-	-	-	-
Critical Hdwy	9.04	6.5	8.46	7.5	6.5	8.9	4.32	-	-	5.1	-	-
Critical Hdwy Stg 1	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.27	4	4.08	3.5	4	4.3	2.31	-	-	2.7	-	-
Pot Cap-1 Maneuver	80	66	652	54	66	197	1155	-	-	264	-	-
Stage 1	454	622	-	119	174	-	-	-	-	-	-	-
Stage 2	215	174	-	786	622	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	60	652	50	60	197	1155	-	-	264	-	-
Mov Cap-2 Maneuver	73	60	-	50	60	-	-	-	-	-	-	-
Stage 1	443	582	-	116	170	-	-	-	-	-	-	-
Stage 2	204	170	-	725	582	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	40.6			23.8			0.1			0.9		
HCM LOS	E			C								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	1155	-	-	197	124	264	-	-				
HCM Lane V/C Ratio	0.025	-	-	0.027	0.187	0.064	-	-				
HCM Control Delay (s)	8.2	-	-	23.8	40.6	19.6	-	-				
HCM Lane LOS	A	-	-	C	E	C	-	-				
HCM 95th %tile O(veh)	0.1	-	-	0.1	0.7	0.2	-	-				

Intersection

Int Delay, s/veh 74.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	739	94	115	199	109	253
Future Vol, veh/h	739	94	115	199	109	253
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	93	93	93	93	93	93
Heavy Vehicles, %	3	0	1	2	0	1
Mvmt Flow	795	101	124	214	117	272

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1306
Stage 1	-	-	845
Stage 2	-	-	461
Critical Hdwy	-	4.11	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.209	3.5
Pot Cap-1 Maneuver	-	762	178
Stage 1	-	-	425
Stage 2	-	-	639
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	762	145
Mov Cap-2 Maneuver	-	-	145
Stage 1	-	-	425
Stage 2	-	-	521

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	\$ 305.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	250	-	-	762	-
HCM Lane V/C Ratio	1.557	-	-	0.162	-
HCM Control Delay (s)	\$ 305.3	-	-	10.6	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	23.6	-	-	0.6	-

Notes

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

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	438	8	120	752	87	24	8	157	118	14	35
Future Volume (vph)	21	438	8	120	752	87	24	8	157	118	14	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00		0.97	1.00	0.99		1.00	0.98	
Frt		0.997				0.850		0.858			0.893	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1863	1599	1805	1593	0	1770	1631	0
Flt Permitted	0.244			0.457			0.723			0.646		
Satd. Flow (perm)	463	1805	0	867	1863	1555	1369	1593	0	1199	1631	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				93		167			37	
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		576			1128			539			1072	
Travel Time (s)		7.1			14.0			10.5			18.3	
Confl. Peds. (#/hr)	4		2	2		4	2		2	4		4
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
Heavy Vehicles (%)	0%	5%	0%	0%	2%	1%	0%	0%	1%	2%	7%	0%
Adj. Flow (vph)	22	466	9	128	800	93	26	9	167	126	15	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	475	0	128	800	93	26	176	0	126	52	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0	40.0	20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%	66.7%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	36.0	36.0		36.0	36.0	36.0	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	29.5	29.5		29.5	29.5	29.5	10.4	10.4		10.5	10.5	
Actuated g/C Ratio	0.67	0.67		0.67	0.67	0.67	0.24	0.24		0.24	0.24	
v/c Ratio	0.07	0.39		0.22	0.64	0.09	0.08	0.35		0.44	0.12	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	5.5	6.6		6.4	10.0	1.6	16.4	6.3		22.1	9.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	5.5	6.6		6.4	10.0	1.6	16.4	6.3		22.1	9.3	
LOS	A	A		A	B	A	B	A		C	A	
Approach Delay		6.5			8.8			7.6			18.4	
Approach LOS		A			A			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 44.2

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 9.0

Intersection LOS: A

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd

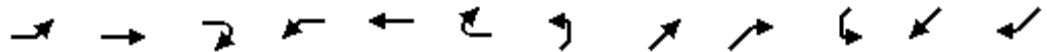
 Ø2	 Ø4
20 s	40 s
 Ø6	 Ø8
20 s	40 s

Intersection												
Int Delay, s/veh		53.5										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	44	30	109	33	18	27	25	471	48	48	1171	37
Future Vol, veh/h	44	30	109	33	18	27	25	471	48	48	1171	37
Conflicting Peds, #/hr	14	0	10	1	0	5	10	0	1	5	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	165	300	-	215
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, %	27	0	6	3	0	4	24	17	2	2	7	35
Mvmt Flow	49	33	121	37	20	30	28	523	53	53	1301	41
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1763	2006	675	1368	2006	281	1315	0	0	528	0	0
Stage 1	1422	1422	-	584	584	-	-	-	-	-	-	-
Stage 2	341	584	-	784	1422	-	-	-	-	-	-	-
Critical Hdwy	8.04	6.5	7.02	7.56	6.5	6.98	4.58	-	-	4.14	-	-
Critical Hdwy Stg 1	7.04	5.5	-	6.56	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.04	5.5	-	6.56	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.77	4	3.36	3.53	4	3.34	2.44	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 41	60	387	105	60	710	418	-	-	1035	-	-
Stage 1	114	204	-	462	501	-	-	-	-	-	-	-
Stage 2	583	501	-	350	204	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 25	52	379	~ 32	52	699	415	-	-	1023	-	-
Mov Cap-2 Maneuver	~ 25	52	-	~ 32	52	-	-	-	-	-	-	-
Stage 1	105	191	-	429	465	-	-	-	-	-	-	-
Stage 2	492	465	-	185	191	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	\$ 405.7			\$ 451.4			0.7			0.3		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR				
Capacity (veh/h)	415	-	-	55	32	379	1023	-	-			
HCM Lane V/C Ratio	0.067	-	-	1.576	2.569	0.32	0.052	-	-			
HCM Control Delay (s)	14.3	-	-	\$ 451.4	\$ 975.4	18.9	8.7	-	-			
HCM Lane LOS	B	-	-	F	F	C	A	-	-			
HCM 95th %tile Q(veh)	0.2	-	-	8	9.5	1.4	0.2	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	106	259	52	121	572	27	49	214	87	74	737	548
Future Volume (vph)	106	259	52	121	572	27	49	214	87	74	737	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor				1.00	1.00				0.98	1.00		
Frt		0.975			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1612	1796	0	1805	1846	0	1770	3343	1615	1530	3505	1583
Flt Permitted	0.267			0.532			0.299			0.614		
Satd. Flow (perm)	453	1796	0	1010	1846	0	557	3343	1581	988	3505	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			7				90			155
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)				1		1			1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	12%	3%	4%	0%	1%	26%	2%	8%	0%	18%	3%	2%
Adj. Flow (vph)	109	267	54	125	590	28	51	221	90	76	760	565
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	321	0	125	618	0	51	221	90	76	760	565
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	15.0	15.0		15.0	15.0		14.6	14.6	14.6	14.6	14.6	14.6
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.39	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.61	0.44		0.31	0.84		0.24	0.17	0.14	0.20	0.56	0.80

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	29.8	10.1		10.9	24.4		11.4	8.1	3.0	9.5	11.1	19.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	10.1		10.9	24.4		11.4	8.1	3.0	9.5	11.1	19.2
LOS	C	B		B	C		B	A	A	A	B	B
Approach Delay		15.1			22.1			7.3			14.2	
Approach LOS		B			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 40

Actuated Cycle Length: 37.8

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 79.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd

 Ø2	 Ø4
20 s	20 s
 Ø6	 Ø8
20 s	20 s

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	16	17	47	5	23	1	600	18	26	1142	56
Future Volume (vph)	203	16	17	47	5	23	1	600	18	26	1142	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99			1.00		1.00		0.98
Frt		0.978			0.958			0.996				0.850
Flt Protected	0.950	0.965			0.970		0.950			0.950		
Satd. Flow (prot)	1573	1571	0	0	1757	0	1805	3084	0	1805	3312	1223
Flt Permitted	0.950	0.965			0.970		0.161			0.381		
Satd. Flow (perm)	1571	1570	0	0	1752	0	306	3084	0	722	3312	1196
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			24			5				78
Link Speed (mph)		35			40			30				55
Link Distance (ft)		552			441			707				603
Travel Time (s)		10.8			7.5			16.1				7.5
Confl. Peds. (#/hr)	1		2	4		3	2		4	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	0%	12%	0%	0%	0%	0%	17%	0%	0%	9%	32%
Adj. Flow (vph)	214	17	18	49	5	24	1	632	19	27	1202	59
Shared Lane Traffic (%)	42%											
Lane Group Flow (vph)	124	125	0	0	78	0	1	651	0	27	1202	59
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	20.0
Total Split (s)	20.0	20.0		20.0	20.0		30.0	30.0		30.0	30.0	30.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		42.9%	42.9%		42.9%	42.9%	42.9%
Maximum Green (s)	16.0	16.0		16.0	16.0		26.0	26.0		26.0	26.0	26.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	9.6	9.6			7.4		30.5	30.5		30.5	30.5	30.5
Actuated g/C Ratio	0.19	0.19			0.15		0.60	0.60		0.60	0.60	0.60
v/c Ratio	0.42	0.41			0.28		0.01	0.35		0.06	0.61	0.08

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	24.8	23.0			19.6		10.0	9.8		10.4	13.6	2.6
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	24.8	23.0			19.6		10.0	9.8		10.4	13.6	2.6
LOS	C	C			B		A	A		B	B	A
Approach Delay		23.9			19.6			9.8			13.0	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 50.9

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.5

Intersection LOS: B

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

 Ø2	 Ø4	 Ø8
30 s	20 s	20 s
 Ø6		
30 s		

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	235	342	107	320	151	441	941	96	78	728	224
Future Volume (vph)	140	235	342	107	320	151	441	941	96	78	728	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3539	1509	1787	3610	1583	1752	3282	1615	1752	3252	1615
Flt Permitted	0.447			0.576			0.162			0.292		
Satd. Flow (perm)	838	3539	1487	1081	3610	1556	299	3282	1591	538	3252	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			356			189			131			233
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Confl. Peds. (#/hr)	4		2	2		4	2		2	4		4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	2%	7%	1%	0%	2%	3%	10%	0%	3%	11%	0%
Adj. Flow (vph)	146	245	356	111	333	157	459	980	100	81	758	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	245	356	111	333	157	459	980	100	81	758	233
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	22.0	39.0	39.0	8.0	25.0	25.0
Total Split (%)	10.7%	26.7%	26.7%	10.7%	26.7%	26.7%	29.3%	52.0%	52.0%	10.7%	33.3%	33.3%
Maximum Green (s)	4.0	16.0	16.0	4.0	16.0	16.0	18.0	35.0	35.0	4.0	21.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	15.0	11.9	11.9	15.0	11.9	11.9	41.9	35.8	35.8	24.0	19.9	19.9
Actuated g/C Ratio	0.22	0.18	0.18	0.22	0.18	0.18	0.62	0.53	0.53	0.35	0.29	0.29
v/c Ratio	0.61	0.40	0.64	0.40	0.53	0.37	0.81	0.57	0.11	0.31	0.80	0.37

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.7	27.6	9.3	24.6	29.4	5.4	28.6	14.3	1.7	12.5	30.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	27.6	9.3	24.6	29.4	5.4	28.6	14.3	1.7	12.5	30.9	5.3
LOS	C	C	A	C	C	A	C	B	A	B	C	A
Approach Delay	19.9			22.2			17.7			23.9		
Approach LOS	B			C			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 68

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
8 s	39 s	8 s	20 s
 Ø5	 Ø6	 Ø7	 Ø8
22 s	25 s	8 s	20 s

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	20	0	31	19	0	28	2	563	5	20	1196	7
Future Vol, veh/h	20	0	31	19	0	28	2	563	5	20	1196	7
Conflicting Peds, #/hr	1	0	0	1	0	2	0	0	1	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	25	0	3	5	0	7	0	17	0	10	8	57
Mvmt Flow	21	0	33	20	0	29	2	593	5	21	1259	7
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1605	1906	-	1274	1903	303	1260	0	0	600	0	0
Stage 1	1302	1302	-	601	601	-	-	-	-	-	-	-
Stage 2	303	604	-	673	1302	-	-	-	-	-	-	-
Critical Hdwy	8	6.5	-	7.6	6.5	7.04	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.75	4	-	3.55	4	3.37	2.2	-	-	2.3	-	-
Pot Cap-1 Maneuver	56	69	0	121	70	678	559	-	-	920	-	-
Stage 1	139	233	0	447	493	-	-	-	-	-	-	-
Stage 2	621	491	0	404	233	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	67	-	118	68	676	559	-	-	918	-	-
Mov Cap-2 Maneuver	52	67	-	118	68	-	-	-	-	-	-	-
Stage 1	138	227	-	445	490	-	-	-	-	-	-	-
Stage 2	591	488	-	394	227	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s				24.7			0			0.1		
HCM LOS	-			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	559	-	-	-	232	918	-	-				
HCM Lane V/C Ratio	0.004	-	-	-	0.213	0.023	-	-				
HCM Control Delay (s)	11.5	-	-	-	24.7	9	-	-				
HCM Lane LOS	B	-	-	-	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.1	-	-				

Intersection

Intersection Delay, s/veh 7.7
Intersection LOS A

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	0	20	1	0	0	0	113	1
Future Vol, veh/h	0	0	0	2	0	20	1	0	0	0	113	1
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	0	0	2	10	0	0	2	0	2	0
Mvmt Flow	0	0	0	2	0	23	1	0	0	0	128	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.8	7.9	7.8
HCM LOS	A	A	A

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	0%	0%	0%	95%
Vol Thru, %	0%	85%	99%	5%
Vol Right, %	100%	15%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	84	114	21
LT Vol	0	0	0	20
Through Vol	0	71	113	1
RT Vol	2	13	1	0
Lane Flow Rate	2	95	130	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.002	0.105	0.146	0.031
Departure Headway (Hd)	3.808	3.966	4.045	4.649
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	945	899	883	759
Service Time	1.808	2.012	2.082	2.745
HCM Lane V/C Ratio	0.002	0.106	0.147	0.032
HCM Control Delay	6.8	7.5	7.8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.4	0.5	0.1

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	71	13
Future Vol, veh/h	0	0	71	13
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	0	81	15
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	7.5
HCM LOS	A

Intersection							
Int Delay, s/veh	1						
Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	21	10	3	384	4	1312	2
Future Vol, veh/h	21	10	3	384	4	1312	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	320	-	310	-	200
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89
Heavy Vehicles, %	5	0	0	13	0	5	0
Mvmt Flow	24	11	3	431	4	1474	2
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1705	737	1474	0	315	-	0
Stage 1	1483	-	-	-	-	-	-
Stage 2	222	-	-	-	-	-	-
Critical Hdwy	6.9	6.9	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-	-
Follow-up Hdwy	3.55	3.3	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	80	365	463	-	916	-	-
Stage 1	170	-	-	-	-	-	-
Stage 2	785	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	79	365	463	-	916	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-	-
Stage 1	170	-	-	-	-	-	-
Stage 2	780	-	-	-	-	-	-
Approach	SE	NE		SW			
HCM Control Delay, s	54.8	0.1		0			
HCM LOS	F						
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR	
Capacity (veh/h)	463	-	106	916	-	-	
HCM Lane V/C Ratio	0.007	-	0.329	0.005	-	-	
HCM Control Delay (s)	12.8	-	54.8	8.9	-	-	
HCM Lane LOS	B	-	F	A	-	-	
HCM 95th %tile Q(veh)	0	-	1.3	0	-	-	

Intersection

Int Delay, s/veh 0.3

Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	8	4	0	379	1	1315	2
Future Vol, veh/h	8	4	0	379	1	1315	2
Conflicting Peds, #/hr	1	1	1	0	1	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	315	-	300	-	340
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	12	25	0	12	0	4	50
Mvmt Flow	8	4	0	399	1	1384	2

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1587	694	1385	0	291	-	0
Stage 1	1387	-	-	-	-	-	-
Stage 2	200	-	-	-	-	-	-
Critical Hdwy	7.04	7.4	4.1	-	6.4	-	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.55	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	89	336	501	-	948	-	-
Stage 1	180	-	-	-	-	-	-
Stage 2	785	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	89	335	501	-	948	-	-
Mov Cap-2 Maneuver	89	-	-	-	-	-	-
Stage 1	180	-	-	-	-	-	-
Stage 2	784	-	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	39.1	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR
Capacity (veh/h)	501	-	118	948	-	-
HCM Lane V/C Ratio	-	-	0.107	0.001	-	-
HCM Control Delay (s)	0	-	39.1	8.8	-	-
HCM Lane LOS	A	-	E	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0	-	-

Intersection

Int Delay, s/veh 3.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	21	0	31	18	1	24	8	331	12	13	1290	22
Future Vol, veh/h	21	0	31	18	1	24	8	331	12	13	1290	22
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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
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, %	52	0	13	11	100	21	25	10	33	46	3	73
Mvmt Flow	23	0	34	20	1	26	9	360	13	14	1402	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1628	1807	701	1106	1807	180	1402	0	0	360	0	0
Stage 1	1430	1430	-	377	377	-	-	-	-	-	-	-
Stage 2	198	377	-	729	1430	-	-	-	-	-	-	-
Critical Hdwy	8.54	6.5	7.16	7.72	8.5	7.32	4.6	-	-	5.02	-	-
Critical Hdwy Stg 1	7.54	5.5	-	6.72	7.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.54	5.5	-	6.72	7.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.02	4	3.43	3.61	5	3.51	2.45	-	-	2.66	-	-
Pot Cap-1 Maneuver	41	80	357	154	28	776	380	-	-	933	-	-
Stage 1	90	202	-	592	422	-	-	-	-	-	-	-
Stage 2	659	619	-	361	84	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	37	77	357	135	27	776	380	-	-	933	-	-
Mov Cap-2 Maneuver	37	77	-	135	27	-	-	-	-	-	-	-
Stage 1	88	199	-	578	412	-	-	-	-	-	-	-
Stage 2	620	604	-	322	83	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	92.8	22.5	0.3	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	380	-	-	252	92	933	-
HCM Lane V/C Ratio	0.023	-	-	0.185	0.614	0.015	-
HCM Control Delay (s)	14.7	-	-	22.5	92.8	8.9	-
HCM Lane LOS	B	-	-	C	F	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	2.9	0	-

Intersection

Int Delay, s/veh 44.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	308	114	199	573	133	151
Future Vol, veh/h	308	114	199	573	133	151
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	98	98	98	98	98	98
Heavy Vehicles, %	7	0	0	2	0	1
Mvmt Flow	314	116	203	585	136	154

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1363
Stage 1	-	-	372
Stage 2	-	-	991
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	1139	165
Stage 1	-	-	702
Stage 2	-	-	362
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1139	~ 121
Mov Cap-2 Maneuver	-	-	~ 121
Stage 1	-	-	702
Stage 2	-	-	266

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	227.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	215	-	-	1139	-
HCM Lane V/C Ratio	1.348	-	-	0.178	-
HCM Control Delay (s)	227.6	-	-	8.8	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	16.1	-	-	0.6	-

Notes

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

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	770	2	213	270	99	12	32	294	71	12	29
Future Volume (vph)	54	770	2	213	270	99	12	32	294	71	12	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.865				0.894
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1845	0	1787	1827	1568	1805	1639	0	1770	1699	0
Flt Permitted	0.582			0.085			0.728			0.249		
Satd. Flow (perm)	1063	1845	0	160	1827	1568	1383	1639	0	464	1699	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						106		247			31	
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		2263			1128			539			1072	
Travel Time (s)		28.1			14.0			10.5			18.3	
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
Heavy Vehicles (%)	4%	3%	0%	1%	4%	3%	0%	3%	0%	2%	0%	0%
Adj. Flow (vph)	58	828	2	229	290	106	13	34	316	76	13	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	830	0	229	290	106	13	350	0	76	44	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	22.0	22.0	22.0	22.0		22.0	22.0	
Total Split (s)	54.0	54.0		12.0	66.0	66.0	24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%		13.3%	73.3%	73.3%	26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	48.0	48.0		6.0	60.0	60.0	18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0	0	0	0		0	0	
Act Effct Green (s)	41.1	41.1		53.3	53.3	53.3	17.8	17.8		17.8	17.8	
Actuated g/C Ratio	0.49	0.49		0.64	0.64	0.64	0.21	0.21		0.21	0.21	
v/c Ratio	0.11	0.91		1.04	0.25	0.10	0.04	0.64		0.77	0.11	
Control Delay	11.3	34.6		92.1	6.8	1.4	29.6	16.4		81.5	15.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.3	34.6		92.1	6.8	1.4	29.6	16.4		81.5	15.4	
LOS	B	C		F	A	A	C	B		F	B	
Approach Delay		33.0			37.2			16.8			57.3	
Approach LOS		C			D			B			E	
Queue Length 50th (ft)	15	377		-83	58	0	6	49		40	6	
Queue Length 95th (ft)	35	#628		#230	91	15	22	145		#124	34	
Internal Link Dist (ft)		2183			1048			459			992	
Turn Bay Length (ft)	150			250		300	150			150		
Base Capacity (vph)	619	1075		221	1331	1171	302	551		101	395	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.09	0.77		1.04	0.22	0.09	0.04	0.64		0.75	0.11	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 32.8

Intersection LOS: C

Intersection Capacity Utilization 96.2%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd

		
Ø2	Ø3	Ø4
24 s	12 s	54 s
		
Ø6	Ø8	
24 s	66 s	

Intersection												
Int Delay, s/veh		409.5										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	23	11	22	44	30	45	98	1426	32	14	445	53
Future Vol, veh/h	23	11	22	44	30	45	98	1426	32	14	445	53
Conflicting Peds, #/hr	13	0	11	3	0	5	11	0	3	5	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	165	300	-	215
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, %	46	0	29	7	10	0	4	5	0	8	14	32
Mvmt Flow	24	12	23	47	32	48	104	1517	34	15	473	56
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1512	2247	261	2014	2247	777	486	0	0	1522	0	0
Stage 1	516	516	-	1731	1731	-	-	-	-	-	-	-
Stage 2	996	1731	-	283	516	-	-	-	-	-	-	-
Critical Hdwy	8.42	6.5	7.48	7.64	6.7	6.9	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	7.42	5.5	-	6.64	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.42	5.5	-	6.64	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.96	4	3.59	3.57	4.1	3.3	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	54	42	662	~ 32	37	344	1059	-	-	406	-	-
Stage 1	411	538	-	87	130	-	-	-	-	-	-	-
Stage 2	192	144	-	686	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 1	36	649	~ 21	32	339	1049	-	-	402	-	-
Mov Cap-2 Maneuver	~ 1	36	-	~ 21	32	-	-	-	-	-	-	-
Stage 1	366	512	-	78	117	-	-	-	-	-	-	-
Stage 2	107	129	-	616	489	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	\$ 13682			\$ 1270.2			0.6			0.4		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR				
Capacity (veh/h)	1049	-	-	38	1	649	402	-	-			
HCM Lane V/C Ratio	0.099	-	-	3.331	36.17	0.036	0.037	-	-			
HCM Control Delay (s)	8.8	-	\$ 1270.2	22528.1	10.8	14.3	-	-	-			
HCM Lane LOS	A	-	F	F	B	B	-	-	-			
HCM 95th %tile Q(veh)	0.3	-	-	14.4	6.5	0.1	0.1	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

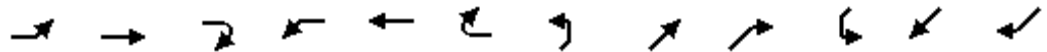
01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	530	648	51	43	217	46	67	957	201	18	191	141
Future Volume (vph)	530	648	51	43	217	46	67	957	201	18	191	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				1.00					1.00		0.98
Frt		0.989			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1840	0	1805	1809	0	1805	3539	1615	1180	3312	1509
Flt Permitted	0.586			0.203			0.627			0.174		
Satd. Flow (perm)	1090	1840	0	386	1809	0	1191	3539	1615	216	3312	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			15				199			147
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)	1					1				1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	4%	0%	1%	7%	0%	2%	0%	53%	9%	7%
Adj. Flow (vph)	552	675	53	45	226	48	70	997	209	19	199	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	552	728	0	45	274	0	70	997	209	19	199	147
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	45.0	45.0		45.0	45.0		30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		24.0	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	37.2	37.2		37.2	37.2		23.0	23.0	23.0	23.0	23.0	23.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.99	0.77		0.23	0.29		0.18	0.88	0.32	0.28	0.19	0.26

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	55.4	20.7		13.5	10.6		20.1	34.9	5.2	31.6	18.9	5.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	20.7		13.5	10.6		20.1	34.9	5.2	31.6	18.9	5.0
LOS	E	C		B	B		C	C	A	C	B	A
Approach Delay		35.6			11.0			29.3			14.0	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	233	248		11	63		23	228	3	7	34	0
Queue Length 95th (ft)	#449	390		32	108		53	#340	47	27	58	37
Internal Link Dist (ft)		1464			595			759			2575	
Turn Bay Length (ft)	100			160			330		240	300		175
Base Capacity (vph)	591	1002		209	988		398	1182	672	72	1106	591
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.73		0.22	0.28		0.18	0.84	0.31	0.26	0.18	0.25

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 72.3

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 93.4%

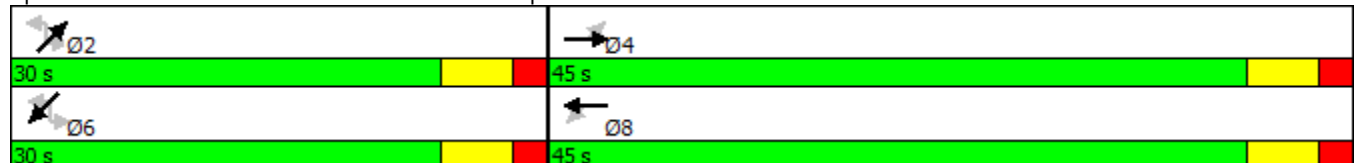
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd



Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	18	1	19	16	19	19	1409	53	6	518	265
Future Volume (vph)	129	18	1	19	16	19	19	1409	53	6	518	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99		1.00	1.00				0.97
Frt		0.998			0.953			0.995				0.850
Flt Protected	0.950	0.964			0.983		0.950			0.950		
Satd. Flow (prot)	1383	1471	0	0	1771	0	1543	3362	0	1805	3112	1442
Flt Permitted	0.950	0.964			0.983		0.443			0.091		
Satd. Flow (perm)	1378	1468	0	0	1770	0	718	3362	0	173	3112	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			20			5				285
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		552			441			707			603	
Travel Time (s)		10.8			7.5			8.8			7.5	
Confl. Peds. (#/hr)	2		2	1		1	2		1	1		2
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
Heavy Vehicles (%)	24%	0%	0%	0%	0%	0%	17%	7%	0%	0%	16%	12%
Adj. Flow (vph)	139	19	1	20	17	20	20	1515	57	6	557	285
Shared Lane Traffic (%)	43%											
Lane Group Flow (vph)	79	80	0	0	57	0	20	1572	0	6	557	285
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	22.0	22.0		22.0	22.0		46.0	46.0		46.0	46.0	46.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%		51.1%	51.1%		51.1%	51.1%	51.1%
Maximum Green (s)	16.0	16.0		16.0	16.0		40.0	40.0		40.0	40.0	40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	9.5	9.5			7.2		47.4	47.4		47.4	47.4	47.4
Actuated g/C Ratio	0.13	0.13			0.10		0.65	0.65		0.65	0.65	0.65
v/c Ratio	0.44	0.42			0.30		0.04	0.72		0.05	0.28	0.28

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	38.2	36.7			27.5		10.4	16.4		12.2	9.4	2.4
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	38.2	36.7			27.5		10.4	16.4		12.2	9.4	2.4
LOS	D	D			C		B	B		B	A	A
Approach Delay		37.4			27.5			16.4			7.1	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	35	35			16		4	306		1	70	0
Queue Length 95th (ft)	81	80			51		17	#562		9	126	38
Internal Link Dist (ft)		472			361			627			523	
Turn Bay Length (ft)							278			285		168
Base Capacity (vph)	307	327			409		467	2189		112	2025	1014
Starvation Cap Reductn	0	0			0		0	0		0	0	0
Spillback Cap Reductn	0	0			0		0	0		0	0	0
Storage Cap Reductn	0	0			0		0	0		0	0	0
Reduced v/c Ratio	0.26	0.24			0.14		0.04	0.72		0.05	0.28	0.28

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 72.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 14.9

Intersection LOS: B

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

 02		 04		 08	
46 s		22 s		22 s	
 06					
46 s					

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	411	479	89	206	50	225	768	63	65	990	110
Future Volume (vph)	241	411	479	89	206	50	225	768	63	65	990	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3610	1553	1805	3610	1468	1719	3195	1615	1719	3282	1583
Flt Permitted	0.445			0.503			0.108			0.297		
Satd. Flow (perm)	846	3610	1553	956	3610	1468	195	3195	1615	537	3282	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			182			182			182
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	4%	0%	0%	10%	5%	13%	0%	5%	10%	2%
Adj. Flow (vph)	251	428	499	93	215	52	234	800	66	68	1031	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	428	499	93	215	52	234	800	66	68	1031	115
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	15.0	27.0	27.0	10.0	22.0	22.0	15.0	42.0	42.0	11.0	38.0	38.0
Total Split (%)	16.7%	30.0%	30.0%	11.1%	24.4%	24.4%	16.7%	46.7%	46.7%	12.2%	42.2%	42.2%
Maximum Green (s)	9.0	21.0	21.0	4.0	16.0	16.0	9.0	36.0	36.0	5.0	32.0	32.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	28.4	21.5	21.5	18.1	14.1	14.1	43.8	36.9	36.9	35.3	30.2	30.2
Actuated g/C Ratio	0.33	0.25	0.25	0.21	0.16	0.16	0.51	0.43	0.43	0.41	0.35	0.35
v/c Ratio	0.67	0.48	0.94	0.39	0.37	0.13	0.91	0.59	0.08	0.24	0.90	0.17
Control Delay	32.7	31.1	49.1	27.7	34.3	0.7	59.2	22.5	0.2	13.5	39.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	32.7	31.1	49.1	27.7	34.3	0.7	59.2	22.5	0.2	13.5	39.0	1.2
LOS	C	C	D	C	C	A	E	C	A	B	D	A
Approach Delay	39.0			27.8			29.0			34.0		
Approach LOS	D			C			C			C		
Queue Length 50th (ft)	108	111	185	36	56	0	85	187	0	18	285	0
Queue Length 95th (ft)	174	158	#392	71	90	0	#228	250	0	39	#406	8
Internal Link Dist (ft)	1048			739			1138			1593		
Turn Bay Length (ft)	400		400	340		190	440		450	610		435
Base Capacity (vph)	377	895	531	239	671	421	257	1360	792	287	1220	703
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.48	0.94	0.39	0.32	0.12	0.91	0.59	0.08	0.24	0.85	0.16

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 78.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
11 s	42 s	10 s	27 s
 Ø5	 Ø6	 Ø7	 Ø8
15 s	38 s	15 s	22 s

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	↙
Traffic Vol, veh/h	6	4	12	3	5	23	21	1452	12	19	510	11
Future Vol, veh/h	6	4	12	3	5	23	21	1452	12	19	510	11
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
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, %	50	0	0	33	0	18	5	6	0	11	15	10
Mvmt Flow	6	4	13	3	5	25	23	1561	13	20	548	12
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1419	2210	275	1931	2204	789	549	0	0	1575	0	0
Stage 1	590	590	-	1614	1614	-	-	-	-	-	-	-
Stage 2	829	1620	-	317	590	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.5	6.9	8.16	6.5	7.26	4.2	-	-	4.32	-	-
Critical Hdwy Stg 1	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4	4	3.3	3.83	4	3.48	2.25	-	-	2.31	-	-
Pot Cap-1 Maneuver	63	45	729	28	45	301	996	-	-	374	-	-
Stage 1	359	498	-	79	164	-	-	-	-	-	-	-
Stage 2	245	163	-	589	498	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	49	42	728	24	42	300	996	-	-	374	-	-
Mov Cap-2 Maneuver	49	42	-	24	42	-	-	-	-	-	-	-
Stage 1	350	471	-	77	160	-	-	-	-	-	-	-
Stage 2	212	159	-	543	471	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	55.7			60.4			0.1			0.5		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	996	-	-	94	97	374	-	-				
HCM Lane V/C Ratio	0.023	-	-	0.252	0.344	0.055	-	-				
HCM Control Delay (s)	8.7	-	-	55.7	60.4	15.2	-	-				
HCM Lane LOS	A	-	-	F	F	C	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.9	1.3	0.2	-	-				

Intersection

Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	9	0	0	0	0	88	0
Future Vol, veh/h	0	0	0	0	0	9	0	0	0	0	88	0
Peak Hour Factor	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	1	0
Mvmt Flow	0	0	0	0	0	9	0	0	0	0	89	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	0	7.6	7.5
HCM LOS	-	A	A

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	0%	0%	0%	100%
Vol Thru, %	100%	79%	100%	0%
Vol Right, %	0%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	113	88	9
LT Vol	0	0	0	9
Through Vol	0	89	88	0
RT Vol	0	24	0	0
Lane Flow Rate	0	114	89	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.126	0.099	0.011
Departure Headway (Hd)	4.255	3.973	4.017	4.447
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	903	892	794
Service Time	2.343	1.996	2.044	2.532
HCM Lane V/C Ratio	0	0.126	0.1	0.011
HCM Control Delay	7.3	7.6	7.5	7.6
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.4	0.3	0

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	89	24
Future Vol, veh/h	0	0	89	24
Peak Hour Factor	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	7	4
Mvmt Flow	0	0	90	24
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	7.6
HCM LOS	A

Intersection							
Int Delay, s/veh	0.2						
Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	3	1	20	1504	4	397	29
Future Vol, veh/h	3	1	20	1504	4	397	29
Conflicting Peds, #/hr	0	3	3	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	320	-	310	-	200
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	3	0	12	0
Mvmt Flow	3	1	21	1583	4	418	31
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1263	215	421	0	1156	-	0
Stage 1	429	-	-	-	-	-	-
Stage 2	834	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	164	796	1149	-	268	-	-
Stage 1	630	-	-	-	-	-	-
Stage 2	392	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	160	792	1146	-	268	-	-
Mov Cap-2 Maneuver	160	-	-	-	-	-	-
Stage 1	628	-	-	-	-	-	-
Stage 2	384	-	-	-	-	-	-
Approach	SE	NE		SW			
HCM Control Delay, s	23.4	0.1		0.2			
HCM LOS	C						
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR	
Capacity (veh/h)	1146	-	200	268	-	-	
HCM Lane V/C Ratio	0.018	-	0.021	0.016	-	-	
HCM Control Delay (s)	8.2	-	23.4	18.6	-	-	
HCM Lane LOS	A	-	C	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-	

Intersection

Int Delay, s/veh 0.1

Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	4	0	5	1501	0	392	16
Future Vol, veh/h	4	0	5	1501	0	392	16
Conflicting Peds, #/hr	4	4	4	0	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	315	-	300	-	340
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	75	0	0	3	0	12	20
Mvmt Flow	4	0	6	1668	0	436	18

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1289	226	440	0	1217	-	0
Stage 1	440	-	-	-	-	-	-
Stage 2	849	-	-	-	-	-	-
Critical Hdwy	8.3	6.9	4.1	-	6.4	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-	-
Critical Hdwy Stg 2	7.3	-	-	-	-	-	-
Follow-up Hdwy	4.25	3.3	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	84	783	1131	-	245	-	-
Stage 1	445	-	-	-	-	-	-
Stage 2	240	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	83	778	1127	-	245	-	-
Mov Cap-2 Maneuver	83	-	-	-	-	-	-
Stage 1	444	-	-	-	-	-	-
Stage 2	238	-	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	50.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR
Capacity (veh/h)	1127	-	83	245	-	-
HCM Lane V/C Ratio	0.005	-	0.054	-	-	-
HCM Control Delay (s)	8.2	-	50.8	0	-	-
HCM Lane LOS	A	-	F	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	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	14	0	9	0	0	5	28	1504	21	17	338	26
Future Vol, veh/h	14	0	9	0	0	5	28	1504	21	17	338	26
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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	77	0	78	0	0	100	11	2	0	50	8	28
Mvmt Flow	15	0	9	0	0	5	29	1583	22	18	356	27
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1243	2034	178	1856	2034	792	356	0	0	1583	0	0
Stage 1	392	392	-	1642	1642	-	-	-	-	-	-	-
Stage 2	851	1642	-	214	392	-	-	-	-	-	-	-
Critical Hdwy	9.04	6.5	8.46	7.5	6.5	8.9	4.32	-	-	5.1	-	-
Critical Hdwy Stg 1	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.27	4	4.08	3.5	4	4.3	2.31	-	-	2.7	-	-
Pot Cap-1 Maneuver	71	58	641	46	58	183	1137	-	-	242	-	-
Stage 1	439	610	-	106	159	-	-	-	-	-	-	-
Stage 2	200	159	-	774	610	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	64	52	641	42	52	183	1137	-	-	242	-	-
Mov Cap-2 Maneuver	64	52	-	42	52	-	-	-	-	-	-	-
Stage 1	428	565	-	103	155	-	-	-	-	-	-	-
Stage 2	189	155	-	706	565	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	49.3			25.3			0.1			0.9		
HCM LOS	E			D								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	1137	-	-	183	105	242	-	-				
HCM Lane V/C Ratio	0.026	-	-	0.029	0.231	0.074	-	-				
HCM Control Delay (s)	8.2	-	-	25.3	49.3	21.1	-	-				
HCM Lane LOS	A	-	-	D	E	C	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0.2	-	-				

Intersection

Int Delay, s/veh 98.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	777	99	121	209	115	266
Future Vol, veh/h	777	99	121	209	115	266
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	93	93	93	93	93	93
Heavy Vehicles, %	3	0	1	2	0	1
Mvmt Flow	835	106	130	225	124	286

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1374
Stage 1	-	-	889
Stage 2	-	-	485
Critical Hdwy	-	4.11	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.209	3.5
Pot Cap-1 Maneuver	-	732	162
Stage 1	-	-	405
Stage 2	-	-	623
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	732	129
Mov Cap-2 Maneuver	-	-	129
Stage 1	-	-	405
Stage 2	-	-	497

Approach	EB	WB	NB
HCM Control Delay, s	0	4	\$ 408.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	229	-	-	732	-
HCM Lane V/C Ratio	1.789	-	-	0.178	-
HCM Control Delay (s)	\$ 408.4	-	-	11	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	28.1	-	-	0.6	-

Notes

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

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	460	8	126	790	91	25	8	165	124	15	37
Future Volume (vph)	22	460	8	126	790	91	25	8	165	124	15	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00		0.97	1.00	0.99		1.00	0.98	
Frt		0.997				0.850		0.857			0.894	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1863	1599	1805	1591	0	1770	1632	0
Flt Permitted	0.315			0.307			0.721			0.605		
Satd. Flow (perm)	597	1805	0	583	1863	1555	1365	1591	0	1123	1632	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				97		176			39	
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		576			1128			539			1072	
Travel Time (s)		7.1			14.0			10.5			18.3	
Confl. Peds. (#/hr)	4		2	2		4	2		2	4		4
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
Heavy Vehicles (%)	0%	5%	0%	0%	2%	1%	0%	0%	1%	2%	7%	0%
Adj. Flow (vph)	23	489	9	134	840	97	27	9	176	132	16	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	498	0	134	840	97	27	185	0	132	55	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	30.0	30.0		10.0	40.0	40.0	20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		16.7%	66.7%	66.7%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0	0	0	0		0	0	
Act Effct Green (s)	24.1	24.1		30.2	31.5	31.5	10.7	10.7		10.9	10.9	
Actuated g/C Ratio	0.52	0.52		0.65	0.68	0.68	0.23	0.23		0.23	0.23	
v/c Ratio	0.07	0.53		0.25	0.66	0.09	0.09	0.37		0.50	0.13	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	10.8	14.4		5.9	10.6	1.6	17.0	6.4		25.0	9.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	10.8	14.4		5.9	10.6	1.6	17.0	6.4		25.0	9.5	
LOS	B	B		A	B	A	B	A		C	A	
Approach Delay		14.3			9.2			7.7			20.4	
Approach LOS		B			A			A			C	
Queue Length 50th (ft)	4	108		13	136	0	6	2		31	3	
Queue Length 95th (ft)	17	224		37	327	14	24	42		85	27	
Internal Link Dist (ft)		496			1048			459			992	
Turn Bay Length (ft)	150			250		300	150			150		
Base Capacity (vph)	361	1092		550	1448	1230	508	702		418	632	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.06	0.46		0.24	0.58	0.08	0.05	0.26		0.32	0.09	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 46.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 76.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd

 Ø2	 Ø3	 Ø4
20 s	10 s	30 s
 Ø6	 Ø8	
20 s	40 s	

Intersection

Int Delay, s/veh 88.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕	↕		↕		↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	46	32	115	35	19	28	26	495	50	50	1231	39
Future Vol, veh/h	46	32	115	35	19	28	26	495	50	50	1231	39
Conflicting Peds, #/hr	14	0	10	1	0	5	10	0	1	5	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	165	300	-	215
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, %	27	0	6	3	0	4	24	17	2	2	7	35
Mvmt Flow	51	36	128	39	21	31	29	550	56	56	1368	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1850	2106	708	1436	2106	294	1382	0	0	555	0	0
Stage 1	1493	1493	-	613	613	-	-	-	-	-	-	-
Stage 2	357	613	-	823	1493	-	-	-	-	-	-	-
Critical Hdwy	8.04	6.5	7.02	7.56	6.5	6.98	4.58	-	-	4.14	-	-
Critical Hdwy Stg 1	7.04	5.5	-	6.56	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.04	5.5	-	6.56	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.77	4	3.36	3.53	4	3.34	2.44	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 35	52	368	93	52	696	392	-	-	1011	-	-
Stage 1	102	188	-	444	486	-	-	-	-	-	-	-
Stage 2	569	486	-	332	188	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 19	45	361	~ 19	45	685	389	-	-	999	-	-
Mov Cap-2 Maneuver	~ 19	45	-	~ 19	45	-	-	-	-	-	-	-
Stage 1	93	175	-	409	448	-	-	-	-	-	-	-
Stage 2	473	448	-	160	175	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	\$ 591.6	\$ 931.7	0.7	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR
Capacity (veh/h)	389	-	-	36	25	361	999	-
HCM Lane V/C Ratio	0.074	-	-	2.531	3.467	0.354	0.056	-
HCM Control Delay (s)	15	-	-	\$ 931.7	\$ 1433.8	20.3	8.8	-
HCM Lane LOS	B	-	-	F	F	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	10.2	10.7	1.6	0.2	-

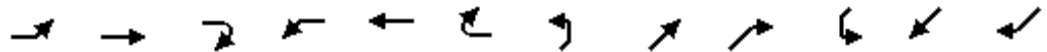
Notes

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

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017

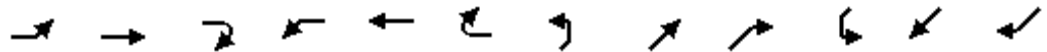


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	111	272	55	127	601	28	51	225	91	78	775	576
Future Volume (vph)	111	272	55	127	601	28	51	225	91	78	775	576
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor				1.00	1.00				0.98	1.00		
Frt		0.975			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1612	1796	0	1805	1847	0	1770	3343	1615	1530	3505	1583
Flt Permitted	0.261			0.510			0.277			0.607		
Satd. Flow (perm)	443	1796	0	969	1847	0	516	3343	1581	976	3505	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			7				94			140
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)				1		1			1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	12%	3%	4%	0%	1%	26%	2%	8%	0%	18%	3%	2%
Adj. Flow (vph)	114	280	57	131	620	29	53	232	94	80	799	594
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	337	0	131	649	0	53	232	94	80	799	594
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	15.3	15.3		15.3	15.3		15.0	15.0	15.0	15.0	15.0	15.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.39	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.65	0.46		0.34	0.88		0.26	0.18	0.14	0.21	0.58	0.84

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	33.4	10.4		11.5	28.3		12.3	8.2	3.0	9.6	11.4	23.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	10.4		11.5	28.3		12.3	8.2	3.0	9.6	11.4	23.1
LOS	C	B		B	C		B	A	A	A	B	C
Approach Delay		16.2			25.5			7.5			16.0	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	19	46		19	124		7	16	0	11	68	82
Queue Length 95th (ft)	#82	94		49	#290		27	32	17	31	107	#241
Internal Link Dist (ft)		1464			595			759			2575	
Turn Bay Length (ft)	100			160			330		240	300		175
Base Capacity (vph)	186	774		407	781		217	1407	719	410	1475	747
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.44		0.32	0.83		0.24	0.16	0.13	0.20	0.54	0.80

Intersection Summary

Area Type: Other

Cycle Length: 40

Actuated Cycle Length: 38.3

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 82.3%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd

 Ø2	 Ø4
20 s	20 s
 Ø6	 Ø8
20 s	20 s

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	17	18	49	5	24	1	631	19	27	1200	59
Future Volume (vph)	213	17	18	49	5	24	1	631	19	27	1200	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99			1.00		1.00		0.98
Frt		0.978			0.959			0.996				0.850
Flt Protected	0.950	0.966			0.969		0.950			0.950		
Satd. Flow (prot)	1573	1573	0	0	1757	0	1805	3084	0	1805	3312	1223
Flt Permitted	0.950	0.966			0.969		0.130			0.352		
Satd. Flow (perm)	1571	1571	0	0	1752	0	247	3084	0	667	3312	1196
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			25			5				73
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		552			441			707			603	
Travel Time (s)		10.8			7.5			8.8			7.5	
Confl. Peds. (#/hr)	1		2	4		3	2		4	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	0%	12%	0%	0%	0%	0%	17%	0%	0%	9%	32%
Adj. Flow (vph)	224	18	19	52	5	25	1	664	20	28	1263	62
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	132	129	0	0	82	0	1	684	0	28	1263	62
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	20.0
Total Split (s)	20.0	20.0		20.0	20.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		46.7%	46.7%		46.7%	46.7%	46.7%
Maximum Green (s)	16.0	16.0		16.0	16.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.4	10.4			7.6		31.1	31.1		31.1	31.1	31.1
Actuated g/C Ratio	0.18	0.18			0.13		0.53	0.53		0.53	0.53	0.53
v/c Ratio	0.48	0.45			0.33		0.01	0.42		0.08	0.72	0.09

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	29.2	26.6			22.8		10.0	11.1		10.5	16.0	3.0
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	29.2	26.6			22.8		10.0	11.1		10.5	16.0	3.0
LOS	C	C			C		A	B		B	B	A
Approach Delay		27.9			22.8			11.1			15.3	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	47	41			19		0	75		5	176	0
Queue Length 95th (ft)	100	92			58		3	146		21	#339	16
Internal Link Dist (ft)		472			361			627			523	
Turn Bay Length (ft)							278			285		168
Base Capacity (vph)	435	443			504		133	1667		360	1788	679
Starvation Cap Reductn	0	0			0		0	0		0	0	0
Spillback Cap Reductn	0	0			0		0	0		0	0	0
Storage Cap Reductn	0	0			0		0	0		0	0	0
Reduced v/c Ratio	0.30	0.29			0.16		0.01	0.41		0.08	0.71	0.09

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 58.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 51.3%

ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

					
Ø2	Ø4	Ø8	Ø4	Ø8	Ø8
35 s	20 s	20 s	20 s	20 s	20 s
					
Ø6					
35 s					

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	247	359	112	336	159	463	989	101	82	765	235
Future Volume (vph)	147	247	359	112	336	159	463	989	101	82	765	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98			0.99	1.00		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3539	1509	1787	3610	1583	1752	3282	1615	1752	3252	1615
Flt Permitted	0.401			0.593			0.160			0.278		
Satd. Flow (perm)	752	3539	1487	1113	3610	1556	295	3282	1591	512	3252	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			374			189			131			236
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Confl. Peds. (#/hr)	4		2	2		4	2		2	4		4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	2%	7%	1%	0%	2%	3%	10%	0%	3%	11%	0%
Adj. Flow (vph)	153	257	374	117	350	166	482	1030	105	85	797	245
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	257	374	117	350	166	482	1030	105	85	797	245
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	22.0	39.0	39.0	8.0	25.0	25.0
Total Split (%)	10.7%	26.7%	26.7%	10.7%	26.7%	26.7%	29.3%	52.0%	52.0%	10.7%	33.3%	33.3%
Maximum Green (s)	4.0	16.0	16.0	4.0	16.0	16.0	18.0	35.0	35.0	4.0	21.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	17.2	14.0	14.0	16.3	12.3	12.3	42.3	36.0	36.0	24.2	20.2	20.2
Actuated g/C Ratio	0.24	0.20	0.20	0.23	0.17	0.17	0.60	0.51	0.51	0.34	0.29	0.29
v/c Ratio	0.63	0.37	0.63	0.40	0.56	0.39	0.88	0.61	0.12	0.35	0.86	0.40

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	34.6	27.0	8.5	24.4	30.4	6.2	36.1	15.4	1.9	13.5	35.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	27.0	8.5	24.4	30.4	6.2	36.1	15.4	1.9	13.5	35.3	5.8
LOS	C	C	A	C	C	A	D	B	A	B	D	A
Approach Delay	19.6			22.9			20.7			27.2		
Approach LOS	B			C			C			C		
Queue Length 50th (ft)	52	53	0	39	75	0	147	165	0	14	170	3
Queue Length 95th (ft)	#102	86	68	77	114	37	#347	253	17	34	#286	53
Internal Link Dist (ft)	1048			739			1138			1593		
Turn Bay Length (ft)	400		400	340		190	440		450	610		435
Base Capacity (vph)	241	810	628	294	820	499	549	1675	876	246	970	633
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.32	0.60	0.40	0.43	0.33	0.88	0.61	0.12	0.35	0.82	0.39

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 70.6

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 22.6

Intersection LOS: C

Intersection Capacity Utilization 78.1%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
8 s	39 s	8 s	20 s
 Ø5	 Ø6	 Ø7	 Ø8
22 s	25 s	8 s	20 s

Intersection												
Int Delay, s/veh		3.1										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	21	0	33	20	0	29	2	592	5	21	1257	7
Future Vol, veh/h	21	0	33	20	0	29	2	592	5	21	1257	7
Conflicting Peds, #/hr	1	0	0	1	0	2	0	0	1	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	25	0	3	5	0	7	0	17	0	10	8	57
Mvmt Flow	22	0	35	21	0	31	2	623	5	22	1323	7
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1686	2003	664	1339	2000	318	1324	0	0	630	0	0
Stage 1	1368	1368	-	632	632	-	-	-	-	-	-	-
Stage 2	318	635	-	707	1368	-	-	-	-	-	-	-
Critical Hdwy	8	6.5	6.96	7.6	6.5	7.04	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.75	4	3.33	3.55	4	3.37	2.2	-	-	2.3	-	-
Pot Cap-1 Maneuver	48	60	401	108	61	663	528	-	-	896	-	-
Stage 1	126	217	-	428	477	-	-	-	-	-	-	-
Stage 2	608	476	-	385	217	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	45	58	400	96	59	661	528	-	-	895	-	-
Mov Cap-2 Maneuver	45	58	-	96	59	-	-	-	-	-	-	-
Stage 1	125	211	-	426	474	-	-	-	-	-	-	-
Stage 2	577	473	-	343	211	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	83.3			30.1			0			0.1		
HCM LOS	F			D								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	528	-	-	98	194	895	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.58	0.266	0.025	-	-				
HCM Control Delay (s)	11.8	-	-	83.3	30.1	9.1	-	-				
HCM Lane LOS	B	-	-	F	D	A	-	-				
HCM 95th %tile O(veh)	0	-	-	2.7	1	0.1	-	-				

Intersection

Intersection Delay, s/veh 7.7
Intersection LOS A

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	0	21	1	0	0	0	119	1
Future Vol, veh/h	0	0	0	2	0	21	1	0	0	0	119	1
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	0	0	2	10	0	0	2	0	2	0
Mvmt Flow	0	0	0	2	0	24	1	0	0	0	135	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.8	7.9	7.8
HCM LOS	A	A	A

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	0%	0%	0%	95%
Vol Thru, %	0%	84%	99%	5%
Vol Right, %	100%	16%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	89	120	22
LT Vol	0	0	0	21
Through Vol	0	75	119	1
RT Vol	2	14	1	0
Lane Flow Rate	2	101	136	25
Geometry Grp	1	1	1	1
Degree of Util (X)	0.002	0.112	0.153	0.033
Departure Headway (Hd)	3.836	3.971	4.052	4.772
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	939	897	882	755
Service Time	1.836	2.021	2.093	2.772
HCM Lane V/C Ratio	0.002	0.113	0.154	0.033
HCM Control Delay	6.8	7.5	7.8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.4	0.5	0.1

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	75	14
Future Vol, veh/h	0	0	75	14
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	0	85	16
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	7.5
HCM LOS	A

Intersection							
Int Delay, s/veh	1.2						
Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	22	11	3	404	4	1379	2
Future Vol, veh/h	22	11	3	404	4	1379	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	320	-	310	-	200
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89
Heavy Vehicles, %	5	0	0	13	0	5	0
Mvmt Flow	25	12	3	454	4	1549	2
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1792	775	1549	0	331	-	0
Stage 1	1558	-	-	-	-	-	-
Stage 2	234	-	-	-	-	-	-
Critical Hdwy	6.9	6.9	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-	-
Follow-up Hdwy	3.55	3.3	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	70	345	434	-	895	-	-
Stage 1	154	-	-	-	-	-	-
Stage 2	774	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	70	345	434	-	895	-	-
Mov Cap-2 Maneuver	70	-	-	-	-	-	-
Stage 1	154	-	-	-	-	-	-
Stage 2	769	-	-	-	-	-	-
Approach	SE	NE		SW			
HCM Control Delay, s	65.3	0.1		0			
HCM LOS	F						
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR	
Capacity (veh/h)	434	-	95	895	-	-	
HCM Lane V/C Ratio	0.008	-	0.39	0.005	-	-	
HCM Control Delay (s)	13.4	-	65.3	9	-	-	
HCM Lane LOS	B	-	F	A	-	-	
HCM 95th %tile Q(veh)	0	-	1.6	0	-	-	

Intersection							
Int Delay, s/veh	0.3						
Movement	SEL	SER	NEL	NET	SWU	SWT	SWR
Lane Configurations							
Traffic Vol, veh/h	8	4	0	398	1	1382	2
Future Vol, veh/h	8	4	0	398	1	1382	2
Conflicting Peds, #/hr	1	1	1	0	1	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	315	-	300	-	340
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	12	25	0	12	0	4	50
Mvmt Flow	8	4	0	419	1	1455	2
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1668	729	1456	0	305	-	0
Stage 1	1458	-	-	-	-	-	-
Stage 2	210	-	-	-	-	-	-
Critical Hdwy	7.04	7.4	4.1	-	6.4	-	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.55	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	79	318	471	-	929	-	-
Stage 1	164	-	-	-	-	-	-
Stage 2	776	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	79	317	471	-	929	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-	-
Stage 1	164	-	-	-	-	-	-
Stage 2	775	-	-	-	-	-	-
Approach	SE	NE		SW			
HCM Control Delay, s	43.9	0		0			
HCM LOS	E						
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWU	SWT	SWR	
Capacity (veh/h)	471	-	105	929	-	-	
HCM Lane V/C Ratio	-	-	0.12	0.001	-	-	
HCM Control Delay (s)	0	-	43.9	8.9	-	-	
HCM Lane LOS	A	-	E	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.4	0	-	-	

Intersection																
Int Delay, s/veh		5.1														
Movement	SEL	SET	SER		NWL	NWT	NWR		NEL	NET	NER		SWL	SWT	SWR	
Lane Configurations		↕				↕				↙	↕	↗		↙	↕	↗
Traffic Vol, veh/h	22	0	33		19	1	25		8	348	13		14	1356	23	
Future Vol, veh/h	22	0	33		19	1	25		8	348	13		14	1356	23	
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	-	-	Yield		-	-	Yield		-	-	Yield		-	-	Yield	
Storage Length	-	-	-		-	-	-		315	-	270		325	-	245	
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, %	52	0	13		11	100	21		25	10	33		46	3	73	
Mvmt Flow	24	0	36		21	1	27		9	378	14		15	1474	25	
Major/Minor	Minor2				Minor1				Major1				Major2			
Conflicting Flow All	1711	1900	737		1163	1900	189		1474	0	0		378	0	0	
Stage 1	1504	1504	-		396	396	-		-	-	-		-	-	-	
Stage 2	207	396	-		767	1504	-		-	-	-		-	-	-	
Critical Hdwy	8.54	6.5	7.16		7.72	8.5	7.32		4.6	-	-		5.02	-	-	
Critical Hdwy Stg 1	7.54	5.5	-		6.72	7.5	-		-	-	-		-	-	-	
Critical Hdwy Stg 2	7.54	5.5	-		6.72	7.5	-		-	-	-		-	-	-	
Follow-up Hdwy	4.02	4	3.43		3.61	5	3.51		2.45	-	-		2.66	-	-	
Pot Cap-1 Maneuver	35	70	337		140	23	765		354	-	-		916	-	-	
Stage 1	79	186	-		577	410	-		-	-	-		-	-	-	
Stage 2	650	607	-		341	75	-		-	-	-		-	-	-	
Platoon blocked, %										-	-			-	-	
Mov Cap-1 Maneuver	31	67	337		121	22	765		354	-	-		916	-	-	
Mov Cap-2 Maneuver	31	67	-		121	22	-		-	-	-		-	-	-	
Stage 1	77	183	-		562	400	-		-	-	-		-	-	-	
Stage 2	609	592	-		300	74	-		-	-	-		-	-	-	
Approach	SE				NW				NE				SW			
HCM Control Delay, s	146.3				25.7				0.3				0.1			
HCM LOS	F				D											
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR									
Capacity (veh/h)	354	-	-	222	75	916	-	-								
HCM Lane V/C Ratio	0.025	-	-	0.22	0.797	0.017	-	-								
HCM Control Delay (s)	15.4	-	-	25.7	146.3	9	-	-								
HCM Lane LOS	C	-	-	D	F	A	-	-								
HCM 95th %tile Q(veh)	0.1	-	-	0.8	3.9	0.1	-	-								

Intersection

Int Delay, s/veh 65.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	120	209	602	140	159
Future Vol, veh/h	324	120	209	602	140	159
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	98	98	98	98	98	98
Heavy Vehicles, %	7	0	0	2	0	1
Mvmt Flow	331	122	213	614	143	162

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1433
Stage 1	-	-	392
Stage 2	-	-	1041
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	1118	149
Stage 1	-	-	687
Stage 2	-	-	343
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1118	~ 106
Mov Cap-2 Maneuver	-	-	~ 106
Stage 1	-	-	687
Stage 2	-	-	244

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	\$ 336.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	191	-	-	1118	-
HCM Lane V/C Ratio	1.597	-	-	0.191	-
HCM Control Delay (s)	\$ 336.1	-	-	9	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	20	-	-	0.7	-

Notes

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

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	770	2	213	270	99	12	32	294	71	12	29
Future Volume (vph)	128	861	2	213	603	231	12	32	294	200	12	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.865				0.864
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1845	0	1787	1681	1392	1805	1639	0	1583	1598	0
Flt Permitted	0.359			0.067			0.656			0.360		
Satd. Flow (perm)	669	1845	0	126	1681	1392	1246	1639	0	600	1598	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						248		216				125
Link Speed (mph)		55			55			35				40
Link Distance (ft)		773			1128			539				503
Travel Time (s)		9.6			14.0			10.5				8.6
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
Heavy Vehicles (%)	2%	3%	0%	1%	13%	16%	0%	3%	0%	14%	0%	3%
Adj. Flow (vph)	138	926	2	229	648	248	13	34	316	215	13	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	928	0	229	648	248	13	350	0	215	138	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		3	8			2				6
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		3	8	8	2	2		6		6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	22.0	22.0	22.0	22.0		22.0	22.0	
Total Split (s)	60.0	60.0		15.0	75.0	75.0	45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		12.5%	62.5%	62.5%	37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	54.0	54.0		9.0	69.0	69.0	39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0	0	0	0		0	0	
Act Effct Green (s)	54.0	54.0		69.0	69.0	69.0	39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.45	0.45		0.58	0.58	0.58	0.32	0.32		0.32	0.32	
v/c Ratio	0.46	1.12		1.16	0.67	0.27	0.03	0.52		1.10	0.23	
Control Delay	29.1	101.1		143.0	22.0	2.2	28.1	14.9		133.7	7.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	29.1	101.1		143.0	22.0	2.2	28.1	14.9		133.7	7.3	
LOS	C	F		F	C	A	C	B		F	A	
Approach Delay		91.8			42.3			15.4			84.3	
Approach LOS		F			D			B			F	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 62.2

Intersection LOS: E

Intersection Capacity Utilization 96.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd

 Ø2	 Ø3	 Ø4
45 s	15 s	60 s
 Ø6	 Ø8	
45 s	75 s	

Intersection												
Int Delay, s/veh		2.6										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	23	11	22	44	30	45	98	1426	32	14	445	53
Future Vol, veh/h	23	11	22	50	30	112	98	1509	106	203	754	53
Conflicting Peds, #/hr	13	0	11	3	0	5	11	0	3	5	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	165	300	-	215
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, %	46	0	29	6	10	15	4	7	25	16	25	32
Mvmt Flow	24	12	23	53	32	119	104	1605	113	216	802	56
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2287	3066	425	2669	3066	821	815	0	0	1610	0	0
Stage 1	1247	1247	-	1819	1819	-	-	-	-	-	-	-
Stage 2	1040	1819	-	850	1247	-	-	-	-	-	-	-
Critical Hdwy	8.42	6.5	7.48	7.62	6.7	7.2	4.18	-	-	4.42	-	-
Critical Hdwy Stg 1	7.42	5.5	-	6.62	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.42	5.5	-	6.62	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.96	4	3.59	3.56	4.1	3.45	2.24	-	-	2.36	-	-
Pot Cap-1 Maneuver	~ 12	13	509	~ 10	~ 11	292	795	-	-	342	-	-
Stage 1	128	247	-	77	117	-	-	-	-	-	-	-
Stage 2	179	130	-	313	228	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 4	499	-	~ 3	288	788	-	-	338	-	-
Mov Cap-2 Maneuver	-	~ 4	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	110	88	-	67	101	-	-	-	-	-	-	-
Stage 2	62	112	-	93	81	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s							0.6			6.6		
HCM LOS	-			-								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR				
Capacity (veh/h)	788	-	-	-	-	499	338	-	-			
HCM Lane V/C Ratio	0.132	-	-	-	-	0.047	0.639	-	-			
HCM Control Delay (s)	10.3	-	-	-	-	12.6	32.7	-	-			
HCM Lane LOS	B	-	-	-	-	B	D	-	-			
HCM 95th %tile Q(veh)	0.5	-	-	-	-	0.1	4.2	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	530	648	51	43	217	46	67	957	201	18	191	141
Future Volume (vph)	589	691	51	57	250	249	67	1005	233	22	206	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				0.99							0.98
Frt		0.990			0.925				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1842	0	1770	1518	0	1805	3505	1615	1220	3282	1495
Flt Permitted	0.387			0.221			0.617			0.116		
Satd. Flow (perm)	713	1842	0	412	1518	0	1172	3505	1615	149	3282	1460
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			4				175			163
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)	1					1				1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	2%	4%	2%	1%	29%	0%	3%	0%	48%	10%	8%
Adj. Flow (vph)	614	720	53	59	260	259	70	1047	243	23	215	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	614	773	0	59	519	0	70	1047	243	23	215	163
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	90.0	90.0		90.0	90.0		40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	69.2%	69.2%		69.2%	69.2%		30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Maximum Green (s)	84.0	84.0		84.0	84.0		34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	71.4	71.4		71.4	71.4		34.6	34.6	34.6	34.6	34.6	34.6
Actuated g/C Ratio	0.60	0.60		0.60	0.60		0.29	0.29	0.29	0.29	0.29	0.29
v/c Ratio	1.43	0.69		0.24	0.56		0.20	1.02	0.41	0.53	0.22	0.30

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	228.7	19.0		12.7	16.1		38.2	76.5	14.0	87.1	35.3	7.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	228.7	19.0		12.7	16.1		38.2	76.5	14.0	87.1	35.3	7.1
LOS	F	B		B	B		D	E	B	F	D	A
Approach Delay	111.8			15.7			63.4			26.8		
Approach LOS	F			B			E			C		

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 118.2

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.43

Intersection Signal Delay: 70.1

Intersection LOS: E

Intersection Capacity Utilization 93.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd

 Ø2	 Ø4
40 s	90 s
 Ø6	 Ø8
40 s	90 s

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

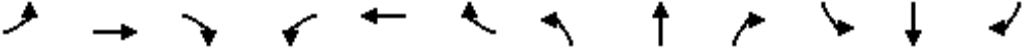
01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	18	1	19	16	19	19	1409	53	6	518	265
Future Volume (vph)	129	18	1	19	16	19	19	1564	53	6	1035	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99			1.00				0.97
Frt		0.998			0.953			0.995				0.850
Flt Protected	0.950	0.964			0.983		0.950			0.950		
Satd. Flow (prot)	1383	1471	0	0	1771	0	1543	3302	0	1805	2865	1442
Flt Permitted	0.950	0.964			0.983		0.209			0.074		
Satd. Flow (perm)	1378	1467	0	0	1770	0	339	3302	0	141	2865	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			20			5				270
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		552			441			707			603	
Travel Time (s)		10.8			7.5			8.8			7.5	
Confl. Peds. (#/hr)	2		2	1		1	2		1	1		2
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
Heavy Vehicles (%)	24%	0%	0%	0%	0%	0%	17%	9%	0%	0%	26%	12%
Adj. Flow (vph)	139	19	1	20	17	20	20	1682	57	6	1113	285
Shared Lane Traffic (%)	43%											
Lane Group Flow (vph)	79	80	0	0	57	0	20	1739	0	6	1113	285
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	22.0	22.0		22.0	22.0		56.0	56.0		56.0	56.0	56.0
Total Split (%)	22.0%	22.0%		22.0%	22.0%		56.0%	56.0%		56.0%	56.0%	56.0%
Maximum Green (s)	16.0	16.0		16.0	16.0		50.0	50.0		50.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.2	10.2			7.4		55.4	55.4		55.4	55.4	55.4
Actuated g/C Ratio	0.12	0.12			0.09		0.66	0.66		0.66	0.66	0.66
v/c Ratio	0.48	0.45			0.33		0.09	0.80		0.07	0.59	0.28

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	45.3	43.4			32.3		11.2	19.3		12.2	13.7	2.5
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.3	43.4			32.3		11.2	19.3		12.2	13.7	2.5
LOS	D	D			C		B	B		B	B	A
Approach Delay		44.3			32.3			19.2			11.4	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 84.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

 Ø2			 Ø4			 Ø8		
56 s			22 s			22 s		
 Ø6 56 s								

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	241	411	479	89	206	50	225	768	63	65	990	110
Future Volume (vph)	307	444	600	89	275	50	521	768	63	65	990	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3574	1509	1805	3505	1468	1504	3195	1615	1719	3282	1599
Flt Permitted	0.263			0.486			0.081			0.349		
Satd. Flow (perm)	500	3574	1509	923	3505	1468	128	3195	1615	632	3282	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			490			210			164			219
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	7%	0%	3%	10%	20%	13%	0%	5%	10%	1%
Adj. Flow (vph)	320	463	625	93	286	52	543	800	66	68	1031	219
Shared Lane Traffic (%)												
Lane Group Flow (vph)	320	463	625	93	286	52	543	800	66	68	1031	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	23.0	35.0	35.0	10.0	22.0	22.0	47.0	84.0	84.0	11.0	48.0	48.0
Total Split (%)	16.4%	25.0%	25.0%	7.1%	15.7%	15.7%	33.6%	60.0%	60.0%	7.9%	34.3%	34.3%
Maximum Green (s)	17.0	29.0	29.0	4.0	16.0	16.0	41.0	78.0	78.0	5.0	42.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	38.0	28.0	28.0	19.0	15.0	15.0	89.0	80.3	80.3	47.0	42.0	42.0
Actuated g/C Ratio	0.27	0.20	0.20	0.14	0.11	0.11	0.64	0.58	0.58	0.34	0.30	0.30
v/c Ratio	1.08	0.64	0.90	0.62	0.76	0.15	1.11	0.43	0.07	0.27	1.04	0.34
Control Delay	118.9	55.6	29.1	64.2	73.8	0.9	113.6	18.1	0.1	19.6	86.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	118.9	55.6	29.1	64.2	73.8	0.9	113.6	18.1	0.1	19.6	86.3	6.0
LOS	F	E	C	E	E	A	F	B	A	B	F	A
Approach Delay	58.2			63.0			54.0			69.5		
Approach LOS	E			E			D			E		

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 139

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 60.6

Intersection LOS: E

Intersection Capacity Utilization 78.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
11 s	34 s	10 s	35 s
 Ø5	 Ø6	 Ø7	 Ø8
47 s	48 s	23 s	22 s

Intersection												
Int Delay, s/veh		7.9										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	↙
Traffic Vol, veh/h	6	4	12	3	5	23	21	1452	12	19	510	11
Future Vol, veh/h	6	4	12	3	5	28	21	1602	12	38	1008	11
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
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, %	50	0	0	33	0	15	5	8	0	6	26	10
Mvmt Flow	6	4	13	3	5	30	23	1723	13	41	1084	12
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2077	2949	543	2401	2942	870	1085	0	0	1736	0	0
Stage 1	1167	1167	-	1775	1775	-	-	-	-	-	-	-
Stage 2	910	1782	-	626	1167	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.5	6.9	8.16	6.5	7.2	4.2	-	-	4.22	-	-
Critical Hdwy Stg 1	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4	4	3.3	3.83	4	3.45	2.25	-	-	2.26	-	-
Pot Cap-1 Maneuver	17	15	489	11	15	270	621	-	-	342	-	-
Stage 1	141	270	-	61	137	-	-	-	-	-	-	-
Stage 2	215	136	-	371	270	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	9	13	489	7	13	270	621	-	-	342	-	-
Mov Cap-2 Maneuver	9	13	-	7	13	-	-	-	-	-	-	-
Stage 1	136	237	-	59	132	-	-	-	-	-	-	-
Stage 2	176	131	-	312	237	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	\$ 467.5			298.7			0.1			0.6		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	621	-	-	22	39	342	-	-				
HCM Lane V/C Ratio	0.036	-	-	1.075	0.993	0.119	-	-				
HCM Control Delay (s)	11	-	-	\$ 467.5	298.7	16.9	-	-				
HCM Lane LOS	B	-	-	F	F	C	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	3.1	3.8	0.4	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	9	0	0	0	0	88	0
Future Vol, veh/h	0	1	5	19	0	27	1	0	0	0	265	0
Peak Hour Factor	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	11	0
Mvmt Flow	0	1	5	19	0	27	1	0	0	0	268	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.8	8.5	9.7
HCM LOS	A	A	A

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	4%	2%	0%	96%
Vol Thru, %	20%	88%	100%	4%
Vol Right, %	76%	11%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	228	265	28
LT Vol	1	4	0	27
Through Vol	5	200	265	1
RT Vol	19	24	0	0
Lane Flow Rate	25	230	268	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.272	0.332	0.041
Departure Headway (Hd)	4.588	4.254	4.465	5.225
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	780	848	811	686
Service Time	2.617	2.27	2.465	3.254
HCM Lane V/C Ratio	0.032	0.271	0.33	0.041
HCM Control Delay	7.8	8.9	9.7	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	1.5	0.1

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	89	24
Future Vol, veh/h	0	4	200	24
Peak Hour Factor	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	17	0
Mvmt Flow	0	4	202	24
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	8.9
HCM LOS	A

Intersection

Int Delay, s/veh 15.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWU	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	3	0	1	0	0	0	20	1504	0	4	0	397	29
Future Vol, veh/h	3	0	1	30	0	141	20	1520	211	4	219	493	29
Conflicting Peds, #/hr	0	0	3	0	0	0	3	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	320	-	100	-	310	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	95	92	95	92	92	92	95	95	92	95	92	95	95
Heavy Vehicles, %	0	0	1	20	0	35	0	3	40	0	57	10	0
Mvmt Flow	3	0	1	33	0	153	21	1600	229	4	238	519	31

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1848	2648	265	2389	2648	800	522	0	0	-	1600	0	0
Stage 1	1006	1006	-	1642	1642	-	-	-	-	-	-	-	-
Stage 2	842	1642	-	747	1006	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.9	6.5	7.6	4.1	-	-	6.4	5.24	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.9	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.9	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.7	4	3.65	2.2	-	-	2.5	2.77	-	-
Pot Cap-1 Maneuver	47	23	736	~ 14	23	266	1055	-	-	-	~ 220	-	-
Stage 1	262	321	-	87	159	-	-	-	-	-	-	-	-
Stage 2	329	159	-	333	321	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	20	22	732	~ 14	22	266	1052	-	-	0	0	-	-
Mov Cap-2 Maneuver	20	22	-	~ 14	22	-	-	-	-	-	-	-	-
Stage 1	256	320	-	85	156	-	-	-	-	-	-	-	-
Stage 2	137	156	-	332	320	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	168.5	232.8	0.1	
HCM LOS	F	F		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1052	-	-	14	266	26	-	-
HCM Lane V/C Ratio	0.02	-	-	2.329	0.576	0.162	-	-
HCM Control Delay (s)	8.5	-	\$ 1160.3	35.4	168.5	-	-	-
HCM Lane LOS	A	-	-	F	E	F	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.8	3.3	0.5	-	-

Notes

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

Intersection												
Int Delay, s/veh	1.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	0	0	0	0	0	5	1501	0	0	392	16
Future Vol, veh/h	4	0	0	3	0	17	5	1711	76	72	446	16
Conflicting Peds, #/hr	4	0	4	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	315	-	100	300	-	340
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	92	90	92	92	92	90	90	92	92	90	90
Heavy Vehicles, %	75	0	0	0	0	0	0	8	0	0	12	20
Mvmt Flow	4	0	0	3	0	18	6	1901	83	78	496	18
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1622	2568	256	2320	2568	955	500	0	0	1901	0	0
Stage 1	656	656	-	1912	1912	-	-	-	-	-	-	-
Stage 2	966	1912	-	408	656	-	-	-	-	-	-	-
Critical Hdwy	9	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	8	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	8	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.25	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	33	26	749	21	26	263	1075	-	-	317	-	-
Stage 1	283	465	-	72	117	-	-	-	-	-	-	-
Stage 2	166	117	-	596	465	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	19	744	17	19	262	1071	-	-	316	-	-
Mov Cap-2 Maneuver	25	19	-	17	19	-	-	-	-	-	-	-
Stage 1	280	349	-	72	116	-	-	-	-	-	-	-
Stage 2	153	116	-	447	349	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	177.9			56.1			0			2.7		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR				
Capacity (veh/h)	1071	-	-	17	262	25	316	-	-			
HCM Lane V/C Ratio	0.005	-	-	0.192	0.071	0.178	0.248	-	-			
HCM Control Delay (s)	8.4	-	-	261.5	19.8	177.9	20.1	-	-			
HCM Lane LOS	A	-	-	F	C	F	C	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0.5	1	-	-			

Intersection

Int Delay, s/veh 1.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	14	0	9	0	0	5	28	1504	21	17	338	26
Future Vol, veh/h	14	0	9	2	0	6	28	1797	38	42	370	26
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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	77	0	78	0	0	83	11	7	0	20	9	28
Mvmt Flow	15	0	9	2	0	6	29	1892	40	44	389	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1483	2429	195	2234	2429	946	389	0	0	1892	0	0
Stage 1	478	478	-	1951	1951	-	-	-	-	-	-	-
Stage 2	1005	1951	-	283	478	-	-	-	-	-	-	-
Critical Hdwy	9.04	6.5	8.46	7.5	6.5	8.56	4.32	-	-	4.5	-	-
Critical Hdwy Stg 1	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.27	4	4.08	3.5	4	4.13	2.31	-	-	2.4	-	-
Pot Cap-1 Maneuver	43	32	622	24	32	151	1104	-	-	248	-	-
Stage 1	380	559	-	68	112	-	-	-	-	-	-	-
Stage 2	153	112	-	706	559	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	26	622	20	26	151	1104	-	-	248	-	-
Mov Cap-2 Maneuver	35	26	-	20	26	-	-	-	-	-	-	-
Stage 1	370	460	-	66	109	-	-	-	-	-	-	-
Stage 2	143	109	-	572	460	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	105.8	55.2	0.1	2.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NLT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	1104	-	-	80	58	248	-	-	-	-	-	-
HCM Lane V/C Ratio	0.027	-	-	0.105	0.417	0.178	-	-	-	-	-	-
HCM Control Delay (s)	8.3	-	-	55.2	105.8	22.6	-	-	-	-	-	-
HCM Lane LOS	A	-	-	F	F	C	-	-	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	1.6	0.6	-	-	-	-	-	-

Intersection

Int Delay, s/veh 202.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	777	99	121	209	115	266
Future Vol, veh/h	852	103	131	444	130	280
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	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	16	2	1
Mvmt Flow	916	111	141	477	140	301

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1731
Stage 1	-	-	972
Stage 2	-	-	759
Critical Hdwy	-	4.11	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.209	3.518
Pot Cap-1 Maneuver	-	680	~ 97
Stage 1	-	-	367
Stage 2	-	-	462
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	680	~ 70
Mov Cap-2 Maneuver	-	-	~ 70
Stage 1	-	-	367
Stage 2	-	-	332

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	\$ 955
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	-	-	680	-
HCM Lane V/C Ratio	2.979	-	-	0.207	-
HCM Control Delay (s)	\$ 955	-	-	11.7	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	40.7	-	-	0.8	-

Notes

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

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	826	311	0	0	0
Future Vol, veh/h	0	915	550	31	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	14	0	0	0
Mvmt Flow	0	995	598	34	0	7
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	598
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	-	-	0	0	506
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	506
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		12.2	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	506			
HCM Lane V/C Ratio	-	-	0.013			
HCM Control Delay (s)	-	-	12.2			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0			

Intersection							
Int Delay, s/veh		27.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	0	826	311	0	0	0	
Future Vol, veh/h	56	859	558	136	132	23	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	100	0	0	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	0	2	13	0	0	0	
Mvmt Flow	61	934	607	148	143	25	
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	607	0	-	0	1662	607	
Stage 1	-	-	-	-	607	-	
Stage 2	-	-	-	-	1055	-	
Critical Hdwy	4.1	-	-	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	5.4	-	
Follow-up Hdwy	2.2	-	-	-	3.5	3.3	
Pot Cap-1 Maneuver	981	-	-	-	~ 108	500	
Stage 1	-	-	-	-	548	-	
Stage 2	-	-	-	-	338	-	
Platoon blocked, %		-	-	-			
Mov Cap-1 Maneuver	981	-	-	-	~ 94	500	
Mov Cap-2 Maneuver	-	-	-	-	~ 94	-	
Stage 1	-	-	-	-	548	-	
Stage 2	-	-	-	-	294	-	
Approach	EB		WB		SB		
HCM Control Delay, s	0.5		0		\$ 310.7		
HCM LOS					F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	981	-	-	-	94	500	
HCM Lane V/C Ratio	0.062	-	-	-	1.526	0.05	
HCM Control Delay (s)	8.9	0	-	-	\$ 362.6	12.6	
HCM Lane LOS	A	A	-	-	F	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	11.1	0.2	
Notes							
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	826	311	0	0	0
Future Vol, veh/h	0	991	686	45	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	11	0	0	0
Mvmt Flow	0	1077	746	49	0	9

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 746
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 -	- 0	0 417
Stage 1	0 -	- 0	0 -
Stage 2	0 -	- 0	0 -
Platoon blocked, %	- -	- -	- -
Mov Cap-1 Maneuver	- -	- -	- 417
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	- -	- 417	
HCM Lane V/C Ratio	- -	- 0.021	
HCM Control Delay (s)	- -	- 13.8	
HCM Lane LOS	- -	- B	
HCM 95th %tile Q(veh)	- -	- 0.1	

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	149	104	0
Future Vol, veh/h	0	49	91	264	271	47
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	14	11	0
Mvmt Flow	0	53	99	287	295	51

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	805	320	346	0	-	0
Stage 1	320	-	-	-	-	-
Stage 2	485	-	-	-	-	-
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	355	725	1224	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	725	1224	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	563	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1224	-	725	-	-
HCM Lane V/C Ratio	0.081	-	0.073	-	-
HCM Control Delay (s)	8.2	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.2	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	88	0	0	89	0	0
Future Vol, veh/h	253	9	2	199	2	12
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	92	92	92	92	92	92
Heavy Vehicles, %	12	0	0	18	0	0
Mvmt Flow	275	10	2	216	2	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	285	0	501	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1289	-	533	764
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1289	-	532	764
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	819	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		0.1		10.1	
HCM LOS					B	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	719	1289	-	-	-	
HCM Lane V/C Ratio	0.021	0.002	-	-	-	
HCM Control Delay (s)	10.1	7.8	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

Intersection						
Int Delay, s/veh	2.2					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	57	0	0	119	0	0
Future Vol, veh/h	214	106	68	163	29	17
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	92	92	92	92	92	92
Heavy Vehicles, %	9	66	50	1	59	65
Mvmt Flow	233	115	74	177	32	18
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	348	0	615	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	-	-	4.6	-	7.69	6.85
Critical Hdwy Stg 1	-	-	-	-	6.69	-
Critical Hdwy Stg 2	-	-	-	-	6.69	-
Follow-up Hdwy	-	-	2.65	-	4.031	3.885
Pot Cap-1 Maneuver	-	-	987	-	332	622
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	582	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	987	-	311	622
Mov Cap-2 Maneuver	-	-	-	-	311	-
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	534	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		2.6		15.9	
HCM LOS					C	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	381	987	-	-	-	
HCM Lane V/C Ratio	0.131	0.075	-	-	-	
HCM Control Delay (s)	15.9	8.9	0	-	-	
HCM Lane LOS	C	A	A	-	-	
HCM 95th %tile Q(veh)	0.4	0.2	-	-	-	

Intersection						
Int Delay, s/veh	0					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations		↗	↗↗	↗		↗↗
Traffic Vol, veh/h	0	0	1523	0	0	381
Future Vol, veh/h	0	4	1805	12	0	438
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	7	0	0	3
Mvmt Flow	0	4	1962	13	0	476
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	981	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	252	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	252	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	NW		NE		SW	
HCM Control Delay, s	19.5		0		0	
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NWLn1	SWT			
Capacity (veh/h)	-	252	-			
HCM Lane V/C Ratio	-	0.017	-			
HCM Control Delay (s)	-	19.5	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	0.1	-			

Intersection

Int Delay, s/veh 3.7

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	0	38	5	0	0	0
Future Vol, veh/h	42	38	5	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	46	41	5	0	0	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	5	0	138
Stage 1	-	-	5
Stage 2	-	-	133
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1630	-	860
Stage 1	-	-	1023
Stage 2	-	-	898
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1630	-	835
Mov Cap-2 Maneuver	-	-	835
Stage 1	-	-	1023
Stage 2	-	-	872

Approach	SE	NW	SW
HCM Control Delay, s	3.8	0	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)	-	-	1630	-	1084
HCM Lane V/C Ratio	-	-	0.028	-	0.003
HCM Control Delay (s)	-	-	7.3	0	8.3
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	460	8	126	790	91	25	8	165	124	15	37
Future Volume (vph)	186	686	8	126	1107	237	25	8	165	492	15	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.857			0.861	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1842	0	1805	1827	1538	1805	1613	0	1480	1556	0
Flt Permitted	0.129			0.108			0.585			0.639		
Satd. Flow (perm)	245	1842	0	205	1827	1538	1112	1613	0	995	1556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				252		176			61	
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		773			1128			539			503	
Travel Time (s)		9.6			14.0			10.5			8.6	
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
Heavy Vehicles (%)	0%	3%	0%	0%	4%	5%	0%	0%	1%	22%	7%	5%
Adj. Flow (vph)	198	730	9	134	1178	252	27	9	176	523	16	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	739	0	134	1178	252	27	185	0	523	218	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2		2	8			4		
Detector Phase	6	6		5	2	2	8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	22.0	22.0	22.0	22.0		22.0	22.0	
Total Split (s)	37.0	37.0		10.0	47.0	47.0	28.0	28.0		28.0	28.0	
Total Split (%)	49.3%	49.3%		13.3%	62.7%	62.7%	37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	31.0	31.0		4.0	41.0	41.0	22.0	22.0		22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0	0	0	0		0	0	
Act Effect Green (s)	31.0	31.0		41.0	41.0	41.0	22.0	22.0		22.0	22.0	
Actuated g/C Ratio	0.41	0.41		0.55	0.55	0.55	0.29	0.29		0.29	0.29	
v/c Ratio	1.96	0.97		0.68	1.18	0.26	0.08	0.31		1.80	0.44	
Control Delay	487.0	50.2		28.9	112.1	2.0	20.2	5.6		395.2	18.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	487.0	50.2		28.9	112.1	2.0	20.2	5.6		395.2	18.5	
LOS	F	D		C	F	A	C	A		F	B	
Approach Delay		142.5			87.2			7.5			284.4	
Approach LOS		F			F			A			F	
Queue Length 50th (ft)	~145	325		28	~670	0	9	3		~372	57	
Queue Length 95th (ft)	#228	#560		#74	#901	30	27	46		#553	117	
Internal Link Dist (ft)		693			1048			459			423	
Turn Bay Length (ft)	150			250		300	150			150		
Base Capacity (vph)	101	761		197	998	955	326	597		291	499	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	1.96	0.97		0.68	1.18	0.26	0.08	0.31		1.80	0.44	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.96

Intersection Signal Delay: 139.6

Intersection LOS: F

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

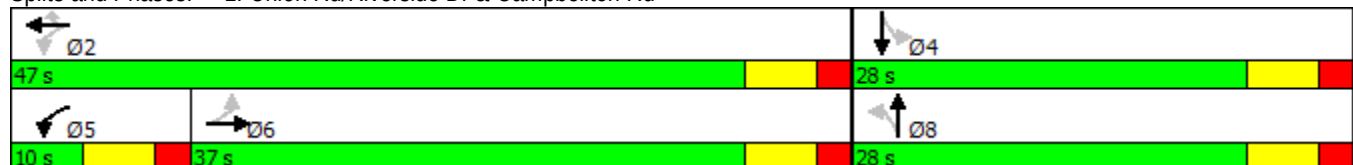
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd



Intersection															
Int Delay, s/veh		1.2													
Movement	SEL	SET	SER		NWL	NWT	NWR		NEL	NET	NER		SWL	SWT	SWR
Lane Configurations															
Traffic Vol, veh/h	46	32	115		35	19	28		26	495	50		50	1231	39
Future Vol, veh/h	46	32	115		51	19	222		26	810	263		246	1354	39
Conflicting Peds, #/hr	13	0	11		3	0	5		11	0	3		5	0	13
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free		Free	Free	Free
RT Channelized	-	-	None		-	-	None		-	-	None		-	-	None
Storage Length	-	-	0		-	-	-		300	-	165		300	-	215
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, %	27	0	6		2	0	29		24	25	29		9	9	35
Mvmt Flow	51	36	128		57	21	247		29	900	292		273	1504	43
Major/Minor	Minor2				Minor1				Major1				Major2		
Conflicting Flow All	2595	3027	776		2291	3027	468		1517	0	0		905	0	0
Stage 1	2064	2064	-		963	963	-		-	-	-		-	-	-
Stage 2	531	963	-		1328	2064	-		-	-	-		-	-	-
Critical Hdwy	8.04	6.5	7.02		7.54	6.5	7.48		4.58	-	-		4.28	-	-
Critical Hdwy Stg 1	7.04	5.5	-		6.54	5.5	-		-	-	-		-	-	-
Critical Hdwy Stg 2	7.04	5.5	-		6.54	5.5	-		-	-	-		-	-	-
Follow-up Hdwy	3.77	4	3.36		3.52	4	3.59		2.44	-	-		2.29	-	-
Pot Cap-1 Maneuver	~ 8	~ 13	332		~ 21	~ 13	475		343	-	-		705	-	-
Stage 1	~ 41	98	-		274	337	-		-	-	-		-	-	-
Stage 2	441	337	-		164	98	-		-	-	-		-	-	-
Platoon blocked, %										-	-			-	-
Mov Cap-1 Maneuver	-	~ 7	325		-	~ 7	468		340	-	-		697	-	-
Mov Cap-2 Maneuver	-	~ 7	-		-	~ 7	-		-	-	-		-	-	-
Stage 1	~ 37	59	-		250	307	-		-	-	-		-	-	-
Stage 2	176	307	-		~ 24	59	-		-	-	-		-	-	-
Approach	SE				NW				NE				SW		
HCM Control Delay, s									0.4				2		
HCM LOS															
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR							
Capacity (veh/h)	340	-	-	-	-	325	697	-	-						
HCM Lane V/C Ratio	0.085	-	-	-	-	0.393	0.392	-	-						
HCM Control Delay (s)	16.6	-	-	-	-	23.1	13.5	-	-						
HCM Lane LOS	C	-	-	-	-	C	B	-	-						
HCM 95th %tile Q(veh)	0.3	-	-	-	-	1.8	1.9	-	-						
Notes															
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon						

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

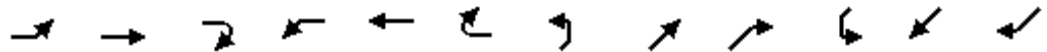
01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	111	272	55	127	601	28	51	225	91	78	775	576
Future Volume (vph)	137	347	55	163	674	117	51	247	148	98	825	632
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor					1.00					1.00		0.98
Frt		0.979			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1612	1819	0	1752	1769	0	1770	3312	1615	1492	3471	1568
Flt Permitted	0.112			0.438			0.201			0.594		
Satd. Flow (perm)	190	1819	0	808	1769	0	374	3312	1615	931	3471	1532
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			15				153			197
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)	1					1				1		1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	12%	2%	4%	3%	1%	27%	2%	9%	0%	21%	4%	3%
Adj. Flow (vph)	141	358	57	168	695	121	53	255	153	101	851	652
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	415	0	168	816	0	53	255	153	101	851	652
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	54.0	54.0		54.0	54.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	48.0	48.0		48.0	48.0		30.0	30.0	30.0	30.0	30.0	30.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	42.2	42.2		42.2	42.2		30.2	30.2	30.2	30.2	30.2	30.2
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	1.50	0.45		0.42	0.92		0.40	0.22	0.23	0.30	0.69	0.97

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

01/31/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	293.5	14.7		16.7	35.6		34.0	20.9	4.8	24.9	27.7	49.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	293.5	14.7		16.7	35.6		34.0	20.9	4.8	24.9	27.7	49.2
LOS	F	B		B	D		C	C	A	C	C	D
Approach Delay		85.4			32.3			17.0			36.3	
Approach LOS		F			C			B			D	
Queue Length 50th (ft)	~107	129		53	371		23	53	0	42	219	~285
Queue Length 95th (ft)	#171	199		103	#627		63	84	40	87	293	#527
Internal Link Dist (ft)		1464			595			759			2575	
Turn Bay Length (ft)	100			160			330		240	300		175
Base Capacity (vph)	108	1047		462	1019		133	1185	676	333	1242	674
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.40		0.36	0.80		0.40	0.22	0.23	0.30	0.69	0.97

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.50

Intersection Signal Delay: 40.3

Intersection LOS: D

Intersection Capacity Utilization 87.4%

ICU Level of Service E

Analysis Period (min) 15

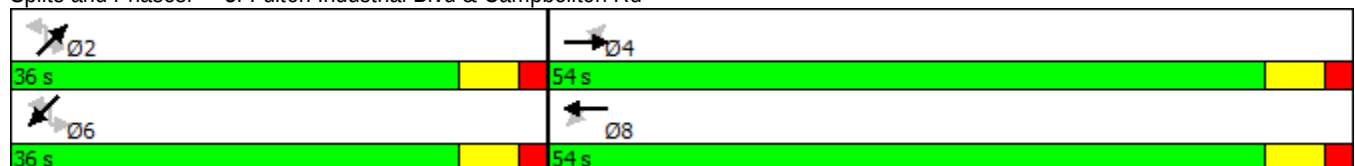
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd



Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

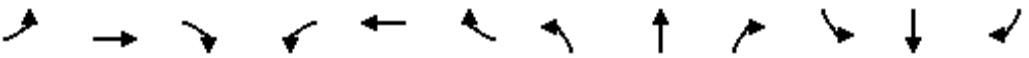
01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	17	18	49	5	24	1	631	19	27	1200	59
Future Volume (vph)	213	17	18	49	5	24	1	1142	19	27	1568	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99			1.00				0.97
Frt		0.978			0.959			0.998				0.850
Flt Protected	0.950	0.966			0.969		0.950			0.950		
Satd. Flow (prot)	1573	1573	0	0	1758	0	1805	2891	0	1805	3252	1223
Flt Permitted	0.950	0.966			0.969		0.092			0.153		
Satd. Flow (perm)	1568	1569	0	0	1757	0	175	2891	0	291	3252	1192
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			21			2				109
Link Speed (mph)		35			40			55				55
Link Distance (ft)		552			441			707				603
Travel Time (s)		10.8			7.5			8.8				7.5
Confl. Peds. (#/hr)	2		2	1		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	0%	12%	0%	0%	0%	0%	25%	0%	0%	11%	32%
Adj. Flow (vph)	224	18	19	52	5	25	1	1202	20	28	1651	62
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	132	129	0	0	82	0	1	1222	0	28	1651	62
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	22.0	22.0		22.0	22.0		46.0	46.0		46.0	46.0	46.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%		51.1%	51.1%		51.1%	51.1%	51.1%
Maximum Green (s)	16.0	16.0		16.0	16.0		40.0	40.0		40.0	40.0	40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	11.6	11.6			8.2		43.3	43.3		43.3	43.3	43.3
Actuated g/C Ratio	0.15	0.15			0.10		0.55	0.55		0.55	0.55	0.55
v/c Ratio	0.57	0.54			0.41		0.01	0.77		0.18	0.92	0.09

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	41.5	38.1			32.4		12.0	20.7		16.0	29.7	1.0
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	41.5	38.1			32.4		12.0	20.7		16.0	29.7	1.0
LOS	D	D			C		B	C		B	C	A
Approach Delay		39.8			32.4			20.7			28.5	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	63	57			28		0	245		7	390	0
Queue Length 95th (ft)	125	117			71		3	#455		28	#668	6
Internal Link Dist (ft)		472			361			627			523	
Turn Bay Length (ft)							278			285		168
Base Capacity (vph)	320	326			374		96	1590		159	1788	704
Starvation Cap Reductn	0	0			0		0	0		0	0	0
Spillback Cap Reductn	0	0			0		0	0		0	0	0
Storage Cap Reductn	0	0			0		0	0		0	0	0
Reduced v/c Ratio	0.41	0.40			0.22		0.01	0.77		0.18	0.92	0.09

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 78.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 26.6

Intersection LOS: C

Intersection Capacity Utilization 54.4%

ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

 02	 04	 08
46 s	22 s	22 s
 06		
46 s		

Lanes, Volumes, Timings
5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	247	359	112	336	159	463	989	101	82	765	235
Future Volume (vph)	290	349	708	112	400	159	705	989	101	82	765	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3438	1380	1787	3574	1583	1703	3282	1615	1752	3252	1615
Flt Permitted	0.174			0.535			0.103			0.278		
Satd. Flow (perm)	327	3438	1380	1006	3574	1583	185	3282	1615	513	3252	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			596			210			164			234
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	5%	17%	1%	1%	2%	6%	10%	0%	3%	11%	0%
Adj. Flow (vph)	302	364	738	117	417	166	734	1030	105	85	797	408
Shared Lane Traffic (%)												
Lane Group Flow (vph)	302	364	738	117	417	166	734	1030	105	85	797	408
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	24.0	37.0	37.0	10.0	23.0	23.0	54.0	80.0	80.0	13.0	39.0	39.0
Total Split (%)	17.1%	26.4%	26.4%	7.1%	16.4%	16.4%	38.6%	57.1%	57.1%	9.3%	27.9%	27.9%
Maximum Green (s)	18.0	31.0	31.0	4.0	17.0	17.0	48.0	74.0	74.0	7.0	33.0	33.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	41.0	31.0	31.0	21.0	17.0	17.0	87.0	74.2	74.2	39.8	33.0	33.0
Actuated g/C Ratio	0.29	0.22	0.22	0.15	0.12	0.12	0.62	0.53	0.53	0.28	0.24	0.24
v/c Ratio	1.07	0.48	0.96	0.68	0.96	0.44	1.16	0.59	0.11	0.41	1.04	0.73
Control Delay	113.6	49.9	35.0	67.1	95.6	6.4	122.5	24.4	0.5	26.7	94.8	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

01/31/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	113.6	49.9	35.0	67.1	95.6	6.4	122.5	24.4	0.5	26.7	94.8	29.0
LOS	F	D	D	E	F	A	F	C	A	C	F	C
Approach Delay	55.8			69.7			61.6			69.5		
Approach LOS	E			E			E			E		
Queue Length 50th (ft)	~251	153	166	81	202	0	~739	329	0	29	~411	150
Queue Length 95th (ft)	#443	205	#467	#147	#309	30	#988	397	3	52	#542	279
Internal Link Dist (ft)	1048			739			1138			1593		
Turn Bay Length (ft)	400		400	340		190	440		450	610		435
Base Capacity (vph)	283	761	769	173	433	376	635	1738	932	208	766	559
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.48	0.96	0.68	0.96	0.44	1.16	0.59	0.11	0.41	1.04	0.73

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 63.1

Intersection LOS: E

Intersection Capacity Utilization 84.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
13 s	80 s	10 s	37 s
 Ø5	 Ø6	 Ø7	 Ø8
54 s	39 s	24 s	23 s

Intersection

Int Delay, s/veh 20.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Traffic Vol, veh/h	21	0	33	20	0	29	2	592	5	21	1257	7
Future Vol, veh/h	21	0	33	20	0	31	2	1101	5	70	1576	7
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	25	0	3	5	0	7	0	25	0	3	10	57
Mvmt Flow	22	0	35	21	0	33	2	1159	5	74	1659	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2392	2976	830	2144	2974	584	1660	0	0	1165	0	0
Stage 1	1807	1807	-	1167	1167	-	-	-	-	-	-	-
Stage 2	585	1169	-	977	1807	-	-	-	-	-	-	-
Critical Hdwy	8	6.5	6.96	7.6	6.5	7.04	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.75	4	3.33	3.55	4	3.37	2.2	-	-	2.23	-	-
Pot Cap-1 Maneuver	~ 13	14	311	26	14	443	393	-	-	590	-	-
Stage 1	63	132	-	201	270	-	-	-	-	-	-	-
Stage 2	411	269	-	263	132	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 11	12	311	~ 21	12	442	393	-	-	590	-	-
Mov Cap-2 Maneuver	~ 11	12	-	~ 21	12	-	-	-	-	-	-	-
Stage 1	63	115	-	200	268	-	-	-	-	-	-	-
Stage 2	378	267	-	204	115	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 820.8	280.8	0	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	393	-	-	27 50	590	-	-
HCM Lane V/C Ratio	0.005	-	-	2.105 1.074	0.125	-	-
HCM Control Delay (s)	14.2	-	-	\$ 820.8 280.8	12	-	-
HCM Lane LOS	B	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	6.8 4.7	0.4	-	-

Notes

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

Intersection

Intersection Delay, s/veh 22.6

Intersection LOS C

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	0	2	0	21	1	0	0	0	119	1
Future Vol, veh/h	0	1	2	11	0	66	5	0	0	0	556	1
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	21	0
Mvmt Flow	0	1	2	13	0	75	6	0	0	0	632	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9	10.4	29.6
HCM LOS	A	B	D

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	7%	8%	0%	93%
Vol Thru, %	14%	87%	100%	7%
Vol Right, %	79%	6%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	245	557	71
LT Vol	1	19	0	66
Through Vol	2	212	556	5
RT Vol	11	14	1	0
Lane Flow Rate	16	278	633	81
Geometry Grp	1	1	1	1
Degree of Util (X)	0.026	0.379	0.854	0.142
Departure Headway (Hd)	5.859	4.901	4.86	6.325
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	727	741	570
Service Time	3.864	2.984	2.93	4.327
HCM Lane V/C Ratio	0.026	0.382	0.854	0.142
HCM Control Delay	9	11	29.6	10.4
HCM Lane LOS	A	B	D	B
HCM 95th-tile Q	0.1	1.8	10	0.5

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	75	14
Future Vol, veh/h	0	19	212	14
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	5	0
Mvmt Flow	0	22	241	16
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B

Intersection													
Int Delay, s/veh		61.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWU	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	22	0	11	0	0	0	3	404	0	4	0	1379	2
Future Vol, veh/h	22	0	11	96	0	378	3	554	113	4	128	1390	2
Conflicting Peds, #/hr	0	0	3	0	0	0	3	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	320	-	100	-	310	-	200
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	89
Heavy Vehicles, %	5	0	0	25	0	50	0	10	26	0	33	5	0
Mvmt Flow	25	0	12	108	0	425	3	622	127	4	144	1562	2
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	2179	2490	787	1710	2490	311	1565	0	0	-	622	0	0
Stage 1	1861	1861	-	629	629	-	-	-	-	-	-	-	-
Stage 2	318	629	-	1081	1861	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.5	6.9	8	6.5	7.9	4.1	-	-	6.4	4.76	-	-
Critical Hdwy Stg 1	6.6	5.5	-	7	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.5	-	7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4	3.3	3.75	4	3.8	2.2	-	-	2.5	2.53	-	-
Pot Cap-1 Maneuver	25	30	339	~ 46	30	562	428	-	-	-	772	-	-
Stage 1	73	124	-	385	478	-	-	-	-	-	-	-	-
Stage 2	659	478	-	196	124	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	~ 6	30	337	~ 44	30	562	427	-	-	0	0	-	-
Mov Cap-2 Maneuver	~ 6	30	-	~ 44	30	-	-	-	-	-	-	-	-
Stage 1	72	124	-	382	475	-	-	-	-	-	-	-	-
Stage 2	160	475	-	188	124	-	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW			
HCM Control Delay, s	\$ 2218			196.4			0.1						
HCM LOS	F			F									
Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR	
Capacity (veh/h)	427	-	-	44	562	9	-	-	-	-	-	-	
HCM Lane V/C Ratio	0.008	-	-	2.451	0.756	4.12	-	-	-	-	-	-	
HCM Control Delay (s)	13.5	-	-	\$ 857.2	28.6	\$ 2218	-	-	-	-	-	-	
HCM Lane LOS	B	-	-	F	D	F	-	-	-	-	-	-	
HCM 95th %tile Q(veh)	0	-	-	11.5	6.7	5.9	-	-	-	-	-	-	
Notes													
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection													
Int Delay, s/veh		1.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWU	SWL	SWT	SWR
Lane Configurations		↕			↕	↗	↗	↗	↗		↗	↗	↗
Traffic Vol, veh/h	8	0	4	0	0	0	0	398	0	1	0	1382	2
Future Vol, veh/h	8	0	4	21	0	113	0	548	14	1	13	1476	2
Conflicting Peds, #/hr	4	0	4	0	0	0	4	0	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	315	-	100	-	300	-	340
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	36	0	12	0	0	0	0	16	0	0	0	12	60
Mvmt Flow	8	0	4	22	0	119	0	577	15	1	14	1554	2
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1879	2164	785	1387	2164	292	1558	0	0	-	577	0	0
Stage 1	1587	1587	-	577	577	-	-	-	-	-	-	-	-
Stage 2	292	577	-	810	1587	-	-	-	-	-	-	-	-
Critical Hdwy	8.22	6.5	7.14	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	7.22	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.22	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.86	4	3.42	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	30	48	315	104	48	710	430	-	-	-	1006	-	-
Stage 1	80	170	-	474	505	-	-	-	-	-	-	-	-
Stage 2	605	505	-	344	170	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	25	48	313	102	48	708	429	-	-	~ -14	~ -14	-	-
Mov Cap-2 Maneuver	25	48	-	102	48	-	-	-	-	-	-	-	-
Stage 1	80	169	-	474	505	-	-	-	-	-	-	-	-
Stage 2	502	505	-	338	169	-	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW			
HCM Control Delay, s	151.6			17.2			0						
HCM LOS	F			C									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	429	-	-	102	708	36	+	-	-				
HCM Lane V/C Ratio	-	-	-	0.217	0.168	0.351	-	-	-				
HCM Control Delay (s)	0	-	-	49.8	11.1	151.6	-	-	-				
HCM Lane LOS	A	-	-	E	B	F	-	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.8	0.6	1.2	-	-	-				
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon					

Intersection												
Int Delay, s/veh		10.9										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕↕	↕		↕↕	↕
Traffic Vol, veh/h	22	0	33	19	1	25	8	348	13	14	1356	23
Future Vol, veh/h	22	0	33	35	1	31	8	482	16	19	1466	23
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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
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, %	52	0	13	6	100	17	25	14	27	34	4	73
Mvmt Flow	24	0	36	38	1	34	9	524	17	21	1593	25
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1915	2176	797	1379	2176	262	1593	0	0	524	0	0
Stage 1	1635	1635	-	541	541	-	-	-	-	-	-	-
Stage 2	280	541	-	838	1635	-	-	-	-	-	-	-
Critical Hdwy	8.54	6.5	7.16	7.62	8.5	7.24	4.6	-	-	4.78	-	-
Critical Hdwy Stg 1	7.54	5.5	-	6.62	7.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.54	5.5	-	6.62	7.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.02	4	3.43	3.56	5	3.47	2.45	-	-	2.54	-	-
Pot Cap-1 Maneuver	~ 23	47	307	100	13	693	314	-	-	846	-	-
Stage 1	63	161	-	483	332	-	-	-	-	-	-	-
Stage 2	580	524	-	319	60	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 20	45	307	85	12	693	314	-	-	846	-	-
Mov Cap-2 Maneuver	~ 20	45	-	85	12	-	-	-	-	-	-	-
Stage 1	61	157	-	469	322	-	-	-	-	-	-	-
Stage 2	534	509	-	275	59	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	\$ 347.6			59.2			0.3			0.1		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	314	-	-	135	48	846	-	-				
HCM Lane V/C Ratio	0.028	-	-	0.539	1.245	0.024	-	-				
HCM Control Delay (s)	16.8	-	-	59.2	\$ 347.6	9.4	-	-				
HCM Lane LOS	C	-	-	F	F	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	2.6	5.5	0.1	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection

Int Delay, s/veh 209.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	120	209	602	140	159
Future Vol, veh/h	456	140	233	790	150	181
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	98	98	98	98	98	98
Heavy Vehicles, %	5	5	0	5	1	1
Mvmt Flow	465	143	238	806	153	185

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1819
Stage 1	-	-	537
Stage 2	-	-	1282
Critical Hdwy	-	4.1	6.41
Critical Hdwy Stg 1	-	-	5.41
Critical Hdwy Stg 2	-	-	5.41
Follow-up Hdwy	-	2.2	3.509
Pot Cap-1 Maneuver	-	980	~ 86
Stage 1	-	-	588
Stage 2	-	-	262
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	980	~ 48
Mov Cap-2 Maneuver	-	-	~ 48
Stage 1	-	-	588
Stage 2	-	-	~ 147

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	\$ 1225.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	96	-	-	980	-
HCM Lane V/C Ratio	3.518	-	-	0.243	-
HCM Control Delay (s)	\$ 1225.9	-	-	9.8	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	34	-	-	1	-

Notes

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

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	490	852	0	0	0
Future Vol, veh/h	0	644	1045	53	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	5	0	0	0
Mvmt Flow	0	700	1136	58	0	21
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1136
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	-	-	0	0	248
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	248
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		20.8	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	248			
HCM Lane V/C Ratio	-	-	0.083			
HCM Control Delay (s)	-	-	20.8			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	0.3			

Intersection

Int Delay, s/veh 407.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	490	852	0	0	0
Future Vol, veh/h	103	541	1037	228	339	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	5	0	0	0
Mvmt Flow	112	588	1127	248	368	66

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1127	0	1939
Stage 1	-	-	1127
Stage 2	-	-	812
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	627	-	~ 73
Stage 1	-	-	~ 312
Stage 2	-	-	440
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	627	-	~ 54
Mov Cap-2 Maneuver	-	-	~ 54
Stage 1	-	-	~ 312
Stage 2	-	-	~ 323

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	\$ 2349.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	627	-	-	-	54	251
HCM Lane V/C Ratio	0.179	-	-	-	6.824	0.264
HCM Control Delay (s)	12	0	-	\$ 2768.2	24.4	
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.6	-	-	-	42.6	1

Notes

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

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	490	852	0	0	0
Future Vol, veh/h	0	880	1236	86	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	4	0	0	0
Mvmt Flow	0	957	1343	93	0	32
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1343
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	-	-	0	0	188
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	188
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		28	
HCM LOS					D	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	188			
HCM Lane V/C Ratio	-	-	0.168			
HCM Control Delay (s)	-	-	28			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	0.6			

Intersection							
Int Delay, s/veh	3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Vol, veh/h	0	0	0	105	159	0	
Future Vol, veh/h	2	126	156	259	554	96	
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	5	21	0	
Mvmt Flow	2	137	170	282	602	104	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1275	654	707	0	-	0	
Stage 1	654	-	-	-	-	-	
Stage 2	621	-	-	-	-	-	
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	186	470	901	-	-	-	
Stage 1	521	-	-	-	-	-	
Stage 2	540	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	144	470	901	-	-	-	
Mov Cap-2 Maneuver	144	-	-	-	-	-	
Stage 1	521	-	-	-	-	-	
Stage 2	419	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	16.4	3.7		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	901	-	454	-	-		
HCM Lane V/C Ratio	0.188	-	0.306	-	-		
HCM Control Delay (s)	9.9	0	16.4	-	-		
HCM Lane LOS	A	A	C	-	-		
HCM 95th %tile Q(veh)	0.7	-	1.3	-	-		

Intersection						
Int Delay, s/veh	0.3					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	120	0	0	75	0	0
Future Vol, veh/h	551	13	11	202	1	6
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	92	92	92	92	92	92
Heavy Vehicles, %	21	0	0	6	0	0
Mvmt Flow	599	14	12	220	1	7
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	613	0	849	606
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	243	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	976	-	334	501
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	976	-	329	501
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	791	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		0.5		12.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	466	976	-	-	-	
HCM Lane V/C Ratio	0.016	0.012	-	-	-	
HCM Control Delay (s)	12.9	8.7	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

Intersection

Int Delay, s/veh 6.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	132	0	0	82	0	0
Future Vol, veh/h	505	36	23	187	105	71
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	92	92	92	92	92	92
Heavy Vehicles, %	15	67	48	1	60	61
Mvmt Flow	549	39	25	203	114	77

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	588	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.58	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.632	-
Pot Cap-1 Maneuver	-	-	796	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	796	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.1	32.8
HCM LOS			D

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	314	796	-	-	-
HCM Lane V/C Ratio	0.609	0.031	-	-	-
HCM Control Delay (s)	32.8	9.7	0	-	-
HCM Lane LOS	D	A	A	-	-
HCM 95th %tile Q(veh)	3.8	0.1	-	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations		↗	↗↗	↗		↗↗
Traffic Vol, veh/h	0	0	395	0	0	1393
Future Vol, veh/h	0	26	533	2	0	1508
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	7	0	0	3
Mvmt Flow	0	28	579	2	0	1639
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	290	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	713	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	713	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	NW		NE		SW	
HCM Control Delay, s	10.3		0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NWLn1	SWT			
Capacity (veh/h)	-	713	-			
HCM Lane V/C Ratio	-	0.04	-			
HCM Control Delay (s)	-	10.3	-			
HCM Lane LOS	-	B	-			
HCM 95th %tile Q(veh)	-	0.1	-			

Intersection

Int Delay, s/veh 2.4

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	0	27	45	0	0	0
Future Vol, veh/h	8	27	45	0	0	22
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	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	9	29	49	0	0	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	49	0	96
Stage 1	-	-	49
Stage 2	-	-	47
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1571	-	908
Stage 1	-	-	979
Stage 2	-	-	981
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1571	-	903
Mov Cap-2 Maneuver	-	-	903
Stage 1	-	-	979
Stage 2	-	-	975

Approach	SE	NW	SW
HCM Control Delay, s	1.7	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)	-	-	1571	-	1025
HCM Lane V/C Ratio	-	-	0.006	-	0.023
HCM Control Delay (s)	-	-	7.3	0	8.6
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0.1

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	770	2	213	270	99	12	32	294	71	12	29
Future Volume (vph)	128	861	2	213	603	231	12	32	294	200	12	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	150		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.865				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3505	0	1787	3195	1392	1805	1639	0	1583	1900	1568
Flt Permitted	0.345			0.158			0.749			0.237		
Satd. Flow (perm)	643	3505	0	297	3195	1392	1423	1639	0	395	1900	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						248		252				125
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		773			1128			539			503	
Travel Time (s)		9.6			14.0			10.5			8.6	
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
Heavy Vehicles (%)	2%	3%	0%	1%	13%	16%	0%	3%	0%	14%	0%	3%
Adj. Flow (vph)	138	926	2	229	648	248	13	34	316	215	13	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	928	0	229	648	248	13	350	0	215	13	125
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	2	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		10.0	22.0	22.0	22.0	22.0		10.0	22.0	22.0
Total Split (s)	13.0	29.0		13.0	29.0	29.0	25.0	25.0		13.0	38.0	38.0
Total Split (%)	16.3%	36.3%		16.3%	36.3%	36.3%	31.3%	31.3%		16.3%	47.5%	47.5%
Maximum Green (s)	7.0	23.0		7.0	23.0	23.0	19.0	19.0		7.0	32.0	32.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	29.2	22.3		30.7	25.3	25.3	10.8	10.8		23.9	23.9	23.9
Actuated g/C Ratio	0.41	0.31		0.43	0.35	0.35	0.15	0.15		0.33	0.33	0.33
v/c Ratio	0.37	0.85		0.84	0.57	0.38	0.06	0.76		0.86	0.02	0.21
Control Delay	14.5	33.0		43.5	23.4	5.1	25.2	20.1		53.0	15.2	4.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	14.5	33.0		43.5	23.4	5.1	25.2	20.1		53.0	15.2	4.2
LOS	B	C		D	C	A	C	C		D	B	A
Approach Delay		30.6			23.4			20.3			34.3	
Approach LOS		C			C			C			C	
90th %ile Green (s)	7.0	23.0		7.0	23.0	23.0	19.0	19.0		7.0	32.0	32.0
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Max		Max	Hold	Hold
70th %ile Green (s)	7.0	23.0		7.0	23.0	23.0	14.0	14.0		7.0	27.0	27.0
70th %ile Term Code	Max	Max		Max	Max	Max	Gap	Gap		Max	Hold	Hold
50th %ile Green (s)	7.0	23.0		7.0	23.0	23.0	10.3	10.3		7.0	23.3	23.3
50th %ile Term Code	Max	Max		Max	Hold	Hold	Gap	Gap		Max	Hold	Hold
30th %ile Green (s)	7.0	23.0		7.0	23.0	23.0	7.0	7.0		7.0	20.0	20.0
30th %ile Term Code	Max	Max		Max	Hold	Hold	Gap	Gap		Max	Hold	Hold
10th %ile Green (s)	0.0	19.2		7.0	32.2	32.2	5.5	5.5		7.0	18.5	18.5
10th %ile Term Code	Skip	Gap		Max	Hold	Hold	Gap	Gap		Max	Hold	Hold
Queue Length 50th (ft)	30	195		53	125	0	5	40		73	4	0
Queue Length 95th (ft)	74	#352		#204	211	52	19	121		#174	14	30
Internal Link Dist (ft)		693			1048			459			423	
Turn Bay Length (ft)	150			250		300	150			150		
Base Capacity (vph)	375	1136		274	1129	652	381	623		249	857	776
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.37	0.82		0.84	0.57	0.38	0.03	0.56		0.86	0.02	0.16

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 71.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 80

70th %ile Actuated Cycle: 75

50th %ile Actuated Cycle: 71.3

30th %ile Actuated Cycle: 68

10th %ile Actuated Cycle: 62.7

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd

 Ø1	 Ø2	 Ø3	 Ø4
13 s	25 s	13 s	29 s
 Ø6	 Ø7	 Ø8	
38 s	13 s	29 s	

Lanes, Volumes, Timings

2: Fulton Industrial Blvd & Riverside Dr/Tradewater Pkwy

02/03/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	23	11	22	44	30	45	98	1426	32	14	445	53
Future Volume (vph)	23	11	22	50	30	112	98	1509	106	203	754	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		165	300		215
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		0.99	0.97		0.99		0.99		0.97			0.94
Frt			0.850		0.921				0.850			0.850
Flt Protected		0.968			0.987		0.950			0.950		
Satd. Flow (prot)	0	1408	1252	0	1526	0	1736	3374	1292	1556	2888	1223
Flt Permitted		0.620			0.900		0.349			0.081		
Satd. Flow (perm)	0	894	1214	0	1389	0	631	3374	1255	133	2888	1155
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		69				109			56
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		480			749			714			1437	
Travel Time (s)		9.4			12.8			8.9			17.8	
Confl. Peds. (#/hr)	13		11	3		5	11		3	5		13
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
Heavy Vehicles (%)	46%	0%	29%	6%	10%	15%	4%	7%	25%	16%	25%	32%
Adj. Flow (vph)	24	12	23	53	32	119	104	1605	113	216	802	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	23	0	204	0	104	1605	113	216	802	56
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		6			2			4		3	8	
Permitted Phases	6		6	2			4		4	8		8
Detector Phase	6	6	6	2	2		4	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0		22.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	23.0	23.0	23.0	23.0	23.0		51.0	51.0	51.0	16.0	67.0	67.0
Total Split (%)	25.6%	25.6%	25.6%	25.6%	25.6%		56.7%	56.7%	56.7%	17.8%	74.4%	74.4%
Maximum Green (s)	17.0	17.0	17.0	17.0	17.0		45.0	45.0	45.0	10.0	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		Min	Min	Min	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0		0	0
Act Effct Green (s)		12.8	12.8		12.8		43.5	43.5	43.5	59.4	59.4	59.4
Actuated g/C Ratio		0.15	0.15		0.15		0.52	0.52	0.52	0.70	0.70	0.70
v/c Ratio		0.27	0.08		0.76		0.32	0.92	0.16	0.83	0.39	0.07

Lanes, Volumes, Timings

2: Fulton Industrial Blvd & Riverside Dr/Tradewater Pkwy

02/03/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Control Delay		36.9	0.6		41.0		16.4	30.2	3.4	46.7	6.2	1.6
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		36.9	0.6		41.0		16.4	30.2	3.4	46.7	6.2	1.6
LOS		D	A		D		B	C	A	D	A	A
Approach Delay		22.8			41.0			27.7			14.1	
Approach LOS		C			D			C			B	
90th %ile Green (s)	17.0	17.0	17.0	17.0	17.0		45.0	45.0	45.0	10.0	61.0	61.0
90th %ile Term Code	Hold	Hold	Hold	Max	Max		Max	Max	Max	Max	Hold	Hold
70th %ile Green (s)	17.0	17.0	17.0	17.0	17.0		45.0	45.0	45.0	10.0	61.0	61.0
70th %ile Term Code	Hold	Hold	Hold	Max	Max		Max	Max	Max	Max	Hold	Hold
50th %ile Green (s)	14.0	14.0	14.0	14.0	14.0		45.0	45.0	45.0	10.0	61.0	61.0
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap		Max	Max	Max	Max	Hold	Hold
30th %ile Green (s)	10.8	10.8	10.8	10.8	10.8		45.0	45.0	45.0	10.0	61.0	61.0
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap		Max	Max	Max	Max	Hold	Hold
10th %ile Green (s)	6.5	6.5	6.5	6.5	6.5		37.1	37.1	37.1	9.2	52.3	52.3
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap		Gap	Gap	Gap	Gap	Hold	Hold
Queue Length 50th (ft)		17	0		70		31	403	1	69	81	0
Queue Length 95th (ft)		45	0		146		73	#614	27	#204	126	11
Internal Link Dist (ft)		400			669			634			1357	
Turn Bay Length (ft)							300		165	300		215
Base Capacity (vph)		181	333		337		339	1815	725	263	2106	857
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.20	0.07		0.61		0.31	0.88	0.16	0.82	0.38	0.07

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 23.8

Intersection LOS: C

Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 90

70th %ile Actuated Cycle: 90

50th %ile Actuated Cycle: 87

30th %ile Actuated Cycle: 83.8

10th %ile Actuated Cycle: 70.8

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Fulton Industrial Blvd & Riverside Dr/Tradewater Pkwy

 Ø2	 Ø3	 Ø4
23 s	16 s	51 s
 Ø6	 Ø8	
23 s	67 s	

Woodbury 06/01/2016 Build AM All Trips (with improvements)

Synchro 9 Report

Page 4

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

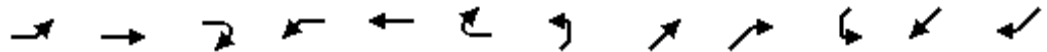
02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	530	648	51	43	217	46	67	957	201	18	191	141
Future Volume (vph)	589	691	51	57	250	249	67	1005	233	22	206	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				0.99							0.98
Frt		0.990			0.925				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1842	0	1770	1518	0	1805	3505	1615	1220	3282	1495
Flt Permitted	0.950			0.339			0.617			0.126		
Satd. Flow (perm)	3392	1842	0	631	1518	0	1172	3505	1615	162	3282	1461
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			11				203			163
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)	1					1				1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	2%	4%	2%	1%	29%	0%	3%	0%	48%	10%	8%
Adj. Flow (vph)	614	720	53	59	260	259	70	1047	243	23	215	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	614	773	0	59	519	0	70	1047	243	23	215	163
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2		2	6		6
Detector Phase	7	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	24.0	62.0		38.0	38.0		38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	24.0%	62.0%		38.0%	38.0%		38.0%	38.0%	38.0%	38.0%	38.0%	38.0%
Maximum Green (s)	18.0	56.0		32.0	32.0		32.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	18.0	56.0		32.0	32.0		31.7	31.7	31.7	31.7	31.7	31.7
Actuated g/C Ratio	0.18	0.56		0.32	0.32		0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	1.00	0.75		0.29	1.05		0.19	0.94	0.37	0.45	0.21	0.28

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

02/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Control Delay	78.5	22.0		30.5	88.2		26.3	49.6	7.7	59.2	25.4	5.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.5	22.0		30.5	88.2		26.3	49.6	7.7	59.2	25.4	5.4
LOS	E	C		C	F		C	D	A	E	C	A
Approach Delay		47.0			82.3			40.9			19.2	
Approach LOS		D			F			D			B	
90th %ile Green (s)	18.0	56.0		32.0	32.0		32.0	32.0	32.0	32.0	32.0	32.0
90th %ile Term Code	Max	Max		Max	Max		Max	Max	Max	Max	Max	Max
70th %ile Green (s)	18.0	56.0		32.0	32.0		32.0	32.0	32.0	32.0	32.0	32.0
70th %ile Term Code	Max	Hold		Max	Max		Max	Max	Max	Hold	Hold	Hold
50th %ile Green (s)	18.0	56.0		32.0	32.0		32.0	32.0	32.0	32.0	32.0	32.0
50th %ile Term Code	Max	Hold		Max	Max		Max	Max	Max	Hold	Hold	Hold
30th %ile Green (s)	18.0	56.0		32.0	32.0		32.0	32.0	32.0	32.0	32.0	32.0
30th %ile Term Code	Max	Hold		Max	Max		Max	Max	Max	Hold	Hold	Hold
10th %ile Green (s)	18.0	56.0		32.0	32.0		30.7	30.7	30.7	30.7	30.7	30.7
10th %ile Term Code	Max	Hold		Max	Max		Gap	Gap	Gap	Hold	Hold	Hold
Queue Length 50th (ft)	~204	348		28	~359		32	338	18	12	52	0
Queue Length 95th (ft)	#321	506		65	#564		67	#468	74	#49	81	45
Internal Link Dist (ft)		1464			595			759			2575	
Turn Bay Length (ft)	100			160			330		240	300		175
Base Capacity (vph)	614	1037		202	494		376	1124	655	51	1053	579
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.75		0.29	1.05		0.19	0.93	0.37	0.45	0.20	0.28

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 99.7

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 47.3

Intersection LOS: D

Intersection Capacity Utilization 90.3%

ICU Level of Service E

Analysis Period (min) 15

90th %ile Actuated Cycle: 100

70th %ile Actuated Cycle: 100

50th %ile Actuated Cycle: 100

30th %ile Actuated Cycle: 100

10th %ile Actuated Cycle: 98.7

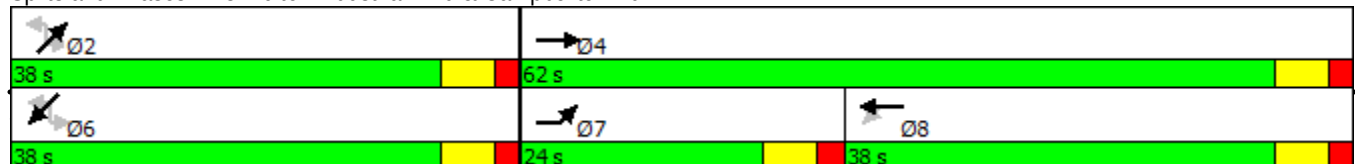
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd



Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	18	1	19	16	19	19	1409	53	6	518	265
Future Volume (vph)	129	18	1	19	16	19	19	1564	53	6	1035	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99			1.00				0.97
Frt		0.998			0.953			0.995				0.850
Flt Protected	0.950	0.964			0.983		0.950			0.950		
Satd. Flow (prot)	1383	1471	0	0	1771	0	1543	3302	0	1805	2865	1442
Flt Permitted	0.950	0.964			0.983		0.209			0.074		
Satd. Flow (perm)	1378	1467	0	0	1770	0	339	3302	0	141	2865	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			20			5				270
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		552			441			707			603	
Travel Time (s)		10.8			7.5			8.8			7.5	
Confl. Peds. (#/hr)	2		2	1		1	2		1	1		2
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
Heavy Vehicles (%)	24%	0%	0%	0%	0%	0%	17%	9%	0%	0%	26%	12%
Adj. Flow (vph)	139	19	1	20	17	20	20	1682	57	6	1113	285
Shared Lane Traffic (%)	43%											
Lane Group Flow (vph)	79	80	0	0	57	0	20	1739	0	6	1113	285
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	22.0	22.0		22.0	22.0		56.0	56.0		56.0	56.0	56.0
Total Split (%)	22.0%	22.0%		22.0%	22.0%		56.0%	56.0%		56.0%	56.0%	56.0%
Maximum Green (s)	16.0	16.0		16.0	16.0		50.0	50.0		50.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.2	10.2			7.4		55.4	55.4		55.4	55.4	55.4
Actuated g/C Ratio	0.12	0.12			0.09		0.66	0.66		0.66	0.66	0.66
v/c Ratio	0.48	0.45			0.33		0.09	0.80		0.07	0.59	0.28

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

02/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	45.3	43.4			32.3		11.2	19.3		12.2	13.7	2.5
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.3	43.4			32.3		11.2	19.3		12.2	13.7	2.5
LOS	D	D			C		B	B		B	B	A
Approach Delay		44.3			32.3			19.2			11.4	
Approach LOS		D			C			B			B	
90th %ile Green (s)	15.1	15.1		10.4	10.4		50.0	50.0		50.0	50.0	50.0
90th %ile Term Code	Gap	Gap		Gap	Gap		Max	Max		Max	Max	Max
70th %ile Green (s)	12.1	12.1		8.5	8.5		50.0	50.0		50.0	50.0	50.0
70th %ile Term Code	Gap	Gap		Gap	Gap		Max	Max		Hold	Hold	Hold
50th %ile Green (s)	10.2	10.2		7.2	7.2		50.0	50.0		50.0	50.0	50.0
50th %ile Term Code	Gap	Gap		Gap	Gap		Max	Max		Hold	Hold	Hold
30th %ile Green (s)	8.4	8.4		6.0	6.0		50.0	50.0		50.0	50.0	50.0
30th %ile Term Code	Gap	Gap		Gap	Gap		Max	Max		Hold	Hold	Hold
10th %ile Green (s)	0.0	0.0		0.0	0.0		65.0	65.0		65.0	65.0	65.0
10th %ile Term Code	Skip	Skip		Skip	Skip		Dwell	Dwell		Dwell	Dwell	Dwell
Queue Length 50th (ft)	42	42			19		4	393		1	195	3
Queue Length 95th (ft)	91	90			57		19	#698		9	330	41
Internal Link Dist (ft)		472			361			627			523	
Turn Bay Length (ft)							278			285		168
Base Capacity (vph)	265	282			355		223	2175		92	1886	1016
Starvation Cap Reductn	0	0			0		0	0		0	0	0
Spillback Cap Reductn	0	0			0		0	0		0	0	0
Storage Cap Reductn	0	0			0		0	0		0	0	0
Reduced v/c Ratio	0.30	0.28			0.16		0.09	0.80		0.07	0.59	0.28

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 84.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 93.5

70th %ile Actuated Cycle: 88.6

50th %ile Actuated Cycle: 85.4

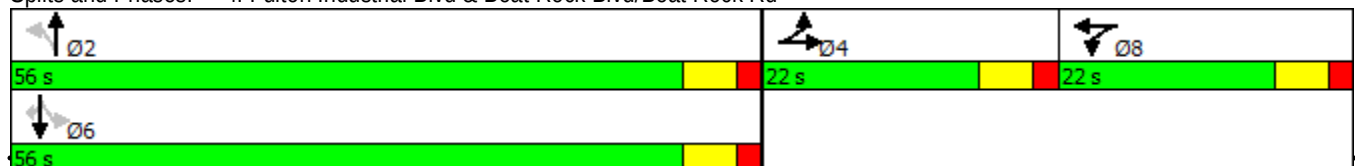
30th %ile Actuated Cycle: 82.4

10th %ile Actuated Cycle: 71

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd



Woodbury 06/01/2016 Build AM All Trips (with improvements)

Synchro 9 Report

Page 8

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	411	479	89	206	50	225	768	63	65	990	110
Future Volume (vph)	307	444	600	89	275	50	521	768	63	65	990	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3574	1509	1805	3505	1468	2918	3195	1615	1719	3282	1599
Flt Permitted	0.373			0.486			0.950			0.349		
Satd. Flow (perm)	709	3574	1509	923	3505	1468	2918	3195	1615	632	3282	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			315			229			164			229
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	7%	0%	3%	10%	20%	13%	0%	5%	10%	1%
Adj. Flow (vph)	320	463	625	93	286	52	543	800	66	68	1031	219
Shared Lane Traffic (%)												
Lane Group Flow (vph)	320	463	625	93	286	52	543	800	66	68	1031	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	16.0	28.0	28.0	10.0	22.0	22.0	24.0	51.0	51.0	11.0	38.0	38.0
Total Split (%)	16.0%	28.0%	28.0%	10.0%	22.0%	22.0%	24.0%	51.0%	51.0%	11.0%	38.0%	38.0%
Maximum Green (s)	10.0	22.0	22.0	4.0	16.0	16.0	18.0	45.0	45.0	5.0	32.0	32.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	30.7	22.8	22.8	18.6	14.6	14.6	18.0	47.4	47.4	37.0	32.0	32.0
Actuated g/C Ratio	0.31	0.23	0.23	0.19	0.15	0.15	0.18	0.48	0.48	0.37	0.32	0.32
v/c Ratio	0.97	0.56	1.06	0.44	0.55	0.13	1.02	0.52	0.08	0.23	0.97	0.33
Control Delay	74.2	37.3	74.3	34.6	43.2	0.6	85.5	20.4	0.2	14.2	55.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.2	37.3	74.3	34.6	43.2	0.6	85.5	20.4	0.2	14.2	55.0	4.5
LOS	E	D	E	C	D	A	F	C	A	B	D	A
Approach Delay	62.1			36.2			44.6			44.5		
Approach LOS	E			D			D			D		
90th %ile Green (s)	10.0	22.0	22.0	4.0	16.0	16.0	18.0	45.0	45.0	5.0	32.0	32.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Hold	Hold	Max	Max	Max
70th %ile Green (s)	10.0	22.0	22.0	4.0	16.0	16.0	18.0	45.0	45.0	5.0	32.0	32.0
70th %ile Term Code	Max	Max	Max	Max	Hold	Hold	Max	Hold	Hold	Max	Max	Max
50th %ile Green (s)	10.0	22.0	22.0	4.0	16.0	16.0	18.0	45.0	45.0	5.0	32.0	32.0
50th %ile Term Code	Max	Max	Max	Max	Hold	Hold	Max	Hold	Hold	Max	Max	Max
30th %ile Green (s)	10.0	22.0	22.0	4.0	16.0	16.0	18.0	45.0	45.0	5.0	32.0	32.0
30th %ile Term Code	Max	Max	Max	Max	Hold	Hold	Max	Hold	Hold	Max	Max	Max
10th %ile Green (s)	10.0	25.5	25.5	0.0	9.5	9.5	18.0	56.0	56.0	0.0	32.0	32.0
10th %ile Term Code	Max	Hold	Hold	Skip	Gap	Gap	Max	Hold	Hold	Skip	Max	Max
Queue Length 50th (ft)	167	140	~279	42	88	0	~192	191	0	19	341	0
Queue Length 95th (ft)	#349	192	#497	80	131	0	#297	250	0	38	#483	46
Internal Link Dist (ft)	1048			739			1138			1593		
Turn Bay Length (ft)	400		400	340		190	440		450	610		435
Base Capacity (vph)	331	824	590	209	568	430	532	1532	859	292	1065	673
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.56	1.06	0.44	0.50	0.12	1.02	0.52	0.08	0.23	0.97	0.33

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 98.7

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 49.2

Intersection LOS: D

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 100

70th %ile Actuated Cycle: 100

50th %ile Actuated Cycle: 100

30th %ile Actuated Cycle: 100

10th %ile Actuated Cycle: 93.5

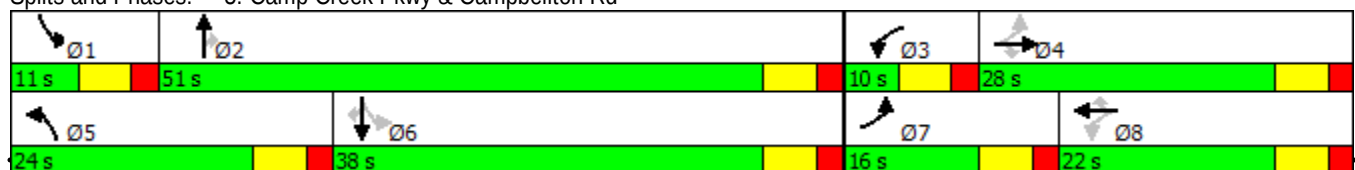
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd



Woodbury 06/01/2016 Build AM All Trips (with improvements)

Synchro 9 Report

Page 10

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕↗		↙	↕↗	↗
Traffic Vol, veh/h	6	4	12	3	5	23	21	1452	12	19	510	11
Future Vol, veh/h	6	4	12	3	5	28	21	1602	12	38	1008	11
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
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, %	50	0	0	33	0	15	5	8	0	6	26	10
Mvmt Flow	6	4	13	3	5	30	23	1723	13	41	1084	12
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2077	2949	543	2401	2942	870	1085	0	0	1736	0	0
Stage 1	1167	1167	-	1775	1775	-	-	-	-	-	-	-
Stage 2	910	1782	-	626	1167	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.5	6.9	8.16	6.5	7.2	4.2	-	-	4.22	-	-
Critical Hdwy Stg 1	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4	4	3.3	3.83	4	3.45	2.25	-	-	2.26	-	-
Pot Cap-1 Maneuver	17	15	489	11	15	270	621	-	-	342	-	-
Stage 1	141	270	-	61	137	-	-	-	-	-	-	-
Stage 2	215	136	-	371	270	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	9	13	489	7	13	270	621	-	-	342	-	-
Mov Cap-2 Maneuver	9	13	-	7	13	-	-	-	-	-	-	-
Stage 1	136	237	-	59	132	-	-	-	-	-	-	-
Stage 2	176	131	-	312	237	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	\$ 467.5			298.7			0.1			0.6		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	621	-	-	22	39	342	-	-				
HCM Lane V/C Ratio	0.036	-	-	1.075	0.993	0.119	-	-				
HCM Control Delay (s)	11	-	-	\$ 467.5	298.7	16.9	-	-				
HCM Lane LOS	B	-	-	F	F	C	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	3.1	3.8	0.4	-	-				
Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon					

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	9	0	0	0	0	88	0
Future Vol, veh/h	0	1	5	19	0	27	1	0	0	0	265	0
Peak Hour Factor	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	11	0
Mvmt Flow	0	1	5	19	0	27	1	0	0	0	268	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.8	8.5	9.7
HCM LOS	A	A	A

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	4%	2%	0%	96%
Vol Thru, %	20%	88%	100%	4%
Vol Right, %	76%	11%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	228	265	28
LT Vol	1	4	0	27
Through Vol	5	200	265	1
RT Vol	19	24	0	0
Lane Flow Rate	25	230	268	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.272	0.332	0.041
Departure Headway (Hd)	4.588	4.254	4.465	5.225
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	780	848	811	686
Service Time	2.617	2.27	2.465	3.254
HCM Lane V/C Ratio	0.032	0.271	0.33	0.041
HCM Control Delay	7.8	8.9	9.7	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	1.5	0.1

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	89	24
Future Vol, veh/h	0	4	200	24
Peak Hour Factor	0.92	0.99	0.99	0.99
Heavy Vehicles, %	2	0	17	0
Mvmt Flow	0	4	202	24
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	8.9
HCM LOS	A

Intersection													
Int Delay, s/veh		15.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWU	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	3	0	1	0	0	0	20	1504	0	4	0	397	29
Future Vol, veh/h	3	0	1	30	0	141	20	1520	211	4	219	493	29
Conflicting Peds, #/hr	0	0	3	0	0	0	3	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	320	-	100	-	310	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	95	92	95	92	92	92	95	95	92	95	92	95	95
Heavy Vehicles, %	0	0	1	20	0	35	0	3	40	0	57	10	0
Mvmt Flow	3	0	1	33	0	153	21	1600	229	4	238	519	31
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1848	2648	265	2389	2648	800	522	0	0	-	1600	0	0
Stage 1	1006	1006	-	1642	1642	-	-	-	-	-	-	-	-
Stage 2	842	1642	-	747	1006	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.9	6.5	7.6	4.1	-	-	6.4	5.24	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.9	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.9	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.7	4	3.65	2.2	-	-	2.5	2.77	-	-
Pot Cap-1 Maneuver	47	23	736	~ 14	23	266	1055	-	-	-	~ 220	-	-
Stage 1	262	321	-	87	159	-	-	-	-	-	-	-	-
Stage 2	329	159	-	333	321	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	20	22	732	~ 14	22	266	1052	-	-	0	0	-	-
Mov Cap-2 Maneuver	20	22	-	~ 14	22	-	-	-	-	-	-	-	-
Stage 1	256	320	-	85	156	-	-	-	-	-	-	-	-
Stage 2	137	156	-	332	320	-	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW			
HCM Control Delay, s	168.5			232.8			0.1						
HCM LOS	F			F									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	1052	-	-	14	266	26	-	-	-				
HCM Lane V/C Ratio	0.02	-	-	2.329	0.576	0.162	-	-	-				
HCM Control Delay (s)	8.5	-	\$ 1160.3	35.4	168.5	-	-	-	-				
HCM Lane LOS	A	-	-	F	E	F	-	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	4.8	3.3	0.5	-	-	-				
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon					

Intersection												
Int Delay, s/veh	1.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	0	0	0	0	0	5	1501	0	0	392	16
Future Vol, veh/h	4	0	0	3	0	17	5	1711	76	72	446	16
Conflicting Peds, #/hr	4	0	4	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	315	-	100	300	-	340
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	92	90	92	92	92	90	90	92	92	90	90
Heavy Vehicles, %	75	0	0	0	0	0	0	8	0	0	12	20
Mvmt Flow	4	0	0	3	0	18	6	1901	83	78	496	18
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1622	2568	256	2320	2568	955	500	0	0	1901	0	0
Stage 1	656	656	-	1912	1912	-	-	-	-	-	-	-
Stage 2	966	1912	-	408	656	-	-	-	-	-	-	-
Critical Hdwy	9	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	8	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	8	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.25	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	33	26	749	21	26	263	1075	-	-	317	-	-
Stage 1	283	465	-	72	117	-	-	-	-	-	-	-
Stage 2	166	117	-	596	465	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	19	744	17	19	262	1071	-	-	316	-	-
Mov Cap-2 Maneuver	25	19	-	17	19	-	-	-	-	-	-	-
Stage 1	280	349	-	72	116	-	-	-	-	-	-	-
Stage 2	153	116	-	447	349	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	177.9			56.1			0			2.7		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR				
Capacity (veh/h)	1071	-	-	17	262	25	316	-	-			
HCM Lane V/C Ratio	0.005	-	-	0.192	0.071	0.178	0.248	-	-			
HCM Control Delay (s)	8.4	-	-	261.5	19.8	177.9	20.1	-	-			
HCM Lane LOS	A	-	-	F	C	F	C	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0.5	1	-	-			

Intersection												
Int Delay, s/veh		1.7										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↗	↗	↗	↗	↗
Traffic Vol, veh/h	14	0	9	0	0	5	28	1504	21	17	338	26
Future Vol, veh/h	14	0	9	2	0	6	28	1797	38	42	370	26
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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	77	0	78	0	0	83	11	7	0	20	9	28
Mvmt Flow	15	0	9	2	0	6	29	1892	40	44	389	27
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1483	2429	195	2234	2429	946	389	0	0	1892	0	0
Stage 1	478	478	-	1951	1951	-	-	-	-	-	-	-
Stage 2	1005	1951	-	283	478	-	-	-	-	-	-	-
Critical Hdwy	9.04	6.5	8.46	7.5	6.5	8.56	4.32	-	-	4.5	-	-
Critical Hdwy Stg 1	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	8.04	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.27	4	4.08	3.5	4	4.13	2.31	-	-	2.4	-	-
Pot Cap-1 Maneuver	43	32	622	24	32	151	1104	-	-	248	-	-
Stage 1	380	559	-	68	112	-	-	-	-	-	-	-
Stage 2	153	112	-	706	559	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	26	622	20	26	151	1104	-	-	248	-	-
Mov Cap-2 Maneuver	35	26	-	20	26	-	-	-	-	-	-	-
Stage 1	370	460	-	66	109	-	-	-	-	-	-	-
Stage 2	143	109	-	572	460	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	105.8			55.2			0.1			2.2		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	1104	-	-	80	58	248	-	-				
HCM Lane V/C Ratio	0.027	-	-	0.105	0.417	0.178	-	-				
HCM Control Delay (s)	8.3	-	-	55.2	105.8	22.6	-	-				
HCM Lane LOS	A	-	-	F	F	C	-	-				
HCM 95th %tile O(veh)	0.1	-	-	0.3	1.6	0.6	-	-				

Intersection

Int Delay, s/veh 52.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	777	99	121	209	115	266
Future Vol, veh/h	852	103	131	444	130	280
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	375	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	16	2	1
Mvmt Flow	916	111	141	477	140	301

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1731
Stage 1	-	-	972
Stage 2	-	-	759
Critical Hdwy	-	4.11	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.209	3.518
Pot Cap-1 Maneuver	-	680	~ 97
Stage 1	-	-	367
Stage 2	-	-	462
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	680	~ 70
Mov Cap-2 Maneuver	-	-	~ 70
Stage 1	-	-	367
Stage 2	-	-	332

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	244.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	70	308	-	-	680	-
HCM Lane V/C Ratio	1.997	0.978	-	-	0.207	-
HCM Control Delay (s)	\$ 591.4	83.5	-	-	11.7	0
HCM Lane LOS	F	F	-	-	B	A
HCM 95th %tile Q(veh)	12.8	10.2	-	-	0.8	-

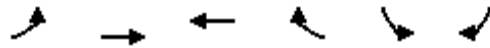
Notes

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

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	826	311	0	0	0
Future Vol, veh/h	0	915	550	31	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	14	0	0	0
Mvmt Flow	0	995	598	34	0	7
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	598
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	-	-	0	0	506
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	506
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		12.2	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	506			
HCM Lane V/C Ratio	-	-	0.013			
HCM Control Delay (s)	-	-	12.2			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0			

Lanes, Volumes, Timings
58: Campbellton Rd & Dwy # 2 (F)

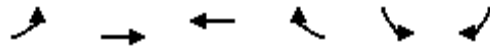
02/03/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰	↰	↰	↰
Traffic Volume (vph)	0	826	311	0	0	0
Future Volume (vph)	56	859	558	136	132	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.997			0.950	
Satd. Flow (prot)	0	1859	1681	1615	1805	1615
Flt Permitted		0.997			0.950	
Satd. Flow (perm)	0	1859	1681	1615	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				148		25
Link Speed (mph)		55	55		30	
Link Distance (ft)		428	626		724	
Travel Time (s)		5.3	7.8		16.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	13%	0%	0%	0%
Adj. Flow (vph)	61	934	607	148	143	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	995	607	148	143	25
Turn Type		NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	43.0	43.0	43.0	43.0	22.0	22.0
Total Split (%)	66.2%	66.2%	66.2%	66.2%	33.8%	33.8%
Maximum Green (s)	37.0	37.0	37.0	37.0	16.0	16.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)		34.3	34.3	34.3	9.8	9.8
Actuated g/C Ratio		0.61	0.61	0.61	0.17	0.17
v/c Ratio		0.88	0.59	0.14	0.46	0.08
Control Delay		21.6	10.1	1.6	26.7	9.7
Queue Delay		0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
58: Campbellton Rd & Dwy # 2 (F)

02/03/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay		21.6	10.1	1.6	26.7	9.7
LOS		C	B	A	C	A
Approach Delay		21.6	8.5		24.2	
Approach LOS		C	A		C	
90th %ile Green (s)	37.0	37.0	37.0	37.0	14.0	14.0
90th %ile Term Code	Max	Max	Max	Max	Gap	Gap
70th %ile Green (s)	37.0	37.0	37.0	37.0	11.5	11.5
70th %ile Term Code	Max	Max	Hold	Hold	Gap	Gap
50th %ile Green (s)	37.0	37.0	37.0	37.0	9.9	9.9
50th %ile Term Code	Max	Max	Hold	Hold	Gap	Gap
30th %ile Green (s)	35.3	35.3	35.3	35.3	8.3	8.3
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	25.4	25.4	25.4	25.4	6.2	6.2
10th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
Queue Length 50th (ft)		237	105	0	46	0
Queue Length 95th (ft)		#576	224	18	92	16
Internal Link Dist (ft)		348	546		644	
Turn Bay Length (ft)				100		
Base Capacity (vph)		1242	1123	1128	521	484
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.80	0.54	0.13	0.27	0.05

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 56.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 16.7
Intersection LOS: B
Intersection Capacity Utilization 48.5%
ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 63
70th %ile Actuated Cycle: 60.5
50th %ile Actuated Cycle: 58.9
30th %ile Actuated Cycle: 55.6
10th %ile Actuated Cycle: 43.6
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 58: Campbellton Rd & Dwy # 2 (F)



Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	826	311	0	0	0
Future Vol, veh/h	0	991	686	45	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	11	0	0	0
Mvmt Flow	0	1077	746	49	0	9

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	- 0	- 0	- 746
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 -	- 0	0 417
Stage 1	0 -	- 0	0 -
Stage 2	0 -	- 0	0 -
Platoon blocked, %	- -	- -	- -
Mov Cap-1 Maneuver	- -	- -	- 417
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	- -	- 417	
HCM Lane V/C Ratio	- -	- 0.021	
HCM Control Delay (s)	- -	- 13.8	
HCM Lane LOS	- -	- B	
HCM 95th %tile Q(veh)	- -	- 0.1	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	149	104	0
Future Vol, veh/h	0	49	91	264	271	47
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	14	11	0
Mvmt Flow	0	53	99	287	295	51
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	805	320	346	0	-	0
Stage 1	320	-	-	-	-	-
Stage 2	485	-	-	-	-	-
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	355	725	1224	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	725	1224	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.4	2.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1224	-	725	-	-	
HCM Lane V/C Ratio	0.081	-	0.073	-	-	
HCM Control Delay (s)	8.2	0	10.4	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.2	-	-	

Intersection

Int Delay, s/veh 0.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	88	0	0	89	0	0
Future Vol, veh/h	253	9	2	199	2	12
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	92	92	92	92	92	92
Heavy Vehicles, %	12	0	0	18	0	0
Mvmt Flow	275	10	2	216	2	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	285	0	501	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1289	-	533	764
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1289	-	532	764
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	819	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	719	1289	-	-	-
HCM Lane V/C Ratio	0.021	0.002	-	-	-
HCM Control Delay (s)	10.1	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection

Int Delay, s/veh 2.2

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	57	0	0	119	0	0
Future Vol, veh/h	214	106	68	163	29	17
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	92	92	92	92	92	92
Heavy Vehicles, %	9	66	50	1	59	65
Mvmt Flow	233	115	74	177	32	18

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	615
Stage 1	-	-	290
Stage 2	-	-	325
Critical Hdwy	-	4.6	6.99
Critical Hdwy Stg 1	-	-	5.99
Critical Hdwy Stg 2	-	-	5.99
Follow-up Hdwy	-	2.65	4.031
Pot Cap-1 Maneuver	-	987	374
Stage 1	-	-	646
Stage 2	-	-	620
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	987	343
Mov Cap-2 Maneuver	-	-	343
Stage 1	-	-	646
Stage 2	-	-	569

Approach	SE	NW	NE
HCM Control Delay, s	0	2.6	15
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	411	987	-	-	-
HCM Lane V/C Ratio	0.122	0.075	-	-	-
HCM Control Delay (s)	15	8.9	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0.2	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations		↗	↗↗	↗		↗↗
Traffic Vol, veh/h	0	0	1523	0	0	381
Future Vol, veh/h	0	4	1805	12	0	438
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	7	0	0	3
Mvmt Flow	0	4	1962	13	0	476
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	981	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	252	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	252	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	NW		NE		SW	
HCM Control Delay, s	19.5		0		0	
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NWLn1	SWT			
Capacity (veh/h)	-	252	-			
HCM Lane V/C Ratio	-	0.017	-			
HCM Control Delay (s)	-	19.5	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	0.1	-			

Intersection						
Int Delay, s/veh	3.7					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	0	38	5	0	0	0
Future Vol, veh/h	42	38	5	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	46	41	5	0	0	3
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	5	0	-	0	138	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	860	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	835	1084
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	872	-
Approach	SE		NW		SW	
HCM Control Delay, s	3.8		0		8.3	
HCM LOS					A	
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	1630	-	1084	
HCM Lane V/C Ratio	-	-	0.028	-	0.003	
HCM Control Delay (s)	-	-	7.3	0	8.3	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	-	0	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	460	8	126	790	91	25	8	165	124	15	37
Future Volume (vph)	186	686	8	126	1107	237	25	8	165	492	15	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		300	150		0	450		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.857				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3499	0	1805	3471	1538	1805	1613	0	1480	1776	1538
Flt Permitted	0.075			0.253			0.747			0.267		
Satd. Flow (perm)	142	3499	0	481	3471	1538	1419	1613	0	416	1776	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				153		176				202
Link Speed (mph)		55			55			35			40	
Link Distance (ft)		773			1128			539			503	
Travel Time (s)		9.6			14.0			10.5			8.6	
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
Heavy Vehicles (%)	0%	3%	0%	0%	4%	5%	0%	0%	1%	22%	7%	5%
Adj. Flow (vph)	198	730	9	134	1178	252	27	9	176	523	16	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	739	0	134	1178	252	27	185	0	523	16	202
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Free	Perm	NA		pm+pt	NA	Free
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		Free	8			4		Free
Detector Phase	1	6		5	2		8	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		22.0	22.0		10.0	22.0	
Total Split (s)	18.0	59.0		16.0	57.0		22.0	22.0		53.0	75.0	
Total Split (%)	12.0%	39.3%		10.7%	38.0%		14.7%	14.7%		35.3%	50.0%	
Maximum Green (s)	12.0	53.0		10.0	51.0		16.0	16.0		47.0	69.0	

Lanes, Volumes, Timings

1: Union Rd/Riverside Dr & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0			0		0	0			0	
Act Effct Green (s)	65.5	53.5		60.5	51.0	143.0	9.0	9.0		62.0	62.0	143.0
Actuated g/C Ratio	0.46	0.37		0.42	0.36	1.00	0.06	0.06		0.43	0.43	1.00
v/c Ratio	0.97	0.56		0.46	0.95	0.16	0.31	0.70		0.99	0.02	0.13
Control Delay	93.0	38.0		27.1	61.3	0.2	72.5	24.6		74.7	22.9	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	93.0	38.0		27.1	61.3	0.2	72.5	24.6		74.7	22.9	0.2
LOS	F	D		C	E	A	E	C		E	C	A
Approach Delay		49.6			48.5			30.7			53.2	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	133	284		67	554	0	24	8		438	8	0
Queue Length 95th (ft)	#319	376		119	#758	0	58	87		#696	23	0
Internal Link Dist (ft)		693			1048			459			423	
Turn Bay Length (ft)	150			250		300	150			450		100
Base Capacity (vph)	204	1309		297	1238	1538	158	336		529	857	1538
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.97	0.56		0.45	0.95	0.16	0.17	0.55		0.99	0.02	0.13

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 143

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 48.7

Intersection LOS: D

Intersection Capacity Utilization 62.7%

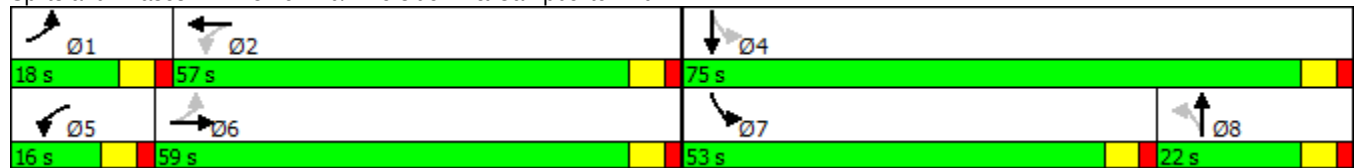
ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Union Rd/Riverside Dr & Campbellton Rd



Lanes, Volumes, Timings

2: Fulton Industrial Blvd & Riverside Dr/Tradewater Pkwy

02/03/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	46	32	115	35	19	28	26	495	50	50	1231	39
Future Volume (vph)	46	32	115	51	19	222	26	810	263	246	1354	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		165	300		215
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00	0.97		0.98				0.97	1.00		0.94
Frt			0.850		0.897				0.850			0.850
Flt Protected		0.972			0.991		0.950			0.950		
Satd. Flow (prot)	0	1594	1524	0	1359	0	1456	2888	1252	1656	3312	1196
Flt Permitted		0.480			0.918		0.117			0.292		
Satd. Flow (perm)	0	783	1478	0	1258	0	179	2888	1217	507	3312	1130
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45		163				292			43
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		480			749			714			1437	
Travel Time (s)		9.4			12.8			8.9			17.8	
Confl. Peds. (#/hr)	13		11	3		5	11		3	5		13
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
Heavy Vehicles (%)	27%	0%	6%	2%	0%	29%	24%	25%	29%	9%	9%	35%
Adj. Flow (vph)	51	36	128	57	21	247	29	900	292	273	1504	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	128	0	325	0	29	900	292	273	1504	43
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2			4		4	8		8
Detector Phase	6	6	6	2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0		64.0	64.0	64.0	64.0	64.0	64.0

Lanes, Volumes, Timings

2: Fulton Industrial Blvd & Riverside Dr/Tradewater Pkwy

02/03/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Total Split (%)	28.9%	28.9%	28.9%	28.9%	28.9%		71.1%	71.1%	71.1%	71.1%	71.1%	71.1%
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0		58.0	58.0	58.0	58.0	58.0	58.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0	0	0	0
Act Effct Green (s)		15.6	15.6		15.6		48.9	48.9	48.9	48.9	48.9	48.9
Actuated g/C Ratio		0.20	0.20		0.20		0.63	0.63	0.63	0.63	0.63	0.63
v/c Ratio		0.55	0.38		0.85		0.26	0.49	0.33	0.85	0.72	0.06
Control Delay		45.1	24.0		37.9		13.6	8.8	1.9	39.7	12.0	2.2
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		45.1	24.0		37.9		13.6	8.8	1.9	39.7	12.0	2.2
LOS		D	C		D		B	A	A	D	B	A
Approach Delay		32.6			37.9			7.2			16.0	
Approach LOS		C			D			A			B	
Queue Length 50th (ft)		44	39		88		6	120	0	104	254	0
Queue Length 95th (ft)		94	90		#232		24	166	27	#284	338	11
Internal Link Dist (ft)		400			669			634			1357	
Turn Bay Length (ft)							300		165	300		215
Base Capacity (vph)		216	441		466		134	2170	987	380	2488	859
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.40	0.29		0.70		0.22	0.41	0.30	0.72	0.60	0.05

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 77.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

Intersection LOS: B

Intersection Capacity Utilization 65.0%

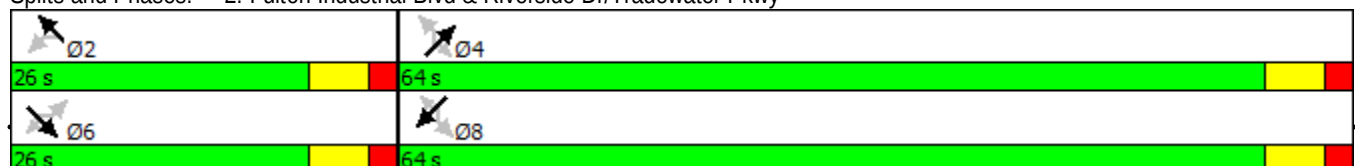
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Fulton Industrial Blvd & Riverside Dr/Tradewater Pkwy



Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

02/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔↔	↔		↔	↔		↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	111	272	55	127	601	28	51	225	91	78	775	576
Future Volume (vph)	137	347	55	163	674	117	51	247	148	98	825	632
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	160		0	330		240	300		175
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				1.00					1.00		0.98
Frt		0.979			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3127	1819	0	1752	1769	0	1770	3312	1615	1492	3471	1568
Flt Permitted	0.950			0.519			0.177			0.594		
Satd. Flow (perm)	3123	1819	0	957	1769	0	330	3312	1615	931	3471	1532
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			11				153			229
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1544			675			839			2655	
Travel Time (s)		19.1			8.4			10.4			32.9	
Confl. Peds. (#/hr)	1					1				1		1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	12%	2%	4%	3%	1%	27%	2%	9%	0%	21%	4%	3%
Adj. Flow (vph)	141	358	57	168	695	121	53	255	153	101	851	652
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	415	0	168	816	0	53	255	153	101	851	652
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2		2	6		6
Detector Phase	7	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	11.0	60.0		49.0	49.0		40.0	40.0	40.0	40.0	40.0	40.0

Lanes, Volumes, Timings

3: Fulton Industrial Blvd & Campbellton Rd

02/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Total Split (%)	11.0%	60.0%		49.0%	49.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	5.0	54.0		43.0	43.0		34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effect Green (s)	5.0	54.0		43.0	43.0		33.9	33.9	33.9	33.9	33.9	33.9
Actuated g/C Ratio	0.05	0.54		0.43	0.43		0.34	0.34	0.34	0.34	0.34	0.34
v/c Ratio	0.90	0.42		0.41	1.06		0.47	0.23	0.24	0.32	0.72	0.97
Control Delay	99.1	14.9		23.5	80.0		42.8	24.3	4.9	28.0	33.1	50.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.1	14.9		23.5	80.0		42.8	24.3	4.9	28.0	33.1	50.8
LOS	F	B		C	E		D	C	A	C	C	D
Approach Delay		36.2			70.4			20.0			40.0	
Approach LOS		D			E			B			D	
Queue Length 50th (ft)	46	144		72	~574		26	60	0	47	247	291
Queue Length 95th (ft)	#105	216		131	#808		#72	92	42	93	318	#537
Internal Link Dist (ft)		1464			595			759			2575	
Turn Bay Length (ft)	100			160			330		240	300		175
Base Capacity (vph)	156	988		411	767		112	1127	650	316	1181	672
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.42		0.41	1.06		0.47	0.23	0.24	0.32	0.72	0.97

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 99.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 45.1

Intersection LOS: D

Intersection Capacity Utilization 87.4%

ICU Level of Service E

Analysis Period (min) 15

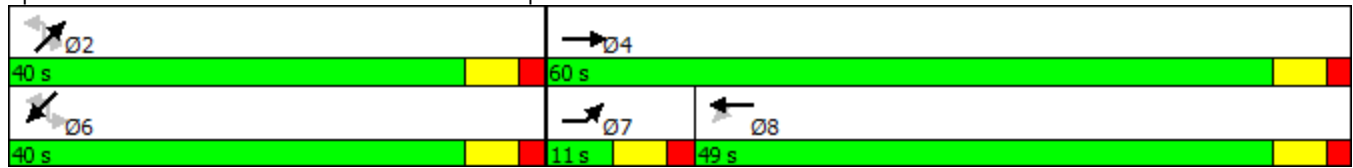
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Fulton Industrial Blvd & Campbellton Rd



Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	17	18	49	5	24	1	631	19	27	1200	59
Future Volume (vph)	213	17	18	49	5	24	1	1142	19	27	1568	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	278		0	285		168
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00			0.99			1.00				0.97
Frt		0.978			0.959			0.998				0.850
Flt Protected	0.950	0.966			0.969		0.950			0.950		
Satd. Flow (prot)	1573	1573	0	0	1758	0	1805	2891	0	1805	3252	1223
Flt Permitted	0.950	0.966			0.969		0.092			0.153		
Satd. Flow (perm)	1568	1569	0	0	1757	0	175	2891	0	291	3252	1192
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			21			2				109
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		552			441			707			603	
Travel Time (s)		10.8			7.5			8.8			7.5	
Confl. Peds. (#/hr)	2		2	1		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	0%	12%	0%	0%	0%	0%	25%	0%	0%	11%	32%
Adj. Flow (vph)	224	18	19	52	5	25	1	1202	20	28	1651	62
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	132	129	0	0	82	0	1	1222	0	28	1651	62
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	22.0	22.0		22.0	22.0		46.0	46.0		46.0	46.0	46.0

Lanes, Volumes, Timings

4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd

02/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	24.4%	24.4%		24.4%	24.4%		51.1%	51.1%		51.1%	51.1%	51.1%
Maximum Green (s)	16.0	16.0		16.0	16.0		40.0	40.0		40.0	40.0	40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min		Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effect Green (s)	11.6	11.6			8.2		43.3	43.3		43.3	43.3	43.3
Actuated g/C Ratio	0.15	0.15			0.10		0.55	0.55		0.55	0.55	0.55
v/c Ratio	0.57	0.54			0.41		0.01	0.77		0.18	0.92	0.09
Control Delay	41.5	38.1			32.4		12.0	20.7		16.0	29.7	1.0
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	41.5	38.1			32.4		12.0	20.7		16.0	29.7	1.0
LOS	D	D			C		B	C		B	C	A
Approach Delay		39.8			32.4			20.7			28.5	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	63	57			28		0	245		7	390	0
Queue Length 95th (ft)	125	117			71		3	#455		28	#668	6
Internal Link Dist (ft)		472			361			627			523	
Turn Bay Length (ft)							278			285		168
Base Capacity (vph)	320	326			374		96	1590		159	1788	704
Starvation Cap Reductn	0	0			0		0	0		0	0	0
Spillback Cap Reductn	0	0			0		0	0		0	0	0
Storage Cap Reductn	0	0			0		0	0		0	0	0
Reduced v/c Ratio	0.41	0.40			0.22		0.01	0.77		0.18	0.92	0.09

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 78.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 26.6

Intersection LOS: C

Intersection Capacity Utilization 54.4%

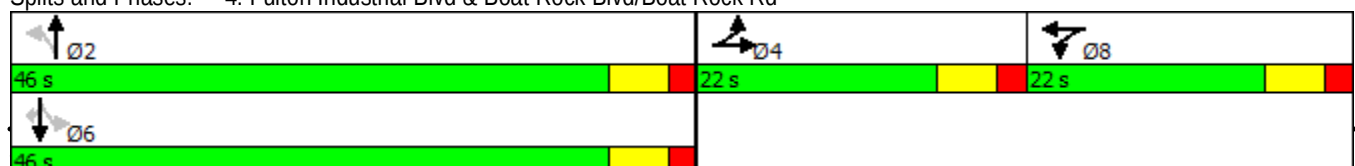
ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Fulton Industrial Blvd & Boat Rock Blvd/Boat Rock Rd



Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

02/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	247	359	112	336	159	463	989	101	82	765	235
Future Volume (vph)	290	349	708	112	400	159	705	989	101	82	765	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	340		190	440		450	610		435
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3438	1380	1787	3574	1583	3303	3282	1615	1752	3252	1615
Flt Permitted	0.248			0.535			0.950			0.260		
Satd. Flow (perm)	467	3438	1380	1006	3574	1583	3303	3282	1615	480	3252	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			429			268			208			268
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1128			819			1218			1673	
Travel Time (s)		14.0			10.2			15.1			20.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	5%	17%	1%	1%	2%	6%	10%	0%	3%	11%	0%
Adj. Flow (vph)	302	364	738	117	417	166	734	1030	105	85	797	408
Shared Lane Traffic (%)												
Lane Group Flow (vph)	302	364	738	117	417	166	734	1030	105	85	797	408
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	21.0	36.0	36.0	10.0	25.0	25.0	30.0	52.0	52.0	12.0	34.0	34.0
Total Split (%)	19.1%	32.7%	32.7%	9.1%	22.7%	22.7%	27.3%	47.3%	47.3%	10.9%	30.9%	30.9%
Maximum Green (s)	15.0	30.0	30.0	4.0	19.0	19.0	24.0	46.0	46.0	6.0	28.0	28.0

Lanes, Volumes, Timings

5: Camp Creek Pkwy & Campbellton Rd

02/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	40.0	30.0	30.0	23.0	19.0	19.0	24.0	48.4	48.4	34.0	28.0	28.0
Actuated g/C Ratio	0.36	0.27	0.27	0.21	0.17	0.17	0.22	0.44	0.44	0.31	0.25	0.25
v/c Ratio	0.87	0.39	1.07	0.49	0.67	0.34	1.02	0.71	0.13	0.39	0.96	0.67
Control Delay	52.9	34.0	73.0	37.2	48.8	1.8	81.5	29.3	0.3	21.8	64.7	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	34.0	73.0	37.2	48.8	1.8	81.5	29.3	0.3	21.8	64.7	18.4
LOS	D	C	E	D	D	A	F	C	A	C	E	B
Approach Delay		58.6			35.7			48.2			47.2	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	162	110	~343	56	146	0	~276	318	0	29	293	84
Queue Length 95th (ft)	#278	154	#579	98	201	0	#402	400	0	54	#421	197
Internal Link Dist (ft)		1048			739			1138			1593	
Turn Bay Length (ft)	400		400	340		190	440		450	610		435
Base Capacity (vph)	349	937	688	238	618	495	720	1444	827	217	827	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.39	1.07	0.49	0.67	0.34	1.02	0.71	0.13	0.39	0.96	0.67

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 49.1

Intersection LOS: D

Intersection Capacity Utilization 71.8%

ICU Level of Service C

Analysis Period (min) 15

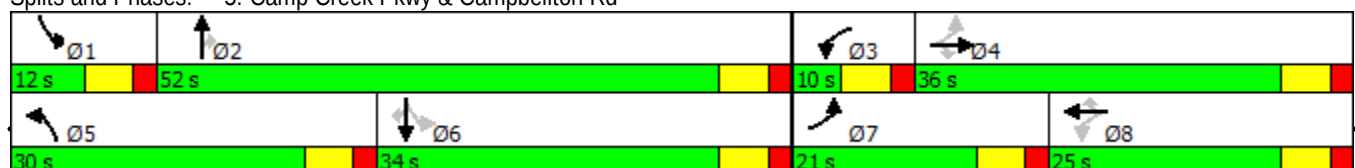
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Camp Creek Pkwy & Campbellton Rd



Intersection

Int Delay, s/veh 20.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Traffic Vol, veh/h	21	0	33	20	0	29	2	592	5	21	1257	7
Future Vol, veh/h	21	0	33	20	0	31	2	1101	5	70	1576	7
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	311	-	-	270	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	25	0	3	5	0	7	0	25	0	3	10	57
Mvmt Flow	22	0	35	21	0	33	2	1159	5	74	1659	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2392	2976	830	2144	2974	584	1660	0	0	1165	0	0
Stage 1	1807	1807	-	1167	1167	-	-	-	-	-	-	-
Stage 2	585	1169	-	977	1807	-	-	-	-	-	-	-
Critical Hdwy	8	6.5	6.96	7.6	6.5	7.04	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7	5.5	-	6.6	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.75	4	3.33	3.55	4	3.37	2.2	-	-	2.23	-	-
Pot Cap-1 Maneuver	~ 13	14	311	26	14	443	393	-	-	590	-	-
Stage 1	63	132	-	201	270	-	-	-	-	-	-	-
Stage 2	411	269	-	263	132	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 11	12	311	~ 21	12	442	393	-	-	590	-	-
Mov Cap-2 Maneuver	~ 11	12	-	~ 21	12	-	-	-	-	-	-	-
Stage 1	63	115	-	200	268	-	-	-	-	-	-	-
Stage 2	378	267	-	204	115	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 820.8	280.8	0	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	393	-	-	27 50	590	-	-
HCM Lane V/C Ratio	0.005	-	-	2.105 1.074	0.125	-	-
HCM Control Delay (s)	14.2	-	-	\$ 820.8 280.8	12	-	-
HCM Lane LOS	B	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	6.8 4.7	0.4	-	-

Notes

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

Intersection

Intersection Delay, s/veh 22.6

Intersection LOS C

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	0	21	1	0	0	0	119	1
Future Vol, veh/h	0	1	2	11	0	66	5	0	0	0	556	1
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	21	0
Mvmt Flow	0	1	2	13	0	75	6	0	0	0	632	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE
Opposing Approach	SB	NB	NW
Opposing Lanes	1	1	1
Conflicting Approach Left	SE	NW	SB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NW	SE	NB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9	10.4	29.6
HCM LOS	A	B	D

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	7%	8%	0%	93%
Vol Thru, %	14%	87%	100%	7%
Vol Right, %	79%	6%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	245	557	71
LT Vol	1	19	0	66
Through Vol	2	212	556	5
RT Vol	11	14	1	0
Lane Flow Rate	16	278	633	81
Geometry Grp	1	1	1	1
Degree of Util (X)	0.026	0.379	0.854	0.142
Departure Headway (Hd)	5.859	4.901	4.86	6.325
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	727	741	570
Service Time	3.864	2.984	2.93	4.327
HCM Lane V/C Ratio	0.026	0.382	0.854	0.142
HCM Control Delay	9	11	29.6	10.4
HCM Lane LOS	A	B	D	B
HCM 95th-tile Q	0.1	1.8	10	0.5

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	NWU	NWL	NWT	NWR
Lane Configurations				
Traffic Vol, veh/h	0	0	75	14
Future Vol, veh/h	0	19	212	14
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	0	5	0
Mvmt Flow	0	22	241	16
Number of Lanes	0	0	1	0

Approach	NW
Opposing Approach	SE
Opposing Lanes	1
Conflicting Approach Left	NB
Conflicting Lanes Left	1
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B

Intersection

Int Delay, s/veh 61.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWU	SWL	SWT	SWR
Lane Configurations		↕			↕	↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	22	0	11	0	0	0	3	404	0	4	0	1379	2
Future Vol, veh/h	22	0	11	96	0	378	3	554	113	4	128	1390	2
Conflicting Peds, #/hr	0	0	3	0	0	0	3	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	320	-	100	-	310	-	200
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	89
Heavy Vehicles, %	5	0	0	25	0	50	0	10	26	0	33	5	0
Mvmt Flow	25	0	12	108	0	425	3	622	127	4	144	1562	2

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	2179	2490	787	1710	2490	311	1565	0	0	-	622	0	0
Stage 1	1861	1861	-	629	629	-	-	-	-	-	-	-	-
Stage 2	318	629	-	1081	1861	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.5	6.9	8	6.5	7.9	4.1	-	-	6.4	4.76	-	-
Critical Hdwy Stg 1	6.6	5.5	-	7	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.5	-	7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4	3.3	3.75	4	3.8	2.2	-	-	2.5	2.53	-	-
Pot Cap-1 Maneuver	25	30	339	~ 46	30	562	428	-	-	-	772	-	-
Stage 1	73	124	-	385	478	-	-	-	-	-	-	-	-
Stage 2	659	478	-	196	124	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	~ 6	30	337	~ 44	30	562	427	-	-	0	0	-	-
Mov Cap-2 Maneuver	~ 6	30	-	~ 44	30	-	-	-	-	-	-	-	-
Stage 1	72	124	-	382	475	-	-	-	-	-	-	-	-
Stage 2	160	475	-	188	124	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	\$ 2218	196.4	0.1	
HCM LOS	F	F		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR
Capacity (veh/h)	427	-	-	44	562	9	-	-
HCM Lane V/C Ratio	0.008	-	-	2.451	0.756	4.12	-	-
HCM Control Delay (s)	13.5	-	-	\$ 857.2	28.6	\$ 2218	-	-
HCM Lane LOS	B	-	-	F	D	F	-	-
HCM 95th %tile Q(veh)	0	-	-	11.5	6.7	5.9	-	-

Notes

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

Intersection

Int Delay, s/veh 1.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWU	SWL	SWT	SWR
Lane Configurations		↕			↕	↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	8	0	4	0	0	0	0	398	0	1	0	1382	2
Future Vol, veh/h	8	0	4	21	0	113	0	548	14	1	13	1476	2
Conflicting Peds, #/hr	4	0	4	0	0	0	4	0	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	315	-	100	-	300	-	340
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	36	0	12	0	0	0	0	16	0	0	0	12	60
Mvmt Flow	8	0	4	22	0	119	0	577	15	1	14	1554	2

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1879	2164	785	1387	2164	292	1558	0	0	-	577	0	0
Stage 1	1587	1587	-	577	577	-	-	-	-	-	-	-	-
Stage 2	292	577	-	810	1587	-	-	-	-	-	-	-	-
Critical Hdwy	8.22	6.5	7.14	7.5	6.5	6.9	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	7.22	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.22	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.86	4	3.42	3.5	4	3.3	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	30	48	315	104	48	710	430	-	-	-	1006	-	-
Stage 1	80	170	-	474	505	-	-	-	-	-	-	-	-
Stage 2	605	505	-	344	170	-	-	-	-	-	-	-	-
Platoon blocked, %								-	-			-	-
Mov Cap-1 Maneuver	25	48	313	102	48	708	429	-	-	~ -14	~ -14	-	-
Mov Cap-2 Maneuver	25	48	-	102	48	-	-	-	-	-	-	-	-
Stage 1	80	169	-	474	505	-	-	-	-	-	-	-	-
Stage 2	502	505	-	338	169	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	151.6	17.2	0	
HCM LOS	F	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SWL	SWT	SWR
Capacity (veh/h)	429	-	-	102	708	36	+	-
HCM Lane V/C Ratio	-	-	-	0.217	0.168	0.351	-	-
HCM Control Delay (s)	0	-	-	49.8	11.1	151.6	-	-
HCM Lane LOS	A	-	-	E	B	F	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.6	1.2	-	-

Notes

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

Intersection

Int Delay, s/veh 10.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	22	0	33	19	1	25	8	348	13	14	1356	23
Future Vol, veh/h	22	0	33	35	1	31	8	482	16	19	1466	23
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	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	-	-	-	-	315	-	270	325	-	245
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, %	52	0	13	6	100	17	25	14	27	34	4	73
Mvmt Flow	24	0	36	38	1	34	9	524	17	21	1593	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1915	2176	797	1379	2176	262	1593	0	0	524	0	0
Stage 1	1635	1635	-	541	541	-	-	-	-	-	-	-
Stage 2	280	541	-	838	1635	-	-	-	-	-	-	-
Critical Hdwy	8.54	6.5	7.16	7.62	8.5	7.24	4.6	-	-	4.78	-	-
Critical Hdwy Stg 1	7.54	5.5	-	6.62	7.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.54	5.5	-	6.62	7.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.02	4	3.43	3.56	5	3.47	2.45	-	-	2.54	-	-
Pot Cap-1 Maneuver	~ 23	47	307	100	13	693	314	-	-	846	-	-
Stage 1	63	161	-	483	332	-	-	-	-	-	-	-
Stage 2	580	524	-	319	60	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 20	45	307	85	12	693	314	-	-	846	-	-
Mov Cap-2 Maneuver	~ 20	45	-	85	12	-	-	-	-	-	-	-
Stage 1	61	157	-	469	322	-	-	-	-	-	-	-
Stage 2	534	509	-	275	59	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	\$ 347.6	59.2	0.3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	314	-	-	135	48	846	-
HCM Lane V/C Ratio	0.028	-	-	0.539	1.245	0.024	-
HCM Control Delay (s)	16.8	-	-	59.2	\$ 347.6	9.4	-
HCM Lane LOS	C	-	-	F	F	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.6	5.5	0.1	-

Notes

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

Intersection

Int Delay, s/veh 92.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	120	209	602	140	159
Future Vol, veh/h	456	140	233	790	150	181
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	375	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	5	5	0	5	1	1
Mvmt Flow	465	143	238	806	153	185

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	608
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	980
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	980
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	\$ 535.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	48	546	-	-	980	-
HCM Lane V/C Ratio	3.189	0.338	-	-	0.243	-
HCM Control Delay (s)	\$ 1164.2	14.9	-	-	9.8	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	16.6	1.5	-	-	1	-

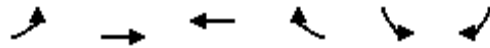
Notes

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

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	490	852	0	0	0
Future Vol, veh/h	0	644	1045	53	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	5	0	0	0
Mvmt Flow	0	700	1136	58	0	21
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1136
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	-	-	0	0	248
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	248
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		20.8	
HCM LOS					C	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	248			
HCM Lane V/C Ratio	-	-	0.083			
HCM Control Delay (s)	-	-	20.8			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	0.3			

Lanes, Volumes, Timings
58: Campbellton Rd & Dwy # 2 (F)

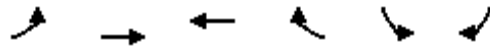
02/03/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰	↰	↰	↰
Traffic Volume (vph)	0	490	852	0	0	0
Future Volume (vph)	103	541	1037	228	339	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.992			0.950	
Satd. Flow (prot)	0	1854	1810	1615	1805	1615
Flt Permitted		0.992			0.950	
Satd. Flow (perm)	0	1854	1810	1615	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				120		66
Link Speed (mph)		55	55		30	
Link Distance (ft)		428	626		724	
Travel Time (s)		5.3	7.8		16.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	5%	0%	0%	0%
Adj. Flow (vph)	112	588	1127	248	368	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	700	1127	248	368	66
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	63.0	63.0	63.0	63.0	27.0	27.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%
Maximum Green (s)	57.0	57.0	57.0	57.0	21.0	21.0

Lanes, Volumes, Timings
58: Campbellton Rd & Dwy # 2 (F)

02/03/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)		56.5	56.5	56.5	20.2	20.2
Actuated g/C Ratio		0.64	0.64	0.64	0.23	0.23
v/c Ratio		0.59	0.98	0.23	0.90	0.16
Control Delay		12.2	39.3	4.1	59.5	8.5
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		12.2	39.3	4.1	59.5	8.5
LOS		B	D	A	E	A
Approach Delay		12.2	32.9		51.7	
Approach LOS		B	C		D	
Queue Length 50th (ft)		211	562	26	202	0
Queue Length 95th (ft)		313	#902	56	#359	32
Internal Link Dist (ft)		348	546		644	
Turn Bay Length (ft)				100		
Base Capacity (vph)		1193	1164	1081	428	433
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.59	0.97	0.23	0.86	0.15

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 30.4 Intersection LOS: C
Intersection Capacity Utilization 49.8% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 58: Campbellton Rd & Dwy # 2 (F)



Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↗		↗
Traffic Vol, veh/h	0	490	852	0	0	0
Future Vol, veh/h	0	880	1236	86	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	4	0	0	0
Mvmt Flow	0	957	1343	93	0	32
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1343
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	-	-	0	0	188
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	188
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		28	
HCM LOS					D	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	188			
HCM Lane V/C Ratio	-	-	0.168			
HCM Control Delay (s)	-	-	28			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	0.6			

Intersection							
Int Delay, s/veh	3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Vol, veh/h	0	0	0	105	159	0	
Future Vol, veh/h	2	126	156	259	554	96	
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	5	21	0	
Mvmt Flow	2	137	170	282	602	104	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1275	654	707	0	-	0	
Stage 1	654	-	-	-	-	-	
Stage 2	621	-	-	-	-	-	
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	186	470	901	-	-	-	
Stage 1	521	-	-	-	-	-	
Stage 2	540	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	144	470	901	-	-	-	
Mov Cap-2 Maneuver	144	-	-	-	-	-	
Stage 1	521	-	-	-	-	-	
Stage 2	419	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	16.4	3.7		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	901	-	454	-	-		
HCM Lane V/C Ratio	0.188	-	0.306	-	-		
HCM Control Delay (s)	9.9	0	16.4	-	-		
HCM Lane LOS	A	A	C	-	-		
HCM 95th %tile Q(veh)	0.7	-	1.3	-	-		

Intersection						
Int Delay, s/veh	0.3					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	120	0	0	75	0	0
Future Vol, veh/h	551	13	11	202	1	6
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	92	92	92	92	92	92
Heavy Vehicles, %	21	0	0	6	0	0
Mvmt Flow	599	14	12	220	1	7
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	613	0	849	606
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	243	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	976	-	334	501
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	976	-	329	501
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	791	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		0.5		12.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	466	976	-	-	-	
HCM Lane V/C Ratio	0.016	0.012	-	-	-	
HCM Control Delay (s)	12.9	8.7	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

Intersection						
Int Delay, s/veh	6.5					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	132	0	0	82	0	0
Future Vol, veh/h	505	36	23	187	105	71
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	92	92	92	92	92	92
Heavy Vehicles, %	15	67	48	1	60	61
Mvmt Flow	549	39	25	203	114	77
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	588	0	821	568
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	253	-
Critical Hdwy	-	-	4.58	-	7	6.81
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.632	-	4.04	3.849
Pot Cap-1 Maneuver	-	-	796	-	276	426
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	796	-	266	426
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	648	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		1.1		32.8	
HCM LOS					D	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	314	796	-	-	-	
HCM Lane V/C Ratio	0.609	0.031	-	-	-	
HCM Control Delay (s)	32.8	9.7	0	-	-	
HCM Lane LOS	D	A	A	-	-	
HCM 95th %tile Q(veh)	3.8	0.1	-	-	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations		↗	↗↗	↗		↗↗
Traffic Vol, veh/h	0	0	395	0	0	1393
Future Vol, veh/h	0	26	533	2	0	1508
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	7	0	0	3
Mvmt Flow	0	28	579	2	0	1639
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	290	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	713	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	713	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	NW		NE		SW	
HCM Control Delay, s	10.3		0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NWLn1	SWT			
Capacity (veh/h)	-	713	-			
HCM Lane V/C Ratio	-	0.04	-			
HCM Control Delay (s)	-	10.3	-			
HCM Lane LOS	-	B	-			
HCM 95th %tile Q(veh)	-	0.1	-			

Intersection						
Int Delay, s/veh	2.4					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	0	27	45	0	0	0
Future Vol, veh/h	8	27	45	0	0	22
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	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	9	29	49	0	0	24
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	49	0	-	0	96	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	47	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1571	-	-	-	908	1025
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1571	-	-	-	903	1025
Mov Cap-2 Maneuver	-	-	-	-	903	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	975	-
Approach	SE		NW		SW	
HCM Control Delay, s	1.7		0		8.6	
HCM LOS					A	
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	1571	-	1025	
HCM Lane V/C Ratio	-	-	0.006	-	0.023	
HCM Control Delay (s)	-	-	7.3	0	8.6	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0.1	

Appendix E

Roundabout Analysis Outputs

General & Site Information		v3.1	
Analyst:	Mary Thumaty		
Agency/Co:	SEI		
Date:	2/1/2017		
Project or PI#:	Woodbury Park		
Year, Peak Hour:	2017 AM		
County/District:	Fulton/D7		
Intersection:	SR 70 (Fulton Industrial Blvd) at Riverside		

Volumes		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph					43			
	NE (2), vph								
	E (3), vph	13							
	SE (4), vph								
	S (5), vph	210	211			39			
	SW (6), vph								
	W (7), vph		50			26			
	NW (8), vph								
Entry Volume, vph	223	261	0	0	108	0	0	0	
		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
	N (1), vph	678	679			22			
	NE (2), vph								
	E (3), vph		30			10			
	SE (4), vph								
	S (5), vph					21			
	SW (6), vph								
	W (7), vph	93							
	NW (8), vph								
Entry Volume, vph	771	709	0	0	53	0	0	0	
		N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0	
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2	
Volume Characteristics		N	NE	E	SE	S	SW	W	NW
% Cars	84.6%	100.0%	94.7%	100.0%	95.2%	100.0%	69.8%	100.0%	
% Heavy Vehicles	15.4%	0.0%	5.3%	0.0%	4.8%	0.0%	30.2%	0.0%	
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0	
PHF	0.87	0.95	0.92	0.95	0.95	0.95	0.74	0.95	
F _{hv}	0.867	1.000	0.950	1.000	0.954	1.000	0.768	1.000	
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

Entry/Conflicting Flows		N	NE	E	SE	S	SW	W	NW
Flow to	N (1), pcu/h	0	0	49	0	1497	0	39	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	17	0	0	0	33	0	18	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	558	0	45	0	0	0	37	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	66	0	30	0	103	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	642	0	124	0	1633	0	93	0
	Entry flow Lane 1, pcu/h	296	0	124	0	851	0	93	0
	Entry flow Lane 2, pcu/h	346	0	0	0	782	0	0	0
	Conflicting flow, pcu/h	177	0	1638	0	74	0	620	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	994	1059	335	NA	1204	1273	644	NA
Entry Flow Rates, veh/h	256	300	117	NA	812	746	72	NA
V/C ratio	0.26	0.28	0.35		0.67	0.59	0.11	
Control Delay, s/veh	6.2	6.2	18.2		12.3	9.7	6.8	
LOS	A	A	C		B	A	A	
95th % Queue (ft)	30	34	40		146	105	12	
Approach Delay, LOS	6.2 sec, LOS A		18.2 sec, LOS C		11.1 sec, LOS B		6.8 sec, LOS A	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

v3.1

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v3.1	
Analyst:	Mary Thumaty		
Agency/Co:	SEI		
Date:	2/1/2017		
Project or PI#:	Woodbury Park		
Year, Peak Hour:	2017 PM		
County/District:	Fulton/D7		
Intersection:	SR 70 (Fulton Industrial Blvd) at Riverside		

Volumes		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph					27			
	NE (2), vph								
	E (3), vph	48							
	SE (4), vph								
	S (5), vph	585	586			33			
	SW (6), vph								
	W (7), vph		37			18			
	NW (8), vph								
Entry Volume, vph	633	623	0	0	78	0	0	0	

		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
	N (1), vph	235	236			44			
	NE (2), vph								
	E (3), vph		48			30			
	SE (4), vph								
	S (5), vph					109			
	SW (6), vph								
	W (7), vph	25							
	NW (8), vph								
Entry Volume, vph	260	284	0	0	183	0	0	0	

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	92.3%	100.0%	97.4%	100.0%	84.4%	100.0%	90.2%	100.0%
% Heavy Vehicles	7.7%	0.0%	2.6%	0.0%	15.6%	0.0%	9.8%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.98	0.95	0.81	0.95	0.76	0.95	0.59	0.95
F _{hv}	0.929	1.000	0.975	1.000	0.865	1.000	0.911	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	34	0	716	0	82	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	53	0	0	0	73	0	56	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1287	0	42	0	0	0	203	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	41	0	23	0	38	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1380	0	99	0	827	0	341	0
	Entry flow Lane 1, pcu/h	696	0	99	0	395	0	341	0
	Entry flow Lane 2, pcu/h	685	0	0	0	432	0	0	0
	Conflicting flow, pcu/h	103	0	836	0	190	0	1381	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	1141	1208	680	NA	980	1045	400	NA
Entry Flow Rates, veh/h	646	636	96	NA	342	374	310	NA
V/C ratio	0.57	0.53	0.14		0.35	0.36	0.78	
Control Delay, s/veh	10.0	8.9	6.9		7.4	7.1	37.9	
LOS	B	A	A		A	A	E	
95th % Queue (ft)	100	86	13		46	47	180	
Approach Delay, LOS	9.5 sec, LOS A		6.9 sec, LOS A		7.3 sec, LOS A		37.9 sec, LOS E	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

v3.1

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v3.1	
Analyst:	Mary Thumaty		
Agency/Co:	SEI		
Date:	2/1/2017		
Project or PI#:	Woodbury Park		
Year, Peak Hour:	2022 AM		
County/District:	Fulton/D7		
Intersection:	SR 70 (Fulton Industrial Blvd) at Riverside		

Volumes		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph					112			
	NE (2), vph								
	E (3), vph	203							
	SE (4), vph								
	S (5), vph	377	377			50			
	SW (6), vph								
	W (7), vph		53			30			
	NW (8), vph								
Entry Volume, vph	580	430	0	0	192	0	0	0	
		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
	N (1), vph	754	755			23			
	NE (2), vph								
	E (3), vph		106			11			
	SE (4), vph								
	S (5), vph					22			
	SW (6), vph								
	W (7), vph	98							
	NW (8), vph								
Entry Volume, vph	852	861	0	0	56	0	0	0	
		N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0	
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2	
Volume Characteristics		N	NE	E	SE	S	SW	W	NW
% Cars	84.6%	100.0%	94.7%	100.0%	95.2%	100.0%	69.8%	100.0%	
% Heavy Vehicles	15.4%	0.0%	5.3%	0.0%	4.8%	0.0%	30.2%	0.0%	
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0	
PHF	0.87	0.95	0.92	0.95	0.95	0.95	0.74	0.95	
F _{hv}	0.867	1.000	0.950	1.000	0.954	1.000	0.768	1.000	
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Entry/Conflicting Flows		N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	128	0	1665	0	40	0	

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	269	0	0	0	117	0	19	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1000	0	57	0	0	0	39	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	70	0	34	0	108	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1340	0	220	0	1890	0	99	0
	Entry flow Lane 1, pcu/h	769	0	220	0	940	0	99	0
	Entry flow Lane 2, pcu/h	570	0	0	0	950	0	0	0
	Conflicting flow, pcu/h	200	0	1813	0	329	0	1327	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	974	1038	289	NA	952	1024	353	NA
Entry Flow Rates, veh/h	667	494	209	NA	897	906	76	NA
V/C ratio	0.68	0.48	0.72		0.94	0.88	0.21	
Control Delay, s/veh	14.7	9.0	42.8		37.6	27.5	14.0	
LOS	B	A	E		E	D	B	
95th % Queue (ft)	164	76	136		399	327	26	
Approach Delay, LOS	12.3 sec, LOS B		42.8 sec, LOS E		32.6 sec, LOS D		14 sec, LOS B	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

v3.1

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v3.1	
Analyst:	Mary Thumaty		
Agency/Co:	SEI		
Date:	2/1/2017		
Project or PI#:	Woodbury Park		
Year, Peak Hour:	2022 PM		
County/District:	Fulton/D7		
Intersection:	SR 70 (Fulton Industrial Blvd) at Riverside		

Volumes		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph					27			
	NE (2), vph								
	E (3), vph	48							
	SE (4), vph								
	S (5), vph	585	586			33			
	SW (6), vph								
	W (7), vph		37			18			
	NW (8), vph								
Entry Volume, vph	633	623	0	0	78	0	0	0	

		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
	N (1), vph	235	236			44			
	NE (2), vph								
	E (3), vph		48			30			
	SE (4), vph								
	S (5), vph					109			
	SW (6), vph								
	W (7), vph	25							
	NW (8), vph								
Entry Volume, vph	260	284	0	0	183	0	0	0	

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	92.3%	100.0%	97.4%	100.0%	84.4%	100.0%	90.2%	100.0%
% Heavy Vehicles	7.7%	0.0%	2.6%	0.0%	15.6%	0.0%	9.8%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.98	0.95	0.81	0.95	0.76	0.95	0.59	0.95
F _{hv}	0.929	1.000	0.975	1.000	0.865	1.000	0.911	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	34	0	716	0	82	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	53	0	0	0	73	0	56	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1287	0	42	0	0	0	203	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	41	0	23	0	38	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1380	0	99	0	827	0	341	0
	Entry flow Lane 1, pcu/h	696	0	99	0	395	0	341	0
	Entry flow Lane 2, pcu/h	685	0	0	0	432	0	0	0
	Conflicting flow, pcu/h	103	0	836	0	190	0	1381	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	1141	1208	680	NA	980	1045	400	NA
Entry Flow Rates, veh/h	646	636	96	NA	342	374	310	NA
V/C ratio	0.57	0.53	0.14		0.35	0.36	0.78	
Control Delay, s/veh	10.0	8.9	6.9		7.4	7.1	37.9	
LOS	B	A	A		A	A	E	
95th % Queue (ft)	100	86	13		46	47	180	
Approach Delay, LOS	9.5 sec, LOS A		6.9 sec, LOS A		7.3 sec, LOS A		37.9 sec, LOS E	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

v3.1

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

Appendix F

PC Warrants Outputs

SEI, Inc.
SR 70 (FIB) at Riverside/Tradewater
Existing Volumes

Study Name : **FIB at Tradewater-Existing**
Study Date : **02/08/17**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: SR 70 (FIB)

Number of Lanes: **2**
Approach Speed: **0**
Total Approach Volume: **7,903**

Southbound: SR 70 (FIB)

Number of Lanes: **2**
Approach Speed: **0**
Total Approach Volume: **7,843**

Minor Street Approaches

Eastbound: Tradewater Pkwy

Number of Lanes: **1**

Total Approach Volume: **653**

Westbound: Riverside Dr

Number of Lanes: **1**

Total Approach Volume: **850**

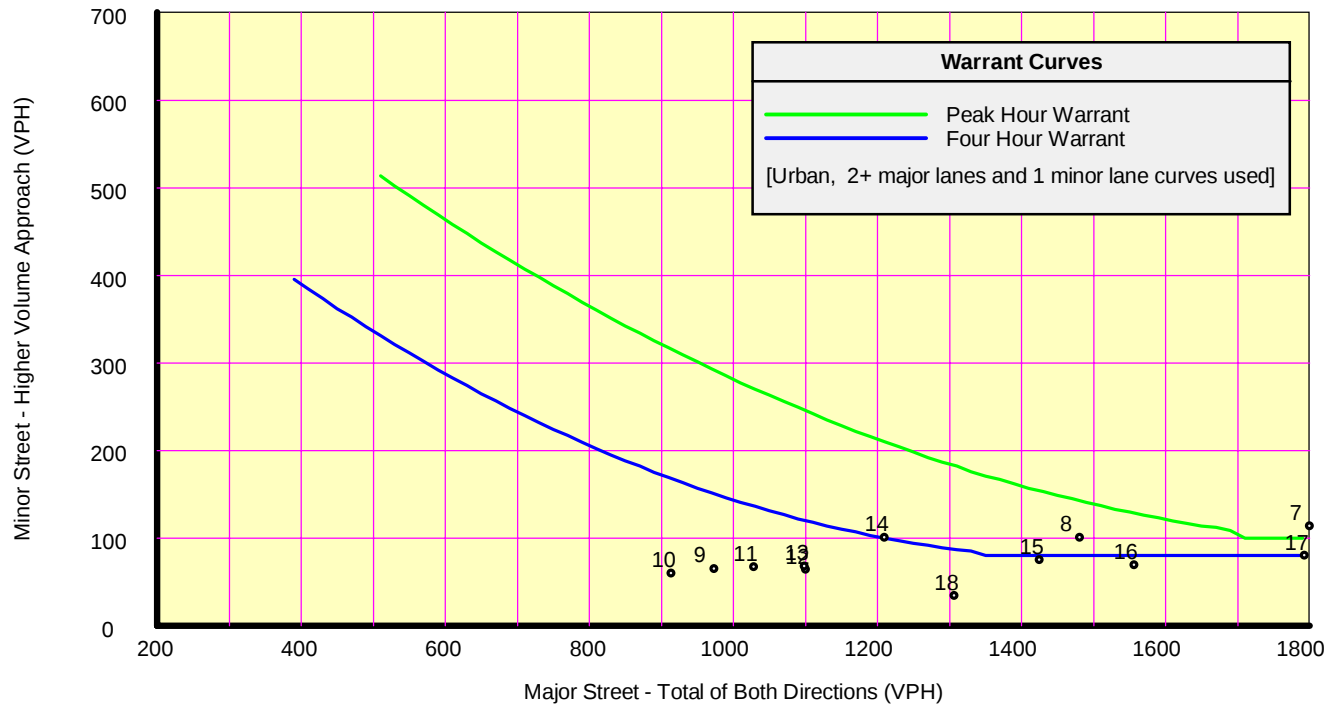
Warrant Summary (Urban values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume Not Satisfied	
Required volumes reached for 0 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic Not Satisfied	
Required volumes reached for 5 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants Not Satisfied	
Required volumes reached for 0 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (4) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Volumes Satisfied	
Volumes exceed minimums for at least one hour.	
Warrant 3B - Peak Hour Delay Not Satisfied	
Total approach volumes and delays on minor street do not exceed minimums for any hour.	
Warrant 4 - Pedestrian Volumes	Not Satisfied
Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)	
Warrant 5 - School Crossing	Not Satisfied
Number of gaps > .0 seconds (0) exceeds the number of minutes in the crossing period (0).	
Warrant 6 - Coordinated Signal System	Not Satisfied
No adjacent coordinated signals are present	
Warrant 7 - Crash Experience	Not Satisfied
Number of accidents (-1) is less than minimum (5). Volume minimums are met.	
Warrant 8 - Roadway Network	Not Satisfied
Major Route conditions not met. One or more volume requirement met.	

SEI, Inc.
SR 70 (FIB) at Riverside/Tradewater
Existing Volumes

Study Name : **FIB at Tradewater-Existing**
Study Date : **02/08/17**
Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
01:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
02:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
03:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
04:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
05:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
06:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
07:00	1,860	114	WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
08:00	1,481	101	WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
09:00	973	65	WB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
10:00	914	60	WB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
11:00	1,028	67	EB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
12:00	1,100	64	WB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
13:00	1,099	68	EB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
14:00	1,210	101	WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
15:00	1,425	75	EB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
16:00	1,556	69	EB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
17:00	1,793	80	WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
18:00	1,307	34	WB	600-Yes	150-No	Major	900-Yes	75-No	Major	720-Yes	120-No	Major
19:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
20:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
21:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
22:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
23:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---

SEI, Inc.
SR 70 (FIB) at Riverside/Tradewater
Future Volumes

Study Name : **FIB at Tradewater-Build**
Study Date : **02/08/17**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: SR 70 (FIB)

Number of Lanes:2
Approach Speed:0
Total Approach Volume:11,926

Southbound: SR 70 (FIB)

Number of Lanes:2
Approach Speed:0
Total Approach Volume:13,010

Minor Street Approaches

Eastbound: Tradewater Pkwy

Number of Lanes:1

Total Approach Volume:679

Westbound: Riverside Dr

Number of Lanes:1

Total Approach Volume:2,225

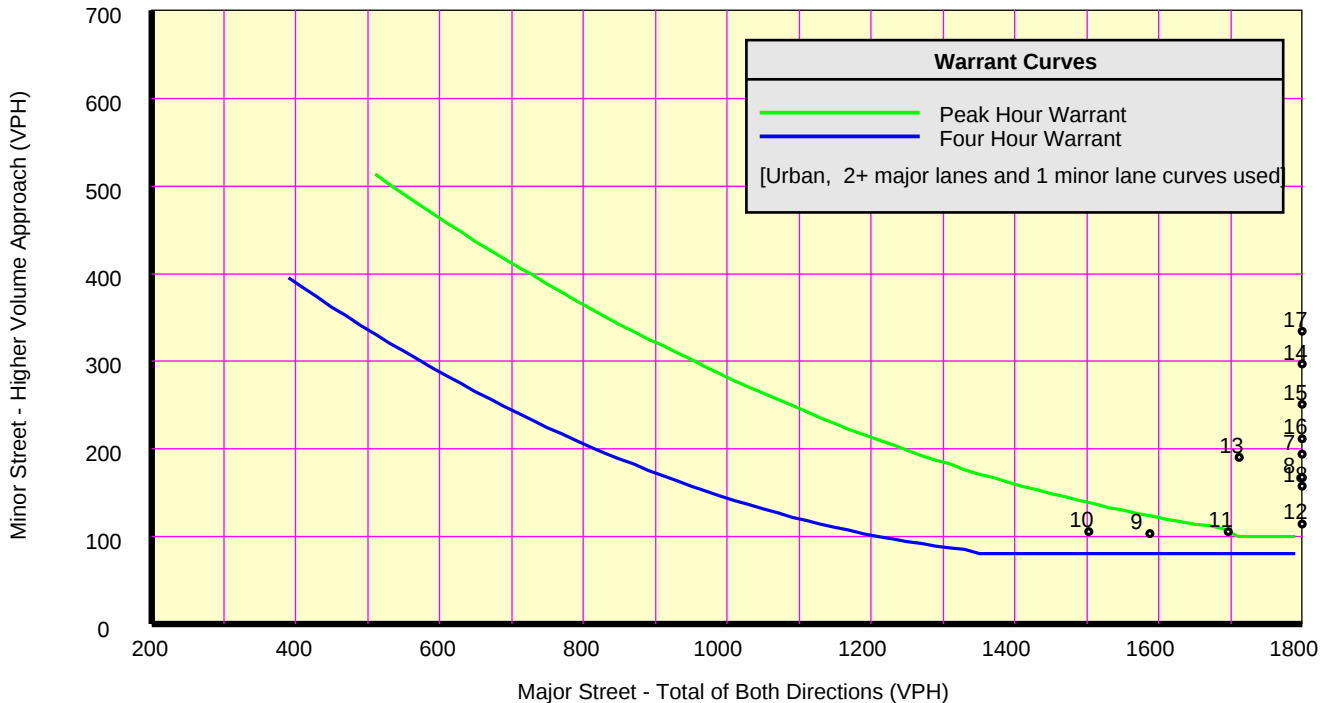
Warrant Summary (Urban values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular VolumeSatisfied	
Required volumes reached for 8 hours, 8 are needed	
Warrant 1B - Interruption of Continuous TrafficSatisfied	
Required volumes reached for 12 hours, 8 are needed	
Warrant 1 A&B - Combination of WarrantsSatisfied	
Required volumes reached for 8 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (12) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour VolumesSatisfied	
Volumes exceed minimums for at least one hour.	
Warrant 3B - Peak Hour DelayNot Satisfied	
Total approach volumes and delays on minor street do not exceed minimums for any hour.	
Warrant 4 - Pedestrian Volumes	Not Satisfied
Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)	
Warrant 5 - School Crossing	Not Satisfied
Number of gaps > .0 seconds (0) exceeds the number of minutes in the crossing period (0).	
Warrant 6 - Coordinated Signal System	Not Satisfied
No adjacent coordinated signals are present	
Warrant 7 - Crash Experience	Not Satisfied
Number of accidents (-1) is less than minimum (5). Volume minimums are met.	
Warrant 8 - Roadway Network	Not Satisfied
Major Route conditions not met. One or more volume requirement met.	

SEI, Inc.
SR 70 (FIB) at Riverside/Tradewater
 Future Volumes

Study Name : **FIB at Tradewater-Build**
 Study Date : **02/08/17**
 Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour	Major	Higher Minor	War-1A			War-1B			War-1A&B		
Begin	Total	Vol Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
01:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
02:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
03:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
04:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
05:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
06:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
07:00	2,725	193 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
08:00	2,232	167 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
09:00	1,588	103 WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
10:00	1,503	105 WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
11:00	1,697	105 WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
12:00	1,997	114 WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
13:00	1,712	190 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
14:00	1,959	296 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
15:00	2,420	250 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
16:00	2,367	211 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
17:00	2,750	334 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
18:00	1,986	157 WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
19:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
20:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
21:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
22:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
23:00	0	0 EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---

SEI, Inc.

SR 70 (FIB) at Riverside/Tradewater Future Volumes (with additional lane on Riverside)

Study Name: FIB at Tradewater-Build (with

add.lane)

Study Date : 02/08/17

Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: SR 70 (FIB)

Number of Lanes:2

Approach Speed:0

Total Approach Volume:11,926

Southbound: SR 70 (FIB)

Number of Lanes:2

Approach Speed:0

Total Approach Volume:13,010

Minor Street Approaches

Eastbound: Tradewater Pkwy

Number of Lanes:1

Total Approach Volume:679

Westbound: Riverside Dr

Number of Lanes:2

Total Approach Volume:2,225

Warrant Summary (Urban values apply.)

Warrant 1 - Eight Hour Vehicular Volumes **Satisfied**

Warrant 1A - Minimum Vehicular Volume **Not Satisfied**

Required volumes reached for 4 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic **Satisfied**

Required volumes reached for 12 hours, 8 are needed

Warrant 1 A&B - Combination of Warrants **Not Satisfied**

Required volumes reached for 7 hours, 8 are needed

Warrant 2 - Four Hour Volumes **Satisfied**

Number of hours (8) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour **Satisfied**

Warrant 3A - Peak Hour Volumes **Satisfied**

Volumes exceed minimums for at least one hour.

Warrant 3B - Peak Hour Delay **Not Satisfied**

Total approach volumes and delays on minor street do not exceed minimums for any hour.

Warrant 4 - Pedestrian Volumes **Not Satisfied**

Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)

Warrant 5 - School Crossing **Not Satisfied**

Number of gaps > .0 seconds (0) exceeds the number of minutes in the crossing period (0).

Warrant 6 - Coordinated Signal System **Not Satisfied**

No adjacent coordinated signals are present

Warrant 7 - Crash Experience **Not Satisfied**

Number of accidents (-1) is less than minimum (5). Volume minimums are met.

Warrant 8 - Roadway Network **Not Satisfied**

Major Route conditions not met. One or more volume requirement met.

SEI, Inc.
SR 70 (FIB) at Riverside/Tradewater
 Future Volumes (with additional lane on Riverside)

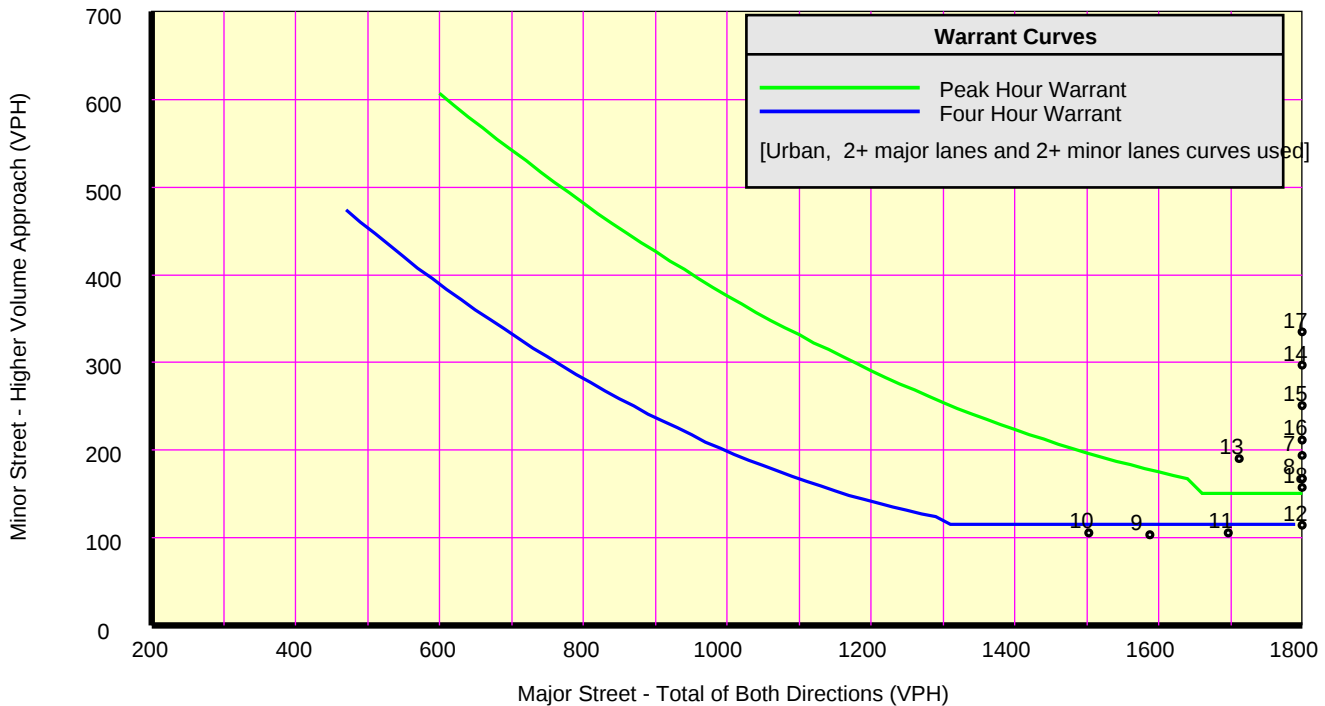
Study Name : **FIB at Tradewater-Build (with**

add.lane)

Study Date : **02/08/17**

Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol Dir	War-1A			War-1B			War-1A&B		
			Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
01:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
02:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
03:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
04:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
05:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
06:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
07:00	2,725	193 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
08:00	2,232	167 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
09:00	1,588	103 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
10:00	1,503	105 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
11:00	1,697	105 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
12:00	1,997	114 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
13:00	1,712	190 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
14:00	1,959	296 WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
15:00	2,420	250 WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
16:00	2,367	211 WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
17:00	2,750	334 WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
18:00	1,986	157 WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
19:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
20:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
21:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
22:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
23:00	0	0 EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---