Transportation Analysis

Campbellton Site
DRI #2791

Fulton County, Georgia

Report Prepared:

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *Campbellton Site* development located in unincorporated Fulton County, Georgia. The approximately 240-acre site is located on Campbellton Road (SR 70/ 154/ 166) approximately 1,000 feet west of the intersection with Fulton Industrial Boulevard (SR 70), and located between Manheim Auto Auction lots. The site also has access to Fulton Industrial Boulevard north of Campbellton Road (SR 70/ 154/ 166). The proposed development will be an industrial warehouse facility with approximately 1,450,000 SF of warehousing space.

The project is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review due to the project size exceeding 500,000 SF of an Industrial development. The DRI trigger for this development is the submittal of the Re-Zoning Application with Fulton County, Georgia filed on April 2, 2018, combined with the proposed development exceeding 500,000 gross square feet for industrial developments within a developing suburbs and regional center area. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on March 1, 2018 by Fulton County.

According to GRTA's Procedures and Principles for GRTA Development of Regional Impact Review, the proposed DRI complies with the Expedited Review Criteria in **Section 3-102, Part B – Limited Trip Generation**, which states:

> *…the land uses within the proposed DRI are such that the amount of trips generated by the development is likely to have minimal impact on the road network.*
>
> 1. *No more than one thousand (1,000) gross daily trips generated by the DRI based on a trip generation memorandum; or,*
> 2. ***More than one thousand (1,000) but no more than three thousand (3,000) gross daily trips will be generated by the DRI, based on a trip generation memorandum and requires the submittal of an Access Analysis**; or,*
> 3. *The proposed DRI is projected to generate no more than one hundred (100) gross PM peak hour weekday trips based on a trip generation memorandum.*

The present zoning classification of the project site is Heavy Industrial (M-2). The proposed zoning classification is Site Specific Heavy Industrial (M-2). The proposed project is expected to be completed by 2020. The proposed development will consist of the following land uses and densities:

Warehouse: 1,450,000 SF

Capacity analyses were performed throughout the study network for the Existing 2018 conditions, the Projected 2020 No-Build conditions, and the Projected 2020 Build conditions.

- Existing 2018 conditions represent traffic volumes that were collected in January 2018 by performing AM and PM peak hour turning movement counts.
- Projected 2020 No-Build conditions represent the existing traffic volumes grown for two (2) years at 2.0 percent per year throughout the study network, plus project trips from the previously approved DRI #2654 *Woodbury Park eCommerce and Distribution Center* (*Notice of Decision* from GRTA dated April 6, 2017).

- Projected 2020 Build conditions represent the Projected 2020 No-Build conditions with the addition of the project trips that are anticipated to be generated by the proposed *Campbellton Site* development.

Based on the Existing 2018 conditions (present conditions; i.e. excludes background traffic growth and the estimated project trips from the Campbellton Site DRI), one (1) unsignalized intersection of the four (4) total study intersections operates below its acceptable level-of-service (LOS) standard of D during the PM Peak Hour. Therefore the intersection PM Peak Hour LOS standard becomes LOS E for future No-Build and Build scenarios, per GRTA guidelines. The remaining three (3) study intersections are projected to operate within the acceptable level-of-service (LOS) standard as defined in Section 3.3 Level-of-Service Standards*.*

Based on the Projected 2020 No-Build conditions (includes background traffic growth plus project trips from DRI #2654 Woodbury Park eCommerce and Distribution Center *but excludes the Campbellton Site project traffic), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard as defined in* Section 3.3*.*

Based on the Projected 2020 Build conditions (includes both background traffic growth and the Campbellton Site project traffic, plus the site access driveways), one (1) study intersection and one (1) site driveway show side-street stop-controlled approaches that operate below the acceptable overall approach level-of-service standard during the AM and PM peak hours for the Projected 2020 Build traffic. The southbound approach of Intersection 2: Campbellton Road (SR 70/ 154/ 166) at Polaris Way/ Site Driveway #1 operates at LOS F during the AM and PM Peak Hours, while the northbound approach operates at LOS F during the PM Peak Hour. The southbound approach of Campbellton Road (SR 70/ 154/ 166) at Site Driveway #2 operates at LOS F during the AM and PM Peak Hours. It should be noted that it is not uncommon for side-street stop-controlled approaches to experience long delays when there is heavy major street volume.The remaining three (3) study intersections, and one (1) site driveway operate within the acceptable level-of-service (LOS) standard as defined in Section 3.3*.*

The following site-access improvements are recommended to serve the traffic associated with the *Campbellton Site* development:

- **Intersection 2**: Campbellton Road (SR 70/ 154/ 166) at Polaris Way/ **Site Driveway #1**
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) eastbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) westbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) southbound shared through-left-turn lane and one (1) southbound right-turn lane exiting the site onto Campbellton Road (SR 70/ 154/ 166) and one (1) ingress lane entering the site.
- **Intersection 5**: Campbellton Road (SR 70/ 154/ 166) at **Site Driveway #2**
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) eastbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) westbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.

  - On the site, construct one (1) southbound left-turn lane and one (1) southbound right-turn lane exiting the site onto Campbellton Road (SR 70/ 154/ 166) and one (1) ingress lane entering the site.
- **Intersection 6**: Fulton Industrial Boulevard (SR 70) at **Site Driveway #3**
  - Along Fulton Industrial Boulevard (SR 70), construct one (1) southbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) eastbound right-turn lane exiting the site onto Fulton Industrial Boulevard (SR 70) and one (1) ingress lane entering the site.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts of the proposed *Campbellton Site* development located in unincorporated Fulton County, Georgia. The approximately 240-acre site is located on Campbellton Road (SR 70/ 154/ 166) approximately 1,000 feet west of the intersection with Fulton Industrial Boulevard (SR 70), and located between Manheim Auto Auction lots. The site also has access to Fulton Industrial Boulevard (SR 70) north of Campbellton Road (SR 70/ 154/ 166) and the parcel boundary for the Manheim Auto Auction lot located on the corner of Campbellton Road (SR 70/ 154/ 166) and Fulton Industrial Boulevard (SR 70).

The proposed development will be an industrial warehouse facility with approximately 1,450,000 SF of warehousing space. The project will exceed 500,000 square feet for industrial developments within a regional center area; therefore, the proposed development is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review.

According to GRTA's Procedures and Principles for GRTA Development of Regional Impact Review, the proposed DRI complies with the Expedited Review Criteria in **Section 3-102, Part B – Limited Trip Generation**, which states:

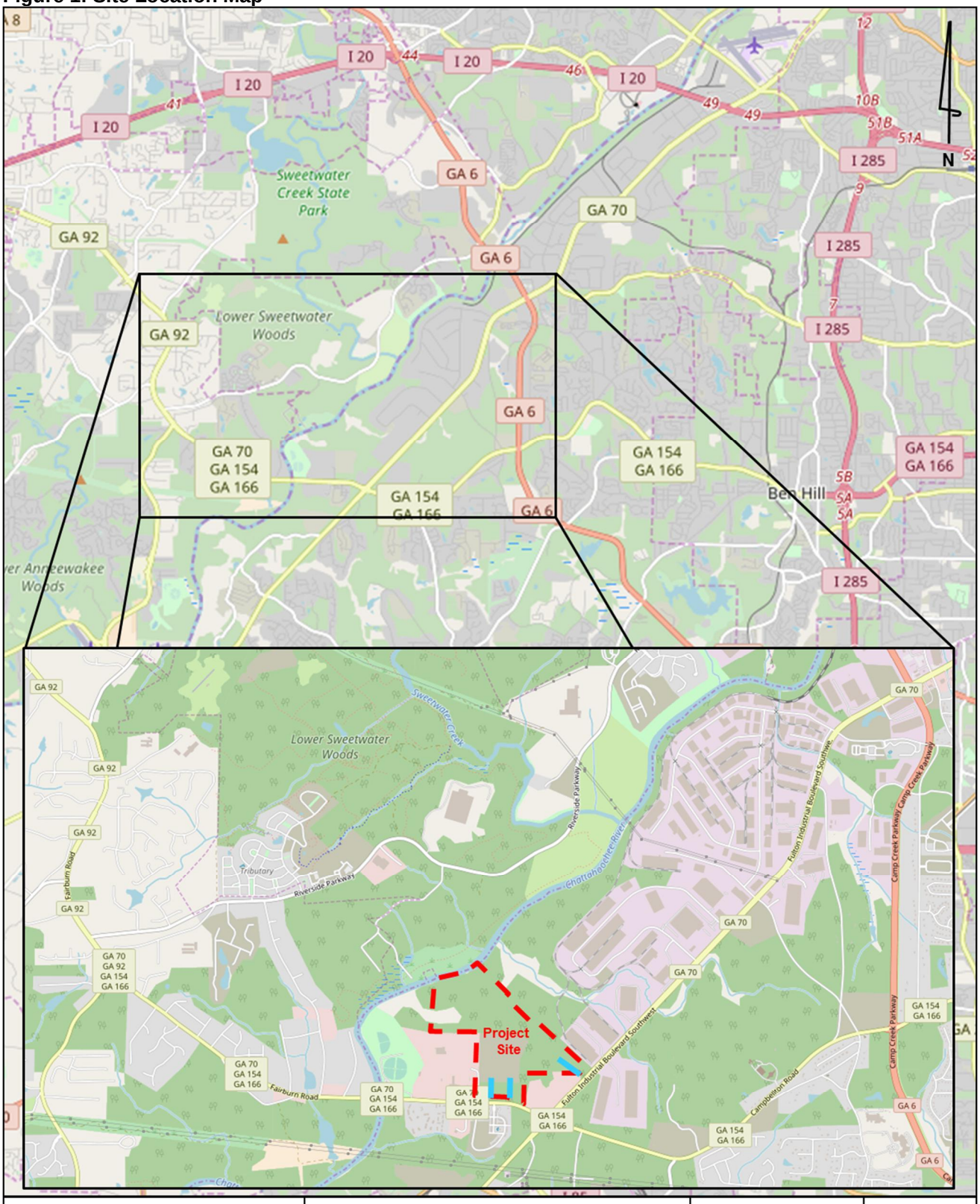
> *…the land uses within the proposed DRI are such that the amount of trips generated by the development is likely to have minimal impact on the road network.*
>
> 1. *No more than one thousand (1,000) gross daily trips generated by the DRI based on a trip generation memorandum; or,*
> 2. ***More than one thousand (1,000) but no more than three thousand (3,000) gross daily trips will be generated by the DRI, based on a trip generation memorandum and requires the submittal of an Access Analysis****; or,*
> 3. *The proposed DRI is projected to generate no more than one hundred (100) gross PM peak hour weekday trips based on a trip generation memorandum.*

Figure 1 provides the site location of proposed *Campbellton Site* development, and **Figure 2** and **Figure 3** provide an aerial view of the project site and surrounding area. Field review photographs taken within the vicinity of the study network are located in the site photo log in **Appendix A**. The Fulton County Future Land Use Map and ARC's *PLAN 2040 Unified Growth Policy Map* are included in **Appendix B**.

The proposed project is expected to be completed by 2020, and this analysis will consider the full build-out of the proposed site in 2020. A summary of the proposed land-use and density is provided below in **Table 1**.

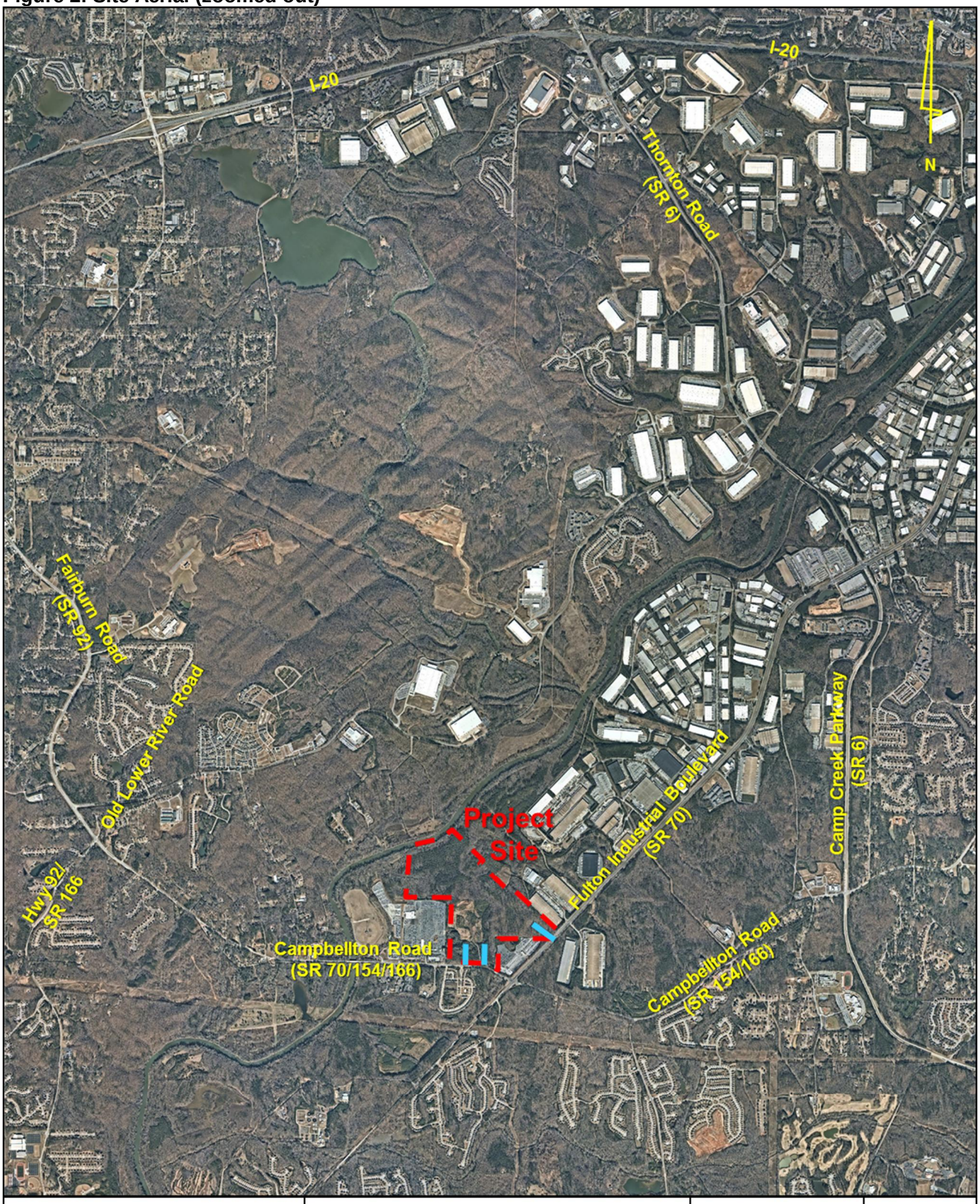
Table 1: Proposed Land Uses	
Warehouse/Distribution Center	1,450,000 SF (new construction)

Figure 1: Site Location Map



Kimley»Horn	*Campbellton Site DRI #2791 Transportation Analysis*	Site Location	Figure 1

Figure 2: Site Aerial (zoomed out)



Kimley»Horn	*Campbellton Site DRI #2791 Transportation Analysis*	Site Aerial (Zoomed Out)	Figure 2

Figure 3: Site Aerial (zoomed in)

Kimley»Horn	*Campbellton Site DRI #2791 Transportation Analysis*	Site Aerial (Zoomed In)	Figure 3

1.2 Site Plan Review

The proposed development is located on an approximately 240-acre site in Fulton County, Georgia. The project site is located primarily on Campbellton Road (SR 70/ 154/ 166) with a portion of the project site also along Fulton Industrial Boulevard (SR 70). The project site is in between the two locations of the existing Manheim Auto Auction lots. The proposed development will be an industrial warehouse facility with approximately 1,450,000 SF of warehousing space. The project will include two (2) new warehouse buildings. The property is currently undeveloped. A reference of the proposed site plan is provided in **Appendix C**. A full-sized site plan consistent with GRTA's Site Plan Guidelines is also being submitted as part of the review package.

1.3 Site Access

As currently envisioned, the proposed development will be served by two (2) stop-controlled full-movement driveways along Campbellton Road (SR 70/ 154/ 166) and one (1) stop-controlled right-in-right-out driveway on Fulton Industrial Boulevard (SR 70). Campbellton Road (SR 70/ 154/ 166) at the project site driveway locations is a two-lane, undivided, principal arterial with a posted speed limit of 55 mph. The closest major intersection to the west of the site is the intersection of SR 92. SR 92 is an urban, two-lane, undivided, principal arterial with a posted speed limit of 55 mph. The closest major intersection to the north of the site is the intersection of Fulton Industrial Boulevard at Camp Creek Parkway (SR 6). Camp Creek Parkway is a four-lane, divided, principal arterial with a speed limit of 55 MPH. The closest major intersection to the east and south of the site is the intersection of Fulton Industrial Boulevard at Campbellton Road (SR 70/ 154/ 166). A summary of the proposed site access point follows:

1. Proposed **Driveway #1** – a proposed full-movement driveway located on Campbellton Road (SR 70/ 154/ 166) approximately 1,900 feet west of the intersection of Campbellton Road (SR 70/ 154/ 166) and Fulton Industrial Boulevard (SR 70), and will align directly north of the existing local road Polaris Way. Proposed Driveway 1 is proposed as a side-street stop-controlled full-movement driveway across from Polaris Way.
2. Proposed **Driveway #2** – a proposed full-movement driveway Campbellton Road (SR 70/ 154/ 166) approximately 1,100 feet west of the intersection of Campbellton Road (SR 70/ 154/ 166) and Fulton Industrial Boulevard (SR 70), and approximately 800 feet east of Proposed Driveway 1 where Polaris Way currently exists. Proposed Driveway 2 is proposed as a side-street stop controlled full-movement driveway.
3. Proposed **Driveway #3** – a proposed right-in-right-out driveway located on Fulton Industrial Boulevard (SR 70) approximately 1,700 feet north of the intersection of Campbellton Road (SR 70/ 154/ 166) and Fulton Industrial Boulevard (SR 70). Proposed Driveway 3 is also located 500 feet north of a median opening that serves U-Turns and 800 feet south of a median opening at Kendall Park Lane. Proposed Driveway 3 is proposed as a side-street stop-controlled right-in-right-out only access driveway.

The proposed site access points provide vehicular access to the entire development. Internal private roadways throughout the site provide access to all buildings and parking facilities. See referenced site plan in **Appendix C** for a visual representation of vehicular access and circulation throughout the proposed development. The site driveways and internal roadways provide access to all parking on the site. Parking will be provided throughout the development as follows:

Employee parking provided:	841
Trailer parking provided:	422

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities (sidewalks) currently do not exist along the project site frontage. There is a sidewalk along Campbellton Road (SR 70/ 154/ 166) across the street from the project site along the south side of the roadway connecting to residential developments located south of Campbellton Road (SR 70/ 154/ 166). There are no bicycle or pedestrian projects programmed in the vicinity of the project site that will be completed prior to the buildout of the *Campbellton Site* development. According to the DRI site plan, no bicycle or pedestrian facilities are proposed.

1.5 Transit Facilities

There are no direct transit routes located within a reasonable distance from the frontage of the project site, and therefore, there were no alternative mode reductions taken.

Of note, the existing MARTA bus route number 73 serves the Fulton Industrial Boulevard (SR 70) corridor approximately 1.5 miles north of the project site. With its current routing, the bus is significantly far from the site for reasonable access to transit from the site as it exists today. If future bus routing is modified to extend farther south along Fulton Industrial Boulevard (SR 70), it may provide access to the proposed site.

2.0 TRAFFIC ANALYSES, METHODOLOGY AND ASSUMPTIONS

2.1 Growth Rate

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates as well as trips anticipated from nearby or adjacent other projects. Based on methodology outlined in the GRTA Letter of Understanding (LOU), a 2.0 percent per year background traffic growth rate was used for all roadways. Additionally, estimated traffic from the proposed Woodbury Park development (DRI 2654) was included to determine impacts from that proposed future development for the No-Build and Build scenarios.

2.2 Traffic Data Collection

Weekday peak hour turning movement counts were collected on Wednesday, March 14, 2018 at the study intersections during the AM and PM peak periods. Peak hours for all intersections are shown in **Table 2**.

Table 2: Peak Hour Summary

Intersection	AM Peak Hour	PM Peak Hour
1. Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South)	7:00 AM-8:00 AM	4:45 PM-5:45 PM
2. Campbellton Road (SR 70/ 154/ 166) at Polaris Way	7:00 AM-8:00 AM	4:45 PM-5:45 PM
3. Fulton Industrial Boulevard (SR 70)/ Cascade Palmetto Highway at Campbellton Road (SR 70/ 154/ 166)	7:00 AM-8:00 AM	4:45 PM-5:45 PM
4. Fulton Industrial Boulevard (SR 70) at Camp Creek Parkway (SR 6)	7:15 AM-8:15 AM	4:30 PM-5:30 PM

The collected peak hour turning movement traffic counts are available upon request.

2.3 Detailed Intersection Analysis

Level-of-service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels-of-service, LOS A through LOS F, with A being the best and F being the worst. Level-of-service analyses were conducted at all intersections within the study network using *Synchro Professional, Version 9.0*. All intersection signal timings were optimized using *Synchro Professional, Version 9.0*.

Levels-of-service for signalized intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

Levels-of-service for unsignalized intersections, with stop control on the minor street only, are reported for the side street approaches and the major street left-turn movements. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delays in turning onto a major roadway.

3.0 STUDY NETWORK

3.1 Gross Trip Generation

Traffic for the proposed land uses and densities were calculated using methodology contained in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition*. Gross trips generated are displayed below in **Table 3**.

Table 3: Gross Trip Generation

Land Use (Intensity)	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
Warehousing (1,450,000 SF)	*150*	1,168	1,168	153	46	55	147

* 75% cars, and 25% trucks

3.2 Trip Distribution

The directional distribution and assignment of new project trips was based on the project land uses, a review of the land use densities and road facilities in the area, engineering judgment, and methodology discussions with the Georgia Regional Transportation Authority (GRTA), Atlanta Regional Commission (ARC), and Fulton County. See *Section 5.0 Trip Distribution and Assignment* for more information.

3.3 Level-of-Service Standards

For the purposes of this traffic analysis, the LOS standard for Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South) is LOS D.

The LOS standard for the intersections of Fulton Industrial Boulevard at Campbellton Road (SR 70/ 154/ 166) and Fulton Industrial Boulevard at Camp Creek Parkway, and the site driveways will be LOS E due to the intersection locations within the Major Activity Center, the *Fulton Industrial Regional Center*, according to the Unified Growth Policy Map (in accordance with Section 3-102 of the *GRTA DRI Technical Guidelines*).

3.4 Study Network Determination

A general study area was determined based on a review of land uses and population densities in the area as well as a review of peak hour traffic counts and engineering judgement. The study area was agreed upon during methodology discussions with GRTA, ARC, and Fulton County, and includes the following four (4) existing intersections described in **Table 4**. The study network under build-out conditions also includes all the proposed site driveways.

The study network includes three (3) signalized intersections as noted in **Table 4**. The study intersections are shown in **Figure 4**.

Table 4: Intersection Control Summary

Intersection	Control
1. Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South)	Signal
2. Campbellton Road (SR 70/ 154/ 166) at Polaris Way	Side-Street Stop-Control
3. Fulton Industrial Boulevard (SR 70)/ Cascade Palmetto Highway at Campbellton Road (SR 70/ 154/ 166)	Signal
4. Fulton Industrial Boulevard (SR 70) at Camp Creek Parkway (SR 6)	Signal

Each of the listed intersections was analyzed for the Existing 2018 conditions, the Projected 2020 No-Build conditions, and the Projected 2020 Build conditions. The Projected 2020 No-Build conditions represent the existing traffic volumes grown for two (2) years at 2.0 percent per year throughout the study network.

The Projected 2020 Build conditions add the project trips associated with the *Campbellton Site* development to the Projected 2020 No-Build conditions.

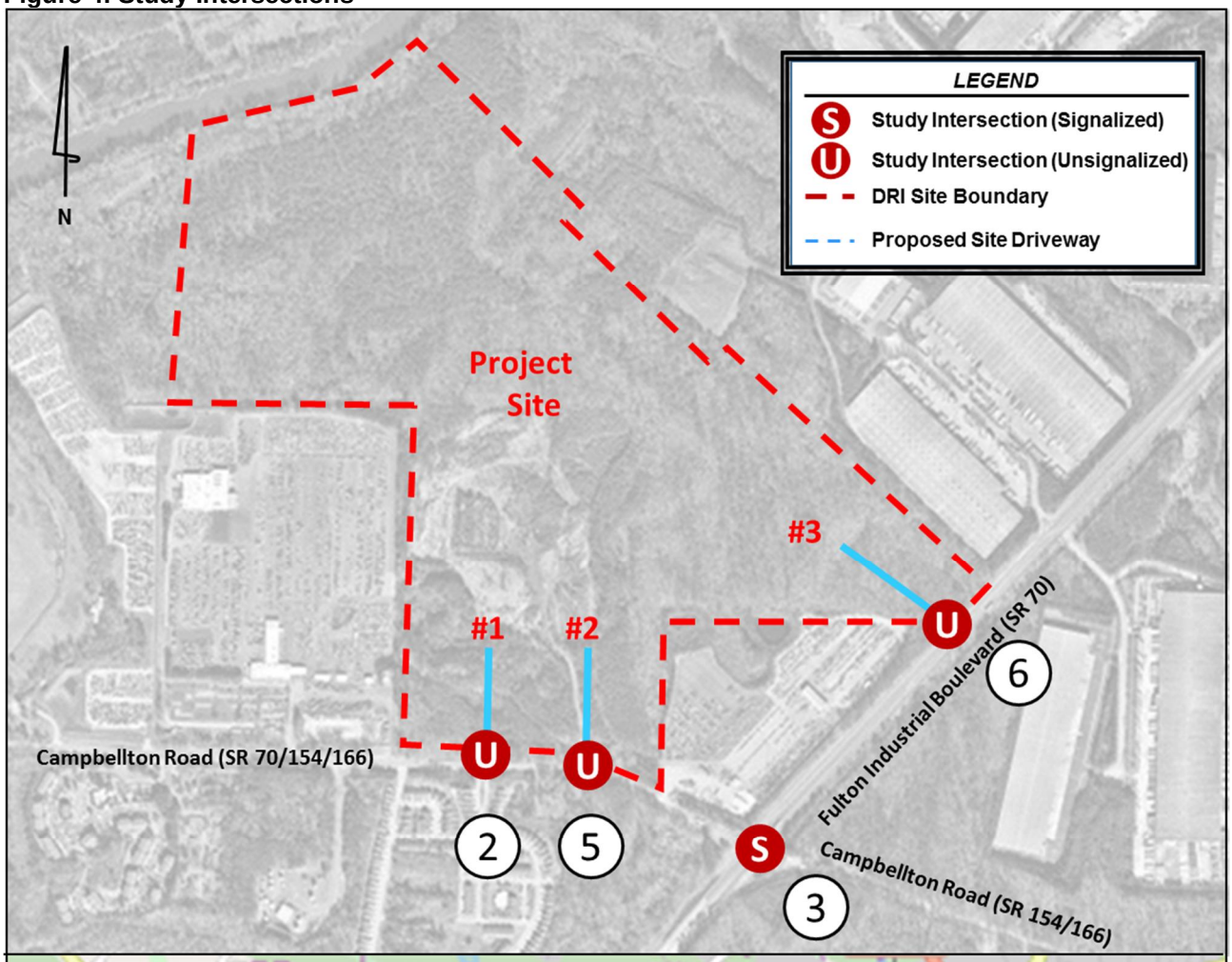
3.5 Existing Roadway Facilities

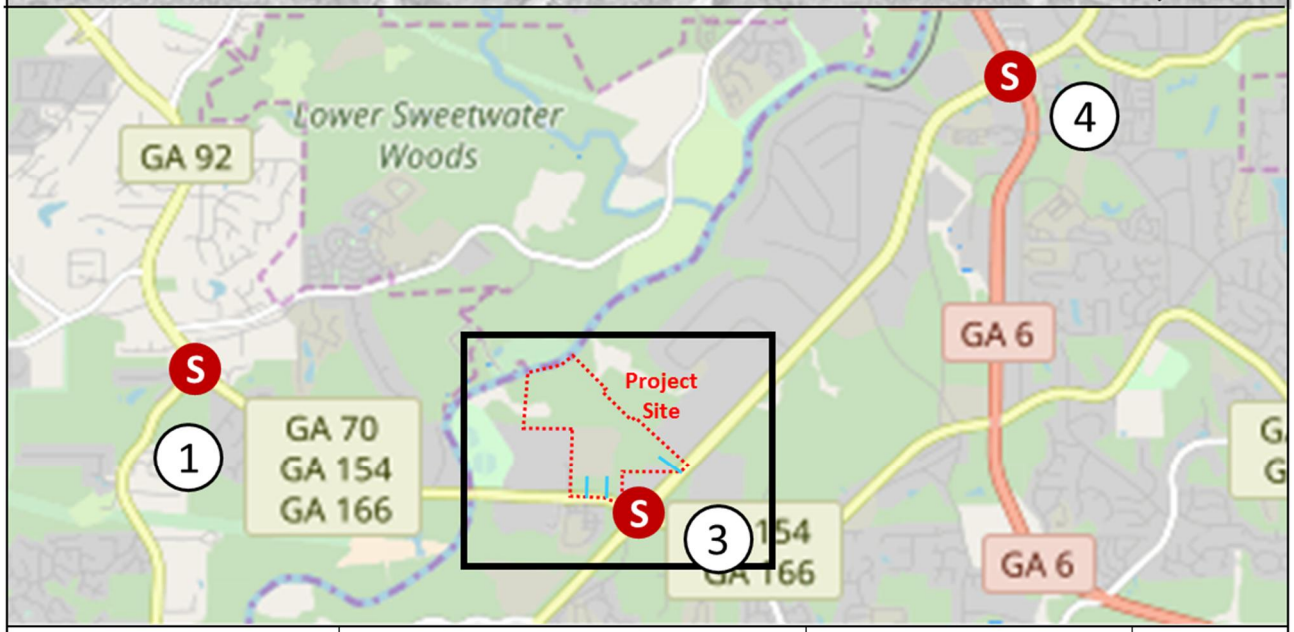
Roadway classification descriptions and estimated Annual Average Daily Traffic (AADT) for the entire study area are provided in **Table 5** (bolded roadway runs adjacent to the site).

Table 5: Roadway Classifications

Roadway	No. of Lanes	Posted Speed Limit (MPH)	Average Daily Traffic (ADT)	Functional Classification
Campbellton Road (SR 70/ 154/ 166)	**2**	**55**	**14,600**	**Principal Arterial**
Fulton Industrial Boulevard (SR 70)	**4**	**55**	**20,800**	**Minor Arterial**
Fairburn Road (SR 92)	2	55	27,500	Principal Arterial
Camp Creek Parkway (SR 6)	2	55	25,800	Principal Arterial

Figure 4: Study Intersections





Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Study Intersections	Figure 4

4.0 TRIP GENERATION

As stated previously, gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017*, using equations where available. Trip generation for this proposed development is calculated based upon the following land use: Warehousing (ITE 150).

The total (net) trips generated and analyzed in this report are listed in **Table 6**.

Table 6: Net New Trip Generation

	Daily Traffic			AM Peak Hour		PM Peak Hour	
	Total	**Enter**	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
Employee (Car) Trips	1,752	876	876	115	34	41	110
Heavy Vehicle (Truck) Trips	584	292	292	38	12	14	37
Total Trips	**2,336**	**1,168**	**1,168**	**153**	**46**	**55**	**147**

* 75% cars, and 25% trucks

A more detailed trip generation analysis summary table is provided in **Appendix D**.

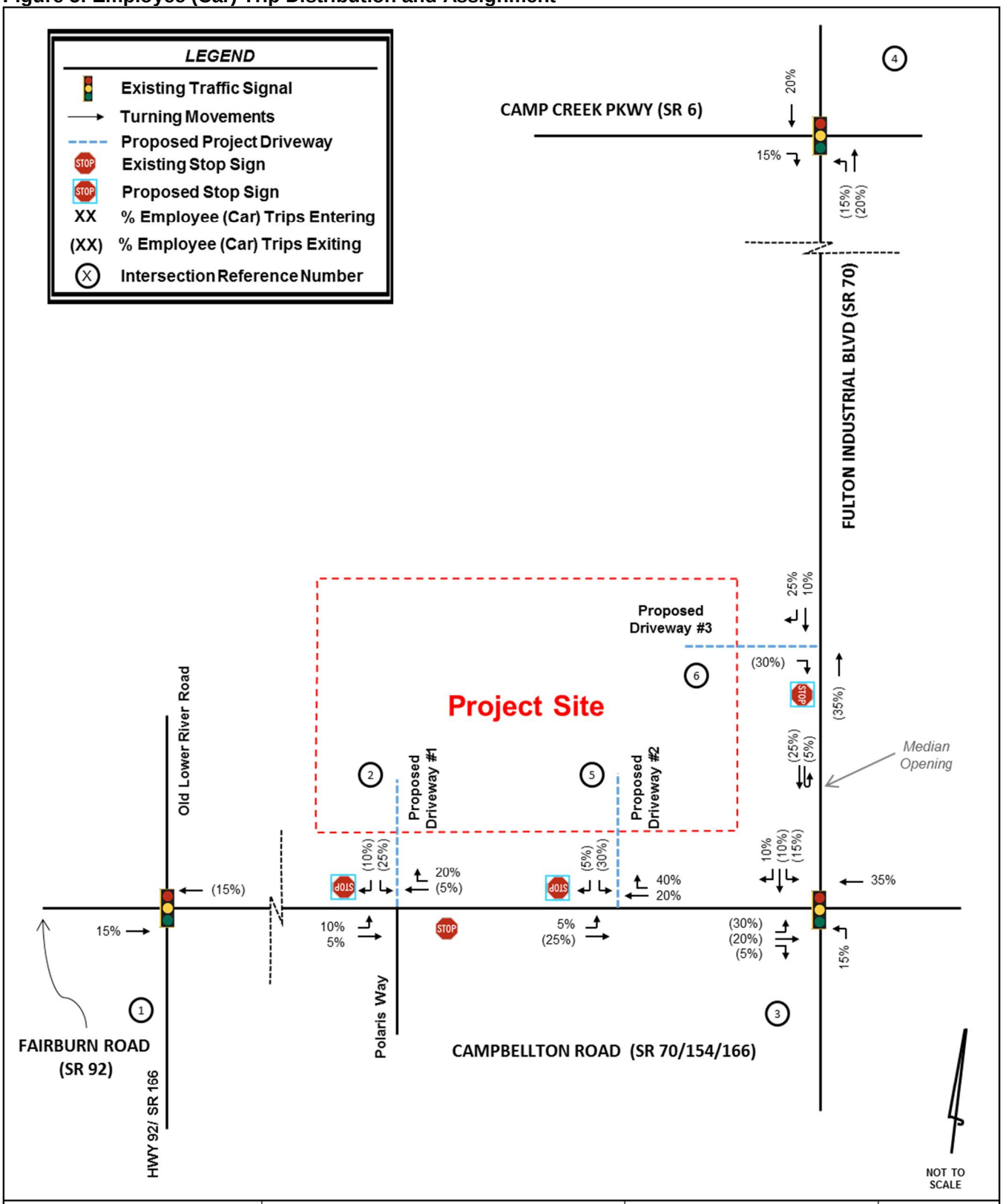
5.0 TRIP DISTRIBUTION AND ASSIGNMENT

New trips were distributed onto the roadway network using the percentages developed as described in *Section 3.2* of this report, and as agreed to during methodology discussions with GRTA, ARC, and Fulton County Staff.

Figure 5 and **Figure 6** display the anticipated distribution and assignment of employee (car) trips and truck trips throughout the study roadway network. These trip assignment percentages were applied to the net new trips expected to be generated by the development, and the volumes were assigned to the roadway network. The combined peak hour project trips by turning movement throughout the study network, anticipated to be generated by the proposed *Campbellton Site* development, are shown on **Figure 7.**

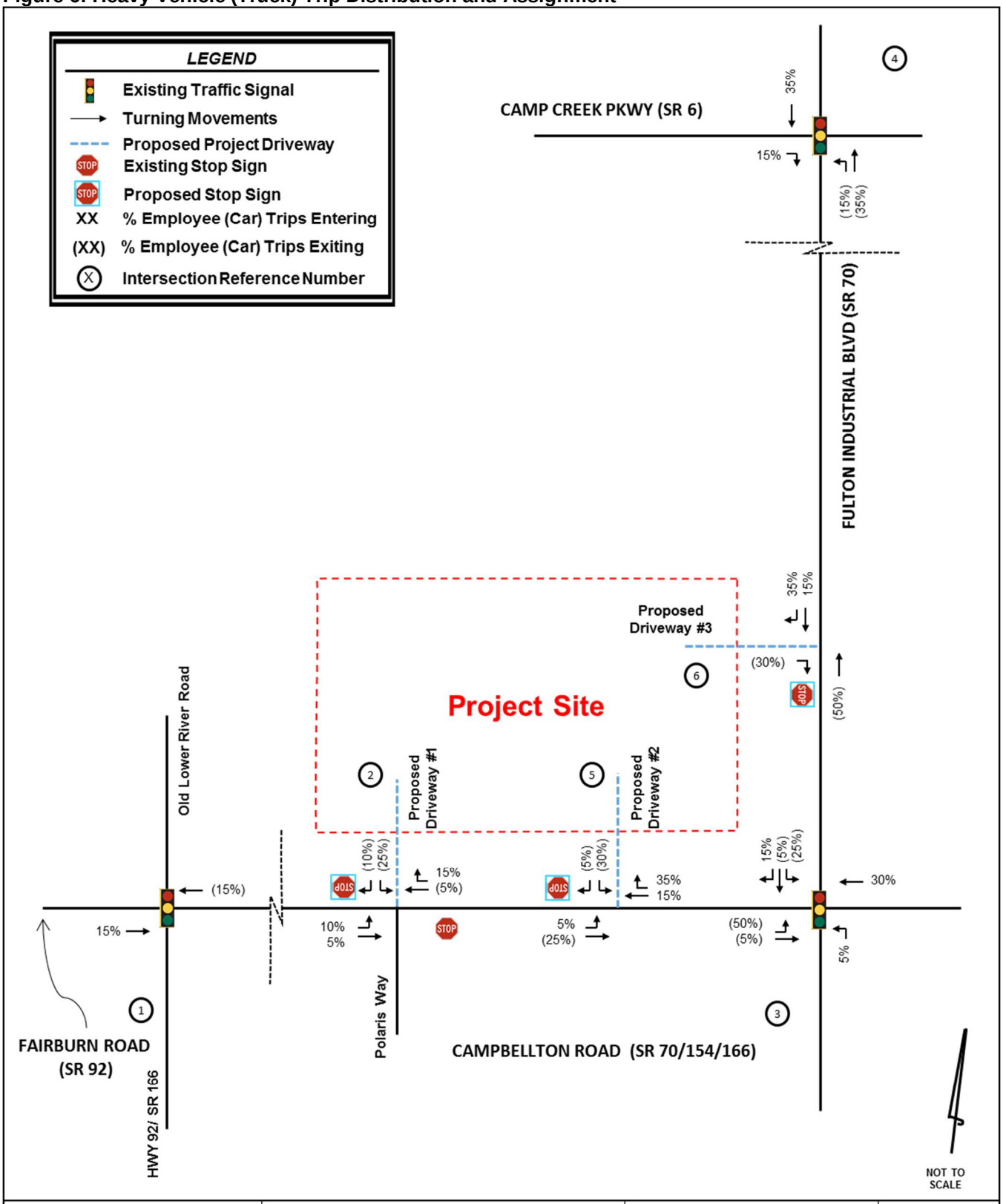
Detailed intersection volume worksheets are provided in **Appendix E**.

Figure 5: Employee (Car) Trip Distribution and Assignment



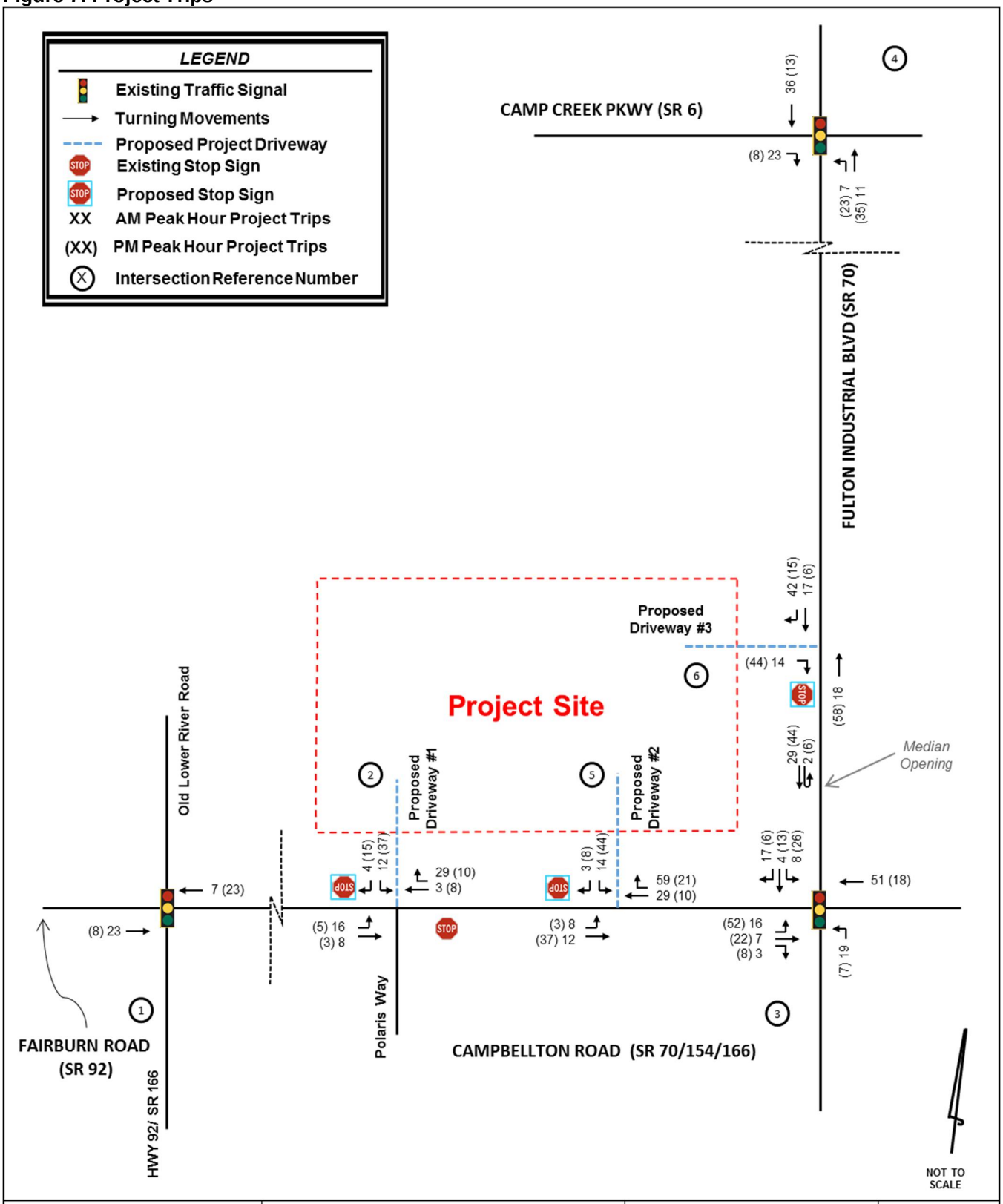
Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Employee (Car) Trip Distribution and Assignment	Figure 5

Figure 6: Heavy Vehicle (Truck) Trip Distribution and Assignment



Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Heavy Vehicle (Truck) Trip Distribution and Assignment	Figure 6

Figure 7: Project Trips



Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Project Trips	Figure 7

6.0 TRAFFIC ANALYSIS

6.1 Existing 2018 Conditions

The observed existing peak hour traffic volumes were entered into *Synchro 9.0,* and capacity analyses were performed for the AM and PM peak hours. The existing peak hour traffic volumes are displayed in **Figure 8**, and the results of the capacity analyses for the Existing 2018 conditions are shown in **Table 7**. Detailed *Synchro* analysis reports are available upon request.

Table 7: Existing 2018 Intersection Levels-of-Service
LOS (delay in seconds)

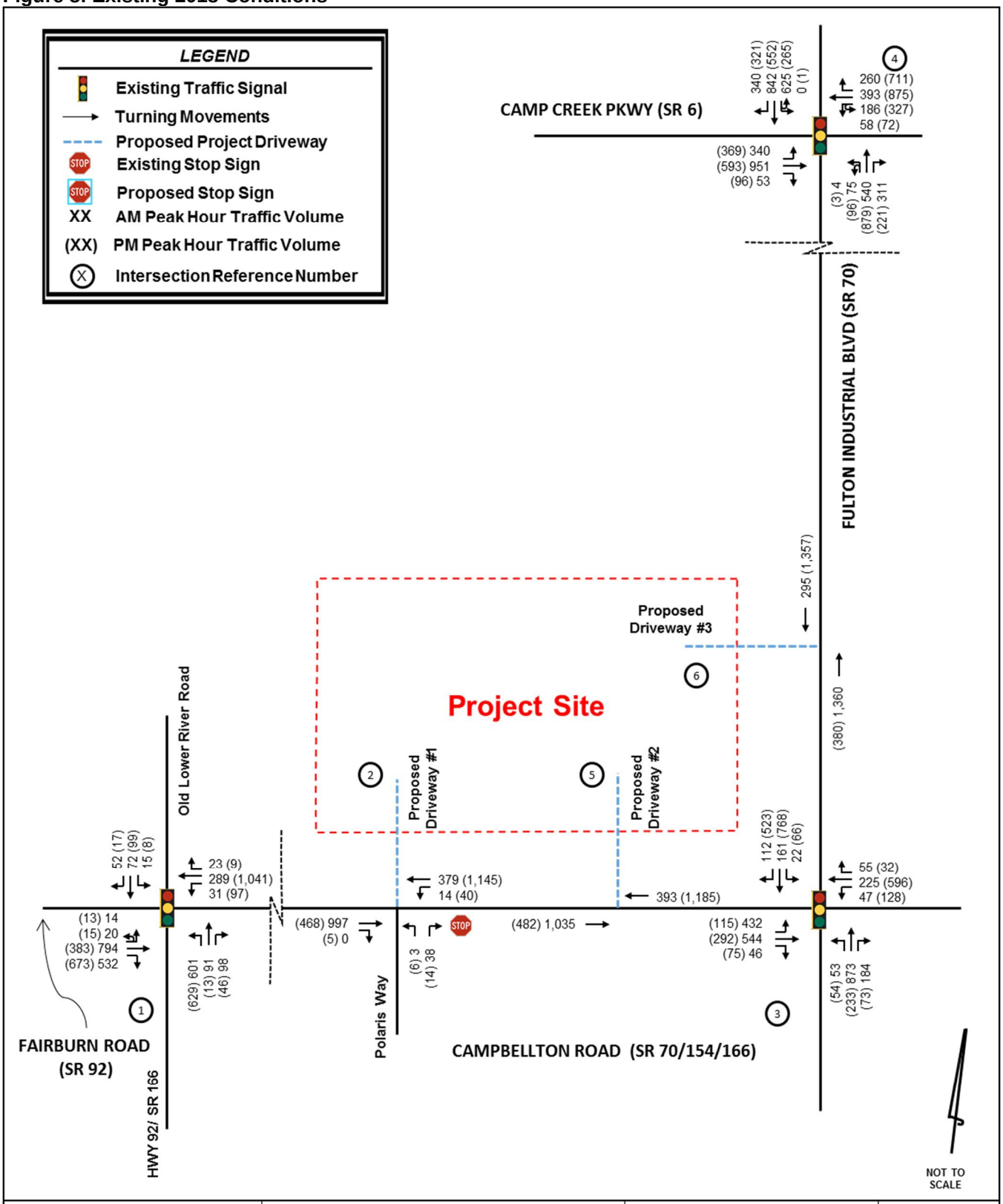
Intersection	Control	Approach/ Movement	LOS Std.*	AM Peak Hour	PM Peak Hour
1. Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South)	Signal	Overall	D / E	D (49.9)	E (75.3)
2. Campbellton Road (SR 70/ 154/ 166) at Polaris Way	Side-Street Stop-Control	Northbound	E	C (21.8)	C (23.3)
3. Fulton Industrial Boulevard (SR 70)/ Cascade Palmetto Highway at Campbellton Road (SR 70/ 154/ 166)	Signal	Overall	E	C (30.8)	D (41.3)
4. Fulton Industrial Boulevard (SR 70) at Camp Creek Parkway (SR 6)	Signal	Overall	E	D (54.0)	E (57.6)

* For the purposes of this traffic analysis, the LOS standard for Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South) is LOS D in the AM Peak, and LOS E in the PM Peak due to the existing condition of LOS E. The LOS standard is E for the remaining intersections in accordance with Section 3-102 of the *GRTA DRI Technical Guidelines*, because these intersections are located in the Fulton Industrial Regional Center according to the Unified Growth Policy Map.

As shown in **Table 7**, one (1) study intersection, Intersection 1: Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South), operates below the LOS standard of LOS D during the PM Peak Hour. Per GRTA guidelines, the LOS standard for the PM Peak Hour at Intersection 1 thus becomes LOS E for the considerations of the No-Build and Build future scenarios.

The remaining study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Existing 2018 conditions. Therefore, there are no recommended improvements for the Existing 2018 scenario.

Figure 8: Existing 2018 Conditions



Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Existing 2018 Conditions	Figure 8

6.2 Projected 2020 No-Build Conditions

To account for growth in the vicinity of the proposed development, the existing traffic volumes were increased for two (2) years at 2.0 percent per year throughout the study network. Additionally, estimated traffic from the proposed Woodbury Park development (DRI 2654) was included to determine impacts from that proposed future development for the No-Build and Build scenarios. These volumes were entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2020 No-Build conditions were analyzed using existing roadway geometry and existing intersection control types.

The intersection laneage and traffic volumes for the Projected 2020 No-Build conditions are shown in **Figure 9**. The results of the capacity analyses for the Projected 2020 No-Build are shown in **Table 8**. Detailed *Synchro* analysis reports are available upon request.

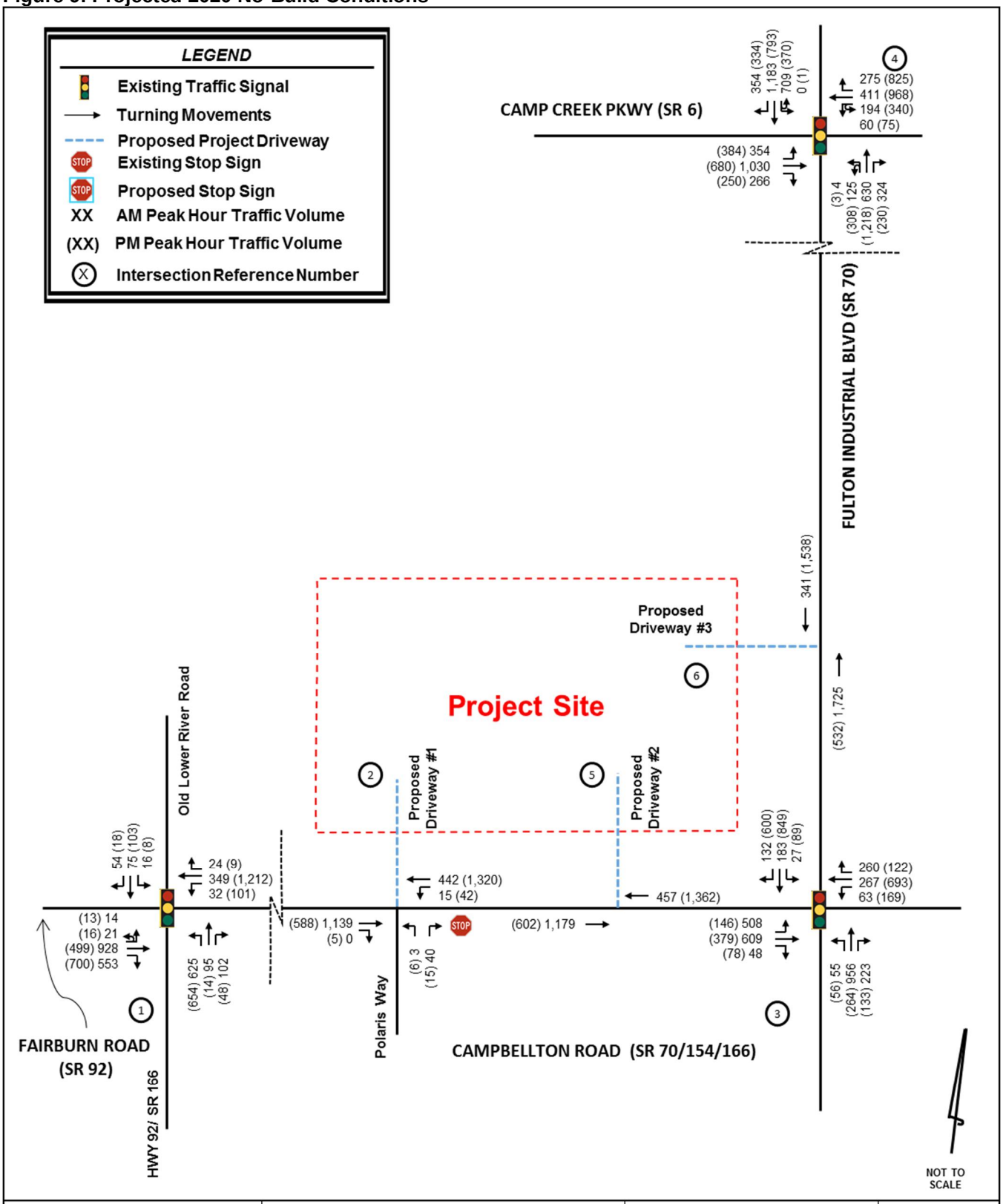
Table 8: Projected 2020 No-Build Intersection Levels-of-Service
LOS (delay in seconds)

Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South)	Signal	Overall	D/E	D (50.4)	E (76.2)
2. Campbellton Road (SR 70/ 154/ 166) at Polaris Way	Side-Street Stop-Control	Northbound	E	D (27.2)	D (32.4)
3. Fulton Industrial Boulevard (SR 70)/ Cascade Palmetto Highway at Campbellton Road (SR 70/ 154/ 166)	Signal	Overall	E	C (33.7)	D (48.6)
4. Fulton Industrial Boulevard (SR 70) at Camp Creek Parkway (SR 6)	Signal	Overall	E	E (56.0)	E (75.6)

* For the purposes of this traffic analysis, the LOS standard for Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South) is LOS D in the AM Peak, and LOS E in the PM Peak due to the existing condition of LOS E. The LOS standard is E for the remaining intersections in accordance with Section 3-102 of the *GRTA DRI Technical Guidelines*, because these intersections are located in the Fulton Industrial Regional Center according to the Unified Growth Policy Map.

As shown in **Table 8**, all four (4) study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2020 No-Build traffic conditions. Therefore, there are no recommended improvements for the Projected 2020 No-Build scenario.

Figure 9: Projected 2020 No-Build Conditions



Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Projected 2019 No-Build Conditions	Figure 9

6.3 Projected 2020 Build Conditions

The traffic associated with the proposed *Campbellton Site* development was added to the Projected 2020 No-Build volumes. These volumes were then entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2020 Build conditions were analyzed using the existing roadway geometry, existing intersection control types, and proposed site driveways as shown in the DRI site plan.

The intersection laneage and traffic volumes used for the Projected 2020 Build conditions are shown in **Figure 10**. The results of the capacity analyses for the Projected 2020 Build conditions are shown in **Table 9**. Detailed *Synchro* analysis reports are available upon request.

Table 9: Projected 2020 Build Intersection Levels-of-Service
LOS (delay in seconds)

Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South)	Signal	Overall	D/E	D (53.5)	E (77.9)
2. Campbellton Road (SR 70/ 154/ 166) at Polaris Way/ **Site Driveway #1**	Side-Street Stop-Control	Northbound	E	D (29.6)	F (51.4)
		Southbound	E	F (88.2)	F (336.2)
3. Fulton Industrial Boulevard (SR 70)/ Cascade Palmetto Highway at Campbellton Road (SR 70/ 154/ 166)	Signal	Overall	E	D (37.6)	D (49.8)
4. Fulton Industrial Boulevard (SR 70) at Camp Creek Parkway (SR 6)	Signal	Overall	E	E (56.1)	E (79.1)
5. Campbellton Road (SR 70/ 154/ 166) at **Site Driveway #2**	Side-Street Stop-Control	Southbound	E	F (60.0)	F (276.1)
6. Fulton Industrial Boulevard (SR 70) at **Site Driveway #3**	Side-Street Stop-Control	Eastbound (Right-in-Right-Out)	E	B (10.0)	C (21.5)

* For the purposes of this traffic analysis, the LOS standard for Fairburn Road (SR 92 North) at Old Lower River Road/ Highway 92 (SR 166/ SR 92 South) is LOS D in the AM Peak, and LOS E in the PM Peak due to the existing condition of LOS E. The LOS standard is E for the remaining intersections in accordance with Section 3-102 of the *GRTA DRI Technical Guidelines*, because these intersections are located in the Fulton Industrial Regional Center according to the Unified Growth Policy Map.

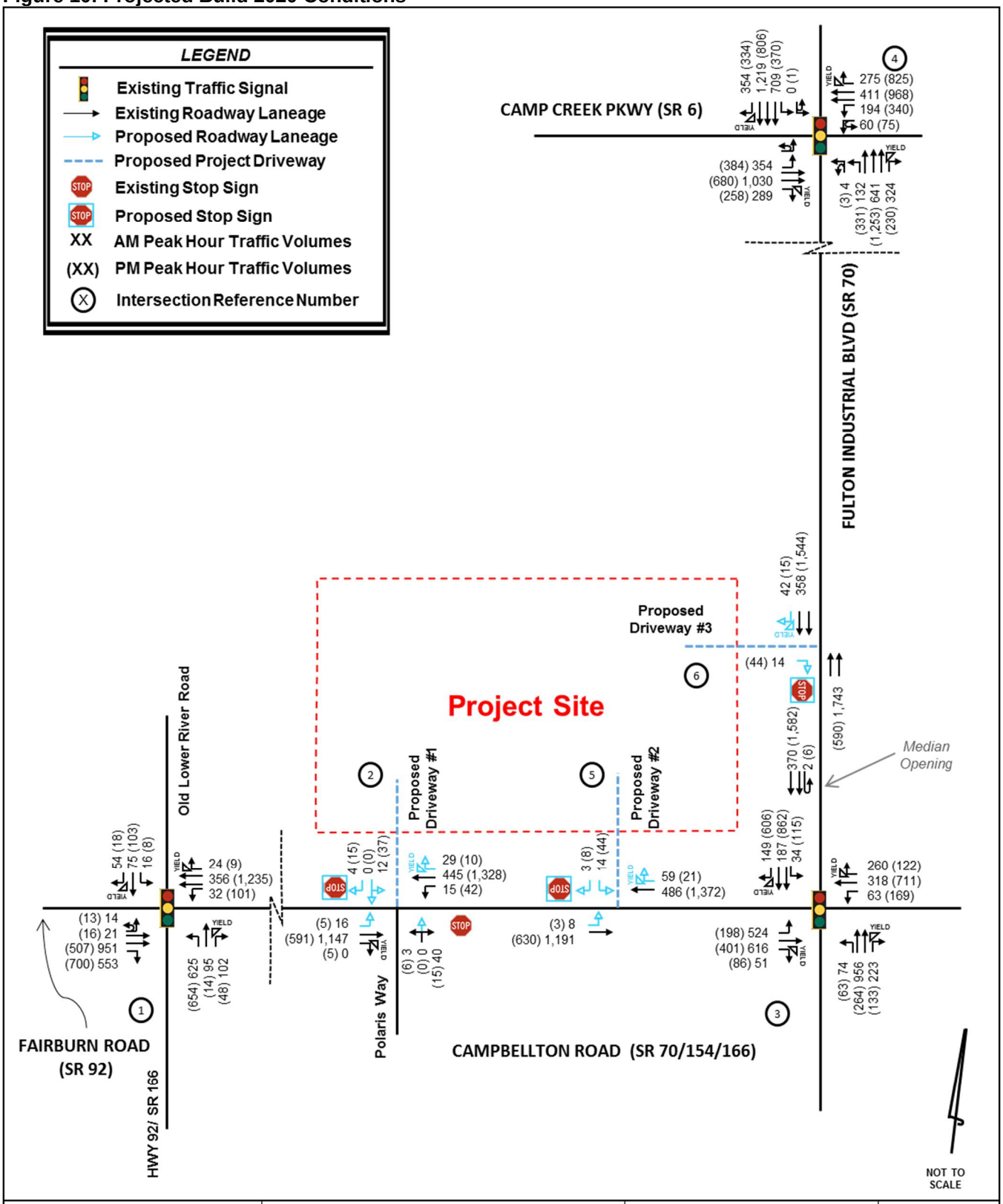
As shown in **Table 9**, two (2) site driveways show side-street stop-controlled approaches that operate below the acceptable overall approach level-of-service standard during the AM and PM peak hours for the Projected 2020 Build traffic. The southbound approach of Intersection 2: Campbellton Road (SR 70/ 154/ 166) at Polaris Way/ **Site Driveway #1** operates at LOS F during the AM and PM Peak Hours, while the northbound approach operates at LOS F during the PM Peak Hour. The southbound approach of Campbellton Road (SR 70/ 154/ 166) at **Site Driveway #2** operates at LOS F during the AM and PM Peak Hours. It should be noted that it is not uncommon for side-street stop-controlled approaches to experience long delays when there is heavy major street volume. Lastly, traffic signals at Intersection 2/ Site Driveway #1 and Intersection 5/ Site Driveway #2 are projected to not be warranted and are not proposed.

The remaining three (3) study intersections, and one (1) site driveway operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2020 Build traffic conditions.

Based on the Projected 2020 Build conditions, the following site access improvements are recommended:

- **Intersection 2**: Campbellton Road (SR 70/ 154/ 166) at Polaris Way/ **Site Driveway #1**
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) eastbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) westbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) southbound shared through-left-turn lane and one (1) southbound right-turn lane exiting the site onto Campbellton Road (SR 70/ 154/ 166) and one (1) ingress lane entering the site.
- **Intersection 5**: Campbellton Road (SR 70/ 154/ 166) at **Site Driveway #2**
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) eastbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - Along Campbellton Road (SR 70/ 154/ 166), construct one (1) westbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) southbound left-turn lane and one (1) southbound right-turn lane exiting the site onto Campbellton Road (SR 70/ 154/ 166) and one (1) ingress lane entering the site.
- **Intersection 6**: Fulton Industrial Boulevard (SR 70) at **Site Driveway #3**
  - Along Fulton Industrial Boulevard (SR 70), construct one (1) southbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) eastbound right-turn lane exiting the site onto Fulton Industrial Boulevard (SR 70) and one (1) ingress lane entering the site.

Figure 10: Projected Build 2020 Conditions



Kimley»Horn	*Campbellton Site* DRI # 2791 Transportation Analysis	Projected 2019 Build Conditions	Figure 10

7.0 INGRESS/EGRESS ANALYSIS

Vehicular access to the *Campbellton Site* development is proposed at three (3) locations. The site driveway location is discussed in *Section 1.3*. Driveway 1 and Driveway 2 are both proposed to be side-street stop-controlled full-movement driveways under the Projected 2020 Build conditions, while Driveway 3 is proposed to be right-in-right-out only with side-street stop-control. The proposed site driveways provide vehicular access to the entire development. Internal private roadways throughout the site provide access throughout the project site.

Capacity analyses were performed for the proposed site driveway intersections (Intersection #4 and Intersection #5) using *Synchro 9.0*. The results of the capacity analyses for this intersection (LOS, delay, and recommended laneage) are reported in *Section 6.3* of this report. Based on the Projected 2020 Build conditions, Intersection 2/ **Site Driveway #1**, and Intersection 5, **Site Driveway #2** along Campbellton Road (SR 70/ 154/ 166) are anticipated to experience some delay during the AM and PM Peak hours. It should be noted that it is not uncommon for side-street stop-controlled approaches to experience delays when there is heavy major street volume.

8.0 IDENTIFICATION OF PROGRAMMED PROJECTS

According to ARC's Transportation Improvement Program, the Regional Transportation Improvement Program, GDOT, City of Atlanta's programmed projects, and the GA STIP, the following projects are programmed or planned to be completed by the respective years within the vicinity of the proposed development. The identified projects are listed in **Table 10** below.

Table 10: Programmed Improvements

#	Year	Project ID	Project Description
1	2030	DO-019	Widen the section of Campbellton Road between Old Lower River Road to Fulton Industrial Boulevard from 2 lanes to 4 lanes.
2	2040	FS-003	Widen Fulton Industrial Boulevard between Camp Creek Parkway (SR 6) and James Aldridge Boulevard from 4 lanes to 6 lanes
3	TBD	DO-298	Construct Chattahoochee Hill Country Regional Greenway system in Douglas County

Fact sheets for projects 1-3 can be found in **Appendix F**.

9.0 INTERNAL CIRCULATION ANALYSIS

Internal roadways throughout the site provide vehicular access to all buildings and parking on the site. The proposed site driveway will provide access to buildings on the site. A detailed copy of the proposed site plan with internal site roadways is provided in **Appendix C** and a full-sized site plan is attached to the report.

APPENDIX A

Site Photo Log

Kimley»Horn
817 West Peachtree St NW
Suite 601
Atlanta, GA 30308

Taylor & Mathis, LLC

Photograph Sheet

KHA Job No.: 019949015
KHA Rep.: AAE
Date: April 7, 2018
Page: 1 of 5

Site Name: Campbellton Site

Photo No. 1

Comments:
Fairburn Road (SR 92) at Old Lower River Road/ Highway 92 (SR 166) looking northwest.

Photo No. 2

Comments:
Fairburn Road (SR 92) at Old Lower River Road/ Highway 92 (SR 166) looking east.

Kimley»Horn
817 West Peachtree St NW
Suite 601
Atlanta, GA 30308

Taylor & Mathis, LLC

Photograph Sheet

KHA Job No.: 019949015
KHA Rep.: AAE
Date: April 7, 2018
Page: 2 of 5

Site Name: Campbellton Site

Photo No. 3

Comments: Campbellton Road at Polaris Way looking westbound (Site Driveway #1 proposed opposite Polaris Way on right side of photo).

Photo No. 4

Comments: Campbellton Road at Polaris Way looking eastbound (Site Driveway #1 proposed opposite Polaris Way on left side of photo).

Kimley»Horn
817 West Peachtree St NW
Suite 601
Atlanta, GA 30308

Taylor & Mathis, LLC

Photograph Sheet

KHA Job No.: 019949015
KHA Rep.: AAE
Date: April 7, 2018
Page: 3 of 5

Site Name: Campbellton Site

Photo No. 5

Comments: Polaris Way at Campbellton Road looking northbound (Site Driveway #1 proposed opposite Polaris Way straight ahead in photo).

Photo No. 6

Comments: Campbellton Road at approximate location of Site Driveway #2.

Kimley»Horn
817 West Peachtree St NW
Suite 601
Atlanta, GA 30308

Taylor & Mathis, LLC

Photograph Sheet

KHA Job No.: 019949015
KHA Rep.: AAE
Date: April 7, 2018
Page: 4 of 5

Site Name: Campbellton Site

Photo No. 7

Comments:
Campbellton Road (SR 154/SR 166) at Fulton Industrial Boulevard (SR 70) looking northeast.

Photo No. 8

Comments:
Fulton Industrial Boulevard (SR 70) at Campbellton Road (SR 154/SR 166) looking south.

Kimley»Horn
817 West Peachtree St NW
Suite 601
Atlanta, GA 30308

Taylor & Mathis, LLC

Photograph Sheet

KHA Job No.: 019949015
KHA Rep.: AAE
Date: April 7, 2018
Page: 5 of 5

Site Name: Campbellton Site

Photo No. 9

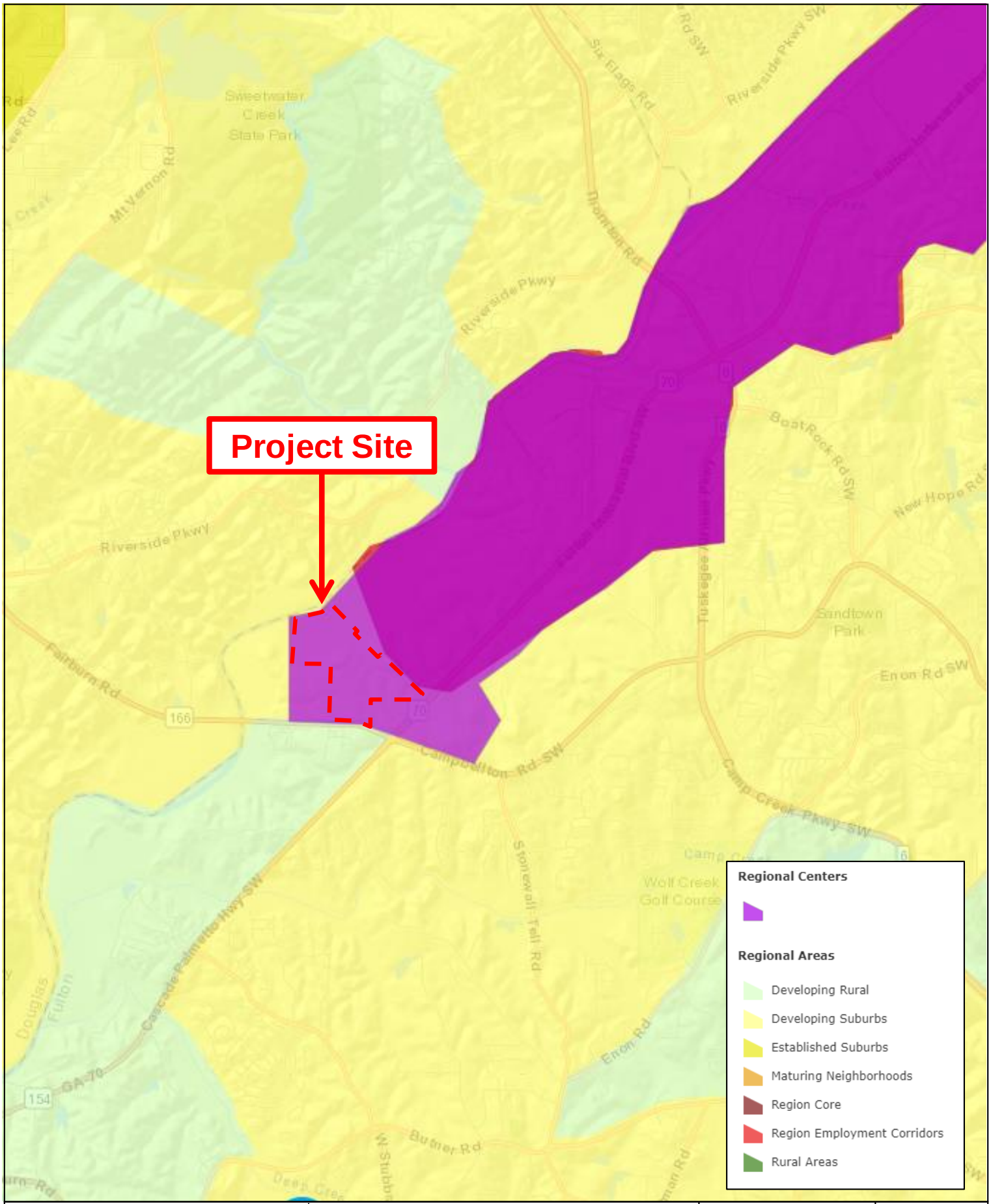
Comments: Camp Creek Parkway (SR 6) at Fulton Industrial Boulevard (SR 70) looking eastbound on Camp Creek Parkway (cardinal direction southeast).

Photo No. 10

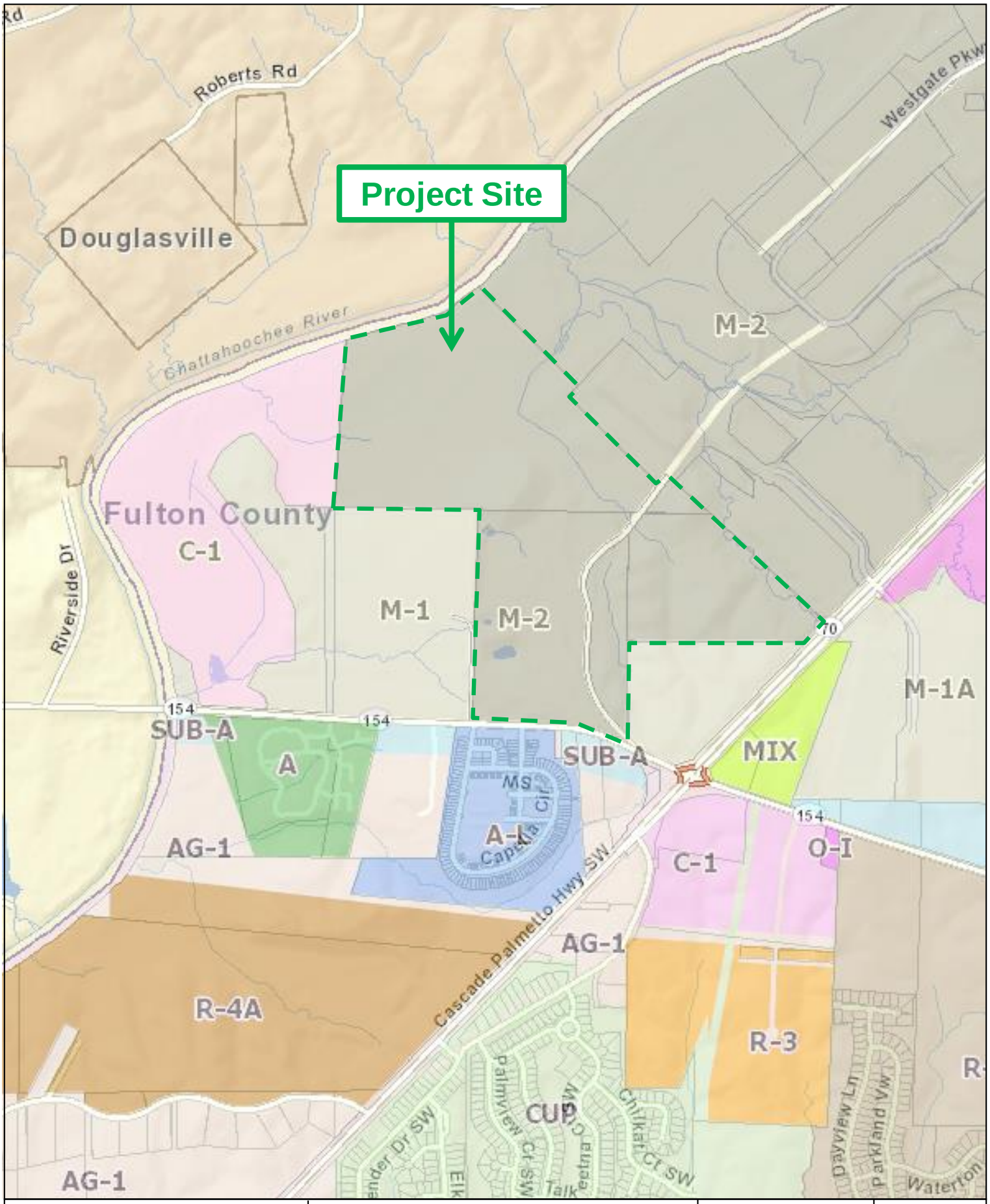
Comments: Fulton Industrial Boulevard (SR 70) at Camp Creek Parkway (SR 6) looking northbound along Fulton Industrial Boulevard (cardinal direction northeast).

APPENDIX B

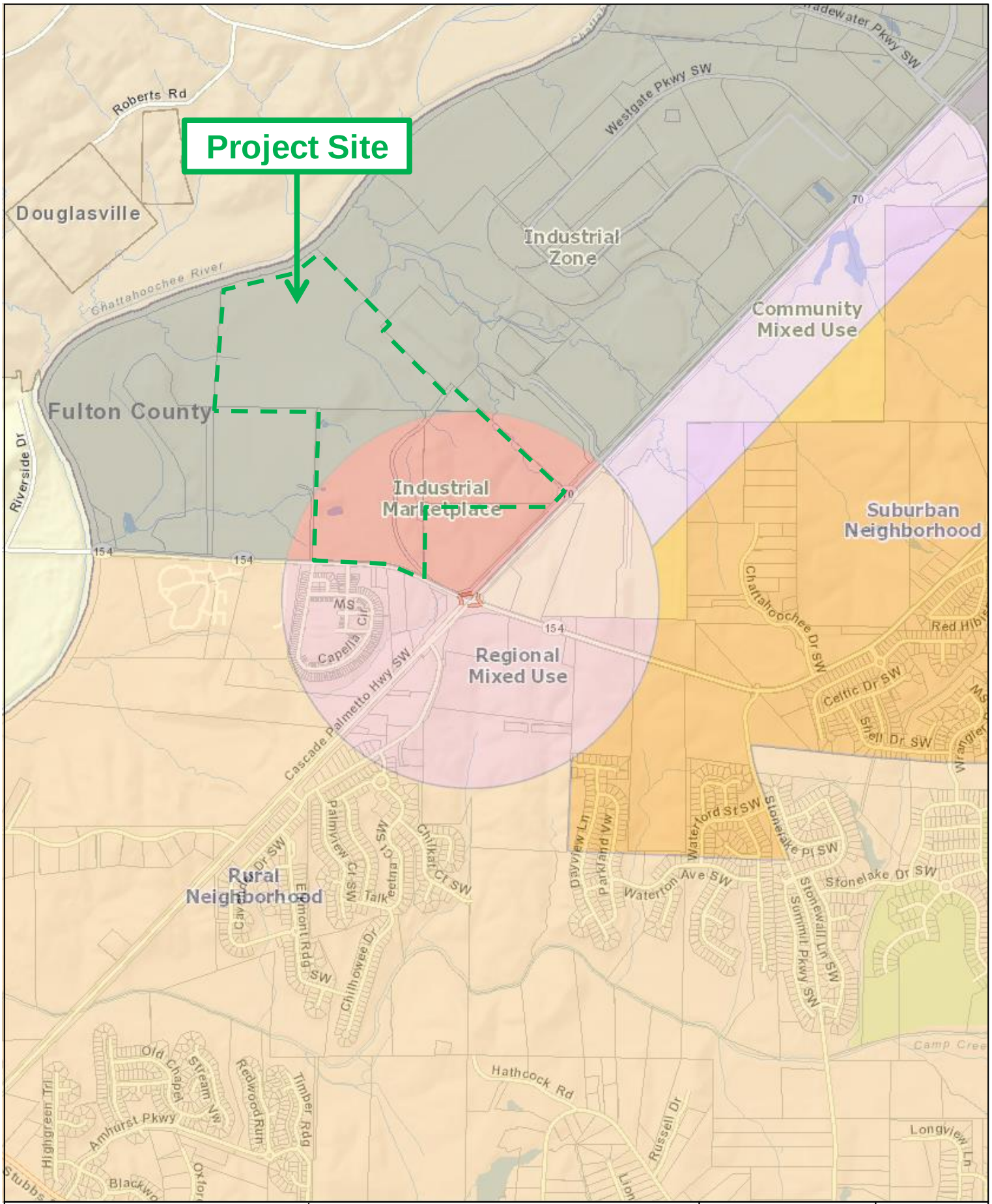
Land Use and Zoning Maps



Kimley»Horn	*Campbellton Site* *DRI #2791* *Transportation Analysis*	**ARC Unified Growth Policy Map**	**Appendix B-1**



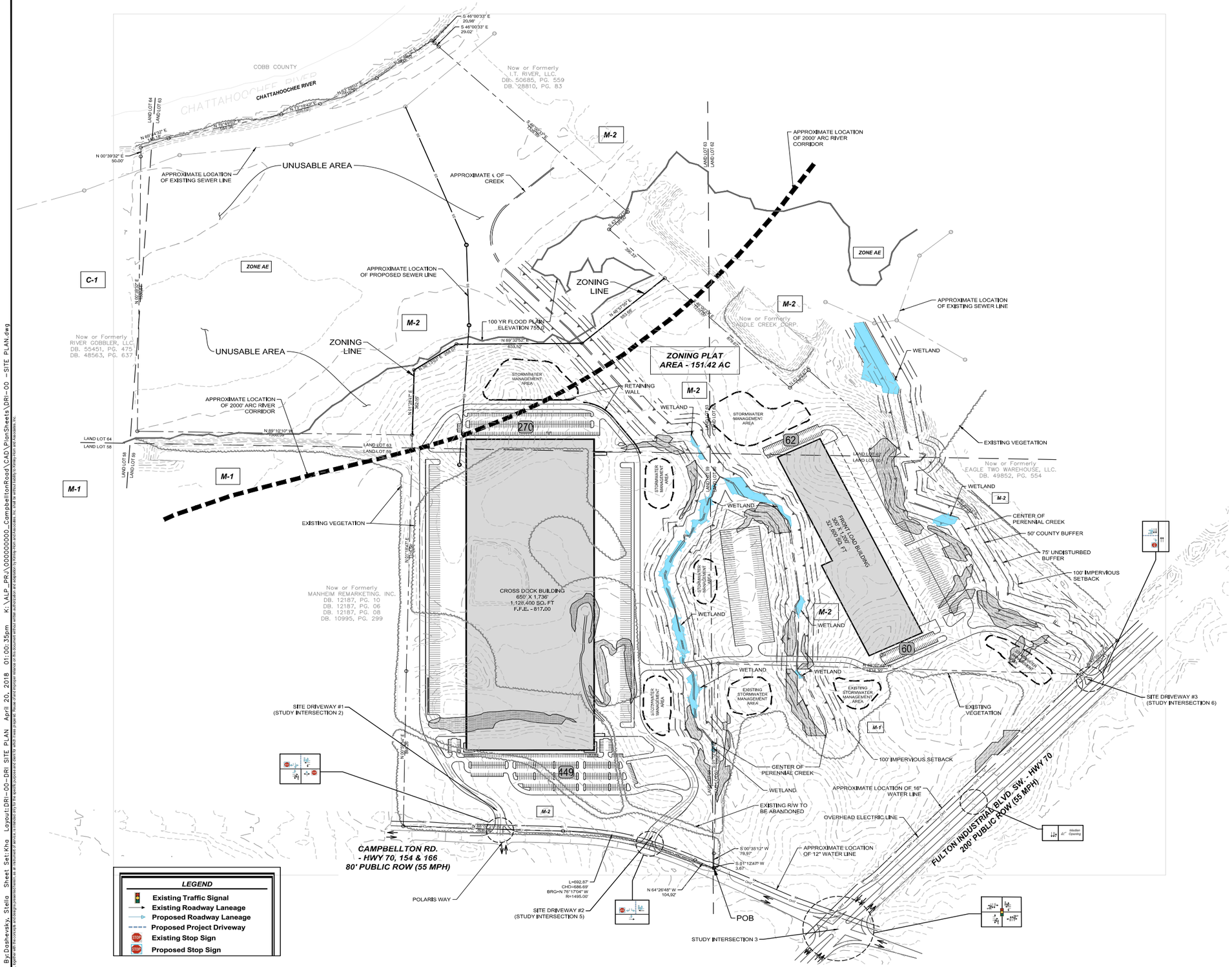
Kimley»Horn	*Campbellton Site* *DRI #2791* *Transportation Analysis*	Current Zoning Map of Fulton County, GA	Appendix B-2

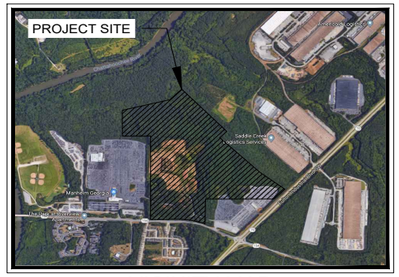


Kimley»Horn	*Campbellton Site* *DRI #2791* *Transportation Analysis*	**Future Land Use Map of Fulton County, GA**	**Appendix B-3**

APPENDIX C

Proposed Site Plan





VICINITY MAP

SITE PLAN LEGEND:

- PROPERTY LINE
- STREAM BUFFER LINE/SETBACK
- 10 — PARKING COUNT
- OHT — OVERHEAD ELECTRIC LINE
- VEGETATION LINE
- W — WATER LINE
- WETLANDS
- SLOPES EXCEEDING 33% AND 10 FT

NOTES:

ZONING:	M-2
ZONING PLAT:	151.42 ACRES
TOTAL PARENT TRACT:	240.012 ACRES
BUILDING HEIGHTS:	48.0 FT.
PROPOSED USE:	WAREHOUSE/OFFICE
	1,450,000 SF TOTAL AREA
WAREHOUSE	1,406,500 SF
OFFICE	43,500 SF
PARKING SPACES REQUIRED:	
WAREHOUSE (1 PER 2000 SF)	704 SPACES
OFFICE (3 PER 1000 SF)	131 SPACES
TOTAL PARKING SPACES	835 SPACES
TOTAL H/C SPACES REQUIRED	15 SPACES
H/C VAN ACCESSIBLE REQUIRED	2 SPACES
TOTAL PARKING PROVIDED:	841 AUTOMOBILE SPACES
STANDARD PARKING	821 SPACES
H/C PARKING	20 SPACES
H/C VAN ACCESSIBLE	20 SPACES
TRAILER STORAGE	422 SPACES

CONTACT INFORMATION:

APPLICANT/ LAND PLANNER:	TAYLOR & MATHIS, INC. 400 INTERSTATE NORTH PARKWAY, SUITE 850 ATLANTA, GA 30339 770-795-1330 MIKE IRBY HAMILTON REYNOLDS
TRAFFIC ENGINEER:	KIMLEY-HORN & ASSOCIATES, INC. 11720 AMBER PARK DRIVE, SUITE 600 ALPHARETTA, GA 30009 470-273-3181 JOHN WALKER
CIVIL ENGINEER:	KIMLEY-HORN & ASSOCIATES, INC. 11720 AMBER PARK DRIVE, SUITE 600 ALPHARETTA, GA 30009 470-299-7045 GREG MAXEY

GEORGIA811. Know what's below. Call before you dig.

NORTH

GRAPHIC SCALE IN FEET
0 100 200 400

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2018 KIMLEY-HORN AND ASSOCIATES, INC.
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GEORGIA 30009
PHONE (770) 619-4280
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DRAWN BY: AK
DESIGNED BY: SD
CHECKED BY: GMM

CLIENT:
TAYLOR&MATHIS
400 INTERSTATE NORTH PKWY, SUITE 850
ATLANTA, GA 30339

PROJECT: CAMPBELLTON LOGISTICS CENTER
FULTON COUNTY, GA

TITLE: DRI # 2791 SITE PLAN

DATE 04/06/2018
PROJECT NO. 019949000
SHEET NUMBER DRI-00

APPENDIX D

Trip Generation Analysis

Trip Generation Analysis (10th Ed.)
Campbellton Site DRI #2791
Fulton County, GA

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Site Traffic								
150 Warehousing	1,450,000 s.f.	2,336	199	153	46	202	55	147
Gross Trips		**2,336**	**199**	**153**	**46**	**202**	**55**	**147**
Truck Trips (25% Warehousing Trips)		584	50	38	12	51	14	37
Mixed-Use Reductions		*0*				*0*	*0*	*0*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Adjusted Truck Trips		584	50	38	12	51	14	37
Car Trips (75% Warehousing Trips)		1,752	149	115	34	151	41	110
Mixed-Use Reductions		*0*				*0*	*0*	*0*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Adjusted Car Trips		1,752	149	115	34	151	41	110
Mixed-Use Reductions - TOTAL		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Alternative Mode Reductions - TOTAL		*0*	*0*	*0*	*0*	*0*	*0*	*0*
New Trips		**2,336**	**199**	**153**	**46**	**202**	**55**	**147**
Driveway Volumes		**2,336**	**199**	**153**	**46**	**202**	**55**	**147**

k:\alp_tpto\019949015 campbellton road dri, fulton county - january 2018\dri phase ii - traffic study\analysis\[campbellton_2791_analysis.xls]trip generation

APPENDIX E

Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

Intersection #1: Hwy 92 (Fairburn Rd) / Fairburn Rd @ HWY 92/166 / Old Lower River Rd

AM PEAK HOUR

Description	HWY 92/166 Northbound			Old Lower River Rd Southbound			Hwy 92 (Fairburn Rd) Eastbound				Fairburn Rd Westbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	601	91	98	15	72	52	14	20	794	532	31	289	23
Pedestrians													
Conflicting Pedestrians	0		0	0		0		0		0	0		0
Heavy Vehicles	10	0	0	0	0	0	0	0	10	18	1	7	0
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	2%	2%
Peak Hour Factor		0.92			0.92				0.92			0.92	
Adjustment													
Adjusted 2018 Volumes	601	91	98	15	72	52	14	20	794	532	31	289	23
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips									21			10	
Woodbury Park Trips (DRI # 2654) - Truck Trips									81			38	
2020 Background Traffic	625	95	102	16	75	54	14	21	928	553	32	349	24
2020 No-Build Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	4%	3%	3%	5%	2%
Project Trips (Future Development Only)													
Trip Distribution IN									15%				
Trip Distribution OUT												15%	
Truck Trips	0	0	0	0	0	0	0	0	6	0	0	2	0
Trip Distribution IN									15%				
Trip Distribution OUT												15%	
Car Trips	0	0	0	0	0	0	0	0	17	0	0	5	0
Total Project Trips	0	0	0	0	0	0	0	0	23	0	0	7	0
2020 Buildout Total	625	95	102	16	75	54	14	21	951	553	32	356	24
2020 Build Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	5%	3%	3%	5%	2%

PM PEAK HOUR

Description	HWY 92/166 Northbound			Old Lower River Rd Southbound			Hwy 92 (Fairburn Rd) Eastbound				Fairburn Rd Westbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	629	13	46	8	99	17	13	15	383	673	97	1,041	9
Pedestrians													
Conflicting Pedestrians	0		0	0		0		0		0	0		0
Heavy Vehicles	18	0	2	0	0	0	0	0	12	20	1	11	0
Heavy Vehicle %	3%	2%	4%	2%	2%	2%	2%	2%	3%	3%	2%	2%	2%
Peak Hour Factor		0.93			0.93				0.93			0.93	
Adjustment													
Adjusted 2018 Volumes	629	13	46	8	99	17	13	15	383	673	97	1041	9
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips									16			20	
Woodbury Park Trips (DRI # 2654) - Truck Trips									85			109	
2020 Background Traffic	654	14	48	8	103	18	13	16	499	700	101	1,212	9
2020 No-Build Heavy Vehicle %	3%	2%	4%	2%	2%	2%	2%	2%	6%	3%	2%	3%	2%
Project Trips (Future Development Only)													
Trip Distribution IN									15%				
Trip Distribution OUT												15%	
Truck Trips	0	0	0	0	0	0	0	0	2	0	0	6	0
Trip Distribution IN									15%				
Trip Distribution OUT												15%	
Car Trips	0	0	0	0	0	0	0	0	6	0	0	17	0
Total Project Trips	0	0	0	0	0	0	0	0	8	0	0	23	0
2020 Buildout Total	654	14	48	8	103	18	13	16	507	700	101	1,235	9
2020 Build Heavy Vehicle %	3%	2%	4%	2%	2%	2%	2%	2%	6%	3%	2%	4%	2%

INTERSECTION VOLUME DEVELOPMENT

Intersection #2: Campbellton Rd @ Polaris Way / Site Driveway #1
AM PEAK HOUR

Description	Polaris Way Northbound			Site Driveway #1 Southbound			Campbellton Rd Eastbound			Campbellton Rd Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	3	0	38	0	0	0	0	997	0	14	379	0
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	0	0	0	0	0	0	15	0	0	9	0
Heavy Vehicle %	2%	0%	2%	0%	0%	0%	0%	2%	0%	2%	2%	0%
Peak Hour Factor		0.95			0.95			0.95			0.95	
Adjustment												
Adjusted 2018 Volumes	3	0	38	0	0	0	0	997	0	14	379	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips								21			10	
Woodbury Park Trips (DRI # 2654) - Truck Trips								81			38	
2020 Background Traffic	3	0	40	0	0	0	0	1,139	0	15	442	0
2020 No-Build Heavy Vehicle %	2%	0%	2%	0%	0%	0%	0%	4%	0%	2%	4%	0%
Project Trips (Future Development Only)												
Trip Distribution IN							10%	5%				15%
Trip Distribution OUT				25%		10%					5%	
Truck Trips	0	0	0	3	0	1	4	2	0	0	1	6
Trip Distribution IN							10%	5%				20%
Trip Distribution OUT				25%		10%					5%	
Car Trips	0	0	0	9	0	3	12	6	0	0	2	23
Total Project Trips	0	0	0	12	0	4	16	8	0	0	3	29
2020 Buildout Total	3	0	40	12	0	4	16	1,147	0	15	445	29
2020 Build Heavy Vehicle %	2%	0%	2%	25%	0%	25%	25%	4%	0%	2%	5%	21%

PM PEAK HOUR

Description	Polaris Way Northbound			Site Driveway #1 Southbound			Campbellton Rd Eastbound			Campbellton Rd Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	6	0	14	0	0	0	0	468	5	40	1,145	0
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	0	0	0	0	0	0	16	0	0	20	0
Heavy Vehicle %	2%	0%	2%	0%	0%	0%	0%	3%	2%	2%	2%	0%
Peak Hour Factor		0.96			0.96			0.96			0.96	
Adjustment												
Adjusted 2018 Volumes	6	0	14	0	0	0	0	468	5	40	1145	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips								16			20	
Woodbury Park Trips (DRI # 2654) - Truck Trips								85			109	
2020 Background Traffic	6	0	15	0	0	0	0	588	5	42	1,320	0
2020 No-Build Heavy Vehicle %	2%	0%	2%	0%	0%	0%	0%	6%	2%	2%	3%	0%
Project Trips (Future Development Only)												
Trip Distribution IN							10%	5%				15%
Trip Distribution OUT				25%		10%					5%	
Truck Trips	0	0	0	9	0	4	1	1	0	0	2	2
Trip Distribution IN							10%	5%				20%
Trip Distribution OUT				25%		10%					5%	
Car Trips	0	0	0	28	0	11	4	2	0	0	6	8
Total Project Trips	0	0	0	37	0	15	5	3	0	0	8	10
2020 Buildout Total	6	0	15	37	0	15	5	591	5	42	1,328	10
2020 Build Heavy Vehicle %	2%	0%	2%	24%	0%	27%	20%	6%	2%	2%	3%	20%

INTERSECTION VOLUME DEVELOPMENT

Intersection #3: Cascade Palmetto Hwy / Fulton Industrial Blvd @ Campbellton Rd
AM PEAK HOUR

Description	Cascade Palmetto Hwy Northbound			Fulton Industrial Blvd Southbound			Campbellton Rd Eastbound			Campbellton Rd Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	53	873	184	22	161	112	432	544	46	47	225	55
Pedestrians												
Conflicting Pedestrians	1		0	0		0	0		0	0		0
Heavy Vehicles	1	15	2	5	13	4	2	11	2	4	4	8
Heavy Vehicle %	2%	2%	2%	23%	8%	4%	2%	2%	4%	9%	2%	15%
Peak Hour Factor		0.96			0.96			0.96			0.96	
Adjustment												
Adjusted 2018 Volumes	53	873	184	22	161	112	432	544	46	47	225	55
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips	0	10	6	1	3	3	12	9	0	3	7	41
Woodbury Park Trips (DRI # 2654) - Truck Trips	0	38	26	3	12	12	47	34	0	11	26	162
2020 Background Traffic	55	956	223	27	183	132	508	609	48	63	267	260
2020 No-Build Heavy Vehicle %	2%	3%	4%	23%	9%	5%	4%	3%	4%	11%	4%	19%
Project Trips (Future Development Only)												
Trip Distribution IN	5%					15%					30%	
Trip Distribution OUT				25%	5%		50%	0%	5%			
Truck Trips	2	0	0	3	1	6	6	0	1	0	11	0
Trip Distribution IN	15%					10%					35%	
Trip Distribution OUT				15%	10%		30%	20%	5%			
Car Trips	17	0	0	5	3	11	10	7	2	0	40	0
Total Project Trips	19	0	0	8	4	17	16	7	3	0	51	0
2020 Buildout Total	74	956	223	35	187	149	524	616	51	63	318	260
2020 Build Heavy Vehicle %	4%	3%	4%	26%	9%	9%	5%	3%	6%	11%	7%	19%

PM PEAK HOUR

Description	Cascade Palmetto Hwy Northbound			Fulton Industrial Blvd Southbound			Campbellton Rd Eastbound			Campbellton Rd Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	54	233	73	66	768	523	115	292	75	128	596	32
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	27	0	13	21	11	6	7	4	1	7	6
Heavy Vehicle %	2%	12%	2%	20%	3%	2%	5%	2%	5%	2%	2%	19%
Peak Hour Factor		0.96			0.96			0.96			0.96	
Adjustment												
Adjusted 2018 Volumes	54	233	73	66	768	523	115	292	75	128	596	32
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips	0	3	9	3	8	9	4	12	0	6	11	14
Woodbury Park Trips (DRI # 2654) - Truck Trips	0	19	48	17	42	47	22	63	0	30	62	75
2020 Background Traffic	56	264	133	89	849	600	146	379	78	169	693	122
2020 No-Build Heavy Vehicle %	2%	12%	8%	19%	4%	3%	7%	5%	5%	5%	3%	17%
Project Trips (Future Development Only)												
Trip Distribution IN	5%					15%					30%	
Trip Distribution OUT				25%	5%		50%	0%	5%			
Truck Trips	1	0	0	9	2	2	19	0	2	0	4	0
Trip Distribution IN	15%					10%					35%	
Trip Distribution OUT				15%	10%		30%	20%	5%			
Car Trips	6	0	0	17	11	4	33	22	6	0	14	0
Total Project Trips	7	0	0	26	13	6	52	22	8	0	18	0
2020 Buildout Total	63	264	133	115	862	606	198	401	86	169	711	122
2020 Build Heavy Vehicle %	3%	12%	8%	22%	4%	4%	15%	5%	7%	5%	4%	17%

INTERSECTION VOLUME DEVELOPMENT

Intersection #4: Fulton Industrial Blvd @ Camp Creek Pkwy
AM PEAK HOUR

Description	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Camp Creek Pkwy Eastbound			Camp Creek Pkwy Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	4	75	540	311	0	625	843	340	340	951	53	58	186	393	260
Pedestrians															
Conflicting Pedestrians		0		0		0		0	0		0		0		0
Heavy Vehicles	0	39	46	29	0	29	80	55	58	47	24	0	29	46	15
Heavy Vehicle %	2%	52%	9%	9%	0%	5%	9%	16%	17%	5%	45%	2%	16%	12%	6%
Peak Hour Factor	0.98				0.98				0.98			0.98			
Adjustment															
Adjusted 2018 Volumes	4	75	540	311	0	625	843	340	340	951	53	58	186	393	260
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips		11	12	0		11	56	0	0	9	48		0	0	1
Woodbury Park Trips (DRI # 2654) - Truck Trips		36	56	0		48	250	0	0	32	163		0	2	3
2020 Background Traffic	4	125	630	324	0	709	1,183	354	354	1,030	266	60	194	411	275
2020 No-Build Heavy Vehicle %	2%	41%	10%	9%	0%	6%	12%	16%	17%	6%	27%	2%	16%	12%	6%
Project Trips (Future Development Only)															
Trip Distribution IN							35%				15%				
Trip Distribution OUT		15%	35%												
Truck Trips	0	2	4	0	0	0	13	0	0	0	6	0	0	0	0
Trip Distribution IN							20%				15%				
Trip Distribution OUT		15%	20%												
Car Trips	0	5	7	0	0	0	23	0	0	0	17	0	0	0	0
Total Project Trips	0	7	11	0	0	0	36	0	0	0	23	0	0	0	0
2020 Buildout Total	4	132	641	324	0	709	1,219	354	354	1,030	289	60	194	411	275
2020 Build Heavy Vehicle %	2%	41%	10%	9%	0%	6%	12%	16%	17%	6%	27%	2%	16%	12%	6%

PM PEAK HOUR

Description	Fulton Industrial Blvd Northbound				Fulton Industrial Blvd Southbound				Camp Creek Pkwy Eastbound			Camp Creek Pkwy Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	3	96	879	221	1	265	553	321	369	593	96	72	327	875	711
Pedestrians															
Conflicting Pedestrians		0		0		0		0	0		0		0		0
Heavy Vehicles	0	37	64	14	0	23	45	46	48	54	35	0	17	53	23
Heavy Vehicle %	2%	39%	7%	6%	2%	9%	8%	14%	13%	9%	36%	2%	5%	6%	3%
Peak Hour Factor	0.97				0.97				0.97			0.97			
Adjustment															
Adjusted 2018 Volumes	3	96	879	221	1	265	553	321	369	593	96	72	327	875	711
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips		37	43	0		14	31	0	0	11	27		0	10	12
Woodbury Park Trips (DRI # 2654) - Truck Trips		171	260	0		80	187	0	0	52	123		0	48	73
2020 Background Traffic	3	308	1,218	230	1	370	793	334	384	680	250	75	340	968	825
2020 No-Build Heavy Vehicle %	2%	25%	9%	6%	2%	10%	10%	14%	13%	10%	25%	2%	5%	7%	4%
Project Trips (Future Development Only)															
Trip Distribution IN							35%				15%				
Trip Distribution OUT		15%	35%												
Truck Trips	0	6	13	0	0	0	5	0	0	0	2	0	0	0	0
Trip Distribution IN							20%				15%				
Trip Distribution OUT		15%	20%												
Car Trips	0	17	22	0	0	0	8	0	0	0	6	0	0	0	0
Total Project Trips	0	23	35	0	0	0	13	0	0	0	8	0	0	0	0
2020 Buildout Total	3	331	1,253	230	1	370	806	334	384	680	258	75	340	968	825
2020 Build Heavy Vehicle %	2%	25%	10%	6%	2%	10%	10%	14%	13%	10%	25%	2%	5%	7%	4%

INTERSECTION VOLUME DEVELOPMENT

Intersection #5: Campbellton Rd @ Site Driveway #2
AM PEAK HOUR

Description	Northbound			Site Driveway #2 Southbound			Campbellton Rd Eastbound			Campbellton Rd Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes								1,035			393	
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles								15			9	
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	0	0	0	0	0	0	1035	0	0	393	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips								21			10	
Woodbury Park Trips (DRI # 2654) - Truck Trips								81			38	
2020 Background Traffic	0	0	0	0	0	0	0	1,179	0	0	457	0
2020 No-Build Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	4%	0%
Project Trips (Future Development Only)												
Trip Distribution IN							5%				15%	35%
Trip Distribution OUT				30%		5%		25%				
Truck Trips	0	0	0	4	0	1	2	3	0	0	6	13
Trip Distribution IN							5%				20%	40%
Trip Distribution OUT				30%		5%		25%				
Car Trips	0	0	0	10	0	2	6	9	0	0	23	46
Total Project Trips	0	0	0	14	0	3	8	12	0	0	29	59
2020 Buildout Total	0	0	0	14	0	3	8	1,191	0	0	486	59
2020 Build Heavy Vehicle %	0%	0%	0%	29%	0%	33%	25%	4%	0%	0%	5%	22%

PM PEAK HOUR

Description	Northbound			Site Driveway #2 Southbound			Campbellton Rd Eastbound			Campbellton Rd Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes								482			1,185	
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles								17			18	
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	2%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	0	0	0	0	0	0	482	0	0	1185	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips								16			20	
Woodbury Park Trips (DRI # 2654) - Truck Trips								85			109	
2020 Background Traffic	0	0	0	0	0	0	0	602	0	0	1,362	0
2020 No-Build Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	3%	0%
Project Trips (Future Development Only)												
Trip Distribution IN							5%				15%	35%
Trip Distribution OUT				30%		5%		25%				
Truck Trips	0	0	0	11	0	2	1	9	0	0	2	5
Trip Distribution IN							5%				20%	40%
Trip Distribution OUT				30%		5%		25%				
Car Trips	0	0	0	33	0	6	2	28	0	0	8	16
Total Project Trips	0	0	0	44	0	8	3	37	0	0	10	21
2020 Buildout Total	0	0	0	44	0	8	3	639	0	0	1,372	21
2020 Build Heavy Vehicle %	0%	0%	0%	25%	0%	25%	33%	7%	0%	0%	3%	24%

INTERSECTION VOLUME DEVELOPMENT

Intersection #6: Fulton Industrial Blvd @ Site Driveway #3
AM PEAK HOUR

Description	Fulton Industrial Blvd Northbound			Fulton Industrial Blvd Southbound			Site Driveway #3 Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes		1,360			295							
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles		25			22							
Heavy Vehicle %	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	1360	0	0	295	0	0	0	0	0	0	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips		63			7							
Woodbury Park Trips (DRI # 2654) - Truck Trips		247			27							
2020 Background Traffic	0	1,725	0	0	341	0	0	0	0	0	0	0
2020 No-Build Heavy Vehicle %	0%	5%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Future Development Only)												
Trip Distribution IN					15%	35%						
Trip Distribution OUT		50%							30%			
Truck Trips	0	6	0	0	6	13	0	0	4	0	0	0
Trip Distribution IN					10%	25%						
Trip Distribution OUT		35%							30%			
Car Trips	0	12	0	0	11	29	0	0	10	0	0	0
Total Project Trips	0	18	0	0	17	42	0	0	14	0	0	0
2020 Buildout Total	0	1,743	0	0	358	42	0	0	14	0	0	0
2020 Build Heavy Vehicle %	0%	6%	0%	0%	10%	31%	0%	0%	29%	0%	0%	0%

PM PEAK HOUR

Description	Fulton Industrial Blvd Northbound			Fulton Industrial Blvd Southbound			Site Driveway #3 Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes		380			1,357							
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles		39			45							
Heavy Vehicle %	0%	10%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	380	0	0	1357	0	0	0	0	0	0	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Woodbury Park Trips (DRI # 2654) - Car Trips		21			20							
Woodbury Park Trips (DRI # 2654) - Truck Trips		116			106							
2020 Background Traffic	0	532	0	0	1,538	0	0	0	0	0	0	0
2020 No-Build Heavy Vehicle %	0%	12%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Future Development Only)												
Trip Distribution IN					15%	35%						
Trip Distribution OUT		50%							30%			
Truck Trips	0	19	0	0	2	5	0	0	11	0	0	0
Trip Distribution IN					10%	25%						
Trip Distribution OUT		35%							30%			
Car Trips	0	39	0	0	4	10	0	0	33	0	0	0
Total Project Trips	0	58	0	0	6	15	0	0	44	0	0	0
2020 Buildout Total	0	590	0	0	1,544	15	0	0	44	0	0	0
2020 Build Heavy Vehicle %	0%	14%	0%	0%	4%	33%	0%	0%	25%	0%	0%	0%

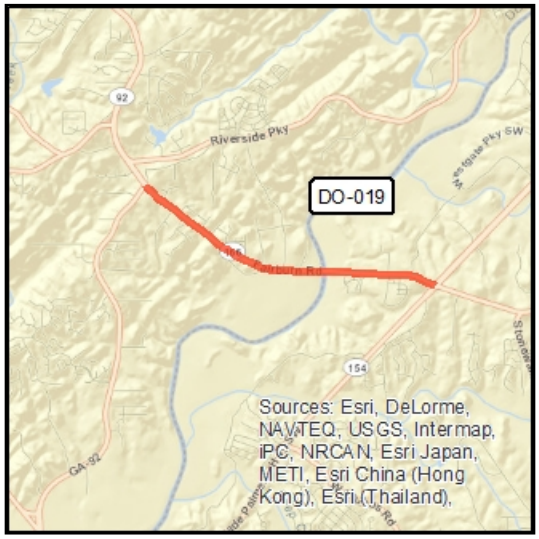
APPENDIX F

Programmed Project Fact Sheets

DO-019

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title: SR 166 (FAIRBURN ROAD / CAMPBELLTON ROAD) WIDENING FROM OLD LOWER RIVER ROAD IN DOUGLAS COUNTY TO SR 70 IN FULTON COUNTY



GDOT Project No.: 721770-

Federal ID No.:

Status: Programmed

Service Type: Roadway / General Purpose Capacity

Sponsor: GDOT

Jurisdiction: Douglas County

Analysis Level: In the Region's Air Quality Conformity Analysis

Existing Thru Lane: 2

Planned Thru Lane: 4

LCI:

Flex:

Network Year: 2030

Corridor Length: 3.4 miles

Detailed Description and Justification

The project begins in Douglas County on SR 166 east of the intersection with Old Lower River Road and continues to the Douglas/Fulton County line. The project then crosses the Chattahoochee River into Fulton County and ends just east of the intersection of SR 166 and Fulton Industrial Boulevard. Proposed Typical Section: Four 12 foot travel lanes in each direction with a 24 foot raised median and 10 foot (6.5 foot paved, 3.5 foot grassed) rural shoulders. Proposed Bridge Configuration: The existing 48 foot bridge will be widened 48 feet to accommodate four 12 foot travel lanes and a 24 foot raised median.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	STP - Urban (>200K) (ARC)	AUTH	1992	**$1,602,919**	~~$1,282,335~~	~~$320,584~~	~~$0,000~~	~~$0,000~~
PE	Transportation Funding Act (HB 170)	AUTH	2016	**$500,000**	~~$0,000~~	~~$500,000~~	~~$0,000~~	~~$0,000~~
PE	Surface Transportation Block Grant (STBG) Program Flex (GDOT)		2020	**$1,500,000**	$1,200,000	$300,000	$0,000	$0,000
ROW	Surface Transportation Block Grant (STBG) Program Flex (GDOT)		2022	**$19,135,929**	$15,308,743	$3,827,186	$0,000	$0,000
UTL	General Federal Aid 2024-2040		LR 2024-2030	**$1,151,166**	$920,933	$230,233	$0,000	$0,000
CST	General Federal Aid 2024-2040		LR 2024-2030	**$12,666,217**	$9,076,835	$2,269,209	$0,000	$1,320,173
				$36,556,231	**$27,788,846**	**$7,447,212**	**$0,000**	**$1,320,173**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

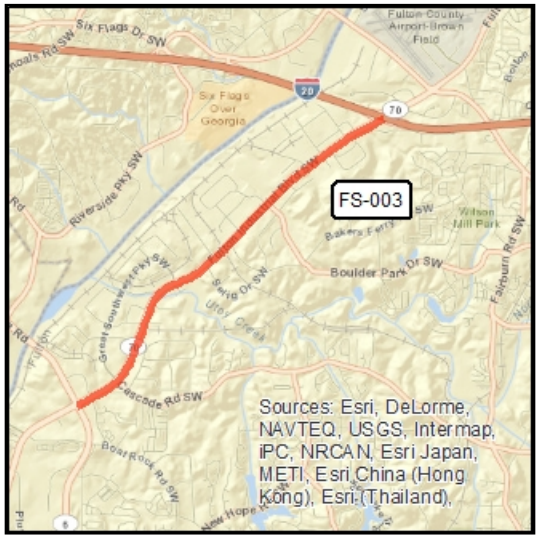
? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Report Generated: 09/19/2017

FS-003

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	SR 70 (FULTON INDUSTRIAL BOULEVARD) WIDENING FROM SR 6 (CAMP CREEK PARKWAY) TO JAMES ALDREDGE BOULEVARD
GDOT Project No.	720960-
Federal ID No.	N/A
Status	Long Range
Service Type	Roadway / General Purpose Capacity
Sponsor	GDOT
Jurisdiction	Fulton County (South)
Analysis Level	In the Region's Air Quality Conformity Analysis



Existing Thru Lane	4	**LCI**		**Network Year**	2040+
Planned Thru Lane	6	**Flex**		**Corridor Length**	1.9 miles

Detailed Description and Justification

This project involves adding one general purpose lane in each direction along SR 70 (Fulton Industrial Boulevard) between SR 6 (Camp Creek Parkway) and James Aldredge Boulevard.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds		LR 2041+	**$343,000**	$0,000	$0,000	$0,000	$343,000
CST	General Federal Aid 2041+		LR 2041+	**$3,427,000**	$2,741,600	$685,400	$0,000	$0,000
				$3,770,000	**$2,741,600**	**$685,400**	**$0,000**	**$343,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

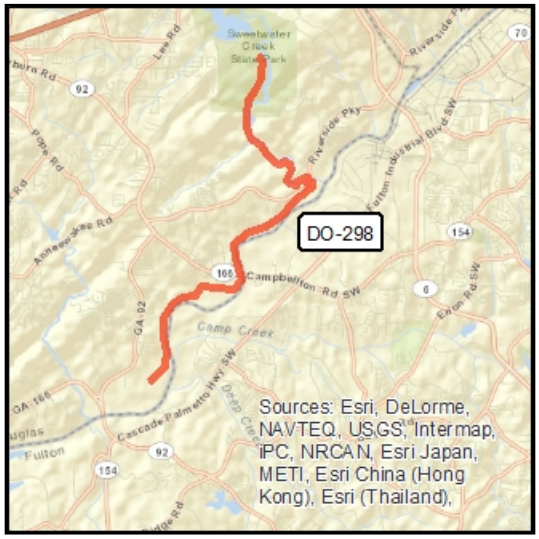
? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Report Generated: 09/19/2017

DO-298

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	CHC REGIONAL GREENWAY TRAIL - DOUGLAS COUNTY EXTENSION FROM BOUNDARY WATERS PARK TO SWEETWATER CREEK STATE PARK
GDOT Project No.	0012877
Federal ID No.	
Status	Programmed
Service Type	Last Mile Connectivity / Sidepaths and Trails
Sponsor	Douglas County
Jurisdiction	Douglas County
Analysis Level	Exempt from Air Quality Analysis (40 CFR 93)



Existing Thru Lane	N/A	**LCI**		**Network Year**	TBD
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	N/A miles

Detailed Description and Justification

Develop final design for the Douglas County portion of the Chattahoochee Hill Country Regional Greenway (CHCRG) Trail System; connects the Douglas County pilot segment of the CHCRG Trail in Boundary Waters Park to Sweetwater Creek State Park, existing trails, and historic sites.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	TAP - Urban (>200K) (ARC)	AUTH	2014	**$1,625,000**	~~$1,300,000~~	~~$0,000~~	~~$0,000~~	~~$325,000~~
ROW	Local Jurisdiction/Municipality Funds		2019	**$741,300**	$0,000	$0,000	$0,000	$741,300
CST	Local Jurisdiction/Municipality Funds		2020	**$9,303,700**	$0,000	$0,000	$0,000	$9,303,700
				$11,670,000	**$1,300,000**	**$0,000**	**$0,000**	**$10,370,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Report Generated: 09/19/2017

APPENDIX G

Raw Traffic Count Data

Prepared by National Data & Surveying Services

Fairburn Road (SR 92) & Old Lower River Road

Peak Hour Turning Movement Count

ID: 18-09114-003
City: Atlanta

Day: Wednesday
Date: 03/14/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 06:30 AM - 08:30 AM
NOON: NONE
PM: 03:45 PM - 05:45 PM

Old Lower River Road — SOUTHBOUND

AM	52	72	15	0	134	AM
NOON	0	0	0	0	0	NOON
PM	17	99	8	0	37	PM

Fairburn Road (SR 92) — EASTBOUND

AM	NOON	PM		
956	0	1700	⇦	
14	0	13	↶	0
20	0	15	↱	1
794	0	383	→	2
532	0	673	↴	1
AM	NOON	PM		

Fairburn Road (SR 92) — WESTBOUND

PM	NOON	AM		
9	0	23	↰	1
1041	0	289	←	2
97	0	31	↰	1
0	0	0	↶	0
437	0	907	⇨	
PM	NOON	AM		

CONTROL: Signalized

TEV	2632	0	3043
	AM	NOON	PM
PHF	0.92		0.93

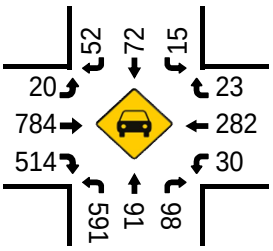
0.5 0.5 0 0

0 1 1 1

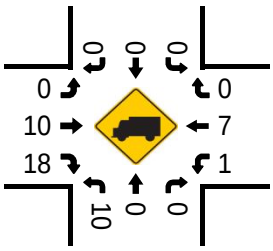
Highway 92/ SR 166 — NORTHBOUND

PM	869	0	629	13	46	PM
NOON	0	0	0	0	0	NOON
AM	635	0	601	91	98	AM

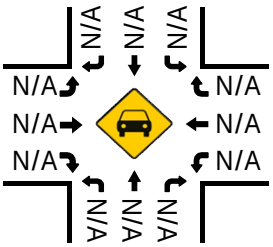
Cars (AM)



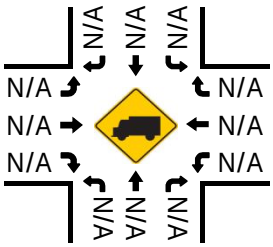
HT (AM)



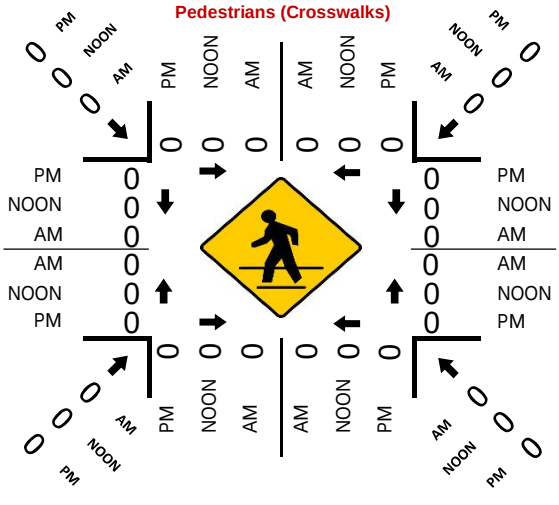
Cars (NOON)



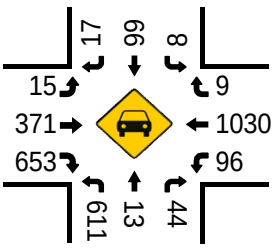
HT (NOON)



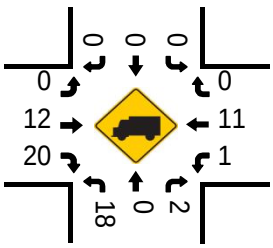
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Polaris Way SW & Campbellton Rd SW

Peak Hour Turning Movement Count

ID: 18-09114-002
City: Atlanta

Day: Wednesday
Date: 03/14/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	06:30 AM - 08:30 AM
NOON	NONE
PM	03:45 PM - 05:45 PM

Polaris Way SW — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Campbellton Rd SW — EASTBOUND

AM	NOON	PM	
382	0	1151	⇦
0	0	0	↶ 0
0	0	0	↱ 0
997	0	468	→ 1
0	0	5	↴ 1
AM	NOON	PM	

CONTROL

One Way Stop (NB)

TEV	1431 AM	0 NOON	1678 PM
PHF	0.95		0.96

Campbellton Rd SW — WESTBOUND

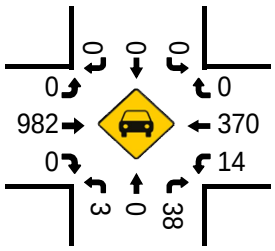
PM	NOON	AM	
0	0	0	↰ 0
1145	0	379	← 1
40	0	14	↰ 1
0	0	0	↰ 0
482	0	1035	⇨
PM	NOON	AM	

Polaris Way SW — NORTHBOUND

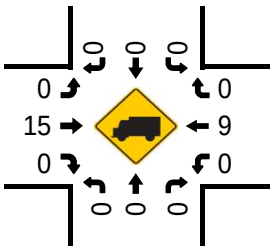
PM	45	0	6	0	14	PM
NOON	0	0	0	0	0	NOON
AM	14	0	3	0	38	AM

0 0 1 0 ↰ ↰ ↑ ↱

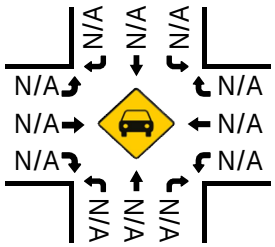
Cars (AM)



HT (AM)



Cars (NOON)



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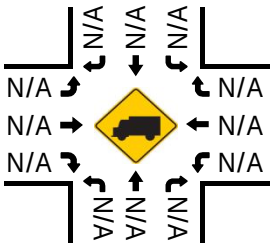
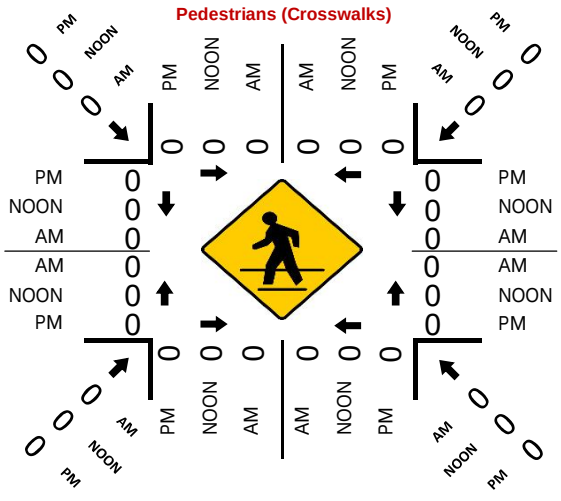
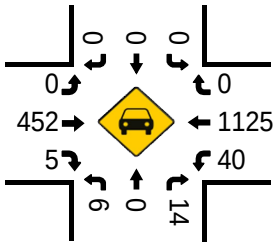


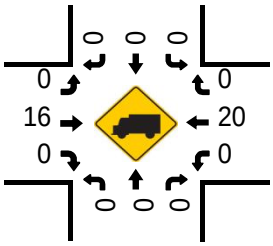
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Cascade Palmetto Hwy & Campbellton Rd SW

Peak Hour Turning Movement Count

ID: 18-09114-001
City: Atlanta

Day: Wednesday
Date: 03/14/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 06:30 AM - 08:30 AM
NOON: NONE
PM: 03:45 PM - 05:45 PM

Cascade Palmetto Hwy — SOUTHBOUND

AM	112	161	22	0	1360	AM
NOON	0	0	0	0	0	NOON
PM	523	768	66	0	380	PM
	1	2	1	0		

Campbellton Rd SW — EASTBOUND

AM	NOON	PM	
390	0	1173	
0	0	0	0
432	0	115	1
544	0	292	1
46	0	75	1
AM	NOON	PM	

CONTROL

Signalized

TEV	2754 AM	0 NOON	2956 PM
PHF	0.96		0.96

Campbellton Rd SW — WESTBOUND

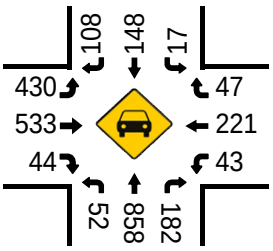
PM	NOON	AM	
32	0	55	0.5
596	0	225	0.5
128	0	47	1
0	0	0	0
431	0	750	
PM	NOON	AM	

Cascade Palmetto Hwy — NORTHBOUND

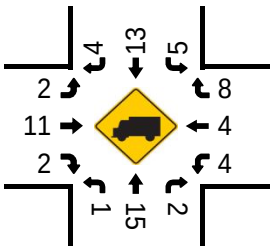
PM	972	1	54	233	73	PM
NOON	0	0	0	0	0	NOON
AM	254	0	53	873	184	AM
		0	1	2	1	

Cascade Palmetto Hwy

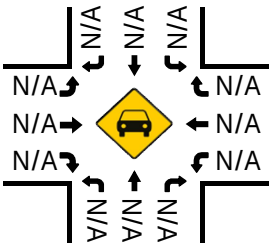
Cars (AM)



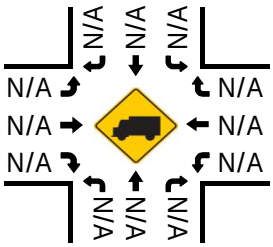
HT (AM)



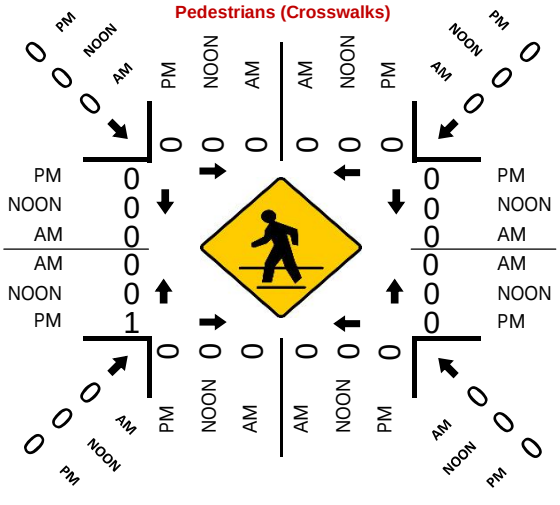
Cars (NOON)



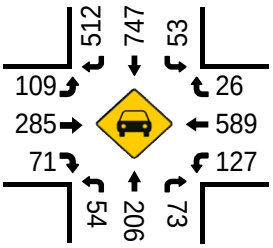
HT (NOON)



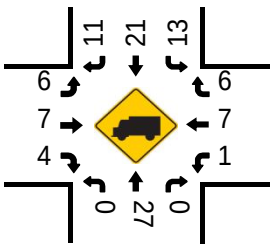
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Camp Creek Pkwy & Fulton Industrial Blvd SW

Peak Hour Turning Movement Count

ID: 18-09114-004
City: Atlanta

Day: Wednesday
Date: 03/14/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 06:30 AM - 08:30 AM
NOON: NONE
PM: 03:45 PM - 05:45 PM

Camp Creek Pkwy — SOUTHBOUND

AM	340	843	625	0	1140	AM
NOON	0	0	0	0	0	NOON
PM	321	553	265	1	1960	PM

Fulton Industrial Blvd SW — EASTBOUND

AM	NOON	PM		
808	0	1292		
0	0	0	0	
340	0	369	2	
951	0	593	3	
53	0	96	1	
AM	NOON	PM		

Fulton Industrial Blvd SW — WESTBOUND

PM	NOON	AM		
711	0	260	1	
875	0	393	3	
327	0	186	2	
72	0	58	0	
1151	0	1945		
PM	NOON	AM		

Camp Creek Pkwy — NORTHBOUND

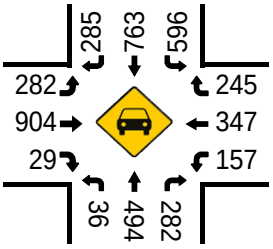
PM	979	3	96	879	221	PM
NOON	0	0	0	0	0	NOON
AM	1086	4	75	540	311	AM

1	2	2	0	
				1140
				1960
0	2	2	1	

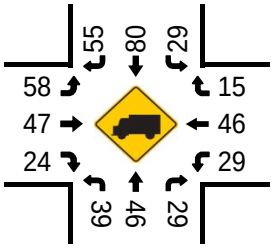
CONTROL: Signalized

TEV	4979 AM	0 NOON	5382 PM
PHF	0.98		0.97

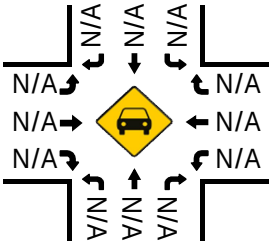
Cars (AM)



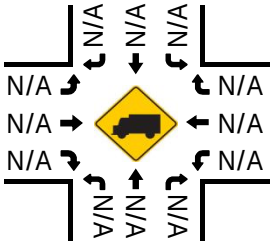
HT (AM)



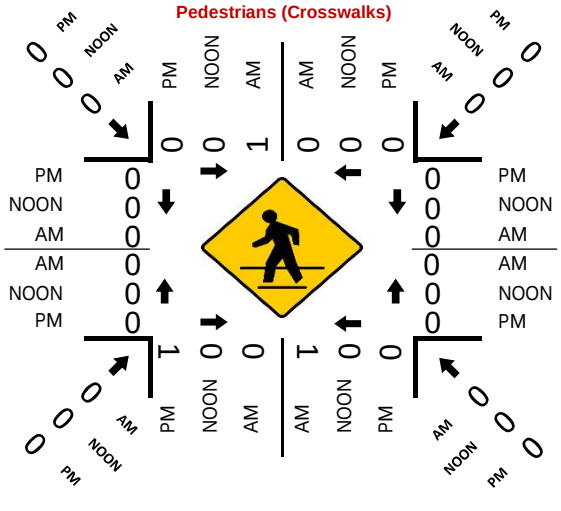
Cars (NOON)



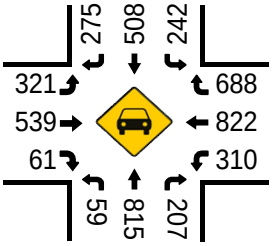
HT (NOON)



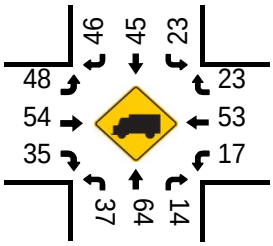
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



APPENDIX H

Synchro Capacity Analyses

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	20	794	532	31	289	23	601	91	98	15	72
Future Volume (vph)	14	20	794	532	31	289	23	601	91	98	15	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.99
Satd. Flow (prot)		1770	3539	1568	1752	3539	1583	1770	1863	1583		1847
Flt Permitted		0.55	1.00	1.00	0.95	1.00	1.00	0.45	1.00	1.00		0.92
Satd. Flow (perm)		1032	3539	1568	1752	3539	1583	846	1863	1583		1710
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	22	863	578	34	314	25	653	99	107	16	78
RTOR Reduction (vph)	0	0	0	341	0	0	15	0	0	64	0	0
Lane Group Flow (vph)	0	37	863	237	34	314	10	653	99	43	0	94
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	5	5	2		1	6		3	8			4
Permitted Phases	2	2		2			6	8		8	4	
Actuated Green, G (s)		57.8	53.2	53.2	5.5	54.1	54.1	52.5	52.5	52.5		12.4
Effective Green, g (s)		57.8	53.2	53.2	5.5	54.1	54.1	52.5	52.5	52.5		12.4
Actuated g/C Ratio		0.44	0.41	0.41	0.04	0.42	0.42	0.40	0.40	0.40		0.10
Clearance Time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Vehicle Extension (s)		3.0	5.0	5.0	3.0	5.0	5.0	4.0	3.0	3.0		3.0
Lane Grp Cap (vph)		484	1448	641	74	1472	658	579	752	639		163
v/s Ratio Prot		0.00	c0.24		c0.02	0.09		c0.29	0.05			
v/s Ratio Perm		0.03		0.15			0.01	c0.16		0.03		0.05
v/c Ratio		0.08	0.60	0.37	0.46	0.21	0.02	1.13	0.13	0.07		0.58
Uniform Delay, d1		20.5	30.0	26.7	60.8	24.3	22.3	35.5	24.4	23.7		56.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.1	1.8	1.6	4.5	0.3	0.0	77.8	0.1	0.0		4.9
Delay (s)		20.5	31.8	28.4	65.3	24.6	22.3	113.3	24.5	23.8		61.2
Level of Service		C	C	C	E	C	C	F	C	C		E
Approach Delay (s)			30.2			28.2			91.9			58.3
Approach LOS			C			C			F			E

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	52
Future Volume (vph)	52
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.7
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	57
RTOR Reduction (vph)	52
Lane Group Flow (vph)	5
Heavy Vehicles (%)	2%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	12.4
Effective Green, g (s)	12.4
Actuated g/C Ratio	0.10
Clearance Time (s)	6.7
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	150
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.04
Uniform Delay, d1	53.4
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	53.5
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

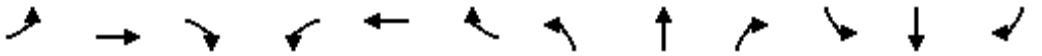
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑			✣				
Traffic Vol, veh/h	0	997	0	14	379	0	3	0	38	0	0	0
Future Vol, veh/h	0	997	0	14	379	0	3	0	38	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	330	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	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, %	0	2	0	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	1049	0	15	399	0	3	0	40	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	-	1049	0	0	1477	1477	1049
Stage 1	-	-	-	-	-	-	1049	1049	-
Stage 2	-	-	-	-	-	-	428	428	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.5	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4	3.318
Pot Cap-1 Maneuver	0	-	0	663	-	0	139	127	276
Stage 1	0	-	0	-	-	0	337	307	-
Stage 2	0	-	0	-	-	0	657	588	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	663	-	-	136	0	276
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	0	-
Stage 1	-	-	-	-	-	-	337	0	-
Stage 2	-	-	-	-	-	-	642	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	21.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	257	-	663	-
HCM Lane V/C Ratio	0.168	-	0.022	-
HCM Control Delay (s)	21.8	-	10.6	-
HCM Lane LOS	C	-	B	-
HCM 95th %tile Q(veh)	0.6	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	432	544	46	47	225	55	53	873	184	22	161	112
Future Volume (vph)	432	544	46	47	225	55	53	873	184	22	161	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1553	1671	1863	1417	1768	3539	1583	1480	3343	1568
Flt Permitted	0.56	1.00	1.00	0.28	1.00	1.00	0.64	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	1035	1863	1553	486	1863	1417	1190	3539	1583	289	3343	1568
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	450	567	48	49	234	57	55	909	192	23	168	117
RTOR Reduction (vph)	0	0	14	0	0	17	0	0	55	0	0	66
Lane Group Flow (vph)	450	567	34	49	234	40	55	909	137	23	168	51
Confl. Peds. (#/hr)							1					
Heavy Vehicles (%)	2%	2%	4%	8%	2%	14%	2%	2%	2%	22%	8%	3%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	82.1	82.1	82.1	82.1	82.1	82.1	69.9	69.9	69.9	69.9	69.9	69.9
Effective Green, g (s)	82.1	82.1	82.1	82.1	82.1	82.1	69.9	69.9	69.9	69.9	69.9	69.9
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.44	0.44	0.44	0.44	0.44	0.44
Clearance 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
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
Lane Grp Cap (vph)	531	955	796	249	955	727	519	1546	691	126	1460	685
v/s Ratio Prot		0.30			0.13			c0.26			0.05	
v/s Ratio Perm	c0.43		0.02	0.10		0.03	0.05		0.09	0.08		0.03
v/c Ratio	0.85	0.59	0.04	0.20	0.25	0.05	0.11	0.59	0.20	0.18	0.12	0.07
Uniform Delay, d1	33.6	27.3	19.4	21.1	21.7	19.5	26.6	34.1	27.8	27.6	26.7	26.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.58	0.52	0.49
Incremental Delay, d2	11.9	1.0	0.0	0.4	0.1	0.0	0.4	1.6	0.6	2.9	0.1	0.2
Delay (s)	45.5	28.3	19.4	21.5	21.8	19.5	27.0	35.8	28.4	18.8	14.0	12.9
Level of Service	D	C	B	C	C	B	C	D	C	B	B	B
Approach Delay (s)		35.1			21.4			34.1			13.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	340	951	53	58	186	393	260	4	75	540	311	625
Future Volume (vph)	340	951	53	58	186	393	260	4	75	540	311	625
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.97	0.95	1.00		0.97	0.91	1.00	0.97
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)	2993	3471	1114		3129	3252	1538		2342	4803	1482	3367
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)	2993	3471	1114		3129	3252	1538		2342	4803	1482	3367
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	347	970	54	59	190	401	265	4	77	551	317	638
RTOR Reduction (vph)	0	0	37	0	0	0	195	0	0	0	84	0
Lane Group Flow (vph)	347	970	17	0	249	401	70	0	81	551	233	638
Heavy Vehicles (%)	17%	4%	45%	2%	15%	11%	5%	2%	52%	8%	9%	4%
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	23.2	49.4	49.4		16.1	42.3	42.3		10.1	44.4	44.4	34.1
Effective Green, g (s)	23.2	49.4	49.4		16.1	42.3	42.3		10.1	44.4	44.4	34.1
Actuated g/C Ratio	0.14	0.31	0.31		0.10	0.26	0.26		0.06	0.28	0.28	0.21
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	433	1071	343		314	859	406		147	1332	411	717
v/s Ratio Prot	c0.12	c0.28			0.08	0.12			0.03	0.11		c0.19
v/s Ratio Perm			0.01				0.05				c0.16	
v/c Ratio	0.80	0.91	0.05		0.79	0.47	0.17		0.55	0.41	0.57	0.89
Uniform Delay, d1	66.2	53.1	38.8		70.3	49.4	45.4		72.7	47.2	49.6	61.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.15	0.89	0.83	1.00
Incremental Delay, d2	10.2	10.8	0.1		12.9	0.4	0.2		3.6	0.8	4.6	13.0
Delay (s)	76.4	63.9	38.9		83.2	49.8	45.6		87.4	42.6	45.8	74.1
Level of Service	E	E	D		F	D	D		F	D	D	E
Approach Delay (s)		66.1				57.7				47.5		
Approach LOS		E				E				D		

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	843	340
Future Volume (vph)	843	340
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	4759	1392
Flt Permitted	1.00	1.00
Satd. Flow (perm)	4759	1392
Peak-hour factor, PHF	0.98	0.98
Adj. Flow (vph)	860	347
RTOR Reduction (vph)	0	199
Lane Group Flow (vph)	860	148
Heavy Vehicles (%)	9%	16%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	68.4	68.4
Effective Green, g (s)	68.4	68.4
Actuated g/C Ratio	0.43	0.43
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2034	595
v/s Ratio Prot	0.18	
v/s Ratio Perm		0.11
v/c Ratio	0.42	0.25
Uniform Delay, d1	32.0	29.3
Progression Factor	1.00	1.00
Incremental Delay, d2	0.6	1.0
Delay (s)	32.7	30.4
Level of Service	C	C
Approach Delay (s)	46.6	
Approach LOS	D	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	15	383	673	97	1041	9	629	13	46	8	99
Future Volume (vph)	13	15	383	673	97	1041	9	629	13	46	8	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00
Satd. Flow (prot)		1770	3505	1568	1770	3539	1583	1770	1863	1553		1855
Flt Permitted		0.17	1.00	1.00	0.95	1.00	1.00	0.40	1.00	1.00		0.97
Satd. Flow (perm)		308	3505	1568	1770	3539	1583	750	1863	1553		1816
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	16	412	724	104	1119	10	676	14	49	9	106
RTOR Reduction (vph)	0	0	0	426	0	0	5	0	0	32	0	0
Lane Group Flow (vph)	0	30	412	298	104	1119	5	676	14	18	0	115
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	2%	2%	2%	4%	2%	2%
Turn Type	custom	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases		5	2		1	6		3	8			4
Permitted Phases	5	2		2			6	8		8	4	
Actuated Green, G (s)		62.0	57.7	57.7	13.5	66.9	66.9	50.0	50.0	50.0		14.1
Effective Green, g (s)		62.0	57.7	57.7	13.5	66.9	66.9	50.0	50.0	50.0		14.1
Actuated g/C Ratio		0.44	0.41	0.41	0.10	0.48	0.48	0.36	0.36	0.36		0.10
Clearance Time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Vehicle Extension (s)		3.0	5.0	5.0	3.0	5.0	5.0	4.0	3.0	3.0		3.0
Lane Grp Cap (vph)		181	1444	646	170	1691	756	481	665	554		182
v/s Ratio Prot		0.01	0.12		c0.06	c0.32		c0.29	0.01			
v/s Ratio Perm		0.07		0.19			0.00	c0.21		0.01		0.06
v/c Ratio		0.17	0.29	0.46	0.61	0.66	0.01	1.41	0.02	0.03		0.63
Uniform Delay, d1		23.7	27.4	29.9	60.7	27.9	19.1	41.4	29.1	29.3		60.5
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.4	0.5	2.4	6.4	2.1	0.0	194.6	0.0	0.0		7.0
Delay (s)		24.1	27.9	32.2	67.1	30.0	19.2	236.0	29.2	29.3		67.4
Level of Service		C	C	C	E	C	B	F	C	C		E
Approach Delay (s)			30.5			33.0			218.3			66.0
Approach LOS			C			C			F			E

Intersection Summary			
HCM 2000 Control Delay	75.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	17
Future Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.7
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	18
RTOR Reduction (vph)	16
Lane Group Flow (vph)	2
Heavy Vehicles (%)	2%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	14.1
Effective Green, g (s)	14.1
Actuated g/C Ratio	0.10
Clearance Time (s)	6.7
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	159
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	56.7
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	56.7
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

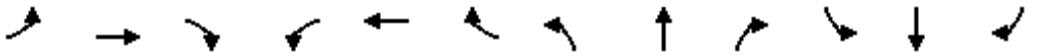
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑			✣				
Traffic Vol, veh/h	0	468	5	40	1145	0	6	0	14	0	0	0
Future Vol, veh/h	0	468	5	40	1145	0	6	0	14	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	330	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	3	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	488	5	42	1193	0	6	0	15	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	-	488	0	0	1764	1764	488
Stage 1	-	-	-	-	-	-	488	488	-
Stage 2	-	-	-	-	-	-	1276	1276	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.5	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4	3.318
Pot Cap-1 Maneuver	0	-	0	1075	-	0	92	85	580
Stage 1	0	-	0	-	-	0	617	553	-
Stage 2	0	-	0	-	-	0	262	240	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	1075	-	-	88	0	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	0	-
Stage 1	-	-	-	-	-	-	617	0	-
Stage 2	-	-	-	-	-	-	252	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	23.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	217	-	1075	-
HCM Lane V/C Ratio	0.096	-	0.039	-
HCM Control Delay (s)	23.3	-	8.5	-
HCM Lane LOS	C	-	A	-
HCM 95th %tile Q(veh)	0.3	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	292	75	128	596	32	54	233	73	66	768	523
Future Volume (vph)	115	292	75	128	596	32	54	233	73	66	768	523
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	1863	1538	1770	1863	1369	1770	3252	1583	1517	3539	1583
Flt Permitted	0.11	1.00	1.00	0.43	1.00	1.00	0.28	1.00	1.00	0.59	1.00	1.00
Satd. Flow (perm)	206	1863	1538	808	1863	1369	519	3252	1583	943	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	120	304	78	133	621	33	56	243	76	69	800	545
RTOR Reduction (vph)	0	0	40	0	0	4	0	0	34	0	0	89
Lane Group Flow (vph)	120	304	38	133	621	29	56	243	42	69	800	456
Heavy Vehicles (%)	5%	2%	5%	2%	2%	18%	2%	11%	2%	19%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	63.6	63.6	63.6	63.6	63.6	63.6	88.4	88.4	88.4	88.4	88.4	88.4
Effective Green, g (s)	63.6	63.6	63.6	63.6	63.6	63.6	88.4	88.4	88.4	88.4	88.4	88.4
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	0.55	0.55	0.55	0.55	0.55	0.55
Clearance 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
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
Lane Grp Cap (vph)	81	740	611	321	740	544	286	1796	874	521	1955	874
v/s Ratio Prot		0.16			0.33			0.07			0.23	
v/s Ratio Perm	c0.58		0.02	0.16		0.02	0.11		0.03	0.07		c0.29
v/c Ratio	1.48	0.41	0.06	0.41	0.84	0.05	0.20	0.14	0.05	0.13	0.41	0.52
Uniform Delay, d1	48.2	34.7	29.8	34.8	43.6	29.7	18.0	17.3	16.5	17.3	20.7	22.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	0.98	0.99
Incremental Delay, d2	271.3	0.4	0.0	0.9	8.3	0.0	1.5	0.2	0.1	0.5	0.6	2.1
Delay (s)	319.5	35.1	29.8	35.6	51.9	29.7	19.5	17.5	16.6	18.7	20.9	24.5
Level of Service	F	D	C	D	D	C	B	B	B	B	C	C
Approach Delay (s)		102.2			48.2			17.6			22.2	
Approach LOS		F			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	369	593	96	72	327	875	711	3	96	879	221	1
Future Volume (vph)	369	593	96	72	327	875	711	3	96	879	221	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00		0.97	0.95	1.00		0.97	0.91	1.00	
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3099	3312	1188		3352	3406	1568		2557	4848	1524	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3099	3312	1188		3352	3406	1568		2557	4848	1524	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	380	611	99	74	337	902	733	3	99	906	228	1
RTOR Reduction (vph)	0	0	59	0	0	0	112	0	0	0	171	0
Lane Group Flow (vph)	380	611	40	0	411	902	621	0	102	906	57	0
Heavy Vehicles (%)	13%	9%	36%	2%	5%	6%	3%	2%	38%	7%	6%	2%
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	22.3	63.9	63.9		24.2	66.3	66.3		10.0	39.7	39.7	
Effective Green, g (s)	22.3	63.9	63.9		24.2	66.3	66.3		10.0	39.7	39.7	
Actuated g/C Ratio	0.14	0.40	0.40		0.15	0.41	0.41		0.06	0.25	0.25	
Clearance Time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	431	1322	474		506	1411	649		159	1202	378	
v/s Ratio Prot	c0.12	0.18			0.12	0.26			0.04	c0.19		
v/s Ratio Perm			0.03				c0.40				0.04	
v/c Ratio	0.88	0.46	0.08		0.81	0.64	0.96		0.64	0.75	0.15	
Uniform Delay, d1	67.6	35.4	29.9		65.7	37.3	45.4		73.2	55.6	47.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		0.97	1.03	1.27	
Incremental Delay, d2	18.6	0.3	0.1		9.6	1.0	24.7		8.5	4.4	0.8	
Delay (s)	86.2	35.7	29.9		75.3	38.3	70.2		79.7	61.9	60.3	
Level of Service	F	D	C		E	D	E		E	E	E	
Approach Delay (s)		52.7				57.1				63.1		
Approach LOS		D				E				E		

Intersection Summary			
HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	265	553	321
Future Volume (vph)	265	553	321
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3243	4803	1417
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3243	4803	1417
Peak-hour factor, PHF	0.97	0.97	0.97
Adj. Flow (vph)	273	570	331
RTOR Reduction (vph)	0	0	227
Lane Group Flow (vph)	274	570	104
Heavy Vehicles (%)	8%	8%	14%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	15.7	45.4	45.4
Effective Green, g (s)	15.7	45.4	45.4
Actuated g/C Ratio	0.10	0.28	0.28
Clearance Time (s)	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	318	1362	402
v/s Ratio Prot	c0.08	0.12	
v/s Ratio Perm			0.07
v/c Ratio	0.86	0.42	0.26
Uniform Delay, d1	71.1	46.6	44.3
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	20.6	0.9	1.6
Delay (s)	91.6	47.5	45.8
Level of Service	F	D	D
Approach Delay (s)		57.3	
Approach LOS		E	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	21	928	553	32	349	24	625	95	102	16	75
Future Volume (vph)	14	21	928	553	32	349	24	625	95	102	16	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.99
Satd. Flow (prot)		1770	3471	1568	1752	3539	1583	1770	1863	1583		1847
Flt Permitted		0.48	1.00	1.00	0.95	1.00	1.00	0.45	1.00	1.00		0.92
Satd. Flow (perm)		903	3471	1568	1752	3539	1583	841	1863	1583		1707
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	23	1009	601	35	379	26	679	103	111	17	82
RTOR Reduction (vph)	0	0	0	361	0	0	16	0	0	64	0	0
Lane Group Flow (vph)	0	38	1009	240	35	379	10	679	103	47	0	99
Heavy Vehicles (%)	2%	2%	4%	3%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	5	5	2		1	6		3	8			4
Permitted Phases	2	2		2			6	8		8	4	
Actuated Green, G (s)		56.8	50.9	50.9	5.6	50.6	50.6	54.7	54.7	54.7		12.7
Effective Green, g (s)		56.8	50.9	50.9	5.6	50.6	50.6	54.7	54.7	54.7		12.7
Actuated g/C Ratio		0.44	0.39	0.39	0.04	0.39	0.39	0.42	0.42	0.42		0.10
Clearance Time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Vehicle Extension (s)		3.0	5.0	5.0	3.0	5.0	5.0	4.0	3.0	3.0		3.0
Lane Grp Cap (vph)		433	1359	613	75	1377	616	606	783	666		166
v/s Ratio Prot		0.00	c0.29		c0.02	0.11		c0.30	0.06			
v/s Ratio Perm		0.03		0.15			0.01	c0.17		0.03		0.06
v/c Ratio		0.09	0.74	0.39	0.47	0.28	0.02	1.12	0.13	0.07		0.60
Uniform Delay, d1		21.1	33.9	28.4	60.7	27.2	24.4	34.3	23.1	22.5		56.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.1	3.7	1.9	4.5	0.5	0.0	74.4	0.1	0.0		5.7
Delay (s)		21.2	37.6	30.3	65.3	27.7	24.5	108.6	23.2	22.5		61.9
Level of Service		C	D	C	E	C	C	F	C	C		E
Approach Delay (s)			34.6			30.5			88.1			58.6
Approach LOS			C			C			F			E

Intersection Summary			
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.7
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	59
RTOR Reduction (vph)	53
Lane Group Flow (vph)	6
Heavy Vehicles (%)	2%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	12.7
Effective Green, g (s)	12.7
Actuated g/C Ratio	0.10
Clearance Time (s)	6.7
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	154
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.04
Uniform Delay, d1	53.1
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	53.2
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

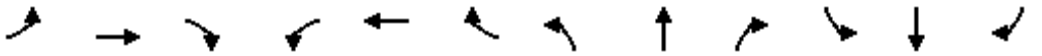
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑			✣				
Traffic Vol, veh/h	0	1139	0	15	442	0	3	0	40	0	0	0
Future Vol, veh/h	0	1139	0	15	442	0	3	0	40	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	330	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	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, %	0	3	0	2	4	0	2	0	2	0	0	0
Mvmt Flow	0	1199	0	16	465	0	3	0	42	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	-	1199	0	0	1696	1696	1199
Stage 1	-	-	-	-	-	-	1199	1199	-
Stage 2	-	-	-	-	-	-	497	497	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.5	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4	3.318
Pot Cap-1 Maneuver	0	-	0	582	-	0	102	94	226
Stage 1	0	-	0	-	-	0	286	261	-
Stage 2	0	-	0	-	-	0	611	548	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	582	-	-	99	0	226
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	0	-
Stage 1	-	-	-	-	-	-	286	0	-
Stage 2	-	-	-	-	-	-	594	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	27.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	207	-	582	-
HCM Lane V/C Ratio	0.219	-	0.027	-
HCM Control Delay (s)	27.2	-	11.4	-
HCM Lane LOS	D	-	B	-
HCM 95th %tile Q(veh)	0.8	-	0.1	-



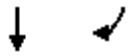
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	609	48	63	267	260	55	956	223	27	183	132
Future Volume (vph)	508	609	48	63	267	260	55	956	223	27	183	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1845	1553	1626	1827	1357	1768	3539	1553	1467	3312	1538
Flt Permitted	0.54	1.00	1.00	0.28	1.00	1.00	0.61	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	983	1845	1553	480	1827	1357	1134	3539	1553	154	3312	1538
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	529	634	50	66	278	271	57	996	232	28	191	138
RTOR Reduction (vph)	0	0	11	0	0	9	0	0	68	0	0	88
Lane Group Flow (vph)	529	634	39	66	278	262	57	996	164	28	191	50
Confl. Peds. (#/hr)							1					
Heavy Vehicles (%)	4%	3%	4%	11%	4%	19%	2%	2%	4%	23%	9%	5%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	94.0	94.0	94.0	94.0	94.0	94.0	58.0	58.0	58.0	58.0	58.0	58.0
Effective Green, g (s)	94.0	94.0	94.0	94.0	94.0	94.0	58.0	58.0	58.0	58.0	58.0	58.0
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59	0.59	0.36	0.36	0.36	0.36	0.36	0.36
Clearance 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
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
Lane Grp Cap (vph)	577	1083	912	282	1073	797	411	1282	562	55	1200	557
v/s Ratio Prot		0.34			0.15			c0.28			0.06	
v/s Ratio Perm	c0.54		0.03	0.14		0.19	0.05		0.11	0.18		0.03
v/c Ratio	0.92	0.59	0.04	0.23	0.26	0.33	0.14	0.78	0.29	0.51	0.16	0.09
Uniform Delay, d1	29.5	20.7	14.0	15.8	16.1	16.9	34.2	45.3	36.4	39.9	34.5	33.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.50	0.26
Incremental Delay, d2	19.4	0.8	0.0	0.4	0.1	0.2	0.7	4.7	1.3	23.1	0.2	0.2
Delay (s)	48.9	21.6	14.0	16.2	16.2	17.1	34.9	49.9	37.7	46.6	17.5	8.8
Level of Service	D	C	B	B	B	B	C	D	D	D	B	A
Approach Delay (s)		33.2			16.6			47.1			16.4	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	354	1030	266	60	194	411	275	4	125	630	324	709
Future Volume (vph)	354	1030	266	60	194	411	275	4	125	630	324	709
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.97	0.95	1.00		0.97	0.91	1.00	0.97
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)	2993	3438	1272		3128	3252	1524		2504	4759	1482	3335
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)	2993	3438	1272		3128	3252	1524		2504	4759	1482	3335
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	361	1051	271	61	198	419	281	4	128	643	331	723
RTOR Reduction (vph)	0	0	137	0	0	0	201	0	0	0	92	0
Lane Group Flow (vph)	361	1051	134	0	259	419	80	0	132	643	239	723
Heavy Vehicles (%)	17%	5%	27%	2%	15%	11%	6%	2%	41%	9%	9%	5%
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	24.0	53.1	53.1		16.1	45.7	45.7		12.9	36.6	36.6	37.7
Effective Green, g (s)	24.0	53.1	53.1		16.1	45.7	45.7		12.9	36.6	36.6	37.7
Actuated g/C Ratio	0.15	0.33	0.33		0.10	0.29	0.29		0.08	0.23	0.23	0.24
Clearance Time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	448	1140	422		314	928	435		201	1088	339	785
v/s Ratio Prot	c0.12	c0.31			0.08	0.13			0.05	0.14		c0.22
v/s Ratio Perm			0.11				0.05				0.16	
v/c Ratio	0.81	0.92	0.32		0.82	0.45	0.18		0.66	0.59	0.71	0.92
Uniform Delay, d1	65.7	51.5	39.9		70.6	46.9	43.1		71.4	55.0	56.7	59.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.19	0.84	0.75	1.00
Incremental Delay, d2	10.2	12.1	0.4		16.0	0.4	0.2		5.3	1.6	8.3	16.1
Delay (s)	75.9	63.5	40.4		86.5	47.2	43.3		90.3	47.6	50.8	75.8
Level of Service	E	E	D		F	D	D		F	D	D	E
Approach Delay (s)		62.5				56.7				53.7		
Approach LOS		E				E				D		

Intersection Summary			
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1183	354
Future Volume (vph)	1183	354
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	4673	1392
Flt Permitted	1.00	1.00
Satd. Flow (perm)	4673	1392
Peak-hour factor, PHF	0.98	0.98
Adj. Flow (vph)	1207	361
RTOR Reduction (vph)	0	222
Lane Group Flow (vph)	1207	139
Heavy Vehicles (%)	11%	16%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	61.4	61.4
Effective Green, g (s)	61.4	61.4
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1793	534
v/s Ratio Prot	c0.26	
v/s Ratio Perm		0.10
v/c Ratio	0.67	0.26
Uniform Delay, d1	41.0	33.7
Progression Factor	1.00	1.00
Incremental Delay, d2	2.0	1.2
Delay (s)	43.0	34.9
Level of Service	D	C
Approach Delay (s)	52.1	
Approach LOS	D	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	16	499	700	101	1212	9	654	14	48	8	103
Future Volume (vph)	13	16	499	700	101	1212	9	654	14	48	8	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00
Satd. Flow (prot)		1770	3438	1568	1770	3539	1583	1770	1863	1553		1856
Flt Permitted		0.10	1.00	1.00	0.95	1.00	1.00	0.39	1.00	1.00		0.98
Satd. Flow (perm)		181	3438	1568	1770	3539	1583	734	1863	1553		1818
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	17	537	753	109	1303	10	703	15	52	9	111
RTOR Reduction (vph)	0	0	0	455	0	0	5	0	0	33	0	0
Lane Group Flow (vph)	0	31	537	298	109	1303	5	703	15	19	0	120
Heavy Vehicles (%)	2%	2%	5%	3%	2%	2%	2%	2%	2%	4%	2%	2%
Turn Type	pm+pt	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	5	5	2		1	6		3	8			4
Permitted Phases	2	2		2			6	8		8	4	
Actuated Green, G (s)		59.8	55.4	55.4	14.3	65.3	65.3	51.5	51.5	51.5		14.5
Effective Green, g (s)		59.8	55.4	55.4	14.3	65.3	65.3	51.5	51.5	51.5		14.5
Actuated g/C Ratio		0.43	0.40	0.40	0.10	0.47	0.47	0.37	0.37	0.37		0.10
Clearance Time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Vehicle Extension (s)		3.0	5.0	5.0	3.0	5.0	5.0	4.0	3.0	3.0		3.0
Lane Grp Cap (vph)		127	1360	620	180	1650	738	494	685	571		188
v/s Ratio Prot		0.01	0.16		c0.06	c0.37		c0.31	0.01			
v/s Ratio Perm		0.10		0.19			0.00	c0.21		0.01		0.07
v/c Ratio		0.24	0.39	0.48	0.61	0.79	0.01	1.42	0.02	0.03		0.64
Uniform Delay, d1		26.9	30.3	31.6	60.2	31.5	20.0	40.4	28.2	28.3		60.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		1.0	0.9	2.7	5.7	3.9	0.0	201.9	0.0	0.0		6.9
Delay (s)		27.9	31.2	34.2	65.8	35.5	20.0	242.3	28.2	28.3		67.2
Level of Service		C	C	C	E	D	C	F	C	C		E
Approach Delay (s)			32.8			37.7			223.7			65.7
Approach LOS			C			D			F			E

Intersection Summary			
HCM 2000 Control Delay	76.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.7
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	19
RTOR Reduction (vph)	17
Lane Group Flow (vph)	2
Heavy Vehicles (%)	2%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	14.5
Effective Green, g (s)	14.5
Actuated g/C Ratio	0.10
Clearance Time (s)	6.7
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	163
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	56.3
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	56.4
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

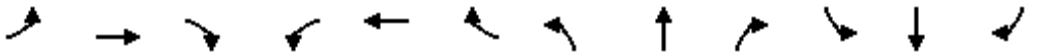
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑			✣				
Traffic Vol, veh/h	0	588	5	42	1320	0	6	0	15	0	0	0
Future Vol, veh/h	0	588	5	42	1320	0	6	0	15	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	330	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	5	2	2	3	0	2	0	2	0	0	0
Mvmt Flow	0	613	5	44	1375	0	6	0	16	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	-	613	0	0	2076	2076	613
Stage 1	-	-	-	-	-	-	613	613	-
Stage 2	-	-	-	-	-	-	1463	1463	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.5	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4	3.318
Pot Cap-1 Maneuver	0	-	0	966	-	0	59	54	492
Stage 1	0	-	0	-	-	0	541	486	-
Stage 2	0	-	0	-	-	0	213	195	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	966	-	-	56	0	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	0	-
Stage 1	-	-	-	-	-	-	541	0	-
Stage 2	-	-	-	-	-	-	203	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	32.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	153	-	966	-
HCM Lane V/C Ratio	0.143	-	0.045	-
HCM Control Delay (s)	32.4	-	8.9	-
HCM Lane LOS	D	-	A	-
HCM 95th %tile Q(veh)	0.5	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	379	78	169	693	122	56	264	133	89	849	600
Future Volume (vph)	146	379	78	169	693	122	56	264	133	89	849	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1687	1810	1538	1719	1845	1392	1770	3252	1509	1530	3505	1568
Flt Permitted	0.10	1.00	1.00	0.38	1.00	1.00	0.22	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	178	1810	1538	689	1845	1392	415	3252	1509	902	3505	1568
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	152	395	81	176	722	127	58	275	139	93	884	625
RTOR Reduction (vph)	0	0	28	0	0	12	0	0	70	0	0	68
Lane Group Flow (vph)	152	395	53	176	722	115	58	275	69	93	884	557
Heavy Vehicles (%)	7%	5%	5%	5%	3%	16%	2%	11%	7%	18%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	73.0	73.0	73.0	73.0	73.0	73.0	79.0	79.0	79.0	79.0	79.0	79.0
Effective Green, g (s)	73.0	73.0	73.0	73.0	73.0	73.0	79.0	79.0	79.0	79.0	79.0	79.0
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.46	0.49	0.49	0.49	0.49	0.49	0.49
Clearance 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
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
Lane Grp Cap (vph)	81	825	701	314	841	635	204	1605	745	445	1730	774
v/s Ratio Prot		0.22			0.39			0.08			0.25	
v/s Ratio Perm	c0.85		0.03	0.26		0.08	0.14		0.05	0.10		c0.36
v/c Ratio	1.88	0.48	0.08	0.56	0.86	0.18	0.28	0.17	0.09	0.21	0.51	0.72
Uniform Delay, d1	43.5	30.3	24.5	31.8	38.9	25.8	23.9	22.4	21.5	22.9	27.4	31.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.79	0.74
Incremental Delay, d2	437.4	0.4	0.0	2.3	8.7	0.1	3.5	0.2	0.2	0.9	0.9	4.9
Delay (s)	480.9	30.7	24.5	34.1	47.6	25.9	27.3	22.6	21.7	21.1	22.5	28.4
Level of Service	F	C	C	C	D	C	C	C	C	C	C	C
Approach Delay (s)		138.9			42.6			22.9			24.7	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	384	680	250	75	340	968	825	3	308	1218	230	1
Future Volume (vph)	384	680	250	75	340	968	825	3	308	1218	230	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00		0.97	0.95	1.00		0.97	0.91	1.00	
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3099	3312	1292		3352	3406	1553		2829	4759	1524	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3099	3312	1292		3352	3406	1553		2829	4759	1524	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	396	701	258	77	351	998	851	3	318	1256	237	1
RTOR Reduction (vph)	0	0	167	0	0	0	160	0	0	0	145	0
Lane Group Flow (vph)	396	701	91	0	428	998	691	0	321	1256	92	0
Heavy Vehicles (%)	13%	9%	25%	2%	5%	6%	4%	2%	24%	9%	6%	2%
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	20.0	56.5	56.5		25.0	62.0	62.0		21.2	43.4	43.4	
Effective Green, g (s)	20.0	56.5	56.5		25.0	62.0	62.0		21.2	43.4	43.4	
Actuated g/C Ratio	0.12	0.35	0.35		0.16	0.39	0.39		0.13	0.27	0.27	
Clearance Time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	387	1169	456		523	1319	601		374	1290	413	
v/s Ratio Prot	c0.13	0.21			0.13	0.29			0.11	c0.26		
v/s Ratio Perm			0.07				c0.45				0.06	
v/c Ratio	1.02	0.60	0.20		0.82	0.76	1.15		0.86	0.97	0.22	
Uniform Delay, d1	70.0	42.5	36.0		65.3	42.5	49.0		67.9	57.7	45.2	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		0.99	1.00	1.09	
Incremental Delay, d2	51.8	0.8	0.2		9.7	2.5	85.6		17.3	19.4	1.2	
Delay (s)	121.8	43.3	36.2		75.0	45.0	134.6		84.6	77.3	50.6	
Level of Service	F	D	D		E	D	F		F	E	D	
Approach Delay (s)		64.9				84.1				75.1		
Approach LOS		E				F				E		

Intersection Summary			
HCM 2000 Control Delay	75.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	370	793	334
Future Volume (vph)	370	793	334
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3184	4759	1417
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3184	4759	1417
Peak-hour factor, PHF	0.97	0.97	0.97
Adj. Flow (vph)	381	818	344
RTOR Reduction (vph)	0	0	191
Lane Group Flow (vph)	382	818	153
Heavy Vehicles (%)	10%	9%	14%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	18.6	40.8	40.8
Effective Green, g (s)	18.6	40.8	40.8
Actuated g/C Ratio	0.12	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	370	1213	361
v/s Ratio Prot	c0.12	0.17	
v/s Ratio Perm			0.11
v/c Ratio	1.03	0.67	0.42
Uniform Delay, d1	70.7	53.6	49.8
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	55.4	3.0	3.6
Delay (s)	126.1	56.6	53.4
Level of Service	F	E	D
Approach Delay (s)		73.1	
Approach LOS		E	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	21	951	553	32	356	24	625	95	102	16	75
Future Volume (vph)	14	21	951	553	32	356	24	625	95	102	16	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.99
Satd. Flow (prot)		1770	3471	1568	1752	3438	1583	1770	1863	1583		1847
Flt Permitted		0.48	1.00	1.00	0.95	1.00	1.00	0.45	1.00	1.00		0.92
Satd. Flow (perm)		898	3471	1568	1752	3438	1583	841	1863	1583		1707
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	23	1034	601	35	387	26	679	103	111	17	82
RTOR Reduction (vph)	0	0	0	352	0	0	16	0	0	66	0	0
Lane Group Flow (vph)	0	38	1034	249	35	387	10	679	103	45	0	99
Heavy Vehicles (%)	2%	2%	4%	3%	3%	5%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	5	5	2		1	6		3	8			4
Permitted Phases	2	2		2			6	8		8	4	
Actuated Green, G (s)		58.5	52.6	52.6	5.6	52.3	52.3	53.0	53.0	53.0		12.7
Effective Green, g (s)		58.5	52.6	52.6	5.6	52.3	52.3	53.0	53.0	53.0		12.7
Actuated g/C Ratio		0.45	0.40	0.40	0.04	0.40	0.40	0.41	0.41	0.41		0.10
Clearance Time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Vehicle Extension (s)		3.0	5.0	5.0	3.0	5.0	5.0	4.0	3.0	3.0		3.0
Lane Grp Cap (vph)		443	1404	634	75	1383	636	583	759	645		166
v/s Ratio Prot		0.00	c0.30		c0.02	0.11		c0.30	0.06			
v/s Ratio Perm		0.03		0.16			0.01	c0.17		0.03		0.06
v/c Ratio		0.09	0.74	0.39	0.47	0.28	0.02	1.16	0.14	0.07		0.60
Uniform Delay, d1		20.2	32.8	27.4	60.7	26.2	23.4	35.2	24.1	23.5		56.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.1	3.5	1.8	4.5	0.5	0.0	91.7	0.1	0.0		5.7
Delay (s)		20.2	36.3	29.2	65.3	26.7	23.4	126.9	24.2	23.5		61.9
Level of Service		C	D	C	E	C	C	F	C	C		E
Approach Delay (s)			33.4			29.5			102.2			58.6
Approach LOS			C			C			F			E

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.7
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	59
RTOR Reduction (vph)	53
Lane Group Flow (vph)	6
Heavy Vehicles (%)	2%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	12.7
Effective Green, g (s)	12.7
Actuated g/C Ratio	0.10
Clearance Time (s)	6.7
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	154
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.04
Uniform Delay, d1	53.1
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	53.2
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

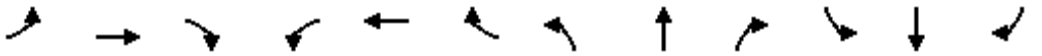
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	1147	0	15	445	29	3	0	40	12	0	4
Future Vol, veh/h	16	1147	0	15	445	29	3	0	40	12	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	310	-	330	250	-	250	-	-	-	0	-	-
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	3	0	2	4	20	2	0	2	25	0	25
Mvmt Flow	17	1207	0	16	468	31	3	0	42	13	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	468	0	-	1207	0	0	1743	1741	1207	1762	1741	468
Stage 1	-	-	-	-	-	-	1241	1241	-	500	500	-
Stage 2	-	-	-	-	-	-	502	500	-	1262	1241	-
Critical Hdwy	4.35	-	-	4.12	-	-	7.12	6.5	6.22	7.35	6.5	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.35	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.35	5.5	-
Follow-up Hdwy	2.425	-	-	2.218	-	-	3.518	4	3.318	3.725	4	3.525
Pot Cap-1 Maneuver	983	-	0	578	-	-	68	88	223	58	88	550
Stage 1	-	-	0	-	-	-	214	249	-	512	546	-
Stage 2	-	-	0	-	-	-	552	546	-	187	249	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	983	-	-	578	-	-	65	84	223	45	84	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	84	-	45	84	-
Stage 1	-	-	-	-	-	-	210	245	-	503	531	-
Stage 2	-	-	-	-	-	-	533	531	-	149	245	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	29.6	88.2
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	191	983	-	578	-	-	45	550
HCM Lane V/C Ratio	0.237	0.017	-	0.027	-	-	0.281	0.008
HCM Control Delay (s)	29.6	8.7	-	11.4	-	-	113.7	11.6
HCM Lane LOS	D	A	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.9	0.1	-	0.1	-	-	0.9	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	524	616	51	63	318	260	74	956	223	35	187	149
Future Volume (vph)	524	616	51	63	318	260	74	956	223	35	187	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	1845	1524	1626	1776	1357	1734	3539	1553	1433	3312	1495
Flt Permitted	0.50	1.00	1.00	0.29	1.00	1.00	0.60	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	912	1845	1524	497	1776	1357	1097	3539	1553	116	3312	1495
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	546	642	53	66	331	271	77	996	232	36	195	155
RTOR Reduction (vph)	0	0	11	0	0	8	0	0	70	0	0	103
Lane Group Flow (vph)	546	642	42	66	331	263	77	996	162	36	195	52
Confl. Peds. (#/hr)							1					
Heavy Vehicles (%)	5%	3%	6%	11%	7%	19%	4%	2%	4%	26%	9%	8%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	98.0	98.0	98.0	98.0	98.0	98.0	54.0	54.0	54.0	54.0	54.0	54.0
Effective Green, g (s)	98.0	98.0	98.0	98.0	98.0	98.0	54.0	54.0	54.0	54.0	54.0	54.0
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.34	0.34	0.34	0.34	0.34	0.34
Clearance 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
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
Lane Grp Cap (vph)	558	1130	933	304	1087	831	370	1194	524	39	1117	504
v/s Ratio Prot		0.35			0.19			0.28			0.06	
v/s Ratio Perm	c0.60		0.03	0.13		0.19	0.07		0.10	c0.31		0.03
v/c Ratio	0.98	0.57	0.04	0.22	0.30	0.32	0.21	0.83	0.31	0.92	0.17	0.10
Uniform Delay, d1	30.0	18.4	12.4	13.9	14.8	14.9	37.8	48.9	39.2	51.0	37.3	36.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.54	0.30
Incremental Delay, d2	32.3	0.7	0.0	0.4	0.2	0.2	1.3	6.9	1.5	103.8	0.3	0.3
Delay (s)	62.2	19.1	12.4	14.2	14.9	15.1	39.0	55.8	40.8	135.9	20.4	11.1
Level of Service	E	B	B	B	B	B	D	E	D	F	C	B
Approach Delay (s)		37.8			14.9			52.1			27.4	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	354	1030	289	60	194	411	275	4	132	641	324	709
Future Volume (vph)	354	1030	289	60	194	411	275	4	132	641	324	709
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.97	0.95	1.00		0.97	0.91	1.00	0.97
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)	2993	3438	1272		3128	3252	1524		2521	4715	1482	3335
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)	2993	3438	1272		3128	3252	1524		2521	4715	1482	3335
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	361	1051	295	61	198	419	281	4	135	654	331	723
RTOR Reduction (vph)	0	0	138	0	0	0	199	0	0	0	92	0
Lane Group Flow (vph)	361	1051	157	0	259	419	82	0	139	654	239	723
Heavy Vehicles (%)	17%	5%	27%	2%	15%	11%	6%	2%	40%	10%	9%	5%
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	23.0	53.0	53.0		16.1	46.6	46.6		13.3	36.7	36.7	37.7
Effective Green, g (s)	23.0	53.0	53.0		16.1	46.6	46.6		13.3	36.7	36.7	37.7
Actuated g/C Ratio	0.14	0.33	0.33		0.10	0.29	0.29		0.08	0.23	0.23	0.24
Clearance Time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	430	1138	421		314	947	443		209	1081	339	785
v/s Ratio Prot	c0.12	c0.31			0.08	0.13			0.06	0.14		c0.22
v/s Ratio Perm			0.12				0.05				0.16	
v/c Ratio	0.84	0.92	0.37		0.82	0.44	0.18		0.67	0.60	0.71	0.92
Uniform Delay, d1	66.7	51.5	40.8		70.6	46.1	42.5		71.2	55.2	56.7	59.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.21	0.81	0.71	1.00
Incremental Delay, d2	13.4	12.3	0.6		16.0	0.3	0.2		4.9	1.6	7.5	16.1
Delay (s)	80.1	63.8	41.4		86.5	46.5	42.7		91.2	46.3	47.9	75.8
Level of Service	F	E	D		F	D	D		F	D	D	E
Approach Delay (s)		63.4				56.2				52.3		
Approach LOS		E				E				D		

Intersection Summary			
HCM 2000 Control Delay	56.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1219	354
Future Volume (vph)	1219	354
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	4631	1392
Flt Permitted	1.00	1.00
Satd. Flow (perm)	4631	1392
Peak-hour factor, PHF	0.98	0.98
Adj. Flow (vph)	1244	361
RTOR Reduction (vph)	0	223
Lane Group Flow (vph)	1244	138
Heavy Vehicles (%)	12%	16%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	61.1	61.1
Effective Green, g (s)	61.1	61.1
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1768	531
v/s Ratio Prot	c0.27	
v/s Ratio Perm		0.10
v/c Ratio	0.70	0.26
Uniform Delay, d1	41.8	33.9
Progression Factor	1.00	1.00
Incremental Delay, d2	2.4	1.2
Delay (s)	44.2	35.1
Level of Service	D	D
Approach Delay (s)	52.6	
Approach LOS	D	

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	1191	486	59	14	3
Future Vol, veh/h	8	1191	486	59	14	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	310	-	-	250	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	3	5	22	28	33
Mvmt Flow	9	1295	528	64	15	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	528	0	-	0	1840	528
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	1312	-
Critical Hdwy	4.35	-	-	-	6.68	6.53
Critical Hdwy Stg 1	-	-	-	-	5.68	-
Critical Hdwy Stg 2	-	-	-	-	5.68	-
Follow-up Hdwy	2.425	-	-	-	3.752	3.597
Pot Cap-1 Maneuver	932	-	-	-	71	494
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	222	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	932	-	-	-	70	494
Mov Cap-2 Maneuver	-	-	-	-	70	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	220	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	60
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	932	-	-	-	70	494
HCM Lane V/C Ratio	0.009	-	-	-	0.217	0.007
HCM Control Delay (s)	8.9	-	-	-	70.2	12.3
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	0	1743	358	42
Future Vol, veh/h	0	14	0	1743	358	42
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	-	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	28	0	5	10	31
Mvmt Flow	0	15	0	1895	389	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	195	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.46	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.58	-	-	-	-
Pot Cap-1 Maneuver	0	739	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	739	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	739	-	-
HCM Lane V/C Ratio	-	0.021	-	-
HCM Control Delay (s)	-	10	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	16	507	700	101	1235	9	654	14	48	8	103
Future Volume (vph)	13	16	507	700	101	1235	9	654	14	48	8	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00
Satd. Flow (prot)		1770	3406	1568	1770	3505	1583	1770	1863	1553		1856
Flt Permitted		0.09	1.00	1.00	0.95	1.00	1.00	0.39	1.00	1.00		0.98
Satd. Flow (perm)		172	3406	1568	1770	3505	1583	734	1863	1553		1818
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	17	545	753	109	1328	10	703	15	52	9	111
RTOR Reduction (vph)	0	0	0	451	0	0	5	0	0	33	0	0
Lane Group Flow (vph)	0	31	545	302	109	1328	5	703	15	19	0	120
Heavy Vehicles (%)	2%	2%	6%	3%	2%	3%	2%	2%	2%	4%	2%	2%
Turn Type	pm+pt	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	5	5	2		1	6		3	8			4
Permitted Phases	2	2		2			6	8		8	4	
Actuated Green, G (s)		60.5	56.1	56.1	14.3	66.0	66.0	50.8	50.8	50.8		14.5
Effective Green, g (s)		60.5	56.1	56.1	14.3	66.0	66.0	50.8	50.8	50.8		14.5
Actuated g/C Ratio		0.43	0.40	0.40	0.10	0.47	0.47	0.36	0.36	0.36		0.10
Clearance Time (s)		6.0	6.1	6.1	6.0	6.1	6.1	6.6	6.7	6.7		6.7
Vehicle Extension (s)		3.0	5.0	5.0	3.0	5.0	5.0	4.0	3.0	3.0		3.0
Lane Grp Cap (vph)		124	1364	628	180	1652	746	486	676	563		188
v/s Ratio Prot		0.01	0.16		c0.06	c0.38		c0.31	0.01			
v/s Ratio Perm		0.10		0.19			0.00	c0.22		0.01		0.07
v/c Ratio		0.25	0.40	0.48	0.61	0.80	0.01	1.45	0.02	0.03		0.64
Uniform Delay, d1		26.7	29.9	31.1	60.2	31.5	19.6	40.8	28.6	28.8		60.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		1.1	0.9	2.6	5.7	4.3	0.0	212.3	0.0	0.0		6.9
Delay (s)		27.8	30.8	33.8	65.8	35.8	19.6	253.1	28.7	28.8		67.2
Level of Service		C	C	C	E	D	B	F	C	C		E
Approach Delay (s)			32.4			37.9			233.6			65.7
Approach LOS			C			D			F			E

Intersection Summary			
HCM 2000 Control Delay	77.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.7
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	19
RTOR Reduction (vph)	17
Lane Group Flow (vph)	2
Heavy Vehicles (%)	2%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	14.5
Effective Green, g (s)	14.5
Actuated g/C Ratio	0.10
Clearance Time (s)	6.7
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	163
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	56.3
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	56.4
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	9.3

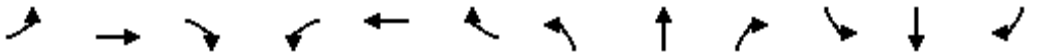
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	591	5	42	1328	10	6	0	15	37	0	15
Future Vol, veh/h	5	591	5	42	1328	10	6	0	15	37	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	310	-	330	250	-	250	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	20	5	2	2	3	20	2	0	2	24	0	26
Mvmt Flow	5	616	5	44	1383	10	6	0	16	39	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1383	0	-	616	0	0	2105	2097	616	2105	2097	1383
Stage 1	-	-	-	-	-	-	626	626	-	1471	1471	-
Stage 2	-	-	-	-	-	-	1479	1471	-	634	626	-
Critical Hdwy	4.3	-	-	4.12	-	-	7.12	6.5	6.22	7.34	6.5	6.46
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.34	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.34	5.5	-
Follow-up Hdwy	2.38	-	-	2.218	-	-	3.518	4	3.318	3.716	4	3.534
Pot Cap-1 Maneuver	442	-	0	964	-	-	38	53	491	~ 32	53	156
Stage 1	-	-	0	-	-	-	472	480	-	141	193	-
Stage 2	-	-	0	-	-	-	157	193	-	432	480	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	442	-	-	964	-	-	33	50	491	~ 30	50	156
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	50	-	~ 30	50	-
Stage 1	-	-	-	-	-	-	467	475	-	139	184	-
Stage 2	-	-	-	-	-	-	135	184	-	414	475	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	51.4	$ 336.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	99	442	-	964	-	-	30	156
HCM Lane V/C Ratio	0.221	0.012	-	0.045	-	-	1.285	0.1
HCM Control Delay (s)	51.4	13.2	-	8.9	-	-	$ 460.1	30.6
HCM Lane LOS	F	B	-	A	-	-	F	D
HCM 95th %tile Q(veh)	0.8	0	-	0.1	-	-	4.4	0.3

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	401	86	169	711	122	63	264	133	115	862	606
Future Volume (vph)	198	401	86	169	711	122	63	264	133	115	862	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	1827	1509	1719	1845	1392	1752	3252	1509	1480	3505	1568
Flt Permitted	0.15	1.00	1.00	0.40	1.00	1.00	0.19	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	255	1827	1509	719	1845	1392	344	3252	1509	855	3505	1568
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	206	418	90	176	741	127	66	275	139	120	898	631
RTOR Reduction (vph)	0	0	29	0	0	12	0	0	79	0	0	95
Lane Group Flow (vph)	206	418	61	176	741	115	66	275	60	120	898	536
Heavy Vehicles (%)	14%	4%	7%	5%	3%	16%	3%	11%	7%	22%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	83.0	83.0	83.0	83.0	83.0	83.0	69.0	69.0	69.0	69.0	69.0	69.0
Effective Green, g (s)	83.0	83.0	83.0	83.0	83.0	83.0	69.0	69.0	69.0	69.0	69.0	69.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.52	0.52	0.43	0.43	0.43	0.43	0.43	0.43
Clearance 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
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
Lane Grp Cap (vph)	132	947	782	372	957	722	148	1402	650	368	1511	676
v/s Ratio Prot		0.23			0.40			0.08			0.26	
v/s Ratio Perm	c0.81		0.04	0.24		0.08	0.19		0.04	0.14		c0.34
v/c Ratio	1.56	0.44	0.08	0.47	0.77	0.16	0.45	0.20	0.09	0.33	0.59	0.79
Uniform Delay, d1	38.5	24.0	19.3	24.6	31.0	20.2	32.0	28.3	26.9	30.1	34.8	39.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	285.8	0.3	0.0	1.0	4.0	0.1	9.4	0.3	0.3	2.3	1.7	9.3
Delay (s)	324.3	24.4	19.4	25.5	34.9	20.3	41.5	28.6	27.2	32.5	36.5	48.6
Level of Service	F	C	B	C	C	C	D	C	C	C	D	D
Approach Delay (s)		110.3			31.6			30.0			40.8	
Approach LOS		F			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	384	680	258	75	340	968	825	3	331	1253	230	1
Future Volume (vph)	384	680	258	75	340	968	825	3	331	1253	230	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00		0.97	0.95	1.00		0.97	0.91	1.00	
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3099	3312	1292		3352	3406	1553		2828	4759	1524	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3099	3312	1292		3352	3406	1553		2828	4759	1524	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	396	701	266	77	351	998	851	3	341	1292	237	1
RTOR Reduction (vph)	0	0	172	0	0	0	157	0	0	0	145	0
Lane Group Flow (vph)	396	701	94	0	428	998	694	0	344	1292	92	0
Heavy Vehicles (%)	13%	9%	25%	2%	5%	6%	4%	2%	24%	9%	6%	2%
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	21.0	60.2	60.2		26.3	66.0	66.0		23.7	46.9	46.9	
Effective Green, g (s)	21.0	60.2	60.2		26.3	66.0	66.0		23.7	46.9	46.9	
Actuated g/C Ratio	0.12	0.36	0.36		0.16	0.39	0.39		0.14	0.28	0.28	
Clearance Time (s)	4.0	4.0	4.0		4.5	4.0	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	383	1176	458		520	1326	604		395	1316	421	
v/s Ratio Prot	c0.13	0.21			0.13	0.29			c0.12	c0.27		
v/s Ratio Perm			0.07				c0.45				0.06	
v/c Ratio	1.03	0.60	0.21		0.82	0.75	1.15		0.87	0.98	0.22	
Uniform Delay, d1	74.2	44.7	38.0		69.3	44.7	51.8		71.4	60.9	47.2	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	55.0	0.8	0.2		10.2	2.5	85.2		18.5	20.8	1.2	
Delay (s)	129.3	45.5	38.3		79.5	47.2	136.9		89.9	81.7	48.4	
Level of Service	F	D	D		E	D	F		F	F	D	
Approach Delay (s)		68.4				86.8				79.0		
Approach LOS		E				F				E		

Intersection Summary			
HCM 2000 Control Delay	79.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	169.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	370	806	334
Future Volume (vph)	370	806	334
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3184	4715	1417
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3184	4715	1417
Peak-hour factor, PHF	0.97	0.97	0.97
Adj. Flow (vph)	381	831	344
RTOR Reduction (vph)	0	0	188
Lane Group Flow (vph)	382	831	156
Heavy Vehicles (%)	10%	10%	14%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	19.6	42.8	42.8
Effective Green, g (s)	19.6	42.8	42.8
Actuated g/C Ratio	0.12	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1190	357
v/s Ratio Prot	c0.12	0.18	
v/s Ratio Perm			0.11
v/c Ratio	1.04	0.70	0.44
Uniform Delay, d1	75.0	57.5	53.2
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	57.1	3.4	3.8
Delay (s)	132.1	60.9	57.0
Level of Service	F	E	E
Approach Delay (s)		77.5	
Approach LOS		E	

Intersection Summary

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	639	1372	21	44	8
Future Vol, veh/h	3	639	1372	21	44	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	310	-	-	250	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	33	6	3	23	25	25
Mvmt Flow	3	695	1491	23	48	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1491	0	-	0	2192	1491
Stage 1	-	-	-	-	1491	-
Stage 2	-	-	-	-	701	-
Critical Hdwy	4.43	-	-	-	6.65	6.45
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	2.497	-	-	-	3.725	3.525
Pot Cap-1 Maneuver	369	-	-	-	~ 43	134
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	452	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	369	-	-	-	~ 43	134
Mov Cap-2 Maneuver	-	-	-	-	~ 43	-
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	448	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	276.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	369	-	-	-	43	134
HCM Lane V/C Ratio	0.009	-	-	-	1.112	0.065
HCM Control Delay (s)	14.8	-	-	-	$ 320.2	33.7
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	0	-	-	-	4.5	0.2

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	44	0	590	1544	15
Future Vol, veh/h	0	44	0	590	1544	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	25	0	13	4	33
Mvmt Flow	0	48	0	641	1678	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	839	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.4	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.55	-	-	-	-
Pot Cap-1 Maneuver	0	266	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	266	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	266	-	-
HCM Lane V/C Ratio	-	0.18	-	-
HCM Control Delay (s)	-	21.5	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.6	-	-