

 *Transportation Analysis*

# DCT Factory Shoals DRI #2670

Douglas County, Georgia

*Report Prepared:*

May 2017

*Prepared for:*

DCT Industrial

*Prepared by:*

# Kimley»Horn

Kimley-Horn and Associates, Inc.  
2 Sun Court, Suite 450  
Peachtree Corners, GA 30092  
018716000

*Transportation Analysis*

# DCT Factory Shoals DRI #2670

Douglas County, Georgia

*Report Prepared:*

May 2017

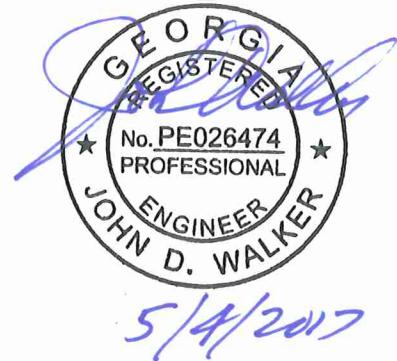
*Prepared for:*

DCT Industrial

*Prepared by:*

**Kimley»Horn**

Kimley-Horn and Associates, Inc.  
2 Sun Court, Suite 450  
Peachtree Corners, GA 30092  
018716000



## TABLE OF CONTENTS

Executive Summary .....	1
1.0 Project Description .....	3
1.1 Introduction .....	3
1.2 Site Plan Review .....	7
1.3 Site Access .....	7
1.4 Bicycle and Pedestrian Facilities .....	7
1.5 Transit Facilities .....	7
2.0 Traffic Analyses, Methodology and Assumptions .....	8
2.1 Growth Rate .....	8
2.2 Traffic Data Collection .....	8
2.3 Detailed Intersection Analysis .....	8
3.0 Study Network .....	9
3.1 Gross Trip Generation .....	9
3.2 Trip Distribution .....	9
3.3 Level-of-Service Standards .....	9
3.4 Study Network Determination .....	9
3.5 Existing Roadway Facilities .....	10
4.0 Trip Generation .....	12
5.0 Trip Distribution and Assignment .....	12
6.0 Traffic Analysis .....	16
6.1 Existing 2017 Conditions .....	16
6.2 Projected 2019 No-Build Conditions .....	18
6.3 Projected 2019 Build Conditions .....	20
7.0 Ingress/Egress Analysis .....	22
8.0 Identification of Programmed Projects .....	22
9.0 Internal Circulation Analysis .....	22

## LIST OF TABLES

Table 1: Proposed Land Uses.....	3
Table 2: Peak Hour Summary.....	8
Table 3: Gross Trip Generation.....	9
Table 4: Intersection Control Summary.....	10
Table 5: Roadway Classifications .....	10
Table 6: Net New Trip Generation.....	12
Table 7: Existing 2017 Level-of-Service Summary.....	16
Table 8: Projected 2019 No-Build Level-of-Service Summary.....	18
Table 9: Projected 2019 Build Level-of-Service Summary .....	20
Table 10: Programmed Improvements.....	22

## LIST OF FIGURES

Figure 1: Site Location Map .....	4
Figure 2: Site Aerial (Zoomed out) .....	5
Figure 3: Site Aerial (Zoomed in) .....	6
Figure 4: Study Intersections .....	11
Figure 5: Heavy Vehicle (Truck) Trip Distribution & Assignment .....	13
Figure 6: Employee (Car) Trip Distribution & Assignment .....	14
Figure 7: Project Trips.....	15
Figure 8: Existing 2017 Conditions.....	17
Figure 9: Projected 2019 No-Build Conditions .....	19
Figure 10: Projected 2019 Build Conditions .....	21

## LIST OF APPENDICES

Appendix A	Site Photo Log
Appendix B	Land Use and Zoning Maps
Appendix C	Proposed Site Plan
Appendix D	Trip Generation Analysis
Appendix E	Intersection Volume Worksheets
Appendix F	Programmed Project Fact Sheets
Appendix G	Raw Traffic Count Data
Appendix H	<i>Synchro</i> Capacity Analyses

## EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *DCT Factory Shoals* development located in Douglas County, Georgia. The approximate 60.1-acre site is located just south of the intersection of Thornton Road (SR 6) and Factory Shoals Road, and is bordered by Factory Shoals Road to the northwest and Thornton Road (SR 6) to the east. The proposed development will be an industrial warehouse facility with approximately 1,104,320 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 to obtain a Land Disturbance Permit (LDP) with Douglas County, combined with the proposed development exceeding 500,000 gross square feet for industrial developments within a developing suburbs area. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on March 15, 2017 by Douglas 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 Restricted Light Industrial (LI-R). The proposed project is expected to be completed by 2019. The proposed development will consist of the following land uses and densities:

Warehouse Square Footage: 1,104,320 SF

Capacity analyses were performed throughout the study network for the Existing 2017 conditions, the Projected 2019 No-Build conditions, and the Projected 2019 Build conditions.

- Existing 2017 conditions represent traffic volumes that were collected in April 2017 by performing AM and PM peak hour turning movement counts.
- Projected 2019 No-Build conditions represent the existing traffic volumes grown for two (2) years at 1.5 percent per year throughout the study network.
- Projected 2019 Build conditions represent the Projected 2019 No-Build conditions with the addition of the project trips that are anticipated to be generated by the *DCT Factory Shoals* development.

Based on the **Existing 2017** conditions (*present conditions; i.e. excludes both the background traffic growth and the estimated project trips from the DCT Factory Shoals DRI*), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

Based on the **Projected 2019 No-Build** conditions (*includes background traffic growth but excludes the estimated project trips from the DCT Factory Shoals DRI*), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

Based on the **Projected 2019 Build** conditions (*includes both the background traffic growth and the estimated project trips from the DCT Factory Shoals DRI*), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

The following site-access improvements are recommended to serve the traffic associated with the *DCT Factory Shoals* development:

- Intersection #4: Factory Shoals Road at Proposed Driveway
  - Construct one (1) westbound exclusive left-turn lane, with a minimum of 160 feet of storage and 50 feet of taper per the GDOT Regulations for Driveway and Encroachment Control, along Factory Shoals Road to serve vehicles turning into the site.
  - Improve Factory Shoals Road between Thornton Road (SR 6) and the proposed site driveway (approximately 1,500 feet) via resurfacing/pavement overlay.
  - On the site, construct one (1) northbound shared left/right-turn lane exiting the site onto Factory Shoals Road 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 *DCT Factory Shoals* development located in Douglas County, Georgia. The approximate 60.1-acre site is located just south of the intersection of Thornton Road (SR 6) and Factory Shoals Road, and is bordered by Factory Shoals Road to the northwest and Thornton Road (SR 6) to the east.

The proposed development will be an industrial warehouse facility with approximately 1,104,320 SF of warehousing space. The project will exceed 500,000 square feet for industrial developments within a developing suburbs 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:

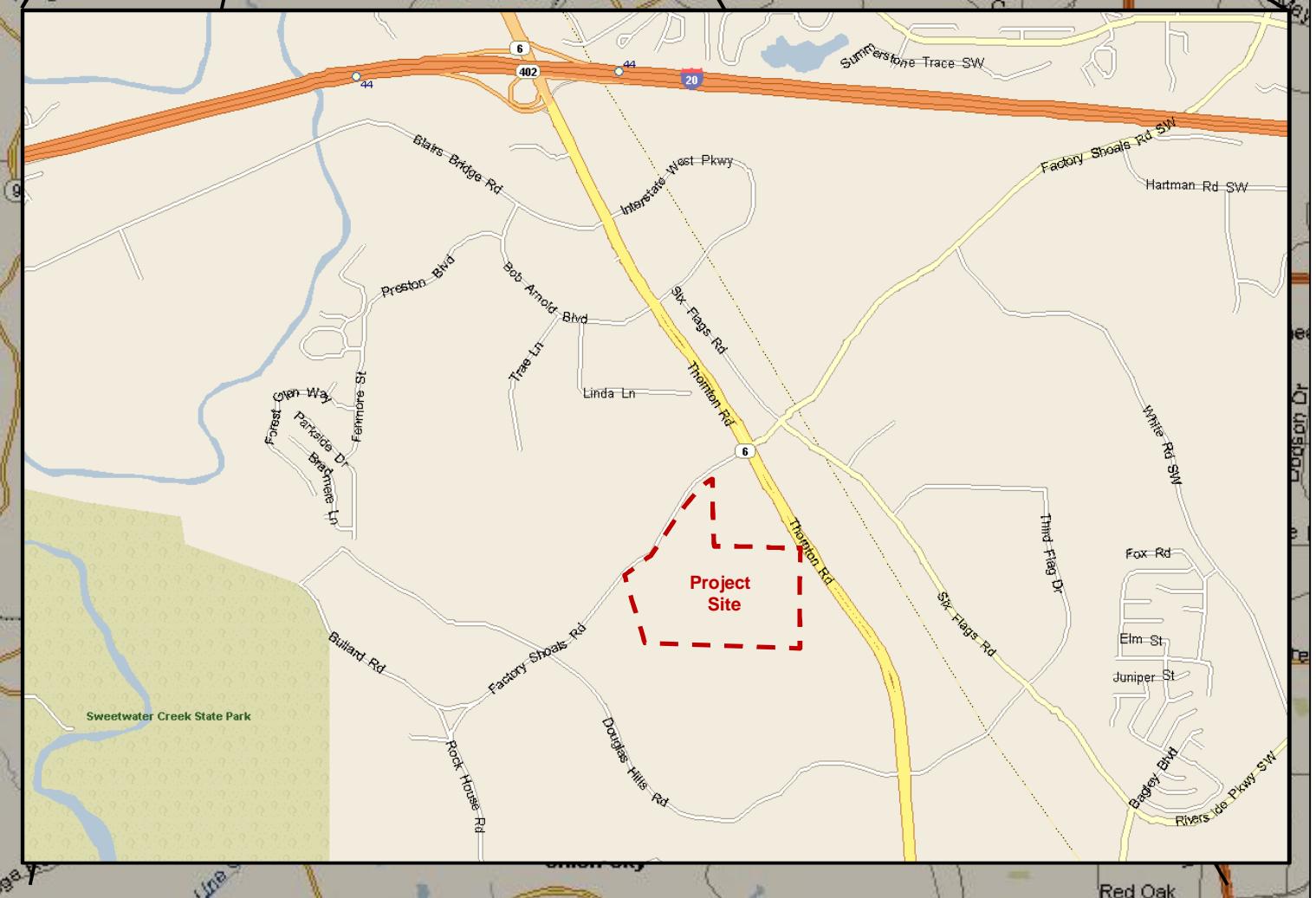
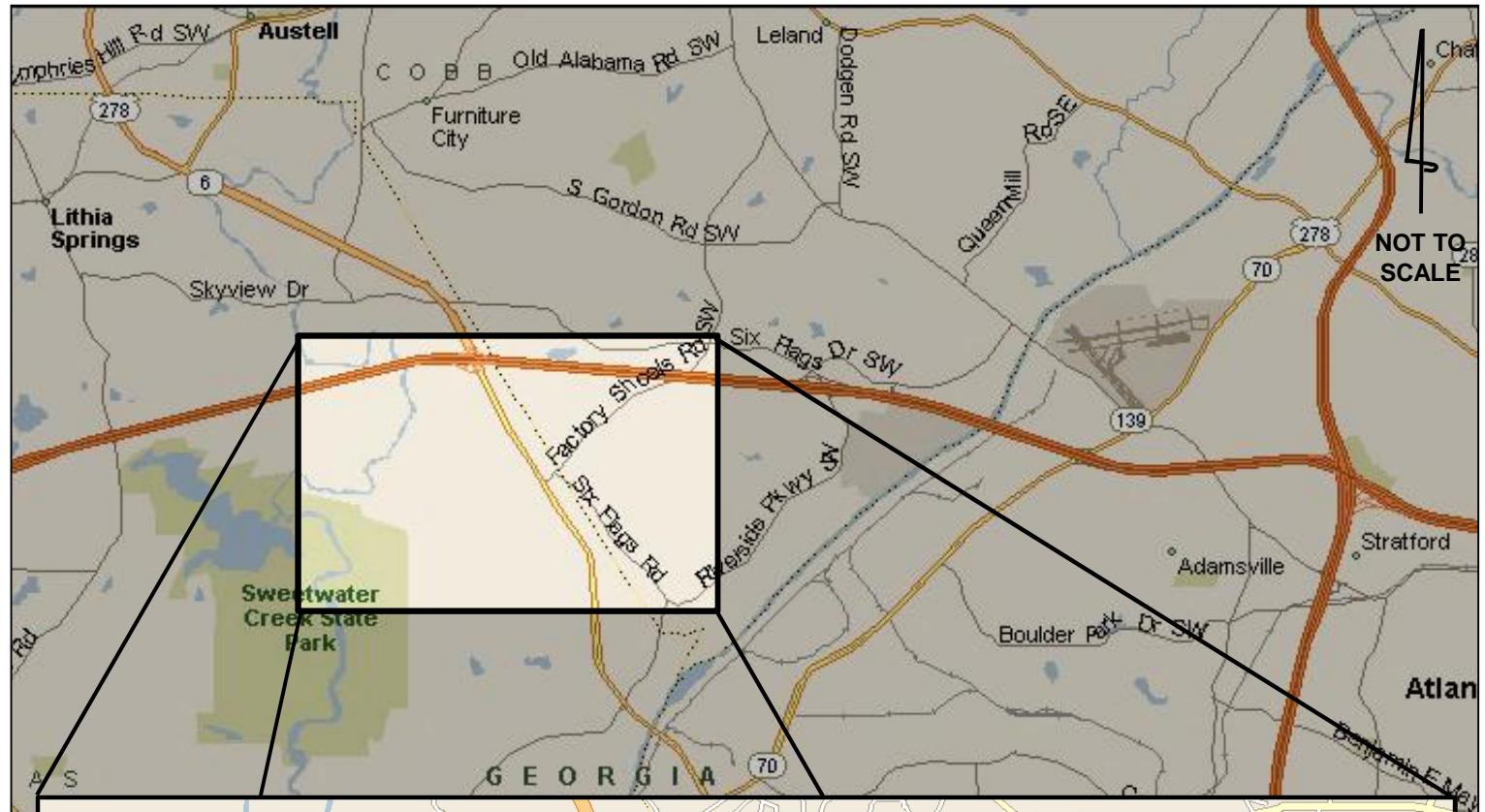
*...the land uses within the proposed DRI are such that the amount of trips generated by the development is likely to have minimal impact on the road network.*

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 the *DCT Factory Shoals* development. **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**. Douglas County Zoning Map and the *Atlanta Region's Plan Unified Growth Policy Map* are included in **Appendix B**.

The proposed project is expected to be completed by 2019, and this analysis will consider the full build-out of the proposed site in 2019. A summary of the proposed land-use and density is provided below in **Table 1**.

<b>Table 1: Proposed Land Uses</b>	
High-Cube Warehouse/Distribution Center	1,104,320 SF







## 1.2 Site Plan Review

The proposed development is located on an approximately 60.1-acre site in Douglas County, GA. The project site is bordered by Factory Shoals Road to the northwest and Thornton Road (SR 6) to the east. The proposed development will be an industrial warehouse facility with approximately 1,104,320 SF of warehousing space. The project will include one (1) new warehouse building. 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 one (1) full-movement driveway along Factory Shoals Road. Factory Shoals Road is a two-lane, undivided, local road with a posted speed limit of 35 mph. A summary of the proposed site access point follows:

1. Proposed Driveway – a proposed, side-street stop-controlled full-movement driveway located on Factory Shoals Road approximately 1,275 feet west of the intersection of Thornton Road (SR 6) at Factory Shoals Road.

The proposed site access point provides 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:

Parking Required:	883
Parking Provided:	883

## 1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities (sidewalks) do not currently exist along the project site frontage or in the vicinity of the project. Bicycle facilities do not currently exist along the project site frontage. There are no pedestrian or bicycle projects programmed in the vicinity of the project site that will be completed prior to the buildup of the *DCT Factory Shoals* development. According to the DRI site plan, no pedestrian or bicycle facilities are proposed.

## 1.5 Transit Facilities

There are no direct transit routes located within the vicinity of the project; therefore, no alternative mode reductions were taken.

## 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 1.5 percent per year background traffic growth rate was used for all roadways. This background growth rate was used to account for other proposed development activity (including surrounding DRIs previously reviewed) in the area.

### 2.2 Traffic Data Collection

Weekday peak hour turning movement counts were collected on Wednesday, April 12, 2017, 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. Thornton Road (SR 6) at Blairs Bridge Road	7:00 AM - 8:00 AM	5:00 PM - 6:00 PM
2. Thornton Road (SR 6) at Factory Shoals Road	7:00 AM - 8:00 AM	4:45 PM - 5:45 PM
3. Thornton Road (SR 6) at Douglas Hill Road	7:00 AM - 8:00 AM	4:45 PM - 5:45 PM

The collected peak hour turning movement traffic counts are shown in **Appendix G**.

### 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, Ninth Edition*. Gross trips generated are displayed below in **Table 3**.

**Table 3: Gross Trip Generation**

Land Use	Density	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
<b>* Heavy Vehicle (Truck) Trips:</b>								
High-Cube Warehouse/Distribution Center	1,104,320 SF	152	353	353	23	11	14	31
<b>Employee (Car) Trips:</b>								
High-Cube Warehouse/Distribution Center	1,104,320 SF	152	575	575	66	29	29	66
<b>Total New Trips</b>				<b>928</b>	<b>928</b>	<b>89</b>	<b>40</b>	<b>43</b>
<b>97</b>								

\* Note: Truck percentage per ITE's *Trip Generation Manual*.

#### 3.2 Trip Distribution

The directional distribution and assignment of new project trips were 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 Douglas County staff. (See Section 5.0 *Trip Distribution and Assignment*).

#### 3.3 Level-of-Service Standards

For the purposes of this traffic analysis, a level-of-service standard of D was assumed for all intersections and segments within the study network. If, however, an intersection or segment currently operates at LOS E or LOS F during an existing peak period, the LOS standard for the intersection during that peak period becomes LOS E, consistent with the GRTA Letter of Understanding.

#### 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 Douglas County staff, and includes the following four (4) intersections described in **Table 4**.

The study network includes three (3) signalized intersections and one (1) side-street stop-controlled intersections as noted in **Table 4**. The study intersections are shown in **Figure 4**.

<b>Table 4: Intersection Control Summary</b>	
<b>Intersection</b>	<b>Control</b>
1. Thornton Road (SR 6) at Blairs Bridge Road	Signal
2. Thornton Road (SR 6) at Factory Shoals Road	Signal
3. Thornton Road (SR 6) at Douglas Hill Road	Signal
4. Factory Shoals Road at Proposed Driveway	Stop Control

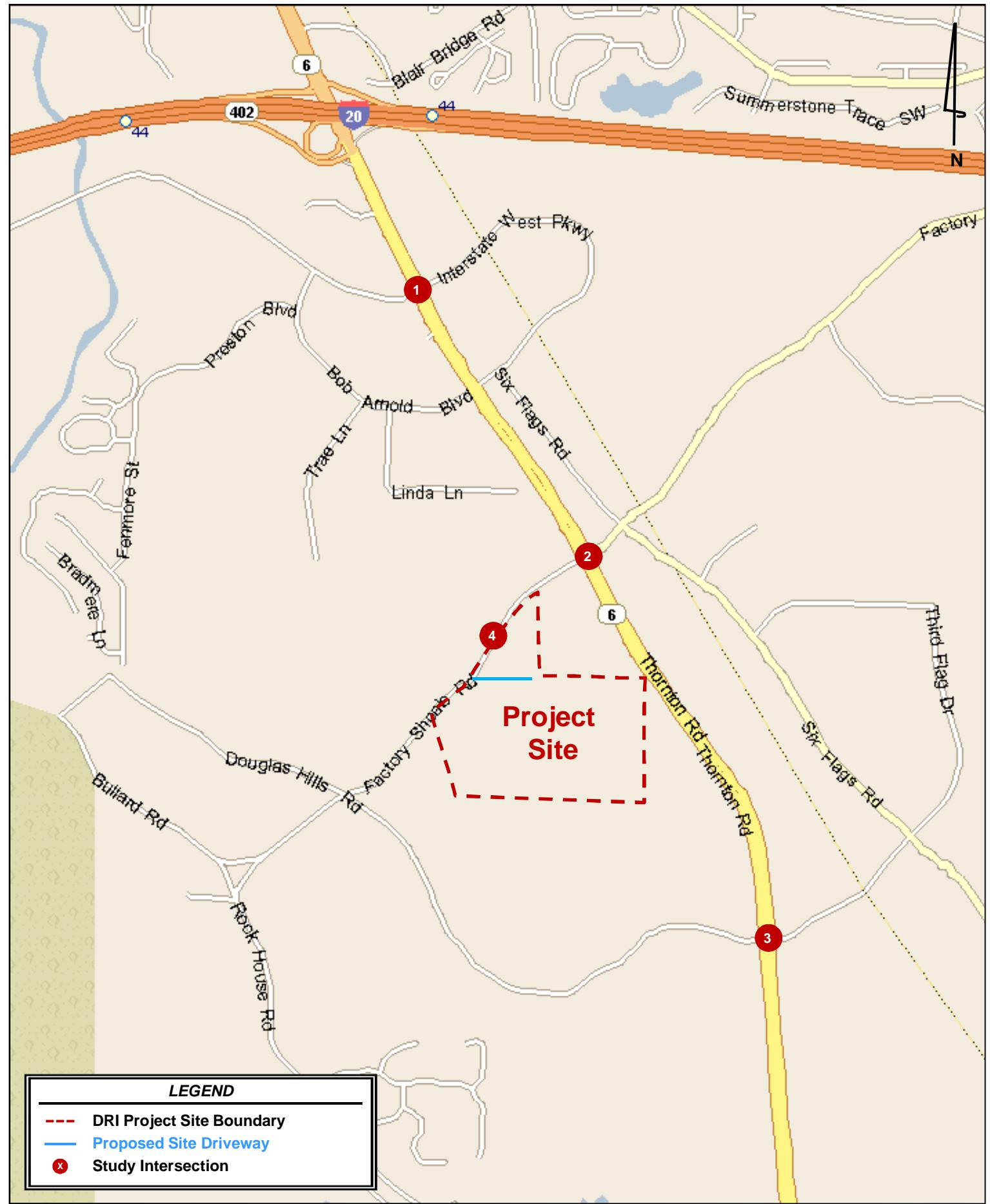
Each of the intersections listed in **Table 4** were analyzed for the Existing 2017 conditions, the Projected 2019 No-Build conditions, and the Projected 2019 Build conditions. The Projected 2019 No-Build conditions represent the existing traffic volumes grown for two (2) years at 1.5 percent per year throughout the study network.

The Projected 2019 Build conditions add the project trips associated with the *DCT Factory Shoals* development to the Projected 2019 No-Build conditions.

### 3.5 Existing Roadway Facilities

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

<b>Table 5: Roadway Classifications</b>				
<b>Roadway</b>	<b>No. of Lanes</b>	<b>Posted Speed Limit (MPH)</b>	<b>Average Daily Traffic (ADT)</b>	<b>Functional Classification</b>
<b>Factory Shoals Road</b>	2	35	1,040	Local Road
<b>Thornton Road (SR 6)</b>	4	55	31,400	Other Principal Arterial
I-20	6	70	112,000	Interstate



## 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, 9<sup>th</sup> Edition, 2012*, using equations where available. Trip generation for this proposed development is calculated based upon the following land use: High-Cube Warehouse/Distribution Center (ITE 152). The *ITE Trip Generation Manual, 9<sup>th</sup> Edition, 2012*, also provides the daily and peak hour weighted average truck trip generation rate.

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
<b>Gross Project Trips</b>	<b>1,856</b>	<b>928</b>	<b>928</b>	<b>89</b>	<b>40</b>	<b>43</b>	<b>97</b>
Heavy Vehicle (Truck) Trips*	706	353	353	23	11	14	31
Employee (Car) Trips	1,150	575	575	66	29	29	66
Alternative Mode Reduction	- 0	- 0	- 0	- 0	- 0	- 0	- 0
Pass-by Reduction	- 0	- 0	- 0	- 0	- 0	- 0	- 0
<b>Total Trips</b>	<b>1,856</b>	<b>928</b>	<b>928</b>	<b>89</b>	<b>40</b>	<b>43</b>	<b>97</b>

\* Truck percentage per ITE's Trip Generation Manual.

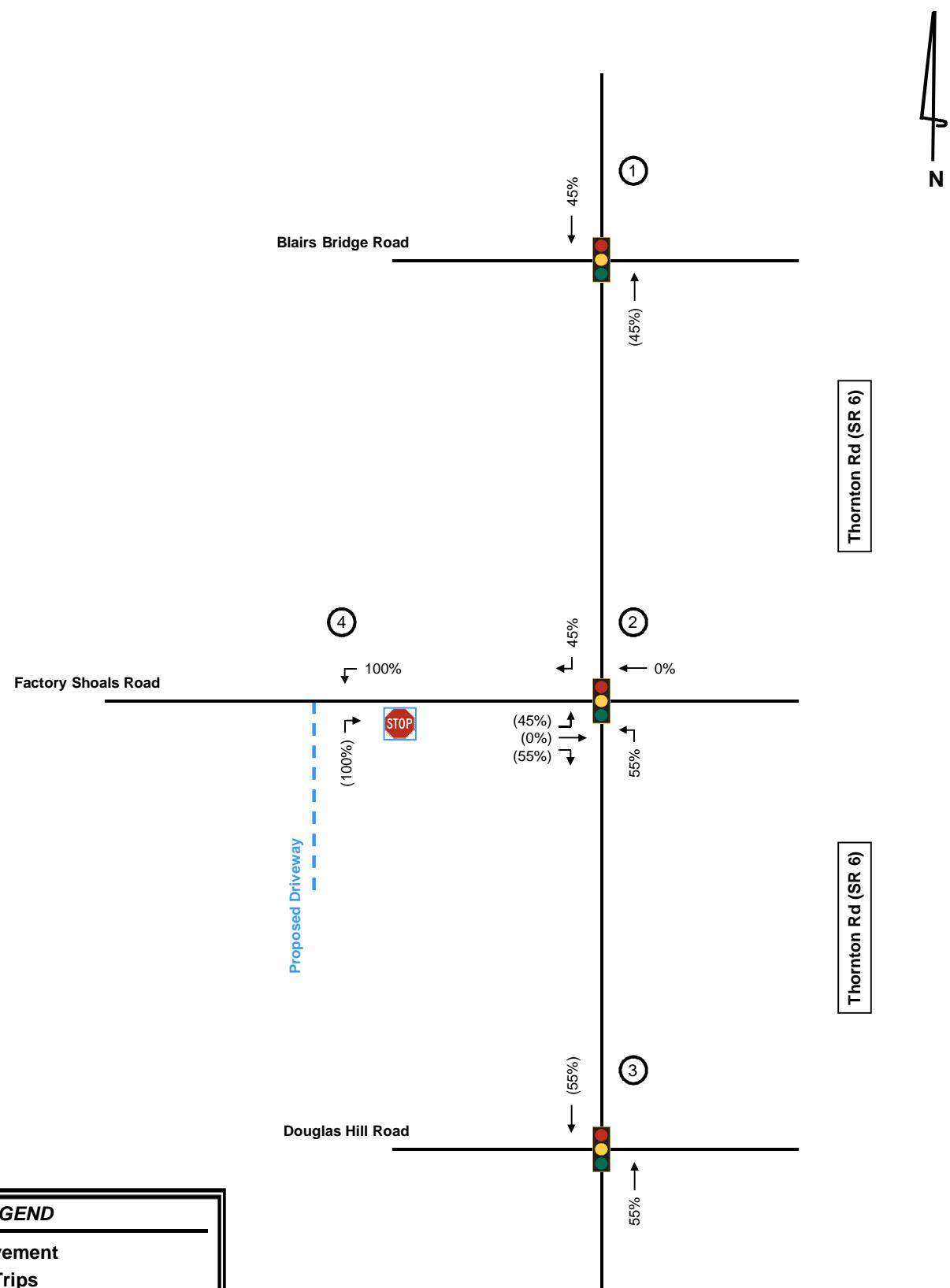
A more detailed trip generation analysis summary table is provided in **Appendix D**.

## 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 Douglas County staff.

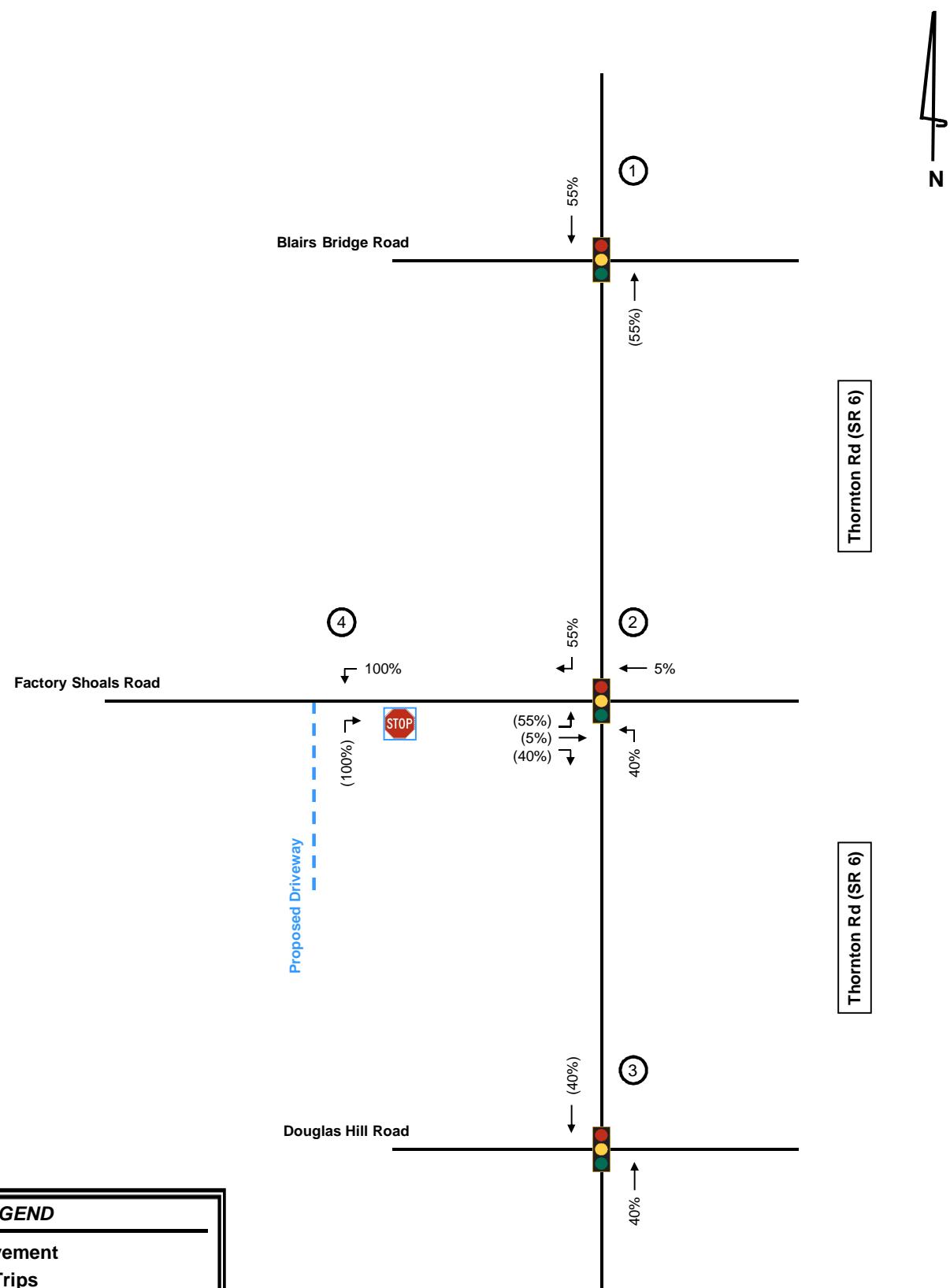
**Figure 5** and **Figure 6** display the anticipated distribution and assignment of heavy vehicle (truck) trips and employee (car) trips throughout the study roadway network. These trip assignment percentages were applied to the net new trips expected to be generated by the development, and the volumes 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 *DCT Factory Shoals* development, are shown on **Figure 7**.

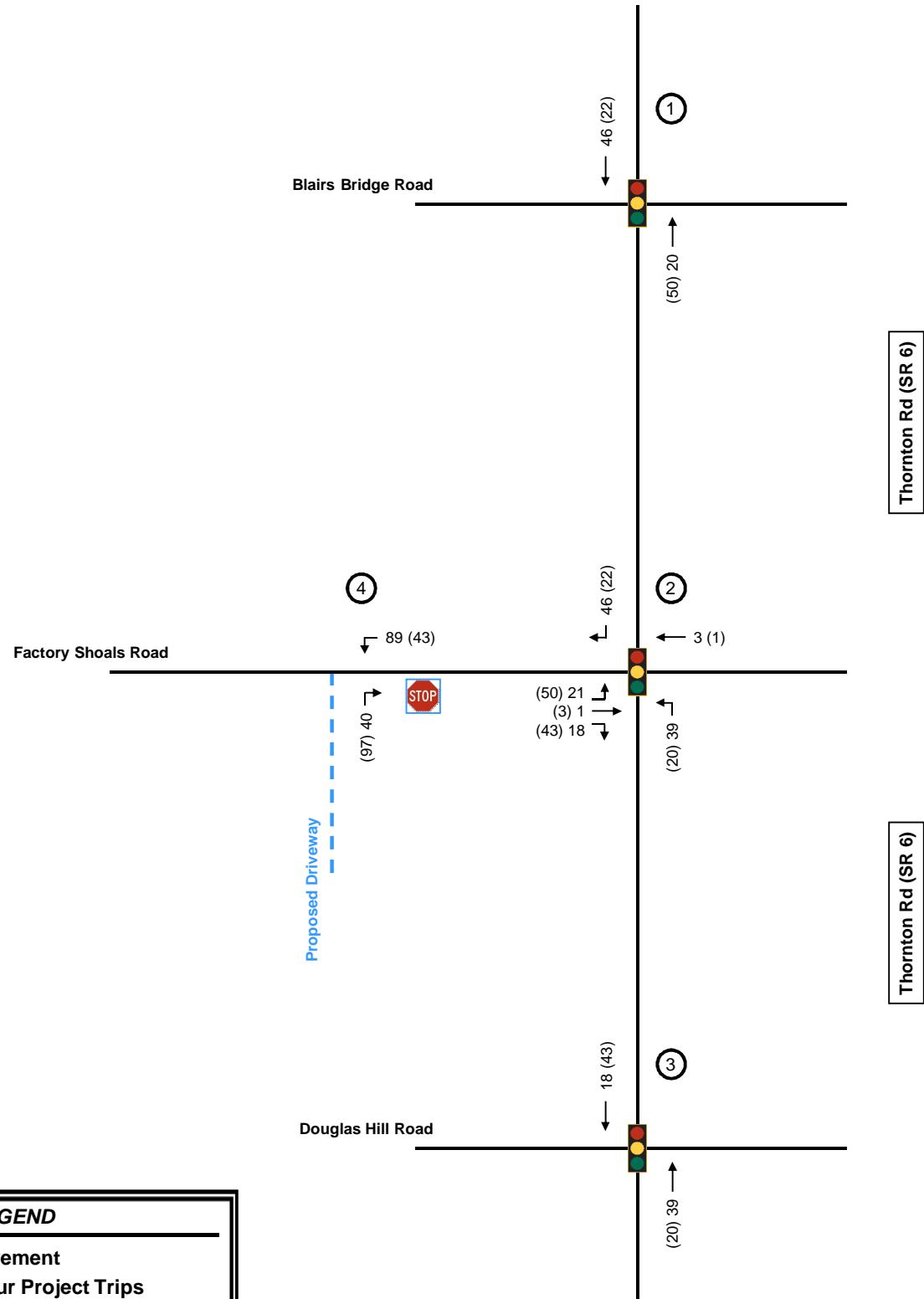
Detailed intersection volume worksheets are provided in **Appendix E**.



#### LEGEND

- Turning Movement
- XX% % Entering Trips
- (XX%) % Exiting Trips
- Proposed Stop Control
- Existing Traffic Signal
- Intersection Reference Number





## 6.0 TRAFFIC ANALYSIS

### 6.1 Existing 2017 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 2017 conditions are shown in **Table 7**. Detailed *Synchro* analysis reports are shown in **Appendix H**.

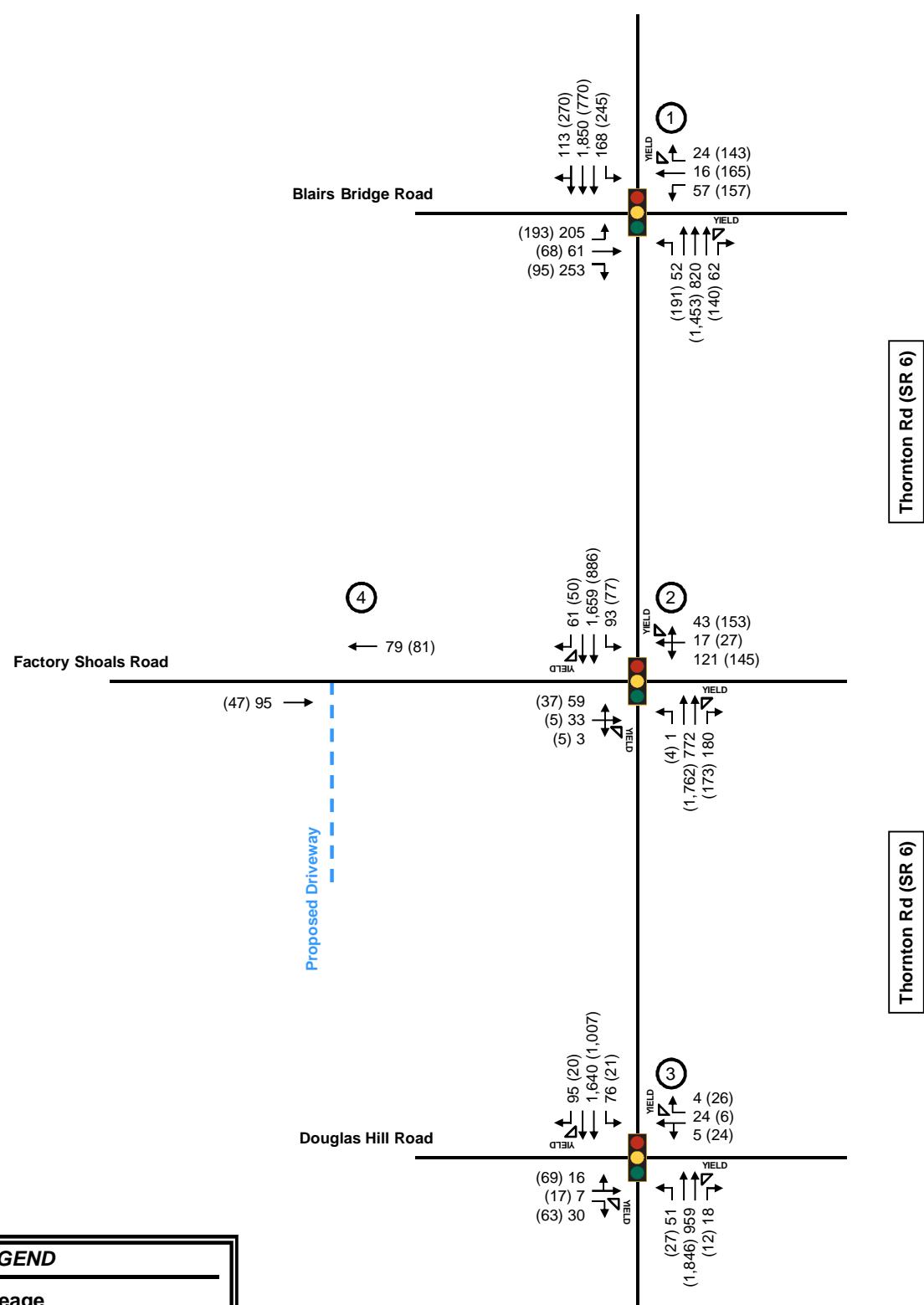
**Table 7: Existing 2017 Level-of-Service Summary**  
LOS (delay in seconds)

Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Thornton Road (SR 6) at Blairs Bridge Road	Signal	Overall	D	D (42.7)	D (51.4)
2. Thornton Road (SR 6) at Factory Shoals Road	Signal	Overall	D	C (23.1)	C (34.8)
3. Thornton Road (SR 6) at Douglas Hill Road	Signal	Overall	D	A (7.2)	B (11.8)
4. Factory Shoals Road at Proposed Driveway	TWSC*	WB Left	D	N/A	N/A
		NB	D	N/A	N/A

\* Two-Way Stop-Control / Side-Street Stop-Control.

As shown in **Table 7**, all study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Existing 2017 conditions. Therefore, there are no recommended improvements for the Existing 2017 conditions scenario.

N



#### LEGEND

- Existing Laneage
- XX AM Peak Hour Traffic Volume
- (XX) PM Peak Hour Traffic Volume
- Existing Traffic Signal
- (X) Intersection Reference Number

## 6.2 Projected 2019 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 1.5 percent per year throughout the study network. These volumes were entered into *Synchro* 9.0, and capacity analyses were performed. The Projected 2019 No-Build conditions were analyzed using existing roadway geometry and existing intersection control types.

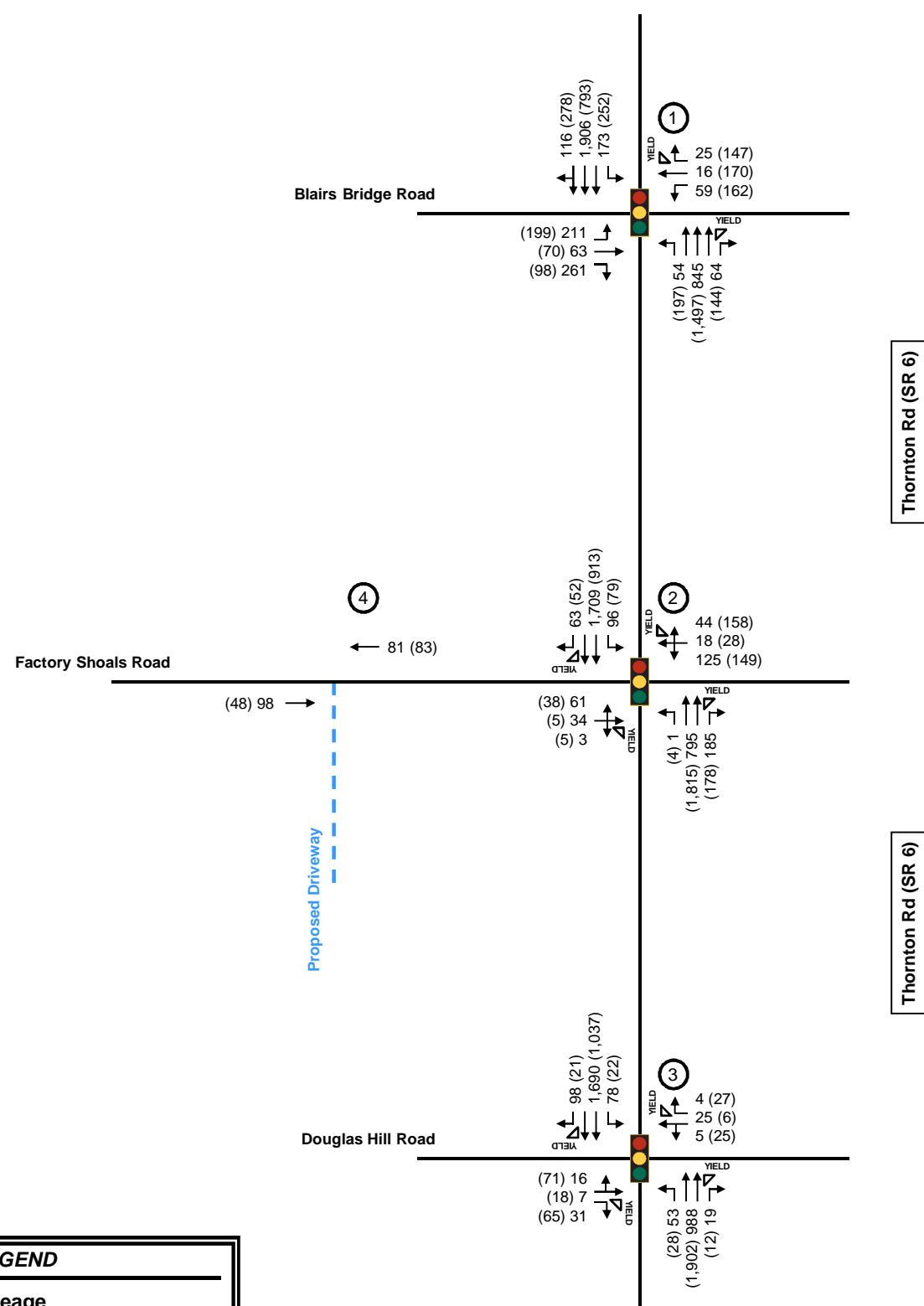
The intersection laneage and traffic volumes for the Projected 2019 No-Build conditions are shown in **Figure 9**. The results of the capacity analyses for the Projected 2019 No-Build are shown in **Table 8**. Detailed *Synchro* analysis reports are shown in **Appendix H**.

Table 8: Projected 2019 No-Build Level-of-Service Summary LOS (delay in seconds)					
Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Thornton Road (SR 6) at Blairs Bridge Road	Signal	Overall	D	D (43.8)	D (52.1)
2. Thornton Road (SR 6) at Factory Shoals Road	Signal	Overall	D	C (24.0)	D (36.9)
3. Thornton Road (SR 6) at Douglas Hill Road	Signal	Overall	D	A (7.4)	B (12.4)
4. Factory Shoals Road at Proposed Driveway	TWSC*	WB Left	D	N/A	N/A
		NB	D	N/A	N/A

\* Two-Way Stop-Control / Side-Street Stop-Control.

As shown in **Table 8**, all study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2019 No-Build conditions. Therefore, there are no recommended improvements for the Projected 2019 No-Build conditions scenario.

N



#### LEGEND

- Existing Laneage
- XX AM Peak Hour Traffic Volume
- (XX) PM Peak Hour Traffic Volume
- Existing Traffic Signal
- (X) Intersection Reference Number

### 6.3 Projected 2019 Build Conditions

The traffic associated with the proposed *DCT Factory Shoals* development was added to the Projected 2019 No-Build volumes. These volumes were then entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2019 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 2019 Build conditions are shown in **Figure 10**. The results of the capacity analyses for the Projected 2019 Build conditions are shown in **Table 9**. Detailed *Synchro* analysis reports are shown in **Appendix H**.

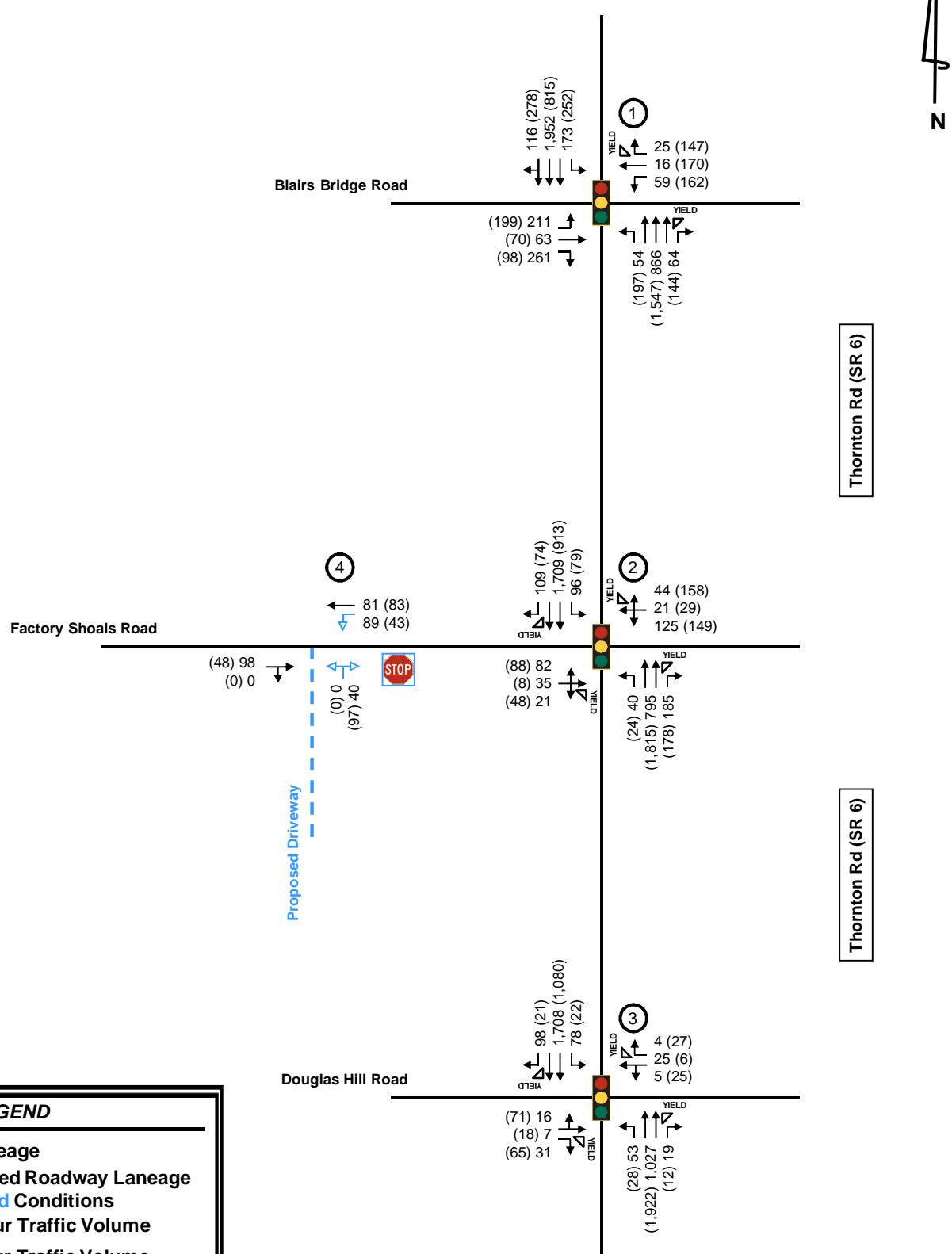
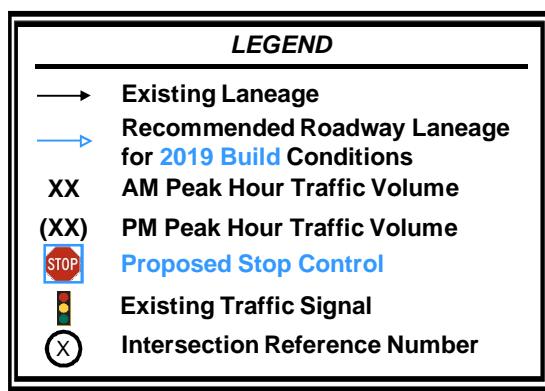
<b>Table 9: Projected 2019 Build Level-of-Service Summary</b> LOS (delay in seconds)					
<b>Intersection</b>	<b>Control</b>	<b>Approach/ Movement</b>	<b>LOS Std.</b>	<b>AM Peak Hour</b>	<b>PM Peak Hour</b>
1. Thornton Road (SR 6) at Blairs Bridge Road	Signal	Overall	D	D (44.2)	D (52.3)
2. Thornton Road (SR 6) at Factory Shoals Road	Signal	Overall	D	C (27.8)	D (39.7)
3. Thornton Road (SR 6) at Douglas Hill Road	Signal	Overall	D	A (7.5)	B (12.5)
4. Factory Shoals Road at Proposed Driveway	TWSC*	WB Left	D	A (7.9)	A (7.7)
		NB	D	A (9.4)	A (9.4)

\* Two-Way Stop-Control / Side-Street Stop-Control.

As shown in **Table 9**, all study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2019 Build conditions. Therefore, there are no recommended improvements for the Projected 2019 Build conditions scenario.

The following site-access improvements are recommended to serve the traffic associated with the *DCT Factory Shoals* development:

- Intersection #4: Factory Shoals Road at Proposed Driveway
  - Construct one (1) westbound exclusive left-turn lane, with a minimum of 160 feet of storage and 50 feet of taper per the GDOT Regulations for Driveway and Encroachment Control, along Factory Shoals Road to serve vehicles turning into the site.
  - Improve Factory Shoals Road between Thornton Road (SR 6) and the proposed site driveway (approximately 1,500 feet) via resurfacing/pavement overlay.
  - On the site, construct one (1) northbound shared left/right-turn lane exiting the site onto Factory Shoals Road and one (1) ingress lane entering the site.



## 7.0 INGRESS/EGRESS ANALYSIS

Vehicular access to the *DCT Factory Shoals* development is proposed at one (1) location. The site driveway location is discussed in *Section 1.3*.

The proposed site driveway provides 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 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 2019 Build conditions, the proposed site driveway intersection is anticipated to operate at an acceptable level-of-service.

## 8.0 IDENTIFICATION OF PROGRAMMED PROJECTS

According to ARC's Transportation Improvement Program, the Regional Transportation Plan (Atlanta Region's Plan), GDOT's construction work programs, Douglas County'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	TBD	FS-003	Programmed: Implement truck friendly lanes along SR 6 from I-20 to SR 6 Spur.
2	TBD	FS-003	Long range: Widen SR 70 from SR 6 to James Aldredge Boulevard.
3	TBD	AR-ML-800	Long Range: Construct managed lanes from I-285 West to SR 92 along I-20.
4	*	AR-H-201	Two managed lanes in both directions along I-20 from SR 6 to Bright Star Road.
5	*	CTP-20	Widening of Blairs Bridge Road/Monier Parkway from SR 6 to Mt. Vernon Road from 2 to 3 lanes.

\* Douglas County CTP published in December 2008.

Fact sheets for projects 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**

## DCT Factory Shoals DRI #2670

Photo No. 1



Comments: Factory Shoals Road at Proposed Driveway. Photo looking west on Proposed Driveway.

Photo No. 2



Comments: Factory Shoals Road at Proposed Driveway. Photo looking east on Proposed Driveway.

## DCT Factory Shoals DRI #2670

Photo No. 3



Comments: Factory Shoals Road at Douglas Hill Road. Photo looking north from Douglas Hill Road.

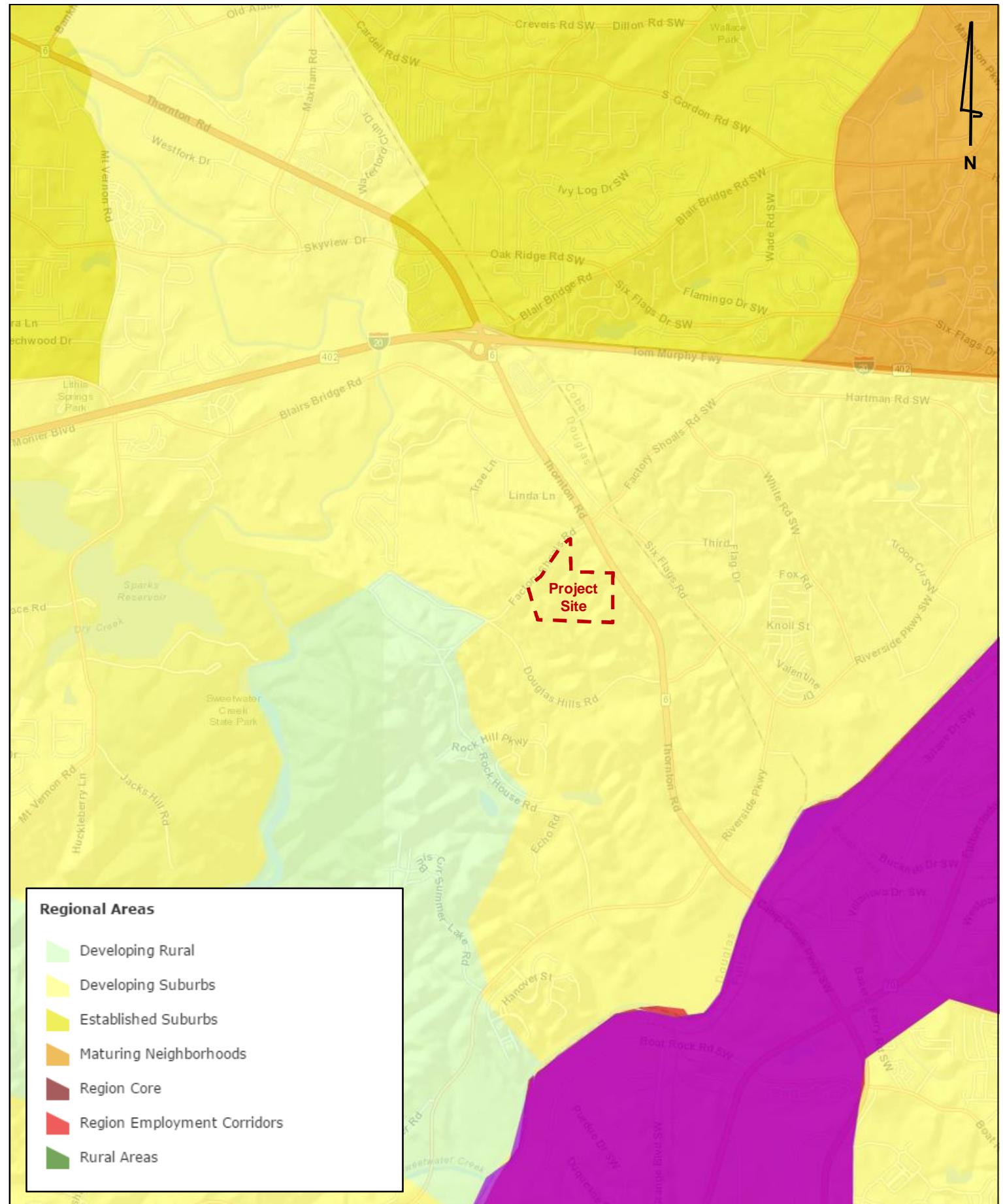
Photo No. 4



Comments: Factory Shoals Road at Douglas Hill Road. Photo looking south from Douglas Hill Road.

## **Appendix B**

### **Land Use and Zoning Maps**



#### Regional Areas

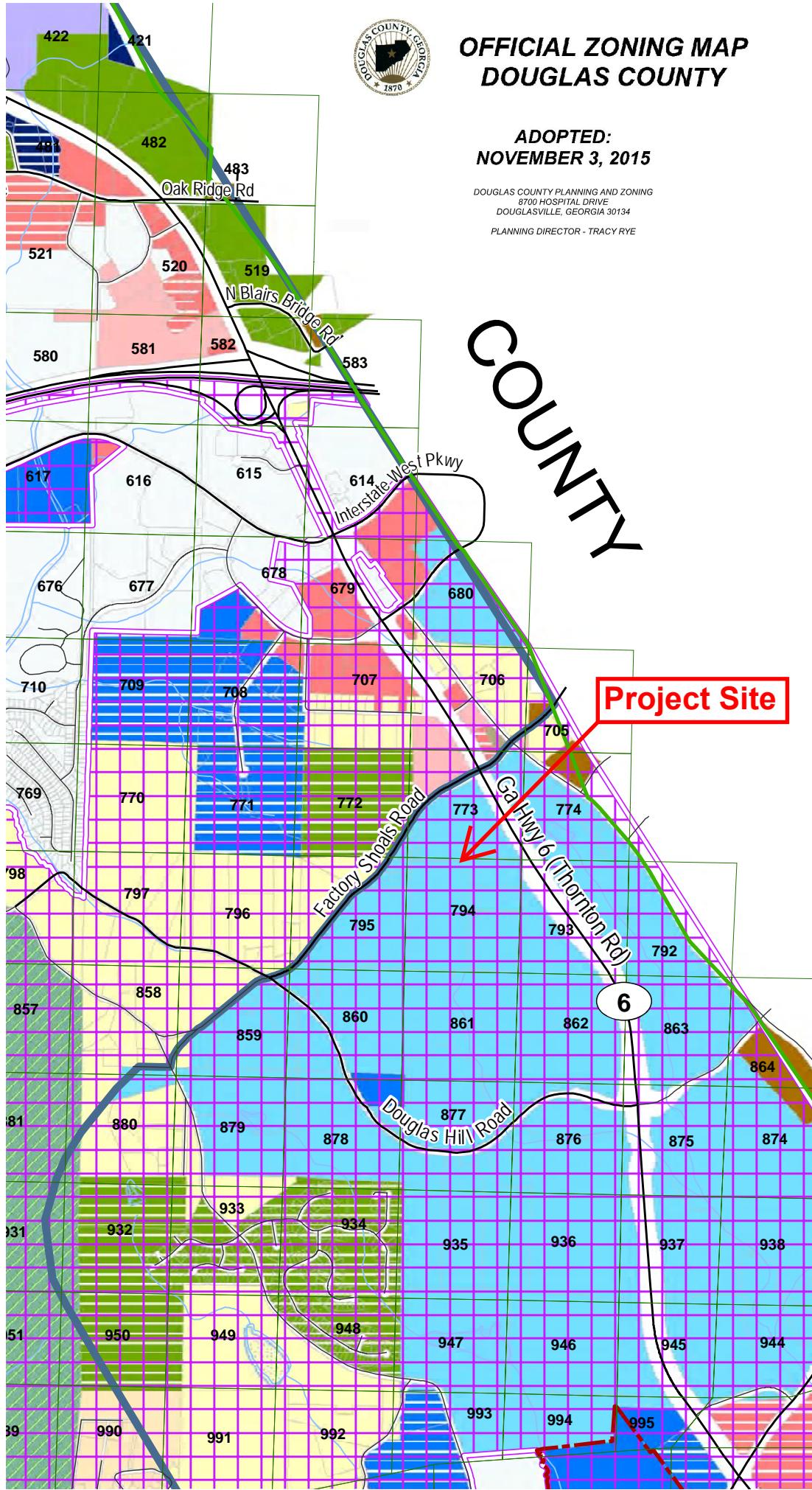
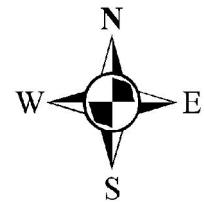
- Developing Rural
- Developing Suburbs
- Established Suburbs
- Maturing Neighborhoods
- Region Core
- Region Employment Corridors
- Rural Areas



# OFFICIAL ZONING MAP DOUGLAS COUNTY

ADOPTED:  
NOVEMBER 3, 2015

DOUGLAS COUNTY PLANNING AND ZONING  
8700 HOSPITAL DRIVE  
DOUGLASSVILLE, GEORGIA 30134  
PLANNING DIRECTOR - TRACY RYE



## Legend

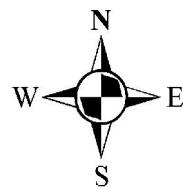
Street	Minor
	Major
	Railroad
	Parcel
	Landlot
County Boundary	
Stream/River	
Lake	
Anneewakee Creek Basin	
Bear Creek Basin	
Dog River Basin	
Sweetwater Creek Basin	
Anneewakee Sub-Watershed A	
Anneewakee Sub-Watershed B	
Beaver Run Creek Sub-Watershed	
Gothards Creek Sub-Watershed	
Master Planned Community	
Mixed Master Planned Community	
Airport Hazard Overlay	
O-AH	
O-AH-C	
Quality Growth Overlay	
O-ED (Estate Density Overlay)	
Corridor Overlay	
Hwy 78 Corridor Overlay	
Hwy 92 Village Overlay	
Post Rd Village Overlay	
Zoning	
C-C (Community Commercial)	
C-C-C (Community Commercial - Conditions)	
C-G (General Commercial)	
C-G-C (General Commercial - Conditions)	
C-H (Heavy Commercial)	
C-H-C (Heavy Commercial - Conditions)	
C-N (Neighborhood Commercial)	
C-N-C (Neighborhood Commercial - Conditions)	
C-R (Regional Commercial)	
C-R-C (Regional Commercial - Conditions)	
HI (Heavy Industrial)	
LI (Light Industrial)	
LI-C (Light Industrial - Conditions)	
LI-R (Restricted Light Industrial)	
LI-R-C (Restricted Light Industrial - Conditions)	
OI-L (Low Density Office/Institutional)	
OI-L-C (Low Density Office/Institutional - Conditions)	
PUD (Planned Unit Development)	
PUD-C (Planned Unit Development - Conditions)	
R-A (Residential-Agricultural)	
R-A-C (Residential-Agricultural - Conditions)	
R-D (Duplex Two-Family Residential)	
R-D-C (Duplex Two-Family Residential)	
R-LD (Low Density Single-Family Residential)	
R-LD-C (Low Density Single-Family Residential - Conditions)	
R-MD (Medium Density Single-Family Residential)	
R-MD-C (Medium Density Single-Family Residential - Conditions)	
R-MF (Multi-Family Residential)	
R-MF-C (Multi-Family Residential - Conditions)	
R-MH (Manufactured Home Residential)	
R-TC (Townhouse Condominium Residential)	
R-TC-C (Townhouse Condominium Residential - Conditions)	
City	
State Park	
Split Zoned	



# OFFICIAL DOUGLAS COUNTY FUTURE LAND USE MAP

ADOPTED:  
NOVEMBER 3, 2015

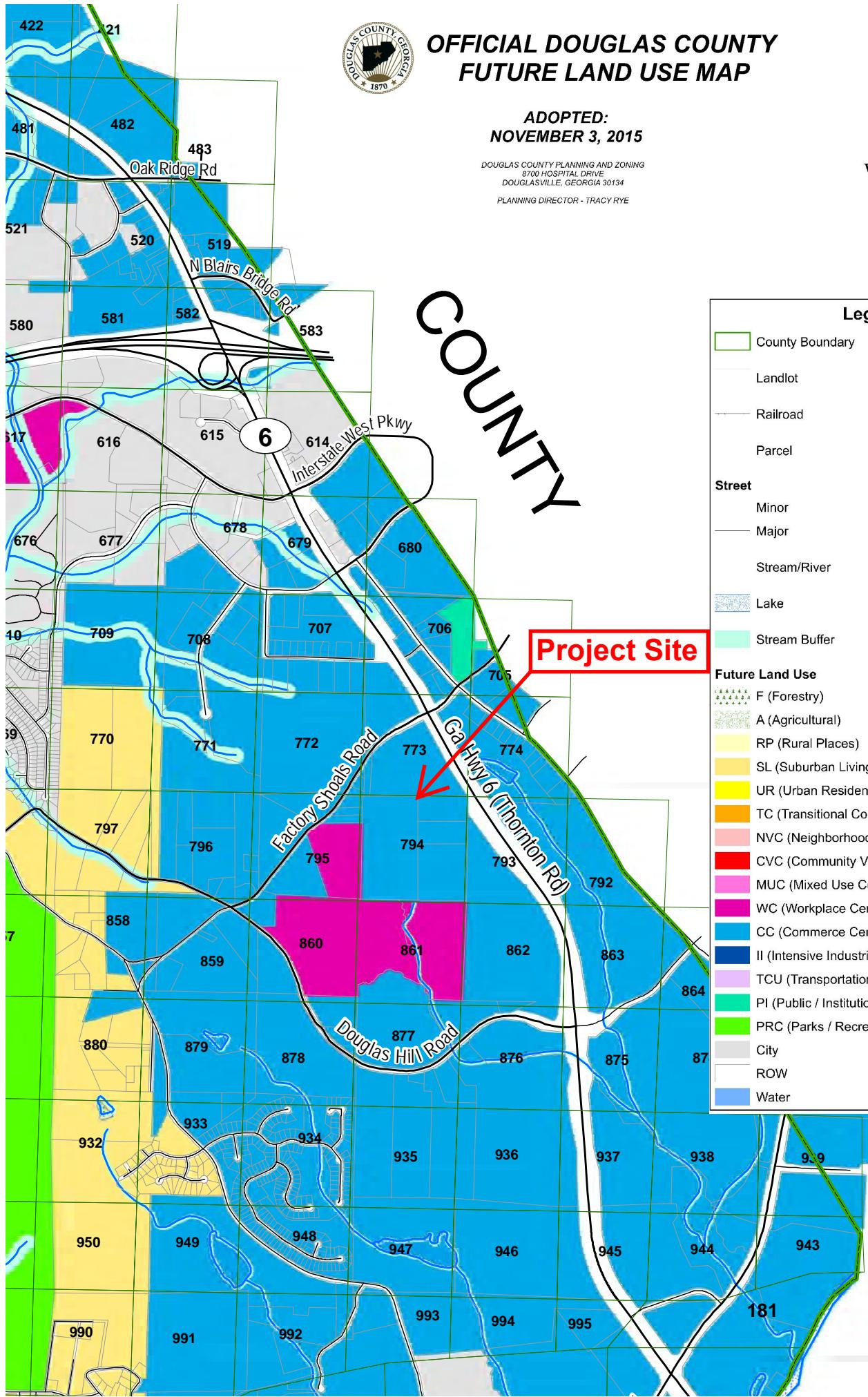
DOUGLAS COUNTY PLANNING AND ZONING  
8700 HOSPITAL DRIVE  
DOUGLASSVILLE, GEORGIA 30134  
PLANNING DIRECTOR - TRACY RYE

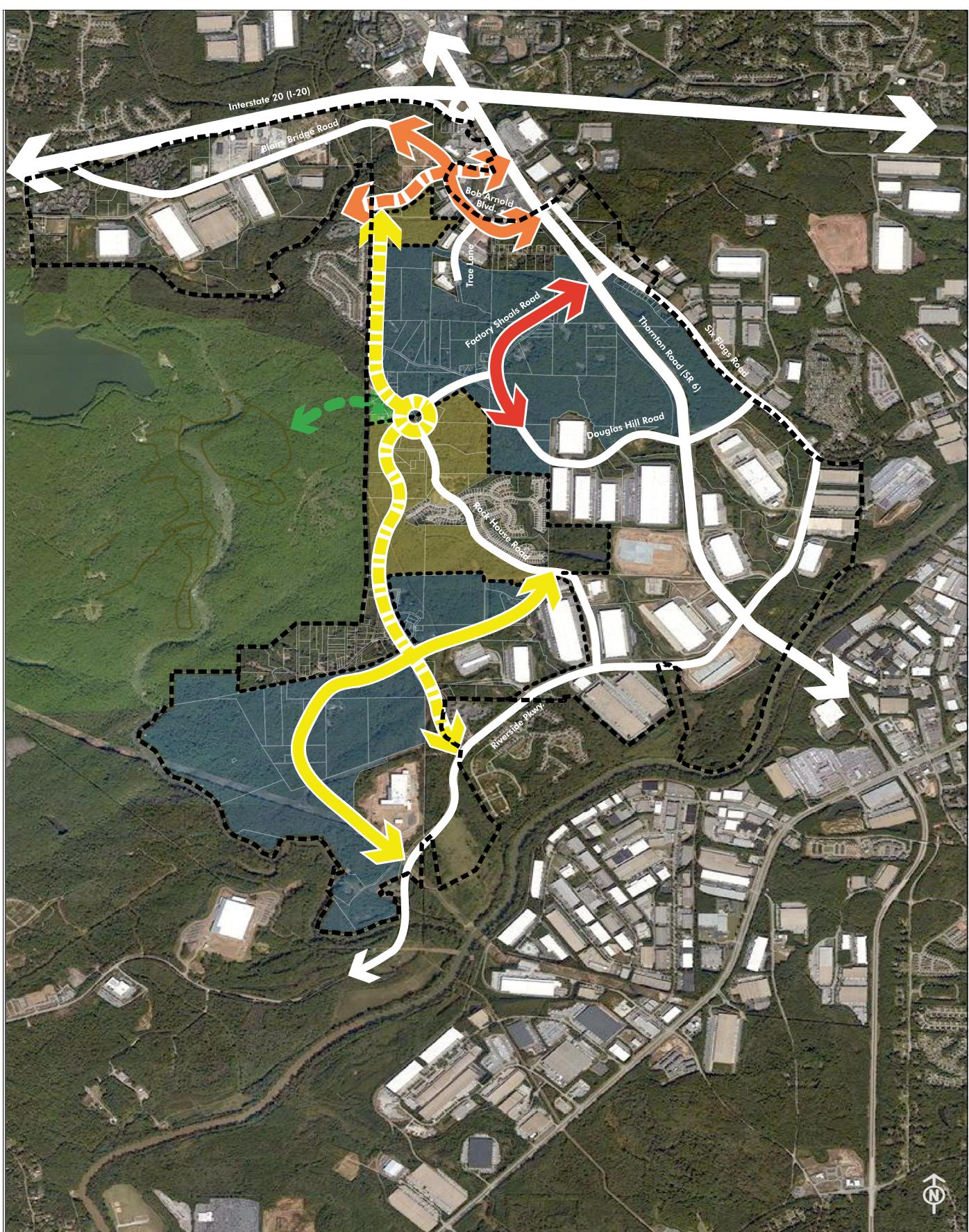


COUNTY

Project Site

Legend	
County Boundary	
Landlot	
Railroad	
Parcel	
Street	
Minor	
Major	
Stream/River	
Lake	
Stream Buffer	
Future Land Use	
F (Forestry)	
A (Agricultural)	
RP (Rural Places)	
SL (Suburban Living)	
UR (Urban Residential)	
TC (Transitional Corridor)	
NVC (Neighborhood Village Center)	
CVC (Community Village Center)	
MUC (Mixed Use Corridor)	
WC (Workplace Center)	
CC (Commerce Center)	
II (Intensive Industrial)	
TCU (Transportation / Communication / Utilities)	
PI (Public / Institutional)	
PRC (Parks / Recreation / Conservation)	
City	
ROW	
Water	

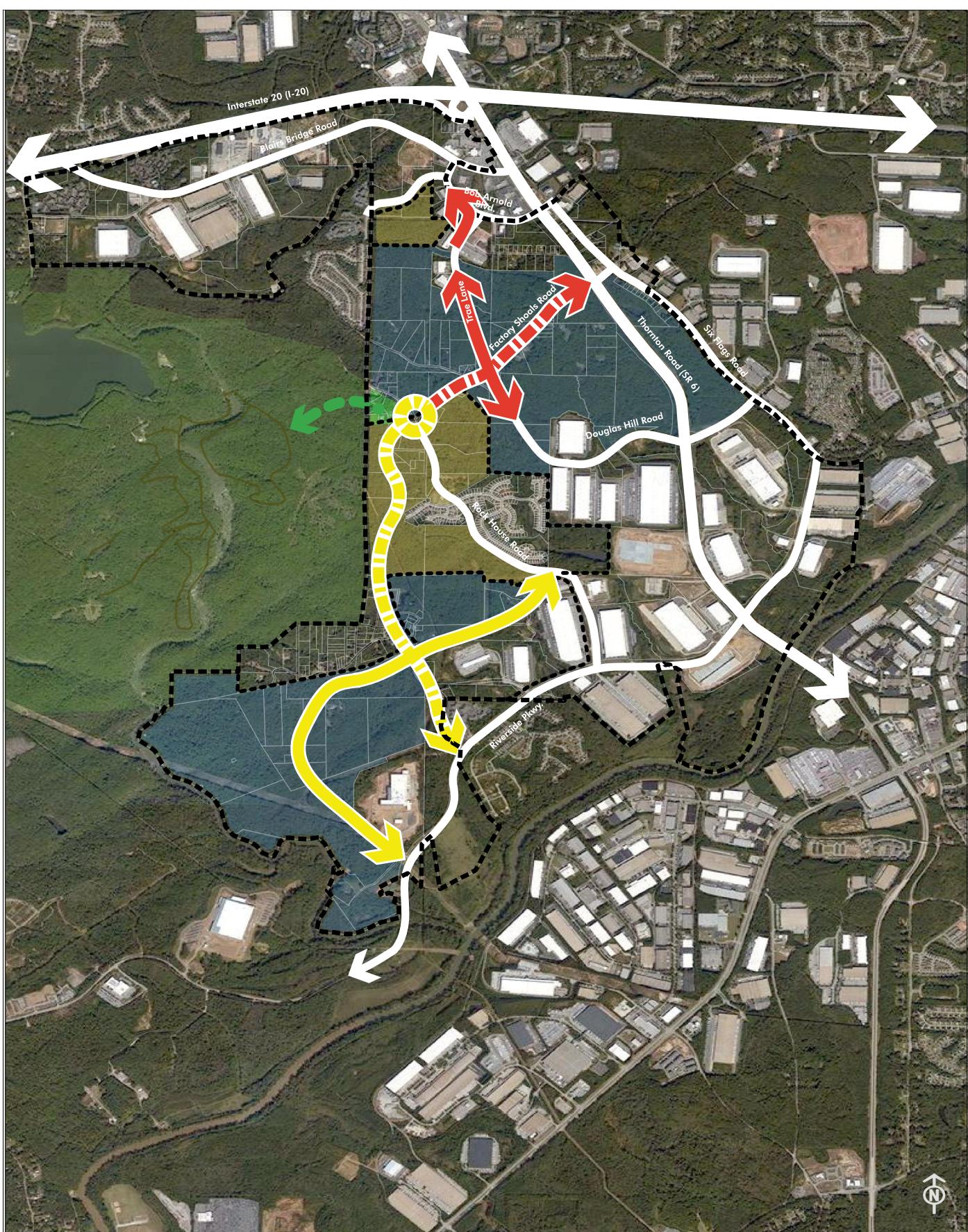




## Concept 1A

Southwest Thornton Activity Center  
Sweetwater Master Plan and Zoning

- |                              |                      |
|------------------------------|----------------------|
| <b>TIER 1 TRANSPORTATION</b> |                      |
|                              | Residential Priority |
|                              | Freight Priority     |
| <b>TIER 2 TRANSPORTATION</b> |                      |
|                              | Residential Priority |
|                              | Freight Priority     |
| <b>TIER 3 TRANSPORTATION</b> |                      |
|                              | Residential Priority |
|                              | Freight Priority     |



## Concept 1B

Southwest Thornton Activity Center  
Sweetwater Master Plan and Zoning

- |                              |  |                      |                      |
|------------------------------|--|----------------------|----------------------|
| <b>TIER 1 TRANSPORTATION</b> |  |                      |                      |
| Future Residential Land Use  |  | Residential Priority |                      |
| Future Business Land Use     |  | Freight Priority     |                      |
| Trail                        |  |                      |                      |
| <b>TIER 2 TRANSPORTATION</b> |  |                      |                      |
|                              |  |                      | Residential Priority |
|                              |  |                      | Freight Priority     |
| <b>TIER 3 TRANSPORTATION</b> |  |                      |                      |
|                              |  |                      | Residential Priority |
|                              |  |                      | Freight Priority     |

## **Appendix C**

### **Proposed Site Plan**



**PROJECT DATA:**

- 1) DRI NUMBER: 2670
- 2) SITE AREA = 60.11 ACRES
- 3) DISTURBED AREA = 58.8 ACRES
- 4) FAR: 0.14

**PARKING:**  
REQUIRED PER DOUGLAS COUNTY:  
1,104,320 SF @ 1/2000 = 883  
**PROVIDED:**  
STANDARD: 865  
HC: 18  
TOTAL: 883

**5) ROADWAY INFO:**  
THORNTON ROAD - NO ACCESS ALLOWED  
4 THROUGH LANES  
FACTORY SHOALS ROAD  
2 THROUGH LANES

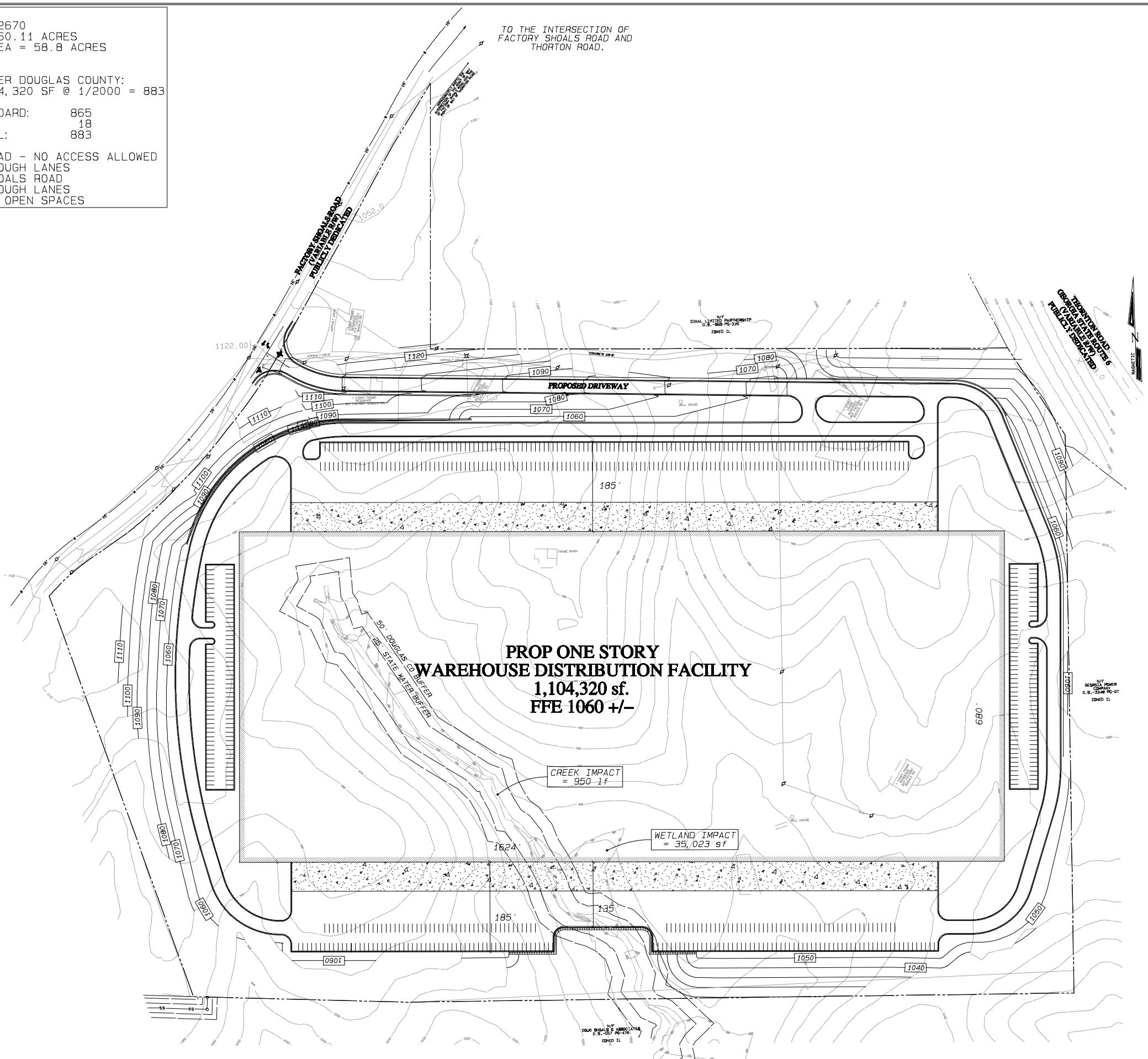
**6) NO DEDICATED OPEN SPACES**

### LOCATION MAP

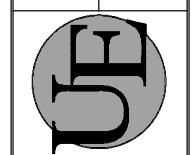
**DEVELOPER:**  
DCT INDUSTRIAL  
3340 PEACHTREE ROAD NE  
TOWER 100, SUITE 1950  
ATLANTA, GA 30326  
PHONE: (404) 846-6828  
CONTACT: CHRIS SEWARD

**TRAFFIC ENGINEER:**  
KIMLEY-HORN  
2 SUN COURT  
SUITE 450  
PEACHTREE CORNERS GA 30092  
PHONE: (404) 201-6157  
CONTACT: JOHN WALKER

**CIVIL ENGINEER**  
URBAN ENGINEERS  
1904 MONROE DRIVE  
SUITE 150  
ATLANTA, GA 30324  
PHONE: (404) 873-5874  
CONTACT: DAN WINTERMEYER



**Urban Engineers, Inc.**  
1904 MONROE DRIVE, N.E., SUITE 150  
ATLANTA, GEORGIA 30324  
PHONE: (404) 873-5874 / FAX: (404) 873-5877



REVISIONS  
DESCRIPTION

DATE △

**C-1**

## **Appendix D**

### **Trip Generation Analysis**

Trip Generation Analysis (9th Ed.)								
DCT Factory Shoals DRI #2670								
Douglas County, Georgia								
Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
<b>Proposed Site Traffic</b>								
152 High-Cube Warehouse/Distribution Center	1,104,320 gross s.f.	1,856	129	89	40	140	43	97
<b>Gross Trips</b>		<b>1,856</b>	<b>129</b>	<b>89</b>	<b>40</b>	<b>140</b>	<b>43</b>	<b>97</b>
Truck Trips (per ITE Weighted Average Truck Trip Generation)		706	34	23	11	45	14	31
<i>Mixed-Use Reductions</i>		0				0	0	0
<i>Alternative Mode Reductions</i>		0	0	0	0	0	0	0
Adjusted Trips		706	34	23	11	45	14	31
Employee Trips		1,150	95	66	29	95	29	66
<i>Mixed-Use Reductions</i>		0				0	0	0
<i>Alternative Mode Reductions</i>		0	0	0	0	0	0	0
Adjusted Trips		1,150	95	66	29	95	29	66
<i>Mixed-Use Reductions - TOTAL</i>		0	0	0	0	0	0	0
<i>Alternative Mode Reductions - TOTAL</i>		0	0	0	0	0	0	0
<b>New Trips</b>		<b>1,856</b>	<b>129</b>	<b>89</b>	<b>40</b>	<b>140</b>	<b>43</b>	<b>97</b>
<b>Driveway Volumes</b>		<b>1,856</b>	<b>129</b>	<b>89</b>	<b>40</b>	<b>140</b>	<b>43</b>	<b>97</b>

k:\atl\_tpt\018716000 factory shoals dri, douglas county, march 2017\phase ii\analysis\dct factory shoals dri\_analysis.xls\trip generation

**Appendix E**  
**Intersection Volume Worksheets**

## INTERSECTION VOLUME DEVELOPMENT

### Intersection #1: Thornton Rd (SR 6) @ N Blairs Bridge Rd / Interstate West Pkwy AM PEAK HOUR

Description	Thornton Rd (SR 6)			Thornton Rd (SR 6)			N Blairs Bridge Rd			Interstate West Pkwy		
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2017 Traffic Volumes	52	820	62	168	1,850	113	205	61	253	57	16	24
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	4	74	0	3	116	8	17	2	9	2	0	4
Heavy Vehicle %	8%	9%	2%	2%	6%	7%	8%	3%	4%	4%	2%	17%
Peak Hour Factor		0.98				0.98				0.98		
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
Currently Under Construction Warehouse (Truck Trips)												
Currently Under Construction Warehouse (Car Trips)												
2019 Background Traffic	54	845	64	173	1,906	116	211	63	261	59	16	25
<b>Project Trips (Future Development Only)</b>												
Trip Distribution IN					45%							
Trip Distribution OUT		45%										
Truck Trips	0	5	0	0	10	0	0	0	0	0	0	0
Trip Distribution IN					55%							
Trip Distribution OUT		55%										
Car Trips	0	16	0	0	36	0	0	0	0	0	0	0
Total Project Trips	0	21	0	0	46	0	0	0	0	0	0	0
<b>2019 Buildout Total</b>	<b>54</b>	<b>866</b>	<b>64</b>	<b>173</b>	<b>1,952</b>	<b>116</b>	<b>211</b>	<b>63</b>	<b>261</b>	<b>59</b>	<b>16</b>	<b>25</b>
<b>2019 Heavy Vehicle %</b>	<b>8%</b>	<b>9%</b>	<b>2%</b>	<b>2%</b>	<b>7%</b>	<b>2%</b>	<b>8%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>	<b>17%</b>

### PM PEAK HOUR

Description	Thornton Rd (SR 6)			Thornton Rd (SR 6)			N Blairs Bridge Rd			Interstate West Pkwy		
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2017 Traffic Volumes	191	1,453	140	245	770	270	193	68	95	157	165	143
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	5	94	1	4	67	13	11	5	11	4	5	4
Heavy Vehicle %	3%	6%	2%	2%	9%	5%	6%	7%	12%	3%	3%	3%
Peak Hour Factor		0.97				0.97				0.97		
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
Currently Under Construction Warehouse (Truck Trips)												
Currently Under Construction Warehouse (Car Trips)												
2019 Background Traffic	197	1,497	144	252	793	278	199	70	98	162	170	147
<b>Project Trips (Future Development Only)</b>												
Trip Distribution IN					45%							
Trip Distribution OUT		45%										
Truck Trips	0	14	0	0	6	0	0	0	0	0	0	0
Trip Distribution IN					55%							
Trip Distribution OUT		55%										
Car Trips	0	36	0	0	16	0	0	0	0	0	0	0
Total Project Trips	0	50	0	0	22	0	0	0	0	0	0	0
<b>2019 Buildout Total</b>	<b>197</b>	<b>1,547</b>	<b>144</b>	<b>252</b>	<b>815</b>	<b>278</b>	<b>199</b>	<b>70</b>	<b>98</b>	<b>162</b>	<b>170</b>	<b>147</b>
<b>2019 Heavy Vehicle %</b>	<b>3%</b>	<b>7%</b>	<b>2%</b>	<b>2%</b>	<b>9%</b>	<b>5%</b>	<b>6%</b>	<b>7%</b>	<b>12%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>

## INTERSECTION VOLUME DEVELOPMENT

### Intersection #2: Thornton Rd (SR 6) @ Factory Shoals Rd AM PEAK HOUR

Description	Thornton Rd (SR 6)			Thornton Rd (SR 6)			Factory Shoals Rd			Factory Shoals Rd		
	<b>Northbound</b>			<b>Southbound</b>			<b>Eastbound</b>			<b>Westbound</b>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2017 Traffic Volumes	1	772	180	93	1,659	61	59	33	3	121	17	43
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	73	4	16	106	0	0	1	0	9	0	7
Heavy Vehicle %	2%	9%	2%	17%	6%	2%	2%	3%	2%	7%	2%	16%
Peak Hour Factor		0.97			0.97			0.97			0.97	
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
Currently Under Construction Warehouse (Truck Trips)												
Currently Under Construction Warehouse (Car Trips)												
2019 Background Traffic	1	795	185	96	1,709	63	61	34	3	125	18	44
<b>Project Trips (Future Development Only)</b>												
Trip Distribution IN	55%					45%						
Trip Distribution OUT							45%		55%			
Truck Trips	13	0	0	0	0	10	5	0	6	0	0	0
Trip Distribution IN	40%					55%					5%	
Trip Distribution OUT							55%	5%	40%			
Car Trips	26	0	0	0	0	36	16	1	12	0	3	0
Total Project Trips	39	0	0	0	0	46	21	1	18	0	3	0
<b>2019 Buildout Total</b>	40	795	185	96	1,709	109	82	35	21	125	21	44
<b>2019 Heavy Vehicle %</b>	33%	9%	2%	17%	6%	10%	8%	3%	29%	7%	2%	16%

### PM PEAK HOUR

Description	Thornton Rd (SR 6)			Thornton Rd (SR 6)			Factory Shoals Rd			Factory Shoals Rd		
	<b>Northbound</b>			<b>Southbound</b>			<b>Eastbound</b>			<b>Westbound</b>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2017 Traffic Volumes	4	1,762	173	77	886	50	37	5	5	145	27	153
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	100	8	5	87	0	0	0	0	8	0	8
Heavy Vehicle %	2%	6%	5%	6%	10%	2%	2%	2%	2%	6%	2%	5%
Peak Hour Factor		0.98			0.98			0.98			0.98	
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
Currently Under Construction Warehouse (Truck Trips)												
Currently Under Construction Warehouse (Car Trips)												
2019 Background Traffic	4	1,815	178	79	913	52	38	5	5	149	28	158
<b>Project Trips (Future Development Only)</b>												
Trip Distribution IN	55%					45%						
Trip Distribution OUT							45%		55%			
Truck Trips	8	0	0	0	0	6	14	0	17	0	0	0
Trip Distribution IN	40%					55%					5%	
Trip Distribution OUT							55%	5%	40%			
Car Trips	12	0	0	0	0	16	36	3	26	0	1	0
Total Project Trips	20	0	0	0	0	22	50	3	43	0	1	0
<b>2019 Buildout Total</b>	24	1,815	178	79	913	74	88	8	48	149	29	158
<b>2019 Heavy Vehicle %</b>	34%	6%	5%	6%	10%	10%	17%	1%	36%	6%	2%	5%

### INTERSECTION VOLUME DEVELOPMENT

#### Intersection #3: Thornton Rd (SR 6) @ Douglas Hill Rd AM PEAK HOUR

Description	Thornton Rd (SR 6)			Thornton Rd (SR 6)			Douglas Hill Rd			Douglas Hill Rd		
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2017 Traffic Volumes	51	959	18	76	1,640	95	16	7	30	5	24	4
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	11	72	3	6	99	10	5	1	6	2	1	2
Heavy Vehicle %	22%	8%	17%	8%	6%	11%	31%	14%	20%	40%	4%	50%
Peak Hour Factor		0.97				0.97					0.97	
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
Currently Under Construction Warehouse (Truck Trips)												
Currently Under Construction Warehouse (Car Trips)												
2019 Background Traffic	53	988	19	78	1,690	98	16	7	31	5	25	4
<b>Project Trips (Future Development Only)</b>												
Trip Distribution IN		55%										
Trip Distribution OUT					55%							
Truck Trips	0	13	0	0	6	0	0	0	0	0	0	0
Trip Distribution IN		40%										
Trip Distribution OUT					40%							
Car Trips	0	26	0	0	12	0	0	0	0	0	0	0
Total Project Trips	0	39	0	0	18	0	0	0	0	0	0	0
<b>2019 Buildout Total</b>	53	1,027	19	78	1,708	98	16	7	31	5	25	4
<b>2019 Heavy Vehicle %</b>	22%	8%	17%	8%	6%	11%	31%	14%	20%	40%	4%	50%

#### PM PEAK HOUR

Description	Thornton Rd (SR 6)			Thornton Rd (SR 6)			Douglas Hill Rd			Douglas Hill Rd		
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2017 Traffic Volumes	27	1,846	12	21	1,007	20	69	17	63	24	6	26
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	16	94	1	2	92	10	14	3	28	0	2	1
Heavy Vehicle %	59%	5%	8%	10%	9%	50%	20%	18%	44%	2%	33%	4%
Peak Hour Factor		0.97				0.97					0.97	
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
Currently Under Construction Warehouse (Truck Trips)												
Currently Under Construction Warehouse (Car Trips)												
2019 Background Traffic	28	1,902	12	22	1,037	21	71	18	65	25	6	27
<b>Project Trips (Future Development Only)</b>												
Trip Distribution IN		55%										
Trip Distribution OUT					55%							
Truck Trips	0	8	0	0	17	0	0	0	0	0	0	0
Trip Distribution IN		40%										
Trip Distribution OUT					40%							
Car Trips	0	12	0	0	26	0	0	0	0	0	0	0
Total Project Trips	0	20	0	0	43	0	0	0	0	0	0	0
<b>2019 Buildout Total</b>	28	1,922	12	22	1,080	21	71	18	65	25	6	27
<b>2019 Heavy Vehicle %</b>	59%	5%	8%	10%	10%	50%	20%	18%	44%	2%	33%	4%

## INTERSECTION VOLUME DEVELOPMENT

### Intersection #4: Factory Shoals Rd @ Proposed Driveway AM PEAK HOUR

Description	Proposed Driveway			Southbound			Factory Shoals Rd			Factory Shoals Rd				
	<b>Northbound</b>			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through
Observed 2017 Traffic Volumes										95				79
Pedestrians														
Conflicting Pedestrians	0		0	0		0	0		0	0		0		0
Heavy Vehicles									1			0		
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%		
Peak Hour Factor		0.82			0.82			0.82			0.82			
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%		
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030		
Currently Under Construction Warehouse (Truck Trips)														
Currently Under Construction Warehouse (Car Trips)														
2019 Background Traffic	0	0	0	0	0	0	0	98	0	0	81	0		
<b>Project Trips (Future Development Only)</b>														
Trip Distribution IN												100%		
Trip Distribution OUT				100%										
Truck Trips	0	0	11	0	0	0	0	0	0	23	0	0		
Trip Distribution IN												100%		
Trip Distribution OUT				100%										
Car Trips	0	0	29	0	0	0	0	0	0	66	0	0		
Total Project Trips	0	0	40	0	0	0	0	0	0	89	0	0		
<b>2019 Buildout Total</b>	0	0	40	0	0	0	0	98	0	89	81	0		
<b>2019 Heavy Vehicle %</b>	0%	0%	28%	0%	0%	0%	0%	2%	0%	26%	2%	0%		

### PM PEAK HOUR

Description	Proposed Driveway			Southbound			Factory Shoals Rd			Factory Shoals Rd				
	<b>Northbound</b>			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through
Observed 2017 Traffic Volumes										47				81
Pedestrians														
Conflicting Pedestrians	0		0	0		0	0		0	0		0		0
Heavy Vehicles									0			0		
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%		
Peak Hour Factor		0.82			0.82			0.82			0.82			
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%		
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030		
Currently Under Construction Warehouse (Truck Trips)														
Currently Under Construction Warehouse (Car Trips)														
2019 Background Traffic	0	0	0	0	0	0	0	48	0	0	83	0		
<b>Project Trips (Future Development Only)</b>														
Trip Distribution IN												100%		
Trip Distribution OUT				100%										
Truck Trips	0	0	31	0	0	0	0	0	0	14	0	0		
Trip Distribution IN												100%		
Trip Distribution OUT				100%										
Car Trips	0	0	66	0	0	0	0	0	0	29	0	0		
Total Project Trips	0	0	97	0	0	0	0	0	0	43	0	0		
<b>2019 Buildout Total</b>	0	0	97	0	0	0	0	48	0	43	83	0		
<b>2019 Heavy Vehicle %</b>	0%	0%	32%	0%	0%	0%	0%	2%	0%	33%	2%	0%		

## **Appendix F**

### **Programmed Project Fact Sheets**

**Short Title**

SR 6 (THORNTON ROAD) TRUCK FRIENDLY LANES  
FROM I-20 WEST IN DOUGLAS COUNTY TO SR 6 SPUR  
(GARRETT ROAD) IN COBB COUNTY

**GDOT Project No.**

0010821

**Federal ID No.**

N/A

**Status**

Programmed

**Service Type**

Roadway / Operations &amp; Safety

**Sponsor**

GDOT

**Jurisdiction**

Cobb County, Douglas County

**Analysis Level**

Exempt from Air Quality Analysis (40 CFR 93)

**Existing Thru Lane**

6

LCI

**Planned Thru Lane**

6

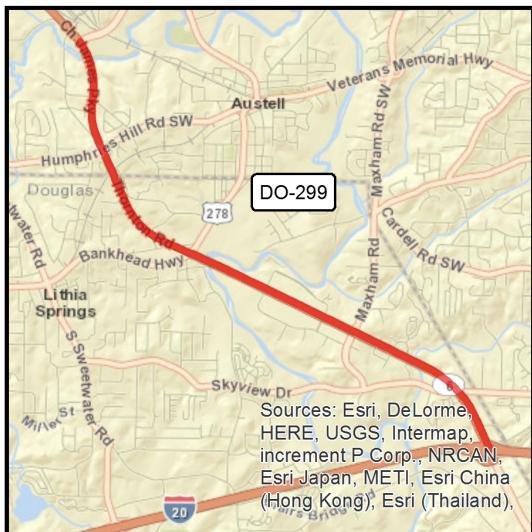
Flex

**Network Year**

TBD

**Corridor Length**

TBD miles

**Detailed Description and Justification**

This project will implement truck friendly lanes along SR 6 (Thornton Road). The project will begin at I-20 West in Douglas County and terminate at the SR 6 Spur (Garrett Road) in Cobb County.

<b>Phase Status &amp; Funding Information</b>	<b>Status</b>	<b>FISCAL YEAR</b>	<b>TOTAL PHASE COST</b>	<b>BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE</b>			
				<b>FEDERAL</b>	<b>STATE</b>	<b>BONDS</b>	<b>LOCAL/PRIVATE</b>
SCP	National Highway Performance Program (NHPP)	AUTH	2015	\$1,000,000	\$800,000	\$200,000	\$0,000
PE	National Highway Performance Program (NHPP)	AUTH	2017	\$1,649,794	\$1,319,835	\$329,959	\$0,000
ROW	National Highway Performance Program (NHPP)		2019	\$6,367,248	\$5,093,798	\$1,273,450	\$0,000
UTL	National Highway Performance Program (NHPP)		2021	\$2,252,325	\$1,801,860	\$450,465	\$0,000
CST	National Highway Performance Program (NHPP)		2021	\$40,153,152	\$32,122,522	\$8,030,630	\$0,000
				\$51,422,519	\$41,138,015	\$10,284,504	\$0,000
							\$0,000

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



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



**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.**

STP00-0021-01(023)

**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

**Planned Thru Lane**

6

Flex

**Network Year**

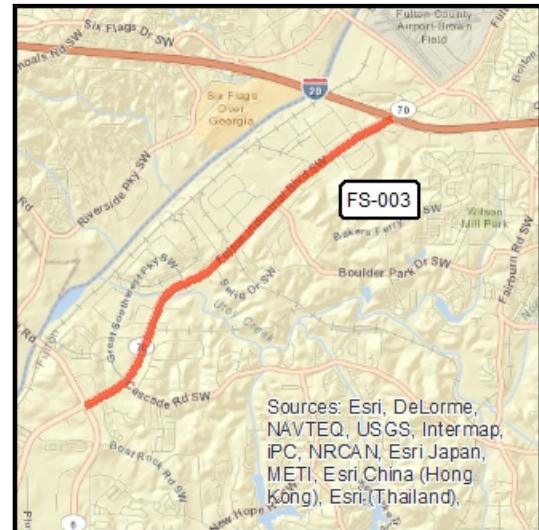
2030

**Corridor Length**

2.3 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.



<b>Phase Status &amp; Funding Information</b>	<b>Status</b>	<b>FISCAL YEAR</b>	<b>TOTAL PHASE COST</b>	<b>BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE</b>			
				<b>FEDERAL</b>	<b>STATE</b>	<b>BONDS</b>	<b>LOCAL/PRIVATE</b>
ALL	General Federal Aid 2022-2040	LR 2022-2030	<b>\$3,770,000</b>	\$3,016,000	\$754,000	\$0,000	\$0,000
			<b>\$3,770,000</b>	<b>\$3,016,000</b>	<b>\$754,000</b>	<b>\$0,000</b>	<b>\$0,000</b>

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



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



<b>Short Title</b>	I-20 WEST MANAGED LANES FROM I-285 WEST TO SR 92 (FAIRBURN ROAD)		
<b>GDOT Project No.</b>	TBD		
<b>Federal ID No.</b>	N/A		
<b>Status</b>	Long Range		
<b>Service Type</b>	Roadway / Managed Lanes		
<b>Sponsor</b>	GDOT		
<b>Jurisdiction</b>	Regional - West		
<b>Analysis Level</b>	In the Region's Air Quality Conformity Analysis		
<b>Existing Thru Lane</b>	0	LCI	<input type="checkbox"/>
<b>Planned Thru Lane</b>	2	Flex	<input type="checkbox"/>



<b>Network Year</b>	2040
<b>Corridor Length</b>	11.0 miles

#### Detailed Description and Justification

This is a managed lanes project along I-20 West from I-285 West to SR 92 (Fairburn Road).

<b>Phase Status &amp; Funding Information</b>	<b>Status</b>	<b>FISCAL YEAR</b>	<b>TOTAL PHASE COST</b>	<b>BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE</b>			
				<b>FEDERAL</b>	<b>STATE</b>	<b>BONDS</b>	<b>LOCAL/PRIVATE</b>
ALL	General Federal Aid 2022-2040	LR 2031-2040	<b>\$201,000,000</b>	\$160,800,000	\$40,200,000	\$0,000	\$0,000
ALL	Toll Revenue Bonds	LR 2031-2040	<b>\$165,000,000</b>	\$0,000	\$0,000	\$165,000,000	\$0,000
			<b>\$366,000,000</b>	<b>\$160,800,000</b>	<b>\$40,200,000</b>	<b>\$165,000,000</b>	<b>\$0,000</b>

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



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



Douglas County Comprehensive Transportation Plan  
Roadway Project Prioritization DRAFT

GDOT PI	ID	Project Number	Project	From/At	To	Detailed Description	Status	Type	Exist Land	Plan Lane	Length	Network Year	Open Year	Congestion	Safety	Land Use	Multimodal	Economic Dev.	Public/PAT	Access Mgt.	Freight	Environment	RSTS	UGPM	Weighted Total
0006900	129	DO-282A	Metro Arterial Connector - SR 92 Realignment Phase I - Underpass	US 78/Broad Street and NS R/R		This project grade separates SR 92 (on new alignment) from US 78 and the railroad to facilitate better flow along the SR 92 corridor. The Metro Arterial Connector (MAC) is a network of state highways approximately 180 miles in length encircling the Atlanta region. Roadways comprising the MAC (primarily SR 20 and SR 92) are proposed to have a minimum of four travel lanes along its entire length. At least 30 capacity projects are already planned along the MAC over the timeframe of the RTP. A study will be conducted in 2009 to determine how these individual projects can be engineered and constructed in a holistic and logical manner to maximize the multimodal mobility, safety, accessibility and growth management benefits of the project.	Programm	Roadway Capacity	0	6	0.25	2020	2020	1.5	0.45	0.3	0.15	0.15	0.15	0.09	0.09	0.06	0.03	0.03	3
0006901	130	DO-282B	Metro Arterial Connector - SR 92 Realignment Phase II	SR 92/Fairburn Road south of Hospital Drive	US 78/Broad Street	This project combines widening and new alignment to equal a 6 lane facility connecting the new grade separation at US 78 and the railroad to the existing SR 92 immediately south of the intersection with Hospital Drive. The Metro Arterial Connector (MAC) is a network of state highways approximately 180 miles in length encircling the Atlanta region. Roadways comprising the MAC (primarily SR 20 and SR 92) are proposed to have a minimum of four travel lanes along its entire length. At least 30 capacity projects are already planned along the MAC over the timeframe of the RTP. A study will be conducted in 2009 to determine how these individual projects can be engineered and constructed in a holistic and logical manner to maximize the mobility, safety, accessibility and growth management benefits which would best serve multimodal needs (auto, truck, transit, bicycling, walking) and include land use policies, access management regulations, and ITS components to ensure network uniformity.	Programm	Roadway Capacity	0	6	0.6	2020	2020	1.5	0.45	0.3	0.15	0.15	0.15	0.09	0.09	0.06	0.03	0.03	3
720970	131	DO-282C	Metro Arterial Connector - SR 92 Realignment Phase III	US 78/Broad Street	SR 92/Dallas Highway	This project combines widening and new alignment to equal a 6 lane facility connecting the new grade separation at US 78 and the railroad to the existing SR 92 near the intersection with Malone Street in northern Douglasville. The Metro Arterial Connector (MAC) is a network of state highways approximately 180 miles in length encircling the Atlanta region. Roadways comprising the MAC (primarily SR 20 and SR 92) are proposed to have a minimum of four travel lanes along its entire length. At least 30 capacity projects are already planned along the MAC over the timeframe of the RTP. Refer to AR-941 in the ARC's RTP/TIP for more information on the MAC concept.	Programm	Roadway Capacity	0	6	0.9	2020	2020	1.5	0.45	0.3	0.15	0.15	0.15	0.09	0.09	0.06	0.03	0.03	3
3165	162	AR-H-201	I-20 West Managed Lanes (SR 6 to Bright Star)	SR 6	Bright Star Road	Addition of two managed lanes in both directions for 9.9 miles between SR 6 and Bright Star Road. Dedicated ramps serving these lanes will be provided but locations have not been determined at this time. It is anticipated that all future managed lanes constructed in the Atlanta Region will be barrier separated, but engineering and design will determine the most appropriate configuration. Operating characteristics such as occupancy restrictions and tolling levels will also be established during concept development in accordance with regional and state managed lane policies.	Programm	Interstate Improvements	0	4	10.8			1.5	0.45	0.3	0.15	0.15	0.15	0.09	0.09	0.06	0.03	0.03	3
0001917	155	DO-220B	Lee Road (including bridge over I-20 West)	Monier Boulevard	Vulcan Drive	Upgrades existing substandard bridge at I-20 West. Improves turn radius for tractor-trailer trucks. Project would improve overall flow in the area by improving signals and turn lanes as well.	Programm	Bridge Upgrade	2	4	N/A	2020	2012	1.5	0.45	0.3	0.15	0.15	0.15	0.09	0.09	0.04	0.03	0.03	2.98
N/A	4	CTP-4	I-20 West @ SR 6	SR 6/Thornton Road		This project would add and augment signage and striping at and around the I-20/Thornton Road interchange. This could include freeway grade cantilever signs, channelization striping, improved signal timing, raised medians, etc.	TBD	Operational Improvements	N/A	N/A	N/A	TBD	TBD	1.5	0.45	0.3	0.15	0.15	0.1	0.09	0.09	0.06	0.03	0.03	2.95
N/A	6	CTP-6A	I-20 West @ SR 5 interchange modification and CD system concept	SR 5/Bill Arp Road		This project, partnered with Project 6B and 9A, would modify the SR 5 interchange to accept inside/managed lanes exit ramps and remove the general purpose ramps. Includes collector-distributor system concept.	TBD	Modify Interchange	4	4	N/A	TBD	TBD	1.5	0.45	0.3	0.15	0.15	0.1	0.09	0.09	0.06	0.03	0.03	2.95
N/A	7	CTP-6B	I-20 West @ Bright Star Road interchange modification and CD system concept	Bright Star Road		This project, partnered with Project 6A and 9A, would modify the Bright Star Road interchange to accept new general purpose lanes. Includes collector-distributor system concept.	TBD	New Interchange	2	4	0.2	TBD	TBD	1.5	0.45	0.3	0.15	0.15	0.1	0.09	0.09	0.06	0.03	0.03	2.95
N/A	64	DO-252A	Chapel Hill Road	Central Church Road	Stewarts Mill Road	This project involves adding one general purpose lane in each direction along Chapel Hill Road between Central Church Road and Stewarts Mill Road.	Long Range	Roadway Capacity	2	4	2.4	2030	2030	1.5	0.45	0.3	0.15	0.15	0.1	0.09	0.06	0.06	0.02	0.03	2.91
N/A	3	CTP-3	Inner Southern Arc-four phases	North County Line Road	Kings Highway	By upgrading existing roadways and providing some new alignment, this connector roadway would allow county motorists to avoid using I-20 as a local road. Phase 1- Improving Bomar Connector to extended Bomar. Phase 2- Improving extended Bomar to Chapel Hill. Phase 3- Improving Central Church from Chapel Hill to SR 5. Phase 4- Realigning and improving Bright Star from Bankhead Hwy to Central Church and improving Central Church to SR 5. Include improvements extended to 20. This project will perform a alternatives and alignment analysis as well as an environmental assessment for the Bomar Road Connector. In advance of Outer Arc.	TBD	Roadway Capacity	0/2	4	8.3	TBD	TBD	1.5	0.45	0.3	0.05	0.15	0.15	0.09	0.03	0.06	0.02	0.03	2.83
N/A	45	CTP-15	Adaptive Traffic Signal Pilot Program - Chapel Hill Road/SR 5/CBD area	I-20	SR 166	High crash rates have been identified at locations along this corridor. A safety audit should be completed to determine operational upgrades to improve safety conditions. Implementation of an adaptive signal program along this corridor would improve safety and mobility and improve travel times on this vital north-south corridor. Will relieve delay and congestion at the Douglas Blvd intersection.	TBD	Operational Improvements	N/A	N/A	6.7	TBD	TBD	1.5	0.45	0.3	0.05	0.15	0.1	0.09	0.09	0.04	0.02	0.02	2.81
N/A	90	CTP-21	SR 5/Bill Arp Road	Douglas Boulevard		This project will modify the intersection of SR 5/Bill Arp Road and Douglas Boulevard. Interim project in advance of interchange. Dual left turn lanes from SR 5 north to Douglas Blvd east. Right turn lanes on all approaches.	TBD	Modify Intersection	4	4	0.2	TBD	TBD	1.5	0.45	0.3	0.05	0.15	0.1	0.09	0.09	0.04	0.02	0.02	2.81
N/A	163	CTP-44	Chapel Hill Road operational improvements	I-20	Stewarts Mill Road	Short-term operational improvements as recommended in the 2005 Chapel Hill Road and Stewart Mill Road Transportation Corridor Study	TBD	Operational Improvements						1.5	0.45	0.2	0.15	0.15	0.1	0.06	0.09	0.06	0.03	0.01	2.8
N/A	171	CTP-52	Chapel Hill Road	I-20	Stewarts Mill Road	Widen to eight lanes from I-20 to Douglas Boulevard, widen to six lanes from Douglas Boulevard to Stewarts Mill Road.	TBD	Roadway Capacity	4	8 or 6				1.5	0.45	0.2	0.15	0.15	0.1	0.06	0.09	0.06	0.03	0.01	2.8
0004427	153	DO-022	Lee Road - Widening - Bankhead to I-20 and Bankhead to County Line	Vulcan Drive to Skyview Drive and Operational Improvements from Skyview Drive to US 78 to I-20 West		Adds two additional lanes to a major north-south route as a parallel commuter route to SR 6 from Paulding County. Also, improves the rural geometries of the corridor by upgrading the road to urban design standards. Provides an alternative to the Fairburn Road corridor. Part of SR 6 study.	Programm	Roadway Capacity	2	2/4	1.9	2010	2009	1.5	0.3	0.3	0.15	0.15	0.1	0.09	0.06	0.06	0.03	0.03	2.77
0004428	154	DO-220A	Lee Road: Segment 2	SR 92/Fairburn Road	Monier Boulevard	Adds two additional lanes to a major north-south route from I-20 west to SR 92 used by freight handlers accessing I-20 West. Also, improves the rural geometries of the corridor by upgrading the road to urban design standards. Provides an alternative to the Fairburn Road corridor. Part of GRTA's arterial improvements program. Will provide connectivity and higher capacity to Lee Rd, Inner Arc, and SR 6.	Programm	Roadway Capacity	2	4	2.7	2020	2013	1.5	0.3	0.3	0.15	0.15	0.1	0.09	0.06	0.06	0.03	0.03	2.77
N/A	8	CTP-7	SR 5/Kings Hwy/Central Church Road			This project will realign the intersection of SR 5, Kings Highway and Central Church Road to provide better mobility through the area and make the area safer for motorists and pedestrians. Short range/interim operational improvement in advance of inner arc project.	TBD	Modify Intersection	4	4	0.2	TBD	TBD	1.5	0.45	0.2	0.05	0.15	0.1	0.09	0.09	0.06	0.02	0.02	2.73
N/A	166	CTP-47	Liberty Road @ I-20 improvements	Liberty Road @ I-20		Operational improvements on Liberty Road between Connors Road and Poole Road.	TBD	Operational Improvements	N/A	N/A				1.5	0.45	0.2	0.05	0.15	0.15	0.06	0.06	0.06	0.03	0.02	2.73
N/A	9	CTP-8	US 78 @ Post Road/Mann Road	US 78 at Post Road/Mann Road		This project will remove a skewed intersection at US 78 and Post Road by realigning Post Road to "T" into US 78. Provides better north-south connectivity to I-20. Improves skew at Bankhead Hwy.	TBD	Modify Intersection	2	2	0.2	TBD	TBD	1.5	0.45	0.2	0.05	0.05	0.1	0.09	0.09	0.06	0.02	0.02	2.63

Douglas County Comprehensive Transportation Plan  
Roadway Project Prioritization DRAFT

GDOT PI	ID	Project Number	Project	From/At	To	Detailed Description	Status	Type	Exist Land	Plan Lane	Length	Network Year	Open Year	Congestion	Safety	Land Use	Multimodal	Economic Dev.	Public/PAT	Access Mgt.	Freight	Environment	RSTS	UGPM	Weighted Total
N/A	10	CTP-9A	Relocate SR 5 to Post Road	Tyree	US 78	Working with GDOT, this project will reassign the state route 5 marker from Bill Aip Road to a new alignment on Tyree Road and Post Road. The northern terminus will remain US 78/Veterans Memorial Highway. The overall mileage of SR 5 will remain fairly equal. (See project 9B)	TBD	Operational Improvements	N/A	N/A	N/A	TBD	TBD	1.5	0.45	0.2	0.05	0.1	0.05	0.09	0.09	0.04	0.02	0.02	<b>2.61</b>
N/A	2	CTP-2	Outer Southern Arc-Four Phases	Mount Vernon	Pool Road	By upgrading existing roadways and providing some new alignment, this east-west connector roadway would provide inner-county access between I-20 and SR 166. Includes four phases. Phase 1- Mt Vernon Road from I-20 to SR 92. Phase 2- Anneewakee Road from SR 92 to Chapel Hill Road. Phase 3- Anneewakee Road from Chapel Hill Road to Dorsett Shoals Rd then to SR 5. Phase 4- Pool Road from SR 5 to Post Road.	TBD	Roadway Capacity	0/2	4	17	TBD	TBD	1.5	0.45	0.1	0.15	0.15	0.05	0.09	0.03	0.04	0.02	0.02	<b>2.6</b>
N/A	46	CTP-16	Unconventional intersection design at SR 166 and Chapel Hill Road	SR 166 at Chapel Hill Road		Traffic counts at this intersection qualifies under GDOT regulations to be considered for a roundabout or other unconventional/continuous flow design. This project in association with the new Chapel Hill Road Extension (see Project 1) provides an opportunity for context sensitive design keeping with the scenic byway nature of SR 166.	TBD	Modify Intersection	N/A	N/A	N/A	TBD	TBD	1.5	0.3	0.2	0.1	0.1	0.09	0.09	0.06	0.02	0.02	<b>2.58</b>	
N/A	48	CTP-18	Unconventional intersection design at SR 166 and SR 92	SR 166 at SR 92		Based on traffic conditions, this unconventional/continuous flow design may be suitable for this intersection improving the flow between two state routes.	TBD	Modify Intersection	N/A	N/A	N/A	TBD	TBD	1.5	0.3	0.2	0.1	0.1	0.09	0.09	0.06	0.02	0.02	<b>2.58</b>	
721770	152	DO-019	SR 166/Fairburn Road/Campbellton Road	SR 92 (Douglas County)	SR 70 (Fulton County)	Adds two additional lanes to a major freight corridor used to access the airport and the South Fulton industrial district. Includes a new bridge across the Chattahoochee River.	Long Range	Roadway Capacity	2	4	2.9	2030	2030	1.5	0.3	0.3	0.05	0.05	0.1	0.09	0.06	0.04	0.02	0.03	<b>2.54</b>
N/A	12	CTP-10	Burnt Hickory Road	Near McKown Road	North County Line Road	By upgrading the existing roadway and providing some new alignment, this roadway would relieve congestion of the SR 92 and SR 6 corridors by channeling Paulding County residents directly to I-20 via the new North County Line Road interchange (see Project 5). Includes new location from McKown Drive to S. County Line Rd @ I-20.	TBD	Roadway Capacity	0/2	4	1.5	TBD	TBD	1.5	0.15	0.3	0.05	0.15	0.15	0.09	0.03	0.06	0.02	0.02	<b>2.52</b>
N/A	14	CTP-12	Dorris Road	Dorris Road/South Flat Rock Road		By upgrading existing roadways and providing some new alignment, this roadway would relieve congestion of the SR 92 and SR 6 corridors by channeling Paulding County residents directly to I-20 via SR 5. Includes grade separation railroad crossing and new alignment from Cedar Mountain Rd to Bankhead Hwy to intersect with Bright Star Rd. Relieves safety and congestion at busy rail crossing (33 trains per day).	TBD	Roadway Capacity	0/2	4	2.84	TBD	TBD	1.5	0.15	0.3	0.05	0.15	0.15	0.09	0.03	0.06	0.02	0.02	<b>2.52</b>
N/A	65	DO-252B	Chapel Hill Road	Dorsett Shoals Road	Central Church Road	This project involves adding one general purpose lane in each direction along Chapel Hill Road between Dorsett Shoals Road and Central Church Road.	Long Range	Roadway Capacity	2	4	0.9	2030	2030	1.5	0.15	0.3	0.15	0.15	0.05	0.09	0.03	0.06	0.02	0.02	<b>2.52</b>
N/A	66	DO-252C	Chapel Hill Road	SR 166 (Ebb Duncan Memorial Highway)	Dorsett Shoals Road	This project involves adding one general purpose lane in each direction along Chapel Hill Road between SR 166 (Ebb Duncan Memorial Highway) and Dorsett Shoals Road.	Long Range	Roadway Capacity	2	4	2.8	2030	2030	1.5	0.15	0.3	0.15	0.15	0.05	0.09	0.03	0.06	0.02	0.02	<b>2.52</b>
N/A	161	CTP-43	Chicago Avenue/Cedar Mountain Road	Cedar Mountain Road	West Strickland	Roadway upgrade to urban section from Bankhead Hwy to Dorris Rd project. Includes sidewalk and curb and gutter.	Operational Improvements	N/A	N/A	N/A			1.5	0.15	0.3	0.05	0.15	0.1	0.06	0.03	0.06	0.01	0.03	<b>2.44</b>	
N/A	89	CTP-20	Blairs Bridge Road	SR 6/Thornton Road	North County Line Road	This project will widen Blairs Bridge Road/Monier Parkway from Thornton Road to Mount Vernon Road from 2 to 3 lanes and construct a new roadway extending Monier Parkway to North County Line Road.	TBD	Roadway Capacity	0/2	4	4.4	TBD	TBD	1.5	0.15	0.3	0.05	0.15	0.1	0.06	0.03	0.02	0.02	0.02	<b>2.4</b>
N/A	105	CTP-35	Mount Vernon Road Bridge	Sparks Reservoir		This project will reconstruct the bridge on Mount Vernon Road over Sparks Reservoir.	TBD	Bridge Upgrade	2	2	N/A	TBD	TBD	1.5	0.15	0.3	0.05	0.05	0.1	0.06	0.03	0.04	0.02	0.02	<b>2.32</b>
N/A	103	CTP-34	Skyview Drive Bridge	Sweetwater Creek		This project will reconstruct the bridge on Skyview Drive over Sweetwater Creek.	TBD	Bridge Upgrade	2	2	0.2	TBD	TBD	1.5	0.15	0.3	0.05	0.05	0.1	0.03	0.03	0.06	0.02	0.02	<b>2.31</b>
N/A	93	CTP-24	Bright Star Road @ Cowan Mill Road	Cowan Mill Road		This project will reconstruct the intersection of Bright Star Road and Cowan Mill Road. Based on traffic conditions, an unconventional/continuous flow design may be suitable for this intersection.	TBD	Modify Intersection	2	2	0.2	TBD	TBD	1	0.3	0.3	0.15	0.15	0.15	0.09	0.03	0.06	0.02	0.03	<b>2.28</b>
N/A	102	CTP-33	US 78 @ S. Baggett Road and John West Road	Baggett Road		This project will reconstruct the intersection of US 78 and Baggett Road.	TBD	Modify Intersection	2	2	0.2	TBD	TBD	1	0.45	0.3	0.05	0.05	0.1	0.09	0.09	0.06	0.02	0.02	<b>2.23</b>
N/A	11	CTP-9B	Post Road/Tyree Road	SR 5/Tyree Road	US 78/Post Road	Upgrade the entire length of Tyree Road and Post Road to GDOT standards to accept designation as a state route (see project 9A).	TBD	Operational Improvements	2	4	11	TBD	TBD	1.5	0.15	0.2	0.05	0.05	0.05	0.09	0.06	0.04	0.02	0.01	<b>2.22</b>
N/A	5	CTP-5	New interchange-N. County Line Rd @ I-20W	North County Line Road		This project would add a new interchange at North County Line Road incorporating an existing bridge. This new interchange will serve as a alternate for county motorists wishing to enter/exit I-20 between exits 41 (Lee Road) and 37 (SR 92/Fairburn Road). Project includes improvements to S. County Line Rd between the interchange and Lee Rd.	TBD	New Interchange	0	4	0.2	TBD	TBD	1	0.45	0.2	0.1	0.15	0.1	0.06	0.06	0.04	0.03	0.02	<b>2.21</b>
751825	68	DO-031A	Douglas Boulevard Extension: Segment 1	Prestley Mill Road	Midway Road	Extends existing Douglas Boulevard from Prestley Mill Road to Midway Road. New two lane roadway would provide an alternate to I-20 west for intra-county access. Will be considered for removal from long range plan.	Long Range	Roadway Capacity	2	4	1.9	2030	2030	1	0.15	0.3	0.15	0.15	0.05	0.09	0.06	0.02	0.02	<b>2.01</b>	
751820	69	DO-031B	Douglas Boulevard Extension: Segment 2	Midway Road	North County Line Road	Extends existing Douglas Boulevard from Midway Road to North County Line Road. New two lane roadway would provide an alternate to I-20 west for intra-county access. Will be considered for removal from long range plan.	Long Range	Roadway Capacity	0	2	1.9	2010	2010	1	0.15	0.3	0.15	0.15	0.05	0.09	0.06	0.02	0.02	<b>2.01</b>	
742800	67	DO-021	Riverside Drive	SR 92 (Fairburn Road)	SR 6 (Thornton Road)	This project involves adding one general purpose lane in each direction along Riverside Parkway between SR 92 (Fairburn Road) and SR 6 (Thornton Road).	Long Range	Roadway Capacity	2	4	5.6	2030	2030	1	0.15	0.3	0.15	0.1	0.09	0.03	0.04	0.02	0.02	<b>2</b>	
N/A	1	CTP-1	Chapel Hill Road Extension (including new Chattahoochee River crossing)	Chapel Hill Road at SR 166	Cedar Grove Road (Fulton County)	This new roadway would provide an additional river crossing to residents and commuters travelling to/from Douglas County. Additionally, a new connection to South Fulton Parkway would provide access to HJAIA for Douglas County and west metropolitan Atlanta residents. Includes context sensitive solutions.	TBD	Roadway Capacity	0	4	1.5	TBD	TBD	1	0.15	0.3	0.15	0.05	0.05	0.09	0.03	0.06	0.02	0.02	<b>1.92</b>
N/A	47	CTP-17	Roundabout at SR 166 and Post Road	SR 166 at Post Road		Traffic counts at this location qualifies under GDOT regulations to be considered for a roundabout. If Post Road is redesignated as SR 5, this would mirror the existing roundabout on existing SR 5 at SR 166.	TBD	Modify Intersection	N/A	N/A	N/A	TBD	TBD	1	0.15	0.2	0.05	0.05	0.1	0.09	0.06	0.04	0.02	0.01	<b>1.77</b>
N/A	165	CTP-46	Mann Road/Brewer/Stockmar	US 78	Brewer Road	This project would upgrade Mann Road from US 78 to Brewer Road. Brewer and Stockmar Road would be upgraded between Mann Road and SR 61. The proposed improvements would be a minimum widening from two to four lanes. This would provide an alternate route for Villa Rica residents to I-20 west, allowing additional access to I-20 and improved distribution between I-20 and Liberty Road interchange.	TBD	Roadway Capacity	2	3 or 4				1	0.15	0.2	0.05	0.1	0.03	0.03	0.06	0.01	0.01	<b>1.74</b>	
N/A	157	CTP-39	Prestley Mill Road	Hospital Drive	Timber Ridge Road	Widen to three lane between Hospital Drive and Timber Ridge Road. Improve intersections at Frank Lane and Saddlebrook Way (roundabouts)		Roadway Capacity	N/A	N/A	N/A			1	0.15	0.2	0.1	0.01	0.1	0.06	0.03	0.04	0.01	0.02	<b>1.72</b>
N/A	13	CTP-11	Ragan Road/Friendship Church Road Connector	High Point Road/Brittain Road/Mann Road		By upgrading existing roadways and providing some new alignment, this roadway would relieve congestion of the SR 92 and SR 6 corridors by channeling Paulding County residents directly to I-20 via the Mann Rd/Brewer/Stockmar (project 165).	TBD	Roadway Capacity	0/2	4	4.4	TBD	TBD	0.5	0.15	0.3	0.05	0.15	0.15	0.09	0.03	0.06	0.02	0.02	<b>1.52</b>
N/A	97	CTP-28	Groovers Lake Road @ Vulcan Drive	Vulcan Drive		This project will reconstruct the intersection of Groovers Lake Road and Vulcan Drive. Accommodates significant freight movements.	TBD	Modify Intersection	2	2	0.2	TBD	TBD	0.5	0.15	0.3	0.05	0.15	0.1	0.03	0.09	0.06	0.02	0.02	<b>1.47</b>
N/A	88	CTP-19	Stewart Mill Road	Central Church Road	Chapel Hill Road	This project will widen Stewart Mill Road from Chapel Hill Road to Yancey Road from 2 to 4 lanes. Sidewalks will also be constructed along this east-west corridor. Includes turn lanes, median, and context sensitive solutions.	TBD	Roadway Capacity	2	4	2.5	TBD	TBD	0.5	0.15	0.3	0.05	0.15	0.1	0.06	0.03	0.06	0.02	0.03	<b>1.45</b>
N/A	172	CTP-53	Stewart's Mill Road operational	Chapel Hill Road	SR 5	Short-term improvements	TBD	Operational Improvements																	

## **Appendix G**

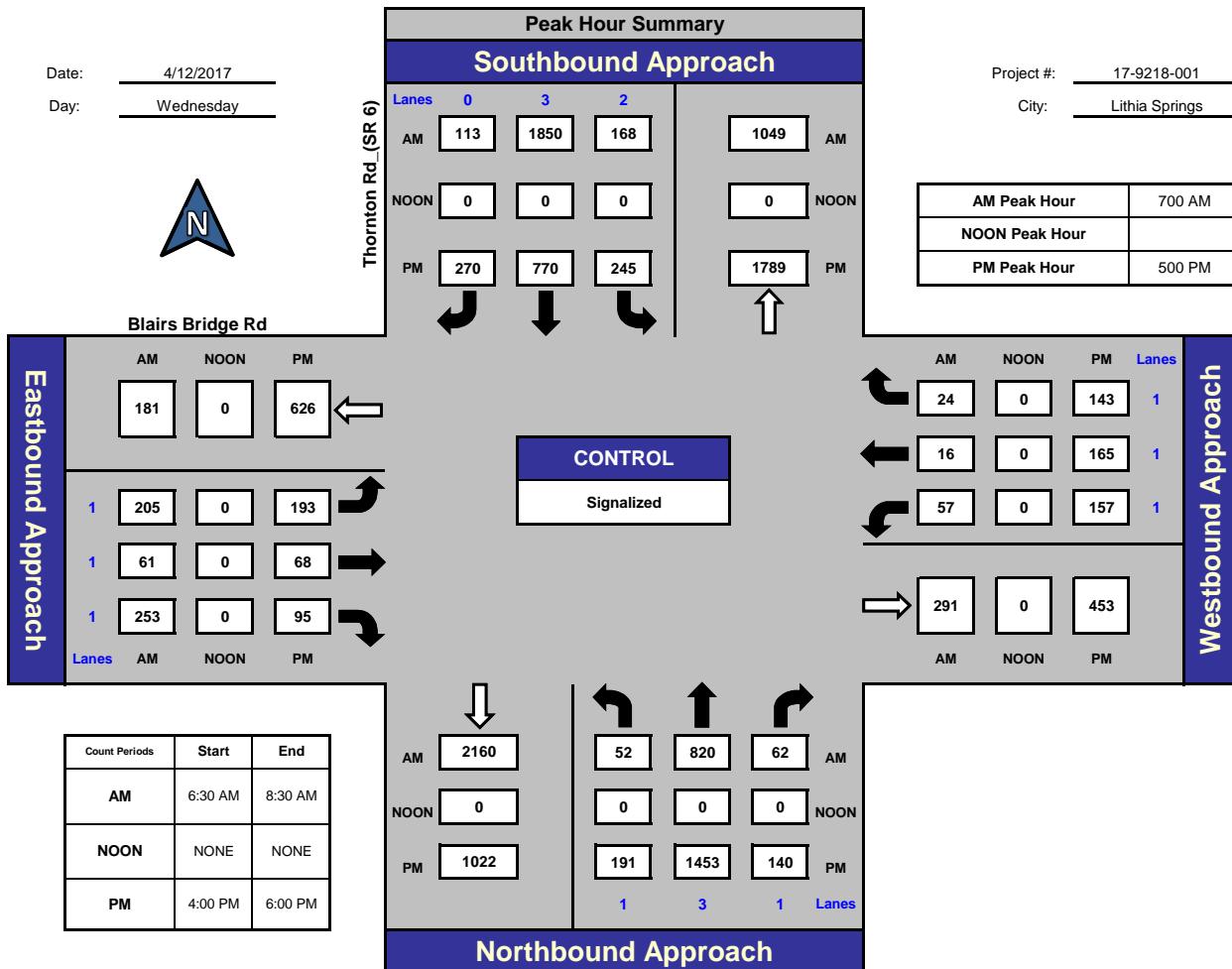
### **Raw Traffic Count Data**

# ITM Peak Hour Summary



National Data & Surveying Services

## Thornton Rd (SR 6) and Blairs Bridge Rd, Lithia Springs



### Total Ins & Outs

			North Leg		
			AM	NOON	PM
2131	1049				
0	0				
1285	1789				
AM NOON PM					
181	0	626			
519	0	356			
<b>West Leg</b>			<b>East Leg</b>		
97	0	465			
291	0	453			
AM NOON PM					
2160	934				
0	0				
1022	1784				
<b>South Leg</b>					

### Total Volume Per Leg

			North Leg		
			AM	NOON	PM
3180	0				
0					
3074					
			East Leg		
700	0	982			
388	0	918			
			West Leg		
3094	0				
0					
2806					
			South Leg		

Project ID: 17-9218-001  
 Location: Thornton Rd\_(SR 6) & Blairs Bridge Rd  
 City: Lithia Springs

Day: Wednesday  
 Date: 4/12/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks																						
Start Time	Thornton Rd_(SR 6) Northbound					Thornton Rd_(SR 6) Southbound					Blairs Bridge Rd Eastbound					Blairs Bridge Rd Westbound					Int. Total	
	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total		
6:30 AM	16	163	10	0	189	21	360	25	0	406	52	12	72	0	136	13	3	8	0	24	755	
6:45 AM	16	132	8	0	156	37	377	29	0	443	49	14	80	0	143	7	8	5	0	20	762	
7:00 AM	10	179	17	0	206	43	493	23	0	559	44	8	63	0	115	11	5	1	0	17	897	
7:15 AM	13	231	11	0	255	38	444	35	0	517	44	11	64	0	119	14	1	6	0	21	912	
Total	55	705	46	0	806	139	1674	112	0	1925	189	45	279	0	513	45	17	20	0	82	3326	
7:30 AM	19	207	16	0	242	44	438	25	0	507	63	20	65	0	148	21	4	9	0	34	931	
7:45 AM	10	203	18	0	231	43	475	30	0	548	54	22	61	0	137	11	6	8	0	25	941	
8:00 AM	18	230	11	0	259	50	367	36	0	453	52	13	55	0	120	13	10	8	0	31	863	
8:15 AM	15	180	19	0	214	45	340	27	0	412	58	21	42	0	121	22	7	12	0	41	788	
Total	62	820	64	0	946	182	1620	118	0	1920	227	76	223	0	526	67	27	37	0	131	3523	
***BREAK***																						
4:00 PM	25	358	44	0	427	65	190	40	0	295	27	12	26	0	65	33	16	22	0	71	858	
4:15 PM	23	355	45	0	423	74	178	37	0	289	48	16	22	0	86	37	25	30	0	92	890	
4:30 PM	26	386	22	0	434	62	194	51	1	307	39	11	22	0	72	37	35	37	0	109	922	
4:45 PM	38	401	37	0	476	41	221	44	0	306	47	19	23	0	89	43	28	31	0	102	973	
Total	112	1500	148	0	1760	242	783	172	1	1197	161	58	93	0	312	150	104	120	0	374	3643	
5:00 PM	44	344	30	0	418	58	191	51	0	300	53	23	25	0	101	43	38	35	0	116	935	
5:15 PM	51	361	31	0	443	57	196	67	0	320	40	12	25	0	77	39	49	35	0	123	963	
5:30 PM	50	397	43	0	490	49	190	69	0	308	48	15	20	0	83	36	53	35	0	124	1005	
5:45 PM	46	351	36	0	433	81	193	83	0	357	52	18	25	0	95	39	25	38	1	102	987	
Total	191	1453	140	0	1784	245	770	270	0	1285	193	68	95	0	356	157	165	143	1	465	3890	
Grand Total	420	4478	398	0	5296	808	4847	672	1	6327	770	247	690	0	1707	419	313	320	1	1052	14382	
Apprch %	7.9	84.6	7.5	0.0		12.8	76.6	10.6	0.0		45.1	14.5	40.4	0.0		39.8	29.8	30.4	0.1			
Total %	2.9	31.1	2.8	0.0		5.6	33.7	4.7	0.0		5.4	1.7	4.8	0.0		2.9	2.2	2.2	0.0		7.3	
Cars, PU, Vans	401	4126	391	0	4918	792	4493	632	1	5917	711	237	645	0	1593	403	306	305	1	1014	13442	
% Cars, PU, Vans	95.5	92.1	98.2	0.0		92.9	98.0	92.7	94.0		100.0	93.5	92.3	96.0		93.3	96.2	97.8	95.3	100.0	96.4	93.5
Heavy Trucks	19	352	7	0	378	16	354	40	0	410	59	10	45	0	114	16	7	15	0	38	940	
%Heavy Trucks	4.5	7.9	1.8	0.0		7.1	2.0	7.3	6.0		6.5	7.7	4.0	6.5		6.7	3.8	2.2	4.7	0.0	3.6	6.5

Project ID: 17-9218-001  
 Location: Thornton Rd\_(SR 6) & Blairs B  
 City: Lithia Springs

Day: Wednesday  
 Date: 4/12/2017

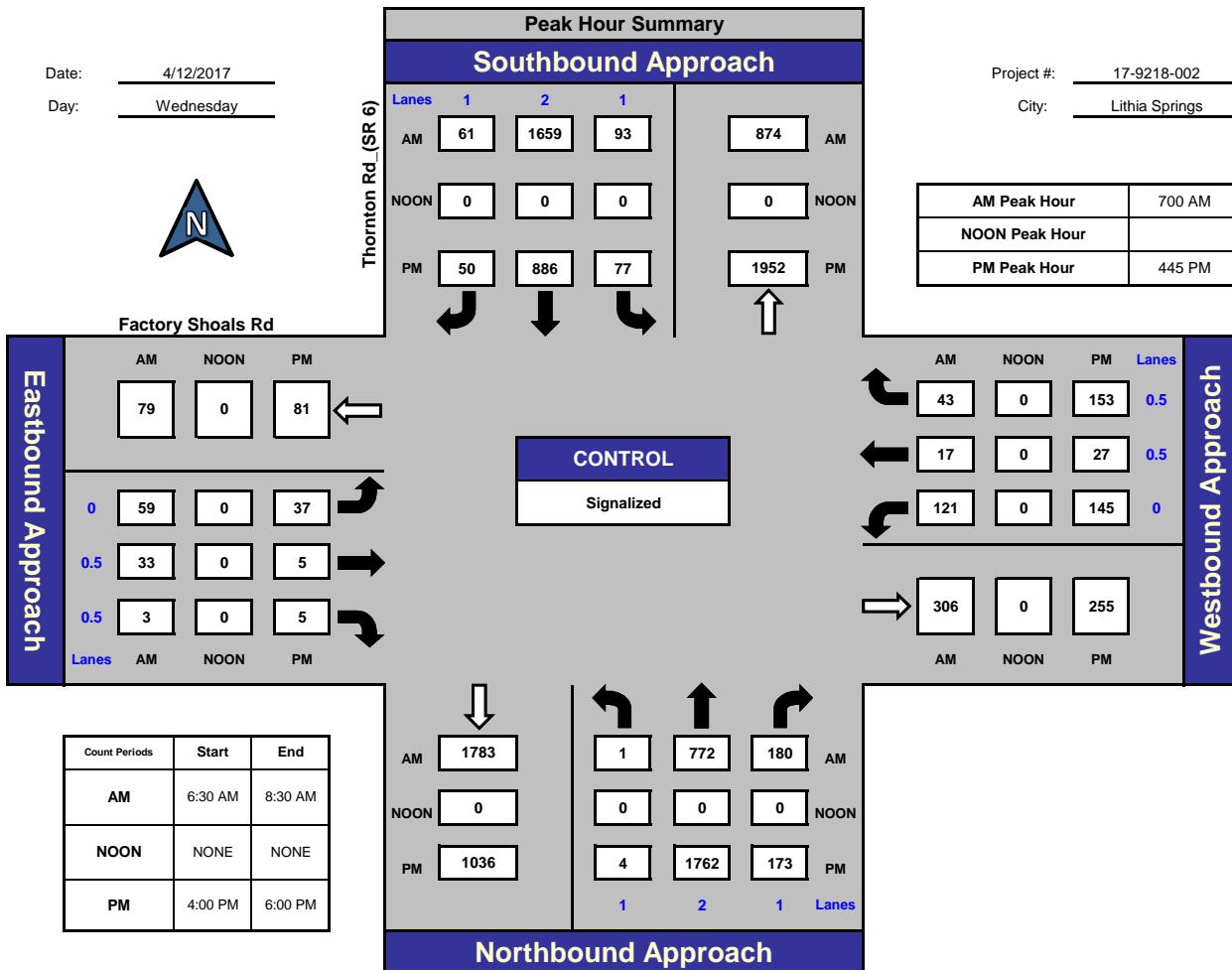
AM	Thornton Rd_(SR 6) Northbound					Thornton Rd_(SR 6) Southbound					Blairs Bridge Rd Eastbound					Blairs Bridge Rd Westbound					Int. Total
	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	Left	Thru	Rgt	App.Total	
Peak Hour Analysis from 06:30 AM to 08:30 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	10	179	17	206	43	493	23	559	44	8	63	115	11	5	1	17					897
7:15 AM	13	231	11	255	38	444	35	517	44	11	64	119	14	1	6	21					912
7:30 AM	19	207	16	242	44	438	25	507	63	20	65	148	21	4	9	34					931
7:45 AM	10	203	18	231	43	475	30	548	54	22	61	137	11	6	8	25					941
Total Volume	52	820	62	934	168	1850	113	2131	205	61	253	519	57	16	24	97					3681
% App. Total	5.6	87.8	6.6	100	7.9	86.8	5.3	100	39.5	11.8	48.7	100	58.8	16.5	24.7	100					
PHF					0.916				0.953				0.877				0.713				
Cars, PU, Vans	48	746	62	856	165	1734	105	2004	188	59	244	491	55	16	20	91					3442
% Cars, PU, Vans	92.3	91.0	100.0	91.6	98.2	93.7	92.9	94.0	91.7	96.7	96.4	94.6	96.5	100.0	83.3	93.8	93.5				
Heavy Trucks	4	74	0	78	3	116	8	127	17	2	9	28	2	0	4	6					239
%Heavy Trucks	7.7	9.0	0.0	8.4	1.8	6.3	7.1	6.0	8.3	3.3	3.6	5.4	3.5	0.0	16.7	6.2	6.5				
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	44	344	30	418	58	191	51	300	53	23	25	101	43	38	35	116					935
5:15 PM	51	361	31	443	57	196	67	320	40	12	25	77	39	49	35	123					963
5:30 PM	50	397	43	490	49	190	69	308	48	15	20	83	36	53	35	124					1005
5:45 PM	46	351	36	433	81	193	83	357	52	18	25	95	39	25	38	102					987
Total Volume	191	1453	140	1784	245	770	270	1285	193	68	95	356	157	165	143	465					3890
% App. Total	10.7	81.4	7.8	100	19.1	59.9	21.0	100	54.2	19.1	26.7	100	33.8	35.5	30.8	100					
PHF					0.910				0.900				0.881				0.938				
Cars, PU, Vans	186	1359	139	1684	241	703	257	1201	182	63	84	329	153	160	139	452					3666
% Cars, PU, Vans	97.4	93.5	99.3	94.4	98.4	91.3	95.2	93.5	94.3	92.6	88.4	92.4	97.5	97.0	97.2	94.2					
Heavy Trucks	5	94	1	100	4	67	13	84	11	5	11	27	4	5	4	13					224
%Heavy Trucks	2.6	6.5	0.7	5.6	1.6	8.7	4.8	6.5	5.7	7.4	11.6	7									

# ITM Peak Hour Summary



National Data & Surveying Services

## Thornton Rd (SR 6) and Factory Shoals Rd , Lithia Springs



### Total Ins & Outs

North Leg		
AM	NOON	PM
1813	874	
0	0	
1013	1952	
<b>West Leg</b>		
79	0	81
95	0	47
<b>South Leg</b>		
1783	953	
0	0	
1036	1939	

### Total Volume Per Leg

North Leg		
AM	NOON	PM
2687		
0		
2965		
East Leg		
AM	NOON	PM
174	0	128
West Leg		
AM	NOON	PM
487	0	580
South Leg		
AM	NOON	PM
2736		
0		
2975		

Project ID: 17-9218-002  
 Location: Thornton Rd. (SR 6) & Factory Shoals Rd  
 City: Lithia Springs

Day: Wednesday  
 Date: 4/12/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks																					
Start Time	Thornton Rd. (SR 6) Northbound					Thornton Rd. (SR 6) Southbound					Factory Shoals Rd Eastbound					Factory Shoals Rd Westbound					
	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Int. Total
6:30 AM	0	150	27	0	177	16	350	8	0	374	9	7	0	0	16	21	3	9	0	33	600
6:45 AM	0	134	38	0	172	20	371	7	0	398	14	17	1	0	32	26	4	15	0	45	647
7:00 AM	0	193	36	0	229	24	403	18	0	445	8	6	0	0	14	23	5	18	0	46	734
7:15 AM	1	194	66	0	261	19	428	11	0	458	28	7	1	0	36	26	2	4	0	32	787
Total	1	671	167	0	639	79	1552	44	0	1675	59	37	2	0	96	96	14	46	0	156	2768
7:30 AM	0	196	44	0	240	20	434	13	0	467	10	10	0	0	20	35	1	7	0	43	770
7:45 AM	0	189	34	0	223	30	394	19	0	443	13	10	2	0	25	37	9	14	0	60	751
8:00 AM	0	207	32	0	239	25	310	13	0	348	11	6	1	0	18	28	5	21	0	54	659
8:15 AM	0	162	29	0	191	20	335	18	0	373	5	5	0	0	10	31	7	15	0	53	627
Total	0	754	139	0	893	95	1473	63	0	1631	39	31	3	0	73	131	22	57	0	210	2807
***BREAK***																					
4:00 PM	0	346	29	0	375	6	221	5	0	232	7	2	0	0	9	30	3	29	0	62	678
4:15 PM	0	350	23	0	373	22	192	10	0	224	7	2	0	0	9	32	4	29	0	65	671
4:30 PM	0	444	47	0	491	10	206	11	0	227	6	4	0	0	10	25	4	24	0	53	781
4:45 PM	1	442	37	0	480	18	209	20	0	247	12	0	1	0	13	32	5	34	0	71	811
Total	1	1582	136	0	1719	56	828	46	0	930	32	8	1	0	41	119	16	116	0	251	2941
5:00 PM	1	413	36	0	450	22	242	10	0	274	7	1	0	0	8	35	8	44	0	87	819
5:15 PM	1	451	52	0	504	15	217	7	0	239	8	2	2	0	12	40	7	42	0	89	844
5:30 PM	1	456	48	0	505	22	218	13	0	253	10	2	2	0	14	38	7	33	1	78	850
5:45 PM	1	324	37	0	362	14	213	15	0	242	7	5	0	0	12	46	3	34	0	83	699
Total	4	1644	173	0	1821	73	890	45	0	1008	32	10	4	0	46	159	25	153	1	337	3212
Grand Total	6	4651	615	0	5272	303	4743	198	0	5244	162	86	10	0	258	505	77	372	1	954	11728
Apprch %	0.1	88.2	11.7	0.0	5.8	90.4	3.8	0.0	62.8	33.3	3.9	0.0	0.0	52.9	8.1	39.0	0.1	8.1			
Total %	0.1	39.7	5.2	0.0	45.0	2.6	40.4	1.7	0.0	44.7	1.4	0.7	0.1	0.0	2.2	4.3	0.7	3.2	0.0	8.1	
Cars, PU, Vans	6	4317	591	0	4914	272	4386	198	0	4856	161	85	10	0	256	475	77	341	1	893	10919
% Cars, PU, Vans	100.0	92.8	96.1	0.0	93.2	89.8	92.5	100.0	0.0	92.6	99.4	98.8	100.0	0.0	99.2	94.1	100.0	91.7	100.0	93.6	93.1
Heavy Trucks	0	334	24	0	358	31	357	0	0	388	1	1	0	0	2	30	0	31	0	61	809
%Heavy Trucks	0.0	7.2	3.9	0.0	6.8	10.2	7.5	0.0	0.0	7.4	0.6	1.2	0.0	0.0	0.8	5.9	0.0	8.3	0.0	6.4	6.9

Project ID: 17-9218-002  
 Location: Thornton Rd. (SR 6) & Factory  
 City: Lithia Springs

Day: Wednesday  
 Date: 4/12/2017

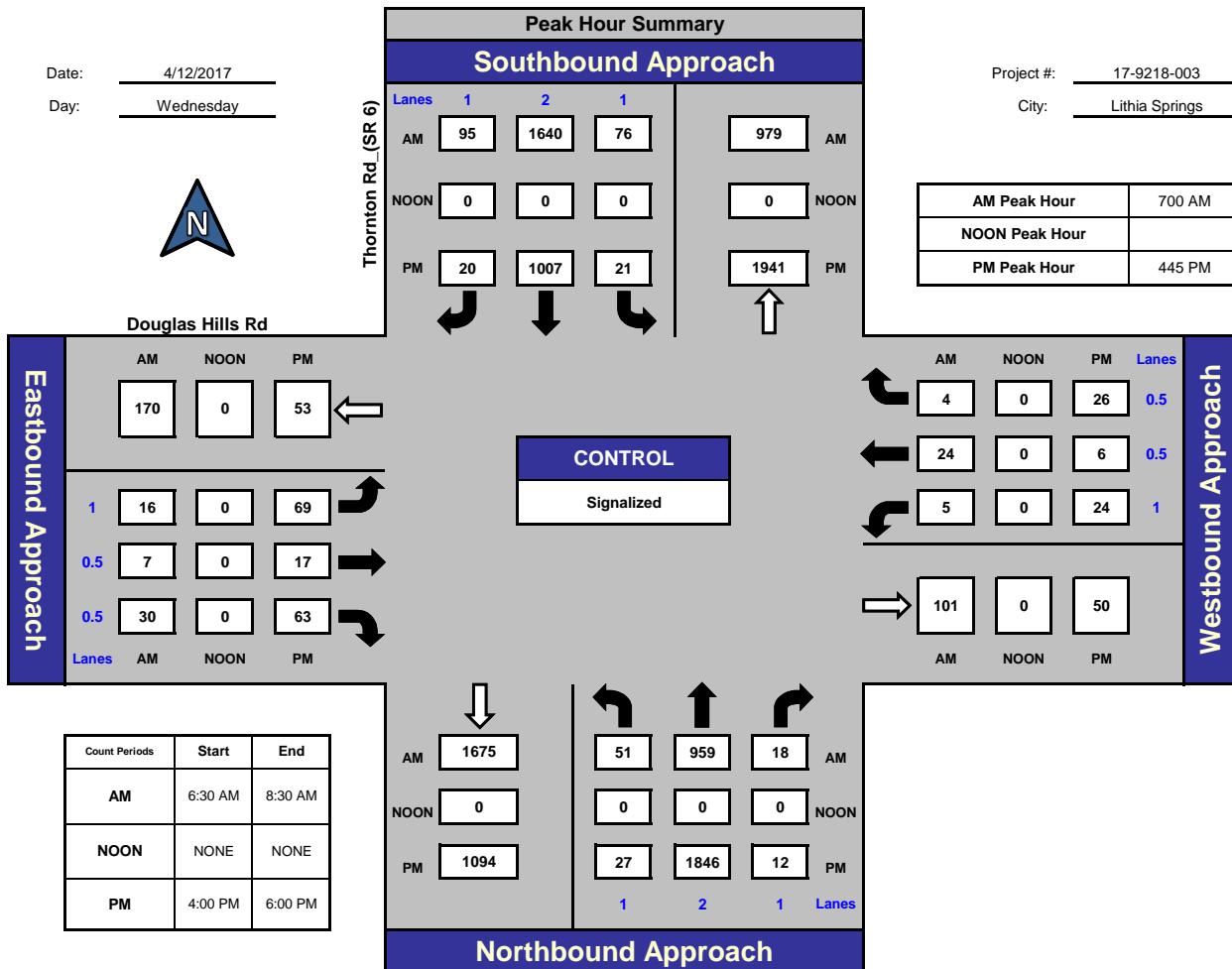
AM	Thornton Rd. (SR 6) Northbound					Thornton Rd. (SR 6) Southbound					Factory Shoals Rd Eastbound					Factory Shoals Rd Westbound				
	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																				
Peak Hour for Entire Intersection Begins at 07:00 AM																				
7:00 AM	0	193	36	229	24	403	18	445	8	6	0	14	23	5	18	46	734			
7:15 AM	1	194	66	261	19	428	11	458	28	7	1	36	26	2	4	32	787			
7:30 AM	0	196	44	240	20	434	13	467	10	10	0	20	35	1	7	43	770			
7:45 AM	0	189	34	223	30	394	19	443	13	10	2	25	37	9	14	60	751			
Total Volume	1	772	180	953	93	1659	61	1813	59	33	3	95	121	17	43	181	3042			
% App. Total	0.1	81.0	18.9	100	5.1	91.5	3.4	100	62.1	34.7	3.2	100	66.9	9.4	23.8	100				
PHF		0.913				0.971				0.660			0.660		0.754					
Cars, PU, Vans	1	699	176	876	77	1553	61	1691	59	32	3	94	112	17	36	165	2826			
% Cars, PU, Vans	100.0	90.5	97.8	91.9	82.8	93.6	100.0	93.3	100.0	97.0	100.0	98.9	92.6	100.0	83.7	91.2	92.9			
Heavy Trucks	0	73	4	77	16	106	0	122	0	1	0	1	9	0	7	16	216			
%Heavy Trucks	0.0	9.5	2.2	8.1	17.2	6.4	0.0	6.7	0.0	3.0	0.0	1.1	7.4	0.0	16.3	8.8	7.1			
PM																				
	Thornton Rd. (SR 6) Northbound					Thornton Rd. (SR 6) Southbound					Factory Shoals Rd Eastbound					Factory Shoals Rd Westbound				
Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																				
Peak Hour for Entire Intersection Begins at 04:45 PM																				
4:45 PM	1	442	37	480	18	209	20	247	12	0	1	13	32	5	34	71	811			
5:00 PM	1	413	36	450	22	242	10	274	7	1	0	8	35	8	44	87	819			
5:15 PM	1	451	52	504	15	217	7	239	8	2	2	12	40	7	42	89	844			
5:30 PM	1	456	48	505	22	218	13	253	10	2	2	14	38	7	33	78	850			
Total Volume	4	1762	173	1939	77	886	50	1013	37	5	5	47	145	27	153	325	3324			
% App. Total	0.2	90.9	8.9	100	7.6	87.5	4.9	100	78.7	10.6	10.6	100	44.6	8.3	47.1	100				
PHF		0.960				0.924				0.839			0.839		0.913					
Cars, PU, Vans	4	1662	165	1831	72	799	50	921	37	5	5	47	137	27	145	309	3108			
% Cars, PU, Vans	100.0	94.3	95.4	94.4	93.5	90.2	100.0	90.9	100.0	100.0	100.0	100.0	94.5	100.0	94.8	95.1	93.5			
Heavy Trucks	0	100	8	108	5	87	0	92	0	0	0	0	8	0	8	16</				

# ITM Peak Hour Summary



National Data & Surveying Services

## Thornton Rd (SR 6) and Douglas Hills Rd, Lithia Springs



### Total Ins & Outs

North Leg		
AM	NOON	PM
1811	979	
0	0	
1048	1941	
170	0	53
53	0	149
<b>West Leg</b>		
AM	NOON	PM
1675	1028	
0	0	
1094	1885	
<b>South Leg</b>		
AM	NOON	PM

### Total Volume Per Leg

North Leg		
AM	NOON	PM
2790	0	
0		
2989		
East Leg		
AM	NOON	PM
223	0	202
West Leg		
AM	NOON	PM
134	0	106
South Leg		
AM	NOON	PM
2703	0	
0		
2979		

Project ID: 17-9218-003  
 Location: Thornton Rd. (SR 6) & Douglas Hills Rd  
 City: Lithia Springs

Day: Wednesday  
 Date: 4/12/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks																					
Start Time	Thornton Rd. (SR 6) Northbound					Thornton Rd. (SR 6) Southbound					Douglas Hills Rd Eastbound					Douglas Hills Rd Westbound					
	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Left	Thru	Rgt	Peds	App.Total	Int. Total
6:30 AM	7	169	5	0	181	6	349	8	0	363	5	0	5	0	10	1	3	4	0	8	562
6:45 AM	13	188	2	0	203	26	366	15	0	407	4	2	2	0	8	1	7	4	0	12	630
7:00 AM	9	206	5	0	220	13	431	14	0	458	6	1	9	0	16	1	6	3	0	10	704
7:15 AM	15	261	4	0	280	12	395	14	0	421	4	2	4	0	10	2	2	1	0	5	716
Total	44	824	16	0	884	57	1541	51	0	1649	19	5	20	0	44	5	18	12	0	35	2612
7:30 AM	8	250	3	0	261	11	436	29	0	476	2	4	6	0	12	1	6	0	0	7	756
7:45 AM	19	242	6	0	267	40	378	38	0	456	4	0	11	0	15	1	10	0	0	11	749
8:00 AM	17	203	5	0	225	18	289	22	0	329	10	2	5	0	17	0	2	2	0	4	575
8:15 AM	11	179	2	0	192	10	336	7	0	353	5	3	6	0	14	2	7	3	0	12	571
Total	55	874	16	0	945	79	1439	96	0	1614	21	9	28	0	58	4	25	5	0	34	2651
***BREAK***																					
4:00 PM	10	358	3	0	371	8	228	10	0	246	13	3	12	0	28	1	3	3	0	7	652
4:15 PM	6	365	3	0	374	6	211	11	0	228	18	4	20	0	42	2	2	5	0	9	653
4:30 PM	9	423	3	0	435	2	229	8	0	239	34	11	27	0	72	4	2	5	0	11	757
4:45 PM	4	450	3	0	457	3	229	8	0	240	11	7	20	0	38	3	2	9	0	14	749
Total	29	1596	12	0	1637	19	897	37	0	953	76	25	79	0	180	10	9	22	0	41	2811
5:00 PM	9	437	4	0	450	5	279	3	0	287	22	2	15	0	39	9	1	7	0	17	793
5:15 PM	9	484	4	0	497	1	256	5	0	262	15	4	15	0	34	8	2	3	0	13	806
5:30 PM	5	475	1	0	481	12	243	4	0	259	21	4	13	0	38	4	1	7	0	12	790
5:45 PM	2	355	1	0	358	3	244	5	0	252	5	1	7	0	13	5	1	3	0	9	632
Total	25	1751	10	0	1786	21	1022	17	0	1060	63	11	50	0	124	26	5	20	0	51	3021
Grand Total	153	5045	54	0	5252	176	4899	201	0	5276	179	50	177	0	406	45	57	59	0	161	11095
Apprch %	2.9	96.1	1.0	0.0		3.3	92.9	3.8	0.0		44.1	12.3	43.6	0.0		28.0	35.4	36.6	0.0		
Total %	1.4	45.5	0.5	0.0	47.3	1.6	44.2	1.8	0	47.6	1.6	0.5	1.6	0.0	3.7	0.4	0.5	0.5	0.0	1.5	
Cars, PU, Vans	109	4731	42	0	4882	163	4558	169	0	4890	144	44	116	0	304	38	48	50	0	136	10212
% Cars, PU, Vans	71.2	93.8	77.8	0.0	93.0	92.6	93.0	84.1	0.0	92.7	80.4	88.0	65.5	0.0	74.9	84.4	84.2	84.7	0.0	84.5	92.0
Heavy Trucks	44	314	12	0	370	13	341	32	0	386	35	6	61	0	102	7	9	9	0	25	883
%Heavy Trucks	28.8	6.2	22.2	0.0	7.0	7.4	7.0	15.9	0.0	7.3	19.6	12.0	34.5	0.0	25.1	15.6	15.8	15.3	0.0	15.5	8.0

Project ID: 17-9218-003  
 Location: Thornton Rd. (SR 6) & Douglas Hills Rd  
 City: Lithia Springs

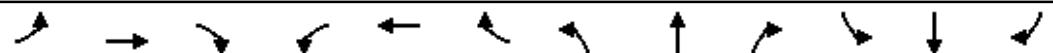
## PEAK HOURS

Day: Wednesday  
 Date: 4/12/2017

AM	Thornton Rd. (SR 6) Northbound					Thornton Rd. (SR 6) Southbound					Douglas Hills Rd Eastbound					Douglas Hills Rd Westbound					
	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	
Peak Hour Analysis from 06:30 AM to 08:30 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	9	206	5	220	13	431	14	458	6	1	9	16	1	6	3	10	704				
7:15 AM	15	261	4	280	12	395	14	421	4	2	4	10	2	2	1	5	716				
7:30 AM	8	250	3	261	11	436	29	476	2	4	6	12	1	6	0	7	756				
7:45 AM	19	242	6	267	40	378	38	456	4	0	11	15	1	10	0	11	749				
Total Volume	51	959	18	1028	76	1640	95	1811	16	7	30	53	5	24	4	33	2925				
% App. Total	5.0	93.3	1.8	100	4.2	90.6	5.2	100	30.2	13.2	56.6	100	15.2	72.7	12.1	100					
PHF																			0.750		
Cars, PU, Vans	40	887	15	942	70	1541	85	1696	11	6	24	41	3	23	2	28	2707				
% Cars, PU, Vans	78.4	92.5	83.3	91.6	92.1	94.0	89.5	93.6	68.8	85.7	80.0	77.4	60.0	95.8	50.0	84.8	92.5				
Heavy Trucks	11	72	3	86	6	99	10	115	5	1	6	12	2	1	2	5	218				
%Heavy Trucks	21.6	7.5	16.7	8.4	7.9	6.0	10.5	6.4	31.3	14.3	20.0	22.6	40.0	4.2	50.0	15.2	7.5				
PM																					
		Thornton Rd. (SR 6) Northbound					Thornton Rd. (SR 6) Southbound					Douglas Hills Rd Eastbound					Douglas Hills Rd Westbound				
Start Time		Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time	Left	Thru	Rgt	App.Total	Start Time
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	4	450	3	457	3	229	8	240	11	7	20	38	3	2	9	14	749				
5:00 PM	9	437	4	450	5	279	3	287	22	2	15	39	9	1	7	17	793				
5:15 PM	9	484	4	497	1	256	5	262	15	4	15	34	8	2	3	13	806				
5:30 PM	5	475	1	481	12	243	4	259	21	4	13	38	4	1	7	12	790				
Total Volume	27	1846	12	1885	21	1007	20	1048	69	17	63	149	24	6	26	56	3138				
% App. Total	1.4	97.9	0.6	100	2.0	96.1	1.9	100	46.3	11.4	42.3	100	42.9	10.7	46.4	100					
PHF																			0.824		
Cars, PU, Vans	11	1752	11	1774	19	915	10	944	55	14	35	104	24	4	25	53	2875				
% Cars, PU, Vans	40.7	94.9	91.7	94.1	90.5	90.9	50.0	90.1	79.7	82.4	55.6	69.8	100.0	66.7	96.2	94.6	91.6				
Heavy Trucks	16	94	1	111	2	92	10	104	14	3	28	45	0	2	1	3	263				
%Heavy Trucks	59.3	5.1	8																		

## **Appendix H**

### ***Synchro Capacity Analyses***



Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (veh/h)	205	61	253	57	16	24	52	820	62	168	1850	113
Future Volume (veh/h)	205	61	253	57	16	24	52	820	62	168	1850	113
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1742	1826	1809	1873	1909	1665	1794	1778	1900	1825	1756	1862
Adj Flow Rate, veh/h	209	62	258	58	16	0	53	837	0	171	1888	115
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	8	3	4	4	2	17	8	9	2	2	6	6
Cap, veh/h	357	326	275	207	173	128	141	2693	896	212	2460	149
Arrive On Green	0.12	0.18	0.18	0.04	0.09	0.00	0.08	0.55	0.00	0.06	0.53	0.53
Sat Flow, veh/h	1659	1826	1537	1783	1909	1415	1709	4854	1615	3373	4621	281
Grp Volume(v), veh/h	209	62	258	58	16	0	53	837	0	171	1304	699
Grp Sat Flow(s), veh/h/ln	1659	1826	1537	1783	1909	1415	1709	1618	1615	1686	1598	1706
Q Serve(g_s), s	18.9	4.9	28.2	5.0	1.3	0.0	5.0	15.8	0.0	8.5	54.8	55.2
Cycle Q Clear(g_c), s	18.9	4.9	28.2	5.0	1.3	0.0	5.0	15.8	0.0	8.5	54.8	55.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	357	326	275	207	173	128	141	2693	896	212	1701	908
V/C Ratio(X)	0.59	0.19	0.94	0.28	0.09	0.00	0.38	0.31	0.00	0.81	0.77	0.77
Avail Cap(c_a), veh/h	411	341	287	213	173	128	141	2693	896	304	1701	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	59.4	68.9	66.7	70.9	0.0	73.9	20.4	0.0	78.6	31.4	31.5
Incr Delay (d2), s/veh	1.6	0.3	36.7	0.7	0.2	0.0	1.7	0.3	0.0	9.9	3.4	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	8.8	2.5	14.7	2.5	0.7	0.0	2.4	7.1	0.0	4.3	24.9	27.4
LnGrp Delay(d), s/veh	59.8	59.6	105.6	67.4	71.1	0.0	75.5	20.7	0.0	88.6	34.8	37.7
LnGrp LOS	E	E	F	E	E		E	C		F	C	D
Approach Vol, veh/h		529			74			890			2174	
Approach Delay, s/veh		82.1			68.2			23.9			40.0	
Approach LOS		F			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.2	97.7	13.4	37.7	17.4	101.5	28.4	22.7				
Change Period (Y+Rc), s	7.2	* 7.2	6.9	7.3	* 6.7	7.2	7.2	7.3				
Max Green Setting (Gmax), s	12.8	* 91	7.1	31.7	* 15	87.8	26.8	11.7				
Max Q Clear Time (g_c+l1), s	7.0	57.2	7.0	30.2	10.5	17.8	20.9	3.3				
Green Ext Time (p_c), s	1.5	27.5	0.0	0.2	0.2	13.2	0.3	0.8				

#### Intersection Summary

HCM 2010 Ctrl Delay                          42.7  
HCM 2010 LOS                                  D

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	33	3	121	17	43	1	772	180	93	1659	61
Future Volume (veh/h)	59	33	3	121	17	43	1	772	180	93	1659	61
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1938	1894	1938	1900	1749	1900	1835	1717	1835	1616	1783	1853
Adj Flow Rate, veh/h	61	34	0	125	18	0	1	796	0	96	1710	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	2	2	2	2	9	2	17	6	2
Cap, veh/h	173	89	0	193	22	0	2	1771	847	304	2519	1171
Arrive On Green	0.13	0.13	0.00	0.13	0.13	0.00	0.00	0.54	0.00	0.20	0.74	0.00
Sat Flow, veh/h	1035	670	0	1147	165	0	1747	3262	1560	1539	3389	1575
Grp Volume(v), veh/h	95	0	0	143	0	0	1	796	0	96	1710	0
Grp Sat Flow(s), veh/h/ln	1705	0	0	1312	0	0	1747	1631	1560	1539	1694	1575
Q Serve(g_s), s	0.0	0.0	0.0	9.7	0.0	0.0	0.1	25.1	0.0	9.1	44.5	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	18.1	0.0	0.0	0.1	25.1	0.0	9.1	44.5	0.0
Prop In Lane	0.64		0.00	0.87		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	0	0	215	0	0	2	1771	847	304	2519	1171
V/C Ratio(X)	0.36	0.00	0.00	0.67	0.00	0.00	0.42	0.45	0.00	0.32	0.68	0.00
Avail Cap(c_a), veh/h	393	0	0	327	0	0	51	1771	847	304	2519	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.4	0.0	0.0	71.7	0.0	0.0	84.8	23.5	0.0	58.4	11.3	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	12.1	0.0	0.0	89.1	0.8	0.0	0.6	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	4.3	0.0	0.0	7.3	0.0	0.0	0.1	11.5	0.0	3.9	21.2	0.0
LnGrp Delay(d), s/veh	70.4	0.0	0.0	83.8	0.0	0.0	174.0	24.3	0.0	59.0	12.8	0.0
LnGrp LOS	E			F			F	C		E	B	
Approach Vol, veh/h		95			143			797			1806	
Approach Delay, s/veh		70.4			83.8			24.5			15.3	
Approach LOS		E			F			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.3	99.0		30.7	6.2	133.1		30.7				
Change Period (Y+Rc), s	6.7	* 6.7		8.0	6.0	6.7		8.0				
Max Green Setting (Gmax)	20.0	* 92		37.0	5.0	107.3		37.0				
Max Q Clear Time (g_c+l1), s	27.1			20.1	2.1	46.5		10.4				
Green Ext Time (p_c), s	3.9	12.4		2.6	0.0	40.3		3.3				

#### Intersection Summary

HCM 2010 Ctrl Delay                    23.1  
HCM 2010 LOS                            C

#### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	16	7	30	5	24	4	51	959	18	76	1640	95
Future Volume (veh/h)	16	7	30	5	24	4	51	959	18	76	1640	95
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1436	1582	1881	1310	1662	1834	1534	1733	1600	1794	1828	1746
Adj Flow Rate, veh/h	16	7	0	5	25	0	53	989	0	78	1691	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	31	14	14	40	4	4	22	8	17	8	6	11
Cap, veh/h	67	61	0	76	64	0	235	2669	1102	490	2838	1213
Arrive On Green	0.04	0.04	0.00	0.04	0.04	0.00	0.03	0.81	0.00	0.03	0.82	0.00
Sat Flow, veh/h	1064	1582	0	986	1662	0	1461	3292	1360	1709	3474	1484
Grp Volume(v), veh/h	16	7	0	5	25	0	53	989	0	78	1691	0
Grp Sat Flow(s), veh/h/ln	1064	1582	0	986	1662	0	1461	1646	1360	1709	1737	1484
Q Serve(g_s), s	2.5	0.7	0.0	0.8	2.5	0.0	1.0	13.8	0.0	1.3	29.5	0.0
Cycle Q Clear(g_c), s	5.0	0.7	0.0	1.6	2.5	0.0	1.0	13.8	0.0	1.3	29.5	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	67	61	0	76	64	0	235	2669	1102	490	2838	1213
V/C Ratio(X)	0.24	0.12	0.00	0.07	0.39	0.00	0.23	0.37	0.00	0.16	0.60	0.00
Avail Cap(c_a), veh/h	103	114	0	109	119	0	273	2669	1102	533	2838	1213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	82.3	79.0	0.0	79.7	79.8	0.0	5.4	4.4	0.0	3.0	5.5	0.0
Incr Delay (d2), s/veh	1.8	0.8	0.0	0.4	3.9	0.0	0.5	0.4	0.0	0.2	0.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.3	0.0	0.2	1.2	0.0	0.6	6.3	0.0	0.6	14.2	0.0
LnGrp Delay(d), s/veh	84.1	79.8	0.0	80.1	83.7	0.0	5.9	4.7	0.0	3.1	6.5	0.0
LnGrp LOS	F	E		F	F		A	A		A	A	
Approach Vol, veh/h		23			30			1042		1769		
Approach Delay, s/veh		82.8			83.1			4.8		6.3		
Approach LOS		F			F			A		A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	146.1		13.3	11.7	145.0		13.3				
Change Period (Y+Rc), s	6.0	7.2		* 6.8	* 6.8	7.2		* 6.8				
Max Green Setting (Gmax), %	30	128.8		* 12	* 9.2	127.8		* 12				
Max Q Clear Time (g_c+l1), s	30	31.5		7.0	3.3	15.8		4.5				
Green Ext Time (p_c), s	0.0	83.1		0.1	0.1	93.5		0.1				

#### Intersection Summary

HCM 2010 Ctrl Delay                    7.2  
HCM 2010 LOS                            A

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	193	68	95	157	165	143	191	1453	140	245	770	270
Future Volume (veh/h)	193	68	95	157	165	143	191	1453	140	245	770	270
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1775	1758	1679	1891	1891	1891	1882	1828	1900	1825	1725	1862
Adj Flow Rate, veh/h	199	70	98	162	170	0	197	1498	0	253	794	278
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	7	12	3	3	3	3	6	2	2	9	9
Cap, veh/h	346	379	308	410	359	305	336	2310	747	296	1243	432
Arrive On Green	0.11	0.22	0.22	0.08	0.19	0.00	0.19	0.46	0.00	0.09	0.36	0.36
Sat Flow, veh/h	1690	1758	1428	1801	1891	1607	1792	4991	1615	3373	3453	1199
Grp Volume(v), veh/h	199	70	98	162	170	0	197	1498	0	253	721	351
Grp Sat Flow(s), veh/h/ln	1690	1758	1428	1801	1891	1607	1792	1664	1615	1686	1569	1513
Q Serve(g_s), s	16.9	5.9	10.4	13.0	14.4	0.0	18.1	41.5	0.0	13.3	34.4	34.8
Cycle Q Clear(g_c), s	16.9	5.9	10.4	13.0	14.4	0.0	18.1	41.5	0.0	13.3	34.4	34.8
Prop In Lane	1.00			1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	346	379	308	410	359	305	336	2310	747	296	1130	545
V/C Ratio(X)	0.57	0.18	0.32	0.39	0.47	0.00	0.59	0.65	0.00	0.85	0.64	0.64
Avail Cap(c_a), veh/h	387	379	308	410	359	305	343	2310	747	437	1130	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	57.7	59.5	52.6	64.9	0.0	66.7	37.1	0.0	81.0	47.9	48.0
Incr Delay (d2), s/veh	1.7	1.1	2.7	0.6	4.4	0.0	2.5	1.4	0.0	10.5	2.8	5.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	8.0	3.0	4.3	6.5	8.0	0.0	9.2	19.3	0.0	6.7	15.4	15.4
LnGrp Delay(d), s/veh	52.8	58.8	62.2	53.2	69.3	0.0	69.2	38.5	0.0	91.4	50.6	53.8
LnGrp LOS	D	E	E	D	E		E	D		F	D	D
Approach Vol, veh/h		367			332			1695			1325	
Approach Delay, s/veh		56.5			61.5			42.1			59.2	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.0	72.0	21.0	46.0	22.5	90.5	25.6	41.4				
Change Period (Y+Rc), s	7.2	* 7.2	6.5	7.2	* 6.7	7.2	6.5	7.2				
Max Green Setting (Gmax), s	34.5	* 65	14.5	38.8	* 23	75.8	23.5	29.8				
Max Q Clear Time (g_c+l1), s	20.1	36.8	15.0	12.4	15.3	43.5	18.9	16.4				
Green Ext Time (p_c), s	6.9	13.4	0.0	3.3	0.5	21.8	0.2	2.5				

#### Intersection Summary

HCM 2010 Ctrl Delay                    51.4  
HCM 2010 LOS                            D

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	5	5	145	27	153	4	1762	173	77	886	50
Future Volume (veh/h)	37	5	5	145	27	153	4	1762	173	77	886	50
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1938	1900	1938	1900	1806	1900	1835	1766	1782	1783	1719	1853
Adj Flow Rate, veh/h	38	5	0	148	28	0	4	1798	0	79	904	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	6	5	6	10	2
Cap, veh/h	235	29	0	212	33	0	9	1981	895	253	2411	1163
Arrive On Green	0.14	0.14	0.00	0.14	0.14	0.00	0.01	0.59	0.00	0.15	0.74	0.00
Sat Flow, veh/h	1395	203	0	1236	234	0	1747	3355	1515	1699	3265	1575
Grp Volume(v), veh/h	43	0	0	176	0	0	4	1798	0	79	904	0
Grp Sat Flow(s), veh/h/ln	1598	0	0	1469	0	0	1747	1677	1515	1699	1633	1575
Q Serve(g_s), s	0.0	0.0	0.0	16.7	0.0	0.0	0.4	85.1	0.0	7.5	18.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	0.0	20.8	0.0	0.0	0.4	85.1	0.0	7.5	18.0	0.0
Prop In Lane	0.88		0.00	0.84		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	0	0	245	0	0	9	1981	895	253	2411	1163
V/C Ratio(X)	0.16	0.00	0.00	0.72	0.00	0.00	0.45	0.91	0.00	0.31	0.37	0.00
Avail Cap(c_a), veh/h	405	0	0	383	0	0	49	1981	895	253	2411	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.1	0.0	0.0	74.9	0.0	0.0	89.3	32.5	0.0	68.4	8.5	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	13.4	0.0	0.0	32.5	7.6	0.0	0.7	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.0	0.0	0.0	9.5	0.0	0.0	0.3	41.3	0.0	3.6	8.2	0.0
LnGrp Delay(d), s/veh	69.1	0.0	0.0	88.3	0.0	0.0	121.8	40.1	0.0	69.1	9.0	0.0
LnGrp LOS	E			F			F	D		E	A	
Approach Vol, veh/h		43			176			1802			983	
Approach Delay, s/veh		69.1			88.3			40.3			13.8	
Approach LOS		E			F			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.5	113.0		33.5	6.9	139.6		33.5				
Change Period (Y+Rc), s	6.7	* 6.7		8.0	6.0	6.7		8.0				
Max Green Setting (Gmax)	10.0 * 1.1E2			43.0	5.0	111.3		43.0				
Max Q Clear Time (g_c+l1), s	85	87.1		22.8	2.4	20.0		6.1				
Green Ext Time (p_c), s	0.0	16.6		2.6	0.0	15.6		3.4				

#### Intersection Summary

HCM 2010 Ctrl Delay                    34.8  
HCM 2010 LOS                            C

#### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	69	17	63	24	6	26	27	1846	12	21	1007	20
Future Volume (veh/h)	69	17	63	24	6	26	27	1846	12	21	1007	20
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1568	1359	1881	1798	1678	1834	1177	1782	1733	1762	1778	1292
Adj Flow Rate, veh/h	71	18	0	25	6	0	28	1903	0	22	1038	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	20	18	18	2	33	33	59	5	8	10	9	50
Cap, veh/h	125	102	0	124	126	0	303	2679	1165	188	2679	871
Arrive On Green	0.07	0.07	0.00	0.07	0.07	0.00	0.02	0.79	0.00	0.02	0.79	0.00
Sat Flow, veh/h	1182	1359	0	1340	1678	0	1121	3387	1473	1678	3378	1098
Grp Volume(v), veh/h	71	18	0	25	6	0	28	1903	0	22	1038	0
Grp Sat Flow(s), veh/h/ln	1182	1359	0	1340	1678	0	1121	1693	1473	1678	1689	1098
Q Serve(g_s), s	10.7	2.2	0.0	3.2	0.6	0.0	0.9	48.3	0.0	0.5	16.5	0.0
Cycle Q Clear(g_c), s	11.3	2.2	0.0	5.4	0.6	0.0	0.9	48.3	0.0	0.5	16.5	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	102	0	124	126	0	303	2679	1165	188	2679	871
V/C Ratio(X)	0.57	0.18	0.00	0.20	0.05	0.00	0.09	0.71	0.00	0.12	0.39	0.00
Avail Cap(c_a), veh/h	188	175	0	196	216	0	311	2679	1165	205	2679	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	82.5	78.0	0.0	80.6	77.3	0.0	4.1	9.0	0.0	10.5	5.6	0.0
Incr Delay (d2), s/veh	4.0	0.8	0.0	0.8	0.2	0.0	0.1	1.6	0.0	0.3	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.6	0.9	0.0	1.2	0.3	0.0	0.3	22.8	0.0	0.3	7.8	0.0
LnGrp Delay(d), s/veh	86.6	78.9	0.0	81.4	77.4	0.0	4.2	10.6	0.0	10.8	6.0	0.0
LnGrp LOS	F	E		F	E		A	B		B	A	
Approach Vol, veh/h		89			31			1931			1060	
Approach Delay, s/veh		85.0			80.6			10.5			6.1	
Approach LOS		F			F			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	149.9		20.3	10.1	149.6		20.3				
Change Period (Y+Rc), s	6.0	7.2		* 6.8	* 6.8	7.2		* 6.8				
Max Green Setting (Gmax), s	5.0	131.8		* 23	* 5.2	130.8		* 23				
Max Q Clear Time (g_c+l1), s	29	18.5		13.3	2.5	50.3		7.4				
Green Ext Time (p_c), s	0.0	101.8		0.2	0.0	74.6		0.3				

#### Intersection Summary

HCM 2010 Ctrl Delay                    11.8  
HCM 2010 LOS                            B

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	211	63	261	59	16	25	54	845	64	173	1906	116
Future Volume (veh/h)	211	63	261	59	16	25	54	845	64	173	1906	116
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1742	1826	1809	1873	1909	1665	1794	1778	1900	1825	1756	1862
Adj Flow Rate, veh/h	215	64	266	60	16	0	55	862	0	177	1945	118
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	8	3	4	4	2	17	8	9	2	2	6	6
Cap, veh/h	365	335	282	211	178	132	133	2656	884	218	2455	148
Arrive On Green	0.13	0.18	0.18	0.04	0.09	0.00	0.08	0.55	0.00	0.06	0.53	0.53
Sat Flow, veh/h	1659	1826	1537	1783	1909	1415	1709	4854	1615	3373	4622	279
Grp Volume(v), veh/h	215	64	266	60	16	0	55	862	0	177	1343	720
Grp Sat Flow(s), veh/h/ln	1659	1826	1537	1783	1909	1415	1709	1618	1615	1686	1598	1706
Q Serve(g_s), s	19.4	5.0	29.1	5.1	1.3	0.0	5.2	16.6	0.0	8.8	57.8	58.2
Cycle Q Clear(g_c), s	19.4	5.0	29.1	5.1	1.3	0.0	5.2	16.6	0.0	8.8	57.8	58.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	365	335	282	211	178	132	133	2656	884	218	1697	906
V/C Ratio(X)	0.59	0.19	0.94	0.28	0.09	0.00	0.41	0.32	0.00	0.81	0.79	0.79
Avail Cap(c_a), veh/h	415	341	287	216	178	132	133	2656	884	308	1697	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	58.8	68.6	66.1	70.5	0.0	74.7	21.2	0.0	78.5	32.2	32.3
Incr Delay (d2), s/veh	1.7	0.3	38.2	0.7	0.2	0.0	2.0	0.3	0.0	10.5	3.9	7.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	9.1	2.6	15.3	2.6	0.7	0.0	2.5	7.5	0.0	4.4	26.3	29.2
LnGrp Delay(d), s/veh	59.2	59.0	106.7	66.9	70.7	0.0	76.7	21.5	0.0	89.0	36.1	39.5
LnGrp LOS	E	E	F	E	E		E	C		F	D	D
Approach Vol, veh/h		545			76			917			2240	
Approach Delay, s/veh		82.4			67.7			24.8			41.4	
Approach LOS		F			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.4	97.5	13.6	38.4	17.7	100.2	28.9	23.2				
Change Period (Y+Rc), s	7.2	* 7.2	6.9	7.3	* 6.7	7.2	7.2	7.3				
Max Green Setting (Gmax), s	12.9	* 90	7.2	31.7	* 16	87.5	26.8	11.8				
Max Q Clear Time (g_c+l1), s	7.2	60.2	7.1	31.1	10.8	18.6	21.4	3.3				
Green Ext Time (p_c), s	1.4	25.7	0.0	0.1	0.2	13.7	0.3	0.8				

#### Intersection Summary

HCM 2010 Ctrl Delay                          43.8  
HCM 2010 LOS                                  D

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	34	3	125	18	44	1	795	185	96	1709	63
Future Volume (veh/h)	61	34	3	125	18	44	1	795	185	96	1709	63
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1938	1894	1938	1900	1749	1900	1835	1717	1835	1616	1783	1853
Adj Flow Rate, veh/h	63	35	0	129	19	0	1	820	0	99	1762	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	2	2	2	2	9	2	17	6	2
Cap, veh/h	178	92	0	197	23	0	2	1752	838	306	2503	1164
Arrive On Green	0.14	0.14	0.00	0.14	0.14	0.00	0.00	0.54	0.00	0.20	0.74	0.00
Sat Flow, veh/h	1036	665	0	1142	168	0	1747	3262	1560	1539	3389	1575
Grp Volume(v), veh/h	98	0	0	148	0	0	1	820	0	99	1762	0
Grp Sat Flow(s), veh/h/ln	1702	0	0	1310	0	0	1747	1631	1560	1539	1694	1575
Q Serve(g_s), s	0.0	0.0	0.0	10.1	0.0	0.0	0.1	26.4	0.0	9.4	48.1	0.0
Cycle Q Clear(g_c), s	8.7	0.0	0.0	18.7	0.0	0.0	0.1	26.4	0.0	9.4	48.1	0.0
Prop In Lane	0.64		0.00	0.87		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	0	0	221	0	0	2	1752	838	306	2503	1164
V/C Ratio(X)	0.36	0.00	0.00	0.67	0.00	0.00	0.42	0.47	0.00	0.32	0.70	0.00
Avail Cap(c_a), veh/h	402	0	0	334	0	0	51	1752	838	306	2503	1164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.8	0.0	0.0	71.3	0.0	0.0	84.8	24.3	0.0	58.3	12.1	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	12.1	0.0	0.0	89.1	0.9	0.0	0.6	1.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	4.4	0.0	0.0	7.5	0.0	0.0	0.1	12.1	0.0	4.0	22.9	0.0
LnGrp Delay(d), s/veh	69.8	0.0	0.0	83.4	0.0	0.0	174.0	25.2	0.0	58.9	13.8	0.0
LnGrp LOS	E		F		F	C		E	C		B	
Approach Vol, veh/h	98			148			821			1861		
Approach Delay, s/veh	69.8			83.4			25.4			16.2		
Approach LOS	E		F		F	C		E	C		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.5	98.0		31.5	6.2	132.3		31.5				
Change Period (Y+Rc), s	6.7	* 6.7		8.0	6.0	6.7		8.0				
Max Green Setting (Gmax)	20.0	* 91		38.0	5.0	106.3		38.0				
Max Q Clear Time (g_c+l1), s	14	28.4		20.7	2.1	50.1		10.7				
Green Ext Time (p_c), s	3.6	12.8		2.8	0.0	39.6		3.4				

#### Intersection Summary

HCM 2010 Ctrl Delay      24.0  
HCM 2010 LOS              C

#### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	16	7	31	5	25	4	53	988	19	78	1690	98
Future Volume (veh/h)	16	7	31	5	25	4	53	988	19	78	1690	98
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1436	1582	1881	1310	1665	1834	1534	1733	1600	1794	1828	1746
Adj Flow Rate, veh/h	16	7	0	5	26	0	55	1019	0	80	1742	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	31	14	14	40	4	4	22	8	17	8	6	11
Cap, veh/h	67	62	0	77	65	0	226	2667	1101	476	2835	1211
Arrive On Green	0.04	0.04	0.00	0.04	0.04	0.00	0.03	0.81	0.00	0.03	0.82	0.00
Sat Flow, veh/h	1063	1582	0	986	1665	0	1461	3292	1360	1709	3474	1484
Grp Volume(v), veh/h	16	7	0	5	26	0	55	1019	0	80	1742	0
Grp Sat Flow(s), veh/h/ln	1063	1582	0	986	1665	0	1461	1646	1360	1709	1737	1484
Q Serve(g_s), s	2.5	0.7	0.0	0.8	2.6	0.0	1.1	14.5	0.0	1.3	31.4	0.0
Cycle Q Clear(g_c), s	5.1	0.7	0.0	1.6	2.6	0.0	1.1	14.5	0.0	1.3	31.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	67	62	0	77	65	0	226	2667	1101	476	2835	1211
V/C Ratio(X)	0.24	0.11	0.00	0.07	0.40	0.00	0.24	0.38	0.00	0.17	0.61	0.00
Avail Cap(c_a), veh/h	96	104	0	103	110	0	263	2667	1101	510	2835	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	82.3	78.9	0.0	79.6	79.8	0.0	5.9	4.4	0.0	3.0	5.8	0.0
Incr Delay (d2), s/veh	1.8	0.8	0.0	0.4	4.0	0.0	0.6	0.4	0.0	0.2	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.3	0.0	0.2	1.3	0.0	0.6	6.7	0.0	0.6	15.2	0.0
LnGrp Delay(d), s/veh	84.0	79.7	0.0	80.0	83.7	0.0	6.5	4.9	0.0	3.2	6.8	0.0
LnGrp LOS	F	E		E	F		A	A		A	A	
Approach Vol, veh/h		23			31			1074			1822	
Approach Delay, s/veh		82.7			83.1			4.9			6.6	
Approach LOS		F			F			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	146.0		13.4	11.7	144.9		13.4				
Change Period (Y+Rc), s	6.0	7.2		* 6.8	* 6.8	7.2		* 6.8				
Max Green Setting (Gmax), %	3.0	129.8		* 11	* 8.2	129.8		* 11				
Max Q Clear Time (g_c+l1), s	3.1	33.4		7.1	3.3	16.5		4.6				
Green Ext Time (p_c), s	0.0	84.3		0.0	0.1	97.0		0.1				

#### Intersection Summary

HCM 2010 Ctrl Delay                    7.4  
HCM 2010 LOS                            A

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	199	70	98	162	170	147	197	1497	144	252	793	278
Future Volume (veh/h)	199	70	98	162	170	147	197	1497	144	252	793	278
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1775	1758	1679	1891	1891	1891	1882	1828	1900	1825	1725	1862
Adj Flow Rate, veh/h	205	72	101	167	175	0	203	1543	0	260	818	287
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	7	12	3	3	3	3	6	2	2	9	9
Cap, veh/h	344	379	308	408	354	301	336	2300	744	303	1242	433
Arrive On Green	0.11	0.22	0.22	0.08	0.19	0.00	0.19	0.46	0.00	0.09	0.36	0.36
Sat Flow, veh/h	1690	1758	1428	1801	1891	1607	1792	4991	1615	3373	3449	1202
Grp Volume(v), veh/h	205	72	101	167	175	0	203	1543	0	260	744	361
Grp Sat Flow(s), veh/h/ln	1690	1758	1428	1801	1891	1607	1792	1664	1615	1686	1569	1513
Q Serve(g_s), s	17.4	6.0	10.8	13.5	14.9	0.0	18.7	43.4	0.0	13.7	35.8	36.1
Cycle Q Clear(g_c), s	17.4	6.0	10.8	13.5	14.9	0.0	18.7	43.4	0.0	13.7	35.8	36.1
Prop In Lane	1.00			1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	344	379	308	408	354	301	336	2300	744	303	1130	545
V/C Ratio(X)	0.60	0.19	0.33	0.41	0.49	0.00	0.60	0.67	0.00	0.86	0.66	0.66
Avail Cap(c_a), veh/h	380	379	308	408	354	301	343	2300	744	437	1130	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	57.7	59.6	53.2	65.5	0.0	67.0	37.9	0.0	80.8	48.3	48.4
Incr Delay (d2), s/veh	2.1	1.1	2.8	0.7	4.9	0.0	2.9	1.6	0.0	11.2	3.0	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	8.3	3.1	4.5	6.8	8.3	0.0	9.5	20.3	0.0	6.9	16.0	16.1
LnGrp Delay(d), s/veh	53.2	58.9	62.4	53.9	70.4	0.0	69.8	39.5	0.0	92.0	51.3	54.7
LnGrp LOS	D	E	E	D	E		E	D		F	D	D
Approach Vol, veh/h		378			342			1746			1365	
Approach Delay, s/veh		56.7			62.3			43.0			59.9	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.0	72.0	21.0	46.0	22.9	90.1	26.1	40.9				
Change Period (Y+Rc), s	7.2	* 7.2	6.5	7.2	* 6.7	7.2	6.5	7.2				
Max Green Setting (Gmax), s	34.5	* 65	14.5	38.8	* 23	75.8	23.5	29.8				
Max Q Clear Time (g_c+l1), s	20.7	38.1	15.5	12.8	15.7	45.4	19.4	16.9				
Green Ext Time (p_c), s	6.6	13.5	0.0	3.4	0.5	21.4	0.2	2.5				

#### Intersection Summary

HCM 2010 Ctrl Delay                    52.1  
HCM 2010 LOS                            D

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	5	5	149	28	158	4	1815	178	79	913	52
Future Volume (veh/h)	38	5	5	149	28	158	4	1815	178	79	913	52
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1938	1900	1938	1900	1806	1900	1835	1766	1782	1783	1719	1853
Adj Flow Rate, veh/h	39	5	0	152	29	0	4	1852	0	81	932	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	6	5	6	10	2
Cap, veh/h	241	29	0	216	34	0	9	1981	895	247	2400	1158
Arrive On Green	0.15	0.15	0.00	0.15	0.15	0.00	0.01	0.59	0.00	0.15	0.73	0.00
Sat Flow, veh/h	1398	198	0	1234	235	0	1747	3355	1515	1699	3265	1575
Grp Volume(v), veh/h	44	0	0	181	0	0	4	1852	0	81	932	0
Grp Sat Flow(s), veh/h/ln	1596	0	0	1470	0	0	1747	1677	1515	1699	1633	1575
Q Serve(g_s), s	0.0	0.0	0.0	17.2	0.0	0.0	0.4	90.8	0.0	7.7	19.1	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	21.4	0.0	0.0	0.4	90.8	0.0	7.7	19.1	0.0
Prop In Lane	0.89		0.00	0.84		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	0	0	250	0	0	9	1981	895	247	2400	1158
V/C Ratio(X)	0.16	0.00	0.00	0.72	0.00	0.00	0.45	0.93	0.00	0.33	0.39	0.00
Avail Cap(c_a), veh/h	405	0	0	383	0	0	49	1981	895	247	2400	1158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.6	0.0	0.0	74.6	0.0	0.0	89.3	33.7	0.0	69.0	8.9	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	13.4	0.0	0.0	32.5	9.8	0.0	0.8	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.0	0.0	0.0	9.7	0.0	0.0	0.3	44.6	0.0	3.7	8.7	0.0
LnGrp Delay(d), s/veh	68.6	0.0	0.0	88.0	0.0	0.0	121.8	43.5	0.0	69.8	9.3	0.0
LnGrp LOS	E			F			F	D		E	A	
Approach Vol, veh/h		44			181			1856			1013	
Approach Delay, s/veh		68.6			88.0			43.6			14.2	
Approach LOS		E			F			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.9	113.0		34.1	6.9	139.0		34.1				
Change Period (Y+Rc), s	6.7	* 6.7		8.0	6.0	6.7		8.0				
Max Green Setting (Gmax)	10.0	* 1.1E2		43.0	5.0	111.3		43.0				
Max Q Clear Time (g_c+l1), s	9.7	92.8		23.4	2.4	21.1		6.2				
Green Ext Time (p_c), s	0.0	12.2		2.7	0.0	16.4		3.5				

#### Intersection Summary

HCM 2010 Ctrl Delay                    36.9  
HCM 2010 LOS                            D

#### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	71	18	65	25	6	27	28	1902	12	22	1037	21
Future Volume (veh/h)	71	18	65	25	6	27	28	1902	12	22	1037	21
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1568	1363	1881	1798	1693	1834	1177	1782	1733	1778	1778	1292
Adj Flow Rate, veh/h	73	19	0	26	6	0	29	1961	0	23	1069	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	20	17	17	2	33	33	59	5	8	9	9	50
Cap, veh/h	127	104	0	125	130	0	294	2671	1162	178	2672	869
Arrive On Green	0.08	0.08	0.00	0.08	0.08	0.00	0.02	0.79	0.00	0.02	0.79	0.00
Sat Flow, veh/h	1182	1363	0	1339	1693	0	1121	3387	1473	1693	3378	1098
Grp Volume(v), veh/h	73	19	0	26	6	0	29	1961	0	23	1069	0
Grp Sat Flow(s), veh/h/ln	1182	1363	0	1339	1693	0	1121	1693	1473	1693	1689	1098
Q Serve(g_s), s	11.0	2.4	0.0	3.3	0.6	0.0	0.9	52.3	0.0	0.5	17.4	0.0
Cycle Q Clear(g_c), s	11.6	2.4	0.0	5.7	0.6	0.0	0.9	52.3	0.0	0.5	17.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	104	0	125	130	0	294	2671	1162	178	2672	869
V/C Ratio(X)	0.58	0.18	0.00	0.21	0.05	0.00	0.10	0.73	0.00	0.13	0.40	0.00
Avail Cap(c_a), veh/h	188	176	0	195	218	0	302	2671	1162	195	2672	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	82.4	77.8	0.0	80.5	77.0	0.0	4.2	9.5	0.0	11.9	5.8	0.0
Incr Delay (d2), s/veh	4.1	0.8	0.0	0.8	0.1	0.0	0.1	1.8	0.0	0.3	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.7	0.9	0.0	1.3	0.3	0.0	0.3	24.9	0.0	0.4	8.2	0.0
LnGrp Delay(d), s/veh	86.4	78.6	0.0	81.3	77.1	0.0	4.4	11.4	0.0	12.2	6.2	0.0
LnGrp LOS	F	E		F	E		A	B		B	A	
Approach Vol, veh/h		92			32			1990			1092	
Approach Delay, s/veh		84.8			80.5			11.3			6.3	
Approach LOS		F			F			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	149.6		20.6	10.2	149.2		20.6				
Change Period (Y+Rc), s	6.0	7.2		* 6.8	* 6.8	7.2		* 6.8				
Max Green Setting (Gmax), s	5.0	131.8		* 23	* 5.2	130.8		* 23				
Max Q Clear Time (g_c+l1), s	29	19.4		13.6	2.5	54.3		7.7				
Green Ext Time (p_c), s	0.0	102.9		0.3	0.0	72.0		0.3				

#### Intersection Summary

HCM 2010 Ctrl Delay                    12.4  
HCM 2010 LOS                            B

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑↑	↑	↑↑	↑↑↑	
Traffic Volume (veh/h)	211	63	261	59	16	25	54	866	64	173	1952	116
Future Volume (veh/h)	211	63	261	59	16	25	54	866	64	173	1952	116
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1742	1826	1809	1873	1909	1665	1794	1778	1900	1825	1745	1862
Adj Flow Rate, veh/h	215	64	266	60	16	0	55	884	0	177	1992	118
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	8	3	4	4	2	17	8	9	2	2	7	7
Cap, veh/h	365	335	282	211	178	132	130	2657	884	218	2452	145
Arrive On Green	0.13	0.18	0.18	0.04	0.09	0.00	0.08	0.55	0.00	0.06	0.53	0.53
Sat Flow, veh/h	1659	1826	1537	1783	1909	1415	1709	4854	1615	3373	4601	272
Grp Volume(v), veh/h	215	64	266	60	16	0	55	884	0	177	1373	737
Grp Sat Flow(s), veh/h/ln	1659	1826	1537	1783	1909	1415	1709	1618	1615	1686	1588	1697
Q Serve(g_s), s	19.4	5.0	29.1	5.1	1.3	0.0	5.2	17.1	0.0	8.8	60.4	61.0
Cycle Q Clear(g_c), s	19.4	5.0	29.1	5.1	1.3	0.0	5.2	17.1	0.0	8.8	60.4	61.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	365	335	282	211	178	132	130	2657	884	218	1692	904
V/C Ratio(X)	0.59	0.19	0.94	0.28	0.09	0.00	0.42	0.33	0.00	0.81	0.81	0.82
Avail Cap(c_a), veh/h	410	341	287	215	178	132	130	2657	884	304	1692	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	58.8	68.6	66.1	70.4	0.0	75.0	21.3	0.0	78.5	32.7	32.8
Incr Delay (d2), s/veh	1.8	0.3	38.2	0.7	0.2	0.0	2.2	0.3	0.0	10.9	4.3	8.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	9.1	2.6	15.3	2.6	0.7	0.0	2.6	7.7	0.0	4.4	27.5	30.5
LnGrp Delay(d), s/veh	59.3	59.0	106.7	66.9	70.7	0.0	77.1	21.6	0.0	89.3	37.0	40.8
LnGrp LOS	E	E	F	E	E		E	C		F	D	D
Approach Vol, veh/h		545			76			939			2287	
Approach Delay, s/veh		82.4			67.7			24.9			42.3	
Approach LOS		F			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.1	97.8	13.6	38.4	17.7	100.2	28.9	23.2				
Change Period (Y+Rc), s	7.2	* 7.2	6.9	7.3	* 6.7	7.2	7.2	7.3				
Max Green Setting (Gmax), s	12.7	* 91	7.1	31.7	* 15	87.8	26.2	12.3				
Max Q Clear Time (g_c+l1), s	7.2	63.0	7.1	31.1	10.8	19.1	21.4	3.3				
Green Ext Time (p_c), s	1.4	24.1	0.0	0.1	0.2	14.2	0.2	0.9				

#### Intersection Summary

HCM 2010 Ctrl Delay                          44.2  
HCM 2010 LOS                                  D

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	35	21	125	21	44	40	795	185	96	1709	109
Future Volume (veh/h)	82	35	21	125	21	44	40	795	185	96	1709	109
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1938	1762	1938	1900	1751	1900	1407	1717	1835	1616	1783	1719
Adj Flow Rate, veh/h	85	36	0	129	22	0	41	820	0	99	1762	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	2	2	2	33	9	2	17	6	10
Cap, veh/h	182	71	0	197	27	0	48	1790	856	285	2379	1026
Arrive On Green	0.14	0.14	0.00	0.14	0.14	0.00	0.04	0.55	0.00	0.19	0.70	0.00
Sat Flow, veh/h	1044	505	0	1129	192	0	1340	3262	1560	1539	3389	1461
Grp Volume(v), veh/h	121	0	0	151	0	0	41	820	0	99	1762	0
Grp Sat Flow(s), veh/h/ln	1549	0	0	1321	0	0	1340	1631	1560	1539	1694	1461
Q Serve(g_s), s	0.0	0.0	0.0	6.9	0.0	0.0	5.2	25.8	0.0	9.5	54.8	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	18.9	0.0	0.0	5.2	25.8	0.0	9.5	54.8	0.0
Prop In Lane	0.70		0.00	0.85		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	253	0	0	224	0	0	48	1790	856	285	2379	1026
V/C Ratio(X)	0.48	0.00	0.00	0.67	0.00	0.00	0.85	0.46	0.00	0.35	0.74	0.00
Avail Cap(c_a), veh/h	355	0	0	320	0	0	79	1790	856	285	2379	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay(d), s/veh	68.0	0.0	0.0	71.1	0.0	0.0	81.5	23.1	0.0	60.3	15.7	0.0
Incr Delay(d2), s/veh	5.0	0.0	0.0	12.1	0.0	0.0	33.9	0.8	0.0	0.7	2.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	5.7	0.0	0.0	7.7	0.0	0.0	2.4	11.8	0.0	4.1	26.2	0.0
LnGrp Delay(d), s/veh	73.1	0.0	0.0	83.1	0.0	0.0	115.4	24.0	0.0	61.0	17.8	0.0
LnGrp LOS	E		F		F	C		E	C		B	
Approach Vol, veh/h	121			151			861			1861		
Approach Delay, s/veh	73.1			83.1			28.3			20.1		
Approach LOS	E		F		F	C		E	C		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.2	100.0		31.8	12.1	126.1		31.8				
Change Period (Y+Rc), s	6.7	* 6.7		8.0	6.0	6.7		8.0				
Max Green Setting (Gmax)	20.0	* 93		36.0	10.0	103.3		36.0				
Max Q Clear Time (g_c+l1), s	15	27.8		20.9	7.2	56.8		14.1				
Green Ext Time (p_c), s	4.3	12.9		2.9	0.0	34.5		3.5				

#### Intersection Summary

HCM 2010 Ctrl Delay                    27.8  
HCM 2010 LOS                            C

#### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	16	7	31	5	25	4	53	1027	19	78	1708	98
Future Volume (veh/h)	16	7	31	5	25	4	53	1027	19	78	1708	98
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1436	1582	1881	1310	1665	1834	1534	1733	1600	1794	1828	1746
Adj Flow Rate, veh/h	16	7	0	5	26	0	55	1059	0	80	1761	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	31	14	14	40	4	4	22	8	17	8	6	11
Cap, veh/h	67	62	0	77	65	0	222	2667	1101	459	2835	1211
Arrive On Green	0.04	0.04	0.00	0.04	0.04	0.00	0.03	0.81	0.00	0.03	0.82	0.00
Sat Flow, veh/h	1063	1582	0	986	1665	0	1461	3292	1360	1709	3474	1484
Grp Volume(v), veh/h	16	7	0	5	26	0	55	1059	0	80	1761	0
Grp Sat Flow(s), veh/h/ln	1063	1582	0	986	1665	0	1461	1646	1360	1709	1737	1484
Q Serve(g_s), s	2.5	0.7	0.0	0.8	2.6	0.0	1.1	15.3	0.0	1.3	32.1	0.0
Cycle Q Clear(g_c), s	5.1	0.7	0.0	1.6	2.6	0.0	1.1	15.3	0.0	1.3	32.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	67	62	0	77	65	0	222	2667	1101	459	2835	1211
V/C Ratio(X)	0.24	0.11	0.00	0.07	0.40	0.00	0.25	0.40	0.00	0.17	0.62	0.00
Avail Cap(c_a), veh/h	96	104	0	103	110	0	260	2667	1101	493	2835	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	82.3	78.9	0.0	79.6	79.8	0.0	6.1	4.5	0.0	3.1	5.8	0.0
Incr Delay (d2), s/veh	1.8	0.8	0.0	0.4	4.0	0.0	0.6	0.4	0.0	0.2	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.3	0.0	0.2	1.3	0.0	0.6	7.1	0.0	0.6	15.6	0.0
LnGrp Delay(d), s/veh	84.0	79.7	0.0	80.0	83.7	0.0	6.7	5.0	0.0	3.3	6.9	0.0
LnGrp LOS	F	E		E	F		A	A		A	A	
Approach Vol, veh/h								1114				1841
Approach Delay, s/veh								5.1				6.7
Approach LOS								A				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	146.0		13.4	11.7	144.9		13.4				
Change Period (Y+Rc), s	6.0	7.2		* 6.8	* 6.8	7.2		* 6.8				
Max Green Setting (Gmax), %	3.0	129.8		* 11	* 8.2	129.8		* 11				
Max Q Clear Time (g_c+l1), s	3.1	34.1		7.1	3.3	17.3		4.6				
Green Ext Time (p_c), s	0.0	84.9		0.0	0.1	97.9		0.1				

#### Intersection Summary

HCM 2010 Ctrl Delay                    7.5  
HCM 2010 LOS                            A

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

## Intersection

Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	Y	
Traffic Vol, veh/h	98	0	89	81	0	40
Future Vol, veh/h	98	0	89	81	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	0	26	2	0	28
Mvmt Flow	120	0	109	99	0	49

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	-	120	0
Stage 1	-	-	-	120
Stage 2	-	-	-	316
Critical Hdwy	-	-	4.36	-
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.434	-
Pot Cap-1 Maneuver	-	0	1332	-
Stage 1	-	0	-	910
Stage 2	-	0	-	744
Platoon blocked, %	-		-	
Mov Cap-1 Maneuver	-	-	1332	-
Mov Cap-2 Maneuver	-	-	-	533
Stage 1	-	-	-	910
Stage 2	-	-	-	683

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	866	-	1332	-
HCM Lane V/C Ratio	0.056	-	0.081	-
HCM Control Delay (s)	9.4	-	7.9	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑↑	↑↑	
Traffic Volume (veh/h)	199	70	98	162	170	147	197	1547	144	252	815	278
Future Volume (veh/h)	199	70	98	162	170	147	197	1547	144	252	815	278
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1775	1758	1679	1891	1891	1891	1882	1811	1900	1825	1724	1862
Adj Flow Rate, veh/h	205	72	101	167	175	0	203	1595	0	260	840	287
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	7	12	3	3	3	3	7	2	2	9	9
Cap, veh/h	349	377	306	416	360	306	309	2260	738	302	1289	438
Arrive On Green	0.11	0.21	0.21	0.09	0.19	0.00	0.17	0.46	0.00	0.09	0.37	0.37
Sat Flow, veh/h	1690	1758	1428	1801	1891	1607	1792	4945	1615	3373	3474	1180
Grp Volume(v), veh/h	205	72	101	167	175	0	203	1595	0	260	758	369
Grp Sat Flow(s), veh/h/ln	1690	1758	1428	1801	1891	1607	1792	1648	1615	1686	1569	1516
Q Serve(g_s), s	17.4	6.0	10.8	13.3	14.9	0.0	19.0	46.5	0.0	13.7	36.1	36.4
Cycle Q Clear(g_c), s	17.4	6.0	10.8	13.3	14.9	0.0	19.0	46.5	0.0	13.7	36.1	36.4
Prop In Lane	1.00			1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	349	377	306	416	360	306	309	2260	738	302	1165	563
V/C Ratio(X)	0.59	0.19	0.33	0.40	0.49	0.00	0.66	0.71	0.00	0.86	0.65	0.66
Avail Cap(c_a), veh/h	422	377	306	439	360	306	309	2260	738	418	1165	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	57.9	59.8	52.0	65.0	0.0	69.5	39.2	0.0	80.8	46.9	47.0
Incr Delay (d2), s/veh	1.6	1.1	2.9	0.6	4.6	0.0	4.9	1.9	0.0	12.5	2.8	5.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	8.2	3.1	4.5	6.7	8.2	0.0	9.8	21.5	0.0	6.9	16.0	16.2
LnGrp Delay(d), s/veh	52.5	59.0	62.6	52.6	69.6	0.0	74.4	41.1	0.0	93.3	49.8	52.9
LnGrp LOS	D	E	E	D	E		E	D		F	D	D
Approach Vol, veh/h		378			342			1798			1387	
Approach Delay, s/veh		56.5			61.3			44.8			58.8	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.3	74.0	21.9	45.8	22.8	89.5	26.2	41.5				
Change Period (Y+Rc), s	7.2	* 7.2	6.5	7.2	* 6.7	7.2	6.5	7.2				
Max Green Setting (Gmax), s	29.5	* 67	17.7	38.6	* 22	73.8	27.5	28.8				
Max Q Clear Time (g_c+l1), s	21.0	38.4	15.3	12.8	15.7	48.5	19.4	16.9				
Green Ext Time (p_c), s	2.2	14.3	0.1	3.4	0.4	19.2	0.3	2.4				

#### Intersection Summary

HCM 2010 Ctrl Delay                            52.3  
HCM 2010 LOS                                    D

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	8	48	149	29	158	24	1815	178	79	913	74
Future Volume (veh/h)	88	8	48	149	29	158	24	1815	178	79	913	74
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1938	1583	1938	1900	1806	1900	1397	1766	1782	1783	1719	1719
Adj Flow Rate, veh/h	90	8	0	152	30	0	24	1852	0	81	932	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	34	6	5	6	10	10
Cap, veh/h	209	17	0	221	36	0	27	1962	886	259	2355	1054
Arrive On Green	0.14	0.14	0.00	0.14	0.14	0.00	0.02	0.58	0.00	0.15	0.72	0.00
Sat Flow, veh/h	1192	117	0	1287	254	0	1330	3355	1515	1699	3265	1461
Grp Volume(v), veh/h	98	0	0	182	0	0	24	1852	0	81	932	0
Grp Sat Flow(s), veh/h/ln	1309	0	0	1542	0	0	1330	1677	1515	1699	1633	1461
Q Serve(g_s), s	0.0	0.0	0.0	8.0	0.0	0.0	3.2	92.1	0.0	7.6	20.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	20.1	0.0	0.0	3.2	92.1	0.0	7.6	20.0	0.0
Prop In Lane	0.92		0.00	0.84		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	0	0	258	0	0	27	1962	886	259	2355	1054
V/C Ratio(X)	0.43	0.00	0.00	0.71	0.00	0.00	0.89	0.94	0.00	0.31	0.40	0.00
Avail Cap(c_a), veh/h	353	0	0	409	0	0	59	1962	886	259	2355	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	71.2	0.0	0.0	74.3	0.0	0.0	88.0	34.6	0.0	67.8	9.8	0.0
Incr Delay (d2), s/veh	4.7	0.0	0.0	12.1	0.0	0.0	54.3	10.8	0.0	0.7	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	4.8	0.0	0.0	9.7	0.0	0.0	1.6	45.4	0.0	3.6	9.1	0.0
LnGrp Delay(d), s/veh	75.9	0.0	0.0	86.4	0.0	0.0	142.2	45.4	0.0	68.5	10.3	0.0
LnGrp LOS	E		F		F	D		E		B		
Approach Vol, veh/h		98			182			1876			1013	
Approach Delay, s/veh		75.9			86.4			46.6			14.9	
Approach LOS		E		F		D			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.2	112.0		33.8	9.7	136.5		33.8				
Change Period (Y+Rc), s	6.7	* 6.7		8.0	6.0	6.7		8.0				
Max Green Setting (Gmax), s	0.0 * 1.1E2			45.0	8.0	106.3		45.0				
Max Q Clear Time (g_c+l1), s	94.1			22.1	5.2	22.0		14.1				
Green Ext Time (p_c), s	0.0	10.3		3.7	0.0	16.3		4.2				

#### Intersection Summary

HCM 2010 Ctrl Delay                    39.7  
HCM 2010 LOS                            D

#### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	71	18	65	25	6	27	28	1922	12	22	1080	21
Future Volume (veh/h)	71	18	65	25	6	27	28	1922	12	22	1080	21
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1568	1361	1881	1798	1680	1834	1177	1782	1733	1762	1762	1292
Adj Flow Rate, veh/h	73	19	0	26	6	0	29	1981	0	23	1113	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	20	18	18	2	33	33	59	5	8	10	10	50
Cap, veh/h	127	104	0	125	129	0	283	2671	1162	173	2648	869
Arrive On Green	0.08	0.08	0.00	0.08	0.08	0.00	0.02	0.79	0.00	0.02	0.79	0.00
Sat Flow, veh/h	1182	1361	0	1339	1680	0	1121	3387	1473	1678	3347	1098
Grp Volume(v), veh/h	73	19	0	26	6	0	29	1981	0	23	1113	0
Grp Sat Flow(s), veh/h/ln	1182	1361	0	1339	1680	0	1121	1693	1473	1678	1674	1098
Q Serve(g_s), s	11.0	2.4	0.0	3.3	0.6	0.0	0.9	53.6	0.0	0.5	18.7	0.0
Cycle Q Clear(g_c), s	11.6	2.4	0.0	5.7	0.6	0.0	0.9	53.6	0.0	0.5	18.7	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	104	0	125	129	0	283	2671	1162	173	2648	869
V/C Ratio(X)	0.58	0.18	0.00	0.21	0.05	0.00	0.10	0.74	0.00	0.13	0.42	0.00
Avail Cap(c_a), veh/h	183	169	0	189	209	0	290	2671	1162	190	2648	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	82.4	77.8	0.0	80.5	77.0	0.0	4.4	9.7	0.0	12.3	5.9	0.0
Incr Delay (d2), s/veh	4.1	0.8	0.0	0.8	0.1	0.0	0.2	1.9	0.0	0.3	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.7	0.9	0.0	1.3	0.3	0.0	0.3	25.5	0.0	0.4	8.7	0.0
LnGrp Delay(d), s/veh	86.5	78.7	0.0	81.3	77.2	0.0	4.5	11.6	0.0	12.7	6.4	0.0
LnGrp LOS	F	E		F	E		A	B		B	A	
Approach Vol, veh/h		92			32			2010			1136	
Approach Delay, s/veh		84.9			80.5			11.5			6.5	
Approach LOS		F			F			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	149.6		20.6	10.2	149.2		20.6				
Change Period (Y+Rc), s	6.0	7.2		* 6.8	* 6.8	7.2		* 6.8				
Max Green Setting (Gmax), s	5.0	132.6		* 22	* 5.2	131.6		* 22				
Max Q Clear Time (g_c+l1), s	29	20.7		13.6	2.5	55.6		7.7				
Green Ext Time (p_c), s	0.0	103.6		0.2	0.0	72.1		0.3				

#### Intersection Summary

HCM 2010 Ctrl Delay                    12.5  
HCM 2010 LOS                            B

#### Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

## Intersection

Int Delay, s/veh 4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↖	↑	↘	
Traffic Vol, veh/h	48	0	43	83	0	97
Future Vol, veh/h	48	0	43	83	0	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	0	33	2	0	32
Mvmt Flow	59	0	52	101	0	118

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	59	0	265
Stage 1	-	-	-	-	59
Stage 2	-	-	-	-	206
Critical Hdwy	-	-	4.43	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.497	-	3.5
Pot Cap-1 Maneuver	-	0	1368	-	728
Stage 1	-	0	-	-	969
Stage 2	-	0	-	-	833
Platoon blocked, %	-		-		-
Mov Cap-1 Maneuver	-	-	1368	-	700
Mov Cap-2 Maneuver	-	-	-	-	700
Stage 1	-	-	-	-	969
Stage 2	-	-	-	-	801

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	928	-	1368	-
HCM Lane V/C Ratio	0.127	-	0.038	-
HCM Control Delay (s)	9.4	-	7.7	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.4	-	0.1	-