DEVELOPMENT OF REGIONAL IMPACT (DRI)
(DRI #2651)
TRAFFIC STUDY
FOR
LIBERTY INDUSTRIAL PARK OF BUFORD

GWINNETT COUNTY, GEORGIA

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EXECUTIVE SUMMARY

Traffic impacts were evaluated for the added traffic from the proposed Liberty Industrial Park development located on Peachtree Industrial Boulevard between Little Mill Road and SR 20 (Nelson Brogdon Boulevard) in Buford, Georgia. The development will consist of 929,000 sf of High-Cube Warehouse/Distribution Center space.

The development proposes three full access driveways on Peachtree Industrial Boulevard at the existing median breaks. Existing and future operations after completion of the project were analyzed at the intersections of:

- Peachtree Industrial Boulevard at Little Mill Road
- Peachtree Industrial Boulevard at SR 20 (Nelson Brogdon Boulevard)

The analysis included the evaluation of Future operations for "No-Build" and "Build" conditions, both of which account for increases in annual growth of through traffic. The results of the analysis are listed below:

System Recommendations and Improvements

Improvements that are identified as "System Improvements" address deficiencies that are found within the existing road network prior to any impacts from the proposed development's added traffic. Because both study intersections will operate at acceptable level-of-service ("D" or better by local standards) in the future year before construction of the proposed development, no system improvements have been identified.

Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections.

- Site Driveway #1 (full-access driveway at the northern median break)
    - This driveway is proposed to consist of one entering lane and one exiting lane. The eastbound (driveway) approach is proposed to have a shared left / right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.
- Site Driveway #2 (full-access driveway at the middle median break)
    - This driveway is proposed to consist of one entering lane and two exiting lanes. The eastbound (driveway) approach is proposed to have both a left and a right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.

    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.
- Site Driveway #3 (full-access driveway at the southern median break)
    - This driveway is proposed to consist of one entering lane and one exiting lane. The eastbound (driveway) approach is proposed to have a shared left / right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.

Site Mitigation Improvements

Improvements that are identified as “Site Mitigation Improvements” address further impacts that are a result of the proposed development’s added traffic. Because operations would not be impacted beyond the projected “No-Build” conditions, mitigation improvements have not been identified outside of the recommended configurations for the site access points.

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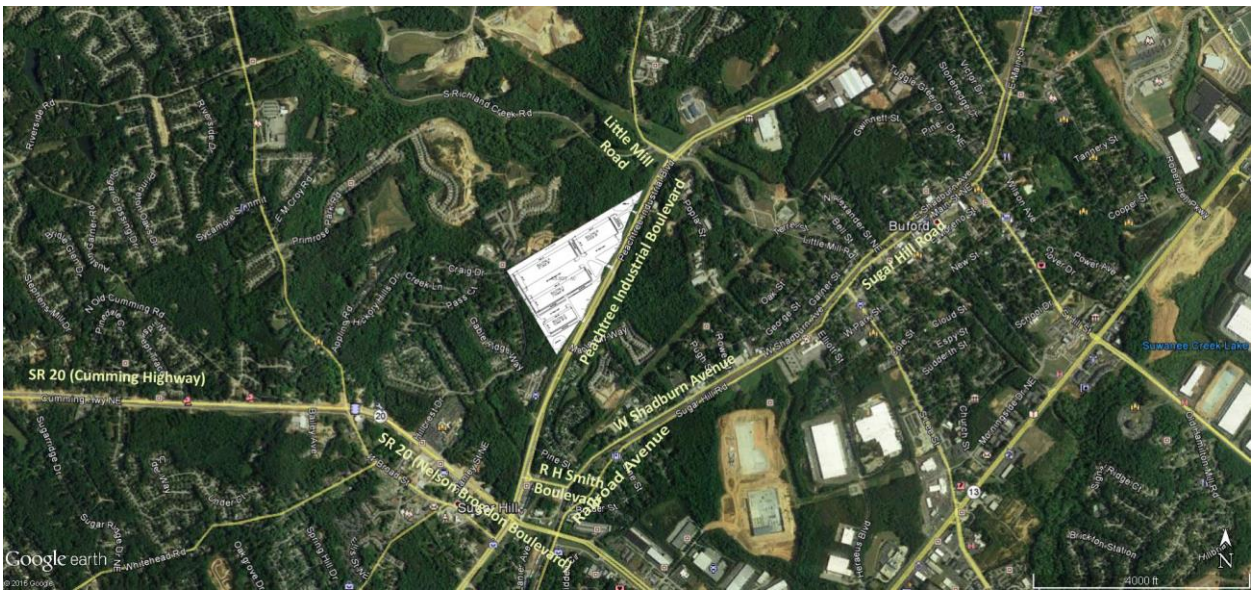
INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed Liberty Industrial Park development located on Peachtree Industrial Boulevard between Little Mill Road and SR 20 (Nelson Brogdon Boulevard) in Buford, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The proposed development will consist of 929,000 sf of High-Cube Warehouse/Distribution Center space.



The development proposes three full access driveways on Peachtree Industrial Boulevard at the existing median breaks.

The AM and PM peak hours have been analyzed in this study. In addition to the site access points, this study includes the evaluation of traffic operations at the intersections of:

- Peachtree Industrial Boulevard at Little Mill Road
- Peachtree Industrial Boulevard at SR 20 (Nelson Brogdon Boulevard)

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report.

STUDY NETWORK DETERMINATION

The study network was determined by evaluating the amount of traffic that the proposed development will add to each roadway segment in the area. According to GRTA requirements, a roadway segment carries a "significant" amount of traffic if the project contributes 7% or more trips to the two-way daily service volumes of the roadway at the appropriate level of service standard. Upon agreement with GRTA, a level of service standard of "D" was used for determining the study area network.

The traffic generated by the proposed project was then assigned to the area roadways using the trip distribution to determine the site-generated traffic on each roadway segment. The boundaries of the study network extend to the most distant intersections where at least 7% of the service volumes on the segment are attributed to project traffic. As no intersections fell within the 7% rule, the following intersections have been selected as being suitable for evaluation in discussions with the Georgia Regional Transportation Authority (GRTA), the Atlanta Regional Commission (ARC), and the City of Sugar Hill:

- Peachtree Industrial Boulevard at Little Mill Road
- Peachtree Industrial Boulevard at SR 20 (Nelson Brogdon Boulevard)

The location of the development and the surrounding study network is shown in Figure 1. Other intersections within this corridor, such as unsignalized side streets, right-in / right-out driveways or private driveways have not been included in the study network.

Existing Roadway Facilities

The following is a brief description of each of the roadway facilities located in proximity to the site:

Peachtree Industrial Boulevard

Peachtree Industrial Boulevard is a north-south, four-lane, median-divided roadway with a posted speed limit of 50 mph in the vicinity of the site. In the vicinity of SR 20 (Nelson Brogdon Boulevard), the speed limit is 45 mph. GDOT traffic counts (Station ID's 1350549, 1350547 & 1350543) indicate that the 2015 daily traffic volume on Peachtree Industrial Boulevard is 11,100 vehicles per day north of Little Mill Road, 13,800 vehicles south of Poplar Street (near Little Mill Road) and 18,900 vehicles per day north of West Price Road (south of SR 20 (Nelson Brogdon Boulevard). GDOT classifies Peachtree Industrial Boulevard as an Urban Minor Arterial roadway.

SR 20 (Nelson Brogdon Boulevard)

SR 20 (Nelson Brogdon Boulevard) is an east-west, four-lane, median-divided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 1350109 & 1350112) indicate that the 2015 daily traffic volume on SR 20 (Nelson Brogdon Boulevard) is 23,100 vehicles per day, west of N. Old Cumming Road / Bailey Avenue, and 41,700 vehicles per day east of Broadmoor Boulevard. GDOT classifies SR 20 (Nelson Brogdon Boulevard) as an Urban Principal Arterial roadway.

Currently, GDOT is constructing a 3.91 mile project in the vicinity of the study area; SR 20 widening from Burnette Trail to Peachtree Industrial Boulevard (GDOT reference: PI:0004430). The project consists of widening SR 20 from a two-lane rural section to a four-lane urban section from approximately 1,000 feet west of Mountain Ridge Road to Peachtree Industrial Boulevard in Gwinnett County. The typical section will include "four-through lanes, a 44-foot grassed median, 16-foot shoulders, curb & gutter on the outside pavement edges, and five-foot concrete sidewalks on both sides of the roadway. Design will accommodate for the future widening of two additional lanes." The project also includes geometric improvements to the SR 20 (Nelson Brogdon Boulevard)/Peachtree Industrial Boulevard intersections which have been included in the operations analyses of the intersection in this report. The anticipated completion date of the project is June 2017.

An additional project is programmed for construction on SR 20 (Buford Drive) to the east of Peachtree Industrial Boulevard. Project GW-400 identified in the Atlanta Region's Plan RTP (2016) will consist of widening SR 20 (Buford Drive) from South Lee Street to SR 13 (Buford Highway). The project will add two lanes; widening the road from 4 travel lanes to 6 travel lanes. It is anticipated that this project will have little or no detrimental impact upon the proposed Liberty Industrial Park of Buford development other than some traffic delays during construction.

Little Mill Road

Little Mill Road is an east-west, two-lane, undivided roadway with a posted speed limit of 30 mph in the vicinity of the site. Little Mill Road GDOT traffic counts (Station ID's 1350465 & 1350463) indicate that the 2015 daily traffic volume on Little Mill Road is 6,070 vehicles per day west of Peachtree Industrial Boulevard and 2,780 vehicles per day east of Peachtree Industrial Boulevard. GDOT classifies Little Mill Road as an Urban Major Collector roadway.

Existing Bicycle and Pedestrian Facilities

The following is a brief description of each of the bicycle and pedestrian facilities located in proximity to the site:

Nearby local or regional trails

There are no local or regional trails near the proposed site including the Atlanta Regional PATH Trails or Gwinnett County trails. The Gwinnett County *Open Space & Greenway Master Plan Update – Final Report*, April 2014, does not indicate future greenway space in close vicinity to the site that could provide opportunities for trails.

Bicycle paths or sidewalks

Sidewalks and pedestrian facilities are present along the following roadways in the study network:

- Peachtree Industrial Boulevard: east side only south of Alton Tucker Boulevard (south of SR 20)
- Peachtree Industrial Boulevard: both sides between Alton Tucker Boulevard and Pine Street (south and north of SR 20)
- Peachtree Industrial Boulevard: west side only between Pine Street and Gold Creek Trail (north of SR 20)
- Peachtree Industrial Boulevard: near the corners of Maplecliff Way

- SR 20 (Nelson Brogdon Boulevard): current sidewalk on the south side only (west of Peachtree Industrial Boulevard); after construction of the roadway improvements noted above, sidewalks will be provided on both sides of SR 20 to the west
- SR 20 (Nelson Brogdon Boulevard): south side only to the east of Peachtree Industrial Boulevard with the exception of sidewalks on both sides of the bridge over the Norfolk Southern railroad and Railroad Avenue
- Little Mill Road: north side only to the east of Peachtree Industrial Boulevard
- Little Mill Road: no sidewalks to the west of Peachtree Industrial Boulevard

Bike paths are not present in the study area.

Existing Transit Facilities

There is no public transit service near the site. The closest GRTA transit routes include Routes 411, 413 and 414 which are Xpress (commuter) service essentially between the Mall of Georgia and Midtown. The proposed site is approximately 4.8 miles from this service. Gwinnett County Transit (GCT) provides local transit service within the county; although the closest local bus service to the site is approximately 12.0 miles away, located near the Sugarloaf Mills Mall (Routes 10A/10B). Gwinnett County Transit's Express Route service (Route 101) provides service between the GCT park-and-ride located at I-985 at SR 20 and downtown Atlanta. This service is approximately 3.1 miles from the proposed site.

LOCATION MAP AND STUDY INTERSECTIONS

FIGURE 1

STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 2000 edition (HCM 2000). Synchro software, which utilizes the HCM 2000 methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

For unsignalized intersections at which the side street or minor street is controlled by a stop sign, the criteria for evaluating traffic operations are the level-of-service (LOS) for the turning movements at the intersection and the level-of-service for the overall intersection. Level-of-service is based on the average controlled delay incurred at the intersection. Controlled delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from "A" through "F". Level-of-service "A" indicates excellent operations with little delay to motorists, while level-of-service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross safely, resulting in extremely long total delays and long queues. The level-of-service criteria for two-way stop-controlled and all-way stop-controlled (unsignalized) intersections are given in Table 1.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level-of-service	Average Delay (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: 2000 Highway Capacity Manual

Signalized Intersections

For signalized intersections, it is necessary to evaluate both capacity and level-of-service in order to evaluate the overall operation of the intersection. The capacity analysis of an intersection is performed by comparing the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This results in a volume/capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available, resulting in a temporary excess of demand. Although the capacity of the entire intersection is not defined, a composite v/c ratio for the sum of the critical lane groups within the intersection is computed. This composite v/c ratio is an indication of the overall intersection sufficiency.

Level-of-service for a signalized intersection is defined in terms of average controlled delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The level-of-service criteria for signalized intersections, based on average controlled delay, are shown in Table 2. Level-of-service "A" indicates operations with very low controlled delay, while level-of-service "F" describes operations with extremely high average controlled delay. Level-of-service "E" is typically considered to be the limit of acceptable delay, and level-of-service "F" is considered unacceptable by most drivers.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level-of-service	Average Control Delay (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: 2000 Highway Capacity Manual

EXISTING TRAFFIC ANALYSIS

Existing traffic counts and intersection geometric data were obtained at the following locations

- Peachtree Industrial Boulevard at the proposed southern driveway median break
- Peachtree Industrial Boulevard at the proposed northern driveway median break
- Peachtree Industrial Boulevard / Little Mill Road intersection
- Peachtree Industrial Boulevard / SR 20 (Nelson Brogdon Boulevard) intersection

Traffic counts and geometry were not recorded at the proposed middle driveway median break because the traffic volumes could be gleaned from the southern and northern median break traffic volumes.

Turning movement counts were collected on Wednesday, November 30, 2016. All turning movement counts were recorded during the AM and PM peak hours between 7:00am to 9:00am and 4:00pm to 6:00pm, respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2.

Existing Traffic Operations

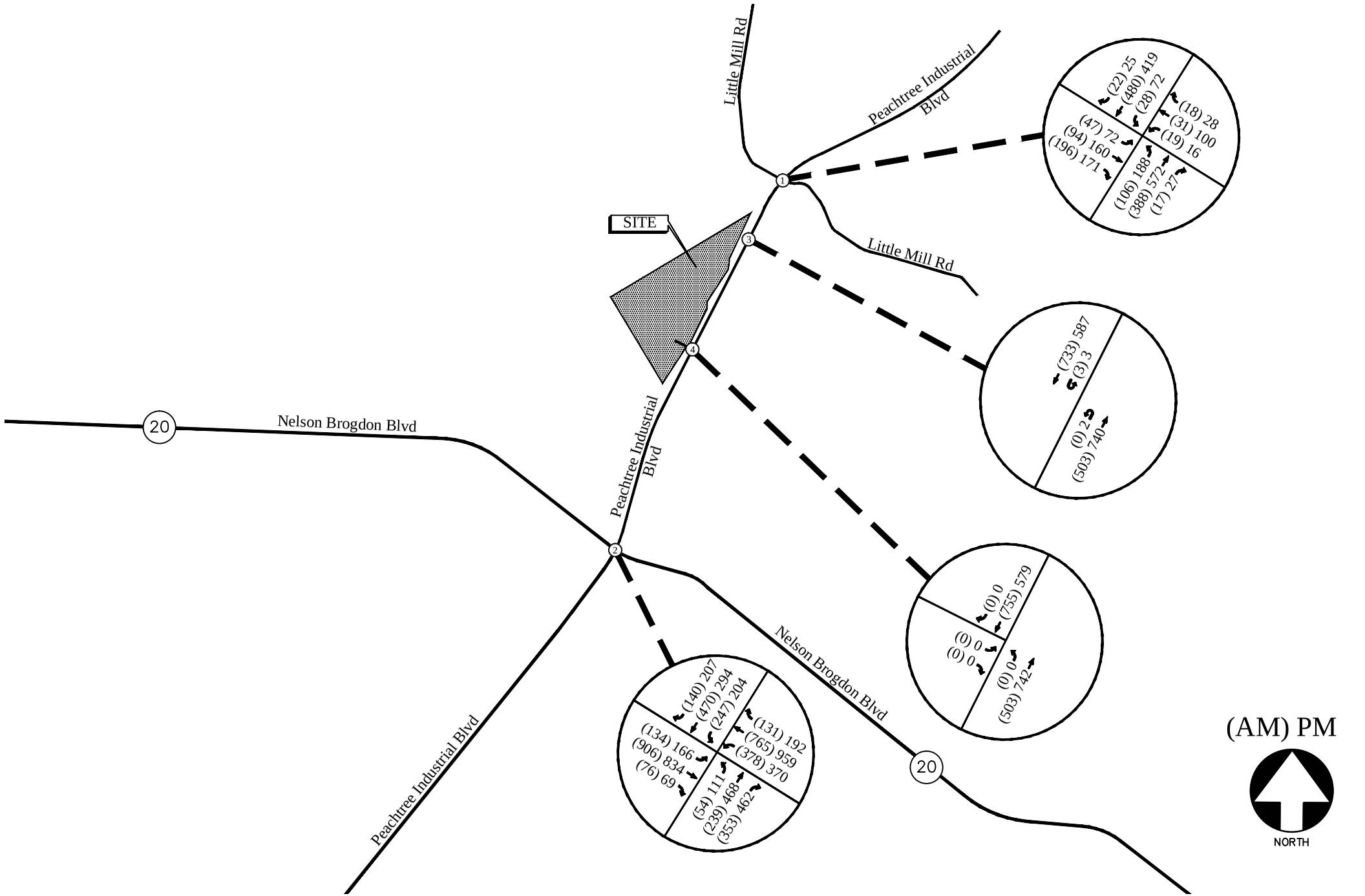
Existing traffic operations were analyzed at the study intersections in accordance with the HCM methodology. A queue length analysis was also performed. The results of the analyses are shown in Tables 3 and 4. The existing traffic control and lane geometry for the intersections are shown in Figure 3.

TABLE 3 – EXISTING INTERSECTION OPERATIONS

	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
1	**Peachtree Industrial Blvd @ Little Mill Rd**	Signalized	**C (22.0)**	**0.29**	**C (25.8)**	**0.42**
	-Eastbound Approach		D (47.9)		D (42.2)	
	-Westbound Approach		D (48.9)		D (47.3)	
	-Northbound Approach		B (10.6)		B (18.1)	
	-Southbound Approach		B (12.5)		B (16.7)	
2	**Peachtree Industrial Blvd @ SR 20 (Nelson Brogdon Blvd)**	Signalized	**D (54.4)**	**0.79**	**D (54.4)**	**0.82**
	-Eastbound Approach		E (63.4)		D (52.6)	
	-Westbound Approach		D (54.2)		E (59.7)	
	-Northbound Approach		D (50.4)		D (51.3)	
	-Southbound Approach		D (46.2)		D (50.0)	

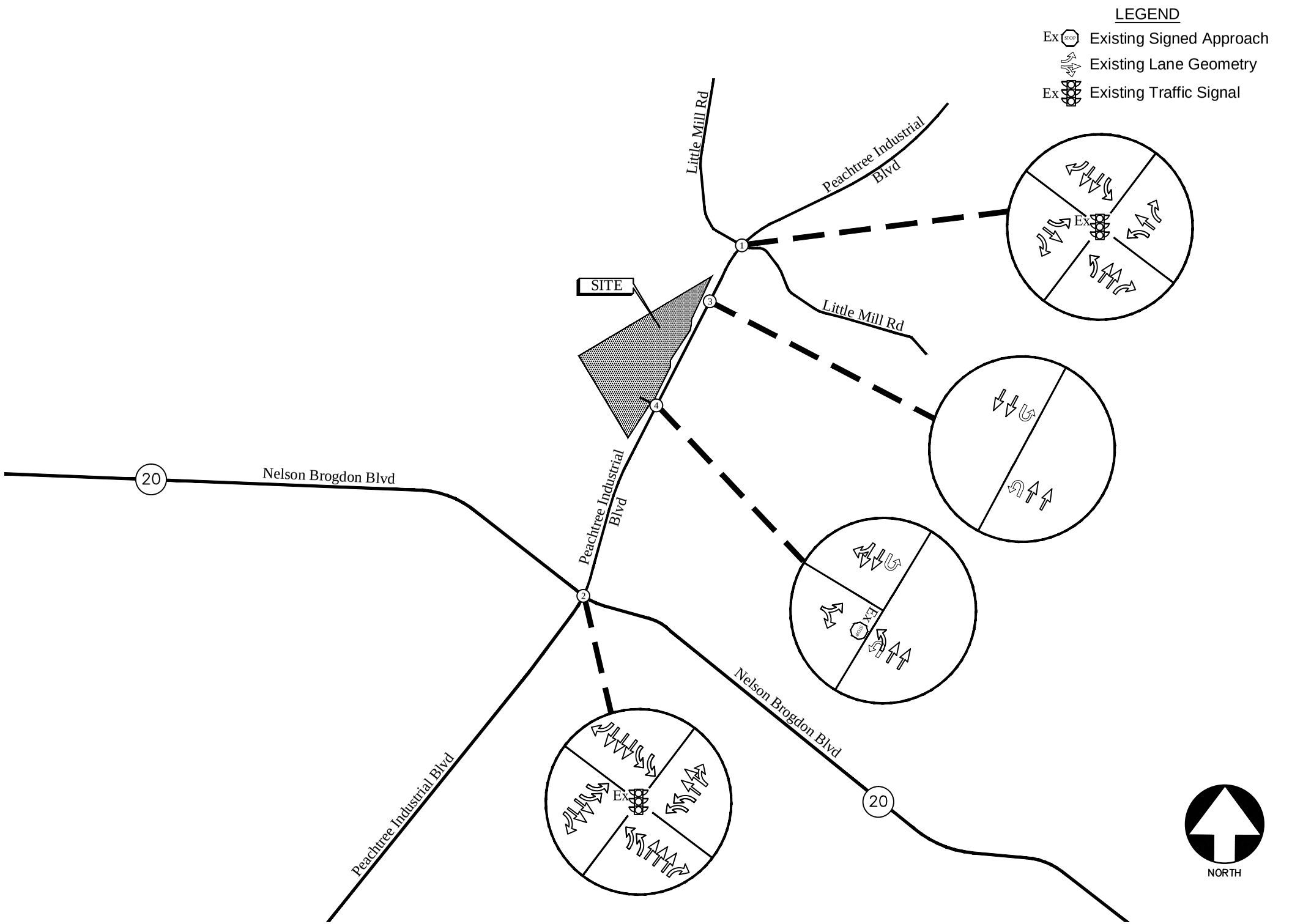
TABLE 4 – EXISTING INTERSECTION 95TH PERCENTILE QUEUES				
	Intersection	Available Storage	AM Peak: feet	PM Peak: feet
1	**Peachtree Industrial Blvd @ Little Mill Rd**			
	-Eastbound Left	150’	64	81
	-Eastbound Through	-	131	192
	-Eastbound Right	275’	69	38
	-Westbound Left	300’	31	25
	-Westbound Through	-	55	128
	-Westbound Right	310’	0	0
	-Northbound Left	540’	53	108
	-Northbound Through	-	121	234
	-Northbound Right	230’	0	0
	-Southbound Left	225’	16	40
	-Southbound Through	-	153	157
	-Southbound Right	310’	0	0
2	**Peachtree Industrial Blvd @ SR 20 (Nelson Brogdon Blvd)**			
	-Eastbound Left	300’	112	144
	-Eastbound Through	-	610	476
	-Eastbound Right	355’	0	0
	-Westbound Left	290’	266	246
	-Westbound Through / Right	-	510	714
	-Northbound Left	360’	55	95
	-Northbound Through	-	95	185
	-Northbound Right	320’	213	325
	-Southbound Left	310’	186	159
	-Southbound Through	-	166	110
	-Southbound Right	600’	51	87

The results of existing traffic operations analysis indicates that both the study intersections are operating at an acceptable level-of-service (“D” or better by local standards) in both the AM and PM peak hours.



EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3

PROJECT DESCRIPTION

The proposed Liberty Industrial Park site will be located on Peachtree Industrial Boulevard between Little Mill Road and SR 20 (Nelson Brogdon Boulevard) in Buford, Georgia. The development will consist of 929,000 sf of High-Cube Warehouse/Distribution Center space.

The development proposes three full access driveways on Peachtree Industrial Boulevard at the existing median breaks.

Site Plan

A site plan is shown in Figure 4. A larger size drawing and a digital copy of the site plan are also provided with this report.

Planned Bicycle and Pedestrian Facilities

The on and/or off-site provisions for non-motorized travel included in the planned construction of the proposed development are as follows:

The proposed development is not proposing any internal or external bicycle or pedestrian facilities. Sidewalks are proposed at parking lot locations for use by employees and visitors accessing the land uses.

Planned Transit Facilities

There is no public transit service near the site. Since the proposed site is not served by transit, no transit facilities are planned for the development. The nearest transit service and facilities are described earlier. However, because of the long distance to these facilities, it is unlikely that employees and visitors will use them.

Consistency with Adopted Comprehensive Plan

The following is an explanation as to how the proposed DRI relates to the local government's Comprehensive Plan in particular the transportation and capital improvements element, and any transportation improvements listed in the Short-Term Work Program(s) within the vicinity of the DRI.

The *City of Buford Comprehensive Plan – 2034 Update* identifies the proposed site as zoned Commercial or General Business, corresponding to Zoning District C-2. Because the proposed land use is industrial in nature, a rezoning of the property to Zoning District M-1 (Light Industrial) is being requested.

Project Phasing

A phasing schedule shall be provided for any proposed DRIs involving multiple phases. The phasing schedule shall include the types and amounts of land uses to be developed and should be identified by phase, the site location of each land use by phase, the amenities to be developed with each phase, and all transportation elements. The transportation elements shall focus upon infrastructure in place, access

to the development, and internal mobility during each phase analyzed. This project has been evaluated for the complete build-out of the development in 2018.

Trip Generation

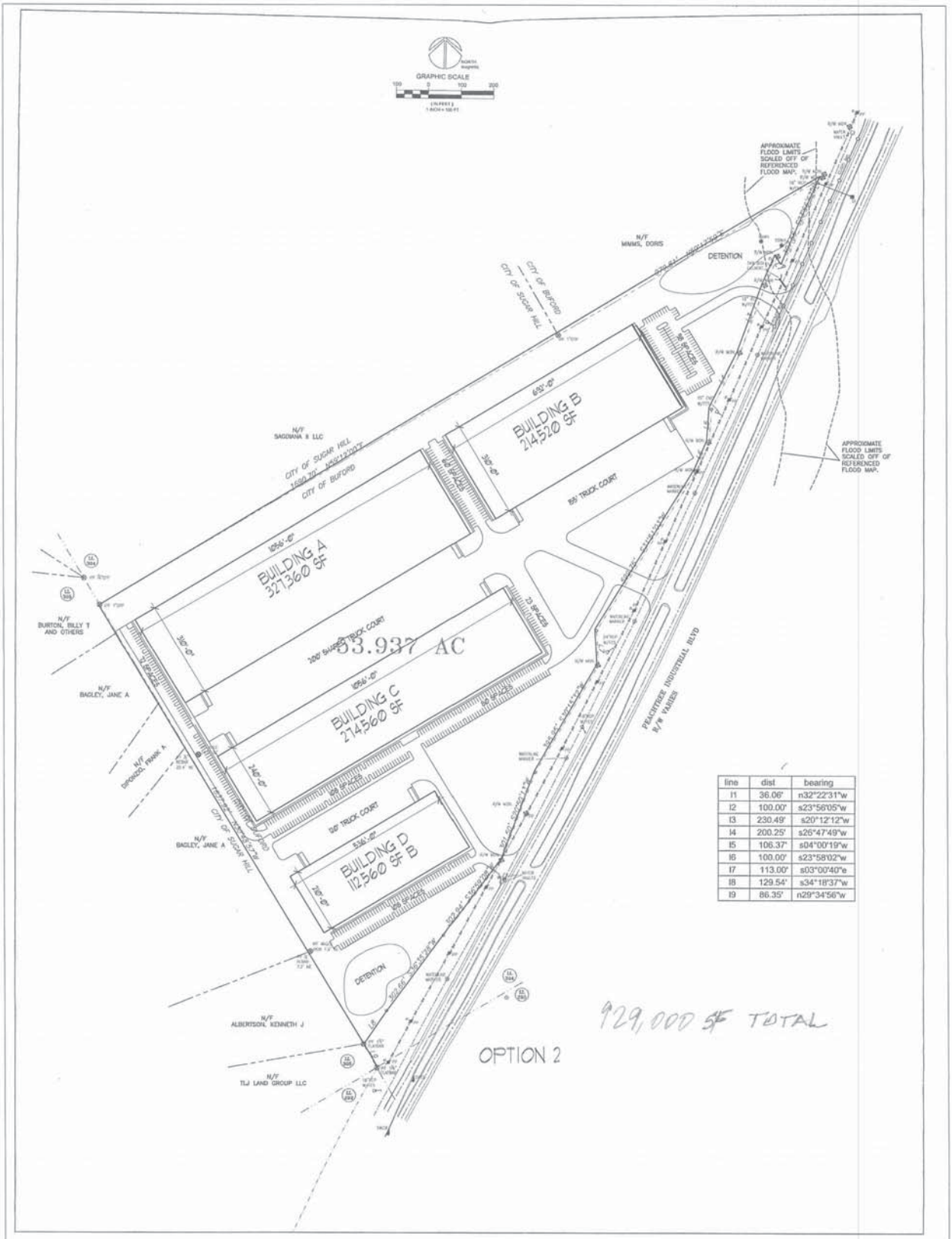
Trip generation estimates for the project were based on the rates and equations published in the 9th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Use: 152 – High-Cube Warehouse/Distribution Center. The calculated total trip generation for the proposed development is shown in Table 5. For the purpose of this study it was assumed that trucks would comprise 20% of the new site trips.

TABLE 5 – TRIP GENERATION

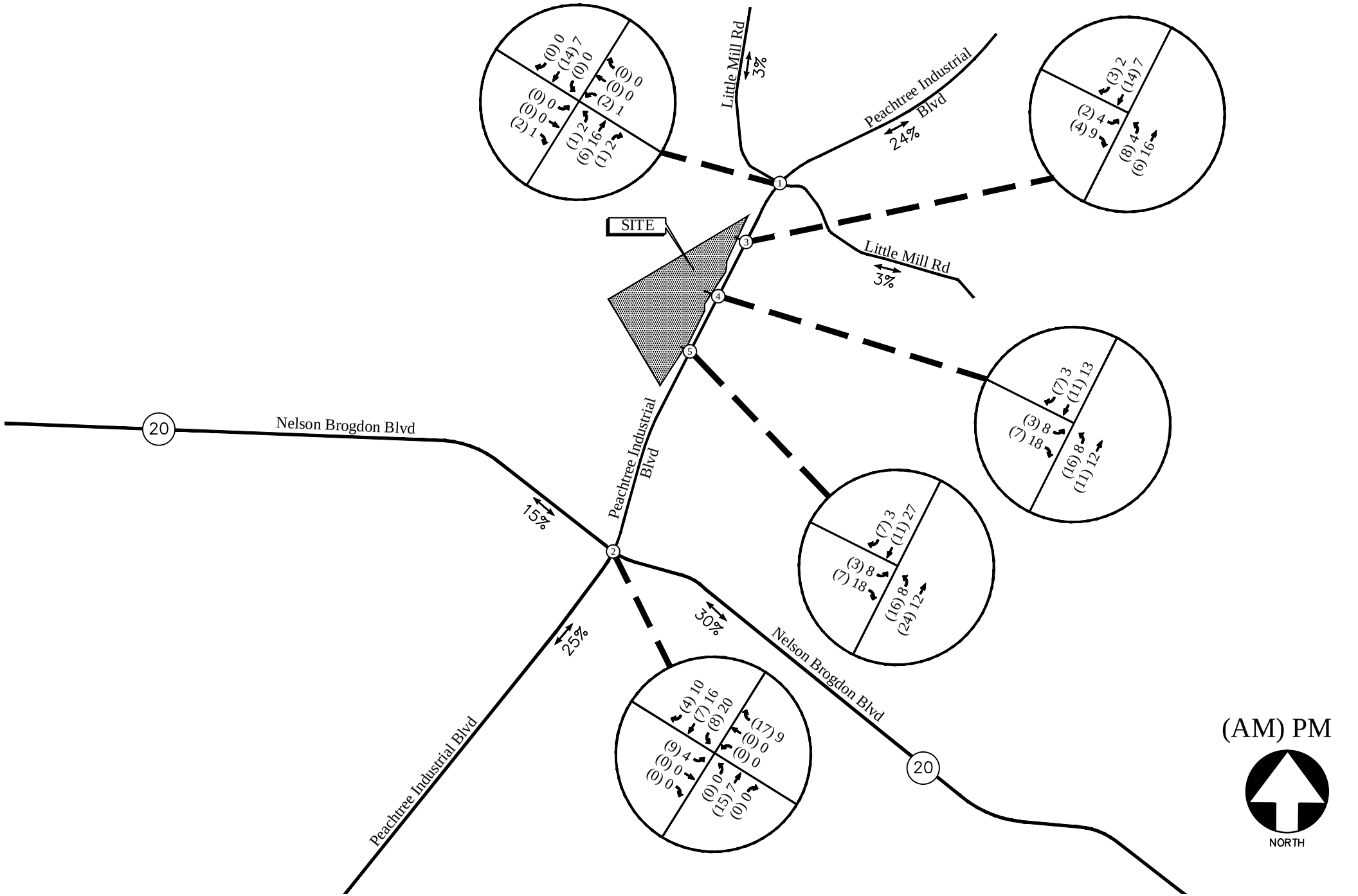
Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-way
ITE 152 – High-Cube Warehouse/ Distribution Center	929,000 sf	72	32	104	36	81	117	1,561

Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. Separate trip distributions were developed for car and truck traffic. The site-generated peak hour traffic volumes, shown in Table 5, were assigned to the study area intersections based on these distributions. The outer-leg distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 5 for cars and Figure 6 for trucks. The total new site trips are shown in Figure 7.

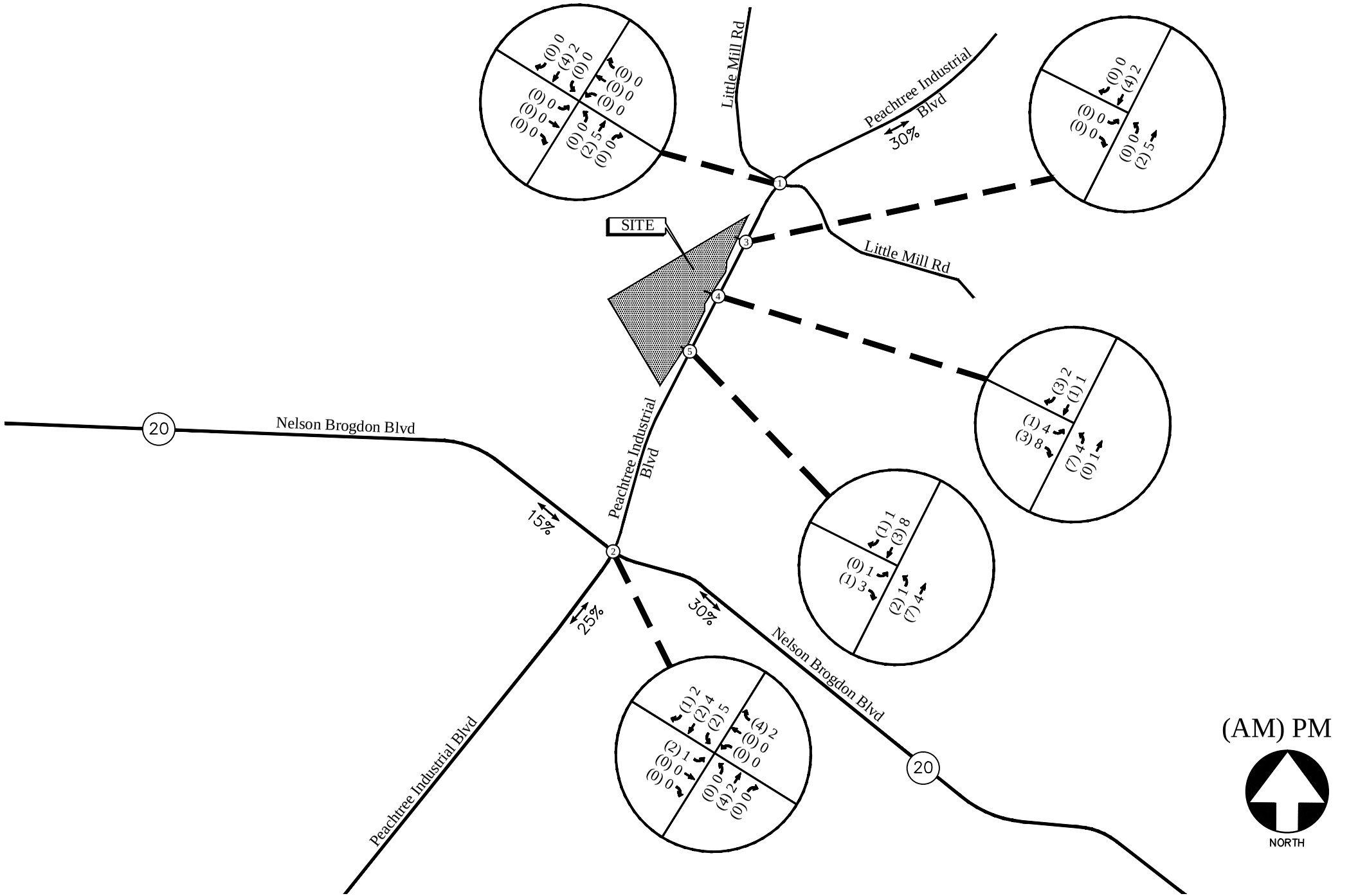


line	dist	bearing
l1	36.06'	n32°22'31"w
l2	100.00'	s23°56'05"w
l3	230.49'	s20°12'12"w
l4	200.25'	s26°47'49"w
l5	106.37'	s04°00'19"w
l6	100.00'	s23°58'02"w
l7	113.00'	s03°00'40"e
l8	129.54'	s34°18'37"w
l9	86.35'	n29°34'56"w



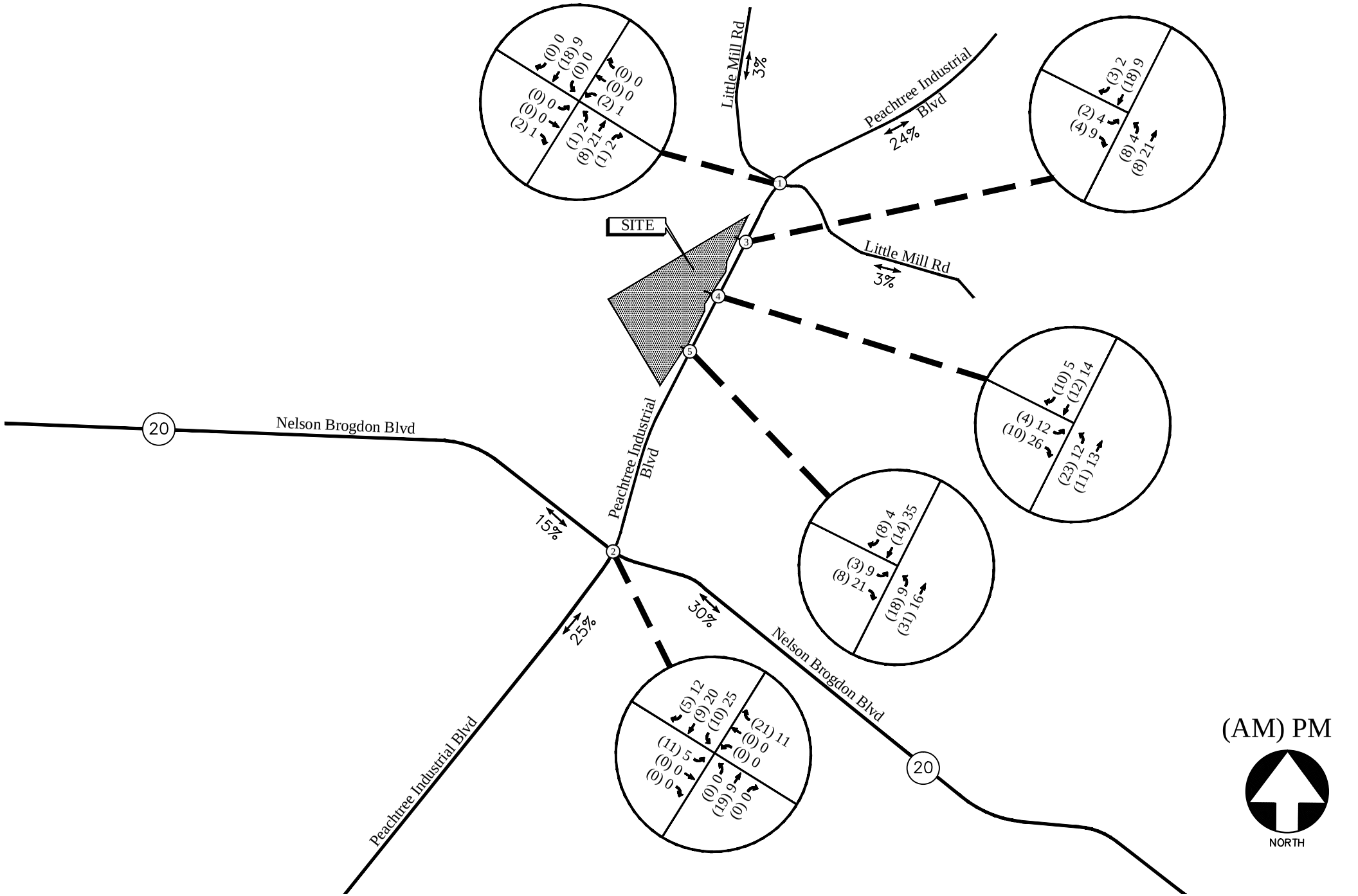
TRIP DISTRIBUTION AND SITE-GENERATED PEAK HOUR VOLUMES (CARS)

FIGURE 5



TRIP DISTRIBUTION AND SITE-GENERATED PEAK HOUR VOLUMES (TRUCKS)

FIGURE 6



TRIP DISTRIBUTION AND SITE-GENERATED PEAK HOUR VOLUMES

FIGURE 7

FUTURE TRAFFIC ANALYSIS

The future traffic operations are analyzed for the "Build" and "No-Build" conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

Improvements that are identified as "System Improvements" address deficiencies that are found within the existing road network prior to any impacts from the proposed development's added traffic. Improvements that are identified as "Site Mitigation Improvements" address further impacts that are a result of the proposed development's added traffic.

Future "No-Build" Conditions

The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of through traffic.

Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last several years revealed growth of approximately 1.5% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways in order to estimate the future year (2018) traffic volumes prior to the addition of site-generated traffic. The resulting Future "No-Build" volumes on the roadway are shown in Figure 8.

Planned and Programmed Improvements in Study Area

The following improvements have been identified in the Regional Transportation Plan (Plan 2040), GDOT TransPi, and/or the local comprehensive transportation plan. These improvements are within the vicinity of the proposed development.

TABLE 6 – PLANNED AND PROGRAMMED IMPROVEMENTS				
ARC#/GDOT#/ County or Local#	Project	Type of Improvement	Scheduled Completion Year	Source
GDOT 0004430 (1)	Widening of SR 20	Widening	2016*	GDOT
M004052	Resurfacing of SR 20 from Peachtree Industrial Blvd. to I-85	Maintenance	Complete	GDOT
0006826	Installing ATMS/ITS on SR 20 from Peachtree Industrial Blvd. to I-985	Safety	Complete	GDOT
GW-400/TBD (2)	SR 20 (Buford Drive) Widening from South Lee Street to SR 13 (Buford Highway)	Widening	2020	GDOT

*Current projected completion date is June 2017 (see description below).

(1) GDOT is currently constructing a 3.91 mile project in the vicinity of the study area; SR 20 widening from Burnette Trail to Peachtree Industrial Boulevard (GDOT reference: PI:0004430). The project consists of widening SR 20 from a two-lane rural section to a four-lane urban section from approximately 1,000 feet west of Mountain Ridge Road to Peachtree Industrial Boulevard in Gwinnett County. The typical section will include "four-through lanes, a 44-foot grassed median, 16-foot shoulders, curb & gutter on the outside pavement edges, and five-foot concrete sidewalks on both sides of the roadway. Design will accommodate for the future widening of two additional lanes." The project also includes geometric improvements to the SR 20 (Nelson Brogdon Boulevard)/Peachtree Industrial Boulevard intersections which have been included in the operations analyses of the intersection in this report. The anticipated completion date of the project is June 2017. This project was included in the DRI intersection analyses.

(2) Project GW-400 identified in the Atlanta Region's Plan RTP (2016) will consist of widening SR 20 (Buford Drive) from South Lee Street to SR 13 (Buford Highway). A GDOT identification number has not yet been determined. The project will add two lanes, widening the road from 4 travel lanes to 6 travel lanes. It is anticipated that this project will have little or no detrimental impact upon the proposed development other than potential traffic delays during construction. Therefore, this project has no impact on the analysis of the study intersections.

Future "Build" Conditions

The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the added traffic from the proposed development. In order to evaluate future traffic operations in this area, the total additional traffic volumes from the site (Figure 7) were added to base traffic volumes (Figure 8) to calculate the future traffic volumes after the construction of the development. These total future traffic volumes are shown in Figure 9.

Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections:

- Site Driveway #1 (full-access driveway at the northern median break)
    - This driveway is proposed to consist of one entering lane and one exiting lane. The eastbound (driveway) approach is proposed to have a shared left / right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.
- Site Driveway #2 (full-access driveway at the middle median break)
    - This driveway is proposed to consist of one entering lane and two exiting lanes. The eastbound (driveway) approach is proposed to have both a left and a right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.
- Site Driveway #3 (full-access driveway at the southern median break)
    - This driveway is proposed to consist of one entering lane and one exiting lane. The eastbound (driveway) approach is proposed to have a shared left / right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
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    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.

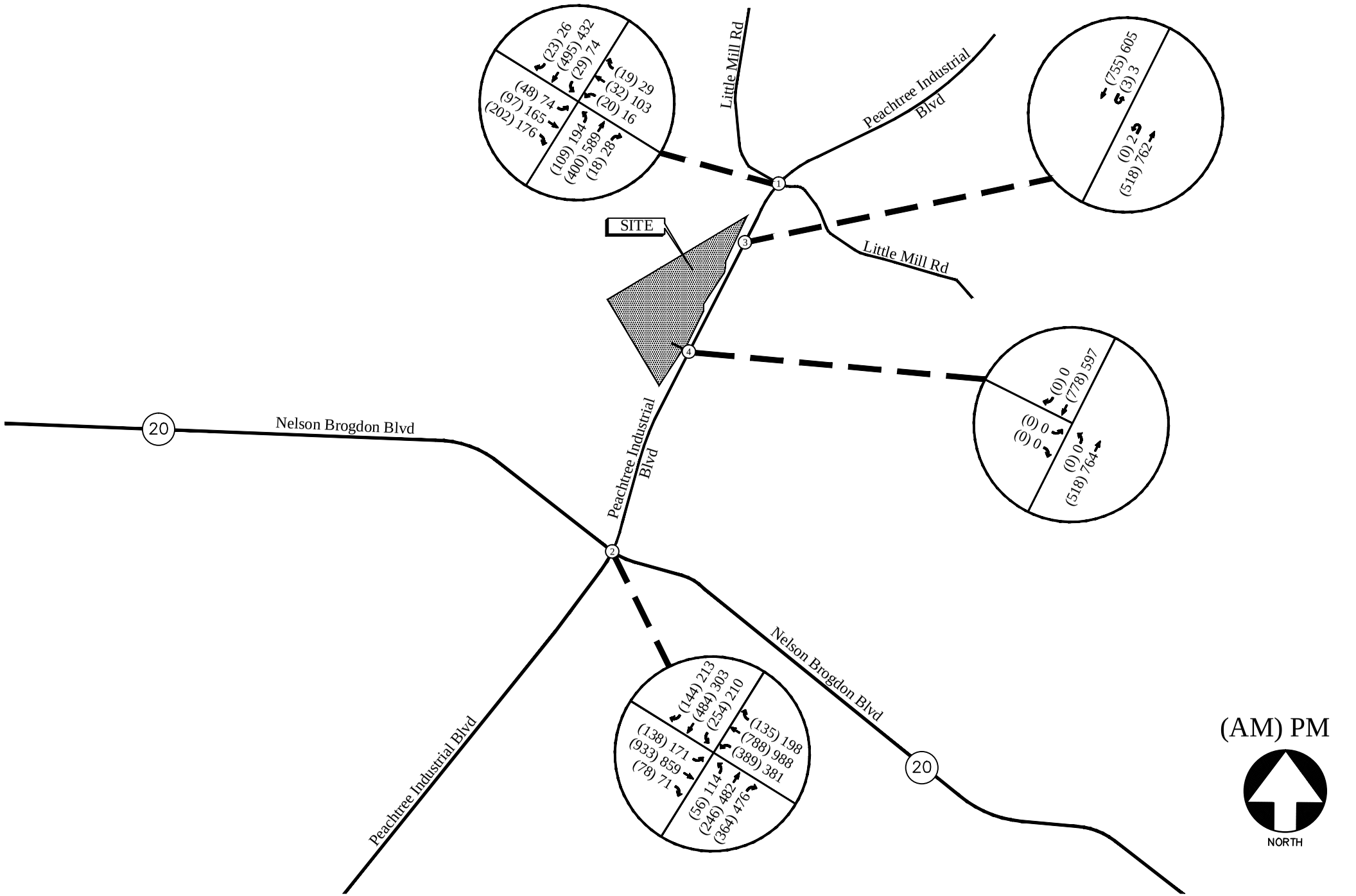
Future Traffic Operations

The future "No-Build" traffic operations were analyzed using the volumes in Figure 8 and the future traffic volumes in Figure 9 were used to evaluate the "Build" condition, which includes the projected site traffic. The results of the "No-Build" and "Build" operations analyses with the assumed site access configuration are shown in Tables 7 and 8. Recommendations on traffic control and lane geometry are shown graphically in Figure 10.

TABLE 7 – FUTURE INTERSECTION OPERATIONS

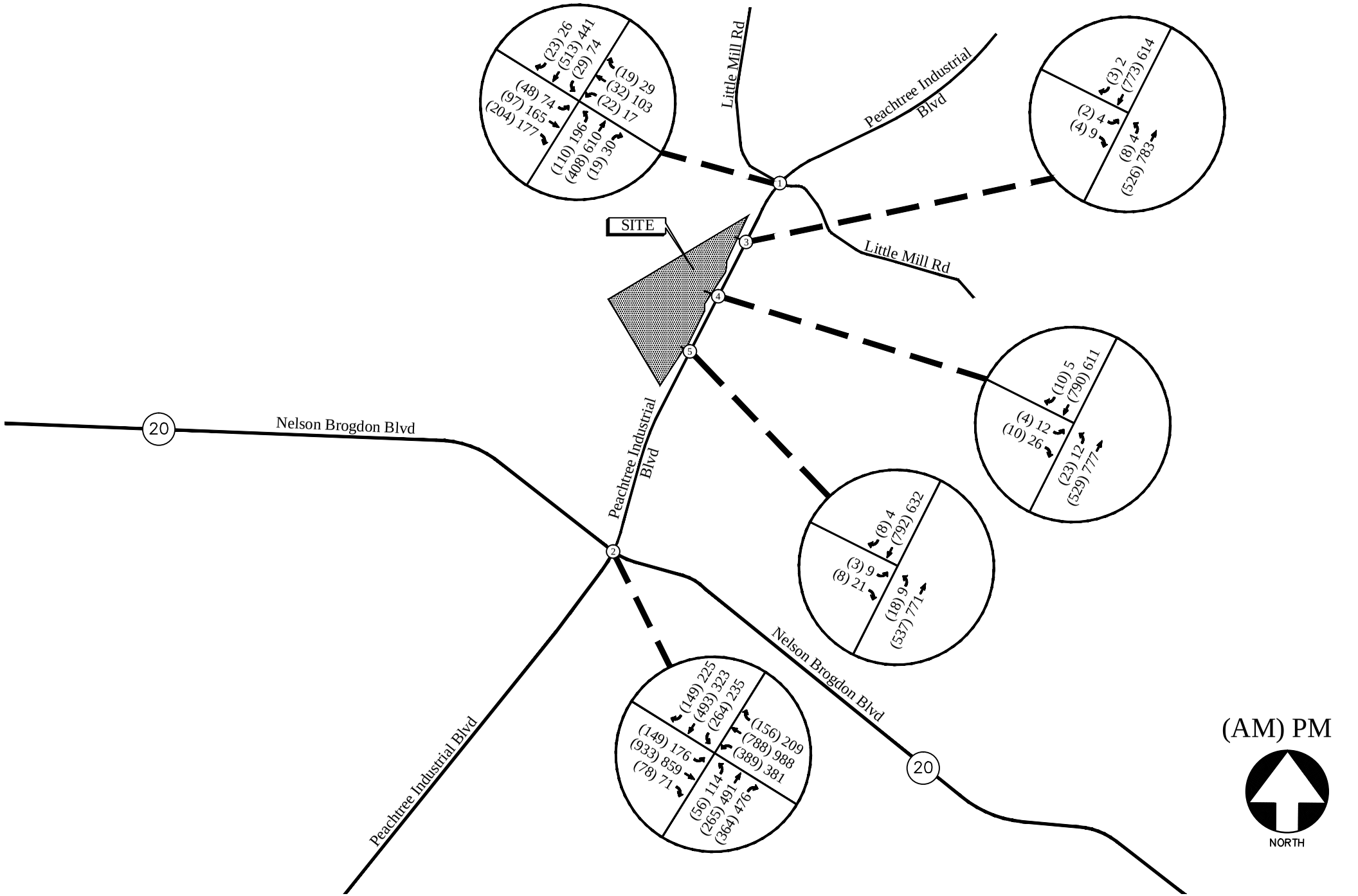
Intersection		Future Conditions: LOS (Delay)			
		NO-BUILD		BUILD	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**Peachtree Industrial Blvd @ Little Mill Rd**	**C (22.1)**	**C (25.8)**	**C (22.1)**	**C (25.9)**
	-Eastbound Approach	D (47.8)	D (42.5)	D (47.8)	D (42.5)
	-Westbound Approach	D (48.8)	D (45.8)	D (48.7)	D (45.7)
	-Northbound Approach	B (10.8)	B (18.1)	B (10.8)	B (18.4)
	-Southbound Approach	B (12.7)	B (17.0)	B (12.8)	B (17.1)
2	**Peachtree Industrial Blvd @ SR 20 (Nelson Brogdon Blvd)**	**D (54.8)**	**D (54.6)**	**D (54.9)**	**D (54.9)**
	-Eastbound Approach	E (63.0)	D (51.7)	E (65.2)	D (49.0)
	-Westbound Approach	D (53.3)	E (59.8)	D (51.8)	E (60.4)
	-Northbound Approach	D (53.1)	D (51.5)	D (51.8)	D (54.0)
	-Southbound Approach	D (47.6)	D (51.8)	D (48.7)	D (52.7)
3	**Peachtree Industrial Blvd @ Site Drwy 1 (North Median Break)**	-	-		
	-Eastbound Approach			B (13.2)	B (12.1)
	-Northbound Left			A (9.6)	A (8.9)
4	**Peachtree Industrial Blvd @ Site Drwy 2 (Middle Median Break)**	-	-		
	-Eastbound Approach			B (13.2)	B (12.4)
	-Northbound Left			A (9.9)	A (8.9)
5	**Peachtree Industrial Blvd @ Site Drwy 3 (South Median Break)**	-	-		
	-Eastbound Approach			B (13.1)	B (12.5)
	-Northbound Left			A (9.9)	A (9.0)

TABLE 8 – FUTURE INTERSECTION 95TH PERCENTILE QUEUES						
	Intersection	Available Storage	Future Conditions: queue length (feet)			
			NO-BUILD		BUILD	
			AM Peak	PM Peak	AM Peak	PM Peak
1	**Peachtree Industrial Blvd @ Little Mill Rd**					
	-Eastbound Left	150’	65	83	65	83
	-Eastbound Through	-	133	197	133	198
	-Eastbound Right	275’	69	39	69	39
	-Westbound Left	300’	32	25	34	26
	-Westbound Through	-	55	128	55	128
	-Westbound Right	310’	0	0	0	0
	-Northbound Left	540’	54	113	54	113
	-Northbound Through	-	126	242	128	251
	-Northbound Right	230’	0	0	0	0
	-Southbound Left	225’	16	42	16	42
	-Southbound Through	-	159	165	165	167
	-Southbound Right	310’	0	0	0	0
2	**Peachtree Industrial Blvd @ SR 20 (Nelson Brogdon Blvd)**					
	-Eastbound Left	300’	114	139	118	139
	-Eastbound Through	-	629	516	642	501
	-Eastbound Right	355’	0	0	0	0
	-Westbound Left	290’	271	247	262	247
	-Westbound Through / Right	-	525	749	545	787
	-Northbound Left	360’	56	96	56	96
	-Northbound Through	-	101	194	110	207
	-Northbound Right	320’	232	255	185	256
	-Southbound Left	310’	189	162	198	177
	-Southbound Through	-	178	116	184	128
	-Southbound Right	600’	54	88	54	72
3	**Peachtree Industrial Blvd @ Site Drwy 1 (North Median Break)**		-	-		
	-Eastbound Approach	-			1	2
	-Northbound Left	175’			0	0
4	**Peachtree Industrial Blvd @ Site Drwy 2 (Middle Median Break)**					
	-Eastbound Left	-	-	-	1	3
	-Eastbound Right	-			1	3
	-Northbound Left	220’			3	1
5	**Peachtree Industrial Blvd @ Site Drwy 3 (South Median Break)**		-	-		
	-Eastbound Approach	-			2	5
	-Northbound Left	170’			2	0



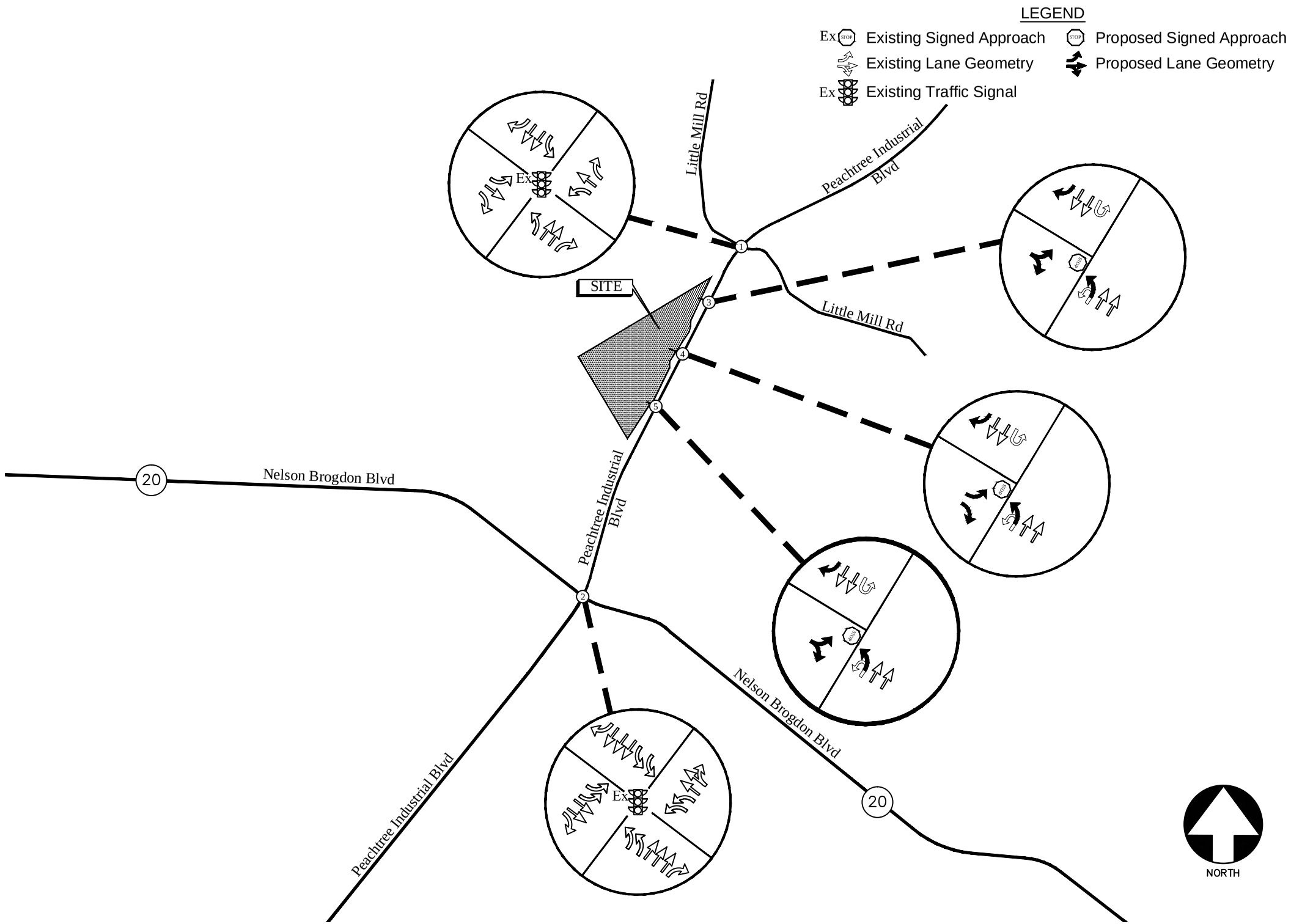
FUTURE (NO-BUILD) PEAK HOUR VOLUMES

FIGURE 8



FUTURE (BUILD) PEAK HOUR VOLUMES

FIGURE 9



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 10

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the added traffic from the proposed Liberty Industrial Park development that will be located on Peachtree Industrial Boulevard between Little Mill Road and SR 20 (Nelson Brogdon Boulevard) in Buford, Georgia. The development will consist of 929,000 sf of High-Cube Warehouse/Distribution Center space.

The development proposes three full access driveways on Peachtree Industrial Boulevard at the existing median breaks. Existing and future operations after completion of the project were analyzed at the intersections of:

- Peachtree Industrial Boulevard at Little Mill Road
- Peachtree Industrial Boulevard at SR 20 (Nelson Brogdon Boulevard)

The analysis included the evaluation of Future operations for "No-Build" and "Build" conditions, both of which account for increases in annual growth of through traffic. The results of the analysis are listed below:

System Recommendations and Improvements

Improvements that are identified as "System Improvements" address deficiencies that are found within the existing road network prior to any impacts from the proposed development's added traffic. Since both the study intersections will operate at the same level-of-service in the future prior to the addition of site traffic as in existing conditions, no changes are identified.

Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections.

- Site Driveway #1 (full-access driveway at the northern median break)
    - This driveway is proposed to consist of one entering lane and one exiting lane. The eastbound (driveway) approach is proposed to have a shared left / right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.
- Site Driveway #2 (full-access driveway at the middle median break)
    - This driveway is proposed to consist of one entering lane and two exiting lanes. The eastbound (driveway) approach is proposed to have both a left and a right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.

    - Entering left-turn movements are proposed to be made from the existing northbound U-turn lane to be restriped as a left-turn lane.
    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.
- Site Driveway #3 (full-access driveway at the southern median break)
    - This driveway is proposed to consist of one entering lane and one exiting lane. The eastbound (driveway) approach is proposed to have a shared left / right-turn lane for exiting traffic.
    - The intersection is proposed to be unsignalized with a STOP sign on the eastbound approach.
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    - Entering right-turn movements are proposed to be made from a new deceleration lane comprised of 200-foot storage and 50-foot taper.

Site Mitigation Improvements

Improvements that are identified as "Site Mitigation Improvements" address further impacts that are a result of the proposed development's added traffic. Because operations would not be impacted beyond the projected "No-Build" conditions, mitigation improvements have not been identified outside of the recommended configuration for the site access points.

Appendix

Appendix A:
Existing Intersection Traffic Counts

Reliable Traffic Data Services, LLC

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TMC Data
Peachtree Industrial Blvd @
Little Mill Rd
7-9am I 4-6pm

File Name : 39600001
Site Code : 39600001
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Little Mill Rd Eastbound					Little Mill Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	23	104	4	0	131	3	113	4	0	120	14	24	46	0	84	3	10	5	0	18	353
07:15 AM	23	95	3	0	121	5	128	10	0	143	14	22	55	0	91	4	7	7	0	18	373
07:30 AM	34	107	5	0	146	15	123	6	0	144	12	21	47	0	80	5	9	5	0	19	389
07:45 AM	26	82	5	0	113	5	116	2	0	123	7	27	48	0	82	7	5	1	0	13	331
Total	106	388	17	0	511	28	480	22	0	530	47	94	196	0	337	19	31	18	0	68	1446
08:00 AM	24	86	8	0	118	10	110	5	0	125	11	25	51	0	87	5	14	3	0	22	352
08:15 AM	24	87	5	0	116	9	105	11	0	125	7	28	59	0	94	4	15	7	0	26	361
08:30 AM	31	73	5	0	109	8	99	4	0	111	6	31	43	0	80	3	15	2	0	20	320
08:45 AM	36	83	3	0	122	9	99	3	0	111	13	36	44	0	93	5	18	4	0	27	353
Total	115	329	21	0	465	36	413	23	0	472	37	120	197	0	354	17	62	16	0	95	1386
*** BREAK ***																					
04:00 PM	47	129	9	0	185	14	71	4	0	89	11	26	27	0	64	2	31	5	0	38	376
04:15 PM	39	125	6	0	170	5	77	4	0	86	9	25	27	0	61	7	17	4	0	28	345
04:30 PM	46	123	8	0	177	27	101	5	0	133	23	33	30	0	86	4	25	5	0	34	430
04:45 PM	50	136	8	0	194	2	104	4	0	110	12	48	46	0	106	6	17	4	0	27	437
Total	182	513	31	0	726	48	353	17	0	418	55	132	130	0	317	19	90	18	0	127	1588
05:00 PM	51	154	7	0	212	36	109	11	0	156	18	34	41	0	93	4	25	10	0	39	500
05:15 PM	41	159	4	0	204	7	105	5	0	117	19	45	54	0	118	2	33	9	0	44	483
05:30 PM	42	136	14	0	192	6	93	3	0	102	18	32	37	0	87	8	15	8	0	31	412
05:45 PM	37	127	6	0	170	5	111	8	0	124	22	30	44	0	96	5	27	6	0	38	428
Total	171	576	31	0	778	54	418	27	0	499	77	141	176	0	394	19	100	33	0	152	1823
Grand Total	574	1806	100	0	2480	166	1664	89	0	1919	216	487	699	0	1402	74	283	85	0	442	6243
Apprch %	23.1	72.8	4	0		8.7	86.7	4.6	0		15.4	34.7	49.9	0		16.7	64	19.2	0		
Total %	9.2	28.9	1.6	0	39.7	2.7	26.7	1.4	0	30.7	3.5	7.8	11.2	0	22.5	1.2	4.5	1.4	0	7.1	

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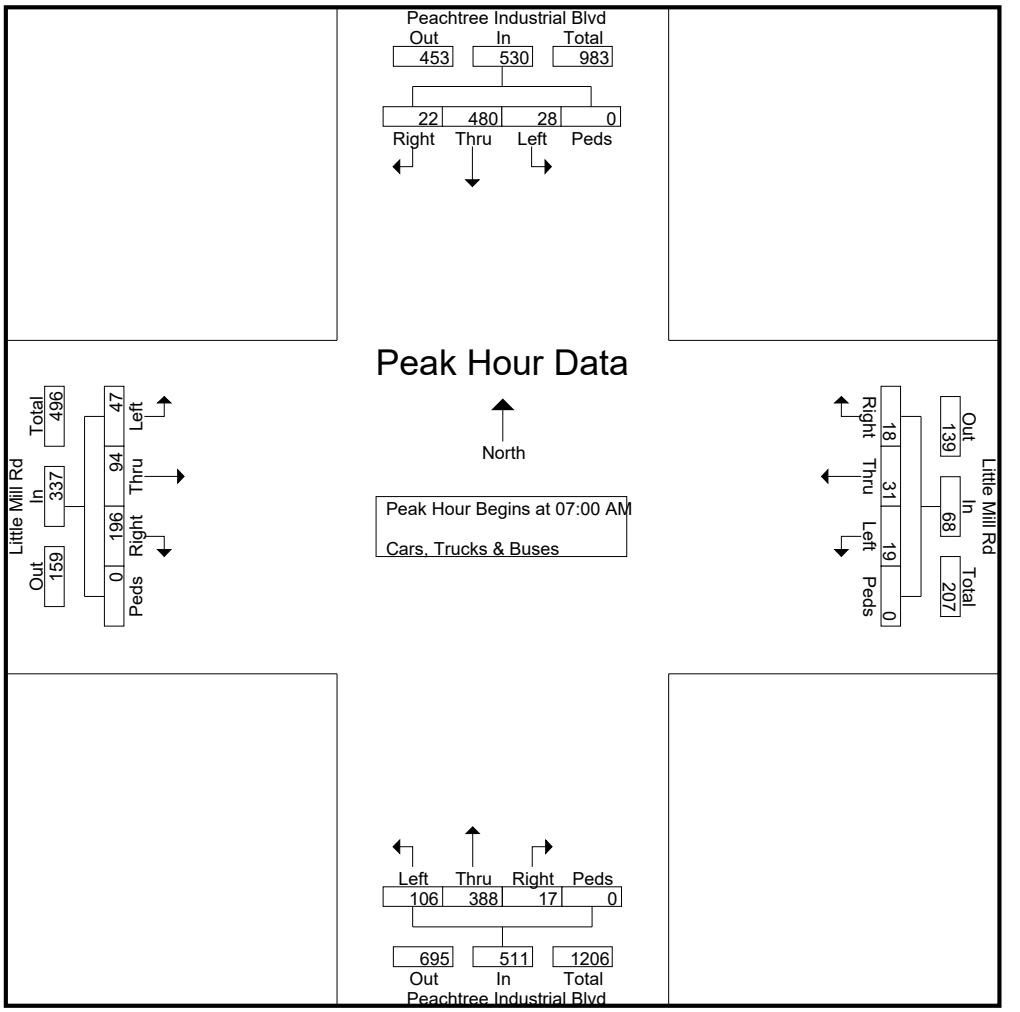
TMC Data
Peachtree Industrial Blvd @
Little Mill Rd
7-9am I 4-6pm

File Name : 39600001
Site Code : 39600001
Start Date : 11/30/2016

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Little Mill Rd Eastbound					Little Mill Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	23	104	4	0	131	3	113	4	0	120	**14**	24	46	0	84	3	**10**	5	0	18	353
07:15 AM	23	95	3	0	121	5	**128**	**10**	0	143	14	22	**55**	0	**91**	4	7	**7**	0	18	373
07:30 AM	**34**	**107**	**5**	0	**146**	**15**	123	6	0	**144**	12	21	47	0	80	5	9	5	0	**19**	**389**
07:45 AM	26	82	5	0	113	5	116	2	0	123	7	**27**	48	0	82	**7**	5	1	0	13	331
Total Volume	106	388	17	0	511	28	480	22	0	530	47	94	196	0	337	19	31	18	0	68	1446
% App. Total	20.7	75.9	3.3	0		5.3	90.6	4.2	0		13.9	27.9	58.2	0		27.9	45.6	26.5	0		
PHF	.779	.907	.850	.000	.875	.467	.938	.550	.000	.920	.839	.870	.891	.000	.926	.679	.775	.643	.000	.895	.929



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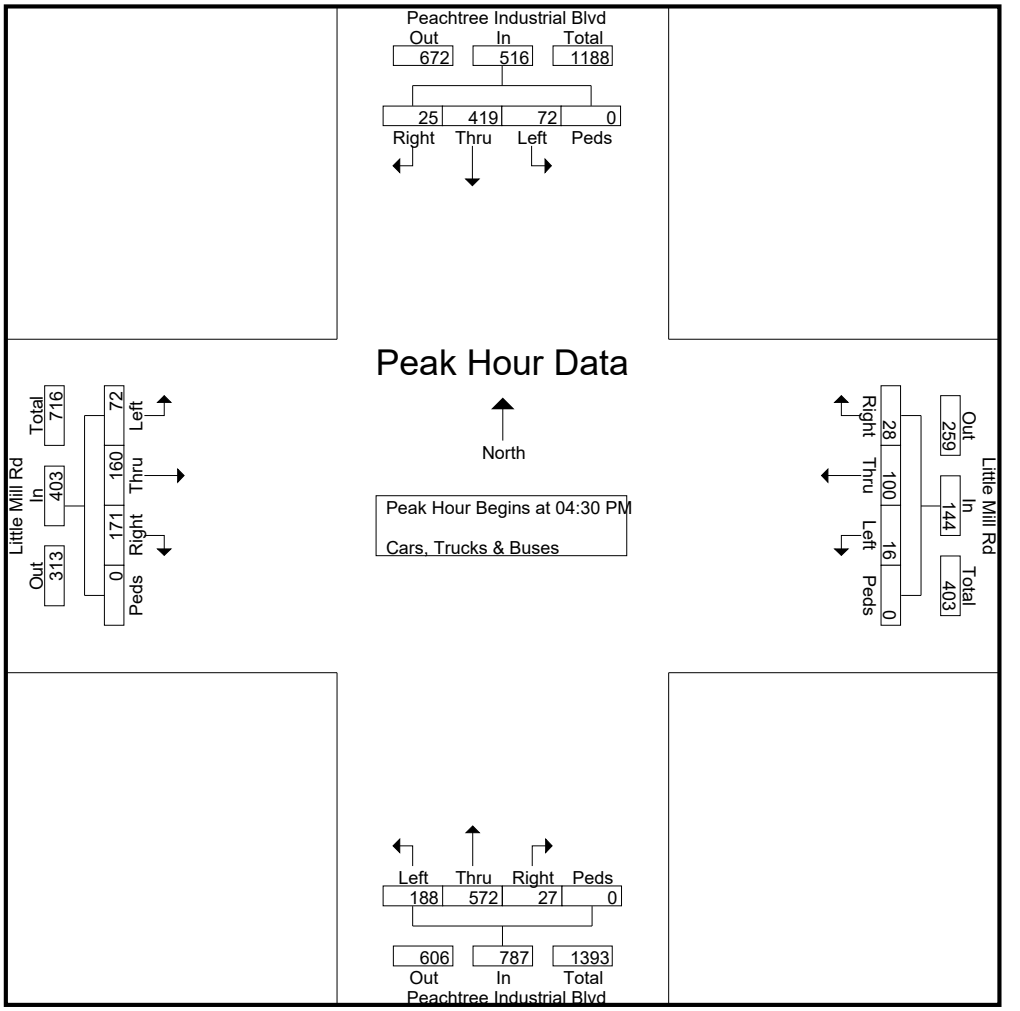
TMC Data
Peachtree Industrial Blvd @
Little Mill Rd
7-9am I 4-6pm

File Name : 39600001
Site Code : 39600001
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Little Mill Rd Eastbound					Little Mill Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	46	123	**8**	0	177	27	101	5	0	133	**23**	33	30	0	86	4	25	5	0	34	430
04:45 PM	50	136	8	0	194	2	104	4	0	110	12	**48**	46	0	106	**6**	17	4	0	27	437
05:00 PM	**51**	154	7	0	**212**	**36**	**109**	**11**	0	**156**	18	34	41	0	93	4	25	**10**	0	39	**500**
05:15 PM	41	**159**	4	0	204	7	105	5	0	117	19	45	**54**	0	**118**	2	**33**	9	0	**44**	483
Total Volume	188	572	27	0	787	72	419	25	0	516	72	160	171	0	403	16	100	28	0	144	1850
% App. Total	23.9	72.7	3.4	0		14	81.2	4.8	0		17.9	39.7	42.4	0		11.1	69.4	19.4	0		
PHF	.922	.899	.844	.000	.928	.500	.961	.568	.000	.827	.783	.833	.792	.000	.854	.667	.758	.700	.000	.818	.925



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TMC Data
Peachtree Industrial Blvd @
Median Break (North)
7-9am I 4-6pm

File Name : 39600002
Site Code : 39600002
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Median Break Eastbound					Median Break Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	129	0	0	129	0	163	0	2	165	0	0	0	0	0	0	0	0	0	0	294
07:15 AM	0	123	0	0	123	0	174	0	0	174	0	0	0	0	0	0	0	0	0	0	297
07:30 AM	0	143	0	0	143	0	185	0	2	187	0	0	0	0	0	0	0	0	0	0	330
07:45 AM	0	108	0	0	108	0	198	0	1	199	0	0	0	0	0	0	0	0	0	0	307
Total	0	503	0	0	503	0	720	0	5	725	0	0	0	0	0	0	0	0	0	0	1228
08:00 AM	0	129	0	0	129	0	176	0	0	176	0	0	0	0	0	0	0	0	0	0	305
08:15 AM	0	100	0	0	100	0	163	0	1	164	0	0	0	0	0	0	0	0	0	0	264
08:30 AM	0	126	0	0	126	0	142	0	0	142	0	0	0	0	0	0	0	0	0	0	268
08:45 AM	0	88	0	0	88	0	131	0	2	133	0	0	0	0	0	0	0	0	0	0	221
Total	0	443	0	0	443	0	612	0	3	615	0	0	0	0	0	0	0	0	0	0	1058
*** BREAK ***																					
04:00 PM	0	177	0	0	177	0	101	0	2	103	0	0	0	0	0	0	0	0	0	0	280
04:15 PM	0	177	0	1	178	0	113	0	1	114	0	0	0	0	0	0	0	0	0	0	292
04:30 PM	0	163	0	0	163	0	128	0	1	129	0	0	0	0	0	0	0	0	0	0	292
04:45 PM	0	181	0	0	181	0	140	0	1	141	0	0	0	0	0	0	0	0	0	0	322
Total	0	698	0	1	699	0	482	0	5	487	0	0	0	0	0	0	0	0	0	0	1186
05:00 PM	0	210	0	1	211	0	145	0	0	145	0	0	0	0	0	0	0	0	0	0	356
05:15 PM	0	163	0	1	164	0	154	0	1	155	0	0	0	0	0	0	0	0	0	0	319
05:30 PM	0	186	0	0	186	0	148	0	1	149	0	0	0	0	0	0	0	0	0	0	335
05:45 PM	0	142	0	1	143	0	145	0	0	145	0	0	0	0	0	0	0	0	0	0	288
Total	0	701	0	3	704	0	592	0	2	594	0	0	0	0	0	0	0	0	0	0	1298
Grand Total	0	2345	0	4	2349	0	2406	0	15	2421	0	0	0	0	0	0	0	0	0	0	4770
Apprch %	0	99.8	0	0.2		0	99.4	0	0.6		0	0	0	0		0	0	0	0		
Total %	0	49.2	0	0.1	49.2	0	50.4	0	0.3	50.8	0	0	0	0	0	0	0	0	0	0	

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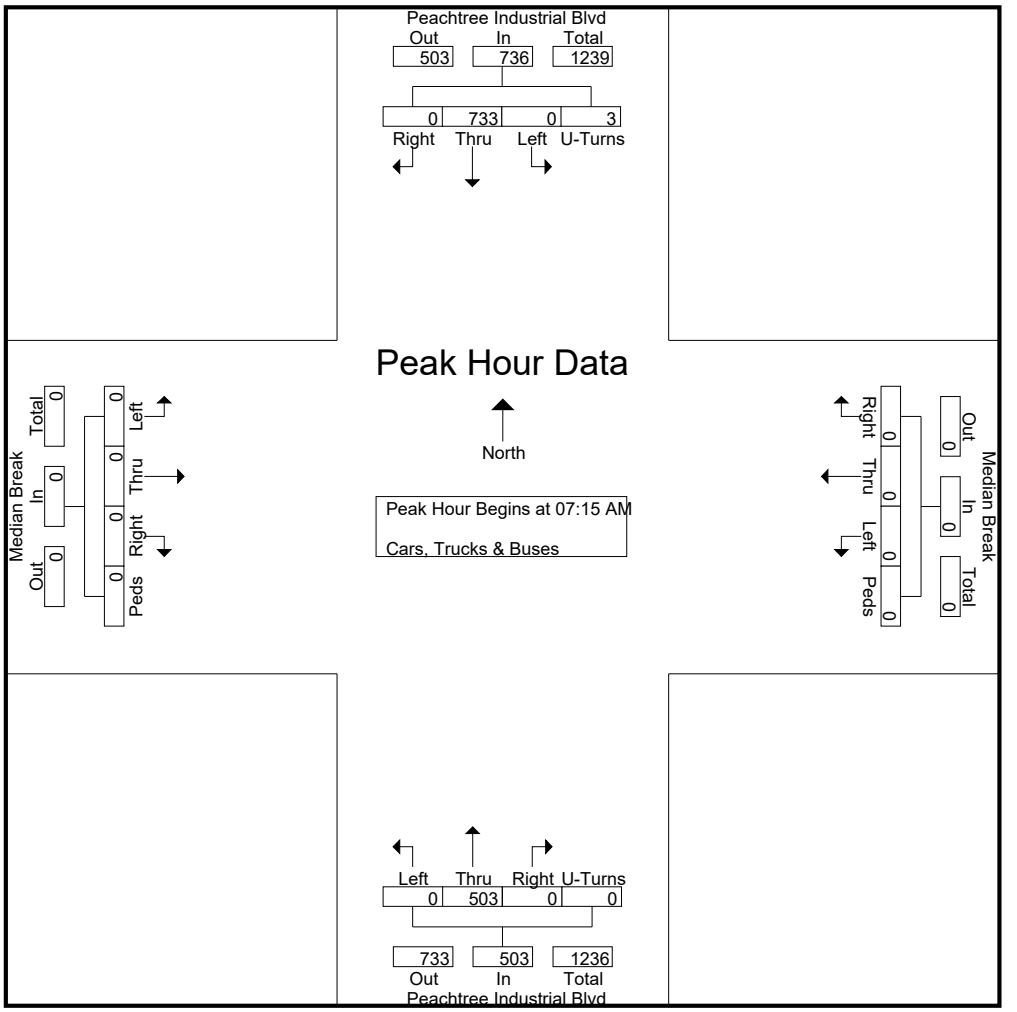
TMC Data
Peachtree Industrial Blvd @
Median Break (North)
7-9am I 4-6pm

File Name : 39600002
Site Code : 39600002
Start Date : 11/30/2016
Page No : 2

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Median Break Eastbound					Median Break Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	123	0	0	123	0	174	0	0	174	0	0	0	0	0	0	0	0	0	0	297
07:30 AM	0	**143**	0	0	**143**	0	185	0	**2**	187	0	0	0	0	0	0	0	0	0	0	**330**
07:45 AM	0	108	0	0	108	0	**198**	0	1	**199**	0	0	0	0	0	0	0	0	0	0	307
08:00 AM	0	129	0	0	129	0	176	0	0	176	0	0	0	0	0	0	0	0	0	0	305
Total Volume	0	503	0	0	503	0	733	0	3	736	0	0	0	0	0	0	0	0	0	0	1239
% App. Total	0	100	0	0		0	99.6	0	0.4		0	0	0	0		0	0	0	0		
PHF	.000	.879	.000	.000	.879	.000	.926	.000	.375	.925	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.939



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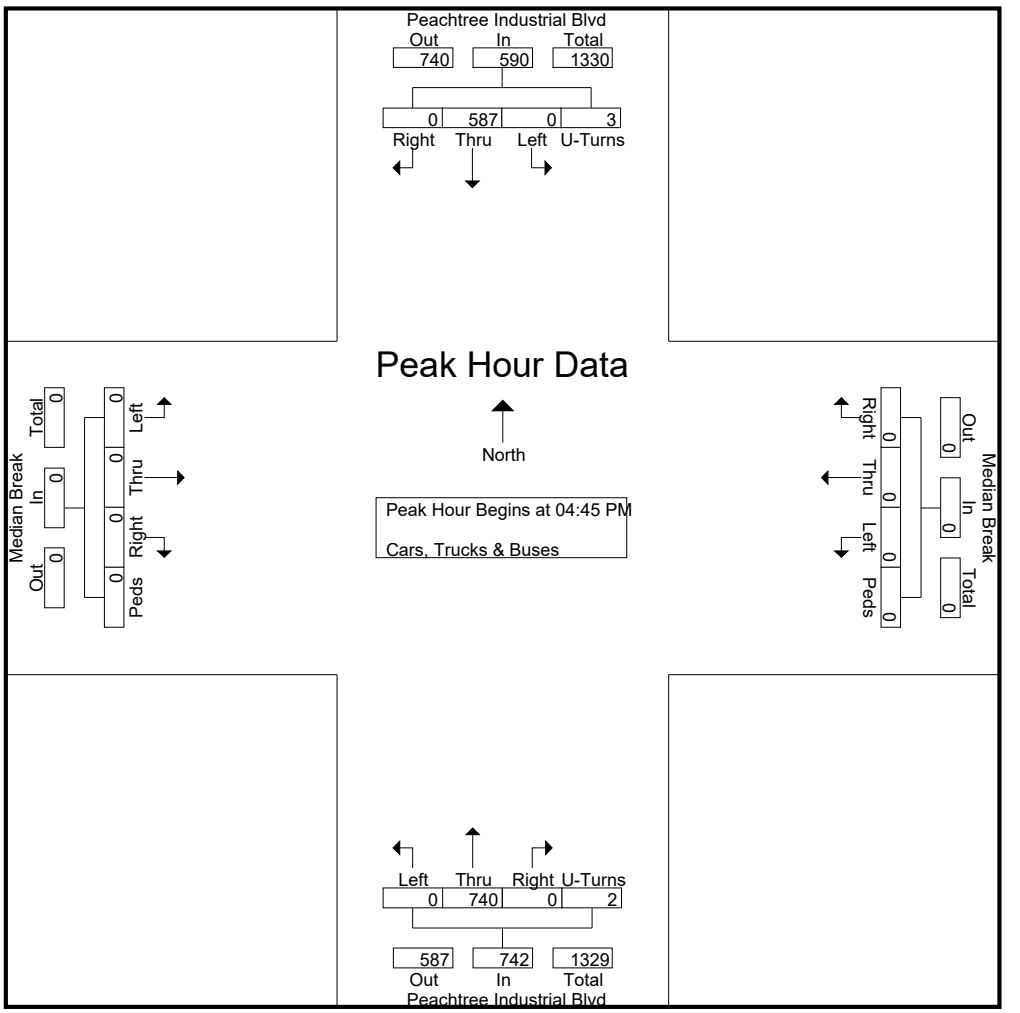
TMC Data
Peachtree Industrial Blvd @
Median Break (North)
7-9am I 4-6pm

File Name : 39600002
Site Code : 39600002
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Median Break Eastbound					Median Break Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	181	0	0	181	0	140	0	**1**	141	0	0	0	0	0	0	0	0	0	0	322
05:00 PM	0	**210**	0	**1**	**211**	0	145	0	0	145	0	0	0	0	0	0	0	0	0	0	**356**
05:15 PM	0	163	0	1	164	0	**154**	0	1	**155**	0	0	0	0	0	0	0	0	0	0	319
05:30 PM	0	186	0	0	186	0	148	0	1	149	0	0	0	0	0	0	0	0	0	0	335
Total Volume	0	740	0	2	742	0	587	0	3	590	0	0	0	0	0	0	0	0	0	0	1332
% App. Total	0	99.7	0	0.3		0	99.5	0	0.5		0	0	0	0		0	0	0	0		
PHF	.000	.881	.000	.500	.879	.000	.953	.000	.750	.952	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.935



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TMC Data
Peachtree Indusltrial Blvd @
Median Break (South) with Site Drwy
7-9am I 4-6pm

File Name : 39600003
Site Code : 39600003
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Site Drwy (Locked) Eastbound					Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	123	0	9	132	0	157	0	0	157	0	0	0	0	0	0	0	0	0	0	289
07:15 AM	0	126	0	7	133	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	315
07:30 AM	0	129	0	6	135	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	317
07:45 AM	0	118	0	10	128	0	211	0	0	211	0	0	0	0	0	0	0	0	0	0	339
Total	0	496	0	32	528	0	732	0	0	732	0	0	0	0	0	0	0	0	0	0	1260
08:00 AM	0	118	0	7	125	0	180	0	0	180	0	0	0	0	0	0	0	0	0	0	305
08:15 AM	0	122	0	8	130	0	166	0	0	166	0	0	0	0	0	0	0	0	0	0	296
08:30 AM	0	117	0	7	124	0	140	0	0	140	0	0	0	0	0	0	0	0	0	0	264
08:45 AM	0	105	0	7	112	0	146	0	0	146	0	0	0	0	0	0	0	0	0	0	258
Total	0	462	0	29	491	0	632	0	0	632	0	0	0	0	0	0	0	0	0	0	1123
*** BREAK ***																					
04:00 PM	0	178	0	2	180	0	112	0	0	112	0	0	0	0	0	0	0	0	0	0	292
04:15 PM	0	163	0	1	164	0	121	0	0	121	0	0	0	0	0	0	0	0	0	0	285
04:30 PM	0	157	0	2	159	0	133	0	0	133	0	0	0	0	0	0	0	0	0	0	292
04:45 PM	0	184	0	3	187	0	139	0	0	139	0	0	0	0	0	0	0	0	0	0	326
Total	0	682	0	8	690	0	505	0	0	505	0	0	0	0	0	0	0	0	0	0	1195
05:00 PM	0	191	0	2	193	0	149	0	0	149	0	0	0	0	0	0	0	0	0	0	342
05:15 PM	0	189	0	3	192	0	153	0	0	153	0	0	0	0	0	0	0	0	0	0	345
05:30 PM	0	169	0	2	171	0	138	0	0	138	0	0	0	0	0	0	0	0	0	0	309
05:45 PM	0	134	0	9	143	0	135	0	0	135	0	0	0	0	0	0	0	0	0	0	278
Total	0	683	0	16	699	0	575	0	0	575	0	0	0	0	0	0	0	0	0	0	1274
Grand Total	0	2323	0	85	2408	0	2444	0	0	2444	0	0	0	0	0	0	0	0	0	0	4852
Apprch %	0	96.5	0	3.5		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	47.9	0	1.8	49.6	0	50.4	0	0	50.4	0	0	0	0	0	0	0	0	0	0	

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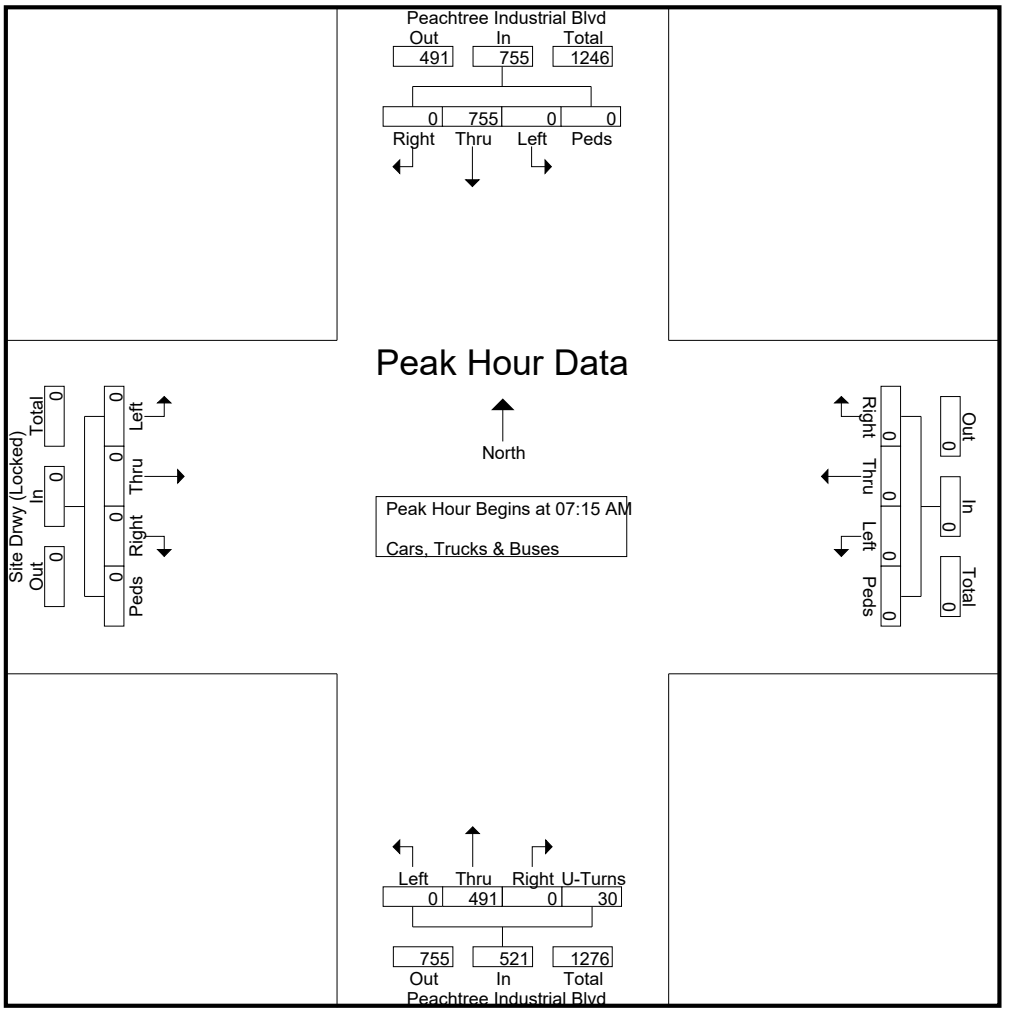
TMC Data
Peachtree Indusltrial Blvd @
Median Break (South) with Site Drwy
7-9am I 4-6pm

File Name : 39600003
Site Code : 39600003
Start Date : 11/30/2016
Page No : 2

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Site Drwy (Locked) Eastbound					Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	126	0	7	133	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	315
07:30 AM	0	**129**	0	6	**135**	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	317
07:45 AM	0	118	0	**10**	128	0	**211**	0	0	**211**	0	0	0	0	0	0	0	0	0	0	**339**
08:00 AM	0	118	0	7	125	0	180	0	0	180	0	0	0	0	0	0	0	0	0	0	305
Total Volume	0	491	0	30	521	0	755	0	0	755	0	0	0	0	0	0	0	0	0	0	1276
% App. Total	0	94.2	0	5.8		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.952	.000	.750	.965	.000	.895	.000	.000	.895	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.941



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TMC Data
Peachtree Indusltrial Blvd @
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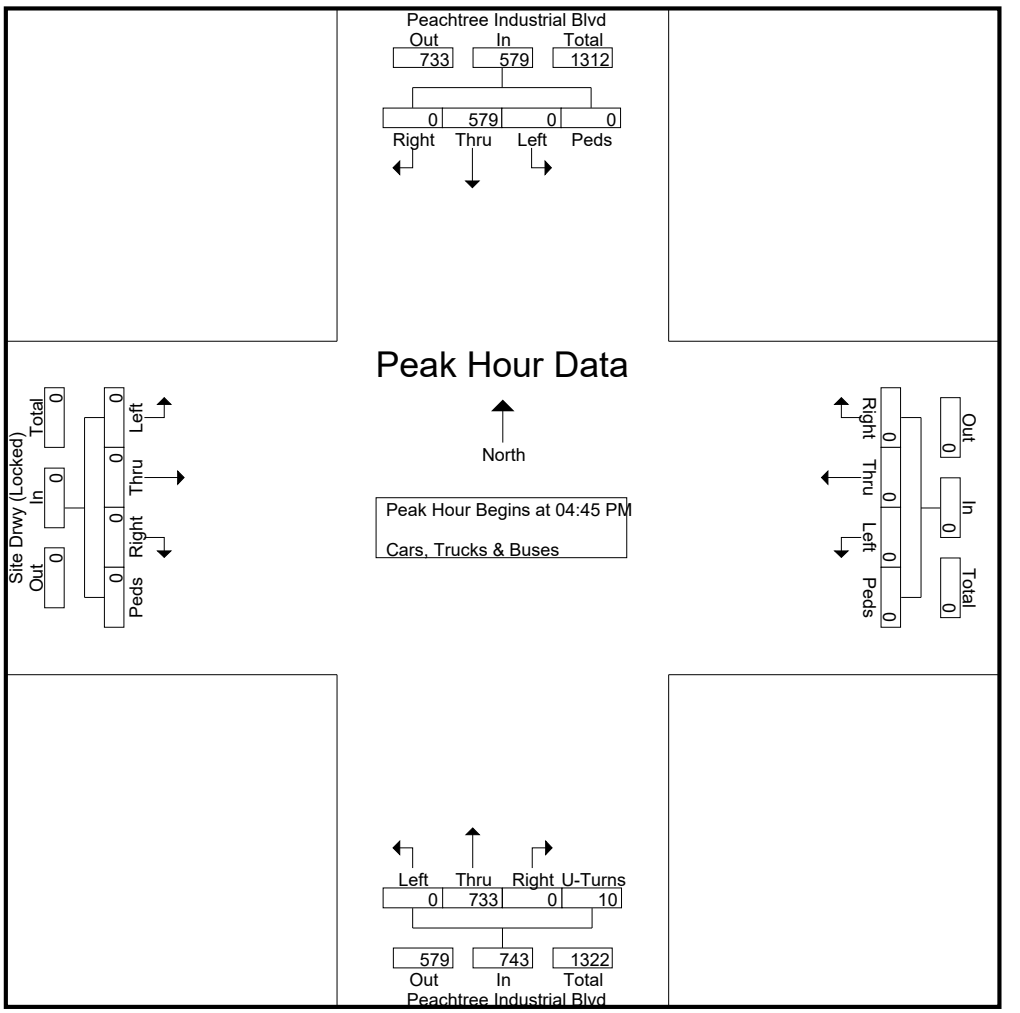
7-9am I 4-6pm

File Name : 39600003
Site Code : 39600003
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Site Drwy (Locked) Eastbound					Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	184	0	**3**	187	0	139	0	0	139	0	0	0	0	0	0	0	0	0	0	326
05:00 PM	0	**191**	0	2	**193**	0	149	0	0	149	0	0	0	0	0	0	0	0	0	0	342
05:15 PM	0	189	0	3	192	0	**153**	0	0	**153**	0	0	0	0	0	0	0	0	0	0	**345**
05:30 PM	0	169	0	2	171	0	138	0	0	138	0	0	0	0	0	0	0	0	0	0	309
Total Volume	0	733	0	10	743	0	579	0	0	579	0	0	0	0	0	0	0	0	0	0	1322
% App. Total	0	98.7	0	1.3		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.959	.000	.833	.962	.000	.946	.000	.000	.946	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.958



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TMC Data
Peachtree Industrial Blvd @ SR20

7-9am I 4-6pm

File Name : 39600004
Site Code : 39600004
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					SR 20 Eastbound					SR 20 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	13	62	64	0	139	47	87	28	0	162	32	204	24	0	260	107	212	36	0	355	916
07:15 AM	15	58	73	0	146	56	117	34	0	207	35	213	19	0	267	112	215	33	0	360	980
07:30 AM	12	60	76	0	148	70	120	31	0	221	37	246	28	0	311	85	189	30	0	304	984
07:45 AM	16	62	89	0	167	63	126	39	0	228	30	228	17	0	275	85	172	35	0	292	962
Total	56	242	302	0	600	236	450	132	0	818	134	891	88	0	1113	389	788	134	0	1311	3842
08:00 AM	11	59	115	0	185	58	107	36	0	201	32	219	12	0	263	96	189	33	0	318	967
08:15 AM	14	51	112	0	177	44	105	37	0	186	38	212	14	0	264	82	163	47	0	292	919
08:30 AM	15	55	107	0	177	41	74	32	0	147	25	207	16	0	248	77	187	38	0	302	874
08:45 AM	19	52	105	0	176	62	86	34	0	182	21	202	13	0	236	72	194	33	0	299	893
Total	59	217	439	0	715	205	372	139	0	716	116	840	55	0	1011	327	733	151	0	1211	3653
*** BREAK ***																					
04:00 PM	30	122	112	0	264	37	64	47	0	148	43	244	16	0	303	83	213	49	0	345	1060
04:15 PM	28	120	118	0	266	48	73	50	0	171	46	202	18	0	266	94	274	55	0	423	1126
04:30 PM	34	107	109	0	250	52	71	52	0	175	38	207	15	0	260	87	231	52	0	370	1055
04:45 PM	20	115	123	0	258	48	76	54	0	178	40	218	19	0	277	91	218	38	0	347	1060
Total	112	464	462	0	1038	185	284	203	0	672	167	871	68	0	1106	355	936	194	0	1485	4301
05:00 PM	29	126	112	0	267	56	74	51	0	181	42	207	17	0	266	98	236	47	0	381	1095
05:15 PM	26	113	103	0	242	41	82	69	0	192	45	219	15	0	279	102	242	42	0	386	1099
05:30 PM	25	107	100	0	232	39	64	52	0	155	34	186	18	0	238	93	248	44	0	385	1010
05:45 PM	28	128	102	0	258	42	81	47	0	170	46	194	17	0	257	88	217	48	0	353	1038
Total	108	474	417	0	999	178	301	219	0	698	167	806	67	0	1040	381	943	181	0	1505	4242
Grand Total	335	1397	1620	0	3352	804	1407	693	0	2904	584	3408	278	0	4270	1452	3400	660	0	5512	16038
Apprch %	10	41.7	48.3	0		27.7	48.5	23.9	0		13.7	79.8	6.5	0		26.3	61.7	12	0		
Total %	2.1	8.7	10.1	0	20.9	5	8.8	4.3	0	18.1	3.6	21.2	1.7	0	26.6	9.1	21.2	4.1	0	34.4	

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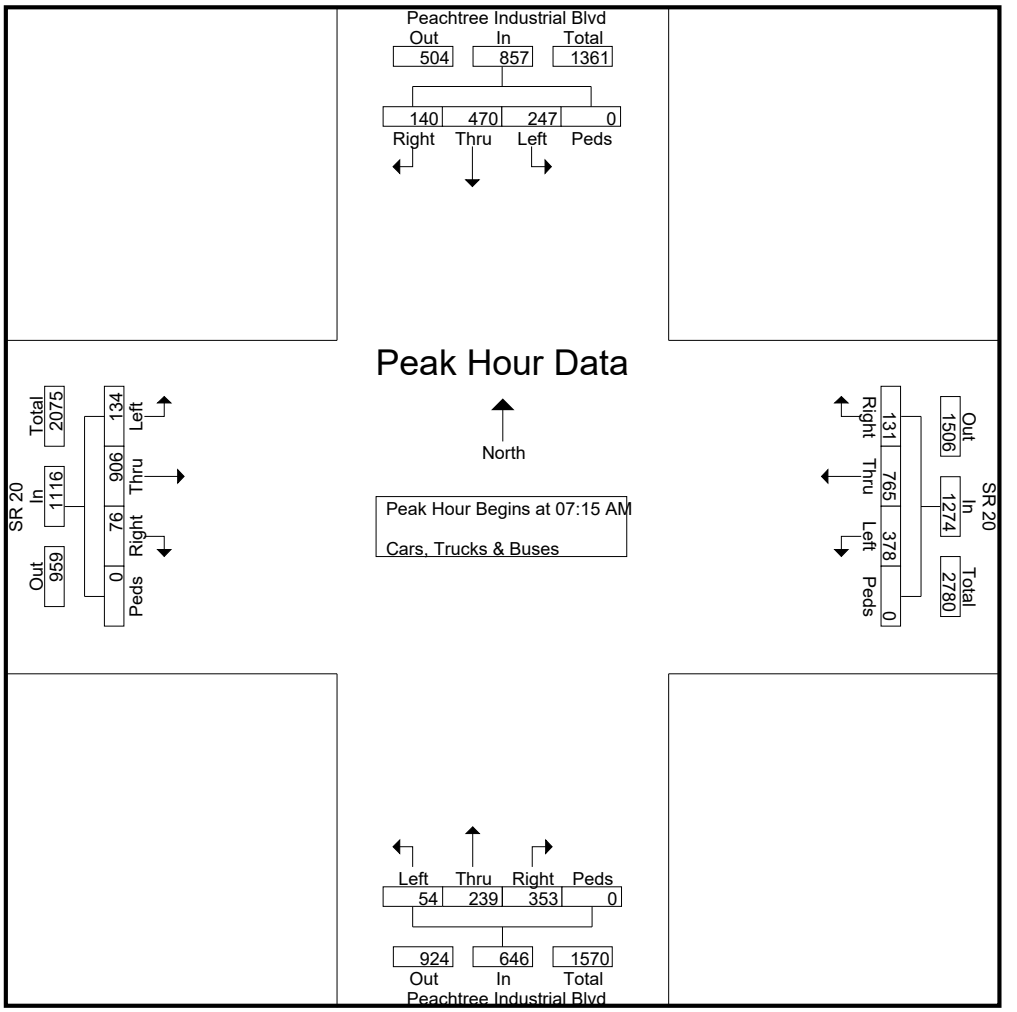
TMC Data
Peachtree Industrial Blvd @ SR20

7-9am I 4-6pm

File Name : 39600004
Site Code : 39600004
Start Date : 11/30/2016

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					SR 20 Eastbound					SR 20 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	15	58	73	0	146	56	117	34	0	207	35	213	19	0	267	**112**	**215**	33	0	**360**	980
07:30 AM	12	60	76	0	148	**70**	120	31	0	221	**37**	**246**	**28**	0	**311**	85	189	30	0	304	**984**
07:45 AM	**16**	**62**	89	0	167	63	**126**	**39**	0	**228**	30	228	17	0	275	85	172	**35**	0	292	962
08:00 AM	11	59	**115**	0	**185**	58	107	36	0	201	32	219	12	0	263	96	189	33	0	318	967
Total Volume	54	239	353	0	646	247	470	140	0	857	134	906	76	0	1116	378	765	131	0	1274	3893
% App. Total	8.4	37	54.6	0		28.8	54.8	16.3	0		12	81.2	6.8	0		29.7	60	10.3	0		
PHF	.844	.964	.767	.000	.873	.882	.933	.897	.000	.940	.905	.921	.679	.000	.897	.844	.890	.936	.000	.885	.989



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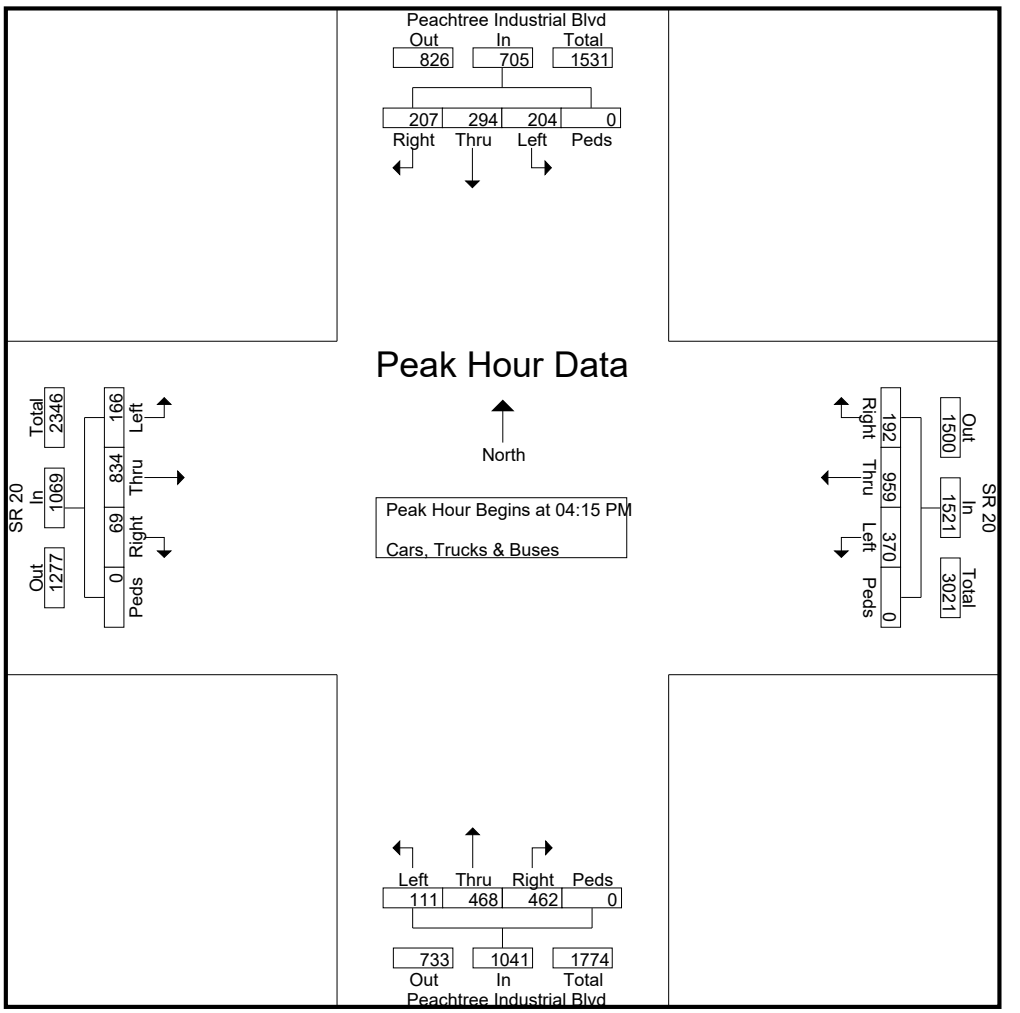
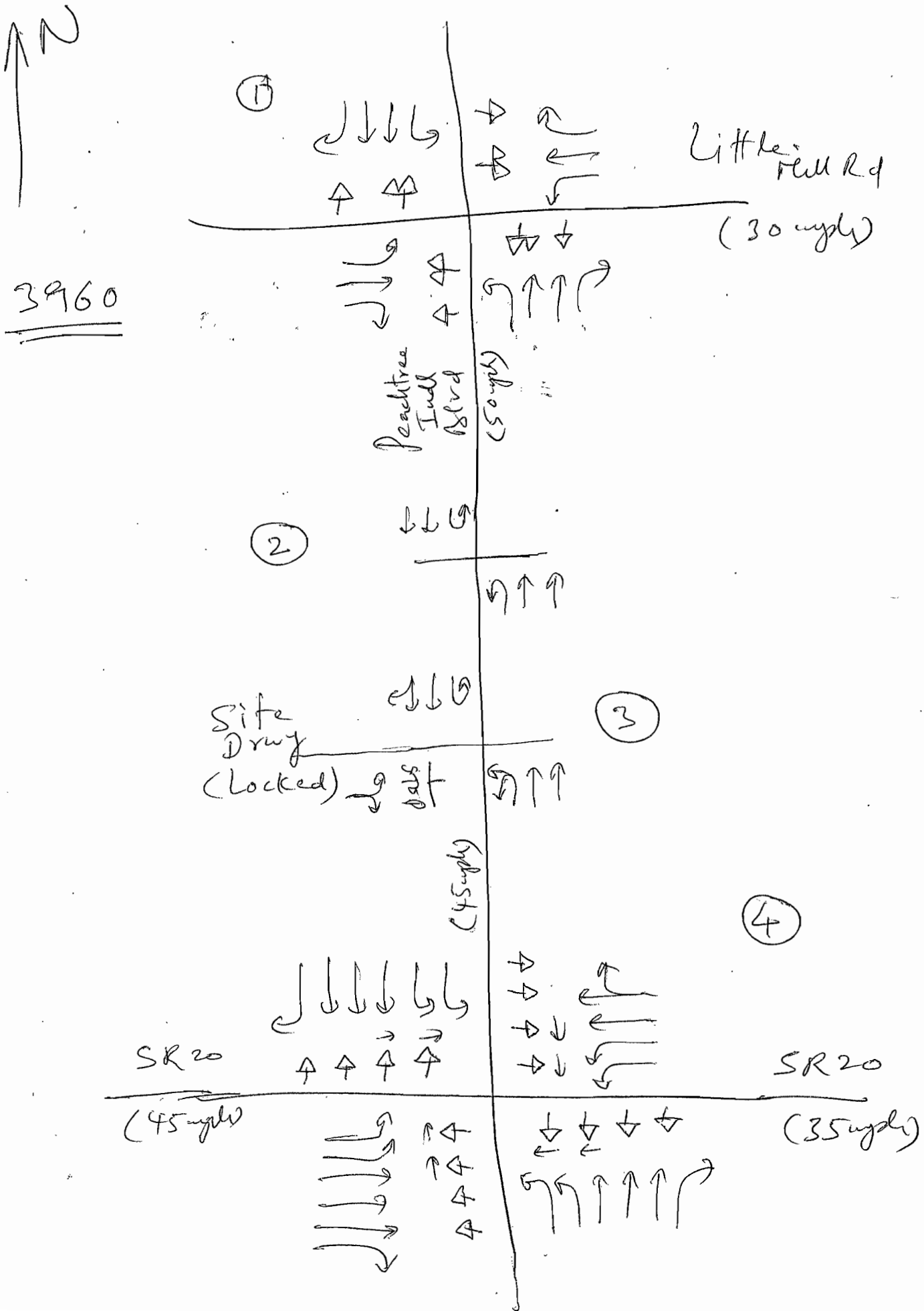
TMC Data
Peachtree Industrial Blvd @ SR20

7-9am I 4-6pm

File Name : 39600004
Site Code : 39600004
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					SR 20 Eastbound					SR 20 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	28	120	118	0	266	48	73	50	0	171	**46**	202	18	0	266	94	**274**	**55**	0	**423**	**1126**
04:30 PM	**34**	107	109	0	250	52	71	52	0	175	38	207	15	0	260	87	231	52	0	370	1055
04:45 PM	20	115	**123**	0	258	48	**76**	**54**	0	178	40	**218**	**19**	0	**277**	91	218	38	0	347	1060
05:00 PM	29	**126**	112	0	**267**	**56**	74	51	0	**181**	42	207	17	0	266	**98**	236	47	0	381	1095
Total Volume	111	468	462	0	1041	204	294	207	0	705	166	834	69	0	1069	370	959	192	0	1521	4336
% App. Total	10.7	45	44.4	0		28.9	41.7	29.4	0		15.5	78	6.5	0		24.3	63.1	12.6	0		
PHF	.816	.929	.939	.000	.975	.911	.967	.958	.000	.974	.902	.956	.908	.000	.965	.944	.875	.873	.000	.899	.963




N
1
Little Mill Rd
(30 mph)
3960
Peachtree Industrial Blvd
(50 mph)
2
Site Drwy
(Locked)
3
(45 mph)
4
SR 20
(45 mph)
SR 20
(35 mph)

Appendix B:
GRTA Letter of Understanding (LOU)

LETTER OF UNDERSTANDING

December 5, 2016

Bob Cheeley,
Liberty Industrial Park, LLC
c/o Cheeley Law Group
299 South Main Street, Suite A
Alpharetta, GA 30009

RE: **DRI 2651 Liberty Industrial Park of Buford**

Dear Mr. Cheeley:

The purpose of this letter is to document the discussions during the Pre-Review and Methodology Meeting held at ARC's office on November 28, 2016 and DCA Initial Information Form filed on November 16, 2016 regarding **DRI 2651 Liberty Industrial Park of Buford.** Some of the following items were discussed in this meeting and should assist you and your consultant team in preparing the DRI Review Package.

PROJECT OVERVIEW

- The project is located in the City of Buford. The proposed development is located on the western side of Peachtree Industrial Boulevard, north of SR 20, south of Little Mill Road.
- The DRI trigger for this development is a Rezoning Application.
- The proposed development is expected to be up to 929,000 square feet of Warehouse/Distribution space in multiple buildings.
- Proposed access is three (3) full movement driveways onto Peachtree Industrial Boulevard at existing median breaks.
- Trip generation is estimated at 1,561 gross daily trips.
- The projected build out for this DRI is 2019.
- The applicant is applying for approval under GRTA's expedited review process under Limited Trip Generation for more than 1,000 and less than 3,000 gross daily trips.

METHODOLOGY

- All intersections identified as within the study network shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future "no-build" conditions [may not be applicable for the site driveways], and (3) future "build" conditions. This DRI shall be reviewed in one phase to be completed by 2019.
- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA. As appropriate, pedestrian counts and heavy vehicle counts shall be collected with vehicle counts and considered within the capacity analysis. Turning movement counts shall be collected while local schools are in session. Ordinarily traffic counts are not permitted between the week of Thanksgiving and the second week of January or any

week of a major holiday. However as the site has no close proximity to any school or retail center, traffic counts are permitted for the early weeks of December.

- A 1.5% background traffic growth rate shall be used for all roadways over two years. This growth rates is intended to include the surrounding DRIs previously reviewed. The prior DRIs do not share the same truck distribution but may share employee vehicular trips in the general area.
- The level of service standard for all analyses shall be LOS D.
- No trip reductions are allowed.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account.
- The applicant shall research TIP, STIP, RTP, and GDOT's construction work program, as well as any local government plans (SPLOST, CIP, etc.), to determine the open-to-traffic date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. This information shall be included within the traffic analysis.

STUDY NETWORK

1. Little Mill Road at Peachtree Industrial Boulevard
2. SR 20 /Nelson Brogdon Boulevard at Peachtree Industrial Boulevard
3. All Site Driveways

ADDITIONAL INFORMATION

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

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

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

DRI REVIEW PACKAGE CHECKLIST

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

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

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

DRI REVIEW PACKAGE SUBMITTAL

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

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

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

GDOT DISTRICT 1	GWINNETT CO DOT	CITY OF BUFORD	ATLANTA REGIONAL COMMISSION
Shane Giles PO Box 1057 Gainesville, GA 30503-1057	Michael Johnson 75 Langley Drive Lawrenceville, GA 30046	Kim Wolfe 2300 Buford Highway Buford, GA 30518	Andrew Smith 40 Courtland Street, NE Atlanta, Georgia 30303

We encourage your consultant team to verify the items covered in this letter prior to compiling the submittal materials. If you have any questions, please feel free to contact me directly at 404-463-3068 (lbeall@grta.org).

Sincerely,

Laura F. Beall, AICP
Program Manager

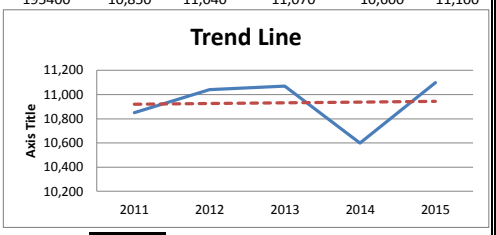
cc:

Jon West, DCA
Andrew Smith, ARC
Shane Giles, GDOT District 1
Michael Johnson, Gwinnett Co DOT
Lewis Cooksey, Gwinnett Co DOT
Kim Wolfe, City of Buford
Matt Dunagin, City of Buford
Mitch Peevy, Advanced Design
Abdul Amer, A&R Engineering
Susan Puri, City of Sugar Hill

Appendix C:
Linear Regression of Daily Traffic

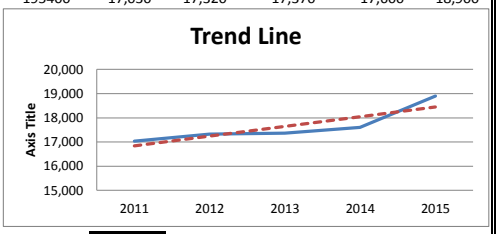
Location	Growth Rate	R Squared	Station ID	Route	2011	2012	2013	2014	2015
Peachtree Industrial Blvd	0.1%	0.00	1350549	195400	10,850	11,040	11,070	10,600	11,100
Peachtree Industrial Blvd	2.3%	0.76	1350543	195400	17,030	17,320	17,370	17,600	18,900
SR 20	0.9%	0.61	1350109	002000	22,060	22,440	22,300	22,300	23,100
SR 20	2.1%	0.66	1350112	002000	38,810	38,060	38,180	40,300	41,700
Weighted Average	**1.6%**	0.74	Sum of Count Stations =		88,750	88,860	88,920	90,800	94,800

Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
Peachtree Industrial Blvd	1350549	195400	10,850	11,040	11,070	10,600	11,100



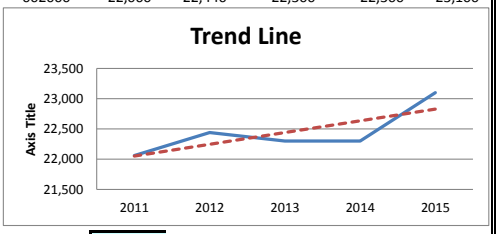
Growth Rate		0.1%	Intercept	-1,146	Slope	6.00
Trend Line		10,920	10,926	10,932	10,938	10,944

Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
Peachtree Industrial Blvd	1350543	195400	17,030	17,320	17,370	17,600	18,900



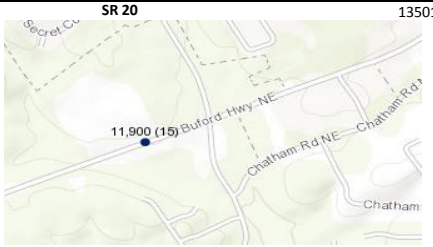
Growth Rate		2.3%	Intercept	-791,582	Slope	402.00
Trend Line		16,840	17,242	17,644	18,046	18,448

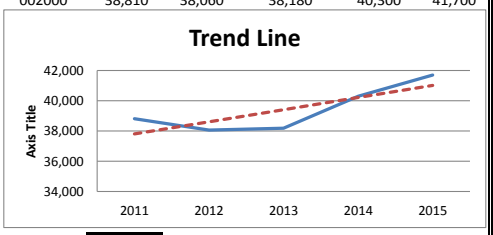
Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
SR 20	1350109	002000	22,060	22,440	22,300	22,300	23,100



Growth Rate		0.9%	Intercept	-368,082	Slope	194.00
Trend Line		22,052	22,246	22,440	22,634	22,828

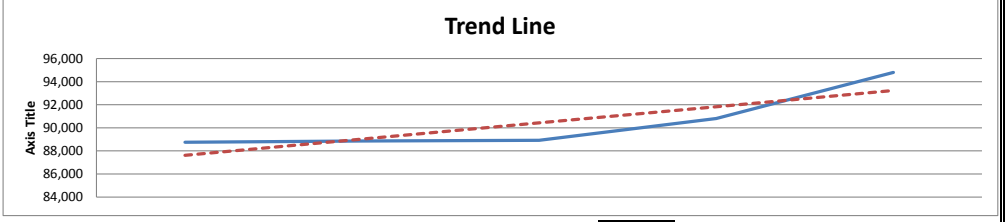
Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
SR 20	1350112	002000	38,810	38,060	38,180	40,300	41,700





Growth Rate		2.1%	Intercept	-1,575,016	Slope	802.00
Trend Line		37,806	38,608	39,410	40,212	41,014

Weighted Average	2011	2012	2013	2014	2015
Sum of Count Stations	88,750	88,860	88,920	90,800	94,800



Growth Rate		1.6%	Intercept	-2,735,826	Slope	1,404.00
Trend Line		87,618	89,022	90,426	91,830	93,234

Appendix D:
Fact Sheets for Planned and Programmed Improvements

PROJ ID	COUNTY	DESCRIPTION
0004430	Gwinnett	**SR 20 FM E OF BURNETTE TRAIL TO PEACHTREE IND BLVD-GRTA**

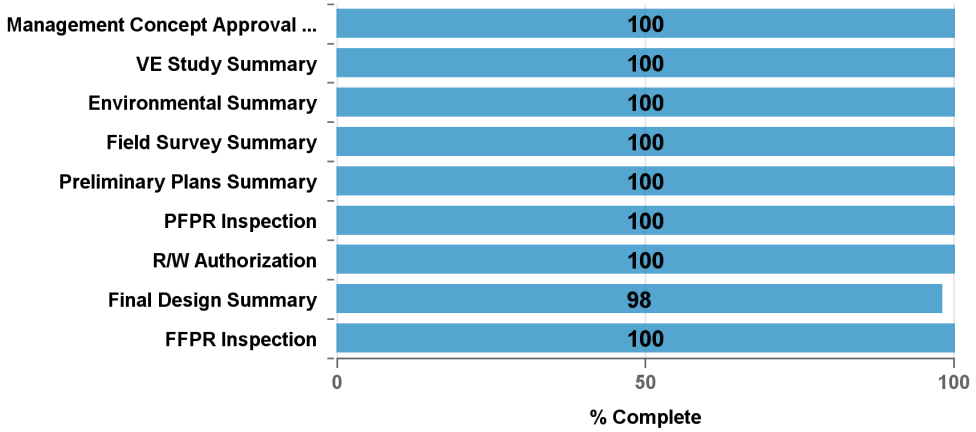
Mgmt Let Date: 1/18/2013

The proposed project would widen SR 20 from a two lane rural section to a four lane urban section from approximately 1,000 feet west of Mountain Ridge Road to Peachtree Industrial Boulevard in Gwinnett County. The typical section will include four- through lanes, a 44-foot grassed median, 16-foot shoulders, curb & gutter on the outside pavement edges, and five-foot concrete sidewalks on both sides of the roadway. Design will accommodate for the future widening of two additional lanes. Project length is 3.91 miles.

PROJ NO: MSL00-0004-00(430)
MPO TIP#: GW-020A1
MPO: Atlanta TMA
PROJ LENGTH (MI): 3.71
TYPE WORK: Widening
LET RESPONSIBILITY: Local Let
BIKE PROVISIONS INCLUDED? Y

SPONSOR: Georgia Regional Transportation Authority
PROJ MGR: Patel, Hiral P.
DOT DIST: 1
CONG DIST: 007
TYPE WORK: Widening
HOUSE DIST:
SENATE DIST:

Phase	FY Approved	Approved FY Estimate *	Fund	Phase Status
Engineering	2003	$966,143.93	CFTS	AUTHORIZED
Engineering	2003	$1,228,829.43	Q23	AUTHORIZED
Right of Way	2011	$28,500,000.00	L050	AUTHORIZED
Right of Way	2011	$11,000,000.00	L240	AUTHORIZED
Construction	2013	$30,130,959.00	M001	AUTHORIZED
UTL	2013	$4,725,769.74	H17A	AUTHORIZED
UTL	2013	$491,965.00	H66A	AUTHORIZED



Activity	Actual Start Date	Actual Finish Date
Management Concept Approval Complete	2/17/2006	2/17/2006
VE Study Summary	8/8/2007	6/26/2008
Environmental Summary	3/15/2005	6/2/2010
Field Survey Summary	7/12/2005	
Preliminary Plans Summary	2/28/2006	6/21/2010
PFPR Inspection	3/26/2008	3/26/2008
R/W Authorization	12/10/2010	12/10/2010
Final Design Summary	12/1/2010	
FFPR Inspection	6/19/2012	6/20/2012

Right of Way Aqcuisition Information:

Preliminary Parcel Count: 173 **Total Parcel Count:** 208 **Acquired by:** LOC

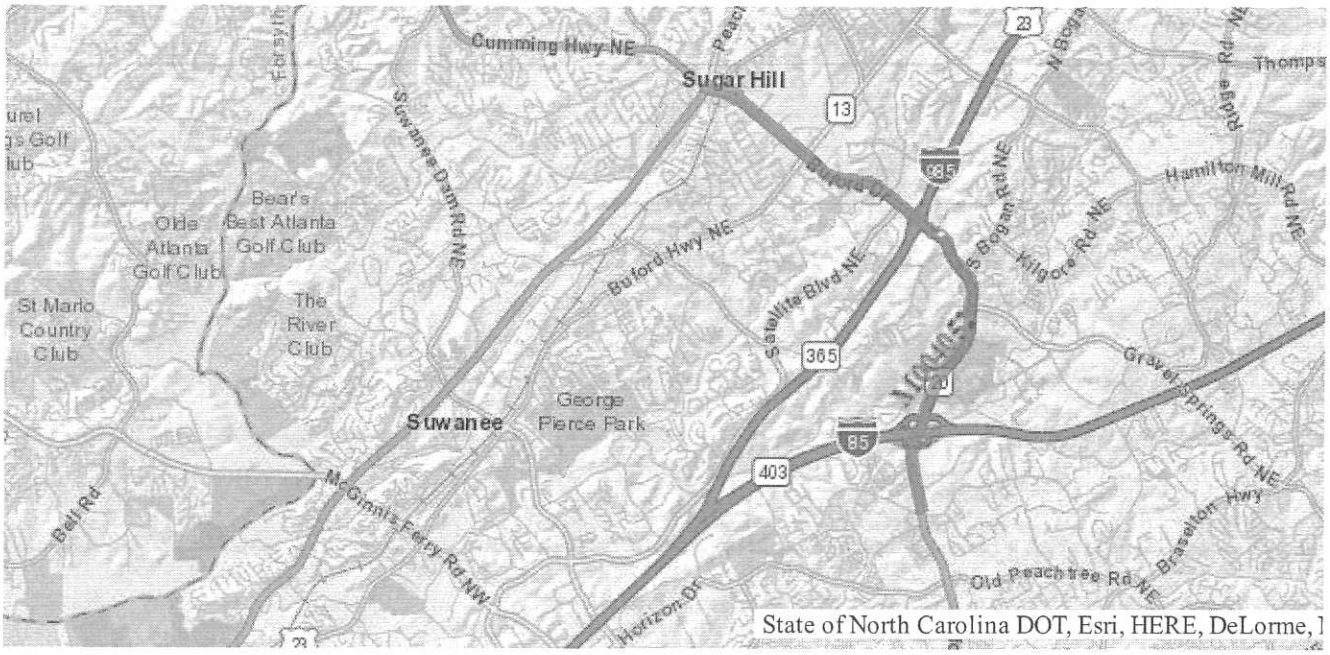
SR 20 FM W OF CR 1954/PEACHTREE INDUSTRIAL BLVD TO E OF I-85

Project ID:	**M004052**	Notice to Proceed Date:	5/21/2010
Project Manager:	Willie Webb	Construction Percent Complete:	96.15%
Office:	Maintenance	Current Completion Date:	3/31/2011
County:	Gwinnett	Work Completion Date:	1/6/2012
Congressional District:	007	Construction Contract Amount:	
State Senate District.:	045	Construction Contractor:	C. W. MATTHEWS CONTRACTING CO., INC.
State House District:	097, 098	**Preconstruction Status Report**	
Project Type:	Maintenance	**Construction Status Report**	
Project Status:	Complete		
Right of Way Authorization:		Contact Us	

Project Description:

This project is a maintenance construction project in Gwinnett County. This project is the milling and resurfacing of 5.8 miles of SR 20 from west of Peachtree Industrial Boulevard/County Road 1954 to east of Interstate 85. This section of SR 20 needs resurfacing because the existing pavement is deteriorating. SR 20 was last resurfaced in 1990.

Activity	Program Year	Cost Estimate	Date of Last Estimate
CST (Construction)	2010	$3,042,008.96	3/12/2009



Project Documents
There are no items to show in this view.

TOP 5 MOST VISITED

Transportation Project Search
Crash, Road & Traffic Data
Northwest Corridor Express Lanes
Contractors
Maps

Georgia Department of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308
(404) 631-1990 Main Office
Contact Us

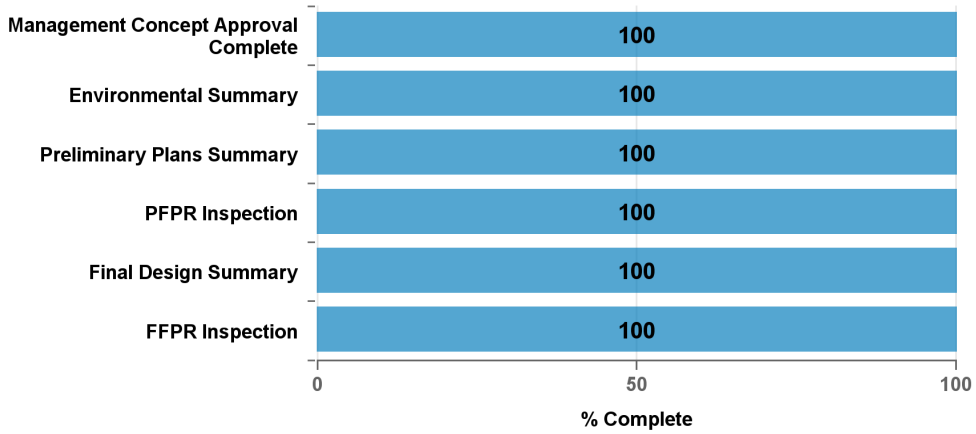
PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0006826	Gwinnett	**SR 20 FROM CR 1954/PEACHTREE INDUSTRIAL BLVD TO I-985**
Mgmt Let Date:	5/20/2011	This project consists of installing ATMS/ITS on S.R. 20 from CR 1954/Peachtree Industrial Blvd to I-985.

PROJ NO:	CSSTP-0006-00(826)	**SPONSOR:**	Gwinnett County
MPO TIP#:	GW-301	**PROJ MGR:**	Burney, Cynthia
MPO:	Atlanta TMA	**DOT DIST:**	1
PROJ LENGTH (MI):	2.6	**CONG DIST:**	007
TYPE WORK:		**TYPE WORK:**	
LET RESPONSIBILITY:	Local Let	**HOUSE DIST:**	
BIKE PROVISIONS INCLUDED?	N	**SENATE DIST:**	

Phase	FY Approved	Approved FY Estimate *	Fund	Phase Status
Engineering	LOCL	$64,000.00	LOC	AUTHORIZED
Construction	2011	$422,594.69	L230	AUTHORIZED

*** Inflation Included in Estimate**



Activity	Actual Start Date	Actual Finish Date
Management Concept Approval Complete	7/29/2010	7/29/2010
Environmental Summary	2/17/2010	1/26/2011
Preliminary Plans Summary	7/29/2010	2/16/2011
PFPR Inspection	12/9/2010	12/9/2010
Final Design Summary	11/1/2010	3/7/2011
FFPR Inspection	2/18/2011	2/18/2011

Right of Way Aqcuisition Information:

Preliminary Parcel Count: 0 **Total Parcel Count:** **Acquired by:** N/R

GW-400

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

Short Title	SR 20 (BUFORD DRIVE) WIDENING FROM SOUTH LEE STREET TO SR 13 (BUFORD HIGHWAY)
GDOT Project No.	TBD
Federal ID No.	N/A
Status	Programmed
Service Type	Roadway / General Purpose Capacity
Sponsor	Gwinnett County
Jurisdiction	Gwinnett County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	4	**LCI**		**Network Year**	2020
Planned Thru Lane	6	**Flex**		**Corridor Length**	1.0 miles

Detailed Description and Justification

This project will widen SR 20 (Buford Drive) from Southlee Street to SR 13 (Buford Highway). The poject will add two lanes; widening the road from 4 travel lanes to 6 travel lanes.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2016	**$375,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$375,000~~
ROW	Local Jurisdiction/Municipality Funds	AUTH	2016	**$1,125,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$1,125,000~~
CST	Local Jurisdiction/Municipality Funds		2017	**$2,250,000**	$0,000	$0,000	$0,000	$2,250,000
				$3,750,000	**$0,000**	**$0,000**	**$0,000**	**$3,750,000**

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

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

ARC

Report Generated: 9/9/2016

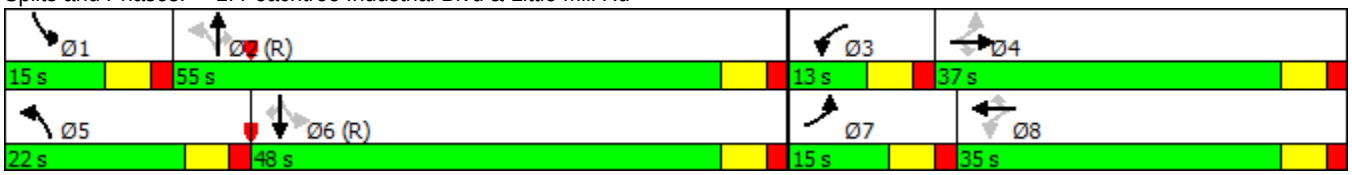
Appendix E:
Existing Intersection Analysis

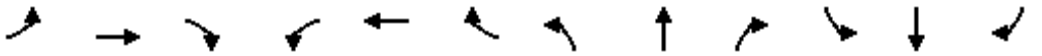
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Future Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Lane Group Flow (vph)	56	108	220	28	40	28	136	426	20	60	511	40
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	15.0	37.0	37.0	13.0	35.0	35.0	22.0	55.0	55.0	15.0	48.0	48.0
Total Split (%)	12.5%	30.8%	30.8%	10.8%	29.2%	29.2%	18.3%	45.8%	45.8%	12.5%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.25	0.49	0.58	0.14	0.25	0.09	0.22	0.19	0.02	0.09	0.24	0.04
Control Delay	40.5	56.7	12.6	38.4	53.4	0.6	7.5	12.0	0.1	7.1	13.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	56.7	12.6	38.4	53.4	0.6	7.5	12.0	0.1	7.1	13.4	0.1
Queue Length 50th (ft)	36	81	0	18	29	0	32	79	0	14	100	0
Queue Length 95th (ft)	64	131	69	31	55	0	53	121	0	16	153	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	234	481	572	200	450	527	702	2201	1036	690	2102	1017
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.38	0.14	0.09	0.05	0.19	0.19	0.02	0.09	0.24	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Future Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.60	1.00	1.00	0.69	1.00	1.00	0.43	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1114	1863	1583	1280	1863	1583	801	3539	1583	938	3539	1583
Peak-hour factor, PHF	0.84	0.87	0.89	0.68	0.78	0.64	0.78	0.91	0.85	0.47	0.94	0.55
Adj. Flow (vph)	56	108	220	28	40	28	136	426	20	60	511	40
RTOR Reduction (vph)	0	0	194	0	0	25	0	0	8	0	0	17
Lane Group Flow (vph)	56	108	26	28	40	3	136	426	12	60	511	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.1	14.3	14.3	15.9	11.7	11.7	79.7	71.1	71.1	75.3	68.9	68.9
Effective Green, g (s)	21.1	14.3	14.3	15.9	11.7	11.7	79.7	71.1	71.1	75.3	68.9	68.9
Actuated g/C Ratio	0.18	0.12	0.12	0.13	0.10	0.10	0.66	0.59	0.59	0.63	0.57	0.57
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	233	222	188	186	181	154	601	2096	937	632	2031	908
v/s Ratio Prot	c0.01	c0.06		0.01	0.02		c0.02	0.12		0.01	c0.14	
v/s Ratio Perm	0.03		0.02	0.01		0.00	0.13		0.01	0.05		0.01
v/c Ratio	0.24	0.49	0.14	0.15	0.22	0.02	0.23	0.20	0.01	0.09	0.25	0.03
Uniform Delay, d1	42.1	49.4	47.3	45.9	49.9	49.0	7.5	11.3	10.0	8.6	12.7	11.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.3	0.4	0.6	0.0	0.2	0.2	0.0	0.1	0.3	0.1
Delay (s)	42.7	51.1	47.7	46.3	50.6	49.0	7.7	11.5	10.1	8.7	13.0	11.1
Level of Service	D	D	D	D	D	D	A	B	B	A	B	B
Approach Delay (s)		47.9			48.9			10.6			12.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

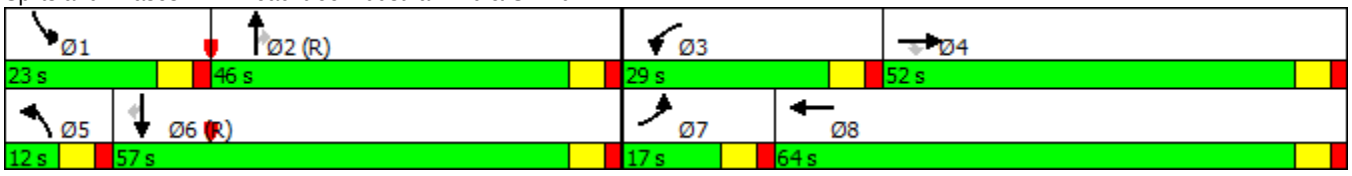
c Critical Lane Group

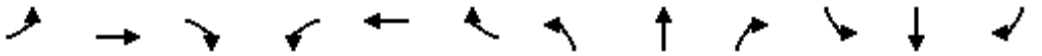
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	134	906	76	378	765	54	239	353	247	470	140
Future Volume (vph)	134	906	76	378	765	54	239	353	247	470	140
Lane Group Flow (vph)	147	985	112	450	999	64	249	458	281	505	156
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	17.0	52.0	52.0	29.0	64.0	12.0	46.0	46.0	23.0	57.0	57.0
Total Split (%)	11.3%	34.7%	34.7%	19.3%	42.7%	8.0%	30.7%	30.7%	15.3%	38.0%	38.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.62	0.93	0.18	0.88	0.76	0.47	0.17	0.71	0.77	0.27	0.23
Control Delay	79.6	66.4	0.7	81.5	44.2	81.8	41.5	27.2	79.8	34.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	66.4	0.7	81.5	44.2	81.8	41.5	27.2	79.8	34.8	5.6
Queue Length 50th (ft)	73	488	0	224	434	32	69	181	139	132	0
Queue Length 95th (ft)	112	#610	0	266	510	55	95	213	186	166	51
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	251	1085	621	526	1349	137	1453	641	389	1871	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.91	0.18	0.86	0.74	0.47	0.17	0.71	0.72	0.27	0.23

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	906	76	378	765	131	54	239	353	247	470	140
Future Volume (vph)	134	906	76	378	765	131	54	239	353	247	470	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.91	0.92	0.68	0.84	0.89	0.94	0.84	0.96	0.77	0.88	0.93	0.90
Adj. Flow (vph)	147	985	112	450	860	139	64	249	458	281	505	156
RTOR Reduction (vph)	0	0	78	0	9	0	0	0	189	0	0	100
Lane Group Flow (vph)	147	985	34	450	990	0	64	249	269	281	505	56
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	10.4	44.9	44.9	22.3	56.8		4.8	42.9	42.9	15.9	54.0	54.0
Effective Green, g (s)	10.4	44.9	44.9	22.3	56.8		4.8	42.9	42.9	15.9	54.0	54.0
Actuated g/C Ratio	0.07	0.30	0.30	0.15	0.38		0.03	0.29	0.29	0.11	0.36	0.36
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	238	1059	473	510	1312		109	1454	452	363	1830	569
v/s Ratio Prot	0.04	c0.28		c0.13	0.29		0.02	0.05		c0.08	0.10	
v/s Ratio Perm			0.02						c0.17			0.04
v/c Ratio	0.62	0.93	0.07	0.88	0.75		0.59	0.17	0.59	0.77	0.28	0.10
Uniform Delay, d1	67.9	51.0	37.6	62.6	40.5		71.6	40.2	46.1	65.3	34.1	31.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	13.9	0.1	16.3	2.5		7.8	0.3	5.7	9.9	0.4	0.3
Delay (s)	72.6	65.0	37.7	78.9	43.1		79.5	40.5	51.7	75.2	34.5	32.2
Level of Service	E	E	D	E	D		E	D	D	E	C	C
Approach Delay (s)		63.4			54.2			50.4			46.2	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

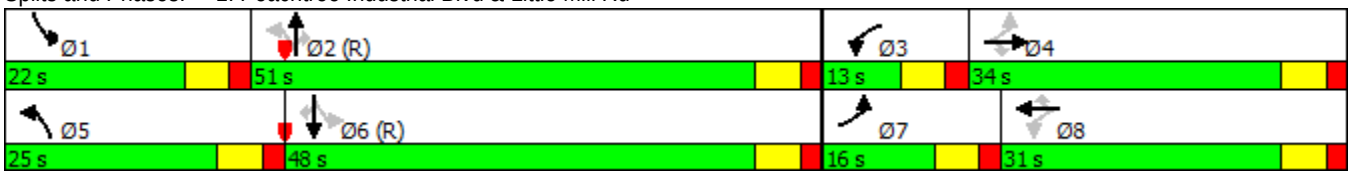
c Critical Lane Group

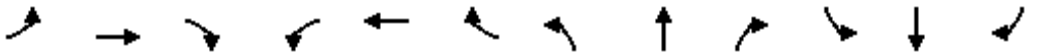
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Future Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Lane Group Flow (vph)	92	193	216	24	132	40	204	636	32	144	436	44
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	16.0	34.0	34.0	13.0	31.0	31.0	25.0	51.0	51.0	22.0	48.0	48.0
Total Split (%)	13.3%	28.3%	28.3%	10.8%	25.8%	25.8%	20.8%	42.5%	42.5%	18.3%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.34	0.56	0.46	0.10	0.58	0.13	0.33	0.36	0.04	0.29	0.24	0.05
Control Delay	37.7	51.8	8.9	32.9	59.4	0.9	11.0	20.1	0.1	10.7	18.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	51.8	8.9	32.9	59.4	0.9	11.0	20.1	0.1	10.7	18.5	0.1
Queue Length 50th (ft)	56	144	0	14	98	0	58	153	0	40	97	0
Queue Length 95th (ft)	81	192	38	25	128	0	108	234	0	40	157	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	155		275	300		300	540		200	230		310
Base Capacity (vph)	273	434	534	242	388	437	713	1786	866	564	1795	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.44	0.40	0.10	0.34	0.09	0.29	0.36	0.04	0.26	0.24	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Future Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.45	1.00	1.00	0.62	1.00	1.00	0.48	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	836	1863	1583	1146	1863	1583	886	3539	1583	654	3539	1583
Peak-hour factor, PHF	0.78	0.83	0.79	0.67	0.76	0.70	0.92	0.90	0.84	0.50	0.96	0.57
Adj. Flow (vph)	92	193	216	24	132	40	204	636	32	144	436	44
RTOR Reduction (vph)	0	0	176	0	0	34	0	0	16	0	0	23
Lane Group Flow (vph)	92	193	40	24	132	6	204	636	16	144	436	21
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	31.4	22.1	22.1	21.0	16.9	16.9	69.5	58.2	58.2	70.1	58.5	58.5
Effective Green, g (s)	31.4	22.1	22.1	21.0	16.9	16.9	69.5	58.2	58.2	70.1	58.5	58.5
Actuated g/C Ratio	0.26	0.18	0.18	0.18	0.14	0.14	0.58	0.49	0.49	0.58	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	291	343	291	221	262	222	596	1716	767	489	1725	771
v/s Ratio Prot	c0.02	c0.10		0.00	0.07		c0.03	c0.18		0.03	0.12	
v/s Ratio Perm	0.06		0.03	0.02		0.00	0.17		0.01	0.14		0.01
v/c Ratio	0.32	0.56	0.14	0.11	0.50	0.03	0.34	0.37	0.02	0.29	0.25	0.03
Uniform Delay, d1	34.7	44.6	41.0	41.4	47.7	44.4	12.0	19.4	16.1	11.7	18.0	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	2.1	0.2	0.2	1.5	0.0	0.3	0.6	0.0	0.3	0.4	0.1
Delay (s)	35.4	46.7	41.2	41.6	49.2	44.5	12.4	20.0	16.1	12.0	18.3	16.0
Level of Service	D	D	D	D	D	D	B	C	B	B	B	B
Approach Delay (s)		42.2			47.3			18.1			16.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

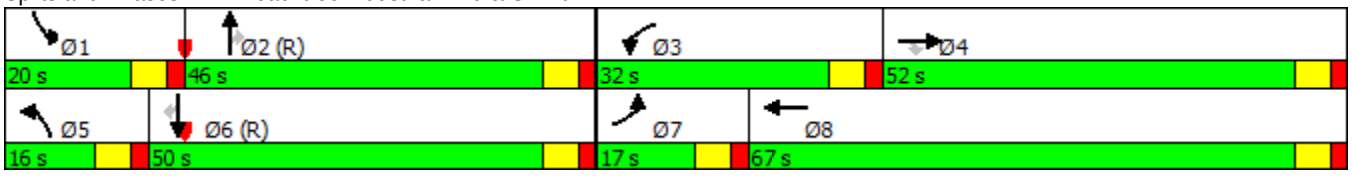
c Critical Lane Group

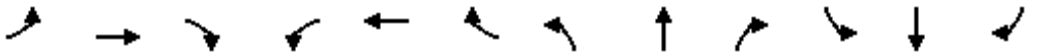
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	166	834	69	370	959	111	468	462	204	294	207
Future Volume (vph)	166	834	69	370	959	111	468	462	204	294	207
Lane Group Flow (vph)	184	869	76	394	1311	135	503	491	224	303	216
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	17.0	52.0	52.0	32.0	67.0	16.0	46.0	46.0	20.0	50.0	50.0
Total Split (%)	11.3%	34.7%	34.7%	21.3%	44.7%	10.7%	30.7%	30.7%	13.3%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.75	0.76	0.12	0.78	0.95	0.62	0.35	0.74	0.74	0.20	0.35
Control Delay	86.9	50.8	0.4	72.9	57.0	80.9	44.4	25.6	81.6	39.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.9	50.8	0.4	72.9	57.0	80.9	44.4	25.6	81.6	39.4	9.5
Queue Length 50th (ft)	92	397	0	193	632	67	147	175	111	82	20
Queue Length 95th (ft)	#144	496	0	246	714	95	185	325	159	110	87
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	251	1146	616	595	1414	228	1428	665	320	1552	614
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.76	0.12	0.66	0.93	0.59	0.35	0.74	0.70	0.20	0.35

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	834	69	370	959	192	111	468	462	204	294	207
Future Volume (vph)	166	834	69	370	959	192	111	468	462	204	294	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.90	0.96	0.91	0.94	0.88	0.87	0.82	0.93	0.94	0.91	0.97	0.96
Adj. Flow (vph)	184	869	76	394	1090	221	135	503	491	224	303	216
RTOR Reduction (vph)	0	0	51	0	11	0	0	0	221	0	0	131
Lane Group Flow (vph)	184	869	25	394	1300	0	135	503	270	224	303	85
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	10.8	48.6	48.6	22.0	59.8		9.6	42.1	42.1	13.3	45.8	45.8
Effective Green, g (s)	10.8	48.6	48.6	22.0	59.8		9.6	42.1	42.1	13.3	45.8	45.8
Actuated g/C Ratio	0.07	0.32	0.32	0.15	0.40		0.06	0.28	0.28	0.09	0.31	0.31
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	247	1146	512	503	1375		219	1427	444	304	1552	483
v/s Ratio Prot	0.05	0.25		c0.11	c0.38		0.04	0.10		c0.07	c0.06	
v/s Ratio Perm			0.02						c0.17			0.05
v/c Ratio	0.74	0.76	0.05	0.78	0.95		0.62	0.35	0.61	0.74	0.20	0.18
Uniform Delay, d1	68.2	45.4	34.8	61.7	43.5		68.4	43.1	46.8	66.6	38.5	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	2.9	0.0	7.8	13.3		5.1	0.7	6.1	9.0	0.3	0.8
Delay (s)	79.8	48.4	34.9	69.5	56.8		73.5	43.8	52.9	75.6	38.8	39.1
Level of Service	E	D	C	E	E		E	D	D	E	D	D
Approach Delay (s)		52.6			59.7			51.3			50.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Appendix F:
NCHRP 457 Right-turn lane Analysis

RIGHT-TURN LANE ANALYSIS
per NCHRP 457 guidelines

The following right-turn lane analyses were used to determine the need for dedicated turn bays at the proposed site driveway locations that are not located on State Routes.

Methdology

Guidelines for determining when to provide a right-turn bay on the major road of a two-way stop-controlled intersection are provided in Hasan, T. and Stokes, R.W. "Guidelines for Right-Turn Treatments at Unsignalized Intersections and Driveways on Rural Highways" (Transportation Research Record 1579). These guidelines were based on an evaluation of the operating and collisions costs associated with the right turn maneuver relative to the cost of construction. The operating costs included those of road-user fuel and delay. Separate guidelines were developed for two-lane and four-lane roadways, which are found in the NCHRP Report 457 “Evaluating Intersection Improvements: An Engineering Study Guide”.

Results

An evaluation of site traffic in relation to these guidelines is shown graphically in the following figures.

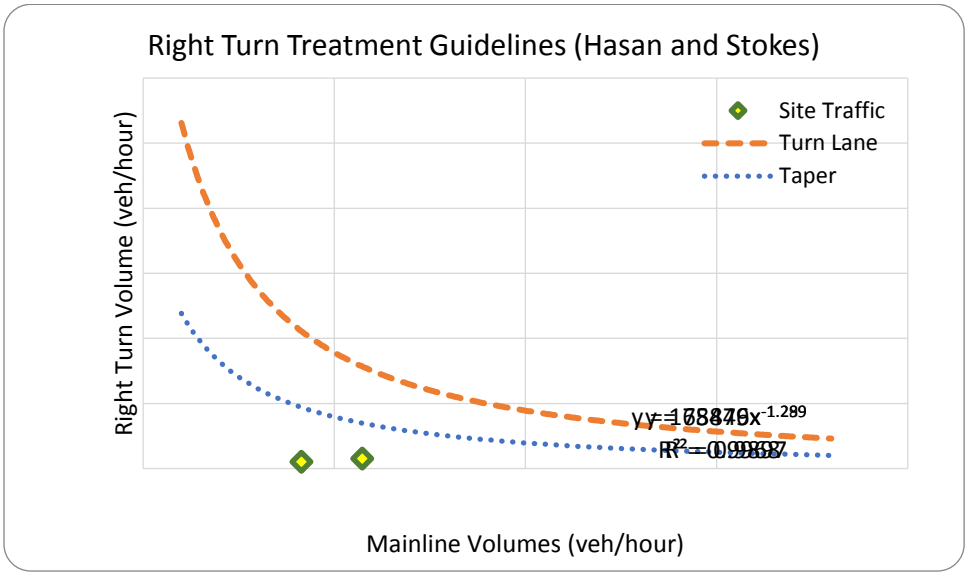


Figure 1 – NCHRP 457 Right-turn lane Guidelines: Site Driveway 1 (N)

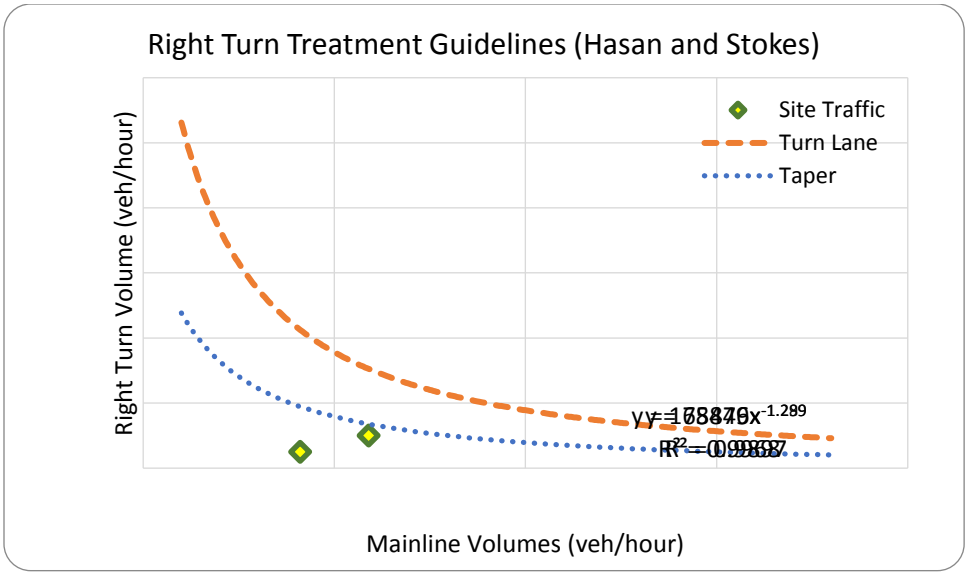


Figure 2 – NCHRP 457 Right-turn lane Guidelines: Site Driveway 2 (M)

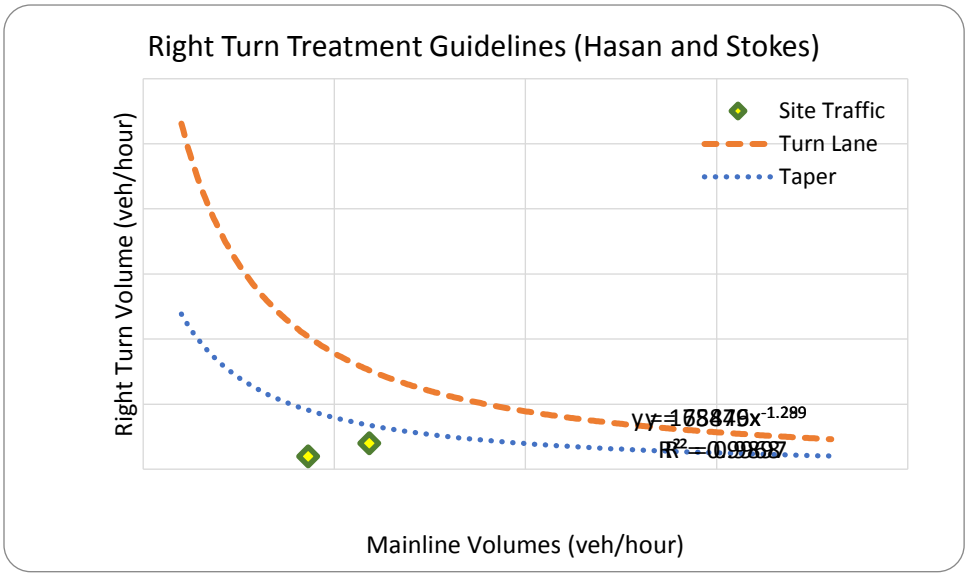


Figure 1 – NCHRP 457 Right-turn lane Guidelines: Site Driveway 3 (S)

Findings

The low volumes and speeds on the roadway would lessen the need for deceleration outside of the through lane. Therefore, unless stopping sight distance (480 feet for 50 mph) is obstructed on the southbound approach, a right-turn lane is not warranted on the mainline at all the three proposed site driveways using the criteria in the NCHRP Report 457.

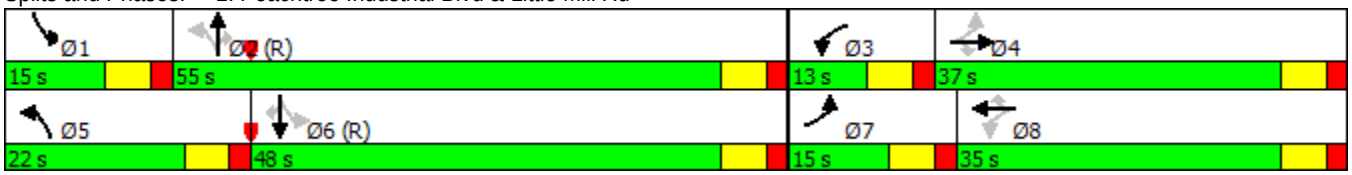
Appendix G:
Future “No-Build” Intersection Analysis

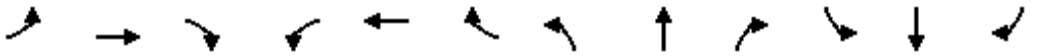
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Future Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Lane Group Flow (vph)	57	111	227	29	41	30	140	440	21	62	527	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	15.0	37.0	37.0	13.0	35.0	35.0	22.0	55.0	55.0	15.0	48.0	48.0
Total Split (%)	12.5%	30.8%	30.8%	10.8%	29.2%	29.2%	18.3%	45.8%	45.8%	12.5%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.25	0.49	0.58	0.15	0.25	0.10	0.23	0.20	0.02	0.09	0.25	0.04
Control Delay	40.5	56.7	12.5	38.4	53.2	0.6	7.6	12.2	0.1	7.2	13.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	56.7	12.5	38.4	53.2	0.6	7.6	12.2	0.1	7.2	13.6	0.1
Queue Length 50th (ft)	36	83	0	18	30	0	33	83	0	14	104	0
Queue Length 95th (ft)	65	133	69	32	55	0	54	126	0	16	159	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	155		275	300		300	540		200	230		310
Base Capacity (vph)	235	481	577	201	450	527	691	2195	1033	680	2094	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.23	0.39	0.14	0.09	0.06	0.20	0.20	0.02	0.09	0.25	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Future Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.59	1.00	1.00	0.69	1.00	1.00	0.42	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1107	1863	1583	1277	1863	1583	784	3539	1583	925	3539	1583
Peak-hour factor, PHF	0.84	0.87	0.89	0.68	0.78	0.64	0.78	0.91	0.85	0.47	0.94	0.55
Adj. Flow (vph)	57	111	227	29	41	30	140	440	21	62	527	42
RTOR Reduction (vph)	0	0	200	0	0	27	0	0	9	0	0	18
Lane Group Flow (vph)	57	111	27	29	41	3	140	440	12	62	527	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Effective Green, g (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Actuated g/C Ratio	0.18	0.12	0.12	0.13	0.10	0.10	0.66	0.59	0.59	0.63	0.57	0.57
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	235	225	191	187	183	155	590	2088	933	624	2023	904
v/s Ratio Prot	c0.01	c0.06		0.01	0.02		c0.02	0.12		0.01	c0.15	
v/s Ratio Perm	0.03		0.02	0.02		0.00	0.14		0.01	0.06		0.02
v/c Ratio	0.24	0.49	0.14	0.16	0.22	0.02	0.24	0.21	0.01	0.10	0.26	0.03
Uniform Delay, d1	41.9	49.3	47.2	45.8	49.9	48.9	7.6	11.5	10.2	8.7	12.9	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.3	0.4	0.6	0.0	0.2	0.2	0.0	0.1	0.3	0.1
Delay (s)	42.4	51.0	47.5	46.2	50.5	48.9	7.8	11.7	10.2	8.8	13.2	11.2
Level of Service	D	D	D	D	D	D	A	B	B	A	B	B
Approach Delay (s)		47.8			48.8			10.8			12.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

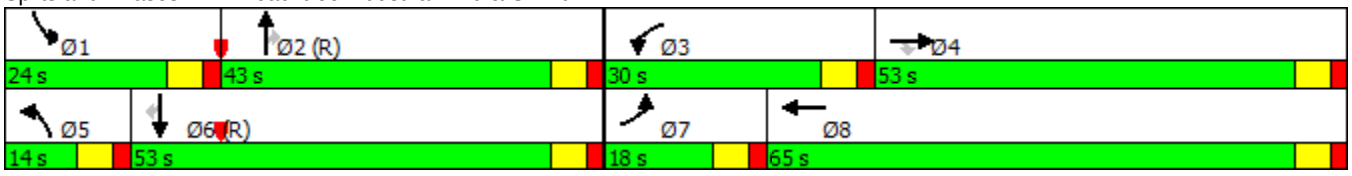
c Critical Lane Group

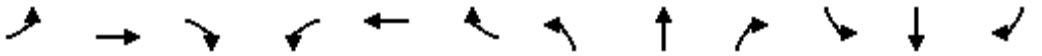
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	138	933	78	389	788	56	246	364	254	484	144
Future Volume (vph)	138	933	78	389	788	56	246	364	254	484	144
Lane Group Flow (vph)	152	1014	115	463	1029	67	256	473	289	520	160
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	18.0	53.0	53.0	30.0	65.0	14.0	43.0	43.0	24.0	53.0	53.0
Total Split (%)	12.0%	35.3%	35.3%	20.0%	43.3%	9.3%	28.7%	28.7%	16.0%	35.3%	35.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.60	0.94	0.19	0.88	0.76	0.39	0.19	0.76	0.76	0.30	0.25
Control Delay	77.5	66.1	0.7	79.9	43.7	75.7	43.7	30.6	78.1	37.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	66.1	0.7	79.9	43.7	75.7	43.7	30.6	78.1	37.6	6.1
Queue Length 50th (ft)	75	503	0	229	448	33	73	199	142	142	0
Queue Length 95th (ft)	114	#629	0	271	525	56	101	232	189	178	54
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	274	1108	630	549	1375	183	1365	622	411	1756	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.92	0.18	0.84	0.75	0.37	0.19	0.76	0.70	0.30	0.25

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	933	78	389	788	135	56	246	364	254	484	144
Future Volume (vph)	138	933	78	389	788	135	56	246	364	254	484	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.91	0.92	0.68	0.84	0.89	0.94	0.84	0.96	0.77	0.88	0.93	0.90
Adj. Flow (vph)	152	1014	115	463	885	144	67	256	473	289	520	160
RTOR Reduction (vph)	0	0	80	0	9	0	0	0	197	0	0	106
Lane Group Flow (vph)	152	1014	35	463	1020	0	67	256	276	289	520	54
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	11.1	46.0	46.0	23.1	58.0		6.3	40.3	40.3	16.6	50.6	50.6
Effective Green, g (s)	11.1	46.0	46.0	23.1	58.0		6.3	40.3	40.3	16.6	50.6	50.6
Actuated g/C Ratio	0.07	0.31	0.31	0.15	0.39		0.04	0.27	0.27	0.11	0.34	0.34
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	254	1085	485	528	1339		144	1366	425	379	1715	533
v/s Ratio Prot	0.04	c0.29		c0.13	0.29		0.02	0.05		c0.08	0.10	
v/s Ratio Perm			0.02						c0.17			0.03
v/c Ratio	0.60	0.93	0.07	0.88	0.76		0.47	0.19	0.65	0.76	0.30	0.10
Uniform Delay, d1	67.3	50.5	36.9	62.1	40.0		70.2	42.2	48.6	64.8	36.7	34.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	14.2	0.1	15.1	2.6		2.4	0.3	7.5	8.8	0.5	0.4
Delay (s)	71.1	64.7	36.9	77.2	42.6		72.6	42.5	56.0	73.6	37.1	34.5
Level of Service	E	E	D	E	D		E	D	E	E	D	C
Approach Delay (s)		63.0			53.3			53.1			47.6	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

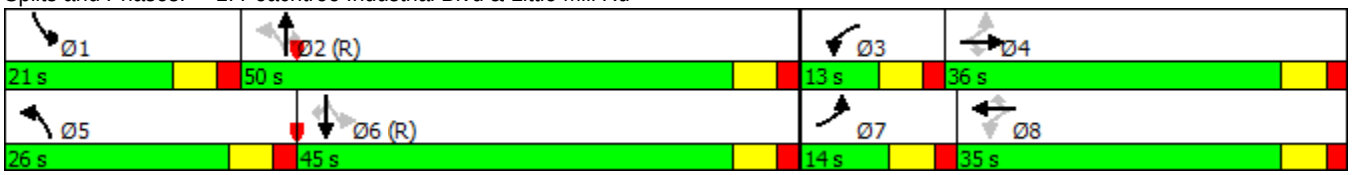
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Future Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Lane Group Flow (vph)	95	199	223	24	136	41	211	654	33	148	450	46
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	14.0	36.0	36.0	13.0	35.0	35.0	26.0	50.0	50.0	21.0	45.0	45.0
Total Split (%)	11.7%	30.0%	30.0%	10.8%	29.2%	29.2%	21.7%	41.7%	41.7%	17.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.36	0.58	0.47	0.10	0.54	0.12	0.35	0.37	0.04	0.30	0.25	0.05
Control Delay	38.2	52.2	8.8	32.6	55.4	0.8	11.2	20.2	0.1	10.9	18.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	52.2	8.8	32.6	55.4	0.8	11.2	20.2	0.1	10.9	18.9	0.1
Queue Length 50th (ft)	58	148	0	14	99	0	61	158	0	41	101	0
Queue Length 95th (ft)	83	197	39	25	128	0	113	242	0	42	165	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	262	465	563	240	450	485	710	1787	866	543	1784	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.43	0.40	0.10	0.30	0.08	0.30	0.37	0.04	0.27	0.25	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Future Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.49	1.00	1.00	0.55	1.00	1.00	0.46	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	911	1863	1583	1022	1863	1583	862	3539	1583	642	3539	1583
Peak-hour factor, PHF	0.78	0.83	0.79	0.67	0.76	0.70	0.92	0.90	0.84	0.50	0.96	0.57
Adj. Flow (vph)	95	199	223	24	136	41	211	654	33	148	450	46
RTOR Reduction (vph)	0	0	182	0	0	35	0	0	17	0	0	24
Lane Group Flow (vph)	95	199	41	24	136	6	211	654	16	148	450	22
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	30.0	22.2	22.2	22.6	18.5	18.5	69.8	58.3	58.3	69.6	58.2	58.2
Effective Green, g (s)	30.0	22.2	22.2	22.6	18.5	18.5	69.8	58.3	58.3	69.6	58.2	58.2
Actuated g/C Ratio	0.25	0.18	0.18	0.19	0.15	0.15	0.58	0.49	0.49	0.58	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	283	344	292	218	287	244	588	1719	769	479	1716	767
v/s Ratio Prot	c0.02	c0.11		0.00	0.07		c0.03	c0.18		0.03	0.13	
v/s Ratio Perm	0.06		0.03	0.02		0.00	0.17		0.01	0.15		0.01
v/c Ratio	0.34	0.58	0.14	0.11	0.47	0.03	0.36	0.38	0.02	0.31	0.26	0.03
Uniform Delay, d1	35.8	44.6	40.9	40.1	46.3	43.1	12.0	19.5	16.0	11.9	18.2	16.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	2.4	0.2	0.2	1.2	0.0	0.4	0.6	0.0	0.4	0.4	0.1
Delay (s)	36.5	47.0	41.1	40.3	47.5	43.1	12.4	20.1	16.1	12.3	18.6	16.2
Level of Service	D	D	D	D	D	D	B	C	B	B	B	B
Approach Delay (s)		42.5			45.8			18.1			17.0	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

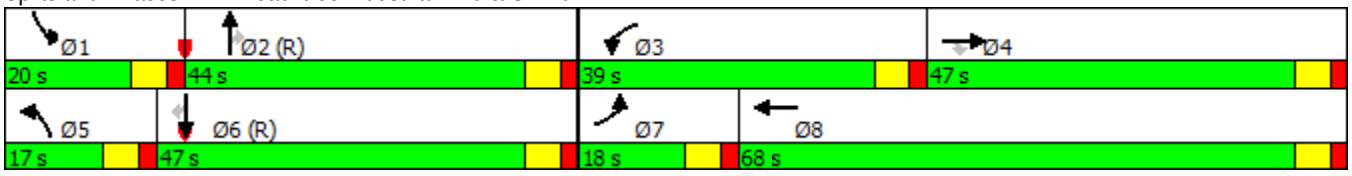
c Critical Lane Group

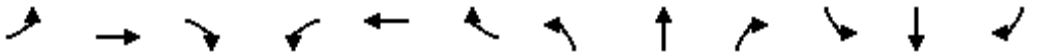
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	171	859	71	381	988	114	482	476	210	303	213
Future Volume (vph)	171	859	71	381	988	114	482	476	210	303	213
Lane Group Flow (vph)	190	895	78	405	1351	139	518	506	231	312	222
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	18.0	47.0	47.0	39.0	68.0	17.0	44.0	44.0	20.0	47.0	47.0
Total Split (%)	12.0%	31.3%	31.3%	26.0%	45.3%	11.3%	29.3%	29.3%	13.3%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.72	0.76	0.12	0.77	0.95	0.59	0.38	0.72	0.75	0.21	0.37
Control Delay	83.2	50.3	0.4	71.1	57.5	78.5	46.5	18.6	82.6	41.7	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.2	50.3	0.4	71.1	57.5	78.5	46.5	18.6	82.6	41.7	9.7
Queue Length 50th (ft)	94	407	0	198	655	69	155	107	115	87	18
Queue Length 95th (ft)	139	516	0	247	#749	96	194	255	162	116	88
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	274	1173	627	755	1437	251	1353	703	320	1459	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.76	0.12	0.54	0.94	0.55	0.38	0.72	0.72	0.21	0.37

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	859	71	381	988	198	114	482	476	210	303	213
Future Volume (vph)	171	859	71	381	988	198	114	482	476	210	303	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.90	0.96	0.91	0.94	0.88	0.87	0.82	0.93	0.94	0.91	0.97	0.96
Adj. Flow (vph)	190	895	78	405	1123	228	139	518	506	231	312	222
RTOR Reduction (vph)	0	0	52	0	11	0	0	0	283	0	0	141
Lane Group Flow (vph)	190	895	26	405	1340	0	139	518	223	231	312	81
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	11.6	49.7	49.7	23.0	61.1		10.3	39.9	39.9	13.4	43.0	43.0
Effective Green, g (s)	11.6	49.7	49.7	23.0	61.1		10.3	39.9	39.9	13.4	43.0	43.0
Actuated g/C Ratio	0.08	0.33	0.33	0.15	0.41		0.07	0.27	0.27	0.09	0.29	0.29
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	265	1172	524	526	1405		235	1352	421	306	1457	453
v/s Ratio Prot	0.06	0.25		c0.12	c0.39		0.04	0.10		c0.07	c0.06	
v/s Ratio Perm			0.02						c0.14			0.05
v/c Ratio	0.72	0.76	0.05	0.77	0.95		0.59	0.38	0.53	0.75	0.21	0.18
Uniform Delay, d1	67.6	44.9	34.1	61.0	43.1		67.8	45.0	47.0	66.7	40.7	40.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	3.0	0.0	6.7	14.3		4.0	0.8	4.7	10.1	0.3	0.9
Delay (s)	76.5	47.9	34.1	67.7	57.4		71.8	45.8	51.8	76.8	41.0	41.1
Level of Service	E	D	C	E	E		E	D	D	E	D	D
Approach Delay (s)		51.7			59.8			51.5			51.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

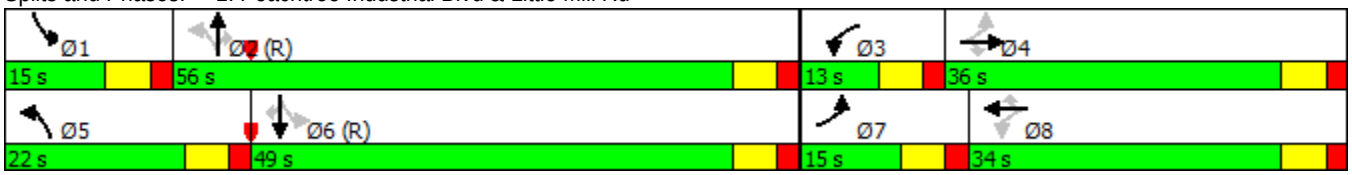
Appendix H:
Future “Build” Intersections Analysis

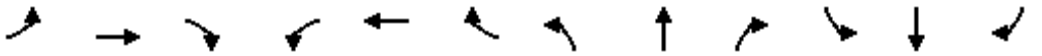
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Future Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Lane Group Flow (vph)	57	111	229	32	41	30	141	448	22	62	546	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	15.0	36.0	36.0	13.0	34.0	34.0	22.0	56.0	56.0	15.0	49.0	49.0
Total Split (%)	12.5%	30.0%	30.0%	10.8%	28.3%	28.3%	18.3%	46.7%	46.7%	12.5%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.25	0.49	0.58	0.16	0.25	0.10	0.24	0.20	0.02	0.09	0.26	0.04
Control Delay	40.5	56.7	12.5	38.7	53.2	0.6	7.6	12.2	0.1	7.2	13.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	56.7	12.5	38.7	53.2	0.6	7.6	12.2	0.1	7.2	13.7	0.1
Queue Length 50th (ft)	36	83	0	20	30	0	34	84	0	14	108	0
Queue Length 95th (ft)	65	133	69	34	55	0	54	128	0	16	165	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	235	465	567	201	434	515	679	2195	1033	675	2092	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.24	0.40	0.16	0.09	0.06	0.21	0.20	0.02	0.09	0.26	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Future Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.59	1.00	1.00	0.69	1.00	1.00	0.41	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	1107	1863	1583	1277	1863	1583	764	3539	1583	918	3539	1583
Peak-hour factor, PHF	0.84	0.87	0.89	0.68	0.78	0.64	0.78	0.91	0.85	0.47	0.94	0.55
Adj. Flow (vph)	57	111	229	32	41	30	141	448	22	62	546	42
RTOR Reduction (vph)	0	0	201	0	0	27	0	0	9	0	0	18
Lane Group Flow (vph)	57	111	28	32	41	3	141	448	13	62	546	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Effective Green, g (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Actuated g/C Ratio	0.18	0.12	0.12	0.13	0.10	0.10	0.66	0.59	0.59	0.63	0.57	0.57
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	235	225	191	187	183	155	579	2088	933	620	2023	904
v/s Ratio Prot	c0.01	c0.06		0.01	0.02		c0.02	0.13		0.01	c0.15	
v/s Ratio Perm	0.03		0.02	0.02		0.00	0.14		0.01	0.06		0.02
v/c Ratio	0.24	0.49	0.14	0.17	0.22	0.02	0.24	0.21	0.01	0.10	0.27	0.03
Uniform Delay, d1	41.9	49.3	47.2	45.9	49.9	48.9	7.6	11.5	10.2	8.7	13.0	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.4	0.4	0.6	0.0	0.2	0.2	0.0	0.1	0.3	0.1
Delay (s)	42.4	51.0	47.6	46.3	50.5	48.9	7.8	11.8	10.2	8.8	13.3	11.2
Level of Service	D	D	D	D	D	D	A	B	B	A	B	B
Approach Delay (s)		47.8			48.7			10.8			12.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

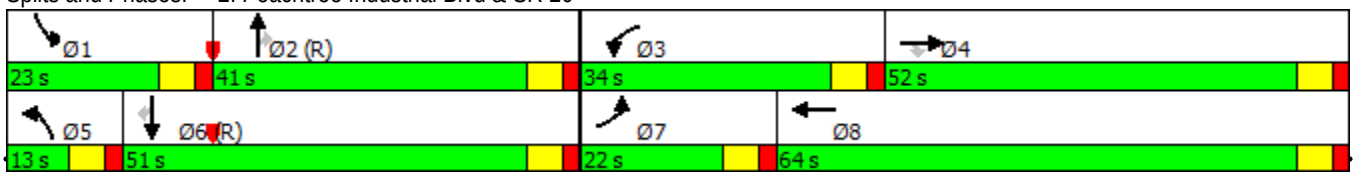
c Critical Lane Group

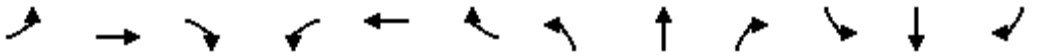
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	149	933	78	389	788	56	265	364	264	493	149
Future Volume (vph)	149	933	78	389	788	56	265	364	264	493	149
Lane Group Flow (vph)	164	1014	115	463	1051	67	276	473	300	530	166
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	22.0	52.0	52.0	34.0	64.0	13.0	41.0	41.0	23.0	51.0	51.0
Total Split (%)	14.7%	34.7%	34.7%	22.7%	42.7%	8.7%	27.3%	27.3%	15.3%	34.0%	34.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.57	0.95	0.19	0.82	0.79	0.43	0.21	0.73	0.80	0.30	0.25
Control Delay	73.9	68.8	0.7	72.8	45.1	78.4	44.5	24.3	82.2	37.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	68.8	0.7	72.8	45.1	78.4	44.5	24.3	82.2	37.7	6.1
Queue Length 50th (ft)	80	508	0	227	462	33	79	148	149	144	0
Queue Length 95th (ft)	118	#642	0	262	545	56	110	185	198	184	m54
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	366	1085	621	640	1357	160	1346	650	389	1750	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.93	0.19	0.72	0.77	0.42	0.21	0.73	0.77	0.30	0.25

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	933	78	389	788	156	56	265	364	264	493	149
Future Volume (vph)	149	933	78	389	788	156	56	265	364	264	493	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3455		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3455		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.91	0.92	0.68	0.84	0.89	0.94	0.84	0.96	0.77	0.88	0.93	0.90
Adj. Flow (vph)	164	1014	115	463	885	166	67	276	473	300	530	166
RTOR Reduction (vph)	0	0	80	0	10	0	0	0	232	0	0	110
Lane Group Flow (vph)	164	1014	35	463	1041	0	67	276	241	300	530	56
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	12.5	45.3	45.3	24.7	57.5		5.6	39.7	39.7	16.3	50.4	50.4
Effective Green, g (s)	12.5	45.3	45.3	24.7	57.5		5.6	39.7	39.7	16.3	50.4	50.4
Actuated g/C Ratio	0.08	0.30	0.30	0.16	0.38		0.04	0.26	0.26	0.11	0.34	0.34
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	286	1068	478	565	1324		128	1345	418	373	1708	531
v/s Ratio Prot	0.05	c0.29		c0.13	c0.30		0.02	0.05		c0.09	0.10	
v/s Ratio Perm			0.02						c0.15			0.04
v/c Ratio	0.57	0.95	0.07	0.82	0.79		0.52	0.21	0.58	0.80	0.31	0.11
Uniform Delay, d1	66.2	51.2	37.4	60.5	40.8		70.9	42.9	47.9	65.3	36.9	34.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.99	0.98
Incremental Delay, d2	2.8	16.6	0.1	9.1	3.2		3.8	0.3	5.7	11.9	0.5	0.4
Delay (s)	69.0	67.8	37.4	69.6	44.0		74.7	43.2	53.6	77.4	37.0	33.8
Level of Service	E	E	D	E	D		E	D	D	E	D	C
Approach Delay (s)		65.2			51.8			51.8			48.7	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	2	4	8	526	3	773	3
Future Volume (Veh/h)	2	4	8	526	3	773	3
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.38	0.93	0.92
Hourly flow rate (vph)	2	4	9	598	0	831	3
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				Raised		Raised	
Median storage veh)				1		1	
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1148	416	834		0		
vC1, stage 1 conf vol	831						
vC2, stage 2 conf vol	317						
vCu, unblocked vol	1148	416	834		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	99	99	99		0		
cM capacity (veh/h)	304	586	795		0		

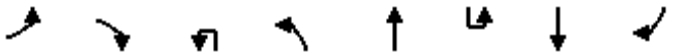
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	6	9	299	299	416	416	3	0
Volume Left	2	9	0	0	0	0	0	0
Volume Right	4	0	0	0	0	0	3	0
cSH	447	795	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.18	0.18	0.24	0.24	0.00	0.00
Queue Length 95th (ft)	1	1	0	0	0	0	0	0
Control Delay (s)	13.2	9.6	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	13.2	0.1			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	4	10	23	529	0	790	10
Future Volume (Veh/h)	4	10	23	529	0	790	10
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.92	0.90	0.92
Hourly flow rate (vph)	4	11	25	601	0	878	11
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				Raised		Raised	
Median storage veh)				1		1	
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1228	439	889		0		
vC1, stage 1 conf vol	878						
vC2, stage 2 conf vol	350						
vCu, unblocked vol	1228	439	889		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	99	98	97		0		
cM capacity (veh/h)	281	566	758		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	4	11	25	300	300	439	439	11	0
Volume Left	4	0	25	0	0	0	0	0	0
Volume Right	0	11	0	0	0	0	0	11	0
cSH	281	566	758	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.02	0.03	0.18	0.18	0.26	0.26	0.01	0.00
Queue Length 95th (ft)	1	1	3	0	0	0	0	0	0
Control Delay (s)	18.0	11.5	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	A						
Approach Delay (s)	13.2		0.4			0.0			
Approach LOS	B								

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	31.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (veh/h)	3	8	31	18	537	0	792	8
Future Volume (Veh/h)	3	8	31	18	537	0	792	8
Sign Control	Stop				Free		Free	
Grade	0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.75	0.92	0.95	0.92	0.90	0.92
Hourly flow rate (vph)	3	9	0	20	565	0	880	9
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type					Raised		Raised	
Median storage veh)					1		1	
Upstream signal (ft)								
pX, platoon unblocked			0.00			0.00		
vC, conflicting volume	1202	440	0	889		0		
vC1, stage 1 conf vol	880							
vC2, stage 2 conf vol	322							
vCu, unblocked vol	1202	440	0	889		0		
tC, single (s)	6.8	6.9	0.0	4.1		0.0		
tC, 2 stage (s)	5.8							
tF (s)	3.5	3.3	0.0	2.2		0.0		
p0 queue free %	99	98	0	97		0		
cM capacity (veh/h)	286	565	0	758		0		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	12	20	282	282	440	440	9	0
Volume Left	3	20	0	0	0	0	0	0
Volume Right	9	0	0	0	0	0	9	0
cSH	454	758	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.03	0.17	0.17	0.26	0.26	0.01	0.00
Queue Length 95th (ft)	2	2	0	0	0	0	0	0
Control Delay (s)	13.1	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	13.1	0.3			0.0			
Approach LOS	B							

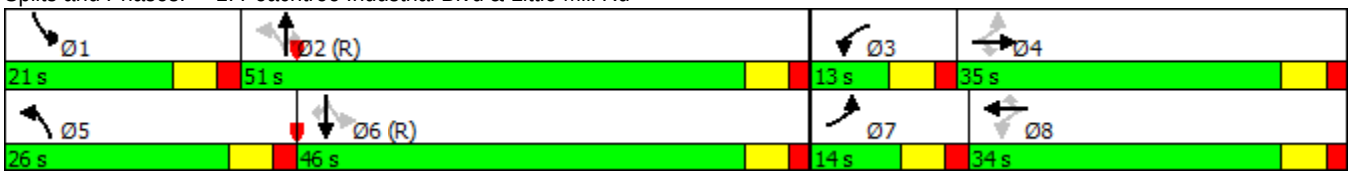
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	38.6%	ICU Level of Service		A
Analysis Period (min)	15			

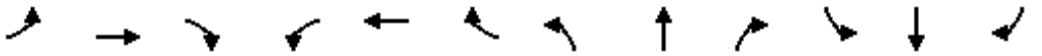
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Future Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Lane Group Flow (vph)	95	199	224	25	136	41	213	678	36	148	459	46
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	14.0	35.0	35.0	13.0	34.0	34.0	26.0	51.0	51.0	21.0	46.0	46.0
Total Split (%)	11.7%	29.2%	29.2%	10.8%	28.3%	28.3%	21.7%	42.5%	42.5%	17.5%	38.3%	38.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.36	0.58	0.47	0.11	0.54	0.12	0.35	0.38	0.04	0.31	0.26	0.05
Control Delay	38.1	52.2	8.8	32.6	55.4	0.8	11.2	20.4	0.1	11.0	19.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	52.2	8.8	32.6	55.4	0.8	11.2	20.4	0.1	11.0	19.0	0.1
Queue Length 50th (ft)	58	148	0	15	99	0	62	167	0	42	104	0
Queue Length 95th (ft)	83	198	39	26	128	0	113	251	0	42	167	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	263	450	552	240	434	473	705	1787	866	531	1784	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.44	0.41	0.10	0.31	0.09	0.30	0.38	0.04	0.28	0.26	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Future Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.49	1.00	1.00	0.55	1.00	1.00	0.46	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	917	1863	1583	1017	1863	1583	851	3539	1583	618	3539	1583
Peak-hour factor, PHF	0.78	0.83	0.79	0.67	0.76	0.70	0.92	0.90	0.84	0.50	0.96	0.57
Adj. Flow (vph)	95	199	224	25	136	41	213	678	36	148	459	46
RTOR Reduction (vph)	0	0	183	0	0	35	0	0	19	0	0	24
Lane Group Flow (vph)	95	199	41	25	136	6	213	678	17	148	459	22
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	30.0	22.2	22.2	22.8	18.6	18.6	69.7	58.2	58.2	69.5	58.1	58.1
Effective Green, g (s)	30.0	22.2	22.2	22.8	18.6	18.6	69.7	58.2	58.2	69.5	58.1	58.1
Actuated g/C Ratio	0.25	0.18	0.18	0.19	0.16	0.16	0.58	0.49	0.49	0.58	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	284	344	292	219	288	245	582	1716	767	467	1713	766
v/s Ratio Prot	c0.02	c0.11		0.00	0.07		c0.04	c0.19		0.03	0.13	
v/s Ratio Perm	0.06		0.03	0.02		0.00	0.18		0.01	0.15		0.01
v/c Ratio	0.33	0.58	0.14	0.11	0.47	0.03	0.37	0.40	0.02	0.32	0.27	0.03
Uniform Delay, d1	35.8	44.6	40.9	40.0	46.2	43.0	12.1	19.7	16.1	12.0	18.3	16.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	2.4	0.2	0.2	1.2	0.0	0.4	0.7	0.1	0.4	0.4	0.1
Delay (s)	36.5	47.0	41.2	40.2	47.4	43.1	12.5	20.4	16.1	12.4	18.7	16.3
Level of Service	D	D	D	D	D	D	B	C	B	B	B	B
Approach Delay (s)		42.5			45.7			18.4			17.1	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

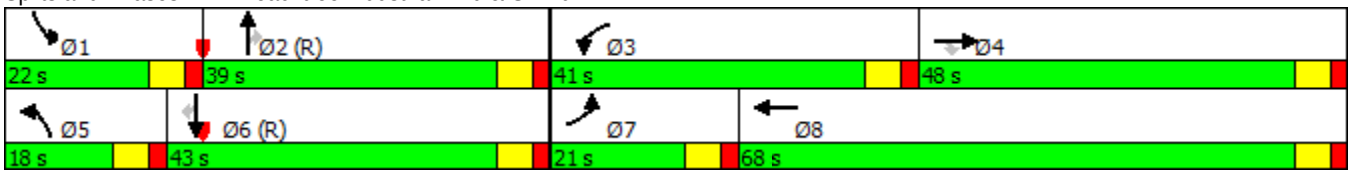
c Critical Lane Group

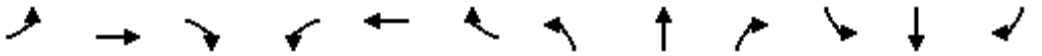
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	176	859	71	381	988	114	491	476	235	323	225
Future Volume (vph)	176	859	71	381	988	114	491	476	235	323	225
Lane Group Flow (vph)	196	895	78	405	1363	139	528	506	258	333	234
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	21.0	48.0	48.0	41.0	68.0	18.0	39.0	39.0	22.0	43.0	43.0
Total Split (%)	14.0%	32.0%	32.0%	27.3%	45.3%	12.0%	26.0%	26.0%	14.7%	28.7%	28.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.65	0.74	0.12	0.77	0.96	0.57	0.43	0.74	0.75	0.24	0.39
Control Delay	76.2	47.9	0.4	71.0	58.5	76.4	49.9	19.6	80.0	44.0	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	47.9	0.4	71.0	58.5	76.4	49.9	19.6	80.0	44.0	7.5
Queue Length 50th (ft)	96	399	0	198	664	68	164	102	127	95	2
Queue Length 95th (ft)	139	501	0	247	#787	96	207	256	177	128	72
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	343	1214	643	801	1437	274	1238	683	366	1382	598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.74	0.12	0.51	0.95	0.51	0.43	0.74	0.70	0.24	0.39

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	859	71	381	988	209	114	491	476	235	323	225
Future Volume (vph)	176	859	71	381	988	209	114	491	476	235	323	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3446		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3446		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.90	0.96	0.91	0.94	0.88	0.87	0.82	0.93	0.94	0.91	0.97	0.96
Adj. Flow (vph)	196	895	78	405	1123	240	139	528	506	258	333	234
RTOR Reduction (vph)	0	0	51	0	12	0	0	0	298	0	0	168
Lane Group Flow (vph)	196	895	27	405	1351	0	139	528	208	258	333	66
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	13.2	51.5	51.5	23.0	61.3		10.7	36.5	36.5	15.0	40.8	40.8
Effective Green, g (s)	13.2	51.5	51.5	23.0	61.3		10.7	36.5	36.5	15.0	40.8	40.8
Actuated g/C Ratio	0.09	0.34	0.34	0.15	0.41		0.07	0.24	0.24	0.10	0.27	0.27
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	302	1215	543	526	1408		244	1237	385	343	1383	430
v/s Ratio Prot	0.06	0.25		c0.12	c0.39		0.04	0.10		c0.08	c0.07	
v/s Ratio Perm			0.02						c0.13			0.04
v/c Ratio	0.65	0.74	0.05	0.77	0.96		0.57	0.43	0.54	0.75	0.24	0.15
Uniform Delay, d1	66.2	43.3	32.9	61.0	43.1		67.4	47.9	49.4	65.7	42.5	41.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	2.4	0.0	6.7	15.2		3.0	1.1	5.3	9.0	0.4	0.8
Delay (s)	70.9	45.7	32.9	67.7	58.3		70.5	49.0	54.8	74.7	42.9	42.2
Level of Service	E	D	C	E	E		E	D	D	E	D	D
Approach Delay (s)		49.0			60.4			54.0			52.7	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (veh/h)	4	9	2	4	783	3	614	2
Future Volume (Veh/h)	4	9	2	4	783	3	614	2
Sign Control	Stop				Free		Free	
Grade	0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.50	0.92	0.88	0.75	0.95	0.92
Hourly flow rate (vph)	4	10	0	4	890	0	646	2
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type					Raised		Raised	
Median storage veh)					1		1	
Upstream signal (ft)								
pX, platoon unblocked			0.00			0.00		
vC, conflicting volume	1099	323	0	648		0		
vC1, stage 1 conf vol	646							
vC2, stage 2 conf vol	453							
vCu, unblocked vol	1099	323	0	648		0		
tC, single (s)	6.8	6.9	0.0	4.1		0.0		
tC, 2 stage (s)	5.8							
tF (s)	3.5	3.3	0.0	2.2		0.0		
p0 queue free %	99	99	0	100		0		
cM capacity (veh/h)	337	673	0	934		0		

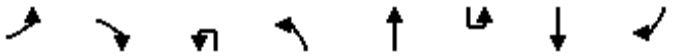
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	14	4	445	445	323	323	2	0
Volume Left	4	4	0	0	0	0	0	0
Volume Right	10	0	0	0	0	0	2	0
cSH	524	934	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.00	0.26	0.26	0.19	0.19	0.00	0.00
Queue Length 95th (ft)	2	0	0	0	0	0	0	0
Control Delay (s)	12.1	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	12.1	0.0			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	12	26	12	777	0	611	5
Future Volume (Veh/h)	12	26	12	777	0	611	5
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.92	0.95	0.92
Hourly flow rate (vph)	13	28	13	883	0	643	5
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				Raised		Raised	
Median storage veh)				1		1	
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1110	322	648		0		
vC1, stage 1 conf vol	643						
vC2, stage 2 conf vol	468						
vCu, unblocked vol	1110	322	648		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	96	96	99		0		
cM capacity (veh/h)	333	674	934		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	13	28	13	442	442	322	322	5	0
Volume Left	13	0	13	0	0	0	0	0	0
Volume Right	0	28	0	0	0	0	0	5	0
cSH	333	674	934	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.04	0.04	0.01	0.26	0.26	0.19	0.19	0.00	0.00
Queue Length 95th (ft)	3	3	1	0	0	0	0	0	0
Control Delay (s)	16.3	10.6	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	A						
Approach Delay (s)	12.4		0.1			0.0			
Approach LOS	B								

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	31.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (veh/h)	9	21	10	9	771	0	632	4
Future Volume (Veh/h)	9	21	10	9	771	0	632	4
Sign Control	Stop				Free		Free	
Grade	0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.92	0.96	0.92	0.95	0.92
Hourly flow rate (vph)	10	23	0	10	803	0	665	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type					Raised		Raised	
Median storage veh)					1		1	
Upstream signal (ft)								
pX, platoon unblocked			0.00			0.00		
vC, conflicting volume	1086	332	0	669		0		
vC1, stage 1 conf vol	665							
vC2, stage 2 conf vol	422							
vCu, unblocked vol	1086	332	0	669		0		
tC, single (s)	6.8	6.9	0.0	4.1		0.0		
tC, 2 stage (s)	5.8							
tF (s)	3.5	3.3	0.0	2.2		0.0		
p0 queue free %	97	97	0	99		0		
cM capacity (veh/h)	338	663	0	917		0		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	33	10	402	402	332	332	4	0
Volume Left	10	10	0	0	0	0	0	0
Volume Right	23	0	0	0	0	0	4	0
cSH	513	917	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.01	0.24	0.24	0.20	0.20	0.00	0.00
Queue Length 95th (ft)	5	1	0	0	0	0	0	0
Control Delay (s)	12.5	9.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	12.5	0.1			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix I:
Traffic Volume Worksheets

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

1. Peachtree @ Little Mill Rd

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	106	388	17	511	0	28	480	22	530	0	47	94	196	337	0	19	31	18	68
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	109	400	18	527	0	29	495	23	547	0	48	97	202	347	0	20	32	19	71
Car Trips:	0	1	6	1	8	0	0	14	0	14	0	0	0	2	2	0	2	0	0	2
Truck Trips:	0	0	2	0	2	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	1	8	1	10	0	0	18	0	18	0	0	0	2	2	0	2	0	0	2
Future Traffic Volumes:	0	110	408	19	537	0	29	513	23	565	0	48	97	204	349	0	22	32	19	73

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	188	572	27	787	0	72	419	25	516	0	72	160	171	403	0	16	100	28	144
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	194	589	28	811	0	74	432	26	532	0	74	165	176	415	0	16	103	29	148
Car Trips:	0	2	16	2	20	0	0	7	0	7	0	0	0	1	1	0	1	0	0	1
Truck Trips:	0	0	5	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	2	21	2	25	0	0	9	0	9	0	0	0	1	1	0	1	0	0	1
Future Traffic Volumes:	0	196	610	30	836	0	74	441	26	541	0	74	165	177	416	0	17	103	29	149

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

2. Peachtree @ SR 20

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	54	239	353	646	0	247	470	140	857	0	134	906	76	1116	0	378	765	131	1274
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	56	246	364	666	0	254	484	144	882	0	138	933	78	1149	0	389	788	135	1312
Car Trips:	0	0	15	0	15	0	8	7	4	19	0	9	0	0	9	0	0	0	17	17
Truck Trips:	0	0	4	0	4	0	2	2	1	5	0	2	0	0	2	0	0	0	4	4
Total New Trips	0	0	19	0	19	0	10	9	5	24	0	11	0	0	11	0	0	0	21	21
Future Traffic Volumes:	0	56	265	364	685	0	264	493	149	906	0	149	933	78	1160	0	389	788	156	1333

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	111	468	462	1041	0	204	294	207	705	0	166	834	69	1069	0	370	959	192	1521
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	114	482	476	1072	0	210	303	213	726	0	171	859	71	1101	0	381	988	198	1567
Car Trips:	0	0	7	0	7	0	20	16	10	46	0	4	0	0	4	0	0	0	9	9
Truck Trips:	0	0	2	0	2	0	5	4	2	11	0	1	0	0	1	0	0	0	2	2
Total New Trips	0	0	9	0	9	0	25	20	12	57	0	5	0	0	5	0	0	0	11	11
Future Traffic Volumes:	0	114	491	476	1081	0	235	323	225	783	0	176	859	71	1106	0	381	988	209	1578

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

3. Peachtree @ Site Drwy 1 (N)

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	0	503	0	503	3	0	733	0	736	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	0	518	0	518	3	0	755	0	758	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	8	6	0	14	0	0	14	3	17	0	2	0	4	6	0	0	0	0	0
Truck Trips:	0	0	2	0	2	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	8	8	0	16	0	0	18	3	21	0	2	0	4	6	0	0	0	0	0
Future Traffic Volumes:	0	8	526	0	534	3	0	773	3	779	0	2	0	4	6	0	0	0	0	0

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	2	0	740	0	742	3	0	587	0	590	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	2	0	762	0	764	3	0	605	0	608	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	4	16	0	20	0	0	7	2	9	0	4	0	9	13	0	0	0	0	0
Truck Trips:	0	0	5	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	4	21	0	25	0	0	9	2	11	0	4	0	9	13	0	0	0	0	0
Future Traffic Volumes:	2	4	783	0	789	3	0	614	2	619	0	4	0	9	13	0	0	0	0	0

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

4. Peachtree @ Site Drwy 2 (M)

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	0	503	0	503	0	0	755	0	755	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	0	518	0	518	0	0	778	0	778	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	16	11	0	27	0	0	11	7	18	0	3	0	7	10	0	0	0	0	0
Truck Trips:	0	7	0	0	7	0	0	1	3	4	0	1	0	3	4	0	0	0	0	0
Total New Trips	0	23	11	0	34	0	0	12	10	22	0	4	0	10	14	0	0	0	0	0
Future Traffic Volumes:	0	23	529	0	552	0	0	790	10	800	0	4	0	10	14	0	0	0	0	0

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	0	742	0	742	0	0	579	0	579	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	0	764	0	764	0	0	597	0	597	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	8	12	0	20	0	0	13	3	16	0	8	0	18	26	0	0	0	0	0
Truck Trips:	0	4	1	0	5	0	0	1	2	3	0	4	0	8	12	0	0	0	0	0
Total New Trips	0	12	13	0	25	0	0	14	5	19	0	12	0	26	38	0	0	0	0	0
Future Traffic Volumes:	0	12	777	0	789	0	0	611	5	616	0	12	0	26	38	0	0	0	0	0

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

5. Peachtree @ Site Drwy 3 (S)

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	30	0	491	0	521	0	0	755	0	755	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	31	0	506	0	537	0	0	778	0	778	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	16	24	0	40	0	0	11	7	18	0	3	0	7	10	0	0	0	0	0
Truck Trips:	0	2	7	0	9	0	0	3	1	4	0	0	0	1	1	0	0	0	0	0
Total New Trips	0	18	31	0	49	0	0	14	8	22	0	3	0	8	11	0	0	0	0	0
Future Traffic Volumes:	31	18	537	0	586	0	0	792	8	800	0	3	0	8	11	0	0	0	0	0

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	10	0	733	0	743	0	0	579	0	579	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	10	0	755	0	765	0	0	597	0	597	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	8	12	0	20	0	0	27	3	30	0	8	0	18	26	0	0	0	0	0
Truck Trips:	0	1	4	0	5	0	0	8	1	9	0	1	0	3	4	0	0	0	0	0
Total New Trips	0	9	16	0	25	0	0	35	4	39	0	9	0	21	30	0	0	0	0	0
Future Traffic Volumes:	10	9	771	0	790	0	0	632	4	636	0	9	0	21	30	0	0	0	0	0

Appendix

Appendix A:
Existing Intersection Traffic Counts

Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Peachtree Industrial Blvd @
Little Mill Rd
7-9am I 4-6pm

File Name : 39600001
Site Code : 39600001
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Little Mill Rd Eastbound					Little Mill Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	23	104	4	0	131	3	113	4	0	120	14	24	46	0	84	3	10	5	0	18	353
07:15 AM	23	95	3	0	121	5	128	10	0	143	14	22	55	0	91	4	7	7	0	18	373
07:30 AM	34	107	5	0	146	15	123	6	0	144	12	21	47	0	80	5	9	5	0	19	389
07:45 AM	26	82	5	0	113	5	116	2	0	123	7	27	48	0	82	7	5	1	0	13	331
Total	106	388	17	0	511	28	480	22	0	530	47	94	196	0	337	19	31	18	0	68	1446
08:00 AM	24	86	8	0	118	10	110	5	0	125	11	25	51	0	87	5	14	3	0	22	352
08:15 AM	24	87	5	0	116	9	105	11	0	125	7	28	59	0	94	4	15	7	0	26	361
08:30 AM	31	73	5	0	109	8	99	4	0	111	6	31	43	0	80	3	15	2	0	20	320
08:45 AM	36	83	3	0	122	9	99	3	0	111	13	36	44	0	93	5	18	4	0	27	353
Total	115	329	21	0	465	36	413	23	0	472	37	120	197	0	354	17	62	16	0	95	1386
*** BREAK ***																					
04:00 PM	47	129	9	0	185	14	71	4	0	89	11	26	27	0	64	2	31	5	0	38	376
04:15 PM	39	125	6	0	170	5	77	4	0	86	9	25	27	0	61	7	17	4	0	28	345
04:30 PM	46	123	8	0	177	27	101	5	0	133	23	33	30	0	86	4	25	5	0	34	430
04:45 PM	50	136	8	0	194	2	104	4	0	110	12	48	46	0	106	6	17	4	0	27	437
Total	182	513	31	0	726	48	353	17	0	418	55	132	130	0	317	19	90	18	0	127	1588
05:00 PM	51	154	7	0	212	36	109	11	0	156	18	34	41	0	93	4	25	10	0	39	500
05:15 PM	41	159	4	0	204	7	105	5	0	117	19	45	54	0	118	2	33	9	0	44	483
05:30 PM	42	136	14	0	192	6	93	3	0	102	18	32	37	0	87	8	15	8	0	31	412
05:45 PM	37	127	6	0	170	5	111	8	0	124	22	30	44	0	96	5	27	6	0	38	428
Total	171	576	31	0	778	54	418	27	0	499	77	141	176	0	394	19	100	33	0	152	1823
Grand Total	574	1806	100	0	2480	166	1664	89	0	1919	216	487	699	0	1402	74	283	85	0	442	6243
Apprch %	23.1	72.8	4	0		8.7	86.7	4.6	0		15.4	34.7	49.9	0		16.7	64	19.2	0		
Total %	9.2	28.9	1.6	0	39.7	2.7	26.7	1.4	0	30.7	3.5	7.8	11.2	0	22.5	1.2	4.5	1.4	0	7.1	

Reliable Traffic Data Services, LLC

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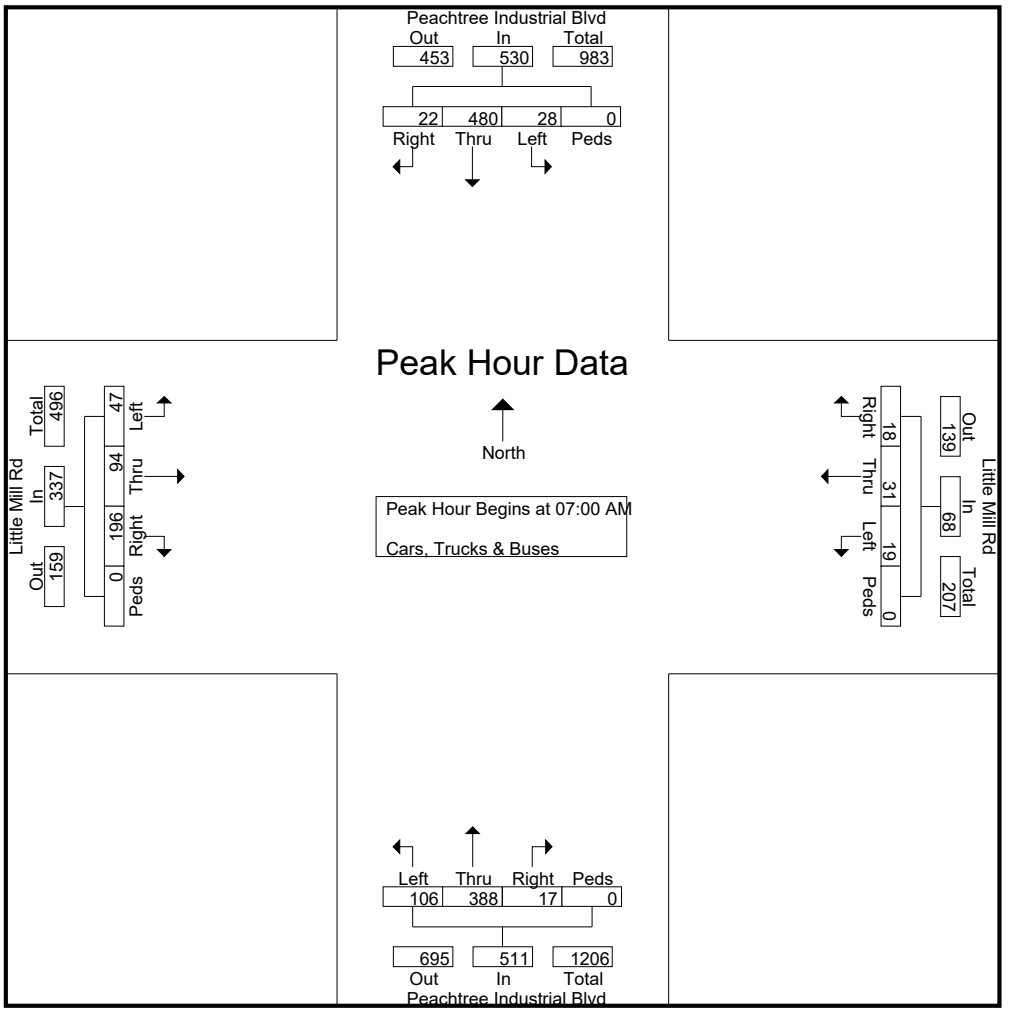
TMC Data
Peachtree Industrial Blvd @
Little Mill Rd
7-9am I 4-6pm

File Name : 39600001
Site Code : 39600001
Start Date : 11/30/2016

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Little Mill Rd Eastbound					Little Mill Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	23	104	4	0	131	3	113	4	0	120	**14**	24	46	0	84	3	**10**	5	0	18	353
07:15 AM	23	95	3	0	121	5	**128**	**10**	0	143	14	22	**55**	0	**91**	4	7	**7**	0	18	373
07:30 AM	**34**	**107**	**5**	0	**146**	**15**	123	6	0	**144**	12	21	47	0	80	5	9	5	0	**19**	**389**
07:45 AM	26	82	5	0	113	5	116	2	0	123	7	**27**	48	0	82	**7**	5	1	0	13	331
Total Volume	106	388	17	0	511	28	480	22	0	530	47	94	196	0	337	19	31	18	0	68	1446
% App. Total	20.7	75.9	3.3	0		5.3	90.6	4.2	0		13.9	27.9	58.2	0		27.9	45.6	26.5	0		
PHF	.779	.907	.850	.000	.875	.467	.938	.550	.000	.920	.839	.870	.891	.000	.926	.679	.775	.643	.000	.895	.929



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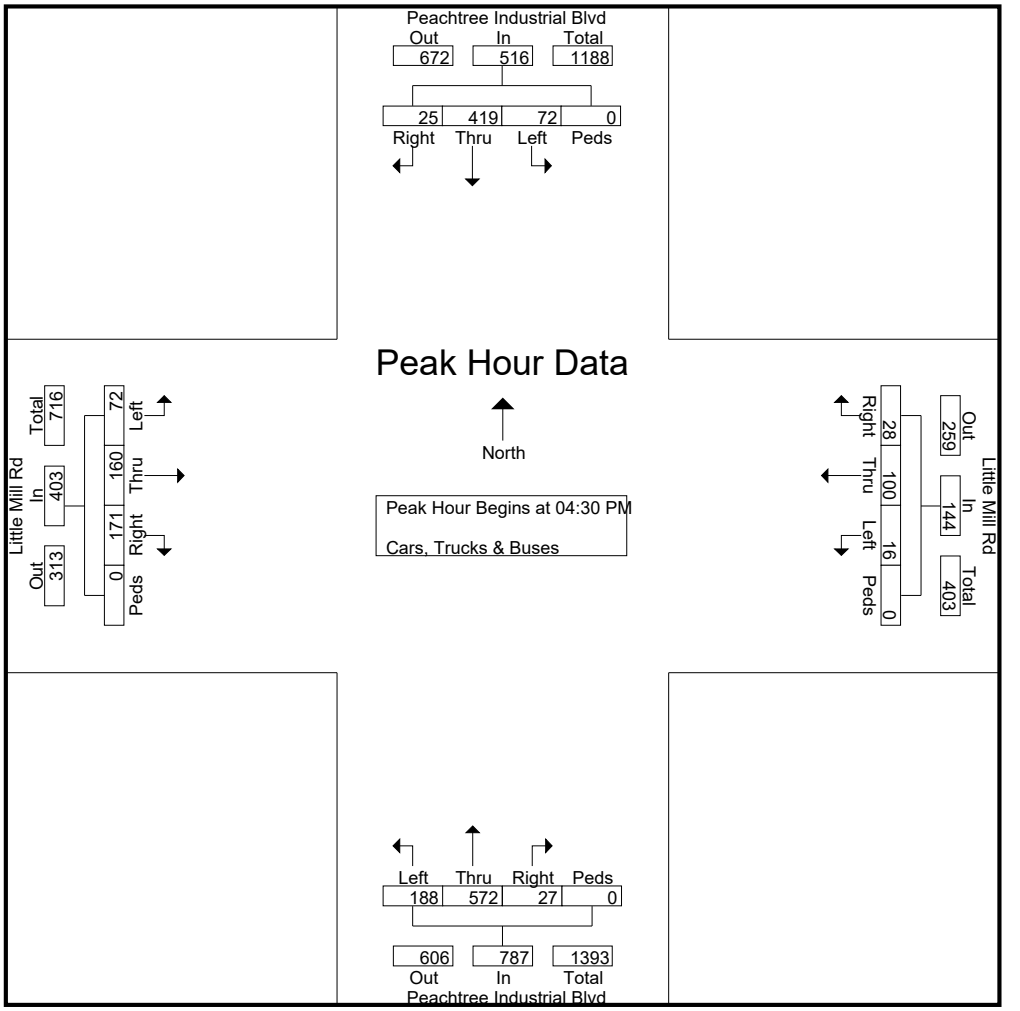
TMC Data
Peachtree Industrial Blvd @
Little Mill Rd
7-9am I 4-6pm

File Name : 39600001
Site Code : 39600001
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Little Mill Rd Eastbound					Little Mill Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	46	123	**8**	0	177	27	101	5	0	133	**23**	33	30	0	86	4	25	5	0	34	430
04:45 PM	50	136	8	0	194	2	104	4	0	110	12	**48**	46	0	106	**6**	17	4	0	27	437
05:00 PM	**51**	154	7	0	**212**	**36**	**109**	**11**	0	**156**	18	34	41	0	93	4	25	**10**	0	39	**500**
05:15 PM	41	**159**	4	0	204	7	105	5	0	117	19	45	**54**	0	**118**	2	**33**	9	0	**44**	483
Total Volume	188	572	27	0	787	72	419	25	0	516	72	160	171	0	403	16	100	28	0	144	1850
% App. Total	23.9	72.7	3.4	0		14	81.2	4.8	0		17.9	39.7	42.4	0		11.1	69.4	19.4	0		
PHF	.922	.899	.844	.000	.928	.500	.961	.568	.000	.827	.783	.833	.792	.000	.854	.667	.758	.700	.000	.818	.925



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TMC Data
Peachtree Industrial Blvd @
Median Break (North)
7-9am I 4-6pm

File Name : 39600002
Site Code : 39600002
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Median Break Eastbound					Median Break Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	129	0	0	129	0	163	0	2	165	0	0	0	0	0	0	0	0	0	0	294
07:15 AM	0	123	0	0	123	0	174	0	0	174	0	0	0	0	0	0	0	0	0	0	297
07:30 AM	0	143	0	0	143	0	185	0	2	187	0	0	0	0	0	0	0	0	0	0	330
07:45 AM	0	108	0	0	108	0	198	0	1	199	0	0	0	0	0	0	0	0	0	0	307
Total	0	503	0	0	503	0	720	0	5	725	0	0	0	0	0	0	0	0	0	0	1228
08:00 AM	0	129	0	0	129	0	176	0	0	176	0	0	0	0	0	0	0	0	0	0	305
08:15 AM	0	100	0	0	100	0	163	0	1	164	0	0	0	0	0	0	0	0	0	0	264
08:30 AM	0	126	0	0	126	0	142	0	0	142	0	0	0	0	0	0	0	0	0	0	268
08:45 AM	0	88	0	0	88	0	131	0	2	133	0	0	0	0	0	0	0	0	0	0	221
Total	0	443	0	0	443	0	612	0	3	615	0	0	0	0	0	0	0	0	0	0	1058
*** BREAK ***																					
04:00 PM	0	177	0	0	177	0	101	0	2	103	0	0	0	0	0	0	0	0	0	0	280
04:15 PM	0	177	0	1	178	0	113	0	1	114	0	0	0	0	0	0	0	0	0	0	292
04:30 PM	0	163	0	0	163	0	128	0	1	129	0	0	0	0	0	0	0	0	0	0	292
04:45 PM	0	181	0	0	181	0	140	0	1	141	0	0	0	0	0	0	0	0	0	0	322
Total	0	698	0	1	699	0	482	0	5	487	0	0	0	0	0	0	0	0	0	0	1186
05:00 PM	0	210	0	1	211	0	145	0	0	145	0	0	0	0	0	0	0	0	0	0	356
05:15 PM	0	163	0	1	164	0	154	0	1	155	0	0	0	0	0	0	0	0	0	0	319
05:30 PM	0	186	0	0	186	0	148	0	1	149	0	0	0	0	0	0	0	0	0	0	335
05:45 PM	0	142	0	1	143	0	145	0	0	145	0	0	0	0	0	0	0	0	0	0	288
Total	0	701	0	3	704	0	592	0	2	594	0	0	0	0	0	0	0	0	0	0	1298
Grand Total	0	2345	0	4	2349	0	2406	0	15	2421	0	0	0	0	0	0	0	0	0	0	4770
Apprch %	0	99.8	0	0.2		0	99.4	0	0.6		0	0	0	0		0	0	0	0		
Total %	0	49.2	0	0.1	49.2	0	50.4	0	0.3	50.8	0	0	0	0	0	0	0	0	0	0	

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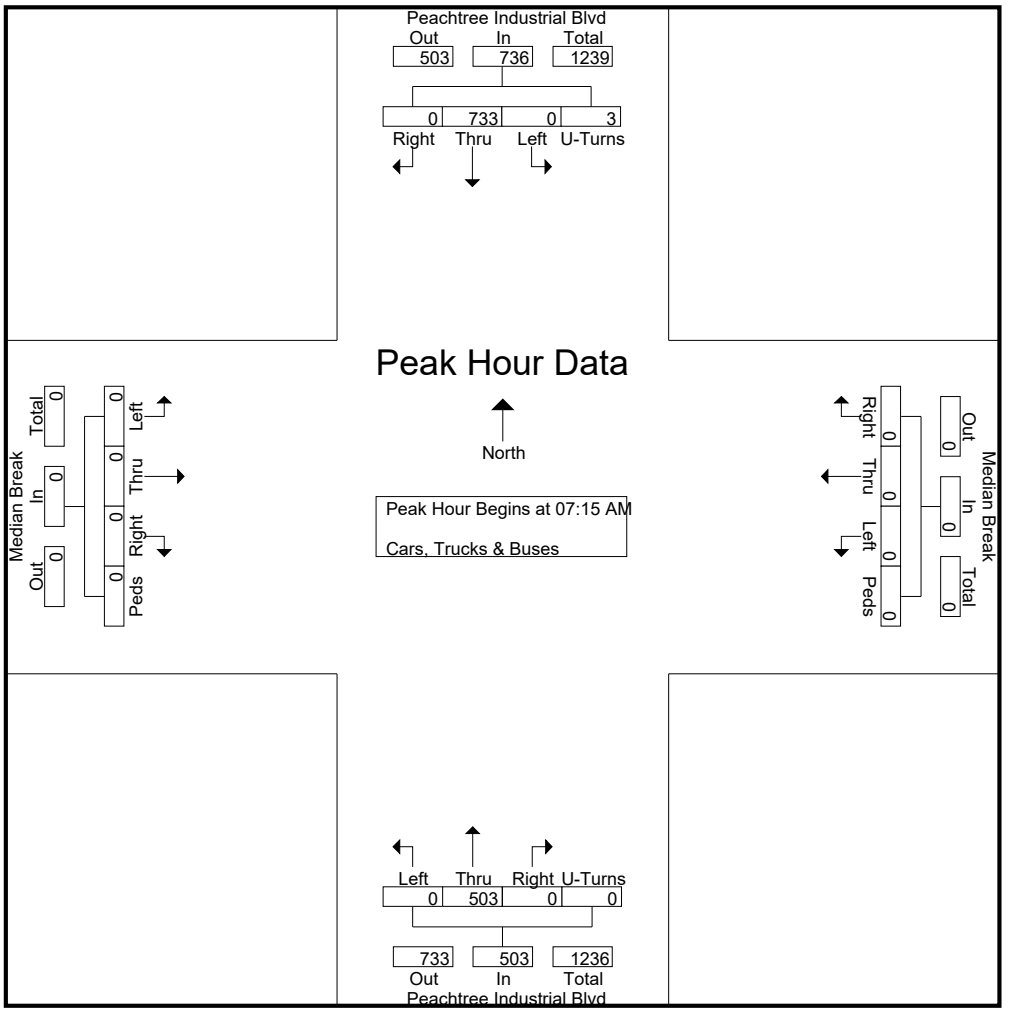
TMC Data
Peachtree Industrial Blvd @
Median Break (North)
7-9am I 4-6pm

File Name : 39600002
Site Code : 39600002
Start Date : 11/30/2016
Page No : 2

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Median Break Eastbound					Median Break Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	123	0	0	123	0	174	0	0	174	0	0	0	0	0	0	0	0	0	0	297
07:30 AM	0	**143**	0	0	**143**	0	185	0	**2**	187	0	0	0	0	0	0	0	0	0	0	**330**
07:45 AM	0	108	0	0	108	0	**198**	0	1	**199**	0	0	0	0	0	0	0	0	0	0	307
08:00 AM	0	129	0	0	129	0	176	0	0	176	0	0	0	0	0	0	0	0	0	0	305
Total Volume	0	503	0	0	503	0	733	0	3	736	0	0	0	0	0	0	0	0	0	0	1239
% App. Total	0	100	0	0		0	99.6	0	0.4		0	0	0	0		0	0	0	0		
PHF	.000	.879	.000	.000	.879	.000	.926	.000	.375	.925	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.939



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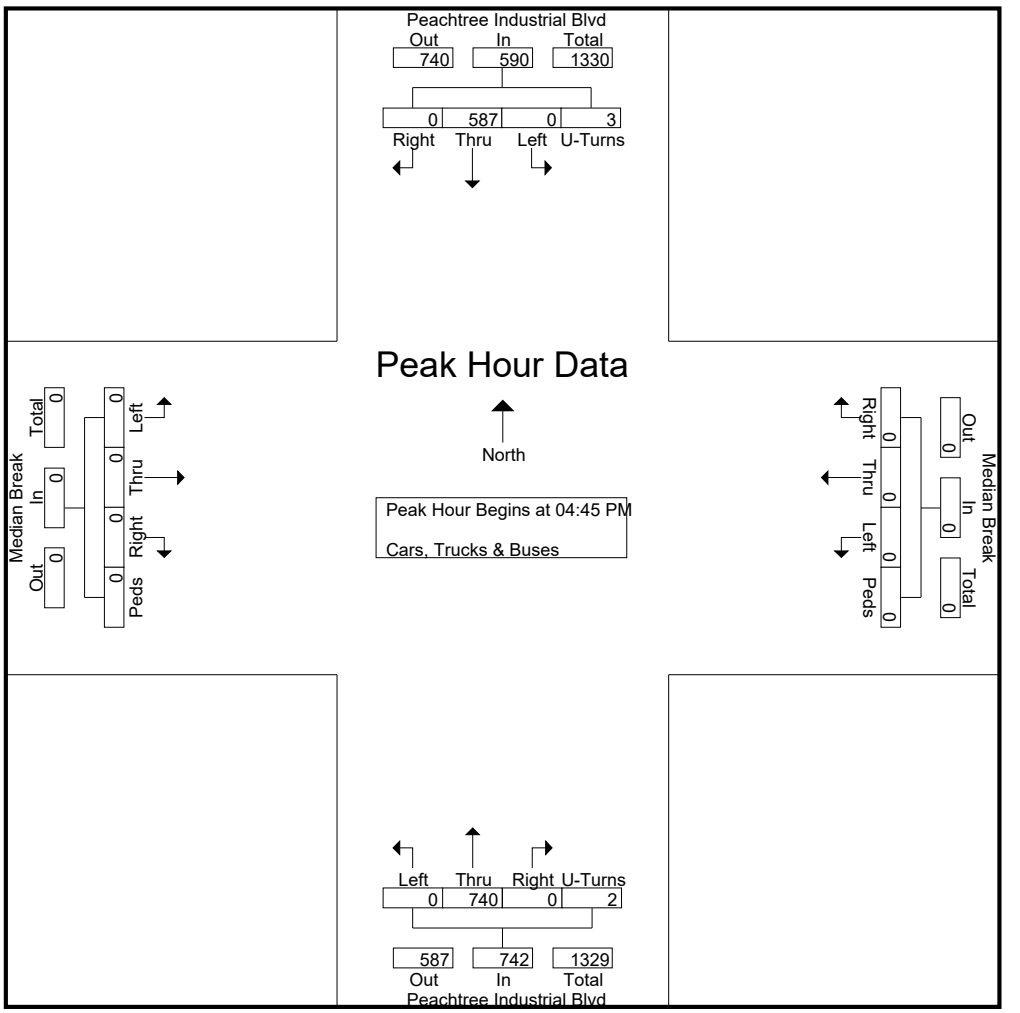
TMC Data
Peachtree Industrial Blvd @
Median Break (North)
7-9am I 4-6pm

File Name : 39600002
Site Code : 39600002
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Median Break Eastbound					Median Break Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	181	0	0	181	0	140	0	**1**	141	0	0	0	0	0	0	0	0	0	0	322
05:00 PM	0	**210**	0	**1**	**211**	0	145	0	0	145	0	0	0	0	0	0	0	0	0	0	**356**
05:15 PM	0	163	0	1	164	0	**154**	0	1	**155**	0	0	0	0	0	0	0	0	0	0	319
05:30 PM	0	186	0	0	186	0	148	0	1	149	0	0	0	0	0	0	0	0	0	0	335
Total Volume	0	740	0	2	742	0	587	0	3	590	0	0	0	0	0	0	0	0	0	0	1332
% App. Total	0	99.7	0	0.3		0	99.5	0	0.5		0	0	0	0		0	0	0	0		
PHF	.000	.881	.000	.500	.879	.000	.953	.000	.750	.952	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.935



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TMC Data
Peachtree Indusltrial Blvd @
Median Break (South) with Site Drwy
7-9am I 4-6pm

File Name : 39600003
Site Code : 39600003
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Site Drwy (Locked) Eastbound					Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	123	0	9	132	0	157	0	0	157	0	0	0	0	0	0	0	0	0	0	289
07:15 AM	0	126	0	7	133	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	315
07:30 AM	0	129	0	6	135	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	317
07:45 AM	0	118	0	10	128	0	211	0	0	211	0	0	0	0	0	0	0	0	0	0	339
Total	0	496	0	32	528	0	732	0	0	732	0	0	0	0	0	0	0	0	0	0	1260
08:00 AM	0	118	0	7	125	0	180	0	0	180	0	0	0	0	0	0	0	0	0	0	305
08:15 AM	0	122	0	8	130	0	166	0	0	166	0	0	0	0	0	0	0	0	0	0	296
08:30 AM	0	117	0	7	124	0	140	0	0	140	0	0	0	0	0	0	0	0	0	0	264
08:45 AM	0	105	0	7	112	0	146	0	0	146	0	0	0	0	0	0	0	0	0	0	258
Total	0	462	0	29	491	0	632	0	0	632	0	0	0	0	0	0	0	0	0	0	1123
*** BREAK ***																					
04:00 PM	0	178	0	2	180	0	112	0	0	112	0	0	0	0	0	0	0	0	0	0	292
04:15 PM	0	163	0	1	164	0	121	0	0	121	0	0	0	0	0	0	0	0	0	0	285
04:30 PM	0	157	0	2	159	0	133	0	0	133	0	0	0	0	0	0	0	0	0	0	292
04:45 PM	0	184	0	3	187	0	139	0	0	139	0	0	0	0	0	0	0	0	0	0	326
Total	0	682	0	8	690	0	505	0	0	505	0	0	0	0	0	0	0	0	0	0	1195
05:00 PM	0	191	0	2	193	0	149	0	0	149	0	0	0	0	0	0	0	0	0	0	342
05:15 PM	0	189	0	3	192	0	153	0	0	153	0	0	0	0	0	0	0	0	0	0	345
05:30 PM	0	169	0	2	171	0	138	0	0	138	0	0	0	0	0	0	0	0	0	0	309
05:45 PM	0	134	0	9	143	0	135	0	0	135	0	0	0	0	0	0	0	0	0	0	278
Total	0	683	0	16	699	0	575	0	0	575	0	0	0	0	0	0	0	0	0	0	1274
Grand Total	0	2323	0	85	2408	0	2444	0	0	2444	0	0	0	0	0	0	0	0	0	0	4852
Apprch %	0	96.5	0	3.5		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	47.9	0	1.8	49.6	0	50.4	0	0	50.4	0	0	0	0	0	0	0	0	0	0	

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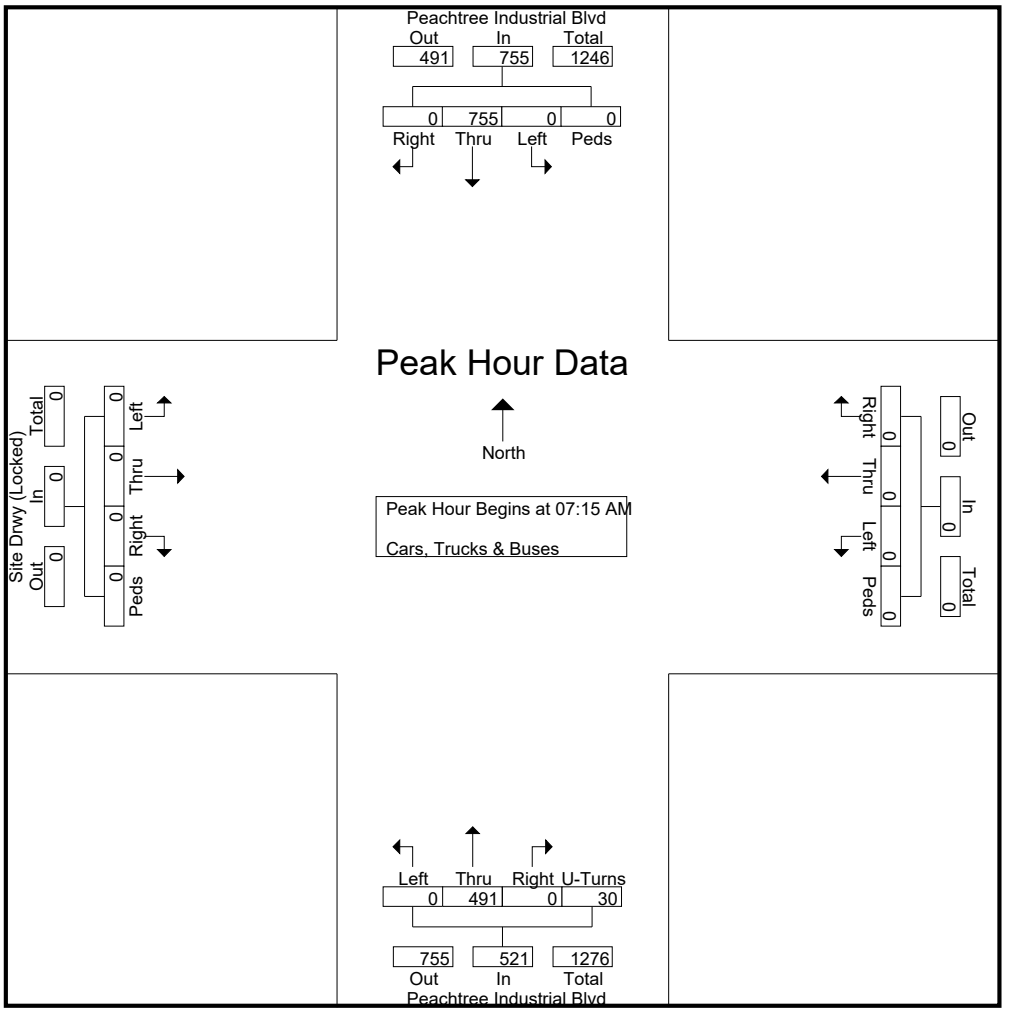
TMC Data
Peachtree Indusltrial Blvd @
Median Break (South) with Site Drwy
7-9am I 4-6pm

File Name : 39600003
Site Code : 39600003
Start Date : 11/30/2016
Page No : 2

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Site Drwy (Locked) Eastbound					Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	126	0	7	133	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	315
07:30 AM	0	**129**	0	6	**135**	0	182	0	0	182	0	0	0	0	0	0	0	0	0	0	317
07:45 AM	0	118	0	**10**	128	0	**211**	0	0	**211**	0	0	0	0	0	0	0	0	0	0	**339**
08:00 AM	0	118	0	7	125	0	180	0	0	180	0	0	0	0	0	0	0	0	0	0	305
Total Volume	0	491	0	30	521	0	755	0	0	755	0	0	0	0	0	0	0	0	0	0	1276
% App. Total	0	94.2	0	5.8		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.952	.000	.750	.965	.000	.895	.000	.000	.895	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.941



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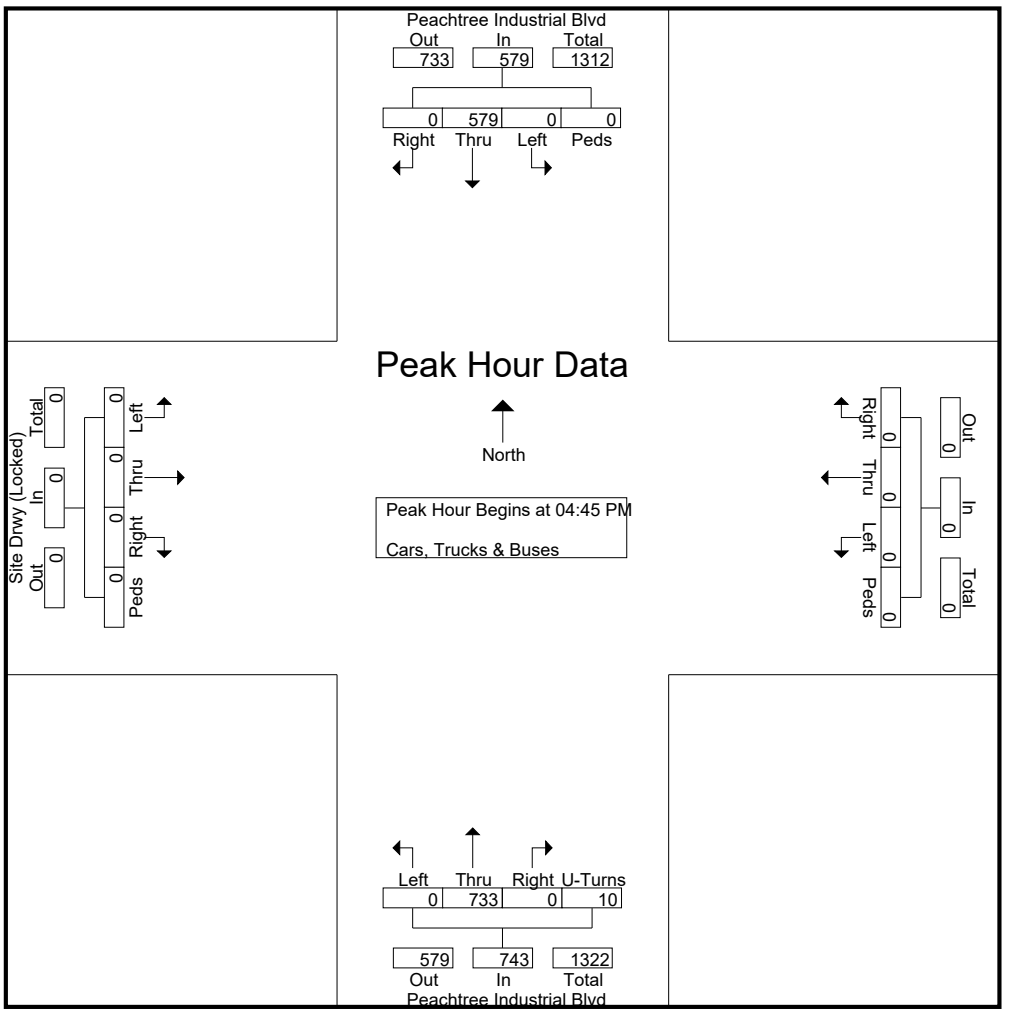
TMC Data
Peachtree Indusltrial Blvd @
Median Break (South) with Site Drwy
7-9am I 4-6pm

File Name : 39600003
Site Code : 39600003
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					Site Drwy (Locked) Eastbound					Westbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	184	0	**3**	187	0	139	0	0	139	0	0	0	0	0	0	0	0	0	0	326
05:00 PM	0	**191**	0	2	**193**	0	149	0	0	149	0	0	0	0	0	0	0	0	0	0	342
05:15 PM	0	189	0	3	192	0	**153**	0	0	**153**	0	0	0	0	0	0	0	0	0	0	**345**
05:30 PM	0	169	0	2	171	0	138	0	0	138	0	0	0	0	0	0	0	0	0	0	309
Total Volume	0	733	0	10	743	0	579	0	0	579	0	0	0	0	0	0	0	0	0	0	1322
% App. Total	0	98.7	0	1.3		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.959	.000	.833	.962	.000	.946	.000	.000	.946	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.958



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TMC Data
Peachtree Industrial Blvd @ SR20

7-9am I 4-6pm

File Name : 39600004
Site Code : 39600004
Start Date : 11/30/2016
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					SR 20 Eastbound					SR 20 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	13	62	64	0	139	47	87	28	0	162	32	204	24	0	260	107	212	36	0	355	916
07:15 AM	15	58	73	0	146	56	117	34	0	207	35	213	19	0	267	112	215	33	0	360	980
07:30 AM	12	60	76	0	148	70	120	31	0	221	37	246	28	0	311	85	189	30	0	304	984
07:45 AM	16	62	89	0	167	63	126	39	0	228	30	228	17	0	275	85	172	35	0	292	962
Total	56	242	302	0	600	236	450	132	0	818	134	891	88	0	1113	389	788	134	0	1311	3842
08:00 AM	11	59	115	0	185	58	107	36	0	201	32	219	12	0	263	96	189	33	0	318	967
08:15 AM	14	51	112	0	177	44	105	37	0	186	38	212	14	0	264	82	163	47	0	292	919
08:30 AM	15	55	107	0	177	41	74	32	0	147	25	207	16	0	248	77	187	38	0	302	874
08:45 AM	19	52	105	0	176	62	86	34	0	182	21	202	13	0	236	72	194	33	0	299	893
Total	59	217	439	0	715	205	372	139	0	716	116	840	55	0	1011	327	733	151	0	1211	3653
*** BREAK ***																					
04:00 PM	30	122	112	0	264	37	64	47	0	148	43	244	16	0	303	83	213	49	0	345	1060
04:15 PM	28	120	118	0	266	48	73	50	0	171	46	202	18	0	266	94	274	55	0	423	1126
04:30 PM	34	107	109	0	250	52	71	52	0	175	38	207	15	0	260	87	231	52	0	370	1055
04:45 PM	20	115	123	0	258	48	76	54	0	178	40	218	19	0	277	91	218	38	0	347	1060
Total	112	464	462	0	1038	185	284	203	0	672	167	871	68	0	1106	355	936	194	0	1485	4301
05:00 PM	29	126	112	0	267	56	74	51	0	181	42	207	17	0	266	98	236	47	0	381	1095
05:15 PM	26	113	103	0	242	41	82	69	0	192	45	219	15	0	279	102	242	42	0	386	1099
05:30 PM	25	107	100	0	232	39	64	52	0	155	34	186	18	0	238	93	248	44	0	385	1010
05:45 PM	28	128	102	0	258	42	81	47	0	170	46	194	17	0	257	88	217	48	0	353	1038
Total	108	474	417	0	999	178	301	219	0	698	167	806	67	0	1040	381	943	181	0	1505	4242
Grand Total	335	1397	1620	0	3352	804	1407	693	0	2904	584	3408	278	0	4270	1452	3400	660	0	5512	16038
Apprch %	10	41.7	48.3	0		27.7	48.5	23.9	0		13.7	79.8	6.5	0		26.3	61.7	12	0		
Total %	2.1	8.7	10.1	0	20.9	5	8.8	4.3	0	18.1	3.6	21.2	1.7	0	26.6	9.1	21.2	4.1	0	34.4	

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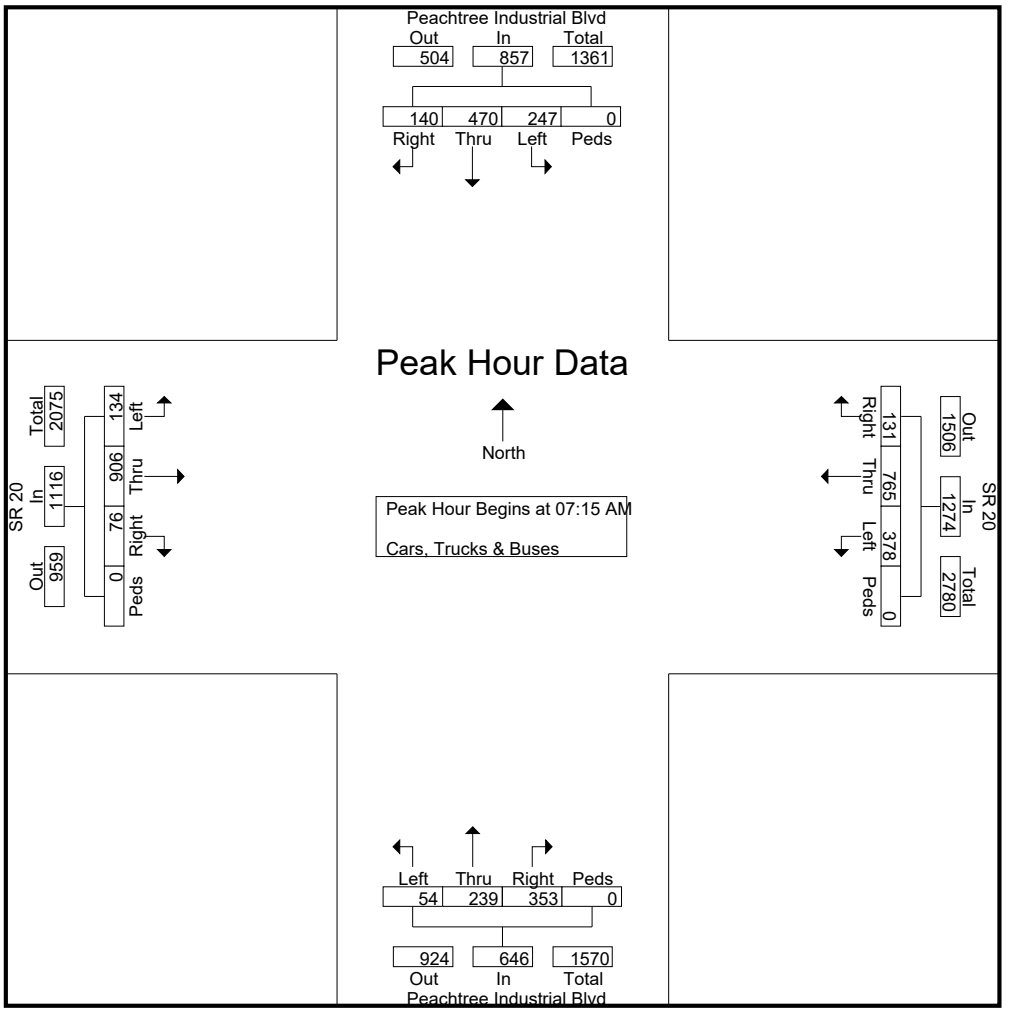
TMC Data
Peachtree Industrial Blvd @ SR20

7-9am I 4-6pm

File Name : 39600004
Site Code : 39600004
Start Date : 11/30/2016

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					SR 20 Eastbound					SR 20 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	15	58	73	0	146	56	117	34	0	207	35	213	19	0	267	**112**	**215**	33	0	**360**	980
07:30 AM	12	60	76	0	148	**70**	120	31	0	221	**37**	**246**	**28**	0	**311**	85	189	30	0	304	**984**
07:45 AM	**16**	**62**	89	0	167	63	**126**	**39**	0	**228**	30	228	17	0	275	85	172	**35**	0	292	962
08:00 AM	11	59	**115**	0	**185**	58	107	36	0	201	32	219	12	0	263	96	189	33	0	318	967
Total Volume	54	239	353	0	646	247	470	140	0	857	134	906	76	0	1116	378	765	131	0	1274	3893
% App. Total	8.4	37	54.6	0		28.8	54.8	16.3	0		12	81.2	6.8	0		29.7	60	10.3	0		
PHF	.844	.964	.767	.000	.873	.882	.933	.897	.000	.940	.905	.921	.679	.000	.897	.844	.890	.936	.000	.885	.989



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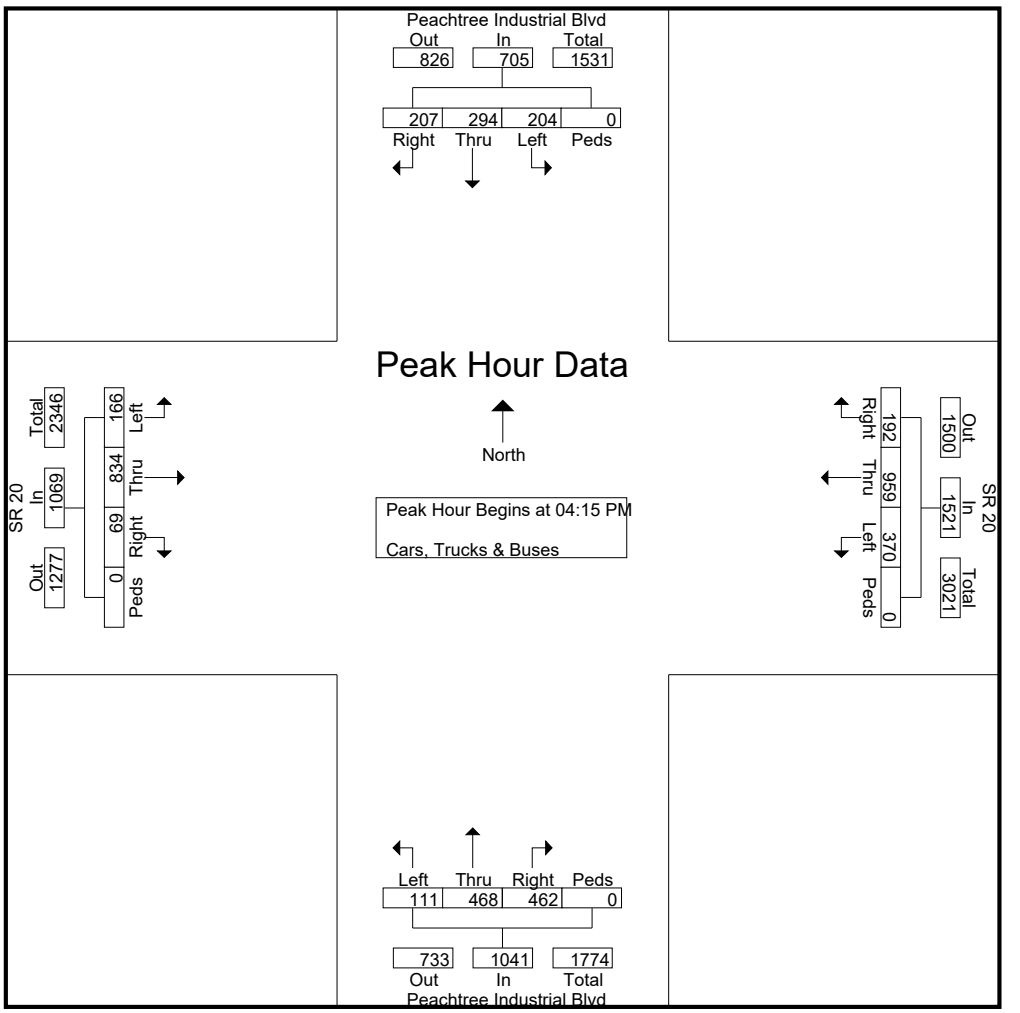
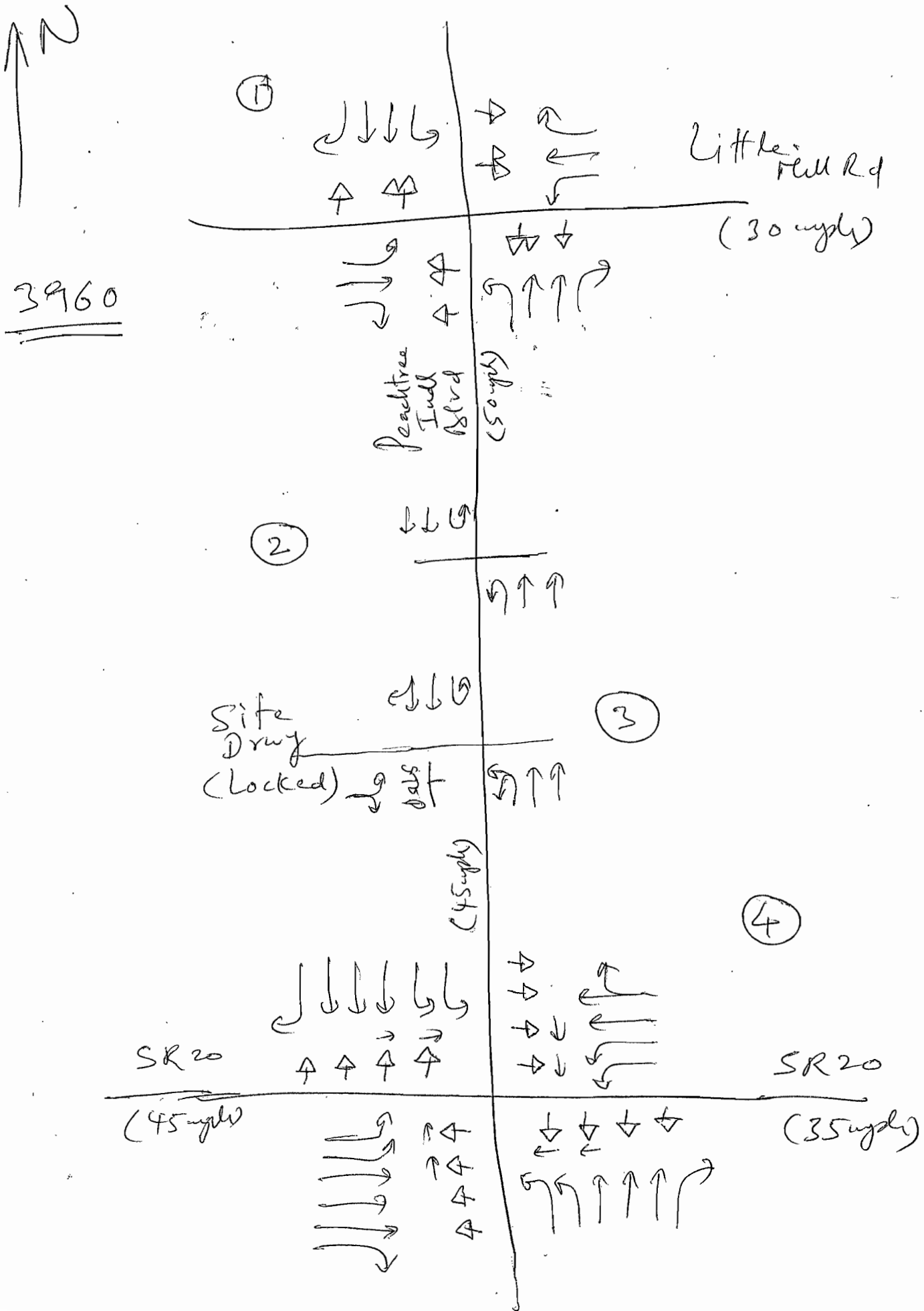
TMC Data
Peachtree Industrial Blvd @ SR20

7-9am I 4-6pm

File Name : 39600004
Site Code : 39600004
Start Date : 11/30/2016
Page No : 3

	Peachtree Industrial Blvd Northbound					Peachtree Industrial Blvd Southbound					SR 20 Eastbound					SR 20 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	28	120	118	0	266	48	73	50	0	171	**46**	202	18	0	266	94	**274**	**55**	0	**423**	**1126**
04:30 PM	**34**	107	109	0	250	52	71	52	0	175	38	207	15	0	260	87	231	52	0	370	1055
04:45 PM	20	115	**123**	0	258	48	**76**	**54**	0	178	40	**218**	**19**	0	**277**	91	218	38	0	347	1060
05:00 PM	29	**126**	112	0	**267**	**56**	74	51	0	**181**	42	207	17	0	266	**98**	236	47	0	381	1095
Total Volume	111	468	462	0	1041	204	294	207	0	705	166	834	69	0	1069	370	959	192	0	1521	4336
% App. Total	10.7	45	44.4	0		28.9	41.7	29.4	0		15.5	78	6.5	0		24.3	63.1	12.6	0		
PHF	.816	.929	.939	.000	.975	.911	.967	.958	.000	.974	.902	.956	.908	.000	.965	.944	.875	.873	.000	.899	.963




N
1
Little Mill Rd
(30 mph)
3960
Peachtree Industrial Blvd
(50 mph)
2
Site Drwy
(Locked)
3
(45 mph)
4
SR 20
(45 mph)
SR 20
(35 mph)

Appendix B:
GRTA Letter of Understanding (LOU)

LETTER OF UNDERSTANDING

December 5, 2016

Bob Cheeley,
Liberty Industrial Park, LLC
c/o Cheeley Law Group
299 South Main Street, Suite A
Alpharetta, GA 30009

RE: **DRI 2651 Liberty Industrial Park of Buford**

Dear Mr. Cheeley:

The purpose of this letter is to document the discussions during the Pre-Review and Methodology Meeting held at ARC's office on November 28, 2016 and DCA Initial Information Form filed on November 16, 2016 regarding **DRI 2651 Liberty Industrial Park of Buford.** Some of the following items were discussed in this meeting and should assist you and your consultant team in preparing the DRI Review Package.

PROJECT OVERVIEW

- The project is located in the City of Buford. The proposed development is located on the western side of Peachtree Industrial Boulevard, north of SR 20, south of Little Mill Road.
- The DRI trigger for this development is a Rezoning Application.
- The proposed development is expected to be up to 929,000 square feet of Warehouse/Distribution space in multiple buildings.
- Proposed access is three (3) full movement driveways onto Peachtree Industrial Boulevard at existing median breaks.
- Trip generation is estimated at 1,561 gross daily trips.
- The projected build out for this DRI is 2019.
- The applicant is applying for approval under GRTA's expedited review process under Limited Trip Generation for more than 1,000 and less than 3,000 gross daily trips.

METHODOLOGY

- All intersections identified as within the study network shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future "no-build" conditions [may not be applicable for the site driveways], and (3) future "build" conditions. This DRI shall be reviewed in one phase to be completed by 2019.
- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA. As appropriate, pedestrian counts and heavy vehicle counts shall be collected with vehicle counts and considered within the capacity analysis. Turning movement counts shall be collected while local schools are in session. Ordinarily traffic counts are not permitted between the week of Thanksgiving and the second week of January or any

week of a major holiday. However as the site has no close proximity to any school or retail center, traffic counts are permitted for the early weeks of December.

- A 1.5% background traffic growth rate shall be used for all roadways over two years. This growth rates is intended to include the surrounding DRIs previously reviewed. The prior DRIs do not share the same truck distribution but may share employee vehicular trips in the general area.
- The level of service standard for all analyses shall be LOS D.
- No trip reductions are allowed.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account.
- The applicant shall research TIP, STIP, RTP, and GDOT's construction work program, as well as any local government plans (SPLOST, CIP, etc.), to determine the open-to-traffic date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. This information shall be included within the traffic analysis.

STUDY NETWORK

1. Little Mill Road at Peachtree Industrial Boulevard
2. SR 20 /Nelson Brogdon Boulevard at Peachtree Industrial Boulevard
3. All Site Driveways

ADDITIONAL INFORMATION

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

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

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

DRI REVIEW PACKAGE CHECKLIST

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

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

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

DRI REVIEW PACKAGE SUBMITTAL

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

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

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

GDOT DISTRICT 1	GWINNETT CO DOT	CITY OF BUFORD	ATLANTA REGIONAL COMMISSION
Shane Giles PO Box 1057 Gainesville, GA 30503-1057	Michael Johnson 75 Langley Drive Lawrenceville, GA 30046	Kim Wolfe 2300 Buford Highway Buford, GA 30518	Andrew Smith 40 Courtland Street, NE Atlanta, Georgia 30303

We encourage your consultant team to verify the items covered in this letter prior to compiling the submittal materials. If you have any questions, please feel free to contact me directly at 404-463-3068 (lbeall@grta.org).

Sincerely,

Laura F. Beall, AICP
Program Manager

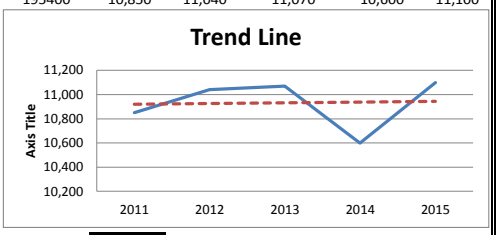
cc:

Jon West, DCA
Andrew Smith, ARC
Shane Giles, GDOT District 1
Michael Johnson, Gwinnett Co DOT
Lewis Cooksey, Gwinnett Co DOT
Kim Wolfe, City of Buford
Matt Dunagin, City of Buford
Mitch Peevy, Advanced Design
Abdul Amer, A&R Engineering
Susan Puri, City of Sugar Hill

Appendix C:
Linear Regression of Daily Traffic

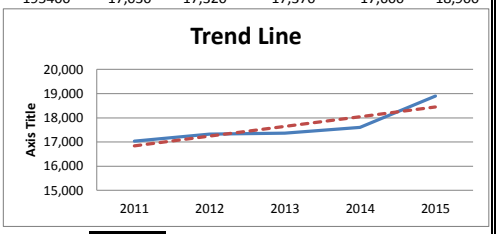
Location	Growth Rate	R Squared	Station ID	Route	2011	2012	2013	2014	2015
Peachtree Industrial Blvd	0.1%	0.00	1350549	195400	10,850	11,040	11,070	10,600	11,100
Peachtree Industrial Blvd	2.3%	0.76	1350543	195400	17,030	17,320	17,370	17,600	18,900
SR 20	0.9%	0.61	1350109	002000	22,060	22,440	22,300	22,300	23,100
SR 20	2.1%	0.66	1350112	002000	38,810	38,060	38,180	40,300	41,700
Weighted Average	**1.6%**	0.74	Sum of Count Stations =		88,750	88,860	88,920	90,800	94,800

Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
Peachtree Industrial Blvd	1350549	195400	10,850	11,040	11,070	10,600	11,100



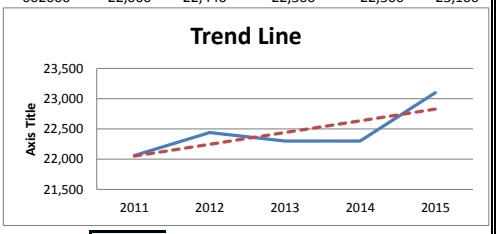
Growth Rate		0.1%	Intercept	-1,146	Slope	6.00
Trend Line		10,920	10,926	10,932	10,938	10,944

Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
Peachtree Industrial Blvd	1350543	195400	17,030	17,320	17,370	17,600	18,900



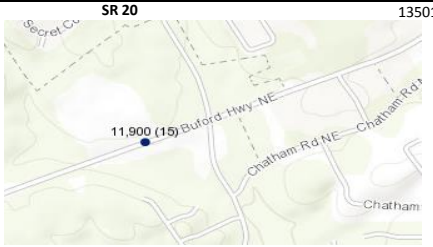
Growth Rate		2.3%	Intercept	-791,582	Slope	402.00
Trend Line		16,840	17,242	17,644	18,046	18,448

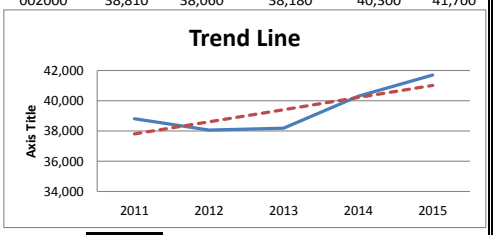
Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
SR 20	1350109	002000	22,060	22,440	22,300	22,300	23,100



Growth Rate		0.9%	Intercept	-368,082	Slope	194.00
Trend Line		22,052	22,246	22,440	22,634	22,828

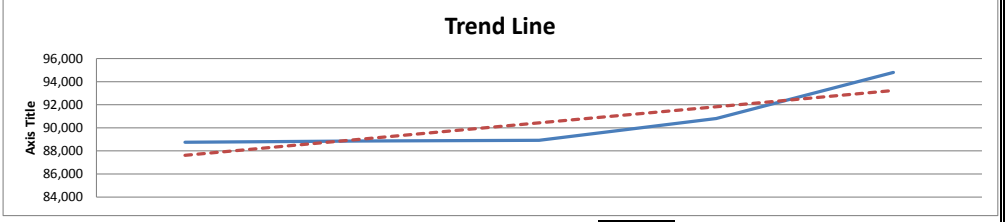
Location	Traffic Counter	RCLINK	2011	2012	2013	2014	2015
SR 20	1350112	002000	38,810	38,060	38,180	40,300	41,700





Growth Rate		2.1%	Intercept	-1,575,016	Slope	802.00
Trend Line		37,806	38,608	39,410	40,212	41,014

Weighted Average	2011	2012	2013	2014	2015
Sum of Count Stations	88,750	88,860	88,920	90,800	94,800



Growth Rate		1.6%	Intercept	-2,735,826	Slope	1,404.00
Trend Line		87,618	89,022	90,426	91,830	93,234

Appendix D:
Fact Sheets for Planned and Programmed Improvements

PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0004430	Gwinnett	**SR 20 FM E OF BURNETTE TRAIL TO PEACHTREE IND BLVD-GRTA**

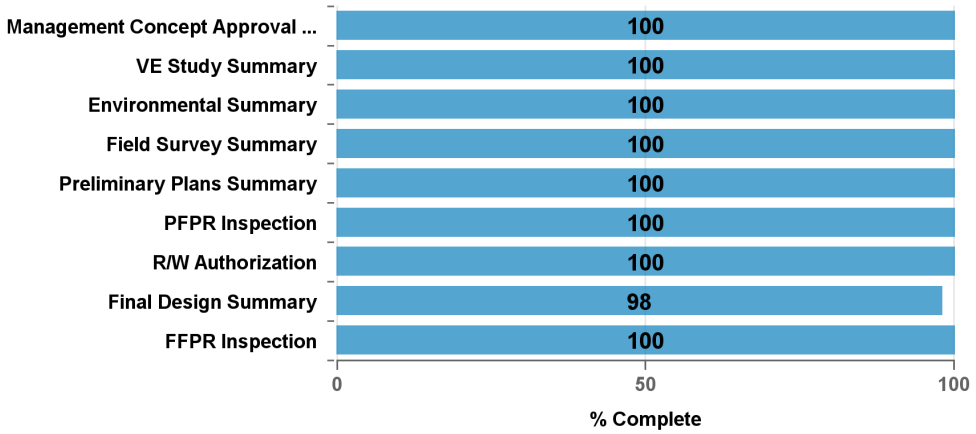
Mgmt Let Date: 1/18/2013

The proposed project would widen SR 20 from a two lane rural section to a four lane urban section from approximately 1,000 feet west of Mountain Ridge Road to Peachtree Industrial Boulevard in Gwinnett County. The typical section will include four- through lanes, a 44-foot grassed median, 16-foot shoulders, curb & gutter on the outside pavement edges, and five-foot concrete sidewalks on both sides of the roadway. Design will accommodate for the future widening of two additional lanes. Project length is 3.91 miles.

PROJ NO: MSL00-0004-00(430)
MPO TIP#: GW-020A1
MPO: Atlanta TMA
PROJ LENGTH (MI): 3.71
TYPE WORK: Widening
LET RESPONSIBILITY: Local Let
BIKE PROVISIONS INCLUDED? Y

SPONSOR: Georgia Regional Transportation Authority
PROJ MGR: Patel, Hiral P.
DOT DIST: 1
CONG DIST: 007
TYPE WORK: Widening
HOUSE DIST:
SENATE DIST:

Phase	FY Approved	Approved FY Estimate *	Fund	Phase Status
Engineering	2003	$966,143.93	CFTS	AUTHORIZED
Engineering	2003	$1,228,829.43	Q23	AUTHORIZED
Right of Way	2011	$28,500,000.00	L050	AUTHORIZED
Right of Way	2011	$11,000,000.00	L240	AUTHORIZED
Construction	2013	$30,130,959.00	M001	AUTHORIZED
UTL	2013	$4,725,769.74	H17A	AUTHORIZED
UTL	2013	$491,965.00	H66A	AUTHORIZED



Activity	Actual Start Date	Actual Finish Date
Management Concept Approval Complete	2/17/2006	2/17/2006
VE Study Summary	8/8/2007	6/26/2008
Environmental Summary	3/15/2005	6/2/2010
Field Survey Summary	7/12/2005	
Preliminary Plans Summary	2/28/2006	6/21/2010
PFPR Inspection	3/26/2008	3/26/2008
R/W Authorization	12/10/2010	12/10/2010
Final Design Summary	12/1/2010	
FFPR Inspection	6/19/2012	6/20/2012

Right of Way Aqcuisition Information:

Preliminary Parcel Count: 173 **Total Parcel Count:** 208 **Acquired by:** LOC

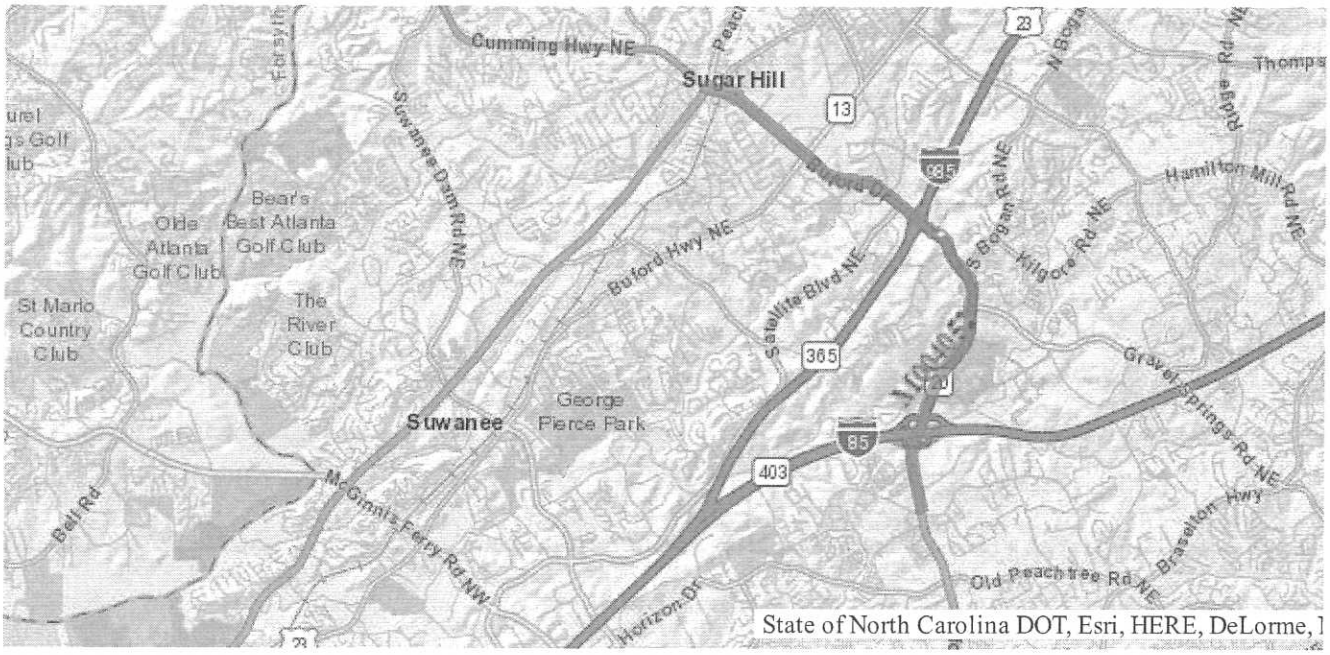
SR 20 FM W OF CR 1954/PEACHTREE INDUSTRIAL BLVD TO E OF I-85

Project ID:	**M004052**	Notice to Proceed Date:	5/21/2010
Project Manager:	Willie Webb	Construction Percent Complete:	96.15%
Office:	Maintenance	Current Completion Date:	3/31/2011
County:	Gwinnett	Work Completion Date:	1/6/2012
Congressional District:	007	Construction Contract Amount:	
State Senate District.:	045	Construction Contractor:	C. W. MATTHEWS CONTRACTING CO., INC.
State House District:	097, 098	**Preconstruction Status Report**	
Project Type:	Maintenance	**Construction Status Report**	
Project Status:	Complete		
Right of Way Authorization:		Contact Us	

Project Description:

This project is a maintenance construction project in Gwinnett County. This project is the milling and resurfacing of 5.8 miles of SR 20 from west of Peachtree Industrial Boulevard/County Road 1954 to east of Interstate 85. This section of SR 20 needs resurfacing because the existing pavement is deteriorating. SR 20 was last resurfaced in 1990.

Activity	Program Year	Cost Estimate	Date of Last Estimate
CST (Construction)	2010	$3,042,008.96	3/12/2009



Project Documents
There are no items to show in this view.

TOP 5 MOST VISITED

Transportation Project Search
Crash, Road & Traffic Data
Northwest Corridor Express Lanes
Contractors
Maps

Georgia Department of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308
(404) 631-1990 Main Office
Contact Us

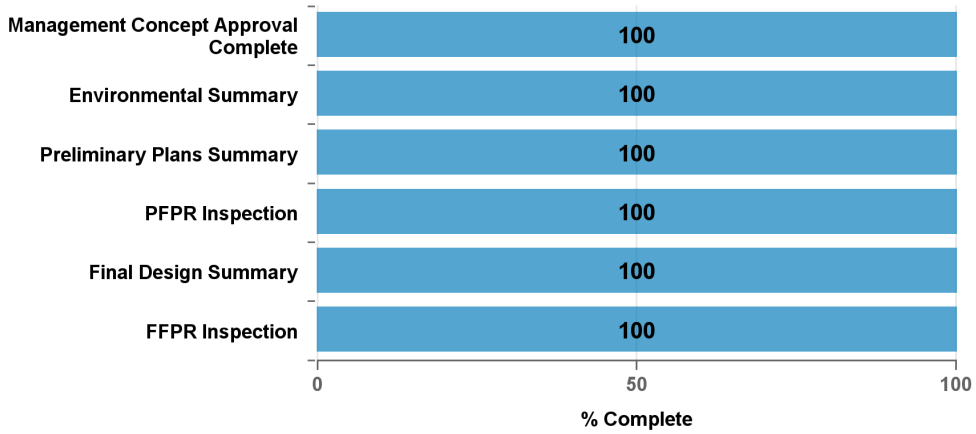
PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0006826	Gwinnett	**SR 20 FROM CR 1954/PEACHTREE INDUSTRIAL BLVD TO I-985**
Mgmt Let Date:	5/20/2011	This project consists of installing ATMS/ITS on S.R. 20 from CR 1954/Peachtree Industrial Blvd to I-985.

PROJ NO:	CSSTP-0006-00(826)	**SPONSOR:**	Gwinnett County
MPO TIP#:	GW-301	**PROJ MGR:**	Burney, Cynthia
MPO:	Atlanta TMA	**DOT DIST:**	1
PROJ LENGTH (MI):	2.6	**CONG DIST:**	007
TYPE WORK:		**TYPE WORK:**	
LET RESPONSIBILITY:	Local Let	**HOUSE DIST:**	
BIKE PROVISIONS INCLUDED?	N	**SENATE DIST:**	

Phase	FY Approved	Approved FY Estimate *	Fund	Phase Status
Engineering	LOCL	$64,000.00	LOC	AUTHORIZED
Construction	2011	$422,594.69	L230	AUTHORIZED

*** Inflation Included in Estimate**



Activity	Actual Start Date	Actual Finish Date
Management Concept Approval Complete	7/29/2010	7/29/2010
Environmental Summary	2/17/2010	1/26/2011
Preliminary Plans Summary	7/29/2010	2/16/2011
PFPR Inspection	12/9/2010	12/9/2010
Final Design Summary	11/1/2010	3/7/2011
FFPR Inspection	2/18/2011	2/18/2011

Right of Way Aqcuisition Information:

Preliminary Parcel Count: 0 **Total Parcel Count:** **Acquired by:** N/R

GW-400

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

Short Title	SR 20 (BUFORD DRIVE) WIDENING FROM SOUTH LEE STREET TO SR 13 (BUFORD HIGHWAY)
GDOT Project No.	TBD
Federal ID No.	N/A
Status	Programmed
Service Type	Roadway / General Purpose Capacity
Sponsor	Gwinnett County
Jurisdiction	Gwinnett County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	4	**LCI**		**Network Year**	2020
Planned Thru Lane	6	**Flex**		**Corridor Length**	1.0 miles

Detailed Description and Justification

This project will widen SR 20 (Buford Drive) from Southlee Street to SR 13 (Buford Highway). The poject will add two lanes; widening the road from 4 travel lanes to 6 travel lanes.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2016	**$375,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$375,000~~
ROW	Local Jurisdiction/Municipality Funds	AUTH	2016	**$1,125,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$1,125,000~~
CST	Local Jurisdiction/Municipality Funds		2017	**$2,250,000**	$0,000	$0,000	$0,000	$2,250,000
				$3,750,000	**$0,000**	**$0,000**	**$0,000**	**$3,750,000**

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

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

ARC

Report Generated: 9/9/2016

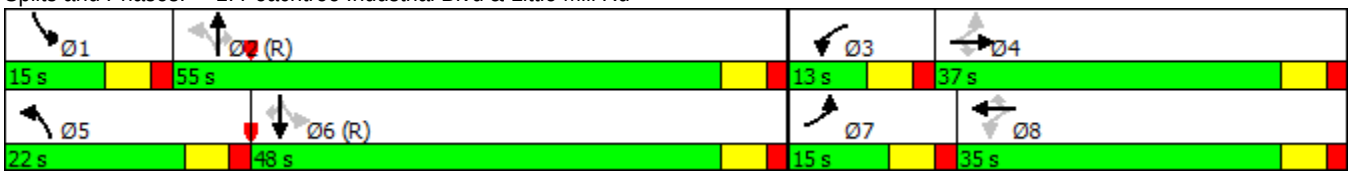
Appendix E:
Existing Intersection Analysis

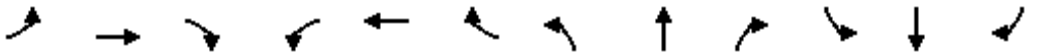
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Future Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Lane Group Flow (vph)	56	108	220	28	40	28	136	426	20	60	511	40
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	15.0	37.0	37.0	13.0	35.0	35.0	22.0	55.0	55.0	15.0	48.0	48.0
Total Split (%)	12.5%	30.8%	30.8%	10.8%	29.2%	29.2%	18.3%	45.8%	45.8%	12.5%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.25	0.49	0.58	0.14	0.25	0.09	0.22	0.19	0.02	0.09	0.24	0.04
Control Delay	40.5	56.7	12.6	38.4	53.4	0.6	7.5	12.0	0.1	7.1	13.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	56.7	12.6	38.4	53.4	0.6	7.5	12.0	0.1	7.1	13.4	0.1
Queue Length 50th (ft)	36	81	0	18	29	0	32	79	0	14	100	0
Queue Length 95th (ft)	64	131	69	31	55	0	53	121	0	16	153	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	234	481	572	200	450	527	702	2201	1036	690	2102	1017
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.38	0.14	0.09	0.05	0.19	0.19	0.02	0.09	0.24	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Future Volume (vph)	47	94	196	19	31	18	106	388	17	28	480	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.60	1.00	1.00	0.69	1.00	1.00	0.43	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1114	1863	1583	1280	1863	1583	801	3539	1583	938	3539	1583
Peak-hour factor, PHF	0.84	0.87	0.89	0.68	0.78	0.64	0.78	0.91	0.85	0.47	0.94	0.55
Adj. Flow (vph)	56	108	220	28	40	28	136	426	20	60	511	40
RTOR Reduction (vph)	0	0	194	0	0	25	0	0	8	0	0	17
Lane Group Flow (vph)	56	108	26	28	40	3	136	426	12	60	511	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.1	14.3	14.3	15.9	11.7	11.7	79.7	71.1	71.1	75.3	68.9	68.9
Effective Green, g (s)	21.1	14.3	14.3	15.9	11.7	11.7	79.7	71.1	71.1	75.3	68.9	68.9
Actuated g/C Ratio	0.18	0.12	0.12	0.13	0.10	0.10	0.66	0.59	0.59	0.63	0.57	0.57
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	233	222	188	186	181	154	601	2096	937	632	2031	908
v/s Ratio Prot	c0.01	c0.06		0.01	0.02		c0.02	0.12		0.01	c0.14	
v/s Ratio Perm	0.03		0.02	0.01		0.00	0.13		0.01	0.05		0.01
v/c Ratio	0.24	0.49	0.14	0.15	0.22	0.02	0.23	0.20	0.01	0.09	0.25	0.03
Uniform Delay, d1	42.1	49.4	47.3	45.9	49.9	49.0	7.5	11.3	10.0	8.6	12.7	11.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.3	0.4	0.6	0.0	0.2	0.2	0.0	0.1	0.3	0.1
Delay (s)	42.7	51.1	47.7	46.3	50.6	49.0	7.7	11.5	10.1	8.7	13.0	11.1
Level of Service	D	D	D	D	D	D	A	B	B	A	B	B
Approach Delay (s)		47.9			48.9			10.6			12.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

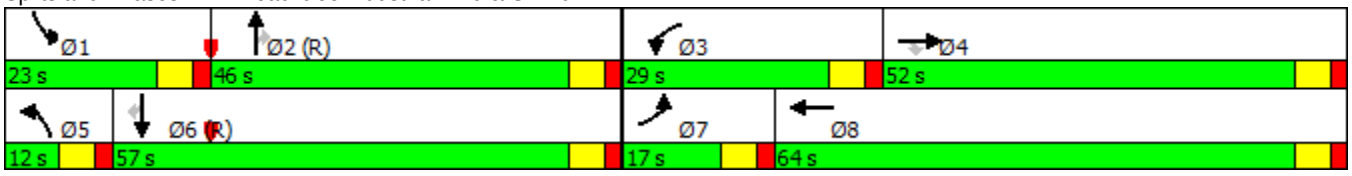
c Critical Lane Group

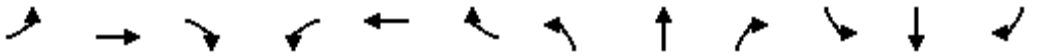
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	134	906	76	378	765	54	239	353	247	470	140
Future Volume (vph)	134	906	76	378	765	54	239	353	247	470	140
Lane Group Flow (vph)	147	985	112	450	999	64	249	458	281	505	156
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	17.0	52.0	52.0	29.0	64.0	12.0	46.0	46.0	23.0	57.0	57.0
Total Split (%)	11.3%	34.7%	34.7%	19.3%	42.7%	8.0%	30.7%	30.7%	15.3%	38.0%	38.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.62	0.93	0.18	0.88	0.76	0.47	0.17	0.71	0.77	0.27	0.23
Control Delay	79.6	66.4	0.7	81.5	44.2	81.8	41.5	27.2	79.8	34.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	66.4	0.7	81.5	44.2	81.8	41.5	27.2	79.8	34.8	5.6
Queue Length 50th (ft)	73	488	0	224	434	32	69	181	139	132	0
Queue Length 95th (ft)	112	#610	0	266	510	55	95	213	186	166	51
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	251	1085	621	526	1349	137	1453	641	389	1871	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.91	0.18	0.86	0.74	0.47	0.17	0.71	0.72	0.27	0.23

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	906	76	378	765	131	54	239	353	247	470	140
Future Volume (vph)	134	906	76	378	765	131	54	239	353	247	470	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.91	0.92	0.68	0.84	0.89	0.94	0.84	0.96	0.77	0.88	0.93	0.90
Adj. Flow (vph)	147	985	112	450	860	139	64	249	458	281	505	156
RTOR Reduction (vph)	0	0	78	0	9	0	0	0	189	0	0	100
Lane Group Flow (vph)	147	985	34	450	990	0	64	249	269	281	505	56
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	10.4	44.9	44.9	22.3	56.8		4.8	42.9	42.9	15.9	54.0	54.0
Effective Green, g (s)	10.4	44.9	44.9	22.3	56.8		4.8	42.9	42.9	15.9	54.0	54.0
Actuated g/C Ratio	0.07	0.30	0.30	0.15	0.38		0.03	0.29	0.29	0.11	0.36	0.36
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	238	1059	473	510	1312		109	1454	452	363	1830	569
v/s Ratio Prot	0.04	c0.28		c0.13	0.29		0.02	0.05		c0.08	0.10	
v/s Ratio Perm			0.02						c0.17			0.04
v/c Ratio	0.62	0.93	0.07	0.88	0.75		0.59	0.17	0.59	0.77	0.28	0.10
Uniform Delay, d1	67.9	51.0	37.6	62.6	40.5		71.6	40.2	46.1	65.3	34.1	31.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	13.9	0.1	16.3	2.5		7.8	0.3	5.7	9.9	0.4	0.3
Delay (s)	72.6	65.0	37.7	78.9	43.1		79.5	40.5	51.7	75.2	34.5	32.2
Level of Service	E	E	D	E	D		E	D	D	E	C	C
Approach Delay (s)		63.4			54.2			50.4			46.2	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

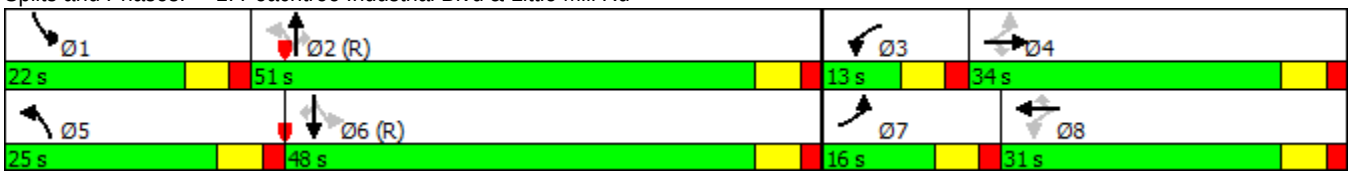
c Critical Lane Group

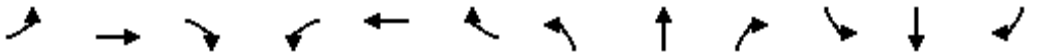
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Future Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Lane Group Flow (vph)	92	193	216	24	132	40	204	636	32	144	436	44
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	16.0	34.0	34.0	13.0	31.0	31.0	25.0	51.0	51.0	22.0	48.0	48.0
Total Split (%)	13.3%	28.3%	28.3%	10.8%	25.8%	25.8%	20.8%	42.5%	42.5%	18.3%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.34	0.56	0.46	0.10	0.58	0.13	0.33	0.36	0.04	0.29	0.24	0.05
Control Delay	37.7	51.8	8.9	32.9	59.4	0.9	11.0	20.1	0.1	10.7	18.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	51.8	8.9	32.9	59.4	0.9	11.0	20.1	0.1	10.7	18.5	0.1
Queue Length 50th (ft)	56	144	0	14	98	0	58	153	0	40	97	0
Queue Length 95th (ft)	81	192	38	25	128	0	108	234	0	40	157	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	155		275	300		300	540		200	230		310
Base Capacity (vph)	273	434	534	242	388	437	713	1786	866	564	1795	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.44	0.40	0.10	0.34	0.09	0.29	0.36	0.04	0.26	0.24	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Future Volume (vph)	72	160	171	16	100	28	188	572	27	72	419	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.45	1.00	1.00	0.62	1.00	1.00	0.48	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	836	1863	1583	1146	1863	1583	886	3539	1583	654	3539	1583
Peak-hour factor, PHF	0.78	0.83	0.79	0.67	0.76	0.70	0.92	0.90	0.84	0.50	0.96	0.57
Adj. Flow (vph)	92	193	216	24	132	40	204	636	32	144	436	44
RTOR Reduction (vph)	0	0	176	0	0	34	0	0	16	0	0	23
Lane Group Flow (vph)	92	193	40	24	132	6	204	636	16	144	436	21
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	31.4	22.1	22.1	21.0	16.9	16.9	69.5	58.2	58.2	70.1	58.5	58.5
Effective Green, g (s)	31.4	22.1	22.1	21.0	16.9	16.9	69.5	58.2	58.2	70.1	58.5	58.5
Actuated g/C Ratio	0.26	0.18	0.18	0.18	0.14	0.14	0.58	0.49	0.49	0.58	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	291	343	291	221	262	222	596	1716	767	489	1725	771
v/s Ratio Prot	c0.02	c0.10		0.00	0.07		c0.03	c0.18		0.03	0.12	
v/s Ratio Perm	0.06		0.03	0.02		0.00	0.17		0.01	0.14		0.01
v/c Ratio	0.32	0.56	0.14	0.11	0.50	0.03	0.34	0.37	0.02	0.29	0.25	0.03
Uniform Delay, d1	34.7	44.6	41.0	41.4	47.7	44.4	12.0	19.4	16.1	11.7	18.0	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	2.1	0.2	0.2	1.5	0.0	0.3	0.6	0.0	0.3	0.4	0.1
Delay (s)	35.4	46.7	41.2	41.6	49.2	44.5	12.4	20.0	16.1	12.0	18.3	16.0
Level of Service	D	D	D	D	D	D	B	C	B	B	B	B
Approach Delay (s)		42.2			47.3			18.1			16.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

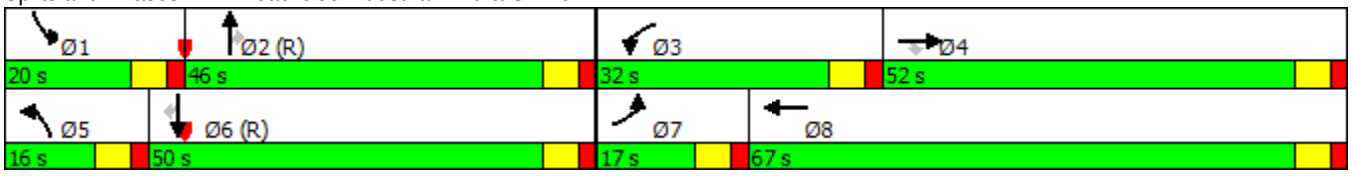
c Critical Lane Group

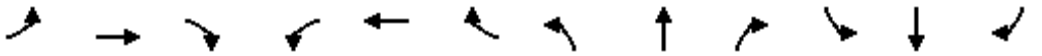
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	166	834	69	370	959	111	468	462	204	294	207
Future Volume (vph)	166	834	69	370	959	111	468	462	204	294	207
Lane Group Flow (vph)	184	869	76	394	1311	135	503	491	224	303	216
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	17.0	52.0	52.0	32.0	67.0	16.0	46.0	46.0	20.0	50.0	50.0
Total Split (%)	11.3%	34.7%	34.7%	21.3%	44.7%	10.7%	30.7%	30.7%	13.3%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.75	0.76	0.12	0.78	0.95	0.62	0.35	0.74	0.74	0.20	0.35
Control Delay	86.9	50.8	0.4	72.9	57.0	80.9	44.4	25.6	81.6	39.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.9	50.8	0.4	72.9	57.0	80.9	44.4	25.6	81.6	39.4	9.5
Queue Length 50th (ft)	92	397	0	193	632	67	147	175	111	82	20
Queue Length 95th (ft)	#144	496	0	246	714	95	185	325	159	110	87
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	251	1146	616	595	1414	228	1428	665	320	1552	614
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.76	0.12	0.66	0.93	0.59	0.35	0.74	0.70	0.20	0.35

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	834	69	370	959	192	111	468	462	204	294	207
Future Volume (vph)	166	834	69	370	959	192	111	468	462	204	294	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.90	0.96	0.91	0.94	0.88	0.87	0.82	0.93	0.94	0.91	0.97	0.96
Adj. Flow (vph)	184	869	76	394	1090	221	135	503	491	224	303	216
RTOR Reduction (vph)	0	0	51	0	11	0	0	0	221	0	0	131
Lane Group Flow (vph)	184	869	25	394	1300	0	135	503	270	224	303	85
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	10.8	48.6	48.6	22.0	59.8		9.6	42.1	42.1	13.3	45.8	45.8
Effective Green, g (s)	10.8	48.6	48.6	22.0	59.8		9.6	42.1	42.1	13.3	45.8	45.8
Actuated g/C Ratio	0.07	0.32	0.32	0.15	0.40		0.06	0.28	0.28	0.09	0.31	0.31
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	247	1146	512	503	1375		219	1427	444	304	1552	483
v/s Ratio Prot	0.05	0.25		c0.11	c0.38		0.04	0.10		c0.07	c0.06	
v/s Ratio Perm			0.02						c0.17			0.05
v/c Ratio	0.74	0.76	0.05	0.78	0.95		0.62	0.35	0.61	0.74	0.20	0.18
Uniform Delay, d1	68.2	45.4	34.8	61.7	43.5		68.4	43.1	46.8	66.6	38.5	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	2.9	0.0	7.8	13.3		5.1	0.7	6.1	9.0	0.3	0.8
Delay (s)	79.8	48.4	34.9	69.5	56.8		73.5	43.8	52.9	75.6	38.8	39.1
Level of Service	E	D	C	E	E		E	D	D	E	D	D
Approach Delay (s)		52.6			59.7			51.3			50.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Appendix F:
NCHRP 457 Right-turn lane Analysis

RIGHT-TURN LANE ANALYSIS
per NCHRP 457 guidelines

The following right-turn lane analyses were used to determine the need for dedicated turn bays at the proposed site driveway locations that are not located on State Routes.

Methdology

Guidelines for determining when to provide a right-turn bay on the major road of a two-way stop-controlled intersection are provided in Hasan, T. and Stokes, R.W. "Guidelines for Right-Turn Treatments at Unsignalized Intersections and Driveways on Rural Highways" (Transportation Research Record 1579). These guidelines were based on an evaluation of the operating and collisions costs associated with the right turn maneuver relative to the cost of construction. The operating costs included those of road-user fuel and delay. Separate guidelines were developed for two-lane and four-lane roadways, which are found in the NCHRP Report 457 “Evaluating Intersection Improvements: An Engineering Study Guide”.

Results

An evaluation of site traffic in relation to these guidelines is shown graphically in the following figures.

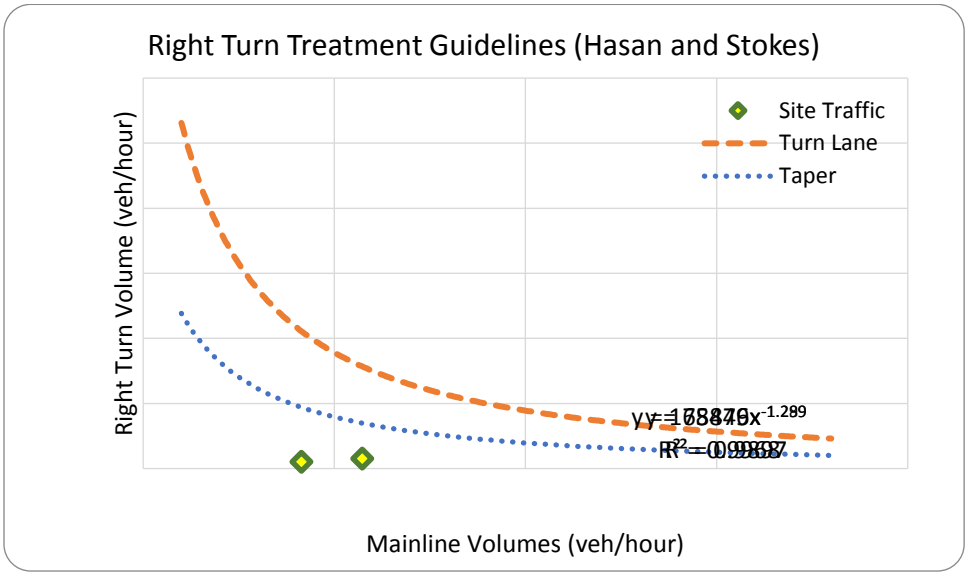


Figure 1 – NCHRP 457 Right-turn lane Guidelines: Site Driveway 1 (N)

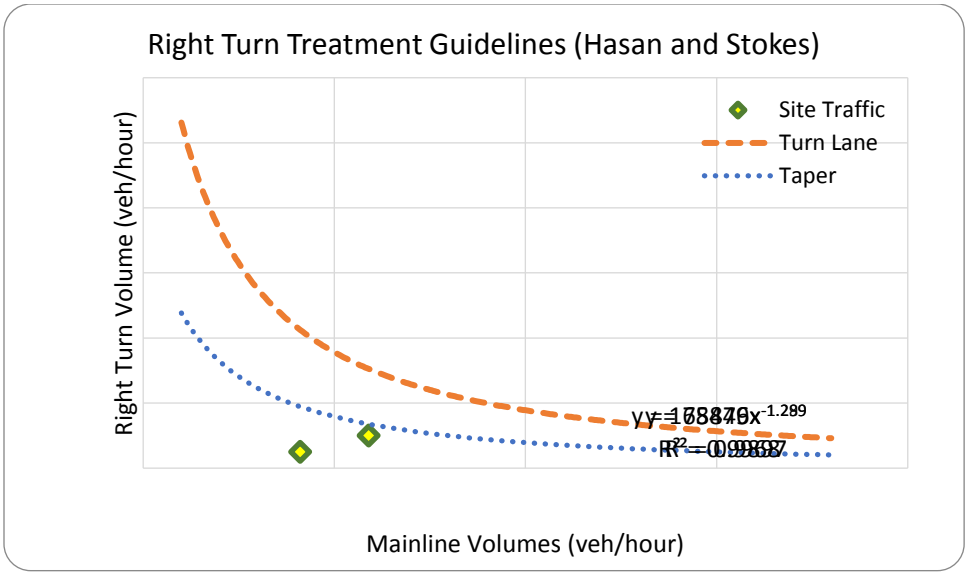


Figure 2 – NCHRP 457 Right-turn lane Guidelines: Site Driveway 2 (M)

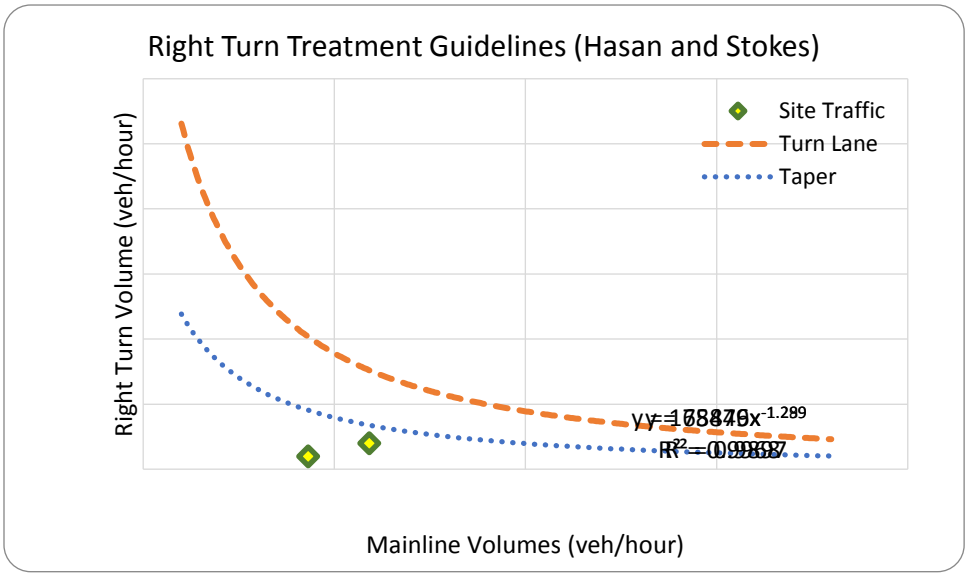


Figure 1 – NCHRP 457 Right-turn lane Guidelines: Site Driveway 3 (S)

Findings

The low volumes and speeds on the roadway would lessen the need for deceleration outside of the through lane. Therefore, unless stopping sight distance (480 feet for 50 mph) is obstructed on the southbound approach, a right-turn lane is not warranted on the mainline at all the three proposed site driveways using the criteria in the NCHRP Report 457.

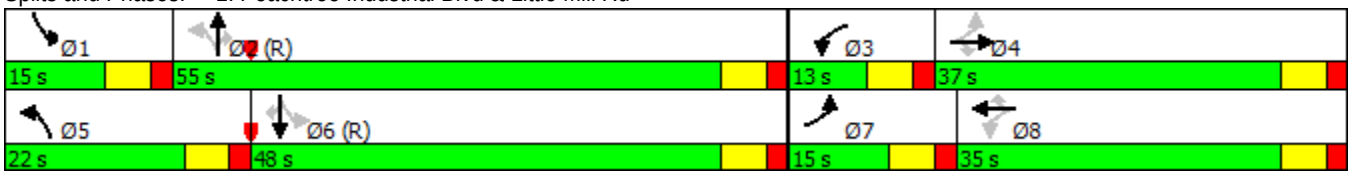
Appendix G:
Future “No-Build” Intersection Analysis

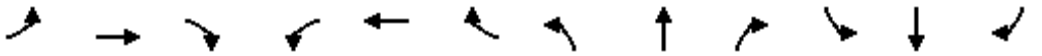
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Future Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Lane Group Flow (vph)	57	111	227	29	41	30	140	440	21	62	527	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	15.0	37.0	37.0	13.0	35.0	35.0	22.0	55.0	55.0	15.0	48.0	48.0
Total Split (%)	12.5%	30.8%	30.8%	10.8%	29.2%	29.2%	18.3%	45.8%	45.8%	12.5%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.25	0.49	0.58	0.15	0.25	0.10	0.23	0.20	0.02	0.09	0.25	0.04
Control Delay	40.5	56.7	12.5	38.4	53.2	0.6	7.6	12.2	0.1	7.2	13.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	56.7	12.5	38.4	53.2	0.6	7.6	12.2	0.1	7.2	13.6	0.1
Queue Length 50th (ft)	36	83	0	18	30	0	33	83	0	14	104	0
Queue Length 95th (ft)	65	133	69	32	55	0	54	126	0	16	159	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	155		275	300		300	540		200	230		310
Base Capacity (vph)	235	481	577	201	450	527	691	2195	1033	680	2094	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.23	0.39	0.14	0.09	0.06	0.20	0.20	0.02	0.09	0.25	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Future Volume (vph)	48	97	202	20	32	19	109	400	18	29	495	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.59	1.00	1.00	0.69	1.00	1.00	0.42	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1107	1863	1583	1277	1863	1583	784	3539	1583	925	3539	1583
Peak-hour factor, PHF	0.84	0.87	0.89	0.68	0.78	0.64	0.78	0.91	0.85	0.47	0.94	0.55
Adj. Flow (vph)	57	111	227	29	41	30	140	440	21	62	527	42
RTOR Reduction (vph)	0	0	200	0	0	27	0	0	9	0	0	18
Lane Group Flow (vph)	57	111	27	29	41	3	140	440	12	62	527	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Effective Green, g (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Actuated g/C Ratio	0.18	0.12	0.12	0.13	0.10	0.10	0.66	0.59	0.59	0.63	0.57	0.57
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	235	225	191	187	183	155	590	2088	933	624	2023	904
v/s Ratio Prot	c0.01	c0.06		0.01	0.02		c0.02	0.12		0.01	c0.15	
v/s Ratio Perm	0.03		0.02	0.02		0.00	0.14		0.01	0.06		0.02
v/c Ratio	0.24	0.49	0.14	0.16	0.22	0.02	0.24	0.21	0.01	0.10	0.26	0.03
Uniform Delay, d1	41.9	49.3	47.2	45.8	49.9	48.9	7.6	11.5	10.2	8.7	12.9	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.3	0.4	0.6	0.0	0.2	0.2	0.0	0.1	0.3	0.1
Delay (s)	42.4	51.0	47.5	46.2	50.5	48.9	7.8	11.7	10.2	8.8	13.2	11.2
Level of Service	D	D	D	D	D	D	A	B	B	A	B	B
Approach Delay (s)		47.8			48.8			10.8			12.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

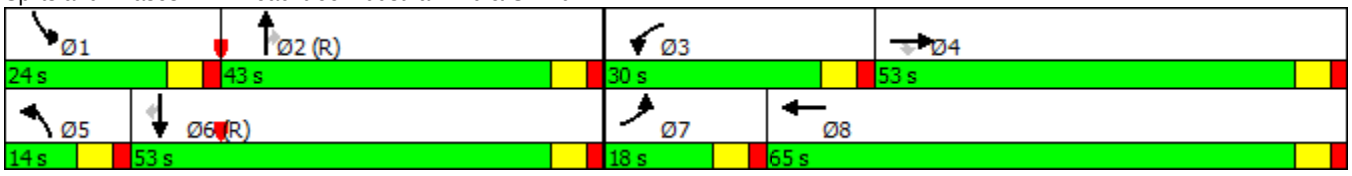
c Critical Lane Group

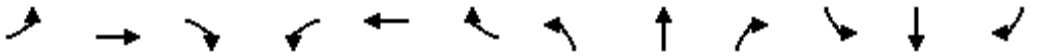
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	138	933	78	389	788	56	246	364	254	484	144
Future Volume (vph)	138	933	78	389	788	56	246	364	254	484	144
Lane Group Flow (vph)	152	1014	115	463	1029	67	256	473	289	520	160
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	18.0	53.0	53.0	30.0	65.0	14.0	43.0	43.0	24.0	53.0	53.0
Total Split (%)	12.0%	35.3%	35.3%	20.0%	43.3%	9.3%	28.7%	28.7%	16.0%	35.3%	35.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.60	0.94	0.19	0.88	0.76	0.39	0.19	0.76	0.76	0.30	0.25
Control Delay	77.5	66.1	0.7	79.9	43.7	75.7	43.7	30.6	78.1	37.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	66.1	0.7	79.9	43.7	75.7	43.7	30.6	78.1	37.6	6.1
Queue Length 50th (ft)	75	503	0	229	448	33	73	199	142	142	0
Queue Length 95th (ft)	114	#629	0	271	525	56	101	232	189	178	54
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	274	1108	630	549	1375	183	1365	622	411	1756	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.92	0.18	0.84	0.75	0.37	0.19	0.76	0.70	0.30	0.25

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	933	78	389	788	135	56	246	364	254	484	144
Future Volume (vph)	138	933	78	389	788	135	56	246	364	254	484	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3465		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.91	0.92	0.68	0.84	0.89	0.94	0.84	0.96	0.77	0.88	0.93	0.90
Adj. Flow (vph)	152	1014	115	463	885	144	67	256	473	289	520	160
RTOR Reduction (vph)	0	0	80	0	9	0	0	0	197	0	0	106
Lane Group Flow (vph)	152	1014	35	463	1020	0	67	256	276	289	520	54
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	11.1	46.0	46.0	23.1	58.0		6.3	40.3	40.3	16.6	50.6	50.6
Effective Green, g (s)	11.1	46.0	46.0	23.1	58.0		6.3	40.3	40.3	16.6	50.6	50.6
Actuated g/C Ratio	0.07	0.31	0.31	0.15	0.39		0.04	0.27	0.27	0.11	0.34	0.34
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	254	1085	485	528	1339		144	1366	425	379	1715	533
v/s Ratio Prot	0.04	c0.29		c0.13	0.29		0.02	0.05		c0.08	0.10	
v/s Ratio Perm			0.02						c0.17			0.03
v/c Ratio	0.60	0.93	0.07	0.88	0.76		0.47	0.19	0.65	0.76	0.30	0.10
Uniform Delay, d1	67.3	50.5	36.9	62.1	40.0		70.2	42.2	48.6	64.8	36.7	34.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	14.2	0.1	15.1	2.6		2.4	0.3	7.5	8.8	0.5	0.4
Delay (s)	71.1	64.7	36.9	77.2	42.6		72.6	42.5	56.0	73.6	37.1	34.5
Level of Service	E	E	D	E	D		E	D	E	E	D	C
Approach Delay (s)		63.0			53.3			53.1			47.6	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

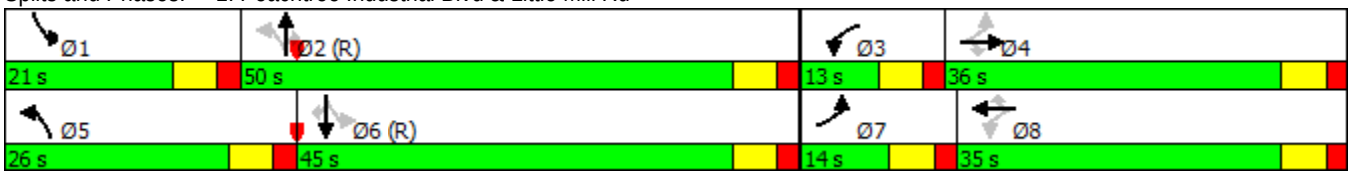
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Future Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Lane Group Flow (vph)	95	199	223	24	136	41	211	654	33	148	450	46
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	14.0	36.0	36.0	13.0	35.0	35.0	26.0	50.0	50.0	21.0	45.0	45.0
Total Split (%)	11.7%	30.0%	30.0%	10.8%	29.2%	29.2%	21.7%	41.7%	41.7%	17.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.36	0.58	0.47	0.10	0.54	0.12	0.35	0.37	0.04	0.30	0.25	0.05
Control Delay	38.2	52.2	8.8	32.6	55.4	0.8	11.2	20.2	0.1	10.9	18.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	52.2	8.8	32.6	55.4	0.8	11.2	20.2	0.1	10.9	18.9	0.1
Queue Length 50th (ft)	58	148	0	14	99	0	61	158	0	41	101	0
Queue Length 95th (ft)	83	197	39	25	128	0	113	242	0	42	165	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	262	465	563	240	450	485	710	1787	866	543	1784	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.43	0.40	0.10	0.30	0.08	0.30	0.37	0.04	0.27	0.25	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Future Volume (vph)	74	165	176	16	103	29	194	589	28	74	432	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.49	1.00	1.00	0.55	1.00	1.00	0.46	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	911	1863	1583	1022	1863	1583	862	3539	1583	642	3539	1583
Peak-hour factor, PHF	0.78	0.83	0.79	0.67	0.76	0.70	0.92	0.90	0.84	0.50	0.96	0.57
Adj. Flow (vph)	95	199	223	24	136	41	211	654	33	148	450	46
RTOR Reduction (vph)	0	0	182	0	0	35	0	0	17	0	0	24
Lane Group Flow (vph)	95	199	41	24	136	6	211	654	16	148	450	22
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	30.0	22.2	22.2	22.6	18.5	18.5	69.8	58.3	58.3	69.6	58.2	58.2
Effective Green, g (s)	30.0	22.2	22.2	22.6	18.5	18.5	69.8	58.3	58.3	69.6	58.2	58.2
Actuated g/C Ratio	0.25	0.18	0.18	0.19	0.15	0.15	0.58	0.49	0.49	0.58	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	283	344	292	218	287	244	588	1719	769	479	1716	767
v/s Ratio Prot	c0.02	c0.11		0.00	0.07		c0.03	c0.18		0.03	0.13	
v/s Ratio Perm	0.06		0.03	0.02		0.00	0.17		0.01	0.15		0.01
v/c Ratio	0.34	0.58	0.14	0.11	0.47	0.03	0.36	0.38	0.02	0.31	0.26	0.03
Uniform Delay, d1	35.8	44.6	40.9	40.1	46.3	43.1	12.0	19.5	16.0	11.9	18.2	16.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	2.4	0.2	0.2	1.2	0.0	0.4	0.6	0.0	0.4	0.4	0.1
Delay (s)	36.5	47.0	41.1	40.3	47.5	43.1	12.4	20.1	16.1	12.3	18.6	16.2
Level of Service	D	D	D	D	D	D	B	C	B	B	B	B
Approach Delay (s)		42.5			45.8			18.1			17.0	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

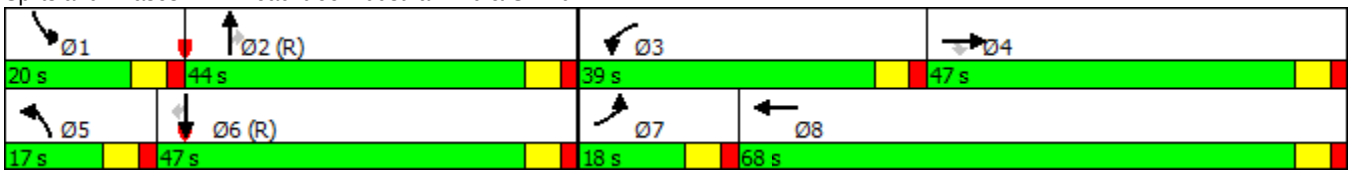
c Critical Lane Group

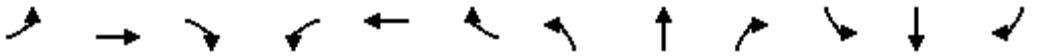
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	171	859	71	381	988	114	482	476	210	303	213
Future Volume (vph)	171	859	71	381	988	114	482	476	210	303	213
Lane Group Flow (vph)	190	895	78	405	1351	139	518	506	231	312	222
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	18.0	47.0	47.0	39.0	68.0	17.0	44.0	44.0	20.0	47.0	47.0
Total Split (%)	12.0%	31.3%	31.3%	26.0%	45.3%	11.3%	29.3%	29.3%	13.3%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.72	0.76	0.12	0.77	0.95	0.59	0.38	0.72	0.75	0.21	0.37
Control Delay	83.2	50.3	0.4	71.1	57.5	78.5	46.5	18.6	82.6	41.7	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.2	50.3	0.4	71.1	57.5	78.5	46.5	18.6	82.6	41.7	9.7
Queue Length 50th (ft)	94	407	0	198	655	69	155	107	115	87	18
Queue Length 95th (ft)	139	516	0	247	#749	96	194	255	162	116	88
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	274	1173	627	755	1437	251	1353	703	320	1459	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.76	0.12	0.54	0.94	0.55	0.38	0.72	0.72	0.21	0.37

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	859	71	381	988	198	114	482	476	210	303	213
Future Volume (vph)	171	859	71	381	988	198	114	482	476	210	303	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3450		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.90	0.96	0.91	0.94	0.88	0.87	0.82	0.93	0.94	0.91	0.97	0.96
Adj. Flow (vph)	190	895	78	405	1123	228	139	518	506	231	312	222
RTOR Reduction (vph)	0	0	52	0	11	0	0	0	283	0	0	141
Lane Group Flow (vph)	190	895	26	405	1340	0	139	518	223	231	312	81
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	11.6	49.7	49.7	23.0	61.1		10.3	39.9	39.9	13.4	43.0	43.0
Effective Green, g (s)	11.6	49.7	49.7	23.0	61.1		10.3	39.9	39.9	13.4	43.0	43.0
Actuated g/C Ratio	0.08	0.33	0.33	0.15	0.41		0.07	0.27	0.27	0.09	0.29	0.29
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	265	1172	524	526	1405		235	1352	421	306	1457	453
v/s Ratio Prot	0.06	0.25		c0.12	c0.39		0.04	0.10		c0.07	c0.06	
v/s Ratio Perm			0.02						c0.14			0.05
v/c Ratio	0.72	0.76	0.05	0.77	0.95		0.59	0.38	0.53	0.75	0.21	0.18
Uniform Delay, d1	67.6	44.9	34.1	61.0	43.1		67.8	45.0	47.0	66.7	40.7	40.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	3.0	0.0	6.7	14.3		4.0	0.8	4.7	10.1	0.3	0.9
Delay (s)	76.5	47.9	34.1	67.7	57.4		71.8	45.8	51.8	76.8	41.0	41.1
Level of Service	E	D	C	E	E		E	D	D	E	D	D
Approach Delay (s)		51.7			59.8			51.5			51.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

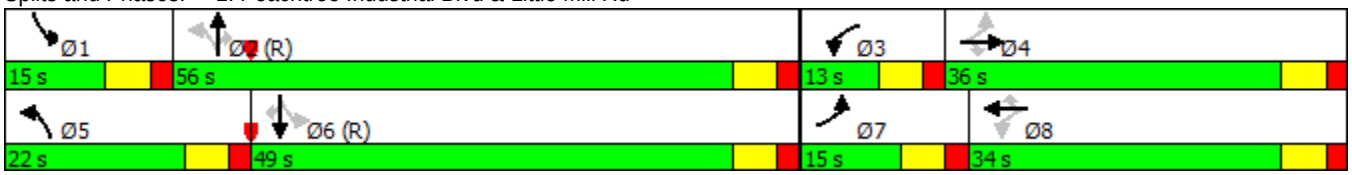
Appendix H:
Future “Build” Intersections Analysis

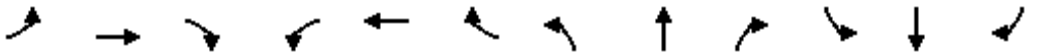
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Future Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Lane Group Flow (vph)	57	111	229	32	41	30	141	448	22	62	546	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	15.0	36.0	36.0	13.0	34.0	34.0	22.0	56.0	56.0	15.0	49.0	49.0
Total Split (%)	12.5%	30.0%	30.0%	10.8%	28.3%	28.3%	18.3%	46.7%	46.7%	12.5%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.25	0.49	0.58	0.16	0.25	0.10	0.24	0.20	0.02	0.09	0.26	0.04
Control Delay	40.5	56.7	12.5	38.7	53.2	0.6	7.6	12.2	0.1	7.2	13.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	56.7	12.5	38.7	53.2	0.6	7.6	12.2	0.1	7.2	13.7	0.1
Queue Length 50th (ft)	36	83	0	20	30	0	34	84	0	14	108	0
Queue Length 95th (ft)	65	133	69	34	55	0	54	128	0	16	165	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	235	465	567	201	434	515	679	2195	1033	675	2092	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.24	0.40	0.16	0.09	0.06	0.21	0.20	0.02	0.09	0.26	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Future Volume (vph)	48	97	204	22	32	19	110	408	19	29	513	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.59	1.00	1.00	0.69	1.00	1.00	0.41	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	1107	1863	1583	1277	1863	1583	764	3539	1583	918	3539	1583
Peak-hour factor, PHF	0.84	0.87	0.89	0.68	0.78	0.64	0.78	0.91	0.85	0.47	0.94	0.55
Adj. Flow (vph)	57	111	229	32	41	30	141	448	22	62	546	42
RTOR Reduction (vph)	0	0	201	0	0	27	0	0	9	0	0	18
Lane Group Flow (vph)	57	111	28	32	41	3	141	448	13	62	546	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Effective Green, g (s)	21.4	14.5	14.5	16.0	11.8	11.8	79.5	70.8	70.8	75.1	68.6	68.6
Actuated g/C Ratio	0.18	0.12	0.12	0.13	0.10	0.10	0.66	0.59	0.59	0.63	0.57	0.57
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	235	225	191	187	183	155	579	2088	933	620	2023	904
v/s Ratio Prot	c0.01	c0.06		0.01	0.02		c0.02	0.13		0.01	c0.15	
v/s Ratio Perm	0.03		0.02	0.02		0.00	0.14		0.01	0.06		0.02
v/c Ratio	0.24	0.49	0.14	0.17	0.22	0.02	0.24	0.21	0.01	0.10	0.27	0.03
Uniform Delay, d1	41.9	49.3	47.2	45.9	49.9	48.9	7.6	11.5	10.2	8.7	13.0	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.4	0.4	0.6	0.0	0.2	0.2	0.0	0.1	0.3	0.1
Delay (s)	42.4	51.0	47.6	46.3	50.5	48.9	7.8	11.8	10.2	8.8	13.3	11.2
Level of Service	D	D	D	D	D	D	A	B	B	A	B	B
Approach Delay (s)		47.8			48.7			10.8			12.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

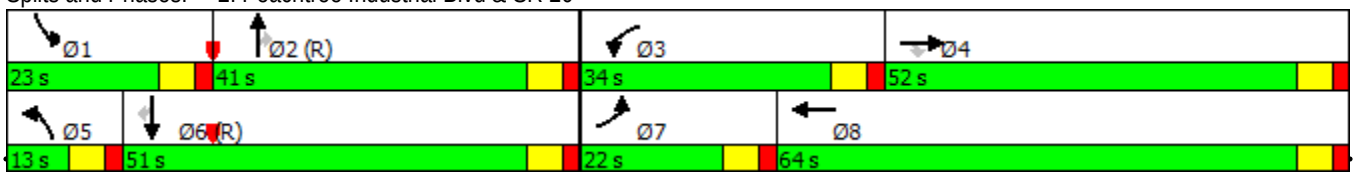
c Critical Lane Group

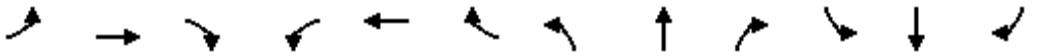
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	149	933	78	389	788	56	265	364	264	493	149
Future Volume (vph)	149	933	78	389	788	56	265	364	264	493	149
Lane Group Flow (vph)	164	1014	115	463	1051	67	276	473	300	530	166
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	22.0	52.0	52.0	34.0	64.0	13.0	41.0	41.0	23.0	51.0	51.0
Total Split (%)	14.7%	34.7%	34.7%	22.7%	42.7%	8.7%	27.3%	27.3%	15.3%	34.0%	34.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.57	0.95	0.19	0.82	0.79	0.43	0.21	0.73	0.80	0.30	0.25
Control Delay	73.9	68.8	0.7	72.8	45.1	78.4	44.5	24.3	82.2	37.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	68.8	0.7	72.8	45.1	78.4	44.5	24.3	82.2	37.7	6.1
Queue Length 50th (ft)	80	508	0	227	462	33	79	148	149	144	0
Queue Length 95th (ft)	118	#642	0	262	545	56	110	185	198	184	m54
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	366	1085	621	640	1357	160	1346	650	389	1750	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.93	0.19	0.72	0.77	0.42	0.21	0.73	0.77	0.30	0.25

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	933	78	389	788	156	56	265	364	264	493	149
Future Volume (vph)	149	933	78	389	788	156	56	265	364	264	493	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3455		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3455		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.91	0.92	0.68	0.84	0.89	0.94	0.84	0.96	0.77	0.88	0.93	0.90
Adj. Flow (vph)	164	1014	115	463	885	166	67	276	473	300	530	166
RTOR Reduction (vph)	0	0	80	0	10	0	0	0	232	0	0	110
Lane Group Flow (vph)	164	1014	35	463	1041	0	67	276	241	300	530	56
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	12.5	45.3	45.3	24.7	57.5		5.6	39.7	39.7	16.3	50.4	50.4
Effective Green, g (s)	12.5	45.3	45.3	24.7	57.5		5.6	39.7	39.7	16.3	50.4	50.4
Actuated g/C Ratio	0.08	0.30	0.30	0.16	0.38		0.04	0.26	0.26	0.11	0.34	0.34
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	286	1068	478	565	1324		128	1345	418	373	1708	531
v/s Ratio Prot	0.05	c0.29		c0.13	c0.30		0.02	0.05		c0.09	0.10	
v/s Ratio Perm			0.02						c0.15			0.04
v/c Ratio	0.57	0.95	0.07	0.82	0.79		0.52	0.21	0.58	0.80	0.31	0.11
Uniform Delay, d1	66.2	51.2	37.4	60.5	40.8		70.9	42.9	47.9	65.3	36.9	34.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.99	0.98
Incremental Delay, d2	2.8	16.6	0.1	9.1	3.2		3.8	0.3	5.7	11.9	0.5	0.4
Delay (s)	69.0	67.8	37.4	69.6	44.0		74.7	43.2	53.6	77.4	37.0	33.8
Level of Service	E	E	D	E	D		E	D	D	E	D	C
Approach Delay (s)		65.2			51.8			51.8			48.7	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	2	4	8	526	3	773	3
Future Volume (Veh/h)	2	4	8	526	3	773	3
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.38	0.93	0.92
Hourly flow rate (vph)	2	4	9	598	0	831	3
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				Raised		Raised	
Median storage veh)				1		1	
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1148	416	834		0		
vC1, stage 1 conf vol	831						
vC2, stage 2 conf vol	317						
vCu, unblocked vol	1148	416	834		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	99	99	99		0		
cM capacity (veh/h)	304	586	795		0		

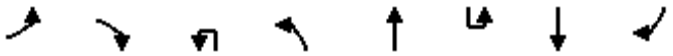
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	6	9	299	299	416	416	3	0
Volume Left	2	9	0	0	0	0	0	0
Volume Right	4	0	0	0	0	0	3	0
cSH	447	795	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.18	0.18	0.24	0.24	0.00	0.00
Queue Length 95th (ft)	1	1	0	0	0	0	0	0
Control Delay (s)	13.2	9.6	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	13.2	0.1			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	4	10	23	529	0	790	10
Future Volume (Veh/h)	4	10	23	529	0	790	10
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.92	0.90	0.92
Hourly flow rate (vph)	4	11	25	601	0	878	11
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				Raised		Raised	
Median storage veh)				1		1	
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1228	439	889		0		
vC1, stage 1 conf vol	878						
vC2, stage 2 conf vol	350						
vCu, unblocked vol	1228	439	889		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	99	98	97		0		
cM capacity (veh/h)	281	566	758		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	4	11	25	300	300	439	439	11	0
Volume Left	4	0	25	0	0	0	0	0	0
Volume Right	0	11	0	0	0	0	0	11	0
cSH	281	566	758	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.02	0.03	0.18	0.18	0.26	0.26	0.01	0.00
Queue Length 95th (ft)	1	1	3	0	0	0	0	0	0
Control Delay (s)	18.0	11.5	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	A						
Approach Delay (s)	13.2		0.4			0.0			
Approach LOS	B								

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	31.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (veh/h)	3	8	31	18	537	0	792	8
Future Volume (Veh/h)	3	8	31	18	537	0	792	8
Sign Control	Stop				Free		Free	
Grade	0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.75	0.92	0.95	0.92	0.90	0.92
Hourly flow rate (vph)	3	9	0	20	565	0	880	9
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type					Raised		Raised	
Median storage veh)					1		1	
Upstream signal (ft)								
pX, platoon unblocked			0.00			0.00		
vC, conflicting volume	1202	440	0	889		0		
vC1, stage 1 conf vol	880							
vC2, stage 2 conf vol	322							
vCu, unblocked vol	1202	440	0	889		0		
tC, single (s)	6.8	6.9	0.0	4.1		0.0		
tC, 2 stage (s)	5.8							
tF (s)	3.5	3.3	0.0	2.2		0.0		
p0 queue free %	99	98	0	97		0		
cM capacity (veh/h)	286	565	0	758		0		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	12	20	282	282	440	440	9	0
Volume Left	3	20	0	0	0	0	0	0
Volume Right	9	0	0	0	0	0	9	0
cSH	454	758	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.03	0.17	0.17	0.26	0.26	0.01	0.00
Queue Length 95th (ft)	2	2	0	0	0	0	0	0
Control Delay (s)	13.1	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	13.1	0.3			0.0			
Approach LOS	B							

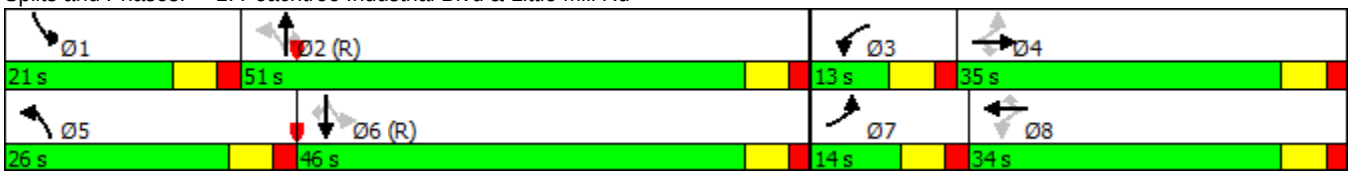
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	38.6%	ICU Level of Service		A
Analysis Period (min)	15			

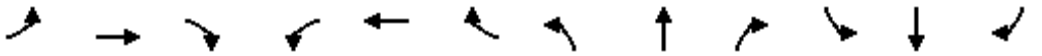
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Future Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Lane Group Flow (vph)	95	199	224	25	136	41	213	678	36	148	459	46
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	14.0	35.0	35.0	13.0	34.0	34.0	26.0	51.0	51.0	21.0	46.0	46.0
Total Split (%)	11.7%	29.2%	29.2%	10.8%	28.3%	28.3%	21.7%	42.5%	42.5%	17.5%	38.3%	38.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.36	0.58	0.47	0.11	0.54	0.12	0.35	0.38	0.04	0.31	0.26	0.05
Control Delay	38.1	52.2	8.8	32.6	55.4	0.8	11.2	20.4	0.1	11.0	19.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	52.2	8.8	32.6	55.4	0.8	11.2	20.4	0.1	11.0	19.0	0.1
Queue Length 50th (ft)	58	148	0	15	99	0	62	167	0	42	104	0
Queue Length 95th (ft)	83	198	39	26	128	0	113	251	0	42	167	0
Internal Link Dist (ft)		689			562			1334			1198	
Turn Bay Length (ft)	150		275	300		300	540		200	230		310
Base Capacity (vph)	263	450	552	240	434	473	705	1787	866	531	1784	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.44	0.41	0.10	0.31	0.09	0.30	0.38	0.04	0.28	0.26	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & Little Mill Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Future Volume (vph)	74	165	177	17	103	29	196	610	30	74	441	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.49	1.00	1.00	0.55	1.00	1.00	0.46	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	917	1863	1583	1017	1863	1583	851	3539	1583	618	3539	1583
Peak-hour factor, PHF	0.78	0.83	0.79	0.67	0.76	0.70	0.92	0.90	0.84	0.50	0.96	0.57
Adj. Flow (vph)	95	199	224	25	136	41	213	678	36	148	459	46
RTOR Reduction (vph)	0	0	183	0	0	35	0	0	19	0	0	24
Lane Group Flow (vph)	95	199	41	25	136	6	213	678	17	148	459	22
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	30.0	22.2	22.2	22.8	18.6	18.6	69.7	58.2	58.2	69.5	58.1	58.1
Effective Green, g (s)	30.0	22.2	22.2	22.8	18.6	18.6	69.7	58.2	58.2	69.5	58.1	58.1
Actuated g/C Ratio	0.25	0.18	0.18	0.19	0.16	0.16	0.58	0.49	0.49	0.58	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	284	344	292	219	288	245	582	1716	767	467	1713	766
v/s Ratio Prot	c0.02	c0.11		0.00	0.07		c0.04	c0.19		0.03	0.13	
v/s Ratio Perm	0.06		0.03	0.02		0.00	0.18		0.01	0.15		0.01
v/c Ratio	0.33	0.58	0.14	0.11	0.47	0.03	0.37	0.40	0.02	0.32	0.27	0.03
Uniform Delay, d1	35.8	44.6	40.9	40.0	46.2	43.0	12.1	19.7	16.1	12.0	18.3	16.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	2.4	0.2	0.2	1.2	0.0	0.4	0.7	0.1	0.4	0.4	0.1
Delay (s)	36.5	47.0	41.2	40.2	47.4	43.1	12.5	20.4	16.1	12.4	18.7	16.3
Level of Service	D	D	D	D	D	D	B	C	B	B	B	B
Approach Delay (s)		42.5			45.7			18.4			17.1	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

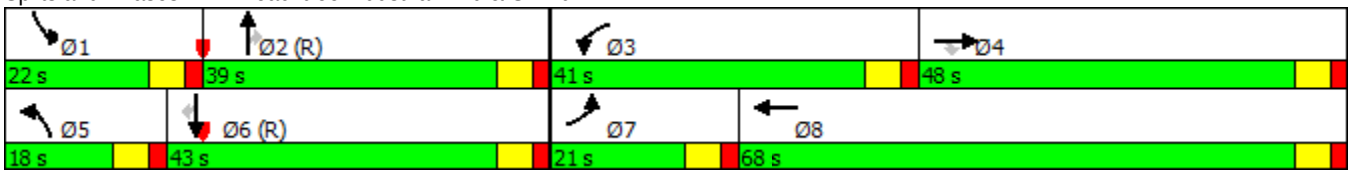
c Critical Lane Group

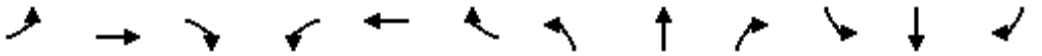
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	176	859	71	381	988	114	491	476	235	323	225
Future Volume (vph)	176	859	71	381	988	114	491	476	235	323	225
Lane Group Flow (vph)	196	895	78	405	1363	139	528	506	258	333	234
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	4.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	11.0	50.0	50.0	11.0	53.0	11.0	46.0	46.0	11.0	43.0	43.0
Total Split (s)	21.0	48.0	48.0	41.0	68.0	18.0	39.0	39.0	22.0	43.0	43.0
Total Split (%)	14.0%	32.0%	32.0%	27.3%	45.3%	12.0%	26.0%	26.0%	14.7%	28.7%	28.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.65	0.74	0.12	0.77	0.96	0.57	0.43	0.74	0.75	0.24	0.39
Control Delay	76.2	47.9	0.4	71.0	58.5	76.4	49.9	19.6	80.0	44.0	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	47.9	0.4	71.0	58.5	76.4	49.9	19.6	80.0	44.0	7.5
Queue Length 50th (ft)	96	399	0	198	664	68	164	102	127	95	2
Queue Length 95th (ft)	139	501	0	247	#787	96	207	256	177	128	72
Internal Link Dist (ft)		1282			1371		1529			701	
Turn Bay Length (ft)	300		355	290		360		320	310		600
Base Capacity (vph)	343	1214	643	801	1437	274	1238	683	366	1382	598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.74	0.12	0.51	0.95	0.51	0.43	0.74	0.70	0.24	0.39

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Peachtree Industrial Blvd & SR 20





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	859	71	381	988	209	114	491	476	235	323	225
Future Volume (vph)	176	859	71	381	988	209	114	491	476	235	323	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3446		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3446		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.90	0.96	0.91	0.94	0.88	0.87	0.82	0.93	0.94	0.91	0.97	0.96
Adj. Flow (vph)	196	895	78	405	1123	240	139	528	506	258	333	234
RTOR Reduction (vph)	0	0	51	0	12	0	0	0	298	0	0	168
Lane Group Flow (vph)	196	895	27	405	1351	0	139	528	208	258	333	66
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	13.2	51.5	51.5	23.0	61.3		10.7	36.5	36.5	15.0	40.8	40.8
Effective Green, g (s)	13.2	51.5	51.5	23.0	61.3		10.7	36.5	36.5	15.0	40.8	40.8
Actuated g/C Ratio	0.09	0.34	0.34	0.15	0.41		0.07	0.24	0.24	0.10	0.27	0.27
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	302	1215	543	526	1408		244	1237	385	343	1383	430
v/s Ratio Prot	0.06	0.25		c0.12	c0.39		0.04	0.10		c0.08	c0.07	
v/s Ratio Perm			0.02						c0.13			0.04
v/c Ratio	0.65	0.74	0.05	0.77	0.96		0.57	0.43	0.54	0.75	0.24	0.15
Uniform Delay, d1	66.2	43.3	32.9	61.0	43.1		67.4	47.9	49.4	65.7	42.5	41.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	2.4	0.0	6.7	15.2		3.0	1.1	5.3	9.0	0.4	0.8
Delay (s)	70.9	45.7	32.9	67.7	58.3		70.5	49.0	54.8	74.7	42.9	42.2
Level of Service	E	D	C	E	E		E	D	D	E	D	D
Approach Delay (s)		49.0			60.4			54.0			52.7	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (veh/h)	4	9	2	4	783	3	614	2
Future Volume (Veh/h)	4	9	2	4	783	3	614	2
Sign Control	Stop				Free		Free	
Grade	0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.50	0.92	0.88	0.75	0.95	0.92
Hourly flow rate (vph)	4	10	0	4	890	0	646	2
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type					Raised		Raised	
Median storage veh)					1		1	
Upstream signal (ft)								
pX, platoon unblocked			0.00			0.00		
vC, conflicting volume	1099	323	0	648		0		
vC1, stage 1 conf vol	646							
vC2, stage 2 conf vol	453							
vCu, unblocked vol	1099	323	0	648		0		
tC, single (s)	6.8	6.9	0.0	4.1		0.0		
tC, 2 stage (s)	5.8							
tF (s)	3.5	3.3	0.0	2.2		0.0		
p0 queue free %	99	99	0	100		0		
cM capacity (veh/h)	337	673	0	934		0		

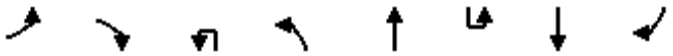
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	14	4	445	445	323	323	2	0
Volume Left	4	4	0	0	0	0	0	0
Volume Right	10	0	0	0	0	0	2	0
cSH	524	934	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.00	0.26	0.26	0.19	0.19	0.00	0.00
Queue Length 95th (ft)	2	0	0	0	0	0	0	0
Control Delay (s)	12.1	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	12.1	0.0			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	12	26	12	777	0	611	5
Future Volume (Veh/h)	12	26	12	777	0	611	5
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.92	0.95	0.92
Hourly flow rate (vph)	13	28	13	883	0	643	5
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				Raised		Raised	
Median storage veh)				1		1	
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1110	322	648		0		
vC1, stage 1 conf vol	643						
vC2, stage 2 conf vol	468						
vCu, unblocked vol	1110	322	648		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	96	96	99		0		
cM capacity (veh/h)	333	674	934		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	13	28	13	442	442	322	322	5	0
Volume Left	13	0	13	0	0	0	0	0	0
Volume Right	0	28	0	0	0	0	0	5	0
cSH	333	674	934	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.04	0.04	0.01	0.26	0.26	0.19	0.19	0.00	0.00
Queue Length 95th (ft)	3	3	1	0	0	0	0	0	0
Control Delay (s)	16.3	10.6	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	A						
Approach Delay (s)	12.4		0.1			0.0			
Approach LOS	B								

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	31.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (veh/h)	9	21	10	9	771	0	632	4
Future Volume (Veh/h)	9	21	10	9	771	0	632	4
Sign Control	Stop				Free		Free	
Grade	0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.92	0.96	0.92	0.95	0.92
Hourly flow rate (vph)	10	23	0	10	803	0	665	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type					Raised		Raised	
Median storage veh)					1		1	
Upstream signal (ft)								
pX, platoon unblocked			0.00			0.00		
vC, conflicting volume	1086	332	0	669		0		
vC1, stage 1 conf vol	665							
vC2, stage 2 conf vol	422							
vCu, unblocked vol	1086	332	0	669		0		
tC, single (s)	6.8	6.9	0.0	4.1		0.0		
tC, 2 stage (s)	5.8							
tF (s)	3.5	3.3	0.0	2.2		0.0		
p0 queue free %	97	97	0	99		0		
cM capacity (veh/h)	338	663	0	917		0		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	33	10	402	402	332	332	4	0
Volume Left	10	10	0	0	0	0	0	0
Volume Right	23	0	0	0	0	0	4	0
cSH	513	917	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.01	0.24	0.24	0.20	0.20	0.00	0.00
Queue Length 95th (ft)	5	1	0	0	0	0	0	0
Control Delay (s)	12.5	9.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	12.5	0.1			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix I:
Traffic Volume Worksheets

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

1. Peachtree @ Little Mill Rd

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	106	388	17	511	0	28	480	22	530	0	47	94	196	337	0	19	31	18	68
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	109	400	18	527	0	29	495	23	547	0	48	97	202	347	0	20	32	19	71
Car Trips:	0	1	6	1	8	0	0	14	0	14	0	0	0	2	2	0	2	0	0	2
Truck Trips:	0	0	2	0	2	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	1	8	1	10	0	0	18	0	18	0	0	0	2	2	0	2	0	0	2
Future Traffic Volumes:	0	110	408	19	537	0	29	513	23	565	0	48	97	204	349	0	22	32	19	73

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	188	572	27	787	0	72	419	25	516	0	72	160	171	403	0	16	100	28	144
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	194	589	28	811	0	74	432	26	532	0	74	165	176	415	0	16	103	29	148
Car Trips:	0	2	16	2	20	0	0	7	0	7	0	0	0	1	1	0	1	0	0	1
Truck Trips:	0	0	5	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	2	21	2	25	0	0	9	0	9	0	0	0	1	1	0	1	0	0	1
Future Traffic Volumes:	0	196	610	30	836	0	74	441	26	541	0	74	165	177	416	0	17	103	29	149

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

2. Peachtree @ SR 20

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	54	239	353	646	0	247	470	140	857	0	134	906	76	1116	0	378	765	131	1274
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	56	246	364	666	0	254	484	144	882	0	138	933	78	1149	0	389	788	135	1312
Car Trips:	0	0	15	0	15	0	8	7	4	19	0	9	0	0	9	0	0	0	17	17
Truck Trips:	0	0	4	0	4	0	2	2	1	5	0	2	0	0	2	0	0	0	4	4
Total New Trips	0	0	19	0	19	0	10	9	5	24	0	11	0	0	11	0	0	0	21	21
Future Traffic Volumes:	0	56	265	364	685	0	264	493	149	906	0	149	933	78	1160	0	389	788	156	1333

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	111	468	462	1041	0	204	294	207	705	0	166	834	69	1069	0	370	959	192	1521
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	114	482	476	1072	0	210	303	213	726	0	171	859	71	1101	0	381	988	198	1567
Car Trips:	0	0	7	0	7	0	20	16	10	46	0	4	0	0	4	0	0	0	9	9
Truck Trips:	0	0	2	0	2	0	5	4	2	11	0	1	0	0	1	0	0	0	2	2
Total New Trips	0	0	9	0	9	0	25	20	12	57	0	5	0	0	5	0	0	0	11	11
Future Traffic Volumes:	0	114	491	476	1081	0	235	323	225	783	0	176	859	71	1106	0	381	988	209	1578

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

3. Peachtree @ Site Drwy 1 (N)

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	0	503	0	503	3	0	733	0	736	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	0	518	0	518	3	0	755	0	758	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	8	6	0	14	0	0	14	3	17	0	2	0	4	6	0	0	0	0	0
Truck Trips:	0	0	2	0	2	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	8	8	0	16	0	0	18	3	21	0	2	0	4	6	0	0	0	0	0
Future Traffic Volumes:	0	8	526	0	534	3	0	773	3	779	0	2	0	4	6	0	0	0	0	0

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	2	0	740	0	742	3	0	587	0	590	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	2	0	762	0	764	3	0	605	0	608	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	4	16	0	20	0	0	7	2	9	0	4	0	9	13	0	0	0	0	0
Truck Trips:	0	0	5	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	4	21	0	25	0	0	9	2	11	0	4	0	9	13	0	0	0	0	0
Future Traffic Volumes:	2	4	783	0	789	3	0	614	2	619	0	4	0	9	13	0	0	0	0	0

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Traffic Volumes
Future Conditions

A&R Engineering
January 2017

4. Peachtree @ Site Drwy 2 (M)

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	0	503	0	503	0	0	755	0	755	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	0	518	0	518	0	0	778	0	778	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	16	11	0	27	0	0	11	7	18	0	3	0	7	10	0	0	0	0	0
Truck Trips:	0	7	0	0	7	0	0	1	3	4	0	1	0	3	4	0	0	0	0	0
Total New Trips	0	23	11	0	34	0	0	12	10	22	0	4	0	10	14	0	0	0	0	0
Future Traffic Volumes:	0	23	529	0	552	0	0	790	10	800	0	4	0	10	14	0	0	0	0	0

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	0	0	742	0	742	0	0	579	0	579	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	0	0	764	0	764	0	0	597	0	597	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	8	12	0	20	0	0	13	3	16	0	8	0	18	26	0	0	0	0	0
Truck Trips:	0	4	1	0	5	0	0	1	2	3	0	4	0	8	12	0	0	0	0	0
Total New Trips	0	12	13	0	25	0	0	14	5	19	0	12	0	26	38	0	0	0	0	0
Future Traffic Volumes:	0	12	777	0	789	0	0	611	5	616	0	12	0	26	38	0	0	0	0	0

16-131 Liberty Industrial Park of Buford DRI

Traffic Volumes
Future Conditions

A&R Engineering
January 2017

5. Peachtree @ Site Drwy 3 (S)

A.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	30	0	491	0	521	0	0	755	0	755	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	31	0	506	0	537	0	0	778	0	778	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	16	24	0	40	0	0	11	7	18	0	3	0	7	10	0	0	0	0	0
Truck Trips:	0	2	7	0	9	0	0	3	1	4	0	0	0	1	1	0	0	0	0	0
Total New Trips	0	18	31	0	49	0	0	14	8	22	0	3	0	8	11	0	0	0	0	0
Future Traffic Volumes:	31	18	537	0	586	0	0	792	8	800	0	3	0	8	11	0	0	0	0	0

P.M. Peak Hour

	Northbound					Southbound					Eastbound					Westbound				
Condition	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing:	10	0	733	0	743	0	0	579	0	579	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	
Base Condition:	10	0	755	0	765	0	0	597	0	597	0	0	0	0	0	0	0	0	0	0
Car Trips:	0	8	12	0	20	0	0	27	3	30	0	8	0	18	26	0	0	0	0	0
Truck Trips:	0	1	4	0	5	0	0	8	1	9	0	1	0	3	4	0	0	0	0	0
Total New Trips	0	9	16	0	25	0	0	35	4	39	0	9	0	21	30	0	0	0	0	0
Future Traffic Volumes:	10	9	771	0	790	0	0	632	4	636	0	9	0	21	30	0	0	0	0	0