

AVIATION PARK
Development of Regional Impact # 1330

CLAYTON COUNTY, GA

TRAFFIC IMPACT STUDY

Prepared for:

Aviation Park, LLC
950 Lowery Boulevard, Suite 18
Atlanta, GA 30318

Prepared by:



A&R Engineering Inc.

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Marietta, GA 30067
Tel: (770) 690-9255 Fax: (770) 690-9210
www.areng.com

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March 22, 2007
A&R Project No: 07-005

EXECUTIVE SUMMARY

The purpose of this study is to determine the traffic impact that will result from the Aviation Park Industrial development proposed along Gilbert Road to the northeast of the intersection of Gilbert Road and Conley Road in Clayton County, Georgia. The proposed development will consist of a 693,300 s.f. industrial park. The traffic analysis evaluated the following scenarios: existing conditions, the year 2010 without additional traffic generated by the site, and the year 2010 with the traffic generated by the development.

From the existing condition analysis it was found that all the intersections within the study area are currently operating at the required LOS standard of D. Analysis of the Base Year 2010 also revealed that all the study intersections being analyzed will meet the required LOS standard.

The Future 2010 traffic including the site-generated traffic was then evaluated using existing lane geometry. One study network intersection will not meet the required LOS standard after the project is completed if no roadway improvements are implemented. Improvements were recommended to restore this intersection back to the LOS standard. Additionally, recommendations to allow the site accesses to operate satisfactorily were identified. Details can be found in the site access analysis section of the report.

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1. PROJECT DESCRIPTION

The purpose of this study is to determine the traffic impact that will result from the Aviation Park Industrial development proposed along Gilbert Road to the northeast of the intersection of Gilbert Road and Conley Road in Clayton County, Georgia. The proposed development will consist of a 693,300 s.f. industrial park. The site is proposed to have two full access driveways along Gilbert Road. A location map for the site is shown in Figure 1.

1.1 Site Plan

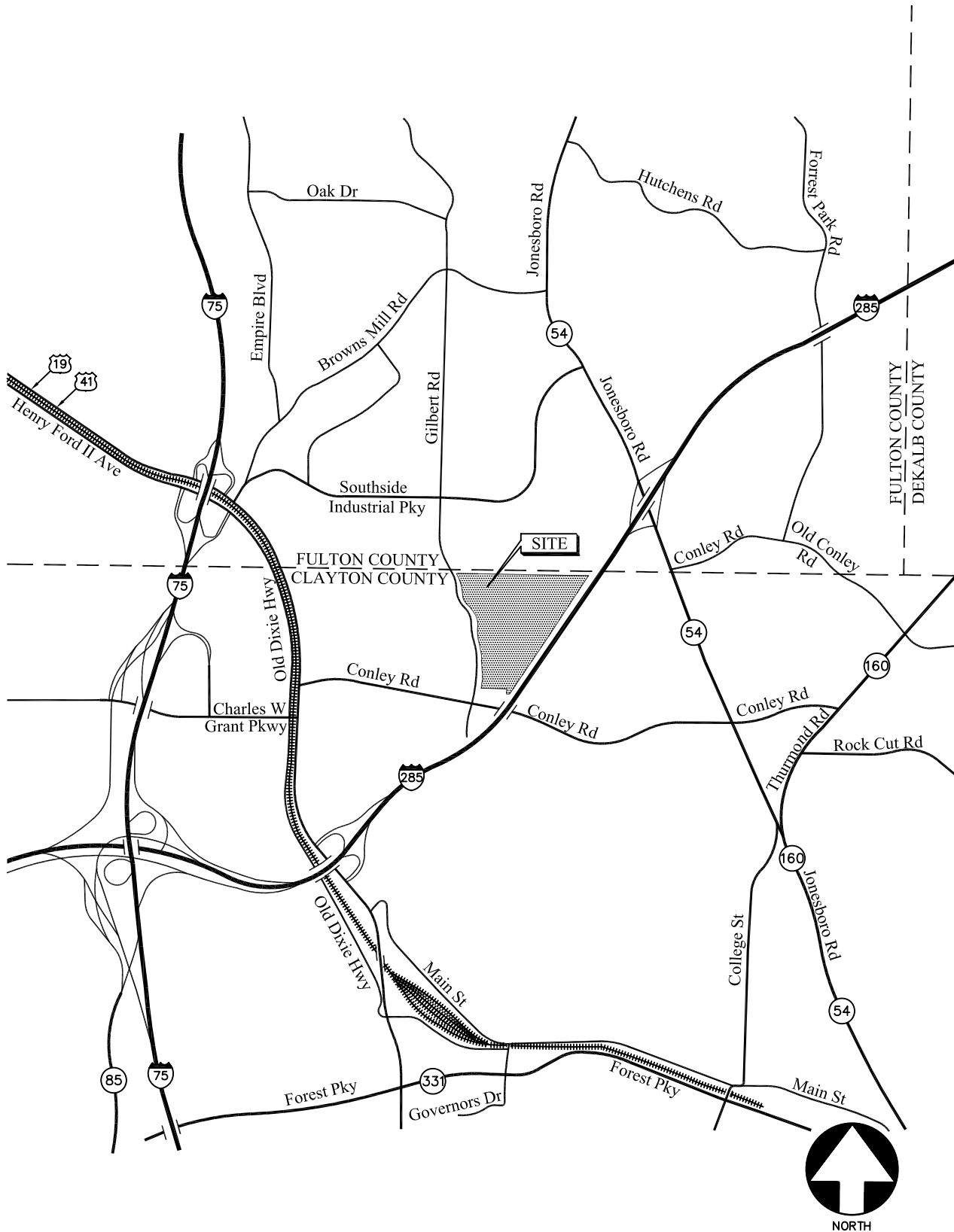
A site plan for this project is shown in Figure 2. A larger size drawing and a digital copy of the site plan are also provided with this report.

1.2 Consistency with Adopted Comprehensive County Plan

The proposed zoning of the site complies with the Clayton County future land use plan, which specifies the site as industrial.

1.3 Project Phasing

The project's impact will be evaluated in one phase, estimated for completion in the year 2010. This study will evaluate the traffic operations in the vicinity of the site for existing conditions year 2007, the year 2010 without additional traffic generated by the site, and the year 2010 with the additional traffic generated by the development.



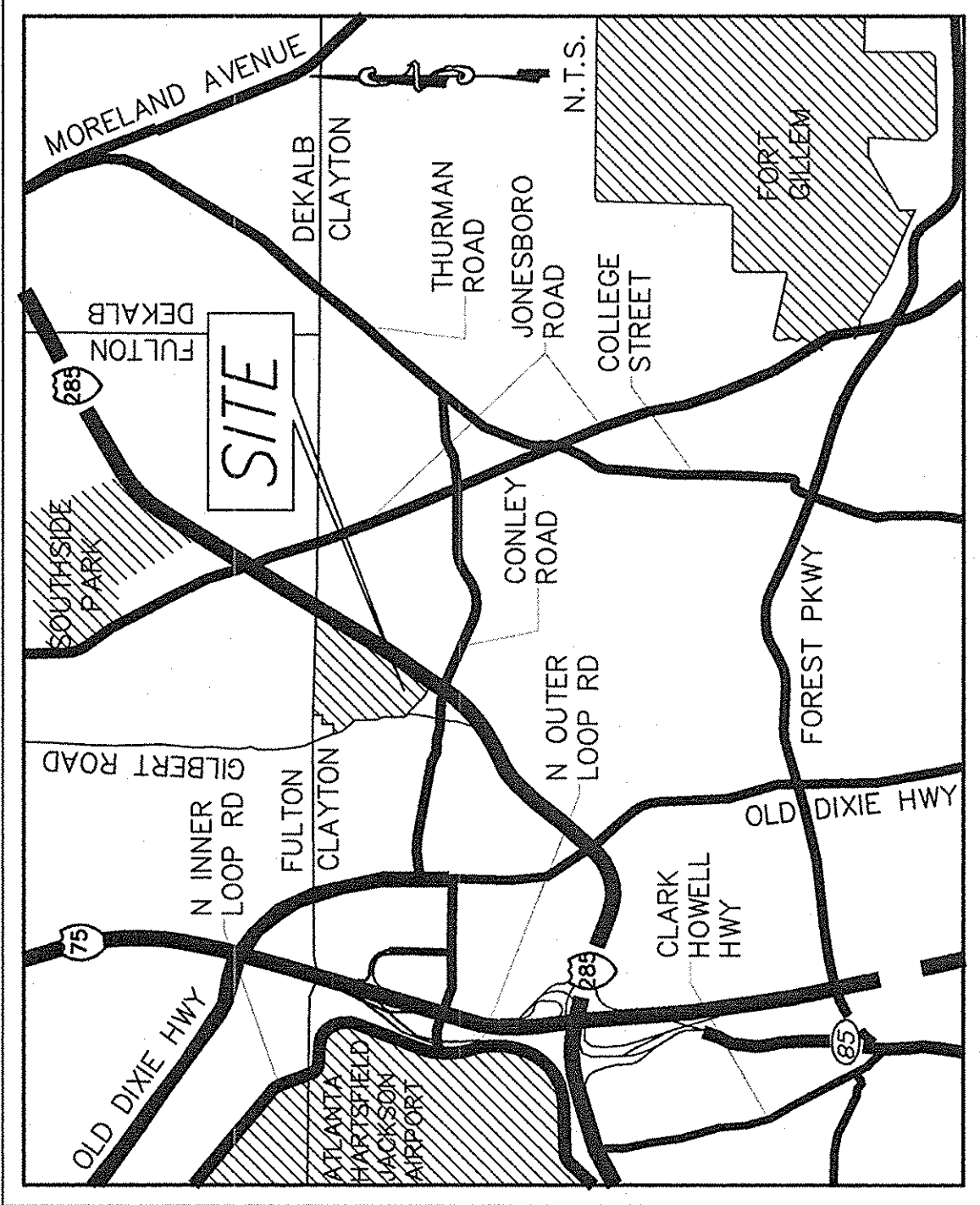
LOCATION MAP

FIGURE 1
A&R Engineering Inc.

AVIATION PARK DRI NO. 1330

SITE DATA
DENSITY IN FLOOR AREA RATIO
SITE AREA = 86.14 ACRES
TOTAL FLOOR AREA = 16.30 ACRES
FLOOR AREA TO SITE AREA = 18.92%

BUILDING USES
INDUSTRIAL
BUILDING PHASES
PHASE I: BUILDINGS 100 & 300
PHASE II: BUILDINGS 200 & 400
PHASE III: BUILDINGS 500, 600, 700, & 800



LOCATION MAP

TOTAL AREA = 86.14 ACRES

THE PROPERTY LIES WITHIN FLOOD HAZARD ZONE A, DEFINED TO BE AREAS WITHIN THE 100 HUNDRED YEAR FLOOD LIMIT WITH NO BASE FLOOD ELEVATION DETERMINED, AS SHOWN ON PANEL NUMBER 130041 0050 C OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, DATED NOVEMBER 6, 1991.
BASE FLOOD ELEVATION WAS NOT DETERMINED ON MAP, REFER TO EBERLY AND ASSOCIATES, INC. FLOOD STUDY DATED: DECEMBER 5, 2006.

PARKING DATA

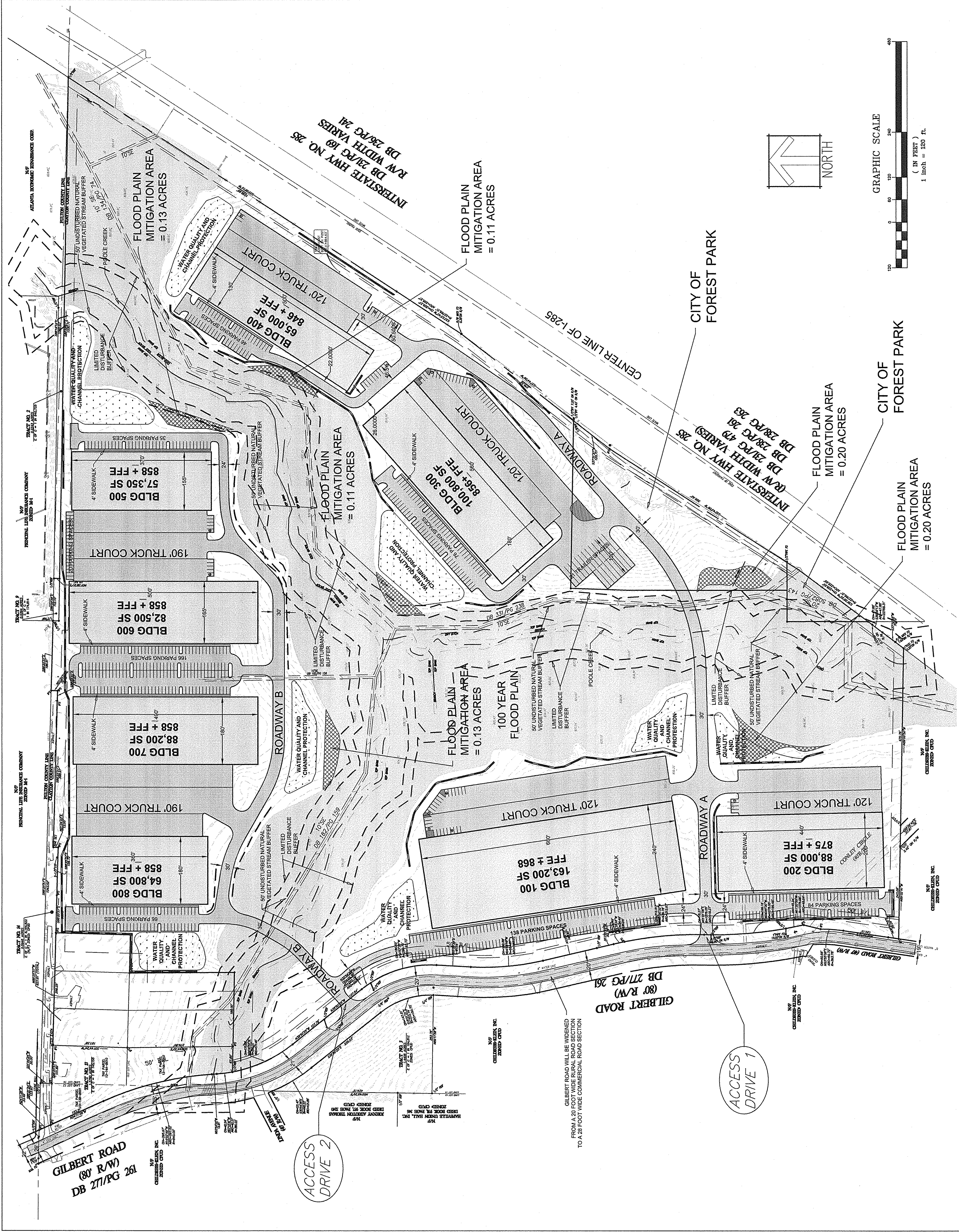
TOTAL REQUIRED PARKING PER CLAYTON COUNTY
4 SPACES FOR THE FIRST 5,000 SQUARE FEET OF GROSS FLOOR AREA, PLUS 1 ADDITIONAL SPACE FOR EACH 5,000 SQUARE FEET OR FRACTION THEREOF, PLUS 1 [SPACE] FOR EACH FULL-TIME EMPLOYEE

BUILDING	SQ. FOOTAGE (SF)	REQUIRED PARKING	PROPOSED PARKING
100	163,200	4+32+127 = 163	163
200	88,000	4+17+67 = 88	88
300	100,800	4+19+78 = 101	101
400	65,000	4+12+49 = 65	65
500	57,530	4+11+43 = 58	58
600	82,500	4+13+57 = 74	74
700	88,200	4+17+67 = 88	88
800	64,800	4+12+49 = 65	65
TOTAL	710,030 SF	702	702

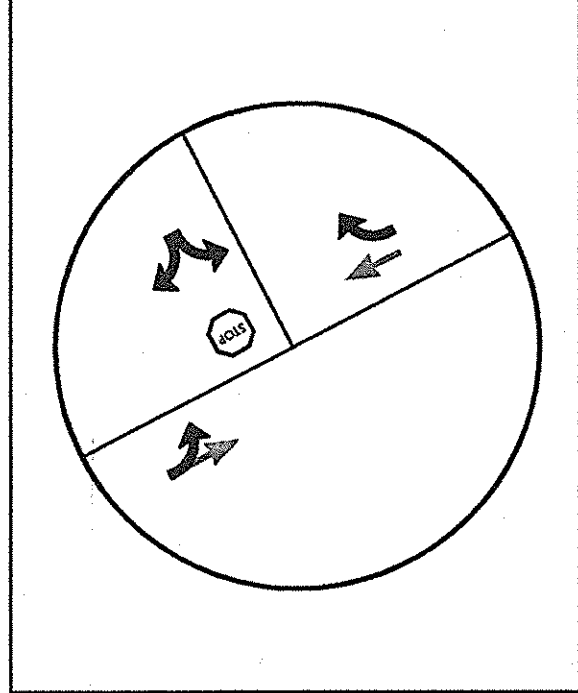
CLIENT INFORMATION

NICKOL COMMERCIAL
203 SOUTH MAIN STREET
PROVIDENCE, RI 02903
PHONE 404-817-8125
CONTACT: MR. JEFF NICKOL

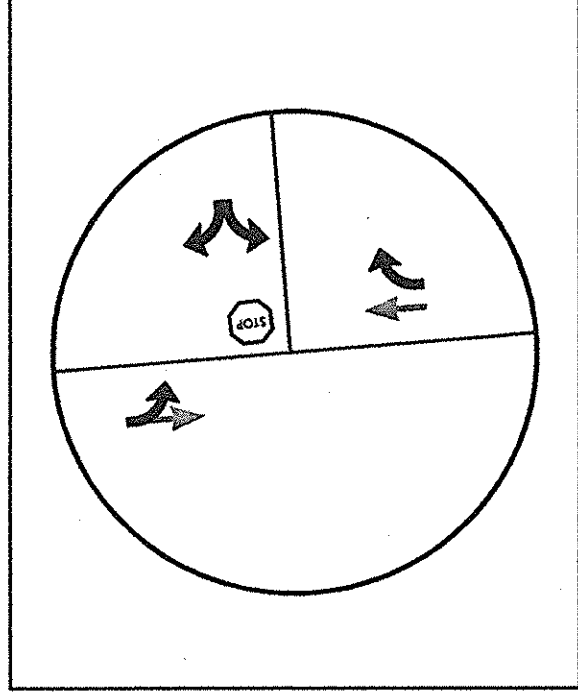
WEAVER & WOODBERRY REAL ESTATE
950 LOWERY BLVD.
SUITE 18
ATLANTA, GA 30318
PHONE 404-233-1411
CONTACT: MR. JAY WEAVER



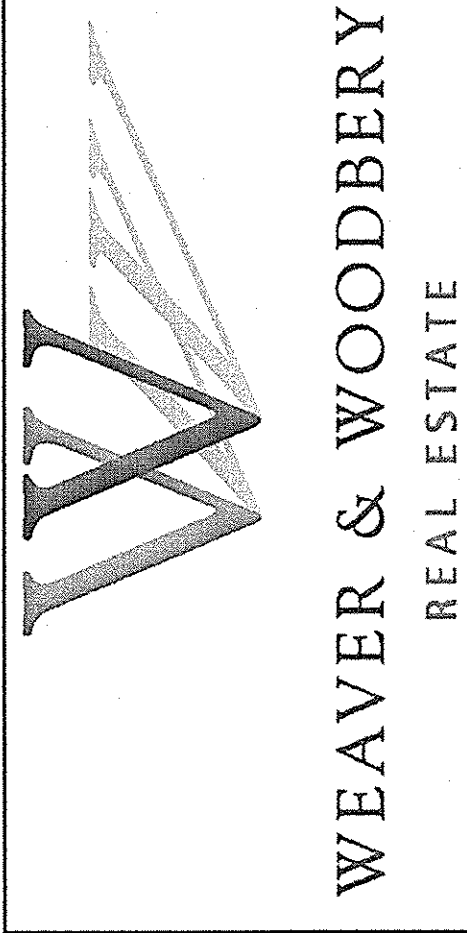
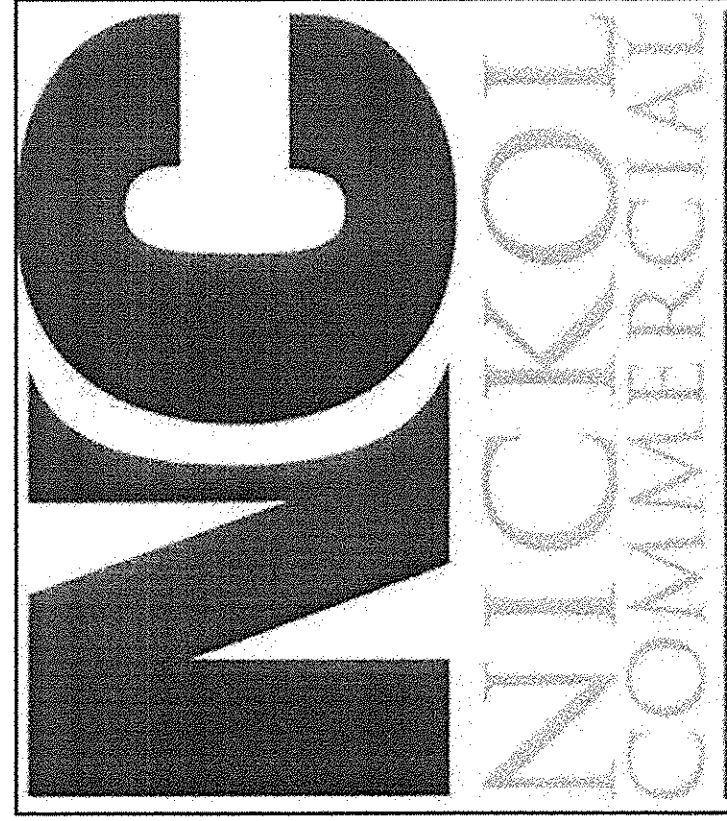
DRIVEWAY LANE CONFIGURATIONS



SITE ACCESS
DRIVE 2



SITE ACCESS
DRIVE 1



TEL: 770-452-7849 FAX: 770-452-0066
1952 CENTURY PLACE, SUITE 202
ATLANTA, GEORGIA 30345
WWW.EBERLY.NET

LAND PLANNING
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE

SEAL:

AVIATION
PARK
LAND LOT: 14
13th DISTRICT
CLAYTON COUNTY, GEORGIA

OWNER:
NICKOL COMMERCIAL

REVISIONS:

03/21/07	DRI RESUBMITTAL

SCALE: 1" = 120'-0"
DATE: 01/22/07
DRAWN BY: CC
PROJ. MGR: PF
CHECKED BY: PF

ISSUE DATE: 01/22/07

PROJECT NO.
06-135

D.R.I. SITE PLAN

SHEET NUMBER

DRI-1

NOT
FOR CONSTRUCTION

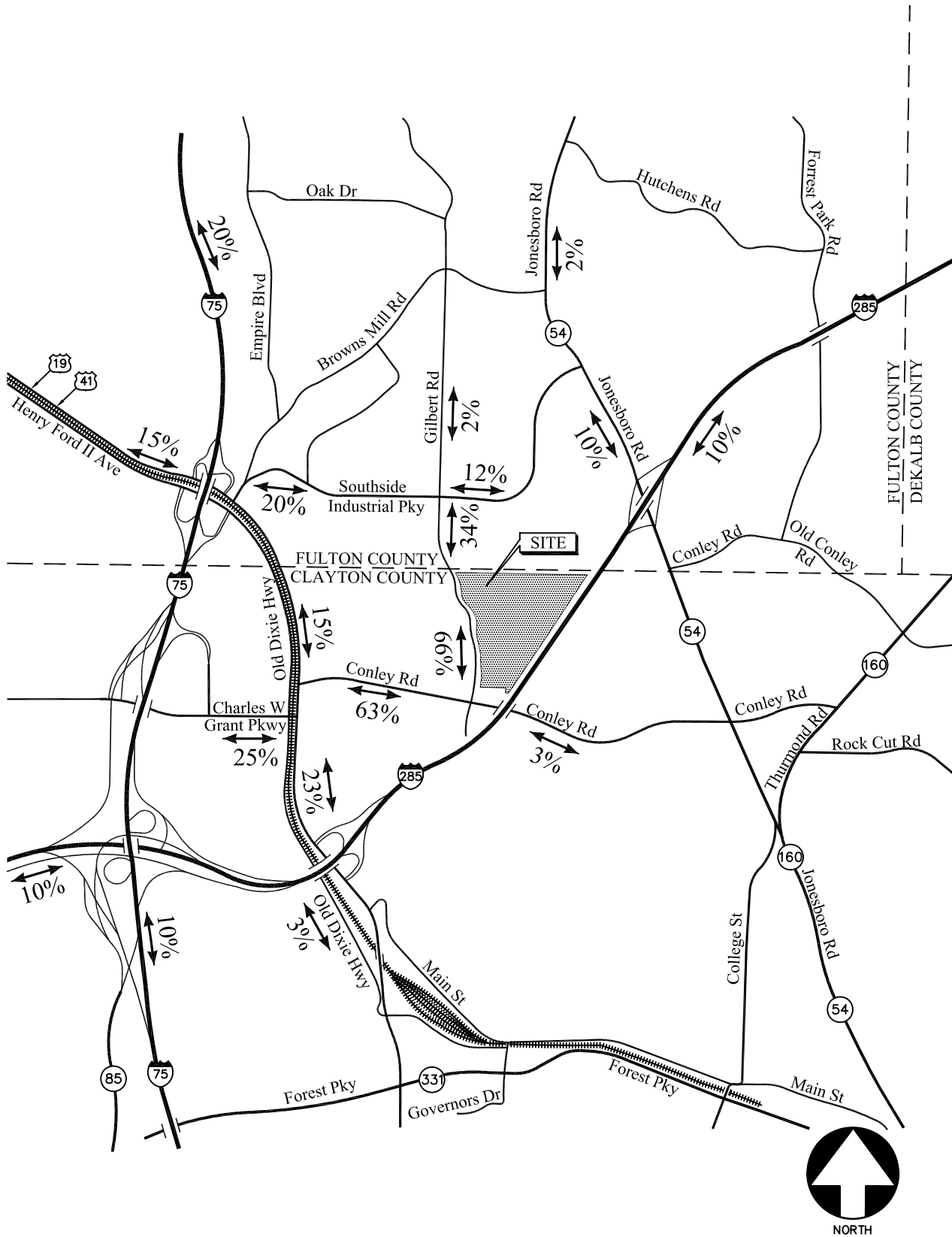
2. TRIP GENERATION

Trip generation estimates for the project were based on the rates and equations published in the 7th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. The ITE Trip Generation report contains traffic volume count data collected at similar facilities nationwide. The proposed development will consist of a 693,300 s.f. industrial park. Trip generation calculations for Aviation Park development are shown in Table 1.

TABLE 1 TRIP GENERATION								
Land Use	Total Size	A.M. Peak Hour			P.M. Peak Hour			24-Hour
		Enter	Exit	Totals	Enter	Exit	Totals	2-way
130 – Industrial Park	693,300 s.f.	376	82	458	121	455	576	4,187

3. TRIP DISTRIBUTION & ASSIGNMENT

The trip distribution is the percentage of the traffic generated by the site that travels to and from the site on each segment of the surrounding roadway network. The trip distribution was based on the location of major roadways and highways that will serve the development. The trip distribution is shown in Figure 3. The distribution was discussed and agreed upon in the methodology meeting. The site-generated volumes were then distributed to the surrounding roadway network based on the driver's destination, and the most easily accessible route.



TRIP DISTRIBUTION

FIGURE 3
A&R Engineering Inc.

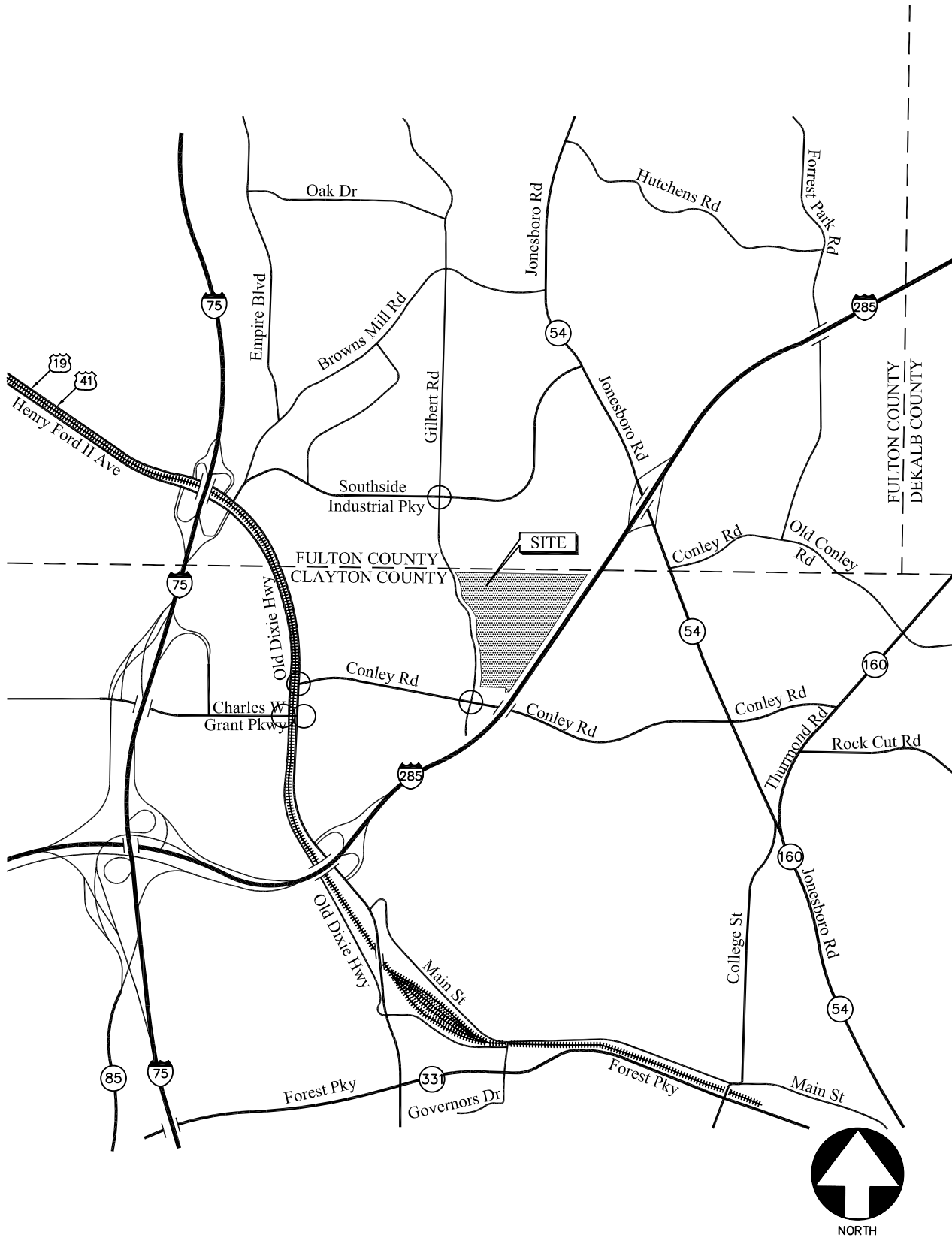
4. STUDY NETWORK DETERMINATION

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. The following intersections fell within the 7% rule and have been included in the traffic study:

1. US 19 / 41 and Charles W Grant Parkway
2. US 19 / 41 and Conley Road
3. Conley Road and Gilbert Road
4. Gilbert Road and Southside Industrial Parkway
5. Old Dixie Highway and Charles W Grant Parkway (was not in LOU, but is located within close proximity to US 19 / 41 and Charles W. Grant Parkway intersection)

The study intersections are shown graphically in Figure 4. Other intersections within this corridor, such as unsignalized side streets, right-in / right-out driveways or private driveways were viewed as insignificant and have not been included in the study network. In addition to the above intersections, two site driveways along Gilbert Road have been included in the analysis during the A.M. peak hour and P.M. peak hour as agreed upon in the methodology meeting.



STUDY INTERSECTIONS

FIGURE 4
A&R Engineering Inc.

5. PLANNED & PROGRAMMED IMPROVEMENTS

The following improvements have been identified in the Atlanta Regional Commission's Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP). These improvements are within the vicinity of the proposed development. Additional improvements for Clayton County have been identified, but they are not relevant to this project. Details of the planned programs can be found in the Appendix.

- AR-510: Aviation Boulevard Grade Separation at Norfolk Southern Rail Line
 - Includes the reconstruction of Aviation Boulevard and portions of its I-75 ramps, the I-75 NB/I- 285 braided ramps, and I-75 SB collector-distributor road north of Aviation Boulevard.
- AR-911: US 19/41 (Tara Boulevard) from City of Lovejoy to Marta East Point Station in City of Atlanta
 - Includes providing Bus Rapid Transit (BRT) service in the Tara Boulevard corridor.
- AT-158: Southside Industrial Parkway from US 19/41 to Ruby Harper Parkway
 - Includes widening of Southside Industrial Parkway from two lanes to four lanes.
- CL-074: Conley Road / Aviation Boulevard Extension from US 19/41 (Old Dixie Highway) to SR 54 (Jonesboro Road)
 - Includes widening of Conley Road and extending Aviation Boulevard from SR 54 to SR 3/Old Dixie Highway from 2 to 4 lanes.

6. EXISTING CONDITIONS

An inventory was performed of the roadways in the area surrounding the site. The following is a brief description of each of these facilities.

6.1 Description of Transportation Facilities in Study Network

US 19 / 41

US 19 / 41 is a north-south two-lane undivided roadway with a posted speed limit of 35 mph in the vicinity of the site.

Old Dixie Highway

Old Dixie Highway is a north-south two-lane undivided roadway with a posted speed limit of 30 mph. It extends between Henry Ford II Avenue in the north and US 19 / 41 in the south.

Charles W Grant Parkway

Charles W Grant Parkway is an east-west roadway with a speed limit of 40 mph.

Conley Road

Conley Road is an east-west two-lane undivided roadway with a speed limit of 40 mph. It runs between US 23 / SR 42 in the east and US 19 / 41 in the west.

Gilbert Road

Gilbert Road is a north-south two-lane roadway with a posted speed limit of 35 mph. It runs from Browns Mill Road / Macedonia Road in the north and terminates into a dead end approximately 100 feet beyond Blalock Street in the south.

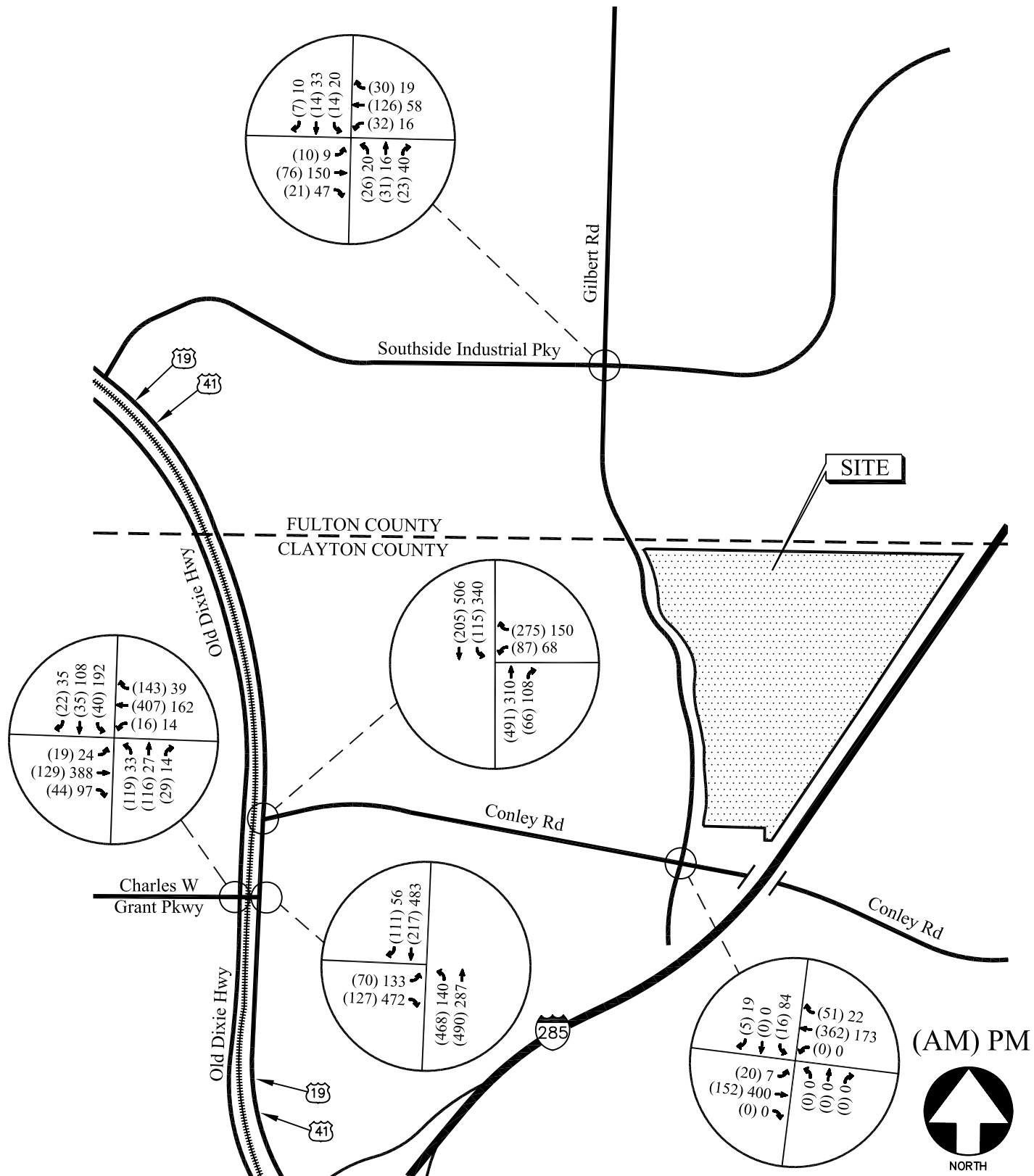
Southside Industrial Parkway

Southside Industrial Parkway is an east-west four-lane undivided roadway with a speed limit of 40 mph. It runs between SR 54 / Jonesboro Road in the east and Browns Mill Road in the west.

6.2 Analysis Summary

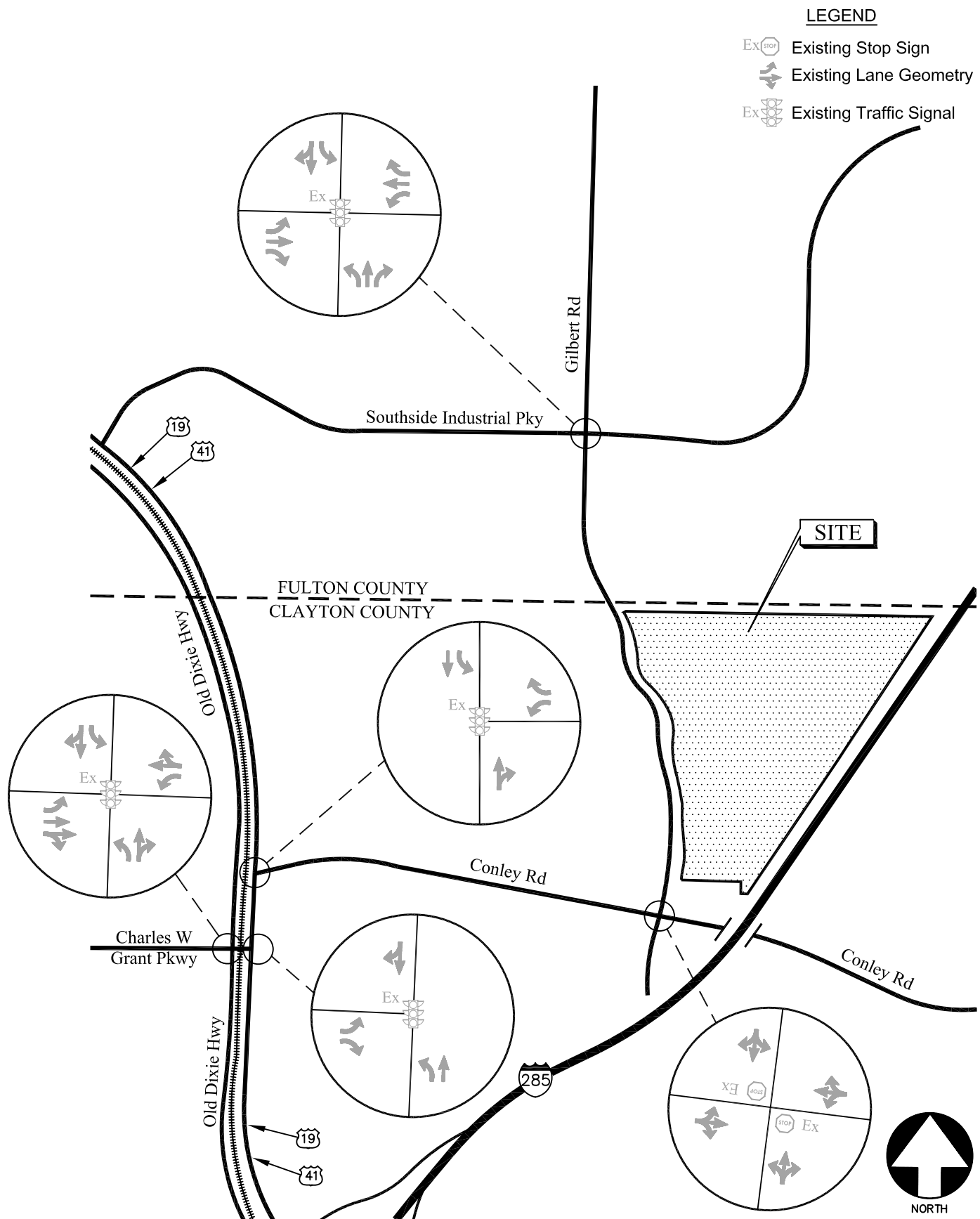
Existing traffic counts were performed at the intersections listed in Section 4 - Study Area Network. In addition to traffic counts, intersection geometry data was also obtained. Turning movement counts were collected during the agreed upon hours of 7.00 AM – 9.00 AM and 4:00 PM - 6:00 PM on weekdays. The four consecutive 15-minute interval volumes that summed to produce the highest volume at each intersection during each two-hour period were then determined. These volumes make up the A.M. and P.M. peak hour traffic volumes for the intersections counted. The existing traffic volumes are shown in Figure 5 and the existing intersection traffic control and lane geometry for the study area network is shown in Figure 6.

The site-generated volumes shown in Table 1 were distributed to the surrounding roadway network in accordance with the trip distribution. The site-generated volumes for the study intersections are shown in Figure 7. Existing traffic operations were analyzed at all the existing intersections in accordance with the HCM methodology using Synchro software. The results of the analysis are shown in Table 2.



EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 5
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EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

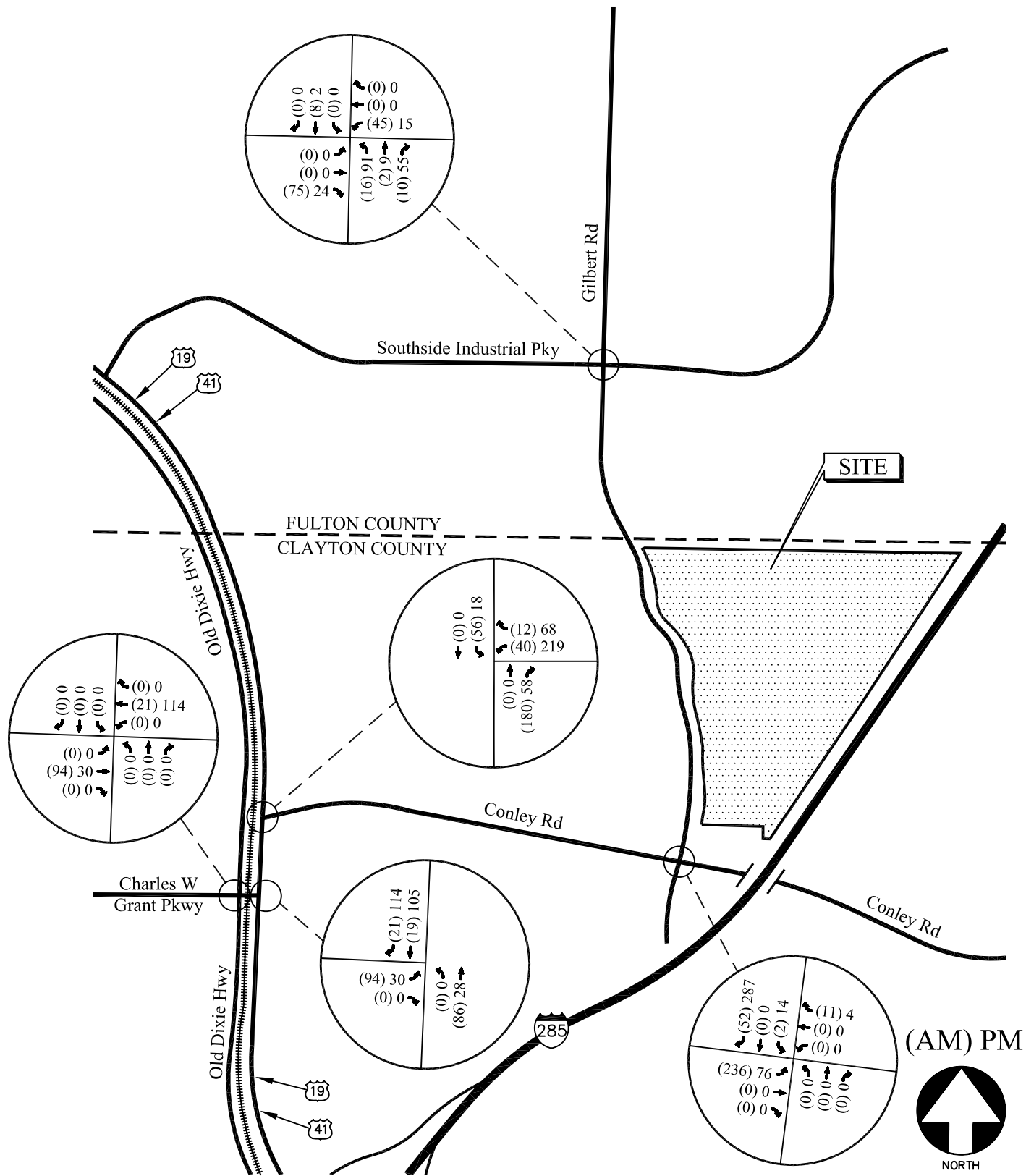
FIGURE 6

A&R Engineering Inc.

TABLE 2						
EXISTING INTERSECTION OPERATIONS						
Intersection	AM/PM LOS Standard	Traffic Control	A.M. Peak Hour		P.M. Peak Hour	
			LOS (Delay)	v/c*	LOS (Delay)	v/c*
Old Dixie Highway and Charles W Grant Parkway	D/D	Signalized	C (21.5)	0.51	C (21.8)	0.33
US 19 / 41 and Charles W Grant Parkway	D/D	Signalized	B (12.0)	0.59	B (19.5)	0.54
US 19 / 41 and Conley Road	D/D	Signalized	B (19.1)	0.45	B (11.5)	0.51
Conley Road and Gilbert Road	D/D	Stop Controlled on Gilbert Road	A (1.6)	-	A (0.3)	-
-Eastbound Left (Conley Road) -Southbound Approach (Gilbert Road)	D/D		B (14.4)	-	C (17.6)	-
Gilbert Road and Southside Industrial Parkway	D/D	Signalized	B (18.0)	0.11	B (17.9)	0.12

*v/c ratio is not calculated for unsignalized intersections.

As shown in Table 2, all study intersections are operating at the LOS standard.



SITE GENERATED WEEKDAY PEAK HOUR VOLUMES

FIGURE 7

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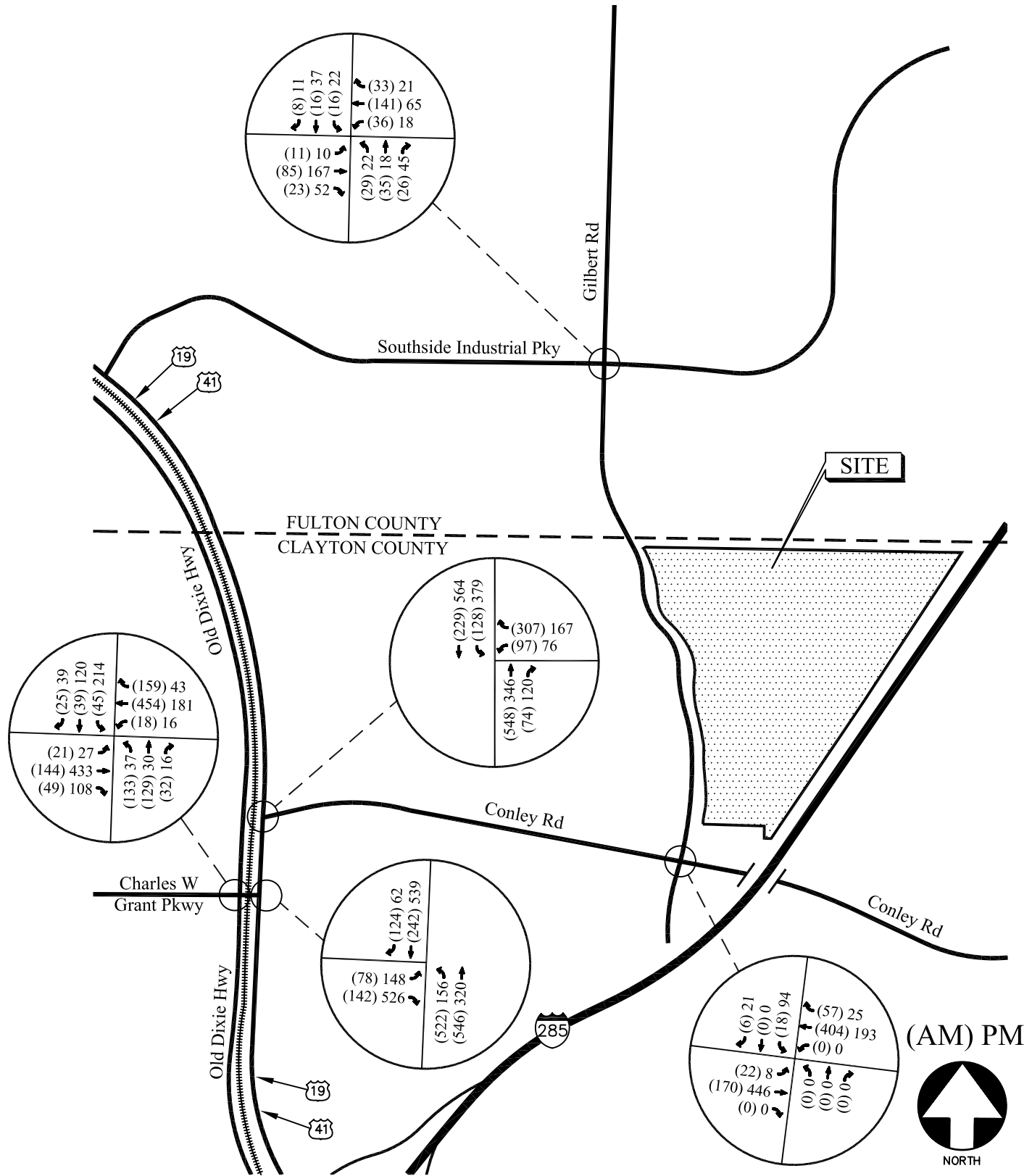
7. FUTURE YEAR BACKGROUND TRAFFIC

In order to evaluate future traffic operations in this area a projection was made of future base year traffic volumes. The Georgia Department of Transportation collected ADT's in the vicinity of the site over the last several years. Using this information, the annual growth factor was estimated to be 3.7%. This growth factor was applied to the existing traffic volumes on the roadways to estimate the future year 2010 traffic volumes prior to the addition of the site-generated volumes. Further details are included in the correspondence section of Appendix. The future year (base) traffic volumes for 2010 at all the study intersections are shown in Figure 8.

A traffic operation analyses for the following Base Scenario was performed:

- Base Year 2010 traffic with existing lane geometry

Results of the analyses for the above scenario are shown in Table 3.



BASE 2010 WEEKDAY PEAK HOUR VOLUMES

FIGURE 8

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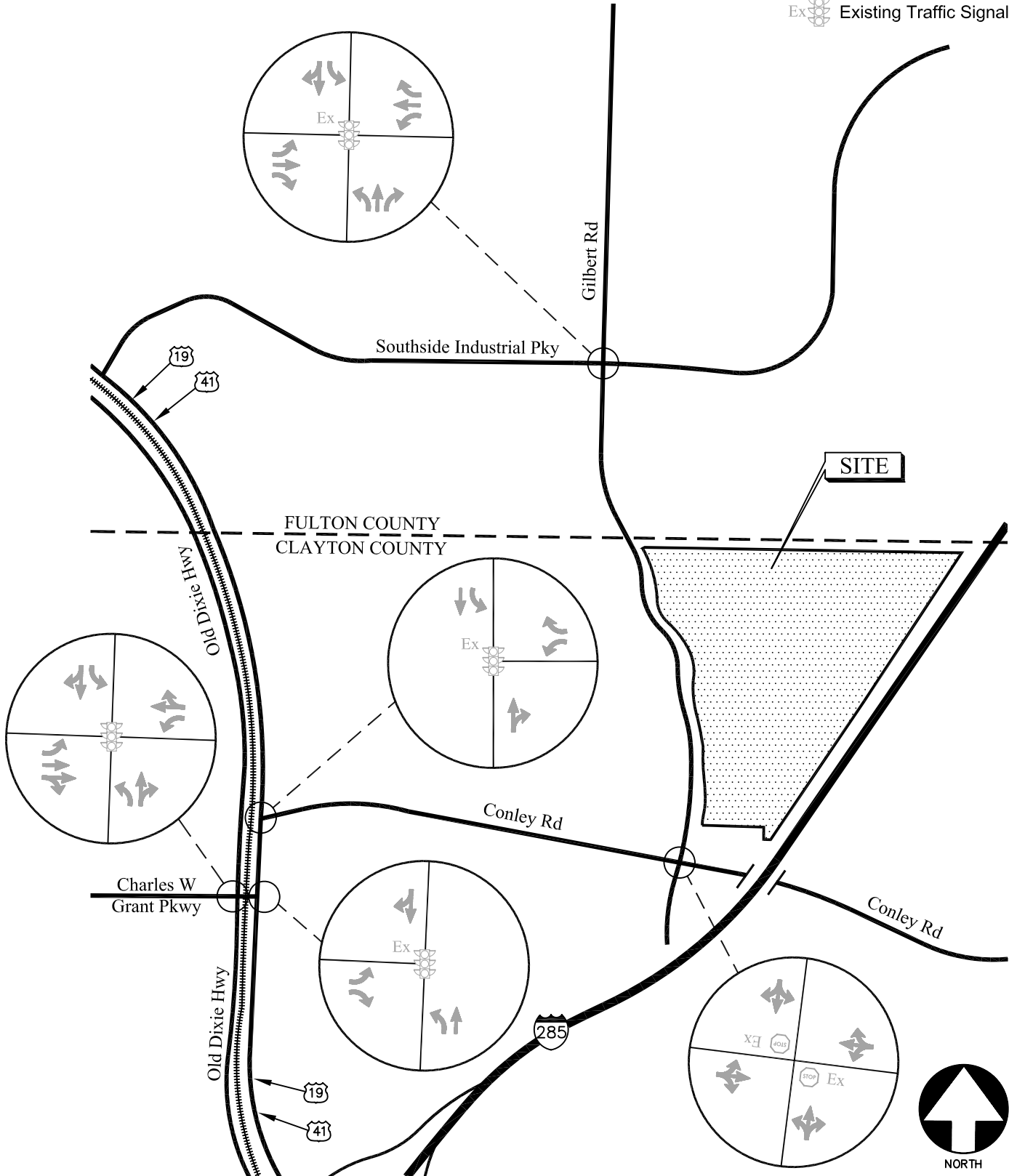
TABLE 3						
BASE INTERSECTION OPERATIONS						
Intersection	AM/PM LOS Standard	Traffic Control	A.M. Peak Hour		P.M. Peak Hour	
			LOS (Delay)	v/c*	LOS (Delay)	v/c*
Old Dixie Highway and Charles W Grant Parkway	D/D	Signalized	C (22.4)	0.58	C (22.6)	0.37
US 19 / 41 and Charles W Grant Parkway	D/D	Signalized	B (15.1)	0.66	C (23.2)	0.63
US 19 / 41 and Conley Road	D/D	Signalized	B (19.5)	0.51	B (12.6)	0.59
Conley Road and Gilbert Road	D/D	Stop Controlled on Gilbert Road	A (1.6)	-	A (0.3)	-
-Eastbound Left (Conley Road) -Southbound Approach (Gilbert Road)	D/D		B (15.7)	-	C (20.9)	-
Gilbert Road and Southside Industrial Parkway	D/D	Signalized	B (17.7)	0.12	B (17.8)	0.14

*v/c ratio is not calculated for unsignalized intersections.

Analysis of the future year (Base 2010) traffic volumes indicates that all study intersections will operate within the LOS standard. The base intersection traffic control and lane geometry for all the existing intersections is shown in Figure 9.

LEGEND

- Ex  Existing Stop Sign
-  Existing Lane Geometry
- Ex  Existing Traffic Signal



BASE 2010 TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 9

A&R Engineering Inc.

8. FUTURE YEAR TOTAL TRAFFIC

The traffic volumes that will be generated by the proposed development were added to the future base year 2010 traffic volumes in order to determine the traffic volumes that will be on the roadway network after completion of the project. The future traffic volumes for the year 2010 including the site-generated volumes for the study intersections are shown in Figure 10.

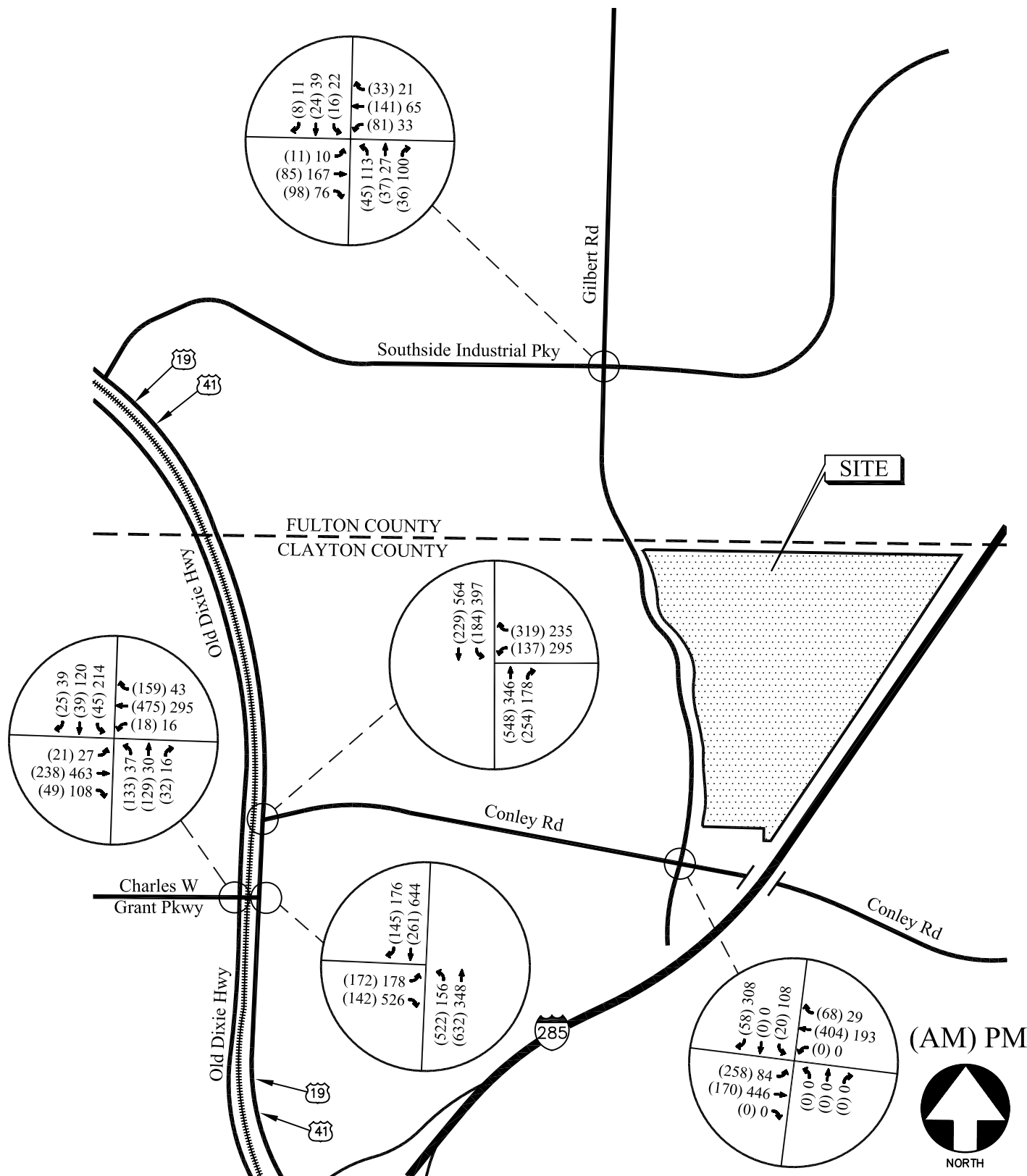
9. FACILITY NEEDS ANALYSIS

9.1 Intersection Analysis

The future year total traffic volumes were used to analyze the study network intersections. Traffic operations analyses for the following scenarios were performed:

- Future Year 2010 Traffic Volumes with site generated traffic and existing lane geometry.
- Future Year 2010 Traffic Volumes with site generated traffic and the recommended improvements to bring all intersections to LOS standard.

The results of the analysis for the above scenarios are shown in Tables 4 and 5. Recommendations to bring the intersections to the LOS standard are discussed after each appropriate section.



FUTURE 2010 WEEKDAY PEAK HOUR VOLUMES

FIGURE 10

TABLE 4						
FUTURE INTERSECTION OPERATIONS						
Intersection	AM/PM LOS Standard	Traffic Control	A.M. Peak Hour		P.M. Peak Hour	
			LOS (Delay)	v/c*	LOS (Delay)	v/c*
Old Dixie Highway and Charles W Grant Parkway	D/D	Signalized	C (20.2)	0.59	C (22.8)	0.44
US 19 / 41 and Charles W Grant Parkway	D/D	Signalized	B (16.3)	0.76	C (22.7)	0.78
US 19 / 41 and Conley Road	D/D	Signalized	C (21.5)	0.70	C (31.4)	0.83
Conley Road and Gilbert Road	D/D	Stop Controlled on Gilbert Road	A (9.0)	-	A (2.8)	-
-Eastbound Left (Conley Road) -Southbound Approach (Gilbert Road)	D/D		E (38.5)	-	F (144.7)	-
Gilbert Road and Southside Industrial Parkway	D/D	Signalized	B (16.9)	0.16	B (17.9)	0.23

*v/c ratio is not calculated for unsignalized intersections.

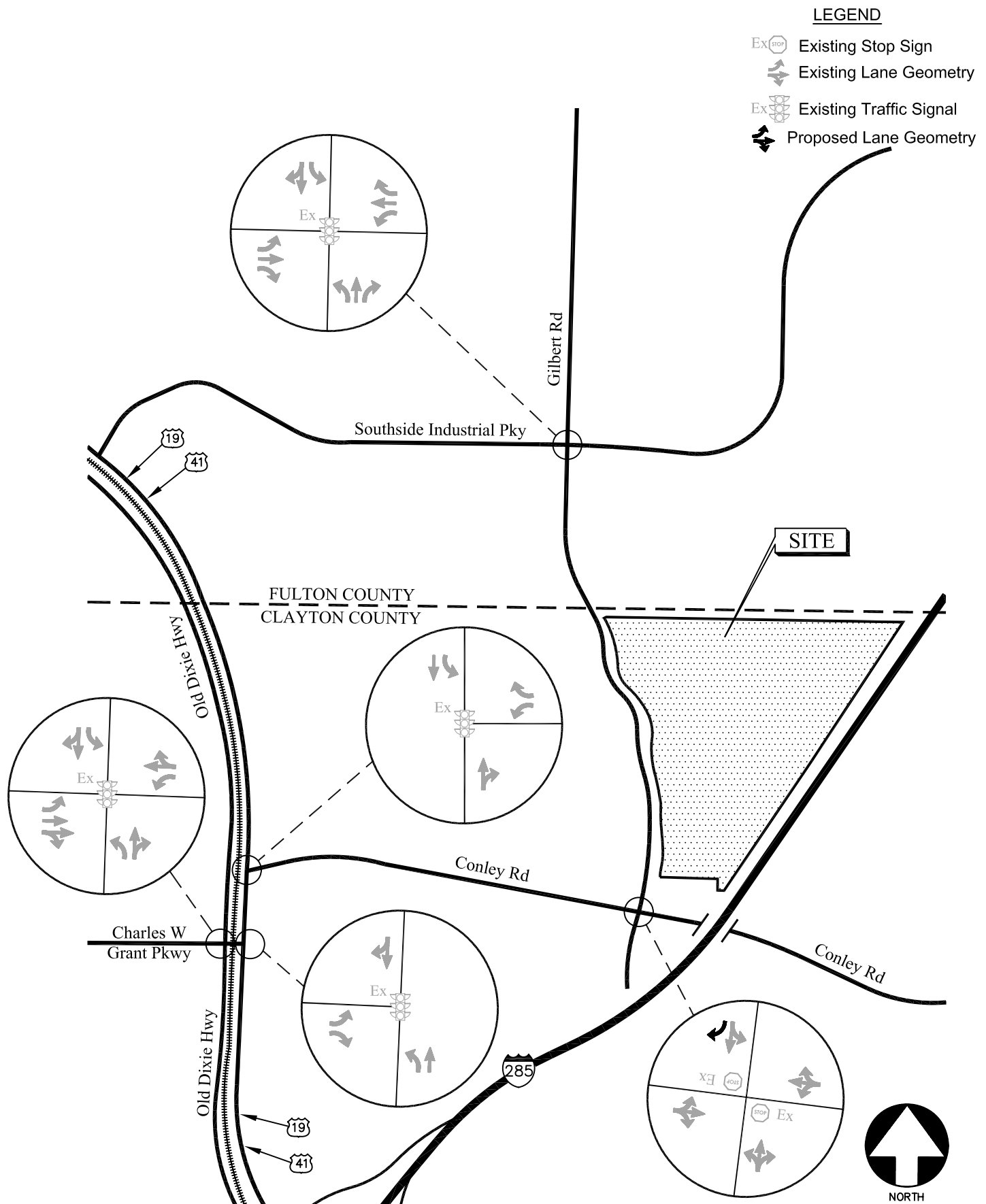
Analysis of the future year 2010 traffic volumes indicates that one of the study intersections will not operate within the LOS standard. The following lists the improvement needed to restore that intersection back to the LOS standard for the future year 2010 traffic:

- Conley Road and Gilbert Road
 - Add a dedicated southbound right turn lane on Gilbert Road.

The LOS for the above intersection in the year 2010 with the addition of site-generated traffic after the implementation of above recommended improvement is shown in Table 5.

TABLE 5						
FUTURE INTERSECTION OPERATIONS WITH IMPROVEMENTS						
Intersection	AM/PM LOS Standard	Traffic Control	A.M. Peak Hour		P.M. Peak Hour	
			LOS	Delay (sec)	LOS	Delay (sec)
Conley Road and Gilbert Road	D/D	Stop Controlled on Gilbert Road	A	9.0	A	2.8
-Eastbound Left (Conley Road) -Southbound Approach (Gilbert Road)	D/D		D	28.3	C	23.6

The future intersection traffic control and lane geometry for the study area network needed to bring all intersections to the LOS standard is shown in Figure 11.



FUTURE 2010 TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 11

A&R Engineering Inc.

9.2 Site Access Analysis

The site is proposed to have two full access driveways along Gilbert Road. The future traffic volumes at the site driveways are shown in Figure 12. The recommended traffic control and lane geometry at these driveways are presented in the following sections.

The site access analysis was performed for the Future Year 2010 traffic volumes with recommended lane geometry. Results of the analysis are shown in Table 6. Traffic control and lane geometry adopted to operate the intersections at the LOS standard are discussed in the following pages.

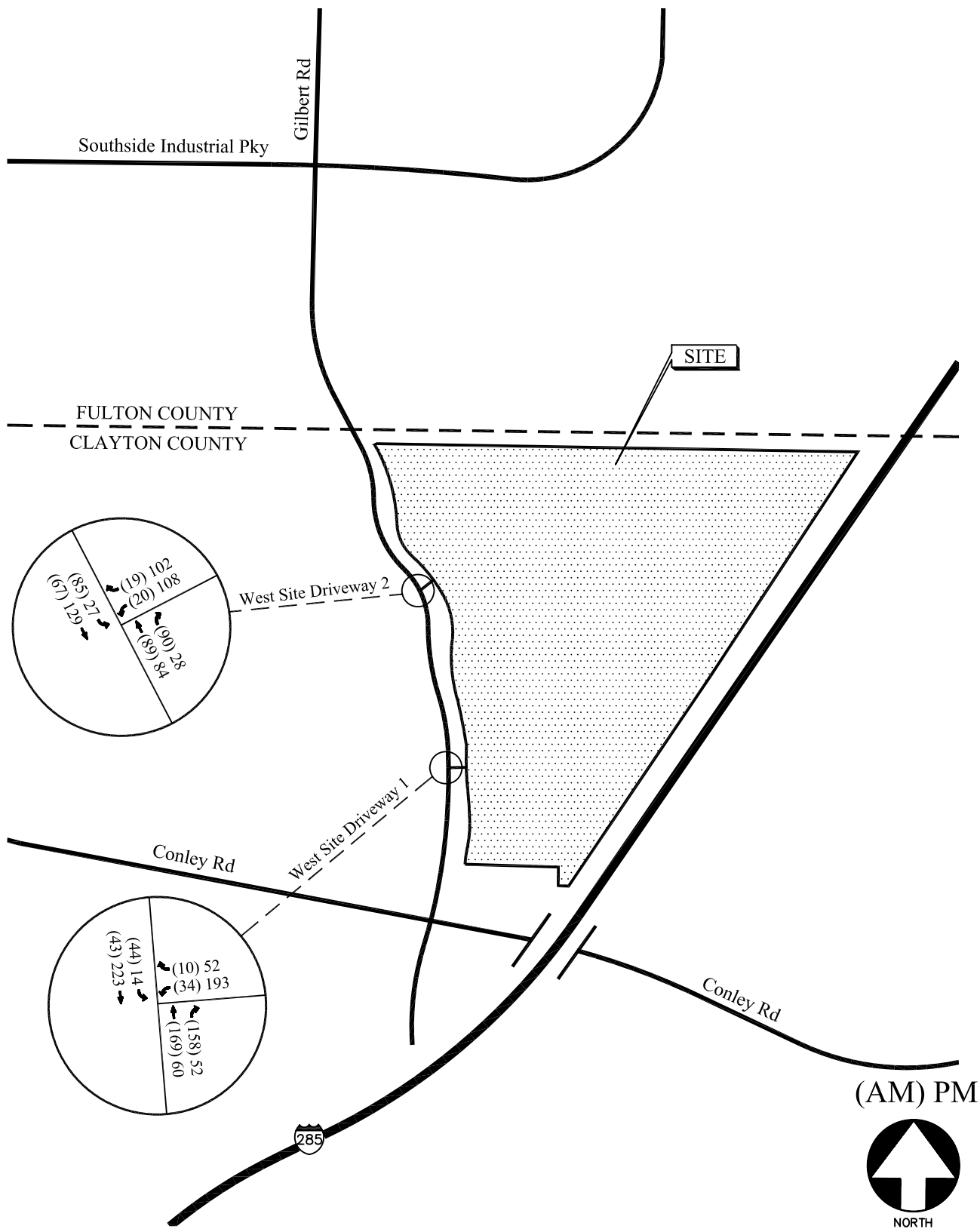
TABLE 6 FUTURE SITE DRIVEWAY OPERATIONS						
Intersection	AM/PM LOS Standard	Traffic Control	A.M. Peak Hour		P.M. Peak Hour	
			LOS	Delay (sec)	LOS	Delay (sec)
Gilbert Road and West Site Driveway 1 - Westbound Approach (West Site Driveway 1) - Southbound Left (Gilbert Road)	D/D	Stop Controlled on West Site Driveway 1	B A	10.7 4.3	B A	13.2 0.5
Gilbert Road and West Site Driveway 2 - Westbound Approach (West Site Driveway 2) - Southbound Left (Gilbert Road)	D/D	Stop Controlled on West Site Driveway 2	B A	10.2 4.6	B A	11.3 1.4

*v/c ratio is not calculated for unsignalized intersections.

The following lists the recommended lane geometry for the site driveways.

- Gilbert Road and West Site Driveway 1
 - It is recommended that the intersection have a stop controlled side street (West Site Driveway 1), with Gilbert Road remaining free flow.
 - Install a northbound right turn lane on Gilbert Road for traffic entering the site.
- Gilbert Road and West Site Driveway 2
 - It is recommended that the intersection have a stop controlled side street (West Site Driveway 2), with Gilbert Road remaining free flow.
 - Install a northbound right turn lane on Gilbert Road for traffic entering the site.

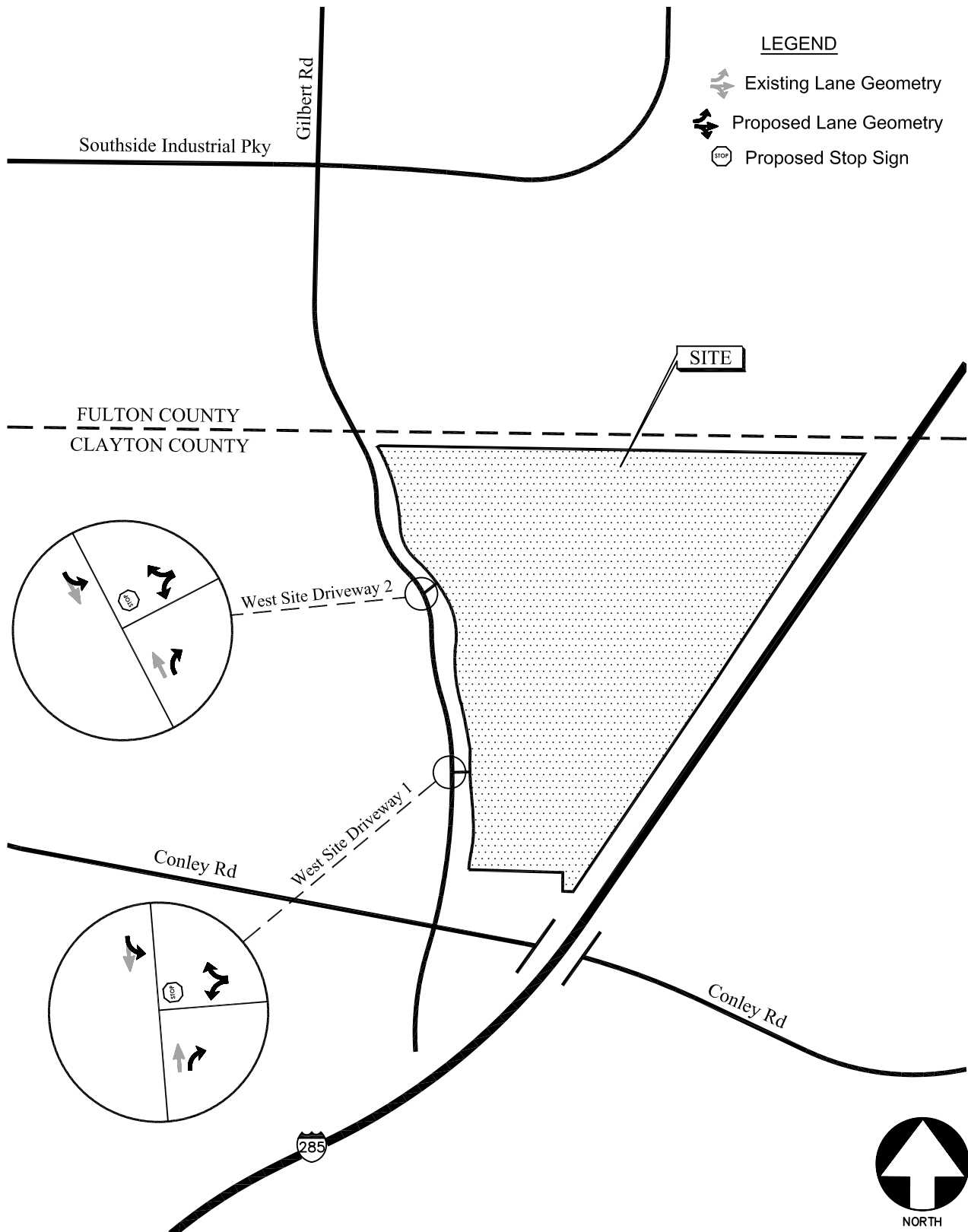
The recommended traffic control and lane geometry for the site driveways is shown in Figure 13.



FUTURE 2010 SITE ACCESS PEAK HOUR VOLUMES

FIGURE 12

A&R Engineering Inc.



FUTURE 2010 SITE ACCESS TRAFFIC CONTROL
AND LANE GEOMETRY

FIGURE 13
A&R Engineering Inc.

10. NON-EXPEDITED CRITERIA

10.1 Regional Mobility and Location

1. Quality, Character, Convenience, and Flexibility of Transportation Options

The Aviation Park Industrial development is proposed in an area where there is significant need for additional industrial land uses due to the proximity of the site to the Atlanta Hartsfield-Jackson International Airport and the surrounding interstate system.

2. Vehicle Miles Traveled

The proposed DRI will mainly provide much needed industrial land uses in close proximity to the Atlanta Airport and the Atlanta Interstate system. Due to the single use nature of the project, there are no applicable mixed-use reductions.

3. Relationship between Location of Proposed DRI and Regional Mobility

The proposed DRI is located directly adjacent to I-285; therefore, the opportunity to improve regional mobility with new roadway connections is limited.

4. Relationship between Proposed DRI and Existing or Planned Transit Facilities

The proposed DRI is located in the Clayton County, which has multiple transportation improvement projects planned for this area. The planned improvements are listed in the appropriate section of this report and details regarding those planned projects are included in the Appendix.

5. Transportation Management Area Designation

The area around the proposed project is not designated as a transportation management area.

6. Offsite Trip Reduction and Trip Reduction Techniques

Due to the nature of the development, no mixed-use or pass-by reductions are applicable.

7. Balance of Land Uses – Jobs/Housing Balance

Please refer to the AOI study submitted along with the DRI package.

8. Relationships between Proposed DRI and Existing Development and Infrastructure

The proposed DRI is located in an area where adequate public facilities will be available to serve the proposed development. Clayton County will provide water and waste water services for the development. Regarding transportation, the traffic study has identified transportation improvements relating to the site access, along with improvements to the surrounding roadway network, which will allow traffic in the area to operate at the LOS standard.

10.2 Pedestrian and Internal Circulation

Internal roadways will provide adequate circulation of vehicular traffic as designed in the site plan. Vehicles exiting the site will be able to move internally to the site exit without experiencing excessive delays.

11. OTHER PERTINENT INFORMATION

At this time no other pertinent information is available with regards to this development. All significant characteristics of the proposed development are fully discussed within this report. Additionally, an Area of Influence study has been prepared and submitted at the same time as the rest of this package.

12. SIGNIFICANT IMPACT ANALYSIS

There is capacity at all but one study network intersections to accommodate the traffic that will be generated by the proposed project. Improvements were identified for the one study intersection that will not be at the LOS standard. After the implementation of the recommended improvements, all intersections in the study area network will operate at acceptable levels of service.

Appendix

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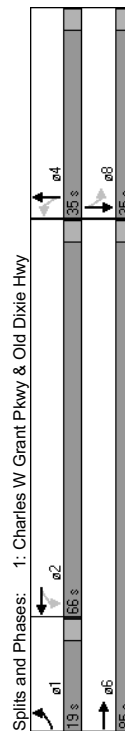
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Existing AM Intersection Analysis

Lanes, Volumes, Timings
1: Charles W Grant Pkwy & Old Dixie Hwy

Existing AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3359	0	1770	1785	0	1770	1794	0	1770	1730	0
Flt Permitted	0.950	0.619					0.708			0.522		
Satd. Flow (perm)	1770	3359	0	1153	1785	0	1319	1794	0	972	1730	0
Satd. Flow (RTOR)	72			24			13			36		
Volume (vph)	19	129	44	16	407	143	119	116	29	40	35	22
Lane Group Flow (vph)	32	212	0	28	601	0	149	180	0	56	76	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	4	8
Permitted Phases	19.0	85.0	0.0	66.0	66.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Act Effct Green (s)	7.6	81.0		73.4	73.4		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.06	0.68		0.61	0.61		0.26	0.26		0.26	0.26	
v/c Ratio	0.29	0.09		0.04	0.55		0.44	0.38		0.22	0.16	
Control Delay	59.5	4.5		10.0	12.3		42.1	36.7		38.0	20.8	
Queue Delay	0.0	0.0		0.6	3.4		0.0	0.2		0.2	0.0	
Total Delay	59.5	4.5		10.6	15.7		42.1	36.9		38.2	20.8	
LOS	E	A		B	B		D	D		D	C	
Approach Delay	11.7			15.4			39.2			28.2		
Approach LOS	B			B			D			C		
Queue Length 50th (ft)	24	17		6	135		97	106		34	24	
Queue Length 95th (ft)	36	31		m10	202		142	163		55	61	
Internal Link Dist (ft)	370			98			362			444		
Turn Bay Length (ft)	120			160			160			150		
Base Capacity (vph)	221	2291		705	1101		341	473		251	474	
Starvation Cap Reductn	0	0		538	391		0	0		0	0	
Spillback Cap Reductn	0	58		0	0		0	48		26	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.09		0.17	0.85		0.44	0.42		0.25	0.16	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 119 (99%), Referenced to phase 2:WBT and 6:EBT, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.55												
Intersection Signal Delay: 21.9												
Intersection Capacity Utilization 51.3%												
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												



HCM Signalized Intersection Capacity Analysis
1: Charles W Grant Pkwy & Old Dixie Hwy

Existing AM
3/21/2007

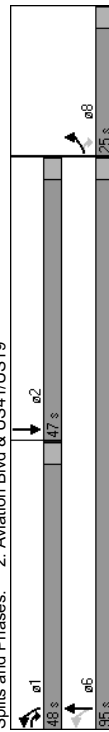
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.96	1.00	0.93	1.00	0.93
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3359	1770	1785	1770	1785	1770	1794	1770	1730	1770	1730
Flt Permitted	0.95	1.00	0.62	1.00	0.62	1.00	0.71	1.00	0.52	1.00	0.52	1.00
Satd. Flow (perm)	1770	3359	1153	1785	1153	1785	1318	1794	971	1730	971	1730
Volume (vph)	19	129	44	16	407	143	119	116	29	40	35	22
Peak-hour factor, PHF	0.59	0.92	0.61	0.57	0.94	0.85	0.80	0.85	0.66	0.71	0.88	0.61
Adj. Flow (vph)	32	140	72	28	433	168	149	136	44	56	40	36
RTOR Reduction (vph)	0	23	0	0	10	0	0	10	0	0	27	0
Lane Group Flow (vph)	32	189	0	28	591	0	149	170	0	56	49	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	4	8
Permitted Phases	5.2	81.0	71.8	71.8	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Actuated Green, G (s)	5.2	81.0	71.8	71.8	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Effective Green, g (s)	0.04	0.68	0.60	0.60	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	77	2267	690	1068	340	463	251	447	0.03	0.06	0.06	0.03
v/s Ratio Prot	c0.02	0.06	0.02	0.04	0.55	0.44	0.37	0.22	0.11	0.22	0.11	0.11
v/s Ratio Perm	0.42	0.08	0.04	0.55	0.44	0.37	0.22	0.11	0.22	0.11	0.22	0.11
Uniform Delay, d1	55.9	6.7	9.9	14.5	37.2	36.5	35.0	34.0	35.0	34.0	35.0	34.0
Progression Factor	1.00	1.00	0.87	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.1	0.1	1.4	4.1	2.2	2.0	0.5	2.0	0.5	2.0	0.5
Delay (s)	59.5	6.8	8.7	12.0	41.3	38.7	37.1	34.5	37.1	34.5	37.1	34.5
Level of Service	E	A	A	B	D	D	D	D	D	D	D	C
Approach Delay (s)	13.7			11.9			39.9			35.6		
Approach LOS	B			B			D			D		
Intersection Summary												
HCM Average Control Delay	21.5											
HCM Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	120.0											
Intersection Capacity Utilization	51.3%											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
2: Aviation Blvd & US41/US19

Existing AM
3/21/2007

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1779	0
Flt Permitted	0.950		0.274			
Satd. Flow (perm)	1770	1583	510	1863	1779	0
Satd. Flow (RTOR)	140				23	
Volume (vph)	70	127	468	490	217	111
Lane Group Flow (vph)	80	140	514	510	406	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8	6				
Total Split (s)	25.0	48.0	95.0	47.0	0.0	
Act Effct Green (s)	10.3	30.8	103.8	104.6	81.2	
Actuated g/C Ratio	0.09	0.26	0.86	0.87	0.68	
v/c Ratio	0.53	0.27	0.81	0.31	0.33	
Control Delay	54.6	9.6	16.9	2.6	7.3	
Queue Delay	0.5	0.4	0.1	0.0	0.1	
Total Delay	55.1	10.0	17.0	2.6	7.4	
LOS	E	A	B	A	A	
Approach Delay	26.4		9.8	7.4		
Approach LOS	C		A	A		
Queue Length 50th (ft)	56	27	63	58	77	
Queue Length 95th (ft)	111	76	220	114	134	
Internal Link Dist (ft)	98		384	571		
Turn Bay Length (ft)			90			
Base Capacity (vph)	310	816	903	1623	1212	
Starvation Cap Reductn	72	349	0	0	0	
Spillback Cap Reductn	0	0	43	0	150	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.30	0.60	0.31	0.38	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 65 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.81						
Intersection Signal Delay: 11.4						
Intersection Capacity Utilization 58.0%						
ICU Level of Service B						
Analysis Period (min) 15						

Splits and Phases: 2: Aviation Blvd & US41/US19



Baseline
A & R Engineering Inc.

Synchro 6 Report
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HCM Signalized Intersection Capacity Analysis
2: Aviation Blvd & US41/US19

Existing AM
3/21/2007

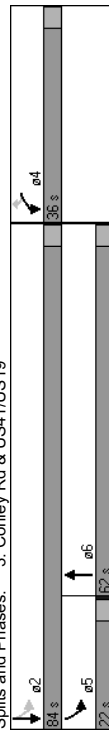
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.96
Satd. Flow (prot)	1770	1583	1770	1863	1779	
Flt Permitted	0.95	1.00	0.45	1.00	1.00	
Satd. Flow (perm)	1770	1583	843	1863	1779	
Volume (vph)	70	127	468	490	217	111
Peak-hour factor, PHF	0.88	0.91	0.91	0.96	0.80	0.82
Adj. Flow (vph)	80	140	514	510	271	135
RTOR Reduction (vph)	0	108	0	0	8	0
Lane Group Flow (vph)	80	32	514	510	398	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8	6				
Actuated Green, G (s)	9.0	27.5	103.0	103.0	80.5	
Effective Green, g (s)	9.0	27.5	103.0	103.0	80.5	
Actuated g/C Ratio	0.08	0.23	0.86	0.86	0.67	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	133	416	866	1599	1193	
v/s Ratio Prot	c0.05	0.01	c0.09	0.27	0.22	
v/s Ratio Perm	0.01	c0.42				
v/c Ratio	0.60	0.08	0.59	0.32	0.33	
Uniform Delay, d1	53.8	36.3	2.9	1.7	8.4	
Progression Factor	0.82	1.96	1.00	1.00	0.66	
Incremental Delay, d2	7.4	0.1	1.1	0.5	0.7	
Delay (s)	51.4	71.1	4.0	2.2	6.3	
Level of Service	D	E	A	A	A	
Approach Delay (s)	63.9		3.1	6.3		
Approach LOS	E		A	A		
Intersection Summary						
HCM Average Control Delay			12.0			
HCM Level of Service			B			
HCM Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			120.0			
Sum of lost time (s)			8.0			
Intersection Capacity Utilization			58.0%			
ICU Level of Service			B			
Analysis Period (min)			15			
c Critical Lane Group						

Baseline
A & R Engineering Inc.

Synchro 6 Report
Page 4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1833	0	1770	1863
Flt Permitted	0.950				0.214	
Satd. Flow (perm)	1770	1583	1833	0	399	1863
Satd. Flow (RTOR)	327	8				
Volume (vph)	87	275	491	66	115	205
Lane Group Flow (vph)	112	327	606	0	147	247
Turn Type	Perm				pm+pt	
Protected Phases	4	6	6	5	2	
Permitted Phases						2
Total Split (s)	36.0	36.0	62.0	0.0	22.0	84.0
Act Effct Green (s)	12.5	12.5	88.0	0.0	99.5	99.5
Actuated g/C Ratio	0.10	0.10	0.73	0.00	0.83	0.83
v/c Ratio	0.61	0.71	0.45	0.35	0.16	
Control Delay	64.5	14.4	6.8	4.6	2.6	
Queue Delay	0.0	0.0	0.3	0.0	0.0	
Total Delay	64.5	14.4	7.2	4.6	2.6	
LOS	E	B	A	A	A	
Approach Delay	27.2	7.2			3.3	
Approach LOS	C	A			A	
Queue Length 50th (ft)	84	0	129	16	28	
Queue Length 95th (ft)	118	60	229	31	54	
Internal Link Dist (ft)	1158		571		420	
Turn Bay Length (ft)	125				90	
Base Capacity (vph)	472	662	1346	536	1544	
Starvation Cap Reductn	0	0	277	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.49	0.57	0.27	0.16	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 99 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.71						
Intersection Signal Delay: 12.2						
Intersection Capacity Utilization 53.5%						
Analysis Period (min) 15						

Splits and Phases: 3: Conley Rd & US41/US19



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583	1833	1770	1863	
Flt Permitted	0.95	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	1770	1583	1833	668	1863	
Volume (vph)	87	275	491	66	115	205
Peak-hour factor, PHF	0.78	0.84	0.92	0.78	0.83	
Adj. Flow (vph)	112	327	534	72	147	247
RTOR Reduction (vph)	0	293	2	0	0	0
Lane Group Flow (vph)	112	34	604	0	147	247
Turn Type	Perm				pm+pt	
Protected Phases	4	6	6	5	2	
Permitted Phases						2
Actuated Green, G (s)	12.5	12.5	88.0	99.5	99.5	
Effective Green, g (s)	12.5	12.5	88.0	99.5	99.5	
Actuated g/C Ratio	0.10	0.10	0.73	0.83	0.83	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	184	165	1344	623	1545	
v/s Ratio Prot	c0.06		c0.33	c0.01	0.13	
v/s Ratio Perm		0.02			0.18	
v/c Ratio	0.61	0.21	0.45	0.24	0.16	
Uniform Delay, d1	51.4	49.2	6.4	3.3	2.0	
Progression Factor	1.00	1.00	0.81	1.00	1.00	
Incremental Delay, d2	5.6	0.6	1.0	0.2	0.2	
Delay (s)	57.0	49.8	6.2	3.4	2.2	
Level of Service	E	D	A	A	A	
Approach Delay (s)	51.7	6.2			2.7	
Approach LOS	D	A			A	
Intersection Summary						
HCM Average Control Delay						
HCM Volume to Capacity ratio						
Actuated Cycle Length (s)						
Intersection Capacity Utilization						
Analysis Period (min)						
c Critical Lane Group						

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Existing AM
3/21/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1848	0	0	1833	0	0	1863	0	0	1729	0
Flt Permitted	0	0.992	0	0	0.992	0	0	0.992	0	0	0.992	0
Satd. Flow (perm)	0	1848	0	0	1833	0	0	1863	0	0	1729	0
Volume (vph)	20	152	0	0	362	51	0	0	0	16	0	5
Lane Group Flow (vph)	0	199	0	0	467	0	0	0	0	0	28	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 34.8%												
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

Existing AM
3/21/2007

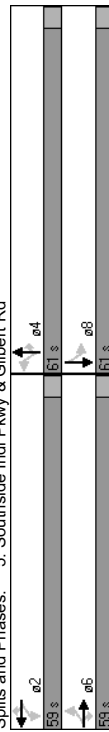
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume (veh/h)	20	152	0	0	362	51	0	0	0	16	0	5
Peak Hour Factor	0.62	0.91	0.92	0.92	0.88	0.91	0.92	0.92	0.92	0.80	0.92	0.62
Hourly flow rate (vph)	32	167	0	0	411	56	0	0	0	20	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	467			167			679	699	167	671	671	439
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCu, unblocked vol	467			167			679	699	167	671	671	439
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	94	100	99
cM capacity (veh/h)	1094			1411			353	353	877	362	367	618
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	199	467	0	28								
Volume Left	32	0	0	20								
Volume Right	0	56	0	8								
cSH	1094	1411	1700	411								
Volume to Capacity	0.03	0.00	0.00	0.07								
Queue Length 95th (ft)	2	0	0	5								
Control Delay (s)	1.6	0.0	0.0	14.4								
Lane LOS	A	A	A	B								
Approach Delay (s)	1.6	0.0	0.0	14.4								
Approach LOS	A	A	A	B								
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												

Lanes, Volumes, Timings
5: Southside Indl Pkwy & Gilbert Rd

Existing AM
3/21/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1753	0
Flt Permitted	0.650			0.697			0.736			0.734		
Satd. Flow (perm)	1211	1863	1583	1298	1863	1583	1371	1863	1583	1367	1753	0
Satd. Flow (RTOR)			28			36			32		13	
Volume (vph)	10	76	21	32	126	30	26	31	23	14	14	7
Lane Group Flow (vph)	16	92	28	44	140	36	32	36	32	16	33	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	2	2	4	4	4	8	8	
Permitted Phases	59.0	59.0	59.0	59.0	59.0	59.0	61.0	61.0	61.0	61.0	61.0	0.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	55.0	57.0	57.0	57.0	57.0	57.0	0.0
Act Effct Green (s)	0.46	0.46	0.46	0.46	0.46	0.46	0.48	0.48	0.48	0.48	0.48	0.48
Actuated g/C Ratio	0.03	0.11	0.04	0.07	0.16	0.05	0.05	0.04	0.04	0.02	0.04	
Control Delay	18.2	19.0	6.3	18.8	19.7	5.8	16.3	16.2	5.3	17.0	11.9	
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	18.2	19.0	6.3	18.8	19.7	5.8	16.3	16.2	5.3	17.0	11.9	
LOS	B	B	A	B	B	A	B	B	A	B	B	
Approach Delay	16.3			17.3			12.8			13.6		
Approach LOS	B			B			B			B		
Queue Length 50th (ft)	7	40	0	19	62	0	13	14	1	6	8	
Queue Length 95th (ft)	14	66	12	33	103	16	27	30	10	19	19	
Internal Link Dist (ft)	177			450			822			439		
Turn Bay Length (ft)				245		50			50	150		
Base Capacity (vph)	555	854	741	595	854	745	651	885	769	649	840	
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	0.03	0.11	0.04	0.07	0.16	0.05	0.05	0.04	0.04	0.02	0.04	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 40 (33%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.16												
Intersection Signal Delay: 15.8												
Intersection Capacity Utilization 23.2%												
Analysis Period (min) 15												

Splits and Phases: 5: Southside Indl Pkwy & Gilbert Rd



HCM Signalized Intersection Capacity Analysis
5: Southside Indl Pkwy & Gilbert Rd

Existing AM
3/21/2007

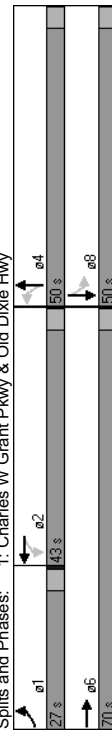
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1753	
Flt Permitted	0.65	1.00	1.00	0.70	1.00	1.00	0.74	1.00	1.00	0.73	1.00	
Satd. Flow (perm)	1210	1863	1583	1298	1863	1583	1370	1863	1583	1367	1753	
Volume (vph)	10	76	21	32	126	30	26	31	23	14	14	7
Peak-hour factor, PHF	0.62	0.83	0.75	0.73	0.90	0.83	0.81	0.86	0.72	0.88	0.70	0.54
Adj. Flow (vph)	16	92	28	44	140	36	32	36	32	16	20	13
RTOR Reduction (vph)	0	0	15	0	0	20	0	0	17	0	7	0
Lane Group Flow (vph)	16	92	13	44	140	17	32	36	15	16	26	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	2	2	4	4	4	8	8	
Permitted Phases	55.0	55.0	55.0	55.0	55.0	55.0	57.0	57.0	57.0	57.0	57.0	57.0
Actuated Green, G (s)	55.0	55.0	55.0	55.0	55.0	55.0	57.0	57.0	57.0	57.0	57.0	57.0
Effective Green, g (s)	0.46	0.46	0.46	0.46	0.46	0.46	0.48	0.48	0.48	0.48	0.48	0.48
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	555	854	726	595	854	726	651	885	752	649	833	
v/s Ratio Prot	0.01	0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.01	0.01	0.01	
v/s Ratio Perm	0.03	0.11	0.02	0.07	0.16	0.02	0.05	0.04	0.02	0.02	0.03	
Uniform Delay, d1	17.8	18.5	17.7	18.2	19.0	17.8	16.9	16.9	16.7	16.7	16.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.93	0.93	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.2	0.4	0.1	0.1	0.1	0.0	0.1	0.1	
Delay (s)	17.9	18.8	17.8	18.5	19.4	17.8	16.1	16.0	15.6	16.8	16.9	
Level of Service	B	B	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	18.5			19.0			15.9			16.8		
Approach LOS	B			B			B			B		
Intersection Summary												
HCM Average Control Delay	18.0											
HCM Volume to Capacity ratio	0.11											
Actuated Cycle Length (s)	120.0											
Intersection Capacity Utilization	23.2%											
Analysis Period (min)	15											
c Critical Lane Group												

Existing PM Intersection Analysis

Lanes, Volumes, Timings
1: Charles W Grant Pkwy & Old Dixie Hwy

Existing PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3433	0	1770	1803	0	1770	1781	0	1770	1807	0
Flt Permitted	0.950	0.451		0.534			0.713					
Satd. Flow (perm)	1770	3433	0	840	1803	0	995	1781	0	1328	1807	0
Satd. Flow (RTOR)	41			12			20					
Volume (vph)	24	388	97	14	162	39	33	27	14	192	108	35
Lane Group Flow (vph)	32	539	0	20	224	0	52	68	0	209	221	0
Turn Type	Prot	Perm		Perm			Perm			Perm		
Protected Phases	1	6		2			4				8	
Permitted Phases												
Total Split (s)	27.0	70.0	0.0	43.0	43.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0
Act Effct Green (s)	7.5	66.0	58.4	58.4	58.4	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Actuated g/C Ratio	0.06	0.55	0.49	0.49	0.49	0.38	0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	0.29	0.28	0.05	0.25	0.25	0.14	0.10	0.10	0.41	0.32	0.41	0.32
Control Delay	59.7	13.6	21.3	19.8	25.4	17.8	30.2	26.0				
Queue Delay	0.0	0.0	0.0	1.7	0.0	0.1	1.4	0.0				
Total Delay	59.7	13.7	21.3	21.3	21.5	25.4	17.9	31.6	26.0			
LOS	E	B	B	C	C	C	B	C	B	C	C	C
Approach Delay	16.2			21.5			21.2			28.7		
Approach LOS	B			C			C			C		
Queue Length 50th (ft)	24	102		7	75		26	23		117	112	
Queue Length 95th (ft)	46	136		20	151		38	29		187	110	
Internal Link Dist (ft)	370			98			362			444		
Turn Bay Length (ft)	120			160			150					
Base Capacity (vph)	339	1907	409	884	381	695	509	700				
Starvation Cap Reductn	0	0	0	497	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	46	0	0	0	0	205	152	0			
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.29	0.05	0.58	0.14	0.14	0.14	0.59	0.32			



HCM Signalized Intersection Capacity Analysis
1: Charles W Grant Pkwy & Old Dixie Hwy

Existing PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3433	0	1770	1803	0	1770	1781	0	1770	1807	0
Flt Permitted	0.950	0.451		0.534			0.713					
Satd. Flow (perm)	1770	3433	0	840	1803	0	995	1781	0	1328	1807	0
Satd. Flow (RTOR)	41			12			20					
Volume (vph)	24	388	97	14	162	39	33	27	14	192	108	35
Lane Group Flow (vph)	32	539	0	20	224	0	52	68	0	209	221	0
Turn Type	Prot	Perm		Perm			Perm			Perm		
Protected Phases	1	6		2			4				8	
Permitted Phases												
Actuated Green, G (s)	5.2	66.0	56.8	56.8	56.8	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Effective Green, g (s)	5.2	66.0	56.8	56.8	56.8	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Actuated g/C Ratio	0.04	0.55	0.47	0.47	0.47	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	77	1888	398	853	382	683	509	693				
v/s Ratio Prot	c0.02	c0.15		0.12			0.03			0.12		
v/s Ratio Perm	0.42	0.28	0.05	0.26	0.14	0.08	0.41	0.31				
Uniform Delay, d1	55.9	14.3	17.0	18.9	24.1	23.6	27.1	25.9				
Progression Factor	1.00	1.00	1.10	1.03	1.00	1.00	1.00	1.00				
Incremental Delay, d2	3.6	0.4	0.2	0.7	0.2	0.2	2.4	1.2				
Delay (s)	59.5	14.7	19.0	20.2	24.8	23.8	29.5	27.0				
Level of Service	E	B	B	C	C	C	C	C	C	C	C	C
Approach Delay (s)	17.2			20.1			24.2			28.2		
Approach LOS	B			C			C			C		

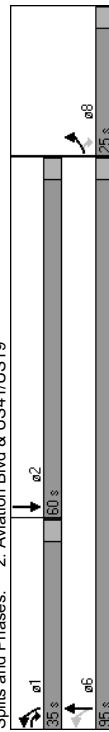
Intersection Summary	
HCM Average Control Delay	21.8
HCM Volume to Capacity ratio	0.33
Actuated Cycle Length (s)	120.0
Intersection Capacity Utilization	43.9%
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
2: Aviation Blvd & US41/US19

Existing PM
3/21/2007

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1833	0
Flt Permitted	0.950		0.214			
Satd. Flow (perm)	1770	1583	399	1863	1833	0
Satd. Flow (RTOR)			256		7	
Volume (vph)	133	472	140	287	483	56
Lane Group Flow (vph)	151	487	156	354	587	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8 6					
Total Split (s)	25.0	35.0	35.0	95.0	60.0	0.0
Act Effct Green (s)	15.2	31.4	96.8	96.8	80.6	
Actuated g/C Ratio	0.13	0.26	0.81	0.81	0.67	
v/c Ratio	0.67	0.81	0.34	0.24	0.48	
Control Delay	58.8	25.2	4.9	3.6	10.1	
Queue Delay	12.4	0.7	0.0	0.0	0.2	
Total Delay	71.3	25.9	5.0	3.6	10.4	
LOS	E	C	A	A	B	
Approach Delay	36.7		4.0	10.4		
Approach LOS	D		A	B		
Queue Length 50th (ft)	85	96	21	54	149	
Queue Length 95th (ft)	165	321	46	89	280	
Internal Link Dist (ft)	98		384	571		
Turn Bay Length (ft)	90					
Base Capacity (vph)	311	811	676	1505	1234	
Starvation Cap Reductn	133	107	0	0	182	
Spillback Cap Reductn	0	0	16	0	76	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.85	0.69	0.24	0.24	0.56	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 60 (50%), Referenced to phase 2:SBT and 6:NBLT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.81						
Intersection Signal Delay: 18.2						
Intersection Capacity Utilization 64.7%						
ICU Level of Service C						
Analysis Period (min) 15						

Splits and Phases: 2: Aviation Blvd & US41/US19



HCM Signalized Intersection Capacity Analysis
2: Aviation Blvd & US41/US19

Existing PM
3/21/2007

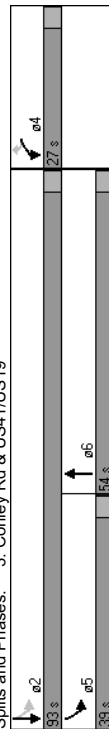
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1834	
Flt Permitted	0.95	1.00	0.34	1.00	1.00	
Satd. Flow (perm)	1770	1583	639	1863	1834	
Volume (vph)	133	472	140	287	483	56
Peak-hour factor, PHF	0.88	0.97	0.90	0.81	0.93	0.82
Adj. Flow (vph)	151	487	156	354	519	68
RTOR Reduction (vph)	0	198	0	0	2	0
Lane Group Flow (vph)	151	289	156	354	585	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8 6					
Actuated Green, G (s)	15.2	27.4	96.8	96.8	80.6	
Effective Green, g (s)	15.2	27.4	96.8	96.8	80.6	
Actuated g/C Ratio	0.13	0.23	0.81	0.81	0.67	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	224	414	630	1503	1232	
v/s Ratio Prot	0.09	c0.07	0.03	0.19	c0.32	
v/s Ratio Perm	0.11		0.17			
v/c Ratio	0.67	0.70	0.25	0.24	0.47	
Uniform Delay, d1	50.0	42.5	4.3	2.8	9.5	
Progression Factor	0.90	0.80	1.00	1.00	0.81	
Incremental Delay, d2	7.5	4.9	0.2	0.4	1.2	
Delay (s)	52.5	38.8	4.5	3.1	8.9	
Level of Service	D	D	A	A	A	
Approach Delay (s)	42.0		3.6	8.9		
Approach LOS	D		A	A		
Intersection Summary						
HCM Average Control Delay	19.5					
HCM Level of Service	B					
HCM Volume to Capacity ratio	0.54					
Actuated Cycle Length (s)	120.0					
Sum of lost time (s)	8.0					
Intersection Capacity Utilization	64.7%					
ICU Level of Service	C					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
3: Conley Rd & US41/US19

Existing PM
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1801	0	1770	1863
Flt Permitted	0.950				0.254	
Satd. Flow (perm)	1770	1583	1801	0	473	1863
Satd. Flow (RTOR)	185	17				
Volume (vph)	68	150	310	108	340	506
Lane Group Flow (vph)	84	185	485	0	386	538
Turn Type	Perm	Perm	Perm	pm+pt		
Protected Phases	4	6	5	2		
Permitted Phases						
Total Split (s)	27.0	27.0	54.0	0.0	39.0	93.0
Act Effct Green (s)	10.8	10.8	85.6	101.2	101.2	
Actuated g/C Ratio	0.09	0.09	0.71	0.84	0.84	
v/c Ratio	0.53	0.60	0.38	0.74	0.34	
Control Delay	63.5	15.4	5.5	12.3	2.9	
Queue Delay	0.0	0.0	0.2	0.0	0.0	
Total Delay	63.5	15.4	5.7	12.3	2.9	
LOS	E	B	A	B	A	
Approach Delay	30.4	5.7		6.8		
Approach LOS	C	A		A		
Queue Length 50th (ft)	63	0	75	44	67	
Queue Length 95th (ft)	101	46	137	98	123	
Internal Link Dist (ft)	1158	571		420		
Turn Bay Length (ft)	125			90		
Base Capacity (vph)	339	453	1290	777	1572	
Starvation Cap Reductn	0	0	255	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.41	0.47	0.50	0.34	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 119 (99%), Referenced to phase 2:SBTTL and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.74						
Intersection Signal Delay: 10.3						
Intersection Capacity Utilization 55.5%						
Analysis Period (min) 15						

Splits and Phases: 3: Conley Rd & US41/US19



HCM Signalized Intersection Capacity Analysis
3: Conley Rd & US41/US19

Existing PM
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583	1801	1770	1863	
Flt Permitted	0.95	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	1770	1583	1801	778	1863	
Volume (vph)	68	150	310	108	340	506
Peak-hour factor, PHF	0.81	0.81	0.85	0.90	0.88	0.94
Adj. Flow (vph)	84	185	365	120	386	538
RTOR Reduction (vph)	0	168	5	0	0	0
Lane Group Flow (vph)	84	17	480	0	386	538
Turn Type	Perm	Perm	Perm	pm+pt		
Protected Phases	4	6	5	2		
Permitted Phases						
Actuated Green, G (s)	10.8	10.8	85.6	101.2	101.2	
Effective Green, g (s)	10.8	10.8	85.6	101.2	101.2	
Actuated g/C Ratio	0.09	0.09	0.71	0.84	0.84	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	159	142	1285	752	1571	
v/s Ratio Prot	c0.05		0.27	c0.05	0.29	
v/s Ratio Perm		0.01		c0.38		
v/c Ratio	0.53	0.12	0.37	0.51	0.34	
Uniform Delay, d1	52.2	50.2	6.7	3.1	2.1	
Progression Factor	1.00	1.00	0.62	1.00	1.00	
Incremental Delay, d2	3.1	0.4	0.8	0.6	0.6	
Delay (s)	55.3	50.6	5.0	3.6	2.7	
Level of Service	E	D	A	A	A	
Approach Delay (s)	52.1		5.0		3.1	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay			11.5			
HCM Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			120.0			
Intersection Capacity Utilization			55.5%			
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Existing PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1861	0	0	1827	0	0	1863	0	0	1738	0
Flt Permitted	0	0.999	0	0	0.999	0	0	0.999	0	0	0.999	0
Satd. Flow (perm)	0	1861	0	0	1827	0	0	1863	0	0	1738	0
Volume (vph)	7	400	0	0	173	22	0	0	0	84	0	19
Lane Group Flow (vph)	0	461	0	0	224	0	0	0	0	0	128	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 39.1%												
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

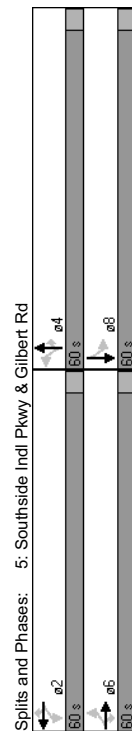
Existing PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume (veh/h)	7	400	0	0	173	22	0	0	0	84	0	19
Peak Hour Factor	0.58	0.89	0.92	0.92	0.90	0.69	0.92	0.92	0.92	0.84	0.92	0.68
Hourly flow rate (vph)	12	449	0	0	192	32	0	0	0	100	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				None
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	224			449			710	698	449	682	682	208
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCu, unblocked vol	224			449			710	698	449	682	682	208
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	72	100	97
cM capacity (veh/h)	1345			1111			335	361	610	362	369	832
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	462	224	0	128								
Volume Left	12	0	0	100								
Volume Right	0	32	0	28								
cSH	1345	1111	1700	412								
Volume to Capacity	0.01	0.00	0.00	0.31								
Queue Length 95th (ft)	1	0	0	33								
Control Delay (s)	0.3	0.0	0.0	17.6								
Lane LOS	A	A	A	C								
Approach Delay (s)	0.3	0.0	0.0	17.6								
Approach LOS	A	A	A	C								
Intersection Summary												
Average Delay				2.9								
Intersection Capacity Utilization				39.1%								A
Analysis Period (min)				15								

Lanes, Volumes, Timings
5: Southside Indl Pkwy & Gilbert Rd

Existing PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1798	0
Flt Permitted	0.713			0.626			0.723			0.742		
Satd. Flow (perm)	1328	1863	1583	1166	1863	1583	1347	1863	1583	1382	1798	0
Satd. Flow (RTOR)			72			24			65		12	
Volume (vph)	9	150	47	16	58	19	20	16	40	20	33	10
Lane Group Flow (vph)	12	163	72	20	68	24	28	24	65	24	52	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	2	2	4	4	4	4	8	
Permitted Phases	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	0.0
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	0.0
Act Effct Green (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	0.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.02	0.19	0.09	0.04	0.08	0.03	0.04	0.03	0.08	0.04	0.06	
Control Delay	17.4	19.4	4.4	17.8	18.1	6.5	17.5	17.2	4.4	17.7	14.5	
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	17.4	19.4	4.4	17.8	18.1	6.5	17.5	17.2	4.4	17.7	14.5	
LOS	B	B	A	B	B	A	B	B	A	B	B	
Approach Delay	15.0			15.6			10.2			15.5		
Approach LOS	B			B			B			B		
Queue Length 50th (ft)	5	72	0	8	29	0	11	10	1	10	17	
Queue Length 95th (ft)	13	116	10	20	52	12	m22	m18	8	24	36	
Internal Link Dist (ft)	177			485			822			439		
Turn Bay Length (ft)				245		50			50	150		
Base Capacity (vph)	620	869	777	544	869	752	629	869	773	645	845	
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	0.02	0.19	0.09	0.04	0.08	0.03	0.04	0.03	0.08	0.04	0.06	



HCM Signalized Intersection Capacity Analysis
5: Southside Indl Pkwy & Gilbert Rd

Existing PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1798	
Flt Permitted	0.71	1.00	1.00	0.63	1.00	1.00	0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1328	1863	1583	1166	1863	1583	1347	1863	1583	1381	1798	
Volume (vph)	9	150	47	16	58	19	20	16	40	20	33	10
Peak-hour factor, PHF	0.75	0.92	0.65	0.80	0.85	0.79	0.71	0.67	0.62	0.83	0.82	0.83
Adj. Flow (vph)	12	163	72	20	68	24	28	24	65	24	40	12
RTOR Reduction (vph)	0	0	38	0	0	13	0	0	35	0	6	0
Lane Group Flow (vph)	12	163	34	20	68	11	28	24	30	24	46	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	2	2	4	4	4	4	8	
Permitted Phases	6	6	2	2	2	2	4	4	4	4	8	
Actuated Green, G (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Effective Green, g (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	620	869	739	544	869	739	629	869	739	644	839	
v/s Ratio Prot	c0.09			0.04			0.01			c0.03		
v/s Ratio Perm	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	
v/c Ratio	0.02	0.19	0.05	0.04	0.08	0.02	0.04	0.03	0.04	0.04	0.05	
Uniform Delay, d1	17.2	18.7	17.4	17.4	17.7	17.2	17.4	17.3	17.4	17.4	17.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.97	1.00	1.00	
Incremental Delay, d2	0.1	0.5	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	
Delay (s)	17.3	19.2	17.6	17.5	17.9	17.2	17.2	17.1	16.9	17.5	17.6	
Level of Service	B	B	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	18.6			17.7			17.0			17.6		
Approach LOS	B			B			B			B		

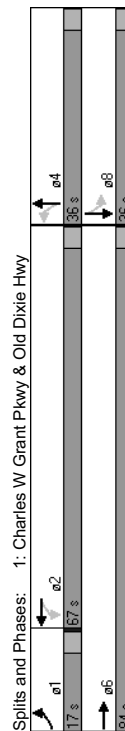
Intersection Summary												
HCM Average Control Delay	17.9	HCM Level of Service										
HCM Volume to Capacity ratio	0.12	B										
Actuated Cycle Length (s)	120.0	Sum of lost time (s)										
Intersection Capacity Utilization	27.7%	ICU Level of Service										
Analysis Period (min)	15	A										
c Critical Lane Group												

Base 2010 AM Intersection Analysis

Lanes, Volumes, Timings
1: Charles W Grant Pkwy & Old Dixie Hwy

Base AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3359	0	1770	1785	0	1770	1796	0	1770	1729	0
Flt Permitted	0.950	0.604		0.604			0.694			0.494		
Satd. Flow (perm)	1770	3359	0	1125	1785	0	1293	1796	0	920	1729	0
Satd. Flow (RTOR)	80			24			13				38	
Volume (vph)	21	144	49	18	454	159	133	129	32	45	39	25
Lane Group Flow (vph)	36	237	0	32	670	0	166	200	0	63	85	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	8	8
Permitted Phases	17.0	84.0	0.0	67.0	67.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Act Effct Green (s)	7.8	80.0		72.2	72.2		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.06	0.67		0.60	0.60		0.27	0.27		0.27	0.27	
v/c Ratio	0.31	0.10		0.05	0.62		0.48	0.41		0.26	0.17	
Control Delay	59.9	4.8		10.6	14.4		42.6	36.8		38.2	21.0	
Queue Delay	0.0	0.0		0.7	4.4		0.0	0.3		0.2	0.0	
Total Delay	59.9	4.8		11.3	18.8		42.6	37.1		38.4	21.0	
LOS	E	A		B	B		D	D		D	C	
Approach Delay	12.1			18.5			39.6			28.4		
Approach LOS	B			B			D			C		
Queue Length 50th (ft)	27	20		8	159		108	119		39	28	
Queue Length 95th (ft)	39	34		m11	m212		156	178		61	67	
Internal Link Dist (ft)	370			98			362			444		
Turn Bay Length (ft)	120			160			160			150		
Base Capacity (vph)	192	2266		676	1083		345	488		245	489	
Starvation Cap Reductn	0	0		506	329		0	0		0	0	
Spillback Cap Reductn	0	42		0	0		0	53		27	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.11		0.19	0.89		0.48	0.46		0.29	0.17	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 90 (75%), Referenced to phase 2:WBTL and 6:EBT, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.62												
Intersection Signal Delay: 23.5												
Intersection Capacity Utilization 55.6%												
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												

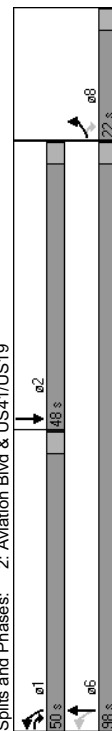


HCM Signalized Intersection Capacity Analysis
1: Charles W Grant Pkwy & Old Dixie Hwy

Base AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.96	1.00	0.93	1.00	0.93
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3360	1770	1785	1770	1785	1770	1796	1770	1728	1770	1728
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	3360	1126	1785	1126	1785	1293	1796	920	1728	1293	1796
Volume (vph)	21	144	49	18	454	159	133	129	32	45	39	25
Peak-hour factor, PHF	0.59	0.92	0.61	0.57	0.94	0.85	0.80	0.85	0.66	0.71	0.88	0.61
Adj. Flow (vph)	36	157	80	32	483	187	166	152	48	63	44	41
RTOR Reduction (vph)	0	27	0	0	10	0	10	0	0	0	28	0
Lane Group Flow (vph)	36	210	0	32	660	0	166	190	0	63	57	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	8	8
Permitted Phases	5.4	80.0	70.6	70.6	70.6	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Actuated Green, G (s)	5.4	80.0	70.6	70.6	70.6	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	0.05	0.67	0.59	0.59	0.59	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	80	2240	662	1050	662	1050	345	479	245	461	345	479
v/s Ratio Prot	c0.02	0.06	0.03	0.03	0.03	c0.13	0.11	0.11	0.07	0.03	0.07	0.03
v/s Ratio Perm	0.45	0.09	0.05	0.63	0.63	0.48	0.40	0.40	0.26	0.12	0.26	0.12
Uniform Delay, d1	55.9	7.1	10.5	16.1	16.1	37.0	36.1	36.1	34.6	33.4	34.6	33.4
Progression Factor	1.00	1.00	0.88	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	0.1	0.1	1.8	1.8	4.7	2.5	2.5	2.5	0.6	2.5	0.6
Delay (s)	59.8	7.2	9.3	13.9	13.9	41.8	38.6	38.6	37.2	33.9	37.2	33.9
Level of Service	E	A	A	B	B	D	D	D	D	D	D	C
Approach Delay (s)	14.1			13.7			40.0			35.3		
Approach LOS	B			B			D			D		
Intersection Summary												
HCM Average Control Delay	22.4											
HCM Volume to Capacity ratio	0.58											
Actuated Cycle Length (s)	120.0											
Intersection Capacity Utilization	55.6%											
Analysis Period (min)	15											
c Critical Lane Group												

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1779	0
Fit Permitted	0.950		0.234			
Satd. Flow (perm)	1770	1583	436	1863	1779	0
Satd. Flow (RTOR)		156			24	
Volume (vph)	78	142	522	546	242	124
Lane Group Flow (vph)	89	156	574	569	453	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases		8	6			
Total Spill (s)	22.0	50.0	50.0	98.0	48.0	0.0
Act Effct Green (s)	11.1	38.9	103.0	103.8	73.1	
Actuated g/C Ratio	0.09	0.32	0.86	0.86	0.61	
v/c Ratio	0.54	0.25	0.87	0.35	0.41	
Control Delay	53.4	8.9	27.1	3.0	12.6	
Queue Delay	1.9	0.5	0.3	0.0	0.2	
Total Delay	55.3	9.4	27.3	3.0	12.9	
LOS	E	A	C	A	B	
Approach Delay	26.1			15.2	12.9	
Approach LOS	C			B	B	
Queue Length 50th (ft)	61	30	189	75	101	
Queue Length 95th (ft)	120	83	325	140	231	
Internal Link Dist (ft)	98			384	571	
Turn Bay Length (ft)			90			
Base Capacity (vph)	266	857	886	1612	1094	
Starvation Cap Reductn	87	419	0	0	0	
Spillback Cap Reductn	0	0	45	0	183	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.36	0.68	0.35	0.50	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 36 (30%), Referenced to phase 2:SBT and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.87						
Intersection Signal Delay: 16.1						
Intersection Capacity Utilization 63.5%						
Analysis Period (min) 15						
Intersection LOS: B						
ICU Level of Service B						
Splits and Phases: 2: Aviation Blvd & US41/US19						



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	1863	1779	1779
Flt Permitted	0.95	1.00	0.40	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	738	1863	1779	1779
Volume (vph)	78	142	522	546	242	124
Peak-hour factor, PHF	0.88	0.91	0.91	0.96	0.80	0.82
Adj. Flow (vph)	89	156	574	569	302	151
RTOR Reduction (vph)	0	110	0	0	10	0
Lane Group Flow (vph)	89	46	574	569	443	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8 6					
Actuated Green, G (s)	9.8	35.7	102.2	102.2	72.3	
Effective Green, g (s)	9.8	35.7	102.2	102.2	72.3	
Actuated g/C Ratio	0.08	0.30	0.85	0.85	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	145	524	851	1587	1072	
v/s Ratio Prot	c0.05	0.02	c0.15	0.31	0.25	
v/s Ratio Perm	0.01	0.01	c0.43			
v/c Ratio	0.61	0.09	0.67	0.36	0.41	
Uniform Delay, d1	53.3	30.4	4.7	1.9	12.6	
Progression Factor	0.81	2.73	1.00	1.00	0.77	
Incremental Delay, d2	7.4	0.1	2.1	0.6	1.1	
Delay (s)	50.3	83.1	6.9	2.5	10.8	
Level of Service	D	F	A	A	B	
Approach Delay (s)	71.2		4.7	10.8		
Approach LOS	E		A	B		
Intersection Summary						
HCM Average Control Delay	15.1			HCM Level of Service		
HCM Volume to Capacity ratio	0.66			B		
Actuated Cycle Length (s)	120.0			Sum of lost time (s)		
Intersection Capacity Utilization	63.5%			ICU Level of Service		
Analysis Period (min)	15			B		
Critical Lane Group						



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	←	←	←	←	←
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1833	0	1770	1863
Flt Permitted	0.950				0.192	
Satd. Flow (perm)	1770	1583	1833	0	358	1863
Satd. Flow (RTOR)		365	8			
Volume (vph)	97	307	548	74	128	229
Lane Group Flow (vph)	124	365	676	0	164	276
Turn Type	Perm	Perm	Perm	pm+pt		
Protected Phases	4	6	6	5	2	
Permitted Phases					2	
Total Split (s)	34.0	34.0	66.0	0.0	20.0	86.0
Act Effct Green (s)	13.3	13.3	86.9	98.7	98.7	
Actuated g/C Ratio	0.11	0.11	0.72	0.82	0.82	0.82
v/c Ratio	0.63	0.73	0.51	0.42	0.18	
Control Delay	64.6	14.0	7.9	5.9	2.8	
Queue Delay	0.0	0.0	0.2	0.0	0.0	
Total Delay	64.6	14.0	8.1	5.9	2.8	
LOS	E	B	A	A	A	
Approach Delay	26.8	8.1		4.0		
Approach LOS	C	A		A		
Queue Length 50th (ft)	94	0	158	19	34	
Queue Length 95th (ft)	128	60	274	37	64	
Internal Link Dist (ft)	1158		571		420	
Turn Bay Length (ft)	125			90		
Base Capacity (vph)	443	670	1329	482	1532	
Starvation Cap Reductn	0	0	180	0	0	
Spillover Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.54	0.59	0.34	0.18	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 91 (76%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 12.7	Intersection LOS: B
Intersection Capacity Utilization 59.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Conley Rd & US41/US19



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.98	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583	1833	1770	1863	
Flt Permitted	0.95	1.00	1.00	0.32	1.00	
Satd. Flow (perm)	1770	1583	1833	593	1863	
Volume (vph)	97	307	548	74	128	229
Peak-hour factor, PHF	0.78	0.84	0.92	0.92	0.78	0.83
Adj. Flow (vph)	124	365	596	80	164	276
RTOR Reduction (vph)	0	325	2	0	0	0
Lane Group Flow (vph)	124	40	674	0	164	276
Turn Type	Perm	Perm	Perm	pm+pt		
Protected Phases	4	6	6	5	2	
Permitted Phases					2	
Actuated Green, G (s)	13.3	13.3	86.9	98.7	98.7	
Effective Green, g (s)	13.3	13.3	86.9	98.7	98.7	
Actuated g/C Ratio	0.11	0.11	0.72	0.82	0.82	0.82
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	196	175	1327	564	1532	
v/s Ratio Prot	c0.07		c0.37	c0.02	0.15	
v/s Ratio Perm		0.03		0.22		
v/c Ratio	0.63	0.23	0.51	0.29	0.18	
Uniform Delay, d1	51.0	48.7	7.2	4.2	2.2	
Progression Factor	1.00	1.00	0.80	1.00	1.00	
Incremental Delay, d2	6.5	0.7	1.3	0.3	0.3	
Delay (s)	57.5	49.4	7.1	4.5	2.5	
Level of Service	E	D	A	A	A	
Approach Delay (s)	51.4		7.1		3.2	
Approach LOS	D		A		A	

Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Base AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1848	0	0	1833	0	0	1863	0	0	1726	0
Flt Permitted		0.992									0.967	
Satd. Flow (perm)	0	1848	0	0	1833	0	0	1863	0	0	1726	0
Volume (vph)	22	170	0	0	404	57	0	0	0	18	0	6
Lane Group Flow (vph)	0	222	0	0	522	0	0	0	0	0	32	0
Sign Control	Free	Free		Free	Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized
Intersection Capacity Utilization 37.4%
Analysis Period (min) 15

ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

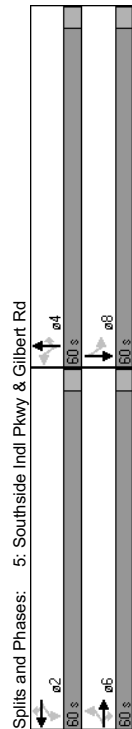
Base AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free		Free	Free			Stop			Stop	
Grade		0%			0%						0%	
Volume (veh/h)	22	170	0	0	404	57	0	0	0	18	0	6
Peak Hour Factor	0.62	0.91	0.92	0.88	0.91	0.92	0.92	0.92	0.92	0.80	0.92	0.62
Hourly flow rate (vph)	35	187	0	0	459	63	0	0	0	22	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				None
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	522			187			758	780	187	748	748	490
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCu, unblocked vol	522			187			758	780	187	748	748	490
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	93	100	98
cM capacity (veh/h)	1045			1388			310	316	855	320	329	578
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	222	522	0	32								
Volume Left	35	0	0	22								
Volume Right	0	63	0	10								
cSH	1045	1388	1700	370								
Volume to Capacity	0.03	0.00	0.00	0.09								
Queue Length 95th (ft)	3	0	0	7								
Control Delay (s)	1.6	0.0	0.0	15.7								
Lane LOS	A	A	A	C								
Approach Delay (s)	1.6	0.0	0.0	15.7								
Approach LOS	A	A	A	C								
Intersection Summary												
Average Delay				1.1								
Intersection Capacity Utilization			37.4%							A		
Analysis Period (min)			15									

Lanes, Volumes, Timings
5: Southside Indl Pkwy & Gilbert Rd

Base AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1757	0
Flt Permitted	0.633			0.691			0.733			0.730		
Satd. Flow (perm)	1179	1863	1583	1287	1863	1583	1365	1863	1583	1360	1757	0
Satd. Flow (RTOR)			31			40			36		14	
Volume (vph)	11	85	23	36	141	33	29	35	26	16	16	8
Lane Group Flow (vph)	18	102	31	49	157	40	36	41	36	18	37	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	2	2	4	4	4	4	8	
Permitted Phases	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	0.0
Act Effct Green (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	0.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.03	0.12	0.04	0.08	0.18	0.05	0.06	0.05	0.05	0.03	0.04	
Control Delay	17.7	18.6	6.0	18.3	19.3	5.5	16.6	16.3	4.8	17.6	12.5	
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	17.7	18.6	6.0	18.3	19.3	5.5	16.6	16.3	4.8	17.6	12.5	
LOS	B	B	A	B	B	A	B	B	A	B	B	
Approach Delay	15.9			16.9			12.7			14.2		
Approach LOS	B			B			B			B		
Queue Length 50th (ft)	7	44	0	21	69	0	15	17	2	7	9	
Queue Length 95th (ft)	15	71	12	35	113	17	m29	m34	11	20	21	
Internal Link Dist (ft)	177			439			822			439		
Turn Bay Length (ft)				245		50			50	150		
Base Capacity (vph)	550	869	755	601	869	760	637	869	758	635	827	
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	0.03	0.12	0.04	0.08	0.18	0.05	0.06	0.05	0.05	0.03	0.04	



Baseline
A & R Engineering Inc.

Synchro 6 Report
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HCM Signalized Intersection Capacity Analysis
5: Southside Indl Pkwy & Gilbert Rd

Base AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1757	
Flt Permitted	0.63	1.00	1.00	0.69	1.00	1.00	0.73	1.00	1.00	0.73	1.00	
Satd. Flow (perm)	1178	1863	1583	1287	1863	1583	1365	1863	1583	1360	1757	
Volume (vph)	11	85	23	36	141	33	29	35	26	16	16	8
Peak-hour factor, PHF	0.62	0.83	0.75	0.73	0.90	0.83	0.81	0.86	0.72	0.88	0.70	0.58
Adj. Flow (vph)	18	102	31	49	157	40	36	41	36	18	23	14
RTOR Reduction (vph)	0	0	17	0	0	21	0	0	19	0	7	0
Lane Group Flow (vph)	18	102	14	49	157	19	36	41	17	18	30	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	2	2	4	4	4	4	8	
Permitted Phases	6	6	2	2	2	2	4	4	4	4	8	
Actuated Green, G (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Effective Green, g (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	550	869	739	601	869	739	637	869	739	635	820	
v/s Ratio Prot	0.02	0.05		0.01	0.04		c0.08		0.01	c0.03	0.01	0.01
v/s Ratio Perm	0.03	0.12	0.02	0.08	0.18	0.03	0.06	0.05	0.02	0.03	0.04	
Uniform Delay, d1	17.3	18.1	17.2	17.7	18.6	17.3	17.5	17.5	17.2	17.3	17.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.85	1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.3	0.5	0.1	0.2	0.1	0.1	0.1	0.1	
Delay (s)	17.4	18.3	17.3	18.0	19.1	17.3	16.3	16.1	14.8	17.4	17.4	
Level of Service	B	B	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	18.0			18.6			15.7			17.4		
Approach LOS	B			B			B			B		

Intersection Summary		
HCM Average Control Delay	17.7	HCM Level of Service B
HCM Volume to Capacity ratio	0.12	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	24.1%	ICU Level of Service A
Analysis Period (min)	15	
c Critical Lane Group		

Baseline
A & R Engineering Inc.

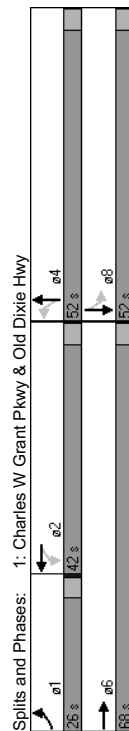
Synchro 6 Report
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Base 2010 PM Intersection Analysis

Lanes, Volumes, Timings
1: Charles W Grant Pkwy & Old Dixie Hwy

Base PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3433	0	1770	1803	0	1770	1779	0	1770	1807	0
Fit Permitted	0.950	0.425		0.513			0.707					
Satd. Flow (perm)	1770	3433	0	792	1803	0	956	1779	0	1317	1807	0
Satd. Flow (RTOR)	39	433	108	16	181	43	37	30	16	214	120	39
Volume (vph)	27	433	108	16	181	43	37	30	16	214	120	39
Lane Group Flow (vph)	36	601	0	23	250	0	58	77	0	233	246	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	8	8
Permitted Phases	26.0	68.0	0.0	42.0	42.0	0.0	52.0	52.0	0.0	52.0	52.0	0.0
Act Effct Green (s)	7.7	64.0		56.2	56.2		48.0	48.0		48.0	48.0	
Actuated g/C Ratio	0.06	0.53		0.47	0.47		0.40	0.40		0.40	0.40	
v/c Ratio	0.32	0.33		0.06	0.29		0.15	0.11		0.44	0.34	
Control Delay	60.1	15.3		24.0	22.7		24.4	17.2		29.6	25.3	
Queue Delay	0.0	0.0		0.0	1.9		0.0	0.1		1.8	0.0	
Total Delay	60.1	15.3		24.0	24.6		24.4	17.3		31.3	25.3	
LOS	E	B		C	C		C	B		C	C	
Approach Delay	17.8			24.5			20.3			28.2		
Approach LOS	B			C			C			C		
Queue Length 50th (ft)	27	123		10	104		28	27		130	124	
Queue Length 95th (ft)	51	162		m21	162		41	31		205	118	
Internal Link Dist (ft)	370			98			362			444		
Turn Bay Length (ft)	120			160			160			150		
Base Capacity (vph)	325	1849		371	851		382	724		527	730	
Starvation Cap Reductn	0	0		0	446		0	0		0	0	
Spillback Cap Reductn	0	78		0	0		0	221		162	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.34		0.06	0.62		0.15	0.15		0.64	0.34	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 59 (49%), Referenced to phase 2:WBTL and 6:EBT, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.44												
Intersection Signal Delay: 22.5												
Intersection Capacity Utilization 47.3%												
ICU Level of Service A												
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												



HCM Signalized Intersection Capacity Analysis
1: Charles W Grant Pkwy & Old Dixie Hwy

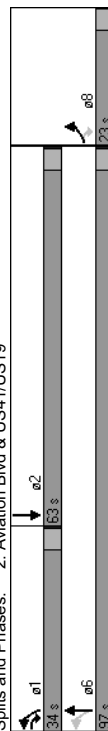
Base PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3433		1770	1804		1770	1779		1770	1807	
Fit Permitted	0.95	1.00		0.42	1.00		0.51	1.00		0.71	1.00	
Satd. Flow (perm)	1770	3433		791	1804		955	1779		1317	1807	
Volume (vph)	27	433	108	16	181	43	37	30	16	214	120	39
Peak-hour factor, PHF	0.75	0.90	0.90	0.70	0.92	0.81	0.64	0.56	0.70	0.92	0.61	0.80
Adj. Flow (vph)	36	481	120	23	197	53	58	54	23	233	197	49
RTOR Reduction (vph)	0	18	0	0	7	0	0	13	0	0	7	0
Lane Group Flow (vph)	36	583	0	23	243	0	58	64	0	233	239	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	8	8
Permitted Phases	5.4	64.0		54.6	54.6		48.0	48.0		48.0	48.0	
Actuated Green, G (s)	5.4	64.0		54.6	54.6		48.0	48.0		48.0	48.0	
Effective Green, g (s)	0.05	0.53		0.46	0.46		0.40	0.40		0.40	0.40	
Actuated g/C Ratio	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	1831		360	821		382	712		527	723	
v/s Ratio Prot	c0.02	c0.17		0.13			0.06			c0.18		
v/s Ratio Perm	0.45	0.32		0.06	0.30		0.15	0.09		0.44	0.33	
Uniform Delay, d1	55.9	15.7		18.4	20.6		23.0	22.4		26.2	24.9	
Progression Factor	1.00	1.00		1.15	1.07		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	0.5		0.3	0.9		0.8	0.3		2.7	1.2	
Delay (s)	59.8	16.2		21.4	23.0		23.8	22.7		28.9	26.1	
Level of Service	E	B		C	C		C	C		C	C	
Approach Delay (s)	18.7			22.9			23.2			27.5		
Approach LOS	B			C			C			C		
Intersection Summary												
HCM Average Control Delay				22.6			HCM Level of Service			C		
HCM Volume to Capacity ratio				0.37								
Actuated Cycle Length (s)				120.0			Sum of lost time (s)			8.0		
Intersection Capacity Utilization				47.3%			ICU Level of Service			A		
Analysis Period (min)				15								
c Critical Lane Group												



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1833	0
Flt Permitted	0.950		0.185			
Satd. Flow (perm)	1770	1583	345	1863	1833	0
Satd. Flow (RTOR)	234				8	
Volume (vph)	148	526	156	320	539	62
Lane Group Flow (vph)	168	542	173	395	656	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8	6				
Total Split (s)	23.0	34.0	97.0	63.0	0.0	
Act Effct Green (s)	17.0	35.3	95.0	95.0	76.7	
Actuated g/C Ratio	0.14	0.29	0.79	0.79	0.64	
v/c Ratio	0.67	0.86	0.39	0.27	0.56	
Control Delay	51.6	33.0	6.1	4.3	16.7	
Queue Delay	69.6	0.8	0.0	0.0	0.4	
Total Delay	121.2	33.8	6.1	4.3	17.1	
LOS	F	C	A	A	B	
Approach Delay	54.5		4.9	17.1		
Approach LOS	D		A	B		
Queue Length 50th (ft)	101	274	25	64	209	
Queue Length 95th (ft)	126	385	58	115	528	
Internal Link Dist (ft)	98		384	571		
Turn Bay Length (ft)		90				
Base Capacity (vph)	297	808	629	1493	1175	
Starvation Cap Reductn	145	85	0	0	164	
Spillback Cap Reductn	0	0	30	0	159	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.11	0.75	0.29	0.26	0.65	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 94 (78%), Referenced to phase 2:SBT and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.86						
Intersection Signal Delay: 27.2						
Intersection Capacity Utilization 71.4%						
ICU Level of Service C						
Analysis Period (min) 15						

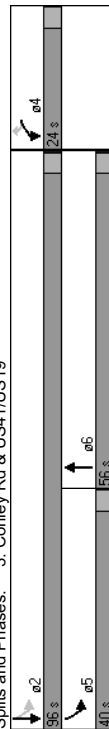
Splits and Phases: 2: Aviation Blvd & US41/US19



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1834	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1770	1583	536	1863	1834	
Volume (vph)	148	526	156	320	539	62
Peak-hour factor, PHF	0.88	0.97	0.90	0.81	0.93	0.82
Adj. Flow (vph)	168	542	173	395	580	76
RTOR Reduction (vph)	0	173	0	0	3	0
Lane Group Flow (vph)	168	369	173	395	653	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8	6				
Actuated Green, G (s)	17.0	31.3	95.0	95.0	76.7	
Effective Green, g (s)	17.0	31.3	95.0	95.0	76.7	
Actuated g/C Ratio	0.14	0.26	0.79	0.79	0.64	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	251	466	571	1475	1172	
v/s Ratio Prot	0.09	c0.09	0.04	0.21	c0.36	
v/s Ratio Perm		0.14	0.20			
v/c Ratio	0.67	0.79	0.30	0.27	0.56	
Uniform Delay, d1	48.8	41.3	6.2	3.3	12.1	
Progression Factor	0.81	0.92	1.00	1.00	1.01	
Incremental Delay, d2	6.3	8.5	0.3	0.4	1.8	
Delay (s)	46.0	46.6	6.5	3.8	14.1	
Level of Service	D	D	A	A	B	
Approach Delay (s)	46.4		4.6	14.1		
Approach LOS	D		A	B		
Intersection Summary						
HCM Average Control Delay	23.2					
HCM Level of Service	C					
HCM Volume to Capacity ratio	0.63					
Actuated Cycle Length (s)	120.0					
Sum of lost time (s)	8.0					
Intersection Capacity Utilization	71.4%					
ICU Level of Service	C					
Analysis Period (min)	15					
c Critical Lane Group						

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1801	0	1770	1863
Flt Permitted	0.950				0.222	
Satd. Flow (perm)	1770	1583	1801	0	414	1863
Satd. Flow (RTOR)	206	17				
Volume (vph)	76	167	346	120	379	564
Lane Group Flow (vph)	94	206	540	0	431	600
Turn Type	Perm				pm+pt	
Protected Phases	4	6	6	5	2	
Permitted Phases	24.0	24.0	56.0	0.0	40.0	96.0
Total Split (s)	11.5	11.5	81.4	100.5	100.5	
Act Effct Green (s)	0.10	0.10	0.68	0.84	0.84	
Actuated g/C Ratio	0.56	0.61	0.44	0.83	0.38	
Control Delay	63.5	14.7	7.9	22.4	3.4	
Queue Delay	0.2	0.0	0.2	0.0	0.0	
Total Delay	63.7	14.7	8.2	22.4	3.4	
LOS	E	B	A	C	A	
Approach Delay	30.0	8.2		11.3		
Approach LOS	C	A		B		
Queue Length 50th (ft)	71	0	95	67	83	
Queue Length 95th (ft)	109	46	250	189	153	
Internal Link Dist (ft)	1158		571		420	
Turn Bay Length (ft)	125			90		
Base Capacity (vph)	295	436	1228	754	1561	
Starvation Cap Reductn	0	0	208	0	0	
Spillback Cap Reductn	25	0	0	0	3	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.35	0.47	0.53	0.57	0.39	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 56 (47%), Referenced to phase 2:SBTL and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.83						
Intersection Signal Delay: 13.4						
Intersection Capacity Utilization 60.7%						
Analysis Period (min) 15						

Splits and Phases: 3: Conley Rd & US41/US19



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.97	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583	1801	1770	1863	1863
Flt Permitted	0.95	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	1770	1583	1801	695	1863	1863
Volume (vph)	76	167	346	120	379	564
Peak-hour factor, PHF	0.81	0.81	0.85	0.90	0.88	0.94
Adj. Flow (vph)	94	206	407	133	431	600
RTOR Reduction (vph)	0	186	5	0	0	0
Lane Group Flow (vph)	94	20	535	0	431	600
Turn Type	pm+pt					
Protected Phases	4		6		5	2
Permitted Phases	2					
Actuated Green, G (s)	11.5	11.5	81.4	100.5 100.5		
Effective Green, g (s)	11.5	11.5	81.4	100.5 100.5		
Actuated g/C Ratio	0.10	0.10	0.68	0.84 0.84		
Clearance Time (s)	4.0	4.0	4.0	4.0 4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0 3.0		
Lane Grp Cap (vph)	170	152	1222	717	1560	
v/s Ratio Prot	c0.05		0.30	c0.08		0.32
v/s Ratio Perm	0.01			c0.43		
w/c Ratio	0.55		0.13	0.44		0.60
Uniform Delay, d1	51.8		49.7	8.8		4.4
Progression Factor	1.00		1.00	0.65		1.00
Incremental Delay, d2	3.9		0.4	1.1		1.4
Delay (s)	55.7		50.1	6.8		5.8
Level of Service	E		D	A		A
Approach Delay (s)	51.8		6.8			4.2
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay	12.6			HCM Level of Service		
HCM Volume to Capacity ratio	0.59			B		
Actuated Cycle Length (s)	120.0			Sum of lost time (s)		
Intersection Capacity Utilization	60.7%			B		
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Base PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1861	0	0	1827	0	0	1863	0	0	1740	0
Flt Permitted	0	0.999	0	0	0.999	0	0	0.999	0	0	0.999	0
Satd. Flow (perm)	0	1861	0	0	1827	0	0	1863	0	0	1740	0
Volume (vph)	8	446	0	0	193	25	0	0	0	94	0	21
Lane Group Flow (vph)	0	515	0	0	250	0	0	0	0	0	143	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 43.0%												
Analysis Period (min) 15												

Baseline
A & R Engineering Inc.

Synchro 6 Report
Page 7

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

Base PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume (veh/h)	8	446	0	0	193	25	0	0	0	94	0	21
Peak Hour Factor	0.58	0.89	0.92	0.92	0.90	0.69	0.92	0.92	0.92	0.84	0.92	0.68
Hourly flow rate (vph)	14	501	0	0	214	36	0	0	0	112	0	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	251			501			792	779	501	761	761	233
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCu, unblocked vol	251			501			792	779	501	761	761	233
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	65	100	96
cM capacity (veh/h)	1315			1063			293	324	570	319	331	807
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	515	251	0	143								
Volume Left	14	0	0	112								
Volume Right	0	36	0	31								
cSH	1315	1063	1700	367								
Volume to Capacity	0.01	0.00	0.00	0.39								
Queue Length 95th (ft)	1	0	0	45								
Control Delay (s)	0.3	0.0	0.0	20.9								
Lane LOS	A	A	A	C								
Approach Delay (s)	0.3	0.0	0.0	20.9								
Approach LOS	A	A	A	C								
Intersection Summary												
Average Delay				3.5								
Intersection Capacity Utilization			43.0%							A		
Analysis Period (min)			15									

Baseline
A & R Engineering Inc.

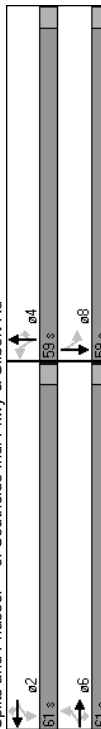
Synchro 6 Report
Page 8

Lanes, Volumes, Timings
5: Southside Indl Pkwy & Gilbert Rd

Base PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1799	0
Flt Permitted	0.708			0.608			0.719			0.740		
Satd. Flow (perm)	1319	1863	1583	1133	1863	1583	1339	1863	1583	1378	1799	0
Satd. Flow (RTOR)			80			27				73		13
Volume (vph)	10	167	52	18	65	21	22	18	45	22	37	11
Lane Group Flow (vph)	13	182	80	22	76	27	31	27	73	27	58	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	6	6	2	2	2	2	4	4	4	4	8	
Permitted Phases	61.0	61.0	61.0	61.0	61.0	61.0	59.0	59.0	59.0	59.0	59.0	0.0
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	55.0	55.0	55.0	55.0	55.0	0.0
Act Effct Green (s)	0.48	0.48	0.48	0.48	0.48	0.48	0.46	0.46	0.46	0.46	0.46	0.46
Actuated g/C Ratio	0.02	0.21	0.10	0.04	0.09	0.04	0.05	0.03	0.10	0.04	0.07	
Control Delay	16.9	19.1	4.1	17.3	17.7	6.0	17.9	17.5	4.2	18.3	14.9	
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	16.9	19.1	4.1	17.3	17.7	6.0	17.9	17.5	4.2	18.3	14.9	
LOS	B	A	A	B	B	A	B	B	A	B	B	
Approach Delay	14.6			15.1			10.2			16.0		
Approach LOS	B			B			B			B		
Queue Length 50th (ft)	5	80	0	9	31	0	13	11	1	11	19	
Queue Length 95th (ft)	14	127	10	21	56	13	m23	m20	m7	26	39	
Internal Link Dist (ft)	177			506			822			439		
Turn Bay Length (ft)				245			50			150		
Base Capacity (vph)	627	885	794	538	885	766	614	854	765	632	832	
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	0.02	0.21	0.10	0.04	0.09	0.04	0.05	0.03	0.10	0.04	0.07	

Splits and Phases: 5: Southside Indl Pkwy & Gilbert Rd



Baseline
A & R Engineering Inc.

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HCM Signalized Intersection Capacity Analysis
5: Southside Indl Pkwy & Gilbert Rd

Base PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
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	1863	1583	1770	1800	
Flt Permitted	0.71	1.00	1.00	0.61	1.00	1.00	0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1318	1863	1583	1132	1863	1583	1340	1863	1583	1378	1800	
Volume (vph)	10	167	52	18	65	21	22	18	45	22	37	11
Peak-hour factor, PHF	0.75	0.92	0.65	0.80	0.85	0.79	0.71	0.67	0.62	0.83	0.82	0.83
Adj. Flow (vph)	13	182	80	22	76	27	31	27	73	27	45	13
RTOR Reduction (vph)	0	0	42	0	0	14	0	0	40	0	7	0
Lane Group Flow (vph)	13	182	38	22	76	13	31	27	33	27	51	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	6	6	2	2	2	2	4	4	4	4	8	
Permitted Phases	61.0	61.0	61.0	61.0	61.0	61.0	59.0	59.0	59.0	59.0	59.0	0.0
Actuated Green, G (s)	57.0	57.0	57.0	57.0	57.0	57.0	55.0	55.0	55.0	55.0	55.0	0.0
Effective Green, g (s)	0.48	0.48	0.48	0.48	0.48	0.48	0.46	0.46	0.46	0.46	0.46	0.46
Actuated g/C Ratio	0.02	0.21	0.10	0.04	0.09	0.04	0.05	0.03	0.10	0.04	0.07	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	626	885	752	538	885	752	614	854	726	632	825	
v/s Ratio Prot	c0.10			0.04			0.01			c0.03		
v/s Ratio Perm	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	
v/c Ratio	0.02	0.21	0.05	0.04	0.09	0.02	0.05	0.03	0.05	0.04	0.06	
Uniform Delay, d1	16.7	18.3	16.9	16.9	17.2	16.7	18.0	17.9	18.0	18.0	18.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.94	1.00	1.00	
Incremental Delay, d2	0.1	0.5	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	
Delay (s)	16.8	18.9	17.1	17.0	17.4	16.7	17.6	17.3	17.0	18.1	18.3	
Level of Service	B	B	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	18.2			17.2			17.2			18.2		
Approach LOS	B			B			B			B		

Intersection Summary

HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Baseline
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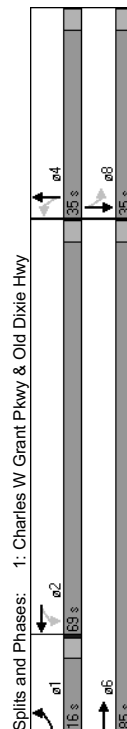
Future AM Intersection Analysis

Future 2010 AM

Lanes, Volumes, Timings
1: Charles W Grant Pkwy & Old Dixie Hwy

Future AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3415	0	1770	1786	0	1770	1796	0	1770	1729	0
Flt Permitted	0.950	0.548					0.693			0.487		
Satd. Flow (perm)	1770	3415	0	1021	1786	0	1291	1796	0	907	1729	0
Satd. Flow (RTOR)	75			24			13				38	
Volume (vph)	21	238	49	18	475	159	133	129	32	45	39	25
Lane Group Flow (vph)	36	339	0	32	692	0	166	200	0	63	85	0
Turn Type	Prot	Perm		Perm			Perm		Perm		Perm	
Protected Phases	1	6		2			4				8	
Permitted Phases												
Total Split (s)	16.0	85.0	0.0	69.0	69.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Act Effct Green (s)	7.8	81.0		73.2	73.2		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.06	0.68		0.61	0.61		0.26	0.26		0.26	0.26	
v/c Ratio	0.31	0.15		0.05	0.63		0.50	0.42		0.27	0.18	
Control Delay	59.9	5.5		7.7	11.1		44.0	37.8		39.3	21.5	
Queue Delay	0.0	0.0		0.7	4.5		0.0	2.4		1.7	0.0	
Total Delay	59.9	5.6		8.4	15.7		44.0	40.2		41.0	21.5	
LOS	E	A		A	B		D	D		D	C	
Approach Delay	10.8			15.3			41.9			29.8		
Approach LOS	B			B			D			C		
Queue Length 50th (ft)	27	34		4	34.5		110	121		39	28	
Queue Length 95th (ft)	39	51		m7	m143		158	180		62	68	
Internal Link Dist (ft)	370			98			362			444		
Turn Bay Length (ft)	120						160			150		
Base Capacity (vph)	177	2330		622	1098		334	474		234	475	
Starvation Cap Reductn	0	0		458	325		0	0		0	0	
Spillback Cap Reductn	0	419		0	0		0	167		83	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.18		0.20	0.90		0.50	0.65		0.42	0.18	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 63 (63%), Referenced to phase 2:WBTL and 6:EBT, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.63												
Intersection Signal Delay: 21.6												
Intersection Capacity Utilization 56.7%												
ICU Level of Service B												
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												



HCM Signalized Intersection Capacity Analysis
1: Charles W Grant Pkwy & Old Dixie Hwy

Future AM
3/21/2007

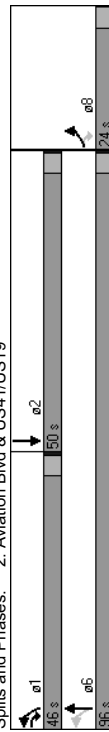
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3415	0	1770	1786	0	1770	1796	0	1770	1729	0
Flt Permitted	0.950	0.548					0.693			0.487		
Satd. Flow (perm)	1770	3415	0	1021	1786	0	1291	1796	0	907	1729	0
Satd. Flow (RTOR)	75			24			13				38	
Volume (vph)	21	238	49	18	475	159	133	129	32	45	39	25
Lane Group Flow (vph)	36	339	0	32	692	0	166	200	0	63	85	0
Turn Type	Prot	Perm		Perm			Perm		Perm		Perm	
Protected Phases	1	6		2			4				8	
Permitted Phases												
Actuated Green, G (s)	5.4	81.0		71.6	71.6		31.0	31.0		31.0	31.0	
Effective Green, g (s)	5.4	81.0		71.6	71.6		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.05	0.68		0.60	0.60		0.26	0.26		0.26	0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	2304		609	1066		333	464		234	446	
v/s Ratio Prot	c0.02	0.09		0.03	c0.38		c0.13			0.07	0.03	
v/s Ratio Perm	0.45	0.14		0.05	0.64		0.50	0.41		0.27	0.13	
Uniform Delay, d1	55.9	7.0		10.1	15.8		37.9	36.9		35.5	34.1	
Progression Factor	1.00	1.00		0.66	0.57		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	0.1		0.1	1.6		5.3	2.7		2.8	0.6	
Delay (s)	59.8	7.1		6.7	10.6		43.1	39.6		38.3	34.7	
Level of Service	E	A		A	B		D	D		D	C	
Approach Delay (s)	12.2			10.4			41.2			36.2		
Approach LOS	B			B			D			D		
Intersection Summary												
HCM Average Control Delay	20.2											
HCM Volume to Capacity ratio	0.59											
Actuated Cycle Length (s)	120.0											
Intersection Capacity Utilization	56.7%											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
2: Aviation Blvd & US41/US19

Future AM
3/21/2007

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1773	0
Flt Permitted	0.950		0.204			
Satd. Flow (perm)	1770	1583	380	1863	1773	0
Satd. Flow (RTOR)	156				26	
Volume (vph)	172	142	522	632	261	145
Lane Group Flow (vph)	195	156	574	658	503	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8 6					
Total Split (s)	24.0	46.0	46.0	96.0	50.0	0.0
Act Effct Green (s)	17.9	50.7	94.1	94.1	61.3	
Actuated g/C Ratio	0.15	0.42	0.78	0.78	0.51	
v/c Ratio	0.74	0.21	0.91	0.45	0.55	
Control Delay	59.4	2.9	37.3	6.0	16.4	
Queue Delay	173.7	0.8	0.6	0.0	0.4	
Total Delay	233.1	3.7	37.9	6.0	16.7	
LOS	F	A	D	A	B	
Approach Delay	131.2 20.9 16.7					
Approach LOS	F C B					
Queue Length 50th (ft)	156	18	251	145	133	
Queue Length 95th (ft)	175	35	391	253	224	
Internal Link Dist (ft)	98		384	571		
Turn Bay Length (ft)	90					
Base Capacity (vph)	307	916	784	1472	930	
Starvation Cap Reductn	164	532	0	0	112	
Spillback Cap Reductn	0	0	45	0	44	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.36	0.41	0.78	0.45	0.61	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 109 (91%), Referenced to phase 2: SBT and 6: NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.91						
Intersection Signal Delay: 38.4						
Intersection Capacity Utilization 71.0%						
Analysis Period (min) 15						

Splits and Phases: 2: Aviation Blvd & US41/US19



Baseline
A & R Engineering Inc.

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HCM Signalized Intersection Capacity Analysis
2: Aviation Blvd & US41/US19

Future AM
3/21/2007

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)	1770	1583	1770	1863	1774	
Flt Permitted	0.95	1.00	0.31	1.00	1.00	
Satd. Flow (perm)	1770	1583	582	1863	1774	
Volume (vph)	172	142	522	632	261	145
Peak-hour factor, PHF	0.88	0.91	0.91	0.96	0.80	0.82
Adj. Flow (vph)	195	156	574	658	326	177
RTOR Reduction (vph)	0	95	0	0	13	0
Lane Group Flow (vph)	195	61	574	658	490	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8 6					
Actuated Green, G (s)	17.9	46.6	94.1	94.1	61.4	
Effective Green, g (s)	17.9	46.6	94.1	94.1	61.4	
Actuated g/C Ratio	0.15	0.39	0.78	0.78	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	264	667	741	1461	908	
v/s Ratio Prot	c0.11	0.02	c0.19	0.35	0.28	
v/s Ratio Perm		0.02	c0.42			
v/c Ratio	0.74	0.09	0.77	0.45	0.54	
Uniform Delay, d1	48.8	23.3	10.2	4.3	19.8	
Progression Factor	0.89	1.15	1.00	1.00	0.61	
Incremental Delay, d2	10.2	0.1	5.1	1.0	2.2	
Delay (s)	53.7	26.7	15.2	5.3	14.3	
Level of Service	D	C	B	A	B	
Approach Delay (s)	41.7			9.9	14.3	
Approach LOS	D			A	B	
Intersection Summary						
HCM Average Control Delay	16.3					
HCM Volume to Capacity ratio	0.76					
Actuated Cycle Length (s)	120.0					
Intersection Capacity Utilization	71.0%					
Analysis Period (min)	15					
c Critical Lane Group						

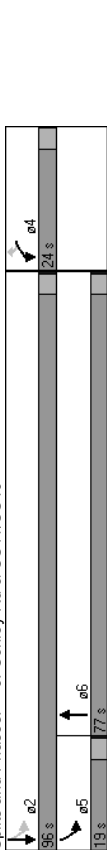
Baseline
A & R Engineering Inc.

Synchro 6 Report
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Lanes, Volumes, Timings
3: Conley Rd & US41/US19

Future AM
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1783	0	1770	1863
Flt Permitted	0.950				0.145	
Satd. Flow (perm)	1770	1583	1783	0	270	1863
Satd. Flow (RTOR)	137	319	548	254	184	229
Volume (vph)	137	319	548	254	184	229
Lane Group Flow (vph)	176	380	872	0	236	276
Turn Type	Perm	Perm	Perm	pm+pt		
Protected Phases	4	6	6	5	2	
Permitted Phases	24.0	24.0	77.0	0.0	19.0	96.0
Total Split (s)	24.0	24.0	77.0	0.0	19.0	96.0
Act Effct Green (s)	16.5	16.5	81.4	0.0	95.5	95.5
Actuated g/C Ratio	0.14	0.14	0.68	0.00	0.80	0.80
v/c Ratio	0.72	0.70	0.71	0.69	0.89	0.19
Control Delay	66.2	11.9	11.8	17.6	3.6	3.6
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	66.2	11.9	12.0	17.6	3.6	3.6
LOS	E	B	B	B	A	A
Approach Delay	29.1	12.0	10.1			
Approach LOS	C	B	B			
Queue Length 50th (ft)	132	0	229	36	42	
Queue Length 95th (ft)	174	60	473	67	67	
Internal Link Dist (ft)	1158	571		420		
Turn Bay Length (ft)	125			90		
Base Capacity (vph)	296	582	1220	402	1484	
Starvation Cap Reductn	0	0	53	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.59	0.65	0.75	0.59	0.19	



HCM Signalized Intersection Capacity Analysis
3: Conley Rd & US41/US19

Future AM
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583	1783	1770	1863	
Flt Permitted	0.95	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	1770	1583	1783	364	1863	
Volume (vph)	137	319	548	254	184	229
Peak-hour factor, PHF	0.78	0.84	0.92	0.92	0.78	0.83
Adj. Flow (vph)	176	380	596	276	236	276
RTOR Reduction (vph)	0	328	11	0	0	0
Lane Group Flow (vph)	176	52	861	0	236	276
Turn Type	Perm	Perm	Perm	pm+pt		
Protected Phases	4	6	6	5	2	
Permitted Phases	16.5	16.5	81.4	95.5	95.5	95.5
Actuated Green, G (s)	16.5	16.5	81.4	95.5	95.5	95.5
Effective Green, g (s)	0.14	0.14	0.68	0.80	0.80	0.80
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	243	218	1209	408	1483	
Lane Grp Cap (vph)	c0.10	c0.10	c0.48	c0.05	0.15	
v/s Ratio Prot	0.72	0.24	0.71	0.58	0.19	
v/s Ratio Perm	49.6	46.2	12.0	11.6	2.9	
Uniform Delay, d1	1.00	1.00	0.63	1.00	1.00	
Progression Factor	10.2	0.6	3.1	2.0	0.3	
Incremental Delay, d2	59.8	46.7	10.8	13.6	3.2	
Delay (s)	E	D	B	B	A	
Level of Service	D	D	B	B	A	
Approach Delay (s)	50.9	10.8	8.0			
Approach LOS	D	B	A			

Intersection Summary	
HCM Average Control Delay	21.5 HCM Level of Service C
HCM Volume to Capacity ratio	0.70
Actuated Cycle Length (s)	120.0 Sum of lost time (s) 12.0
Intersection Capacity Utilization	72.1% ICU Level of Service C
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Future AM
3/21/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1801	0	0	1827	0	0	1863	0	0	1647	0
Flt Permitted	0	0.967	0	0	0.967	0	0	0.967	0	0	0.967	0
Satd. Flow (perm)	0	1801	0	0	1827	0	0	1863	0	0	1647	0
Volume (vph)	258	170	0	0	404	68	0	0	0	20	0	58
Lane Group Flow (vph)	0	603	0	0	534	0	0	0	0	0	119	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 63.3%												
Analysis Period (min) 15												
ICU Level of Service B												

Baseline
A & R Engineering Inc.

Synchro 6 Report
Page 7

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

Future AM
3/21/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume (veh/h)	258	170	0	0	404	68	0	0	0	20	0	58
Peak Hour Factor	0.62	0.91	0.92	0.92	0.88	0.91	0.92	0.92	0.92	0.80	0.92	0.62
Hourly flow rate (vph)	416	187	0	0	459	75	0	0	0	25	0	94
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				None
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	534			187			1609	1553	187	1516	1516	496
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCu, unblocked vol	534			187			1609	1553	187	1516	1516	496
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	60			100			100	100	100	63	100	84
cM capacity (veh/h)	1034			1388			48	68	855	67	71	573
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	603	534	0	119								
Volume Left	416	0	0	25								
Volume Right	0	75	0	94								
cSH	1034	1388	1700	221								
Volume to Capacity	0.40	0.00	0.00	0.54								
Queue Length 95th (ft)	49	0	0	71								
Control Delay (s)	9.0	0.0	0.0	38.5								
Lane LOS	A	A	A	E								
Approach Delay (s)	9.0	0.0	0.0	38.5								
Approach LOS	A	A	A	E								
Intersection Summary												
Average Delay				7.9								
Intersection Capacity Utilization				63.3%								B
Analysis Period (min)				15								

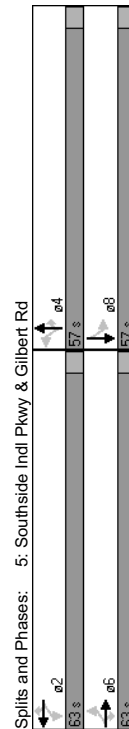
Baseline
A & R Engineering Inc.

Synchro 6 Report
Page 8

Lanes, Volumes, Timings
5: Southside Indl Pkwy & Gilbert Rd

Future AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1771	0
Flt Permitted	0.644			0.697			0.731			0.728		
Satd. Flow (perm)	1200	1863	1583	1298	1863	1583	1362	1863	1583	1356	1771	0
Satd. Flow (RTOR)	161			39			39			55		
Volume (vph)	11	85	98	81	141	33	45	37	36	16	24	8
Lane Group Flow (vph)	19	92	161	142	150	39	56	44	55	23	40	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	4	4	4	4	4	4	8	
Permitted Phases	63.0	63.0	63.0	63.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0	0.0
Total Split (s)	59.0	59.0	59.0	59.0	59.0	59.0	53.0	53.0	53.0	53.0	53.0	0.0
Act Effct Green (s)	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Actuated g/C Ratio	0.03	0.10	0.19	0.22	0.16	0.05	0.09	0.05	0.08	0.04	0.05	0.05
Control Delay	16.1	16.7	3.0	18.6	17.5	5.0	17.2	16.5	3.8	19.4	14.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	16.7	3.0	18.6	17.5	5.0	17.2	16.5	3.8	19.4	14.5	0.0
LOS	B	B	A	B	B	A	B	B	A	B	B	B
Approach Delay	8.6			16.5			12.2			16.3		
Approach LOS	A			B			B			B		
Queue Length 50th (ft)	7	37	0	61	62	0	23	18	2	10	12	
Queue Length 95th (ft)	13	67	3	61	102	17	m37	m31	m8	21	32	
Internal Link Dist (ft)	177			423			822			439		
Turn Bay Length (ft)				245			50			150		
Base Capacity (vph)	590	916	860	638	916	798	602	823	730	599	789	
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	0.03	0.10	0.19	0.22	0.16	0.05	0.09	0.05	0.08	0.04	0.05	



HCM Signalized Intersection Capacity Analysis
5: Southside Indl Pkwy & Gilbert Rd

Future AM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1772	
Flt Permitted	0.64	1.00	1.00	0.70	1.00	1.00	0.73	1.00	1.00	0.73	1.00	
Satd. Flow (perm)	1200	1863	1583	1298	1863	1583	1362	1863	1583	1357	1772	
Volume (vph)	11	85	98	81	141	33	45	37	36	16	24	8
Peak-hour factor, PHF	0.59	0.92	0.61	0.57	0.94	0.85	0.80	0.85	0.66	0.71	0.88	0.61
Adj. Flow (vph)	19	92	161	142	150	39	56	44	55	23	27	13
RTOR Reduction (vph)	0	0	82	0	0	20	0	0	31	0	7	0
Lane Group Flow (vph)	19	92	79	142	150	19	56	44	24	23	33	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	6	6	2	2	4	4	4	4	4	4	8	
Permitted Phases	6	6	2	2	4	4	4	4	4	4	8	
Actuated Green, G (s)	59.0	59.0	59.0	59.0	59.0	59.0	53.0	53.0	53.0	53.0	53.0	0.04
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0	59.0	53.0	53.0	53.0	53.0	53.0	0.04
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	590	916	778	639	916	778	602	823	699	599	783	
v/s Ratio Prot	0.02	0.05	0.05	0.11	0.08	0.08	0.02	0.02	0.02	0.02	0.02	
v/s Ratio Perm	0.03	0.10	0.10	0.22	0.16	0.02	0.09	0.05	0.03	0.04	0.04	
Uniform Delay, d1	15.8	16.3	16.3	17.4	16.9	15.7	19.5	19.2	19.0	19.0	19.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.70	1.00	1.00	
Incremental Delay, d2	0.1	0.2	0.3	0.8	0.4	0.1	0.3	0.1	0.1	0.1	0.1	
Delay (s)	15.9	16.5	16.6	18.2	17.2	15.8	19.8	19.3	19.1	19.2	19.2	
Level of Service	B	B	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	16.5			17.5			15.5			19.2		
Approach LOS	B			B			B			B		

Future 2010 AM Improved

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Future AM Improved
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1801	0	0	1827	0	0	1863	0	0	1770	1583
Flt Permitted		0.967									0.950	
Satd. Flow (perm)	0	1801	0	0	1827	0	0	1863	0	0	1770	1583
Volume (vph)	258	170	0	0	404	68	0	0	0	20	0	58
Lane Group Flow (vph)	0	603	0	0	534	0	0	0	0	0	25	94
Sign Control	Free	Free		Free	Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 62.0%												
Analysis Period (min) 15												
ICU Level of Service B												

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

Future AM Improved
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free		Free	Free			Stop			Stop	
Grade		0%			0%						0%	
Volume (veh/h)	258	170	0	0	404	68	0	0	0	20	0	58
Peak Hour Factor	0.62	0.91	0.92	0.92	0.88	0.91	0.92	0.92	0.92	0.80	0.92	0.62
Hourly flow rate (vph)	416	187	0	0	459	75	0	0	0	25	0	94
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	534			187			1562	1553	187	1516	1516	496
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCu, unblocked vol	534			187			1562	1553	187	1516	1516	496
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	60			100			100	100	100	63	100	84
cM capacity (veh/h)	1034			1388			52	68	855	67	71	573
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	603	534	0	119								
Volume Left	416	0	0	25								
Volume Right	0	75	0	94								
cSH	1034	1388	1700	319								
Volume to Capacity	0.40	0.00	0.00	0.37								
Queue Length 95th (ft)	49	0	0	42								
Control Delay (s)	9.0	0.0	0.0	28.3								
Lane LOS	A	A	A	D								
Approach Delay (s)	9.0	0.0	0.0	28.3								
Approach LOS	A	A	A	D								
Intersection Summary												
Average Delay												
Intersection Capacity Utilization 62.0%												
ICU Level of Service B												
Analysis Period (min) 15												

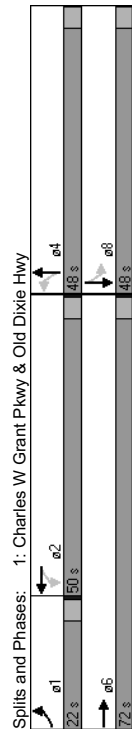
Future PM Intersection Analysis

Future 2010 PM

Lanes, Volumes, Timings
1: Charles W Grant Pkwy & Old Dixie Hwy

Future PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3440	0	1770	1824	0	1770	1779	0	1770	1807	0
Flt Permitted	0.950	0.411		0.496			0.707					
Satd. Flow (perm)	1770	3440	0	766	1824	0	924	1779	0	1317	1807	0
Satd. Flow (RTOR)	39	463	108	16	295	43	37	30	16	214	120	39
Volume (vph)	27	463	108	16	295	43	37	30	16	214	120	39
Lane Group Flow (vph)	36	634	0	23	374	0	58	77	0	233	246	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	8	8
Permitted Phases	22.0	72.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Act Effct Green (s)	7.7	68.0	60.2	60.2	60.2	44.0	44.0	44.0	44.0	44.0	44.0	44.0
Actuated g/C Ratio	0.06	0.57	0.50	0.50	0.50	0.37	0.37	0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.32	0.32	0.06	0.41	0.17	0.12	0.48	0.37	0.48	0.37	0.48	0.37
Control Delay	60.1	13.4	22.3	22.8	27.5	19.4	33.4	28.3	33.4	28.3	42.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3	8.7	0.0	8.7	0.0	0.0
Total Delay	60.1	13.4	22.3	22.8	27.5	19.7	42.2	28.3	42.2	28.3	42.2	28.3
LOS	E	B	C	C	C	C	B	D	C	D	C	C
Approach Delay	15.9	26.6	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Approach LOS	B	B	C	C	C	C	C	C	C	C	C	C
Queue Length 50th (ft)	27	121	9	144	30	29	138	131	138	131	138	131
Queue Length 95th (ft)	51	158	m17	m256	43	34	218	125	218	125	218	125
Internal Link Dist (ft)	370	98	362	160	150	150	444	444	444	444	444	444
Turn Bay Length (ft)	120	384	919	339	665	483	670	670	670	670	670	670
Base Capacity (vph)	266	1966	0	452	0	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	78	0	0	0	0	283	209	0	209	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.34	0.06	0.80	0.17	0.20	0.85	0.37	0.85	0.37	0.85	0.37
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 107 (89%), Referenced to phase 2:WBT and 6:EBT, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 24.5												
Intersection Capacity Utilization 47.6%												
ICU Level of Service A												
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												

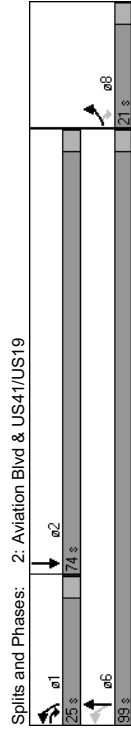


HCM Signalized Intersection Capacity Analysis
1: Charles W Grant Pkwy & Old Dixie Hwy

Future PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	3439	0	1770	1823	0	1770	1779	0	1770	1807	0
Flt Permitted	0.95	1.00	0.41	0.496			0.71					
Satd. Flow (perm)	1770	3439	0	766	1823	0	923	1779	0	1317	1807	0
Satd. Flow (RTOR)	39	463	108	16	295	43	37	30	16	214	120	39
Volume (vph)	27	463	108	16	295	43	37	30	16	214	120	39
Lane Group Flow (vph)	36	617	0	23	370	0	58	64	0	233	238	0
Turn Type	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	2	2	4	4	4	4	4	4	8	8
Permitted Phases	22.0	72.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Act Effct Green (s)	7.7	68.0	60.2	60.2	60.2	44.0	44.0	44.0	44.0	44.0	44.0	44.0
Actuated g/C Ratio	0.06	0.57	0.50	0.50	0.50	0.37	0.37	0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.32	0.32	0.06	0.41	0.17	0.12	0.48	0.37	0.48	0.37	0.48	0.37
Control Delay	60.1	13.4	22.3	22.8	27.5	19.4	33.4	28.3	33.4	28.3	42.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3	8.7	0.0	8.7	0.0	0.0
Total Delay	60.1	13.4	22.3	22.8	27.5	19.7	42.2	28.3	42.2	28.3	42.2	28.3
LOS	E	B	C	C	C	C	B	D	C	D	C	C
Approach Delay	15.9	26.6	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Approach LOS	B	B	C	C	C	C	C	C	C	C	C	C
Queue Length 50th (ft)	27	121	9	144	30	29	138	131	138	131	138	131
Queue Length 95th (ft)	51	158	m17	m256	43	34	218	125	218	125	218	125
Internal Link Dist (ft)	370	98	362	160	150	150	444	444	444	444	444	444
Turn Bay Length (ft)	120	384	919	339	665	483	670	670	670	670	670	670
Base Capacity (vph)	266	1966	0	452	0	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	78	0	0	0	0	283	209	0	209	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.34	0.06	0.80	0.17	0.20	0.85	0.37	0.85	0.37	0.85	0.37
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 107 (89%), Referenced to phase 2:WBT and 6:EBT, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 24.5												
Intersection Capacity Utilization 47.6%												
ICU Level of Service A												
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1803	0
Flt Permitted	0.950		0.103			
Satd. Flow (perm)	1770	1583	192	1863	1803	0
Satd. Flow (RTOR)	232				22	
Volume (vph)	178	526	156	348	644	176
Lane Group Flow (vph)	202	542	173	430	907	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8 6					
Total Split (s)	21.0	25.0	25.0	99.0	74.0	0.0
Act Effct Green (s)	16.8	35.3	95.2	95.2	76.7	
Actuated g/C Ratio	0.14	0.29	0.79	0.79	0.64	
v/c Ratio	0.81	0.86	0.51	0.29	0.78	
Control Delay	66.7	30.9	12.7	4.0	15.7	
Queue Delay	318.0	3.3	0.1	0.0	6.6	
Total Delay	384.7	34.2	12.9	4.0	22.3	
LOS	F	C	B	A	C	
Approach Delay	129.4					
Approach LOS	F					
Queue Length 50th (ft)	108	127	31	89	389	
Queue Length 95th (ft)	#253	398	84	90	m529	
Internal Link Dist (ft)	98					
Turn Bay Length (ft)	90					
Base Capacity (vph)	262	703	428	1490	1161	
Starvation Cap Reductn	143	87	0	0	37	
Spillback Cap Reductn	14	0	22	0	209	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.70	0.88	0.43	0.29	0.95	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 12 (10%), Referenced to phase 2:SBT and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.86						
Intersection Signal Delay: 53.4						
Intersection Capacity Utilization 83.8%						
Analysis Period (min) 15						
# 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.						



HCM Signalized Intersection Capacity Analysis
2: Aviation Blvd & US41/US19

Future PM
3/21/2007

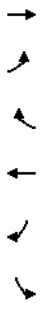
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.97	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	1863	1803	1803
Flt Permitted	0.95	1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	280	1863	1803	1803
Volume (vph)	178	526	156	348	644	176
Peak-hour factor, PHF	0.88	0.97	0.90	0.81	0.93	0.82
Adj. Flow (vph)	202	542	173	430	692	215
RTOR Reduction (vph)	0	172	0	0	8	0
Lane Group Flow (vph)	202	370	173	430	899	0
Turn Type	pm+ov pm+pt					
Protected Phases	8	1	1	6	2	
Permitted Phases	8	6				
Actuated Green, G (s)	16.8	31.2	95.2	95.2	76.8	
Effective Green, g (s)	16.8	31.2	95.2	95.2	76.8	
Actuated g/C Ratio	0.14	0.26	0.79	0.79	0.64	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	248	464	401	1478	1154	
v/s Ratio Prot	0.11	c0.10	0.05	0.23	c0.50	
v/s Ratio Perm	0.14	0.29				
v/c Ratio	0.81	0.80	0.43	0.29	0.78	
Uniform Delay, d1	50.1	41.5	14.0	3.3	15.5	
Progression Factor	0.85	0.78	1.00	1.00	0.63	
Incremental Delay, d2	17.4	8.8	0.7	0.5	4.1	
Delay (s)	60.0	41.3	14.8	3.8	13.9	
Level of Service	E	D	B	A	B	
Approach Delay (s)	46.4			7.0	13.9	
Approach LOS	D			A	B	
Intersection Summary						
HCM Average Control Delay	22.7					
HCM Volume to Capacity ratio	0.78					
Actuated Cycle Length (s)	120.0					
Intersection Capacity Utilization	83.8%					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
3: Conley Rd & US41/US19

Future PM
3/21/2007

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1781	0	1770	1863
Flt Permitted	0.950				0.130	
Satd. Flow (perm)	1770	1583	1781	0	242	1863
Satd. Flow (RTOR)						
Volume (vph)	295	235	346	178	397	564
Lane Group Flow (vph)	364	290	605	0	451	600
Turn Type	Perm pm+pt					
Protected Phases	4		6		5	2
Permitted Phases		4				2
Total Split (s)	34.0	34.0	52.0	0.0	34.0	86.0
Act Effct Green (s)	27.8	27.8	54.9		84.2	84.2
Actuated g/C Ratio	0.23	0.23	0.46		0.70	0.70
v/c Ratio	0.89	0.57	0.73		0.91	0.46
Control Delay	68.4	18.1	31.3		49.8	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	68.4	18.1	31.4		49.8	9.7
LOS	E	B	C		D	A
Approach Delay	46.1		31.4		26.9	
Approach LOS	D		C		C	
Queue Length 50th (ft)	262	61	314		242	207
Queue Length 95th (ft)	336	117	386		#383	272
Internal Link Dist (ft)	1158		571			420
Turn Bay Length (ft)		125			90	
Base Capacity (vph)	448	543	828		552	1313
Starvation Cap Reductn	0	0	5		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.53	0.74		0.82	0.46
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 67 (56%), Referenced to phase 2:SBTL and 6:NBT, Start of Green						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.91						
Intersection Signal Delay: 33.5						
Intersection Capacity Utilization 77.4%						
Analysis Period (min) 15						
# 95th percentile volume exceeds capacity, queue may be longer.						
Queue shown is maximum after two cycles.						

Splits and Phases: 3: Conley Rd & US41/US19



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	0.96	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583	1780	1770	1863	1863
Flt Permitted	0.95	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	1770	1583	1780	356	1863	1863
Volume (vph)	295	235	346	178	397	564
Peak-hour factor, PHF	0.81	0.81	0.85	0.90	0.88	0.94
Adj. Flow (vph)	364	290	407	198	451	600
RTOR Reduction (vph)	0	147	13	0	0	0
Lane Group Flow (vph)	364	143	592	0	451	600
Turn Type	Perm					
Protected Phases	4	6	6	5	2	2
Permitted Phases	4					
Actuated Green, G (s)	27.8	27.8	54.8	84.2	84.2	84.2
Effective Green, g (s)	27.8	27.8	54.8	84.2	84.2	84.2
Actuated g/C Ratio	0.23	0.23	0.46	0.70	0.70	0.70
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	410	367	813	549	1307	1307
v/s Ratio Prot	c0.21	0.09	0.33	c0.17	0.32	0.32
v/s Ratio Perm	0.89	0.39	0.73	0.82	0.46	0.46
Uniform Delay, d1	44.6	38.9	26.5	21.8	7.9	7.9
Progression Factor	1.00	1.00	0.92	1.00	1.00	1.00
Incremental Delay, d2	20.1	0.7	5.1	9.6	1.2	1.2
Delay (s)	64.7	39.6	29.5	31.4	9.0	9.0
Level of Service	E	D	C	C	A	A
Approach Delay (s)	53.6	29.5	29.5	18.6	18.6	18.6
Approach LOS	D	C	C	B	B	B
Intersection Summary						
HCM Average Control Delay	31.4					
HCM Level of Service	C					
HCM Volume to Capacity ratio	0.83					
Actuated Cycle Length (s)	120.0					
Sum of lost time (s)	8.0					
Intersection Capacity Utilization	77.4%					
ICU Level of Service	D					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Future PM
3/21/2007

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Satd. Flow (prot)	0	1842	0	0	1822	0	0	1863	0	0	1649	0
Fit Permitted	0.989											
Satd. Flow (perm)	0	1842	0	0	1822	0	0	1863	0	0	1649	0
Volume (vph)	84	446	0	0	193	29	0	0	0	108	0	308
Lane Group Flow (vph)	0	646	0	0	256	0	0	0	0	0	582	0
Sign Control	Free											
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 75.0%												
Analysis Period (min) 15												
ICU Level of Service D												

Baseline
A & R Engineering Inc.

Synchro 6 Report
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HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

Future PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free											
Grade	0%											
Volume (veh/h)	84	446	0	0	193	29	0	0	0	108	0	308
Peak Hour Factor	0.58	0.89	0.92	0.92	0.90	0.69	0.92	0.92	0.92	0.84	0.92	0.68
Hourly flow rate (vph)	145	501	0	0	214	42	0	0	0	129	0	453
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None											
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	256	501										
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCU, unblocked vol	256	501										
tC, single (s)	4.1	4.1										
tC, 2 stage (s)												
tF (s)	2.2	2.2										
p0 queue free %	89	100										
cM capacity (veh/h)	1308	1063										
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	646	256	0	582								
Volume Left	145	0	0	129								
Volume Right	0	42	0	453								
cSH	1308	1063	1700	475								
Volume to Capacity	0.11	0.00	0.00	1.22								
Queue Length 95th (ft)	9	0	0	571								
Control Delay (s)	2.8	0.0	0.0	144.7								
Lane LOS	A	A	A	F								
Approach Delay (s)	2.8	0.0	0.0	144.7								
Approach LOS	A	A	A	F								
Intersection Summary												
Average Delay	57.9											
Intersection Capacity Utilization	75.0%											
Analysis Period (min)	15											
										ICU Level of Service		
										D		

Baseline
A & R Engineering Inc.

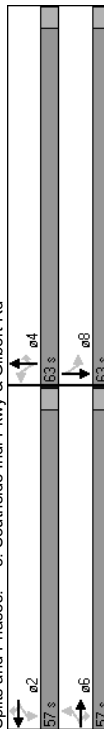
Synchro 6 Report
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Lanes, Volumes, Timings
5: Southside Indl Pkwy & Gilbert Rd

Future PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.708			0.600			0.717			0.731		
Satd. Flow (perm)	1319	1863	1583	1118	1863	1583	1336	1863	1583	1362	1803	1362
Satd. Flow (RTOR)	10	167	76	33	65	21	113	27	100	22	39	11
Volume (vph)	13	182	117	41	76	27	159	40	161	27	61	0
Lane Group Flow (vph)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	6	6	6	2	2	2	4	4	4	4	8	8
Protected Phases	6	6	6	2	2	2	4	4	4	4	8	8
Permitted Phases	6	6	6	2	2	2	4	4	4	4	8	8
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	63.0	63.0	63.0	63.0	63.0	63.0
Act Eff Green (s)	53.0	53.0	53.0	53.0	53.0	53.0	59.0	59.0	59.0	59.0	59.0	59.0
Acted g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44	0.49	0.49	0.49	0.49	0.49	0.49
v/c Ratio	0.02	0.22	0.15	0.08	0.09	0.04	0.24	0.04	0.19	0.04	0.07	0.07
Control Delay	19.1	21.7	4.0	20.1	20.0	6.9	17.9	15.2	2.5	16.1	13.2	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	21.7	4.0	20.1	20.0	6.9	17.9	15.2	2.5	16.1	13.2	13.2
LOS	B	C	A	C	B	A	B	B	A	B	B	B
Approach Delay	14.9			17.6			10.7				14.1	
Approach LOS	B			B			B				B	
Queue Length 50th (ft)	6	86	0	18	34	0	67	15	2	11	19	
Queue Length 95th (ft)	15	136	9	36	60	13	m83	m24	1	24	38	
Internal Link Dist (ft)	177			492			822				439	
Turn Bay Length (ft)				245			50			50	150	
Base Capacity (vph)	583	823	764	494	823	714	657	916	860	670	893	
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	0.02	0.22	0.15	0.08	0.09	0.04	0.24	0.04	0.19	0.04	0.07	

Splits and Phases: 5: Southside Indl Pkwy & Gilbert Rd



HCM Signalized Intersection Capacity Analysis
5: Southside Indl Pkwy & Gilbert Rd

Future PM
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1863	1583	1770	1863	1583
Flt Permitted	0.71	1.00	1.00	0.60	1.00	1.00	0.72	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	1318	1863	1583	1117	1863	1583	1336	1863	1583	1362	1803	1362
Volume (vph)	10	167	76	33	65	21	113	27	100	22	39	11
Peak-hour factor, PHF	0.75	0.92	0.65	0.80	0.85	0.79	0.71	0.67	0.62	0.83	0.82	0.83
Adj. Flow (vph)	13	182	117	41	76	27	159	40	161	27	48	13
RTOR Reduction (vph)	0	0	65	0	0	15	0	0	82	0	7	0
Lane Group Flow (vph)	13	182	52	41	76	12	159	40	79	27	54	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	6	6	6	2	2	2	4	4	4	4	8	8
Permitted Phases	6	6	6	2	2	2	4	4	4	4	8	8
Actuated Green, G (s)	53.0	53.0	53.0	53.0	53.0	53.0	59.0	59.0	59.0	59.0	59.0	59.0
Effective Green, g (s)	53.0	53.0	53.0	53.0	53.0	53.0	59.0	59.0	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44	0.49	0.49	0.49	0.49	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	582	823	699	493	823	699	657	916	778	670	886	
v/s Ratio Prot	c0.10			0.04			0.02				0.03	
v/s Ratio Perm	0.01	0.03	0.04	0.04	0.01	c0.12				0.05	0.02	
v/c Ratio	0.02	0.22	0.07	0.08	0.09	0.02	0.24	0.04	0.10	0.04	0.06	
Uniform Delay, d1	18.9	20.7	19.3	19.4	19.5	18.8	17.6	15.8	16.3	15.8	16.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.94	0.80	1.00	1.00	
Incremental Delay, d2	0.1	0.6	0.2	0.3	0.2	0.2	0.9	0.1	0.3	0.1	0.1	
Delay (s)	19.0	21.3	19.5	19.7	19.7	18.9	17.6	15.0	13.3	15.9	16.1	
Level of Service	B	C	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	20.6			19.6			15.4			16.1		
Approach LOS	C			B			B			B		

c Critical Lane Group

Future 2010 PM Improved

Lanes, Volumes, Timings
4: Conley Rd & Gilbert Rd

Future PM Improved
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Satd. Flow (prot)	0	1842	0	0	1822	0	0	1863	0	0	1770	1583
Flt Permitted	0	0.989	0	0	0	0	0	0	0	0	0.950	0
Satd. Flow (perm)	0	1842	0	0	1822	0	0	1863	0	0	1770	1583
Volume (vph)	84	446	0	0	193	29	0	0	0	108	0	308
Lane Group Flow (vph)	0	646	0	0	256	0	0	0	0	0	129	453
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 56.0%												
Analysis Period (min) 15												
ICU Level of Service B												

HCM Unsignalized Intersection Capacity Analysis
4: Conley Rd & Gilbert Rd

Future PM Improved
3/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume (veh/h)	84	446	0	0	193	29	0	0	0	108	0	308
Peak Hour Factor	0.58	0.89	0.92	0.92	0.90	0.69	0.92	0.92	0.92	0.84	0.92	0.68
Hourly flow rate (vph)	145	501	0	0	214	42	0	0	0	129	0	453
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				None
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	256			501			1253	1047	501	1026	1026	235
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCu, unblocked vol	256			501			1253	1047	501	1026	1026	235
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			100	100	100	34	100	44
cM capacity (veh/h)	1308			1063			59	203	570	195	209	804
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	646	256	0	582								
Volume Left	145	0	0	129								
Volume Right	0	42	0	453								
cSH	1308	1063	1700	881								
Volume to Capacity	0.11	0.00	0.00	0.66								
Queue Length 95th (ft)	9	0	0	128								
Control Delay (s)	2.8	0.0	0.0	23.6								
Lane LOS	A	A	A	C								
Approach Delay (s)	2.8	0.0	0.0	23.6								
Approach LOS	A	A	A	C								
Intersection Summary												
Average Delay				10.5								
Intersection Capacity Utilization				56.0%								B
Analysis Period (min)				15								

Future Site Access Analysis

Lanes, Volumes, Timings
6: West Site Dr 1 & Gilbert Rd

Future AM Site Access
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Satd. Flow (prot)	1738	0	1863	1583	0	1816
Flt Permitted	0.963				0	0.975
Satd. Flow (perm)	1738	0	1863	1583	0	1816
Volume (vph)	34	10	169	158	44	43
Lane Group Flow (vph)	48	0	184	172	0	95
Sign Control	Stop	Stop	Free	Free	Free	Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 26.9%						
Analysis Period (min) 15						
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
6: West Site Dr 1 & Gilbert Rd

Future AM Site Access
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Sign Control	Stop	Stop	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Volume (veh/h)	34	10	169	158	44	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	11	184	172	48	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume						
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
vCu, unblocked vol						
tC, single (s)						
tC, 2 stage (s)						
tF (s)						
p0 queue free %						
cM capacity (veh/h)						
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	48	184	172	95		
Volume Left	37	0	0	48		
Volume Right	11	0	172	0		
cSH	681	1700	1700	1203		
Volume to Capacity	0.07	0.11	0.10	0.04		
Queue Length 95th (ft)	6	0	0	3		
Control Delay (s)	10.7	0.0	0.0	4.3		
Lane LOS	B	B	A	A		
Approach Delay (s)	10.7	0.0	4.3			
Approach LOS	B					
Intersection Summary						
Average Delay						
Intersection Capacity Utilization 26.9%						
ICU Level of Service A						
Analysis Period (min) 15						

Lanes, Volumes, Timings
7: West Site Dr 2 & Gilbert Rd

Future AM Site Access
3/21/2007

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Satd. Flow (prot)	1696	0	1863	1583	0	1812
Flt Permitted	0.975				0	0.973
Satd. Flow (perm)	1696	0	1863	1583	0	1812
Volume (vph)	20	19	89	90	85	67
Lane Group Flow (vph)	43	0	97	98	0	165
Sign Control	Stop	Stop	Free	Free	Free	Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 24.9%						
Analysis Period (min) 15						
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
7: West Site Dr 2 & Gilbert Rd

Future AM Site Access
3/21/2007

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Sign Control	Stop	Stop	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Volume (veh/h)	20	19	89	90	85	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	21	97	98	92	73
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume	354	97			195	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	354	97			195	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			93	
cM capacity (veh/h)	600	960			1379	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	42	97	98	165		
Volume Left	22	0	0	92		
Volume Right	21	0	98	0		
cSH	734	1700	1700	1379		
Volume to Capacity	0.06	0.06	0.06	0.07		
Queue Length 95th (ft)	5	0	0	5		
Control Delay (s)	10.2	0.0	0.0	4.6		
Lane LOS	B	B		A		
Approach Delay (s)	10.2	0.0		4.6		
Approach LOS	B					
Intersection Summary						
Average Delay						
Intersection Capacity Utilization 24.9%						
ICU Level of Service A						
Analysis Period (min) 15						

Lanes, Volumes, Timings
6: West Site Dr 1 & Gilbert Rd

Future PM Site Access
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Satd. Flow (prot)	1740	0	1863	1583	0	1857
Flt Permitted	0.962				0	0.997
Satd. Flow (perm)	1740	0	1863	1583	0	1857
Volume (vph)	193	52	60	52	14	223
Lane Group Flow (vph)	267	0	65	57	0	257
Sign Control	Stop	Stop	Free	Free	Free	Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 39.7%						
Analysis Period (min) 15						
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
6: West Site Dr 1 & Gilbert Rd

Future PM Site Access
3/21/2007

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Sign Control	Stop	Stop	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Volume (veh/h)	193	52	60	52	14	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	210	57	65	57	15	242
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume	338	65			122	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	338	65			122	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	68	94			99	
cM capacity (veh/h)	651	999			1466	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	266	65	57	258		
Volume Left	210	0	0	15		
Volume Right	57	0	57	0		
cSH	703	1700	1700	1466		
Volume to Capacity	0.38	0.04	0.03	0.01		
Queue Length 95th (ft)	44	0	0	1		
Control Delay (s)	13.2	0.0	0.0	0.5		
Lane LOS	B	B		A		
Approach Delay (s)	13.2	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay						
Intersection Capacity Utilization 39.7%						
Analysis Period (min) 15						
ICU Level of Service A						

Lanes, Volumes, Timings
7: West Site Dr 2 & Gilbert Rd

Future PM Site Access
3/21/2007

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Satd. Flow (prot)	1696	0	1863	1583	0	1846
Pt Permitted	0.975				0	0.991
Satd. Flow (perm)	1696	0	1863	1583	0	1846
Volume (vph)	108	102	84	28	27	129
Lane Group Flow (vph)	228	0	91	30	0	169
Sign Control	Stop	Stop	Free	Free	Free	Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 33.9%						
Analysis Period (min) 15						
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
7: West Site Dr 2 & Gilbert Rd

Future PM Site Access
3/21/2007

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Sign Control	Stop	Stop	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Volume (veh/h)	108	102	84	28	27	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	111	91	30	29	140
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume	290	91			122	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	290	91			122	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	89			98	
cM capacity (veh/h)	686	966			1466	
Direction, Lane #						
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	228	91	30	170		
Volume Left	117	0	0	29		
Volume Right	111	0	30	0		
cSH	799	1700	1700	1466		
Volume to Capacity	0.29	0.05	0.02	0.02		
Queue Length 95th (ft)	30	0	0	2		
Control Delay (s)	11.3	0.0	0.0	1.4		
Lane LOS	B	B		A		
Approach Delay (s)	11.3	0.0	1.4			
Approach LOS	B					
Intersection Summary						
Average Delay	5.4					
Intersection Capacity Utilization	33.9%					A
Analysis Period (min)	15					

Traffic Volume Worksheets

A&R Engineering
March-07

Old Dixie Highway at Charles W Grant Parkway

A.M. Peak Hour

P.M. Peak Hour

A-50

07-005 Aviation Park DRI
Traffic Volumes
Future Conditions

A&R Engineering
March-07

US41 / US19 at Charles W Grant Parkway

A.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing:	468	490	0	0	217	111	70	0	127	0	0	0
Growth Factor (%):	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Base Condition:	522	546	0	0	242	124	78	0	142	0	0	0
Total New Trips	0	86	0	0	19	21	94	0	0	0	0	0
Future Traffic Volumes:	522	632	0	0	261	145	172	0	142	0	0	0

P.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing:	140	287	0	0	483	56	133	0	472	0	0	0
Growth Factor (%):	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Base Condition:	156	320	0	0	539	62	148	0	526	0	0	0
Total New Trips	0	28	0	0	105	114	30	0	0	0	0	0
Future Traffic Volumes:	156	348	0	0	644	176	178	0	526	0	0	0

07-005 Aviation Park DRI
Traffic Volumes
Future Conditions

A&R Engineering
March-07

US 41 / US 19 at Conley Road

A.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	491	66	557	115	205	0	320	0	0	0	0
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	0	548	74	621	128	229	0	357	0	0	0	0
Total New Trips	0	0	180	180	56	0	0	56	0	0	0	0
Future Traffic Volumes:	0	548	254	801	184	229	0	413	0	0	0	0

P.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	310	108	418	340	506	0	846	0	0	0	0
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	0	346	120	466	379	564	0	943	0	0	0	0
Total New Trips	0	0	58	58	18	0	0	18	0	0	0	0
Future Traffic Volumes:	0	346	178	524	397	564	0	961	0	0	0	0

07-005 Aviation Park DRI
Traffic Volumes
Future Conditions

A&R Engineering
March-07

Gilbert Road at Conley Road

A.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	L	T	R	L	T	Tot
Existing:	0	0	0	0	16	0	20	152	0	0	362	51
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Base Condition:	0	0	0	0	18	0	22	170	0	0	404	57
Total New Trips	0	0	0	0	2	0	236	0	0	0	0	11
Future Traffic Volumes:	0	0	0	0	20	0	258	170	0	0	404	68
												472

P.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	L	T	R	L	T	Tot
Existing:	0	0	0	0	84	0	7	400	0	0	173	22
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Base Condition:	0	0	0	0	94	0	8	446	0	0	193	25
Total New Trips	0	0	0	0	14	0	76	0	0	0	0	4
Future Traffic Volumes:	0	0	0	0	108	0	84	446	0	0	193	29
												221

07-005 Aviation Park DRI
Traffic Volumes
Future Conditions

A&R Engineering
March-07

Gilbert Road at Southside Industrial Parkway

A.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	26	31	23	80	14	14	7	35	10	76	21	107	32	126	30	188
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	29	35	26	89	16	16	8	39	11	85	23	119	36	141	33	210
Total New Trips	16	2	10	28	0	8	0	8	0	0	75	75	45	0	0	45
Future Traffic Volumes:	45	37	36	117	16	24	8	47	11	85	98	194	81	141	33	255

P.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	20	16	40	76	20	33	10	63	9	150	47	206	16	58	19	93
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	22	18	45	85	22	37	11	70	10	167	52	230	18	65	21	104
Total New Trips	91	9	55	155	0	2	0	2	0	0	24	24	15	0	0	15
Future Traffic Volumes:	113	27	100	240	22	39	11	72	10	167	76	254	33	65	21	119

07-005 Aviation Park DRI
Traffic Volumes
Future Conditions

A&R Engineering
March-07

Gilbert Road at West Site Driveway 1

A.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	71	0	71	0	21	0	21	0	0	0	0
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	0	79	0	79	0	23	0	23	0	0	0	0
Total New Trips	0	90	158	248	44	20	0	64	0	0	10	44
Future Traffic Volumes:	0	169	158	327	44	43	0	87	0	0	10	44

P.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	29	0	29	0	103	0	103	0	0	0	0
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	0	32	0	32	0	115	0	115	0	0	0	0
Total New Trips	0	28	52	80	14	108	0	122	0	0	52	245
Future Traffic Volumes:	0	60	52	112	14	223	0	237	0	0	52	245

07-005 Aviation Park DRI
Traffic Volumes
Future Conditions

A&R Engineering
March-07

Gilbert Road at West Driveway 2

A.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	71	0	71	0	21	0	21	0	0	0	0
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	0	79	0	79	0	23	0	23	0	0	0	0
Total New Trips	0	10	90	100	85	44	0	129	0	0	19	39
Future Traffic Volumes:	0	89	90	179	85	67	0	152	0	0	19	39

P.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	29	0	29	0	103	0	103	0	0	0	0
Growth Factor (%):	3.7	3.7	3.7		3.7	3.7	3.7		3.7	3.7	3.7	
Base Condition:	0	32	0	32	0	115	0	115	0	0	0	0
Total New Trips	0	52	28	80	27	14	0	41	0	0	102	210
Future Traffic Volumes:	0	84	28	112	27	129	0	156	0	0	102	210

Planned and Programmed Improvements

Short Title

AVIATION BOULEVARD GRADE SEPARATION AT
NORFOLK SOUTHERN RAIL LINE

GDOT Project No.

0001817

Federal ID No.

STP-0001-00(817)

Status

Programmed

Detailed Description and Justification

This project includes the reconstruction of Aviation Boulevard and portions of its I-75 ramps, the I-75 NB/I-285 braided ramps, and I-75 SB collector-distributor road north of Aviation Boulevard. All of this is being done to provide additional access to the new sections of H-JAIA from the east.

Service Type

Interchange Capacity

Sponsor

GDOT

Jurisdiction

Clayton County

Existing Thru Lane

4 (applicable for road projects only)

Planned Thru Lane

4 (applicable for road projects only)

Corridor Length

N/A miles (not applicable for all project types)

Network Year

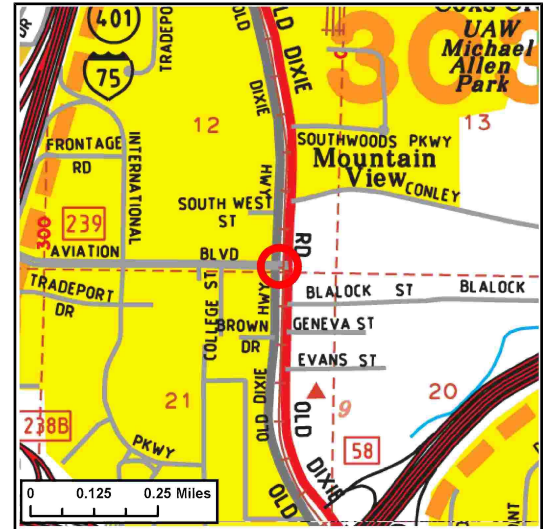
2010 (required if modeled for conformity)

Completion Date

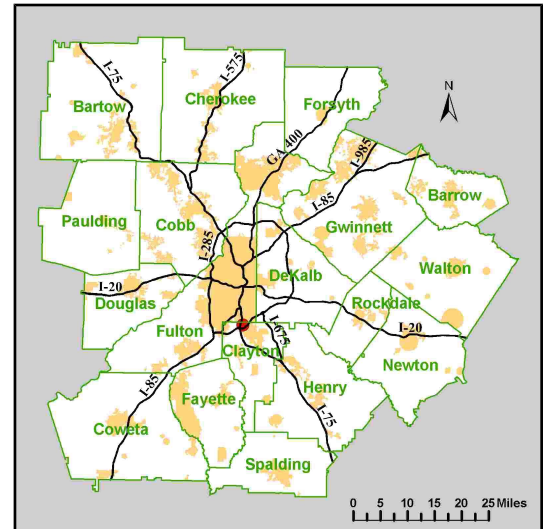
2010

Analysis Level

In the Region's Air Quality Conformity Analysis



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Phase Status & Funding Information for 06-11 TIP		FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
				FEDERAL	STATE	BONDS	LOCAL/OTHER
PE	STP - Statewide Flexible (GDOT)	AUTH	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
ROW	Local Jurisdiction/Municipality Funds	2007	\$12,694,000	\$0,000	\$0,000	\$0,000	\$12,694,000
ROW	State Bonds	2007	\$4,955,000	\$0,000	\$0,000	\$4,955,000	\$0,000
CST	STP - Statewide Flexible (GDOT)	2007	\$11,189,000	\$8,951,200	\$2,237,800	\$0,000	\$0,000
CST	State Bonds	2009	\$4,523,000	\$0,000	\$0,000	\$4,523,000	\$0,000
				\$8,951,200	\$2,237,800	\$9,478,000	\$12,694,000

PE: Preliminary Engineering / Design / Study

ROW: Right-of-way Acquisition

CST: Construction / Implementation



For additional information about this project, please visit the Atlanta Regional Commission at www.atlantaregional.com or call (404) 463-3100.



Short Title

US 19/41 (TARA BOULEVARD) ARTERIAL BUS RAPID TRANSIT (BRT) FROM CITY OF LOVEJOY TO MARTA EAST POINT STATION IN CITY OF ATLANTA

GDOT Project No.

N/A

Federal ID No.**Status**

Programmed

Detailed Description and Justification

This project will provide for BRT service in the Tara Boulevard corridor. It will include transit priority at necessary signalized intersections and bus pull out lanes to enable faster running times for transit in this corridor.

Service Type

Arterial BRT

Sponsor

GRTA

Jurisdiction

Multi-County

Existing Thru Lane

N/A (applicable for road projects only)

Planned Thru Lane

N/A (applicable for road projects only)

Corridor Length

18.4 miles (not applicable for all project types)

Network Year

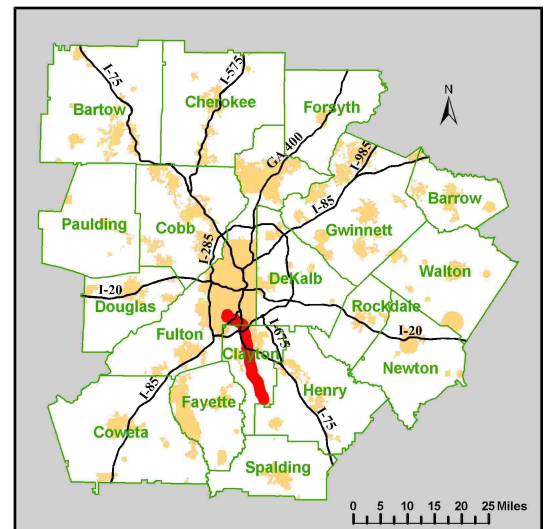
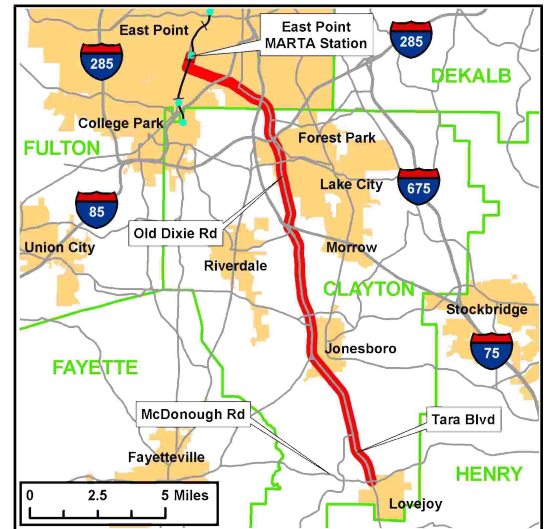
2030 (required if modeled for conformity)

Completion Date

2026

Analysis Level

In the Region's Air Quality Conformity Analysis



Phase Status & Funding Information for 06-11 TIP		FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
				FEDERAL	STATE	BONDS	LOCAL/OTHER
PE	Local Jurisdiction/Municipality Funds	2009	\$14,000,000	\$0,000	\$0,000	\$0,000	\$14,000,000
CST	FEDAID-2012-2030	LR 2021-2030	\$55,200,000	\$27,600,000	\$0,000	\$0,000	\$27,600,000
				\$27,600,000	\$0,000	\$0,000	\$41,600,000

PE: Preliminary Engineering / Design / Study

ROW: Right-of-way Acquisition

CST: Construction / Implementation



For additional information about this project, please visit the Atlanta Regional Commission at www.atlantaregional.com or call (404) 463-3100.



Short Title

SOUTHSIDE INDUSTRIAL PARKWAY FROM US 19/41
(CROWN ROAD) TO RUBY HARPER PARKWAY

GDOT Project No.

N/A

Federal ID No.**Status**

Long Range

Detailed Description and Justification

None

Service Type

Roadway Capacity

Sponsor

City of Atlanta

Jurisdiction

City of Atlanta

Existing Thru Lane

2 (applicable for road projects only)

Planned Thru Lane

4 (applicable for road projects only)

Corridor Length

0.86 miles (not applicable for all project types)

Network Year

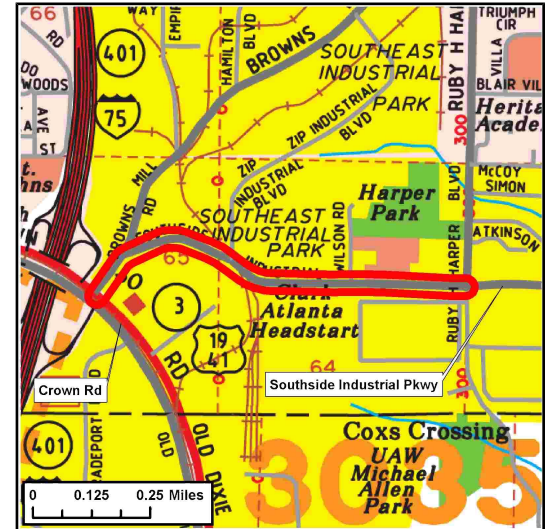
2020 (required if modeled for conformity)

Completion Date

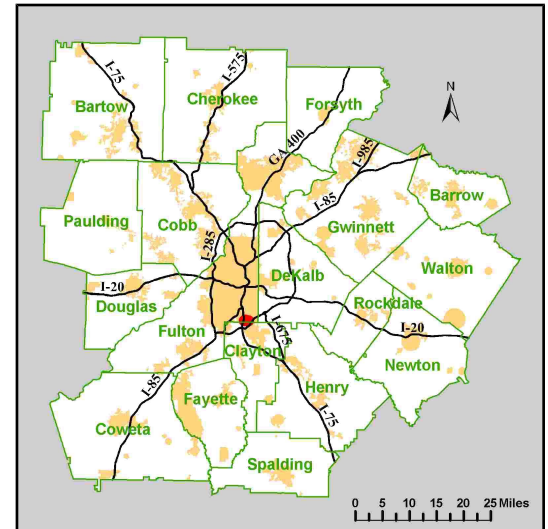
2020

Analysis Level

In the Region's Air Quality Conformity Analysis



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Phase Status & Funding Information for 06-11 TIP		FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
				FEDERAL	STATE	BONDS	LOCAL/OTHER
CST	Local Jurisdiction/Municipality Funds	LR 2012-2020	\$1,500,000	\$0,000	\$0,000	\$0,000	\$1,500,000
				\$0,000	\$0,000	\$0,000	\$1,500,000

PE: Preliminary Engineering / Design / Study

ROW: Right-of-way Acquisition

CST: Construction / Implementation



For additional information about this project, please visit the Atlanta Regional Commission at www.atlantaregional.com or call (404) 463-3100.



Short Title

CONLEY ROAD / AVIATION BOULEVARD EXTENSION
FROM US 19/41 (OLD DIXIE HIGHWAY) TO SR 54
(JONESBORO ROAD) [SEE ALSO CL-095 and AR-500]

GDOT Project No.

752180-

Federal ID No.

STP-9010(2)

Status

Programmed

Detailed Description and Justification

This project will widen Conley Road and extend Aviation Blvd. from SR 54 to SR 3/Old Dixie Hwy. from 2 to 4 lanes. These improvements and capacity will facilitate efficient traffic flow by relieving traffic congestion and improving access to the Airport.

Service Type

Roadway Capacity

Sponsor

Clayton County

Jurisdiction

Clayton County

Existing Thru Lane

2 (applicable for road projects only)

Planned Thru Lane

4 (applicable for road projects only)

Corridor Length

1.7 miles (not applicable for all project types)

Network Year

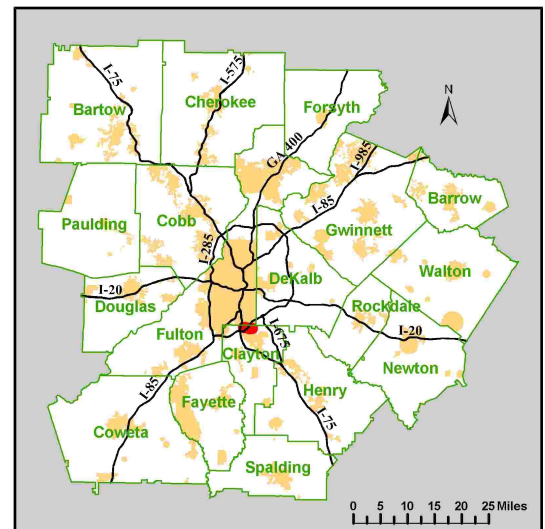
2015 (required if modeled for conformity)

Completion Date

2015

Analysis Level

In the Region's Air Quality Conformity Analysis



Phase Status & Funding Information for 06-11 TIP		FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
				FEDERAL	STATE	BONDS	LOCAL/OTHER
PE	Local Jurisdiction/Municipality Funds	AUTH	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
ROW	Local Jurisdiction/Municipality Funds	LR 2012-2020	\$5,150,000	\$0,000	\$0,000	\$0,000	\$5,150,000
CST	Local Jurisdiction/Municipality Funds	LR 2012-2020	\$4,328,000	\$0,000	\$0,000	\$0,000	\$4,328,000
				\$0,000	\$0,000	\$0,000	\$9,478,000

PE: Preliminary Engineering / Design / Study

ROW: Right-of-way Acquisition

CST: Construction / Implementation



For additional information about this project, please visit the Atlanta Regional Commission at www.atlantaregional.com or call (404) 463-3100.



Proposed Facility Site Plan