

Transportation Analysis

BOC Site DRI #2656

City of Union City, Georgia

Report Prepared:

February 2017

Prepared for:

BOC Acquisition 1, LLC

Prepared by:



Kimley-Horn and Associates, Inc. 2 Sun Court, Suite 450 Peachtree Corners, GA 30092 February 2017 019679006 Transportation Analysis

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *BOC Site* development located in the City of Union City, Georgia. The approximate 97.7-acre site is located just southeast of the Flat Shoals Road at Buffington Road intersection, and is bordered by Flat Shoals Road to the north and Buffington Road to the west. The proposed development will be an industrial warehouse facility with approximately 1,532,500 SF of warehousing space.

The project is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review due to the project size exceeding 500,000 SF of an industrial development. The DRI trigger for this development is the submittal of the Rezoning Application with the City of Union City, combined with the proposed development exceeding 500,000 gross square feet for industrial developments with a developing suburbs area. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on January 4, 2017 by the City of Union City.

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

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

- 1. No more than one thousand (1,000) gross daily trips generated by the DRI based on a trip generation memorandum; or,
- 2. More than one thousand (1,000) but no more than three thousand (3,000) gross daily trips will be generated by the DRI, based on a trip generation memorandum and requires the submittal of an Access Analysis; or,
- 3. The proposed DRI is projected to generate no more than one hundred (100) gross PM peak hour weekday trips based on a trip generation memorandum.

The present zoning classification of the project site is Office / Institution (O-I) and Multi-Family Residential (RM). The proposed zoning classification is Light Industrial (M-1). The proposed project is expected to be completed by 2018. The proposed development will consist of the following land uses and densities:

Warehouse Square Footage: 1,532,500 SF

Capacity analyses were performed throughout the study network for the Existing 2016 conditions, the Projected 2018 No-Build conditions, and the Projected 2018 Build conditions.

- Existing 2016 conditions represent traffic volumes that were collected in November 2016 by performing AM and PM peak hour turning movement counts.
- Projected 2018 No-Build conditions represent the existing traffic volumes grown for two (2) years at 1.0 percent per year throughout the study network.
- Projected 2018 Build conditions represent the Projected 2018 No-Build conditions with the addition of the project trips that are anticipated to be generated by the *BOC Site* development.

Based on the **Existing 2016** conditions (*present conditions; i.e.* <u>excludes</u> background traffic growth, the estimated project trips from the BOC Site DRI), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

Based on the **Projected 2018 No-Build** conditions (*includes* background traffic growth but <u>excludes</u> the estimated project trips from the BOC Site DRI), all but one study intersection are projected to operate within the acceptable level-of-service (LOS) standard of D. The eastbound approach at the unsignalized intersection of Buffington Road at Existing Driveway 1 / P&G Driveway (Intersection 4) is projected to operate at LOS F during the PM peak. It should be noted that it is not uncommon to have long delays for stop-controlled approaches when there is heavy major street volume. Therefore, there are no recommended improvements for the Projected 2018 No-Build conditions scenario.

Based on the **Projected 2018 Build** conditions (*includes background traffic growth and includes the estimated project trips from the BOC Site DRI*), all but one study intersection are projected to operate within the acceptable level-of-service (LOS) standard of D. The eastbound approach at the unsignalized intersection of Buffington Road at Existing Driveway 1 / P&G Driveway (Intersection 4) is projected to operate at LOS F during the PM peak. It should be noted that it is not uncommon to have long delays for stop-controlled approaches when there is heavy major street volume.

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

- Intersection #6: Flat Shoals Road at Existing Driveway 3 / Exxon Driveway
 - Install a concrete island on-site along Existing Driveway 3 to allow right-in/right-out/left-in movements (prohibit through movements and left-turn movements out of the site).

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts of the proposed *BOC Site* development located in the City of Union City, Georgia. The approximate 97.7-acre site is located just southeast of the Flat Shoals Road at Buffington Road intersection, and is bordered by Flat Shoals Road to the north and Buffington Road to the west.

The proposed development will be an industrial warehouse facility with approximately 1,532,500 SF of warehousing space. The project will exceed 500,000 square feet for industrial developments within a developing suburbs area; therefore, the proposed development is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review.

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

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

- 1. No more than one thousand (1,000) gross daily trips generated by the DRI based on a trip generation memorandum; or,
- 2. More than one thousand (1,000) but no more than three thousand (3,000) gross daily trips will be generated by the DRI, based on a trip generation memorandum and requires the submittal of an Access Analysis; or,
- 3. The proposed DRI is projected to generate no more than one hundred (100) gross PM peak hour weekday trips based on a trip generation memorandum.

Figure 1 provides the site location of the *BOC Site* development. **Figure 2** and **Figure 3** provide an aerial view of the project site and surrounding area. Field review photographs taken within the vicinity of the study network are located in the site photo log in **Appendix A**. The City of Union City Zoning Map and the *Atlanta Region's Plan Unified Growth Policy Map* are included in **Appendix B**.

The proposed project is expected to be completed by 2018, and this analysis will consider the full buildout of the proposed site in 2018. A summary of the proposed land-use and density is provided below in **Table 1**.

Table 1: Proposed Land Uses				
High-Cube Warehouse/Distribution Center	1,532,500 SF			







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BOC Site DRI #2656 Transportation Analysis

Site Aerial (Zoomed in)

1.2 Site Plan Review

The proposed development is located on an approximately 97.7-acre site in the City of Union City, GA. The project site is bordered by Flat Shoals Road to the north and Buffington Road to the west. The proposed development will be an industrial warehouse facility with approximately 1,532,500 SF of warehousing space. The project will include two (2) new warehouse buildings. The property is currently occupied by a church and the church will be demolished. A reference of the proposed site plan is provided in **Appendix C**. A full-sized site plan consistent with GRTA's Site Plan Guidelines is also being submitted as part of the review package.

1.3 Site Access

The project site is currently served by four (4) existing driveways that are proposed to remain. Each of the four (4) existing site driveways are gated/locked and are not generating site traffic. As currently envisioned, the proposed development will be served by two (2) full-movement driveways along Buffington Road, one (1) right-in/right-out/left-in driveway along Flat Shoals Road, and one (1) right-in/right-out/left-in driveway along Flat Shoals Road, and one (1) right-in/right-out driveway along Flat Shoals Road. Flat Shoals Road is a four-lane, undivided, minor arterial with turn lanes and a posted speed limit of 45 mph. Buffington Road is a two-lane, undivided, minor arterial with a posted speed limit of 45 mph. A summary of the proposed site access point follows:

- Existing Driveway 1 an existing, side-street stop-controlled full-movement driveway located on Buffington Road approximately 1,050 feet south of the intersection of Flat Shoals Road at Buffington Road and across from the existing P&G Employee Parking Driveway. Existing Driveway 1 is proposed to remain as a side-street stop-controlled full-movement driveway.
- Existing Driveway 2 an existing, side-street stop-controlled full-movement driveway located on Buffington Road approximately 400 feet south of the intersection of Flat Shoals Road at Buffington Road. Existing Driveway 2 is proposed to remain as a side-street stop-controlled fullmovement driveway.
- Existing Driveway 3 an existing, side-street stop-controlled full-movement driveway located on Flat Shoals Road approximately 400 feet east of the intersection of Flat Shoals Road at Buffington Road. Existing Driveway 3 is proposed to be a side-street stop-controlled rightin/right-out/left-in driveway. (Note: Left-turn and through movements out of the site will be prohibited).
- 4. Existing Driveway 4 an existing, side-street stop-controlled right-in/right-out driveway located on Flat Shoals Road approximately 1,000 feet east of the intersection of Flat Shoals Road at Buffington Road. Existing Driveway 4 is proposed to be a side-street stop-controlled right-in/right-out driveway.

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

Employee parking provided: 800

Trailer parking provided: 416

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities (sidewalks) currently exist along the project site frontage. Sidewalks currently exist along Flat Shoals Road and Buffington Road in the vicinity of the project. Bicycle facilities do not currently exist along the project site frontage. There are no pedestrian or bicycle projects programmed in the vicinity of the project site that will be completed prior to the buildout of the *BOC Site* development. According to the DRI site plan, no pedestrian or bicycle facilities are proposed.

1.5 Transit Facilities

There are two MARTA bus routes (Bus Route 181 and Bus Route 189) within the vicinity of the project site. The MARTA Bus Route 181 operates from East Point Station to the South Fulton Park and Ride with bus stations along Buffington Road. The MARTA Bus Route 189 operates from College Park to the South Fulton Park and Ride with bus stations along Flat Shoals Road. However, due to the nature of the development, no alternative mode reductions were taken.

2.0 TRAFFIC ANALYSES, METHODOLOGY AND ASSUMPTIONS

2.1 Growth Rate

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates as well as trips anticipated from nearby or adjacent other projects. Based on methodology outlined in the GRTA Letter of Understanding (LOU), a 1.0 percent per year background traffic growth rate was used for all roadways. This background growth rate was used to account for other proposed development activity in the area.

2.2 Traffic Data Collection

Weekday peak hour turning movement counts were collected on Tuesday, November 29, 2016 at four of the study intersections during the AM and PM peak periods. Additional data was collected on Thursday, January 12, 2017 to determine peak hour turning movements associated with the existing Exxon Driveway. Peak hours for all intersections are shown in **Table 2**.

Table 2: Peak Hour Summary							
Intersection	AM Peak Hour	PM Peak Hour					
1. Flat Shoals Road at I-85 SB Ramps	7:30-8:30	4:15-5:15					
2. Flat Shoals Road at I-85 NB Ramps	7:30-8:30	4:30-5:30					
3. Flat Shoals Road at Buffington Road	7:30-8:30	5:00-6:00					
4. Buffington Road at Existing Driveway 1 / P&G Drive	eway 7:45-8:45	5:00-6:00					
6. Flat Shoals Road at Existing Driveway 3 / Exxon D	iveway 7:00-8:00	5:00-6:00					

The counts were collected at Existing Driveway 1 and Existing Driveway 3 due to the driveways lining up with opposing driveways currently in use. The collected peak hour turning movement traffic counts are shown in **Appendix G**.

2.3 Detailed Intersection Analysis

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

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

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

3.0 STUDY NETWORK

3.1 Gross Trip Generation

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

Table 3: Gross Trip Generation								
Land Lico	Density	ITE Code	Daily Traffic	Traffic AM Peak		PM Pea	k Hour	
Land Use			Total	Enter	Exit	Enter	Exit	
High-Cube Warehouse/ Distribution Center	1,532,500 SF	152	2,574	130	59	60	135	

3.2 Trip Distribution

The directional distribution and assignment of new project trips were based on the project land uses, a review of the land use densities and road facilities in the area, engineering judgment, and methodology discussions with the Georgia Regional Transportation Authority (GRTA), Atlanta Regional Commission (ARC), Fulton County Staff, and the City of Union City.

3.3 Level-of-Service Standards

For the purposes of this traffic analysis, a level-of-service standard of D was assumed for all intersections and segments within the study network, consistent with the GRTA Letter of Understanding.

3.4 Study Network Determination

A general study area was determined based on a review of land uses and population densities in the area as well as a review of peak hour traffic counts and engineering judgement. The study area was agreed upon during methodology discussions with GRTA, ARC, Fulton County Staff, and the City of Union City, and includes the following seven (7) intersections described in **Table 4**.

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

	Table 4: Intersection Control Summary						
	Intersection	Control					
1.	Flat Shoals Road at I-85 SB Ramps	Signal					
2.	Flat Shoals Road at I-85 NB Ramps	Signal					
3.	Flat Shoals Road at Buffington Road	Signal					
4.	Buffington Road at Existing Driveway 1 / P&G Driveway	Stop Control					
5.	Buffington Road at Existing Driveway 2	Stop Control					
6.	Flat Shoals Road at Existing Driveway 3 / Exxon Driveway	Stop Control					
7.	Flat Shoals Road at Existing Driveway 4	Stop Control					

Each of the intersections listed in **Table 4** were analyzed for the Existing 2016 conditions, the Projected 2018 No-Build conditions, and the Projected 2018 Build conditions. The Projected 2018 No-Build conditions represent the existing traffic volumes grown for two (2) years at 1.0 percent per year throughout the study network.

The Projected 2018 Build conditions add the project trips associated with the *BOC Site* development to the Projected 2018 No-Build conditions.

3.5 Existing Roadway Facilities

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

Table 5: Roadway Classifications									
Roadway	No. of Lanes	Posted Speed Limit (MPH)	Average Daily Traffic (ADT)	Functional Classification					
Flat Shoals Road	4	45	15,500	Minor Arterial					
Buffington Road	2	45	9,210	Minor Arterial					
I-85	8	70	150,000	Interstate					



4.0 TRIP GENERATION

As stated previously, gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 9th Edition, 2012*, using equations where available. Trip generation for this proposed development is calculated based upon the following land use: High-Cube Warehouse/Distribution Center (ITE 152). The *ITE Trip Generation Manual, 9th Edition, 2012*, also provides the daily and peak hour weighted average truck trip generation rate.

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

Table 6: Net New Trip Generation													
	Daily Traffic AM Peak Hour PM Peak Hour Total Enter Exit Enter Exit						Daily Traffic			Daily Traffic AM Peak Hour			ık Hour
							Exit						
Heavy Vehicle (Truck) Trips*	980	490	490	32	14	19	43						
Employee (Car) Trips	1,594	797	797	98	45	41	92						
Total Trips	2,574	1,287	1,287	130	59	60	135						

* Truck percentage per ITE's Trip Generation Manual.

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

5.0 TRIP DISTRIBUTION AND ASSIGNMENT

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

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

Detailed intersection volume worksheets are provided in Appendix E.







6.0 TRAFFIC ANALYSIS

6.1 Existing 2016 Conditions

The observed existing peak hour traffic volumes were entered into *Synchro 9.0,* and capacity analyses were performed for the AM and PM peak hours.

The existing peak hour traffic volumes are displayed in **Figure 8**, and the results of the capacity analyses for the Existing 2016 conditions are shown in **Table 7**. Detailed *Synchro* analysis reports are shown in **Appendix H**.

	Table 7: Existing 2016 Level-of-Service Summary LOS (delay in seconds)								
	Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour			
1.	Flat Shoals Road @ I-85 SB Ramps	Signal	Overall	D	B (10.1)	C (25.5)			
2.	Flat Shoals Road @ I-85 NB Ramps	Signal	Overall	D	B (16.7)	A (6.6)			
3.	Flat Shoals Road @ Buffington Road	Signal	Overall	D	C (20.1)	C (29.7)			
4.	Buffington Road @ Existing Driveway 1 / P&G Driveway	TWSC*	EB	D	C (15.1)	E (45.8)			
			WB		-	-			
			NB Left		A (7.8)	A (8.6)			
			SB Left		-	-			
5.	Buffington Road @ Existing		WB		-	-			
	Driveway 2	TWSC	SB Left		-	-			
			NB		-	-			
6.	Flat Shoals Road @ Existing		SB		C (18.7)	D (30.2)			
	Driveway 3 / Exxon Driveway	10030	EB Left		A (9.3)	A (9.3)			
			WB Left		-	-			
7.	Flat Shoals Road @ Existing Driveway 4	TWSC*	NB	D	-	-			

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

- Existing Driveways are gated/locked, thus no traffic generated.

As shown in **Table 7**, all study intersections currently operate at or above their acceptable <u>overall</u> levelof-service standard during the AM and PM peak hours for the Existing 2016 conditions. Therefore, there are no recommended improvements for the Existing 2016 conditions scenario.



6.2 Projected 2018 No-Build Conditions

To account for growth in the vicinity of the proposed development, the existing traffic volumes were increased for two (2) years at 1.0 percent per year throughout the study network. These volumes were entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2018 No-Build conditions were analyzed using existing roadway geometry and existing intersection control types.

The intersection laneage and traffic volumes for the Projected 2018 No-Build conditions are shown in **Figure 9**. The results of the capacity analyses for the Projected 2018 No-Build are shown in **Table 8**. Detailed *Synchro* analysis reports are shown in **Appendix H**.

	Table 8: Projected 2018 No-Build Level-of-Service Summary LOS (delay in seconds)								
	Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour			
1.	Flat Shoals Road @ I-85 SB Ramps	Signal	Overall	D	B (10.2)	C (26.4)			
2.	Flat Shoals Road @ I-85 NB Ramps	Signal	Overall	D	B (17.0)	A (6.6)			
3.	Flat Shoals Road @ Buffington Road	Signal	Overall	D	C (20.7)	C (30.5)			
4.	Buffington Road @ Existing Driveway 1 / P&G Driveway	TWSC*	EB	D	C (15.4)	F (51.0)			
			WB		-	-			
			NB Left		A (7.8)	A (8.6)			
			SB Left		-	-			
5.	Buffington Road @ Existing		WB		-	-			
	Driveway 2	10050	SB Left	D	-	-			
			NB		-	-			
6.	Flat Shoals Road @ Existing		SB		C (19.0)	D (31.8)			
	Driveway 3 / Exxon Driveway	10030	EB Left		A (9.3)	A (9.3)			
			WB Left		-	-			
7.	Flat Shoals Road @ Existing Driveway 4	TWSC*	NB	D	-	-			

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

- Existing Driveways are gated/locked, thus no traffic generated.

As shown in **Table 8**, all but one study intersection are projected to operate at or above their acceptable <u>overall</u> level-of-service standard during the AM and PM peak hours for the Projected 2018 No-Build traffic conditions. The eastbound approach at the unsignalized intersection of Buffington Road at Existing Driveway 1 / P&G Driveway (Intersection 4) is projected to operate at LOS F during the PM peak. It should be noted that it is not uncommon to have long delays for stop-controlled approaches when there is heavy major street volume. Therefore, there are no recommended improvements for the Projected 2018 No-Build conditions scenario.



6.3 Projected 2018 Build Conditions

The traffic associated with the proposed *BOC Site* development was added to the Projected 2018 No-Build volumes. These volumes were then entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2018 Build conditions were analyzed using the existing roadway geometry, existing intersection control types, and proposed site driveways as shown in the DRI site plan.

The intersection laneage and traffic volumes used for the Projected 2018 Build conditions are shown in **Figure 10**. The results of the capacity analyses for the Projected 2018 Build conditions are shown in **Table 9**. Detailed *Synchro* analysis reports are shown in **Appendix H**.

	Table 9: Projected 2018 Build Level-of-Service Summary LOS (delay in seconds)								
	Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour			
1.	Flat Shoals Road @ I-85 SB Ramps	Signal	Overall	D	B (12.2)	C (28.9)			
2.	Flat Shoals Road @ I-85 NB Ramps	Signal	Overall	D	B (17.2)	A (7.1)			
3.	Flat Shoals Road @ Buffington Road	Signal	Overall	D	C (25.5)	D (37.1)			
4.	Buffington Road @ Existing Driveway 1 / P&G Driveway		EB		C (16.8)	F (72.3)			
		TWSC*	WB	D	C (21.4)	C (19.5)			
			NB Left		A (7.9)	A (8.6)			
			SB Left		B (11.4)	A (9.6)			
5.	Buffington Road @ Existing		WB	D	C (15.1)	C (15.1)			
	Driveway 2	10050	SB Left	D	A (9.0)	A (8.6)			
			NB		B (10.3)	B (10.5)			
6.	Flat Shoals Road @ Existing		SB		C (20.3)	D (33.9)			
	Driveway 3 / Exxon Driveway**	10050	EB Left		A (9.3)	A (9.3)			
			WB Left		A (9.2)	A (9.4)			
7.	Flat Shoals Road @ Existing Driveway 4	TWSC*	NB	D	B (10.7)	B (11.3)			

* Two-Way Stop-Control / Side-Street Stop-Control. ** Left-turns out of the site prohibited.

As shown in **Table 9**, all but one study intersection are projected to operate at or above their acceptable <u>overall</u> level-of-service standard during the AM and PM peak hours for the Projected 2018 Build traffic conditions. The eastbound approach at the unsignalized intersection of Buffington Road at Existing Driveway 1 / P&G Driveway (Intersection 4) is projected to operate at LOS F during the PM peak. It should be noted that it is not uncommon to have long delays for stop-controlled approaches when there is heavy major street volume.

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

- Intersection #6: Flat Shoals Road at Existing Driveway 3 / Exxon Driveway
 - Install a concrete island on-site along Existing Driveway 3 to allow right-in/right-out/left-in movements (prohibit through movements and left-turn movements out of the site).



7.0 INGRESS/EGRESS ANALYSIS

Vehicular access to the *BOC Site* development is proposed at four (4) locations. The site driveway location is discussed in *Section 1.3*.

The proposed site driveways provide vehicular access to the entire development. Internal private roadways throughout the site provide access throughout the project site.

Capacity analyses were performed for the proposed site driveway intersections using *Synchro 9.0*. The results of the capacity analyses for this intersection (LOS, delay, and recommended laneage) are reported in *Section 6.3* and *Section 6.4* of this report. Based on the Projected 2018 Build conditions, the proposed site driveway intersections are anticipated to operate at an acceptable level-of-service.

8.0 IDENTIFICATION OF PROGRAMMED PROJECTS

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

Table 10: Programmed Improvements			
#	Year	Project ID	Project Description
1	Mid-Term (next 5 years*)	R-6	Widen Buffington Road from two to four lanes between Flat Shoals Road and South Fulton Parkway.
2	Long-Term (10 years and beyond*)	ASP-FA-343	Widen Jonesboro Road (SR 138) from Stockbridge Road to I-85 South.
3	Long-Term (10 years and beyond*)	ASP-FS-223	Widen SR 138/SR92 from I-85 South to South Fulton Parkway.
4	Long-Term (10 years and beyond*)	R-8	Provide an additional ramp and arterial capacity in the vicinity of the Flat Shoals Road at I-85 interchange.
5	2030	FS-AR-183	I-85 South interchange improvements at Jonesboro Road (SR 138).

* South Fulton Comprehensive Transportation Plan (CTP) published in November 2013.

Fact sheets for projects can be found in Appendix F.

9.0 INTERNAL CIRCULATION ANALYSIS

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