

Revised Transportation Analysis

**Parkway South One
DRI# 2099
City of Union City, Georgia**

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EXECUTIVE SUMMARY

The analysis summarized in this report serves as additional analysis for Parkway South One (DRI 2099). This additional analysis uses alternative methodology to develop background traffic growth and analyzes both Partial Build-Out (Year 2020) and Full Build-Out (Year 2030) scenarios.

Per the GRTA Letter of Understanding dated 03/09/10, background traffic growth is to be calculated by applying a 1% per year growth for twenty (20) years AND adding project traffic associated with six (6) other DRI developments. The results of this methodology were documented in the DRI Transportation Analysis submitted in May 2010.

After discussion with GRTA staff, it was determined that this methodology should be modified and re-submitted as additional analysis. The revised methodology consists of applying a 2% per year growth for twenty (20) years, with no additional project traffic from six (6) other DRI developments. It should be noted that this revised methodology is consistent with the methodology used in the two (2) most recent DRI Transportation Analyses in the vicinity (DRI 1839 and DRI 1841).

This report presents the analysis of the anticipated traffic impacts associated with the proposed Parkway South One development, a proposed approximate 870-acre mixed-use development. Because the project is a mixed-use development exceeding 400,000 gross square feet (SF), the proposed development is considered a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review. This document is being submitted under non-expedited review.

The development is scheduled to be completed by 2030; this analysis will consider partial build-out of the proposed site in 2020 and full build-out of the proposed site in 2030. The current zoning is TCMU (Town Center Mixed Use), and the local jurisdiction action is an administrative review for compliance with TCMU requirements.

The proposed development is located north of South Fulton Parkway, east of Campbellton-Fairburn Road, and west of Stonewall Tell Road. Parkway South One is comprised of two (2) sites: Stonewall Tell Corporate Center and Thompson Park. Stonewall Tell Corporate Center is the eastern site and is located to the east of Derrick Road; Thompson Park is the western site and is located to the west of Derrick Road. The proposed site consists of the following land uses and densities:

	Thompson Park (486 acres)		Stonewall Tell Corporate Center (384 acres)		TOTAL SITE (870 acres)	
	Partial Build-Out Year 2020	Full Build-Out Year 2030	Partial Build-Out Year 2020	Full Build-Out Year 2030	Partial Build-Out Year 2020	Full Build-Out Year 2030
Warehousing	---	---	2,000,000 SF	3,000,000 SF	2,000,000 SF	3,000,000 SF
Single-Family Residential	75 units	75 units	0 units	105 units	75 units	180 units
Apartment	250 units	600 units	---	---	250 units	600 units
Condominium/Townhouse	200 units	826 units	---	---	200 units	826 units
Office	800,000 SF	2,568,000 SF	40,000 SF	82,000 SF	840,000 SF	2,650,000 SF
Retail	35,000 SF	245,000 SF	15,000 SF	15,000 SF	50,000 SF	260,000 SF
School	50,000 SF	50,000 SF	---	---	50,000 SF	50,000 SF

Capacity analyses were performed for the Existing 2010 Conditions, Projected 2020 No-Build Conditions, and Projected 2020 (Partial Build-Out) Build Conditions, Projected 2030 No-Build Conditions, and Projected 2030 (Full Build-Out) Build Conditions at nineteen (19) intersections.

- Existing 2010 Conditions represent traffic volumes that were collected in February 2010 and March 2010 by performing AM and PM peak hour turning movement counts.
- Projected 2020 No-Build Conditions represent the existing traffic volumes grown for ten (10) years at 2% per year throughout the study network.
- Projected 2020 Build Conditions represent the 2020 No-Build Conditions with the addition of project trips that are anticipated to be generated by partial build-out of the Parkway South One development.
- Projected 2030 No-Build Conditions represent the existing traffic volumes grown for twenty (20) years at 2% per year throughout the study network.
- Projected 2030 Build Conditions represent the 2030 No-Build Conditions with the addition of project trips that are anticipated to be generated by full build-out of the Parkway South One development.
- The Parkway South One development is projected to generate 47,934 gross daily trips / 39,894 net daily trips (after mixed-use and pass-by reductions).

2010 Existing recommended improvements (present conditions; i.e. excludes background traffic growth and the Parkway South One DRI project traffic):

- South Fulton Parkway at Derrick Road (Int. #3)
 - Install a traffic signal (when warranted).
- Campbellton-Fairburn Road at Jones Road (Int. #8)
 - Install a traffic signal (when warranted).
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound right-turn lane along Hall Road.
- Campbellton-Fairburn Road at Thompson Road (Int. #10)
 - Install a traffic signal (when warranted).
- Roosevelt Highway at Stonewall Tell Road (Int. #13)
 - Install a traffic signal (when warranted).

2020 No-Build recommended improvements (includes background traffic growth, but excludes the Parkway South One DRI project traffic):

- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.

- South Fulton Parkway at Rosewood Place (Int. #4)
 - Install a traffic signal (when warranted).
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
 - Install protected-permissive left-turn phasing for the northbound approach along Campbellton-Fairburn Road.
- Stonewall Tell Road at Union Road (Int. #15)
 - Construct an eastbound left-turn lane along Stonewall Tell Road.
 - Construct a westbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

2020 (Partial Build-Out) Build recommended improvements (includes background traffic growth and partial build-out of the Parkway South One DRI project traffic):

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) northbound right-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound left-turn lane along Stonewall Tell Road.
- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional southbound left-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at B Engram Parkway (Int. #11)
 - Install a traffic signal (when warranted).
- Stonewall Tell Road at Union Road (Int. #15)
 - Install a traffic signal (when warranted).
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct one (1) southbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

2030 No-Build recommended improvements (includes background traffic growth, but excludes the Parkway South One DRI project traffic):

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) northbound right-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound left-turn lane along Stonewall Tell Road.
- South Fulton Parkway at Rosewood Place (Int. #4)
 - Install a traffic signal (when warranted).
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound left-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) eastbound right-turn lane along Cascade-Palmetto Highway.
 - Construct one (1) westbound right-turn lane along Cascade-Palmetto Highway.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
 - Install protected-permissive left-turn phasing for the northbound approach along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at B Engram Parkway (Int. #11)
 - Install a traffic signal (when warranted).
- Roosevelt Highway at B Engram Parkway (Int. #12)
 - Construct one (1) additional northbound left-turn lane along B Engram Parkway.
- Stonewall Tell Road at Union Road (Int. #15)
 - Install a traffic signal (when warranted).
 - Construct an eastbound left-turn lane along Stonewall Tell Road.
 - Construct a westbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct one (1) southbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

2030 (Full Build-Out) Build recommended improvements (includes background traffic growth and full build-out of the Parkway South One DRI project traffic):

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) additional southbound left-turn lane along Stonewall Tell Road.
- South Fulton Parkway at Derrick Road (Int. #3)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound left-turn lane along Derrick Road.
 - Construct one (1) southbound left-turn lane along Derrick Road.
- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct three (3) southbound left-turn lanes and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) additional westbound left-turn lane along South Fulton Parkway.
- South Fulton Parkway at Cedar Grove Road (Int. #6)
 - Construct one (1) northbound right-turn lane along Cedar Grove Road.
- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional northbound left-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Thompson Road (Int. #10)
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.

- Roosevelt Highway at B Engram Parkway (Int. #12)
 - Construct one (1) northbound right-turn lane along B Engram Parkway.
 - Construct one (1) additional westbound left-turn lane and one (1) right-turn lane along Roosevelt Highway.
- Union Road at Old Fairburn Road (Int. #16)
 - Construct one (1) northbound right-turn lane along Union Road.
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct a single-lane modern roundabout.

The following improvements are the recommended Partial Build-Out (Year 2020) driveway configurations:

- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Driveway B (Int. #20)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway B.
- South Fulton Parkway at Driveway C (Int. #21)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Driveway C.
- South Fulton Parkway at Driveway D (Int. #22)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway D.
- South Fulton Parkway at Driveway E/Thompson Road Extension (Int. #23)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Driveway E.

- South Fulton Parkway at Driveway F (Int. #24)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound shared left-turn/right-turn lane along Driveway F.
- South Fulton Parkway at Driveway G (Int. #25)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway G.
- Stonewall Tell Road at Driveway H (Int. #26)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway H.
- Stonewall Tell Road at Driveway I (Int. #27)
 - This driveway is not proposed as part of the Partial Build-Out (Year 2020).
- Derrick Road at Driveway J/Thompson Road Extension (Int. #28)
 - Construct one (1) northbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) eastbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
 - Construct one (1) westbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
- Derrick Road at Driveway K (Int. #29)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Derrick Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway K.

The following improvements are the recommended Full Build-Out (Year 2030) driveway configurations:

- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct three (3) southbound left-turn lanes and one (1) shared through/right-turn lane along Driveway A.

- South Fulton Parkway at Driveway B (Int. #20)
 - Provide right-in/right-out access.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway B.
- South Fulton Parkway at Driveway C (Int. #21)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct two (2) southbound left-turn lanes and one (1) right-turn lane along Driveway C.
- South Fulton Parkway at Driveway D (Int. #22)
 - Provide right-in/right-out access.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway D.
- South Fulton Parkway at Driveway E/Thompson Road Extension (Int. #23)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct two (2) southbound left-turn lanes and one (1) right-turn lane along Driveway E.
- South Fulton Parkway at Driveway F (Int. #24)
 - Install a traffic signal (when warranted).
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Driveway F.
- South Fulton Parkway at Driveway G (Int. #25)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway G.

- Stonewall Tell Road at Driveway H (Int. #26)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway H.
- Stonewall Tell Road at Driveway I (Int. #27)
 - Provide full-movement access.
 - Construct one (1) westbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) northbound shared left-turn/right-turn lane along Driveway I.
- Derrick Road at Driveway J/Thompson Road Extension (Int. #28)
 - Install a traffic signal (when warranted).
 - Construct one (1) northbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) eastbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
 - Construct one (1) westbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
- Derrick Road at Driveway K (Int. #29)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Derrick Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway K.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts associated with the proposed Parkway South One site on approximately 870 acres. A request for administrative review for compliance with TCMU requirements was filed in the City of Union City, Georgia. Because the project is a mixed-use development exceeding 400,000 gross square feet (SF), the proposed development is considered a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review. This document is being submitted under non-expedited review.

The development is scheduled to be completed by 2030; this analysis will consider partial build-out of the proposed site in 2020 and full build-out of the proposed site in 2030. The proposed development is located north of South Fulton Parkway, east of Campbellton-Fairburn Road, and west of Stonewall Tell Road. A summary of the proposed land uses and densities at partial build-out (year 2020) is provided below in **Table 1**; the proposed land uses and densities at full build-out (year 2030) is provided below in **Table 2**.

Table 1 Parkway South One DRI Proposed Land Uses – Partial Build-Out (Year 2020)	
Distribution	2,000,000 SF
Single Family Residential	75 units
Apartments	250 units
Condo/Townhouse	200 units
Office	840,000 SF
Retail	50,000 SF
School	50,000 SF

Table 2 Parkway South One DRI Proposed Land Uses – Full Build-Out (Year 2030)	
Distribution	3,000,000 SF
Single Family Residential	180 units
Apartments	600 units
Condo/Townhouse	826 units
Office	2,650,000 SF
Retail	260,000 SF
School	50,000 SF

Figure 1 and **Figure 2** provide a location map and an aerial photograph of the site.

1.2 Site Plan Review

The development plan is proposed on approximately 870 acres in the City of Union City. The current zoning is TCMU (Town Center Mixed Use), which will allow this development. The Future Land Use Plan for the City of Union City also designates the area as TCMU (Town Center Mixed Use). The property currently consists of vacant land with the exception of one small house and barn.

Parkway South One consists of two (2) areas separated by Derrick Road. Stonewall Tell Corporate Center is approximately 384 acres and is proposed to the east of Derrick Road; it includes 3,000,000 SF of distribution center, 105 single-family residential units, 82,000 SF of office, and 15,000 SF of retail. Thompson Park is approximately 486 acres and is proposed to the west of Derrick Road; it includes a mixed-use development with 75 single-family residential units, 600 apartment units, 826 condo/townhouse units, 2,568,000 SF of office, 245,000 SF of retail, and 50,000 SF of school.

In August 2007, the *South Fulton Parkway Corridor Plan* was prepared for the City of Union City. This document included recommendations for three (3) future “Urban Boulevards” that would run parallel to South Fulton Parkway. One (1) of these “Urban Boulevards” is proposed through the Parkway South One site, and is further identified as the Thompson Road Extension. This new roadway would extend from the existing terminus of Thompson Road (just east of Campbellton-Fairburn Road), traverse through Thompson Park, create a new 4-leg intersection with Derrick Road, traverse through Stonewall Tell Corporate Center, and make a 90-degree turn to intersect with South Fulton Parkway between Derrick Road and Stonewall Tell Road. As an “Urban Boulevard”, the Thompson Road Extension would include (per the *South Fulton Parkway Corridor Plan*) a 4-lane divided roadway with a landscaped median and both sides would have a bicycle path, curb and gutter, and sidewalks (see Appendix for typical section).

Additionally, the *South Fulton Parkway Corridor Plan* recommends multiple “Boulevard Connectors” between South Fulton Parkway and the “Urban Boulevards”. The Parkway South One site proposes four (4) new “Boulevard Connectors” via Driveway A, Driveway B, Driveway C, and Driveway D.

Figure 3 is a small-scale copy of the site plan. A full-size site plan consistent with the GRTA Site Plan Guidelines is also being submitted as part of the DRI Review Package.

1.3 Site Access

The *South Fulton Parkway Corridor Plan* was also considered for the proposed access along South Fulton Parkway. Two (2) new signals at existing intersections and two (2) of the three (3) new signals at proposed intersections are proposed at locations recommended in this document. The one (1) proposed new signal that is not at a recommended location is the eastern terminus of the proposed Thompson Road Extension once it makes a 90-degree turn and intersects with South Fulton Parkway. However, it should be noted that one signalized intersection/location is proposed in the *South Fulton Parkway Corridor Plan* that is NOT being proposed with this development. This location is between Campbellton-Fairburn Road and Rosewood Place.

Vehicular access to the Parkway South One site is proposed at seven (7) locations along South Fulton Parkway, two (2) locations along Stonewall Tell Road, and two (2) locations along Derrick Road. The approximate amount of site frontage along these roadways is as follows:

- South Fulton Parkway – Approximately 13,900' of frontage
- Stonewall Tell Road – Approximately 1,400' of frontage
- Derrick Road – Approximately 4,000' of frontage

Figure 4 shows the approximate locations and spacing of the eleven (11) proposed driveways.

<u>Driveway #</u>	<u>Access</u>	<u>Road</u>	<u>Location</u>
Driveway A	Full	South Fulton Parkway	Directly across from Rosewood Place
Driveway B	Limited	South Fulton Parkway	Approximately 1,300' east of Rosewood Place
Driveway C	Full	South Fulton Parkway	Approximately 2,500' west of Derrick Road
Driveway D	Limited	South Fulton Parkway	Approximately 2,000' east of Derrick Road
Driveway E	Full	South Fulton Parkway	Eastern terminus of proposed Thompson Road Extension, approximately 2,950' east of Derrick Road
Driveway F	Full	South Fulton Parkway	Proposed North Wexford Road Extension, approximately 2,800' west of Stonewall Tell Road
Driveway G	Limited	South Fulton Parkway	Approximately 1,100' west of Stonewall Tell Road
Driveway H	Full	Stonewall Tell Road	Approximately 400' north of South Fulton Parkway
Driveway I	Full	Stonewall Tell Road	Approximately 4,700' east of Jones Road and 3,600' west of Union Road
Driveway J	Full	Derrick Road	Proposed Thompson Road Extension, approximately 1,200' north of Derrick Road
Driveway K	Full	Derrick Road	Approximately 700' north of Derrick Road

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities (sidewalks) and bicycle facilities do not currently exist on South Fulton Parkway, Stonewall Tell Road, or Derrick Road along the property frontage.

1.5 Transit Facilities

There are four (4) MARTA bus routes within 4.0 miles of the proposed site.

- Route 82 travels between the College Park Station and the Greenbriar Shopping Center, including the Camp Creek Market Place. The closest intersection along the route is Camp Creek Parkway/Old Fairburn Road.
- Route 84 travels between the East Point Station and the Camp Creek Market Place. The closest intersection along the route is Camp Creek Parkway/North Commerce Drive.
- Route 88 travels between the College Park Station and the Camp Creek Market Place. The closest intersection along the route is Welcome All Road/Jailette Road.
- Route 180 travels between the College Park Station and the City of Palmetto, including the City of Fairburn. The closest intersection along the route is Roosevelt Highway/Stonewall Tell Road.

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. Historical traffic count data from GDOT was reviewed for the area surrounding the proposed development, growth rates were discussed during the Pre-Application meeting with GRTA, ARC, GDOT, City of Union City staff.

The background growth rate used for this analysis was 2% per year along all adjacent roadways.

2.2 Traffic Data Collection

Weekday peak hour turning movement counts were collected in February 2010 and March 2010 at nineteen (19) intersections during the AM and PM peak periods. The morning and afternoon peak hours varied between the intersections and are shown in **Table 3**.

Table 3 Parkway South One DRI Peak Hour Summary		
<u>Intersection</u>	<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
1. South Fulton Parkway at Hunter Road/Mason Road	7:00 - 8:00	5:00 - 6:00
2. South Fulton Parkway at Stonewall Tell Road	7:15 - 8:15	5:00 - 6:00
3. South Fulton Parkway at Derrick Road	7:00 - 8:00	5:00 - 6:00
4. South Fulton Parkway at Rosewood Place	7:00 - 8:00	5:00 - 6:00
5. South Fulton Parkway at Campbellton-Fairburn Road	7:15 - 8:15	5:00 - 6:00
6. South Fulton Parkway at Cedar Grove Road	7:00 - 8:00	5:00 - 6:00
7. Campbellton-Fairburn Road at Cascade-Palmetto Highway	7:15 - 8:15	4:45 - 5:45
8. Campbellton-Fairburn Road at Jones Road	7:00 - 8:00	4:45 - 5:45
9. Campbellton-Fairburn Road at Hall Road	7:30 - 8:30	4:30 - 5:30
10. Campbellton-Fairburn Road at Thompson Road	7:30 - 8:30	4:45 - 5:45
11. Campbellton-Fairburn Road at B Engram Parkway	7:30 - 8:30	4:45 - 5:45
12. Roosevelt Highway at B Engram Parkway	7:15 - 8:15	5:00 - 6:00
13. Roosevelt Highway at Stonewall Tell Road	7:15 - 8:15	4:45 - 5:45
14. Stonewall Tell Road at North Wexford Road	Not Counted*	
15. Stonewall Tell Road at Union Road	7:15 - 8:15	5:00 - 6:00
16. Union Road at Old Fairburn Road	7:15 - 8:15	5:00 - 6:00
17. Stonewall Tell Road at Jones Road/Pittman Road	7:15 - 8:15	5:00 - 6:00
18. Jones Road at Derrick Road	7:15 - 8:15	5:00 - 6:00
19. Derrick Road at Thompson Road	7:15 - 8:15	4:45 - 5:45

*Intersection was not counted – traffic data entering/exiting North Wexford Road was developed by comparing the number of houses along Wexford Road to the number of houses along the Thompson Road section near Derrick Road.

Daily traffic counts were obtained in February 2010 at seven (7) locations.

<u>Roadway</u>	<u>ADT</u>
South Fulton Parkway, between Stonewall Tell and Hunter/Mason	21,153
South Fulton Parkway, between Derrick and Stonewall Tell	16,740
South Fulton Parkway, west of Campbellton-Fairburn	11,606
Stonewall Tell Road, north of South Fulton Parkway	8,126
Stonewall Tell Road, south of South Fulton Parkway	5,681
Campbellton-Fairburn Road, north of South Fulton Parkway	20,369
Campbellton-Fairburn Road, south of South Fulton Parkway	13,956

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 7.0*.

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 all way stop control, 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. Low levels of service for side street approaches are not uncommon, as vehicles may experience delay in turning onto a major roadway.

Volume to capacity (v/c) ratio is reported in similar fashion as LOS for each intersection type. The v/c ratio measures the level of congestion at an intersection or a side street approach.

3.0 STUDY NETWORK

3.1 Gross Trip Generation

Traffic for these proposed land uses and densities were calculated using equations contained in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, Seventh Edition, 2003*. Average rates were used only when equations were not provided. Additionally, project traffic associated with the distribution land use was calculated using 55% of ITE (Seventh Edition) values. Gross trips generated for partial build-out (year 2020) are displayed in **Table 4**; gross trips generated for full build-out (year 2030) are displayed in **Table 5**.

Some land uses have two (2) line items below, separately identifying the anticipated trip generation for the land uses within Stonewall Tell Corporate Center and Thompson Park. Since vehicles must use the external road network to travel between these two (2) sites, the trip generation was separated to more accurately generate future traffic for the proposed development.

Table 4
Parkway South One DRI
Gross Trip Generation – Partial Build-Out (Year 2020)

Land Use	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
2,000,000 SF Warehousing	150 *	2,120	2,120	314	69	96	287
0 Single-Family Detached Units	210	0	0	0	0	0	0
75 Single-Family Detached Units	210	399	399	16	46	52	31
250 Apartment Units	220	827	827	25	101	101	54
200 Condo/Townhouse Units	230	578	578	15	75	71	35
50,000 SF Elementary School	520	321	321	109	92	62	82
40,000 SF Office	710	329	329	79	11	21	103
800,000 SF Office	710	3,308	3,308	871	119	166	809
15,000 SF Retail	820	990	990	31	19	86	93
35,000 SF Retail	820	1,716	1,716	51	32	150	163
Total		10,588	10,588	1,511	564	805	1,657

* Trip Generation Rates based on 55% of ITE (Seventh Edition) values – per GRTA Letter of Understanding

Table 5
Parkway South One DRI
Gross Trip Generation – Full Build-Out (Year 2030)

Land Use	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
3,000,000 SF Warehousing	150 *	3,132	3,132	419	92	132	395
105 Single-Family Detached Units	210	544	544	21	62	71	41
75 Single-Family Detached Units	210	399	399	16	46	52	31
600 Apartment Units	220	1,878	1,878	60	238	226	122
826 Condo/Townhouse Units	230	1,932	1,932	48	232	228	112
50,000 SF Elementary School	520	320	320	109	92	62	82
82,000 SF Office	710	572	572	141	19	29	142
2,568,000 SF Office	710	8,120	8,120	2,215	302	502	2,453
15,000 SF Retail	820	990	990	31	19	86	93
245,000 SF Retail	820	6,080	6,080	163	105	543	588
Total		23,967	23,967	3,223	1,207	1,931	4,059

* Trip Generation Rates based on 55% of ITE (Seventh Edition) values – per GRTA Letter of Understanding

3.2 *Trip Distribution*

The directional distribution and assignment of new project trips was based on a review of the land uses in the area, driving the study network and study intersections, engineering judgment, and methodology discussions with GRTA, ARC, GDOT, and City of Union City staff.

3.3 *Level of Service Standards*

For the purposes of this traffic analysis, a level of service standard of D was assumed for all intersections and segments within the study network. If, however, an intersection or segment currently operates at LOS E or LOS F during an existing peak period, the LOS standard for that peak period becomes LOS E, consistent with the GRTA Letter of Understanding. Additionally, all LOS standards shall be constrained by a maximum volume-to-capacity (v/c) ratio of 1.2.

3.4 *Study Network Determination*

A general study area was determined using the GRTA 7% rule. This rule recommends that all intersections and segments be analyzed which are impacted to the extent that the traffic from the proposed site is 7% or more of the service volume of the facility (at a previously established LOS standard, typically LOS D) be considered for analysis. The study area was agreed upon during methodology discussions with GRTA, ARC, GDOT, and City of Union City staff, and includes the following intersections in **Table 6**.

Table 6 Parkway South One DRI Intersection Control Summary	
<u>Intersection</u>	<u>Existing Control</u>
1. South Fulton Parkway at Hunter Road/Mason Road	Signalized
2. South Fulton Parkway at Stonewall Tell Road	Signalized
3. South Fulton Parkway at Derrick Road	TWSC
4. South Fulton Parkway at Rosewood Place	TWSC
5. South Fulton Parkway at Campbellton-Fairburn Road	Signalized
6. South Fulton Parkway at Cedar Grove Road	Signalized
7. Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signalized
8. Campbellton-Fairburn Road at Jones Road	TWSC
9. Campbellton-Fairburn Road at Hall Road	TWSC
10. Campbellton-Fairburn Road at Thompson Road	TWSC
11. Campbellton-Fairburn Road at B Engram Parkway	TWSC
12. Roosevelt Highway at B Engram Parkway	Signalized
13. Roosevelt Highway at Stonewall Tell Road	TWSC
14. Stonewall Tell Road at North Wexford Road	TWSC
15. Stonewall Tell Road at Union Road	TWSC
16. Union Road at Old Fairburn Road	TWSC
17. Stonewall Tell Road at Jones Road/Pittman Road	All Way Stop
18. Jones Road at Derrick Road	TWSC
19. Derrick Road at Thompson Road	TWSC

NOTE: TWSC = Two-Way Stop Control (major street is free-flow and minor street stops)

Each of the above listed intersections was analyzed for the Existing 2010 Conditions, the 2020 No-Build Conditions, the 2020 Build Conditions, the 2030 No-Build Conditions, and the 2030 Build Conditions. The 2030 No-Build Conditions represent the existing traffic volumes grown for twenty (20) years at 2% per year throughout the study network. The 2030 Build Conditions adds the project trips associated with the Parkway South One development to the 2030 No-Build Conditions.

3.5 Existing Facilities

Roadway classification descriptions for the entire study area are provided in **Table 7**.

Table 7 Parkway South One DRI Roadway Classification			
Roadway	Number of Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification
South Fulton Parkway (US 29/SR 14 ALT)	4	55	Principal Arterial
Roosevelt Highway (US 29/SR 14)	4	45 / 55	Principal Arterial
Campbellton-Fairburn Road (SR 92)	2 / 4	55	Minor Arterial
Cascade-Palmetto Highway (SR 154)	2	55	Minor Arterial
B Engram Parkway (SR 138)	4	55	Minor Arterial
Stonewall Tell Road	2	35 / 40	Minor Arterial
Union Road	2	35	Minor Arterial
Old Fairburn Road	2	45	Minor Arterial
West Campbellton Street	2	35	Minor Arterial
Cedar Grove Road	2	45	Collector
Derrick Road	2	45	Local
Jones Road	2	45	Local
Pittman Road	2	45	Local
Hall Road	2	45	Local
Hunter Road	2	45	Local
Mason Road	2	35	Local
North Wexford Road	2	30	Local
Thompson Road	2	N.P.	Local
Rosewood Place	2	25	Local

4.0 TRIP GENERATION

As stated earlier, trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, Seventh Edition, 2003*, using equations where available. Additionally, project traffic associated with the distribution land use was calculated using 55% of ITE (Seventh Edition) values.

Mixed-use vehicle trip reductions were taken according to the *ITE Trip Generation Handbook, June 2004*. Total internal capture and vehicle trip reduction between the proposed land uses is expected to be 9.6% for the weekday and 6.55% for the PM peak hour.

Alternative transportation mode (walking, bicycle, and transit) reductions were not applied for this project.

Pass-by reductions were calculated according the equation for Land Use 820 in the ITE Trip Generation Handbook, Second Edition, 2004. For the retail uses in Stonewall Tell Corporate Center (15,000 SF), a 67.7% pass-by reduction was applied for the weekday and for the PM peak hour. For the retail uses in Thompson Park (245,000 SF), a 30.1% for year 2030 (52.9% for year 2020) pass-by reduction was applied for the weekday and for the PM peak hour.

The total (net) trips generated and analyzed in this report for partial build-out (year 2020) are listed in **Table 8**; total (net) trips generated and analyzed in this report for full build-out (year 2030) are listed in **Table 9**.

Table 8 Parkway South One DRI Net Trip Generation – Partial Build-Out (Year 2020)						
	Daily Traffic		AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Gross Project Trips	10,588	10,588	1,511	564	805	1,657
<i>Mixed-Use Reduction</i>	- 517	- 517	- 0	- 0	- 46	- 46
<i>Alternative More Reduction</i>	- 0	- 0	- 0	- 0	- 0	- 0
<i>Pass-By Reduction (67.7% and 52.9% used)</i>	- 1,455	- 1,455	- 0	- 0	- 133	- 133
Net New Trips	8,615	8,615	1,511	564	626	1,478

Table 9 Parkway South One DRI Net Trip Generation – Full Build-Out (Year 2030)						
	Daily Traffic		AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Gross Project Trips	23,967	23,967	3,223	1,207	1,931	4,059
<i>Mixed-Use Reduction</i>	- 1,767	- 1,767	- 0	- 0	- 159	- 159
<i>Alternative More Reduction</i>	- 0	- 0	- 0	- 0	- 0	- 0
<i>Pass-By Reduction (67.7% and 30.1% used)</i>	- 2,253	- 2,253	- 0	- 0	- 209	- 209
Net New Trips	19,947	19,947	3,223	1,207	1,563	3,691

5.0 TRIP DISTRIBUTION AND ASSIGNMENT

New trips were distributed onto the roadway network using the percentages agreed to during methodology discussions with GRTA, ARC, GDOT, and City of Union City staff. **Figure 5** (residential), **Figure 6** (industrial truck), and **Figure 7** (non-residential) display the expected trip percentages for the development throughout the roadway network. These percentages were applied to the new trips generated by the development, and the volumes were assigned to the roadway network.

The study intersections are shown in **Figure 8**. Based on partial build-out of the site in year 2020, the expected peak hour turning movements generated by the proposed development are shown in **Figure 9A, 9B, and 9C**. Based on full build-out of the site in year 2030, the expected peak hour turning movements generated by the proposed development are shown in **Figure 10A, 10B, and 10C**.

6.0 TRAFFIC ANALYSIS

6.1 Existing 2010 Conditions

The observed existing peak hour traffic volumes were input in *Synchro 7.0*, and capacity analyses were performed for the AM and PM peak hours. The existing peak hour traffic volumes are shown in **Figure 11A and 11B**.

Five (5) intersections currently operate below the acceptable Level of Service standard (LOS D) during the AM Peak Hour and/or the PM Peak Hour. These intersections' No-Build and Build Peak Hour LOS standard, therefore, is LOS E per GRTA guidelines.

Based on the Existing 2010 Conditions, the following improvements result in the following five (5) intersections operating at LOS D or better:

- South Fulton Parkway at Derrick Road (Int. #3)
 - Install a traffic signal (when warranted).
- Campbellton-Fairburn Road at Jones Road (Int. #8)
 - Install a traffic signal (when warranted).
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound right-turn lane along Hall Road.
- Campbellton-Fairburn Road at Thompson Road (Int. #10)
 - Install a traffic signal (when warranted).
- Roosevelt Highway at Stonewall Tell Road (Int. #13)
 - Install a traffic signal (when warranted).

The Existing 2010 levels of service with existing geometry are displayed in **Table 10**; the levels of service with the improvements stated above are shown in **Table 11**.

Table 10 Parkway South One DRI Existing 2010 Intersection Levels of Service							
Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	B (14.2)	0.84	B (17.3)	0.62
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	D (42.9)	1.02	B (16.7)	0.69
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	E	F (118.7) F (793.7)	0.94 2.49	E (36.1) F (77.1)	0.33 0.65
4	South Fulton Parkway at Rosewood Place	NB Stop	D	D (27.4)	0.20	C (15.6)	0.05
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (44.8)	0.89	C (29.8)	0.76
6	South Fulton Parkway at Cedar Grove Road	Signal	D	C (33.2)	0.56	C (21.0)	0.41
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	C (34.2)	0.63	D (35.0)	0.68
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	E	E (49.9) F (69.8)	0.31 0.65	F (55.4) F (86.5)	0.36 0.69
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	E	F (Err) F (Err)	7.88 Err	F (525.4) F (6846.4)	2.03 3.26
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	E	F (673.7)	2.27	F (Err)	5.08
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	C (19.0)	0.56	C (19.2)	0.54
12	Roosevelt Highway at B Engram Parkway	Signal	D	C (32.9)	0.61	D (36.0)	0.64
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	C (19.2) C (15.1)	0.06 0.37	F (59.4) D (25.8)	0.15 0.58
14	Stonewall Tell Road at North Wexford Road	EB Stop	D	B (14.2)	0.04	B (13.2)	0.03
15	Stonewall Tell Road at Union Road	SB Stop	D	C (20.4)	0.46	C (18.2)	0.46
16	Union Road at Old Fairburn Road	WB Stop	D	B (11.7)	0.14	B (11.6)	0.24
17	Stonewall Tell Road at Jones Road	All Way Stop	D	B (13.9)	0.66	B (12.3)	0.54
18	Jones Road at Derrick Road	NB Stop	D	B (10.1)	0.12	B (10.4)	0.12
19	Derrick Road at Thompson Road	EB Stop	D	A (10.0)	0.01	A (9.1)	0.01

Table 11
Parkway South One DRI
Existing 2010 Intersection Levels of Service IMPROVED

	Intersection	Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
3	South Fulton Parkway at Derrick Road	New Signal	E	B (14.9)	0.60	A (4.8)	0.41
8	Campbellton-Fairburn Road at Jones Road	New Signal	E	B (10.9)	0.61	A (7.8)	0.61
9	Campbellton-Fairburn Road at Hall Road	New Signal	E	D (48.1)	1.16	B (15.1)	0.57
10	Campbellton-Fairburn Road at Thompson Road	New Signal	E	B (11.7)	0.63	B (13.8)	0.55
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	A (9.6)	0.35	A (9.9)	0.52

6.2 Projected 2020 No-Build Conditions

To account for growth in the vicinity of the proposed development, the existing traffic volumes were increased for ten (10) years at 2% per year throughout the study network. These volumes were input into *Synchro 7.0* with existing roadway geometry, and capacity analyses were performed. The intersection laneage and traffic volumes for the year 2020 No-Build Conditions are shown in **Figure 12A and 12B**.

Nine (9) intersections are projected to operate below the acceptable Level of Service standard during the AM Peak Hour and/or PM peak hour. Following implementation of the improvements recommended in the 2010 Existing Conditions analysis, five (5) intersections are still projected to operate below the acceptable Level of Service standard. Based on the No-Build 2020 Conditions, the following improvements result in the following five (5) intersections operating above their LOS standard:

- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
- South Fulton Parkway at Rosewood Place (Int. #4)
 - Install a traffic signal (when warranted).
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
 - Install protected-permissive left-turn phasing for the northbound approach along Campbellton-Fairburn Road.
- Stonewall Tell Road at Union Road (Int. #15)
 - Construct an eastbound left-turn lane along Stonewall Tell Road.
 - Construct a westbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

The Projected 2020 No-Build levels of service with existing geometry are displayed in **Table 12**; the levels of service with the Existing 2010 improvements and the improvements stated above are shown in **Table 13**.

Table 12
Parkway South One DRI
No-Build 2020 Intersection Levels of Service

	Intersection	Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	D (36.2)	1.03	C (21.0)	0.78
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	F (116.0)	1.29	C (20.4)	0.87
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	E	F (Err) F (Err)	3.52 13.51	F (115.4) F (395.0)	0.75 1.50
4	South Fulton Parkway at Rosewood Place	NB Stop	D	E (48.5)	0.41	C (19.9)	0.09
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	E (74.5)	1.14	D (46.9)	0.99
6	South Fulton Parkway at Cedar Grove Road	Signal	D	D (38.6)	0.74	C (20.3)	0.46
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	D (41.9)	0.78	D (41.3)	0.84
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	E	F (150.9) F (296.5)	0.71 1.33	F (164.5) F (391.8)	0.79 1.49
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (6744.8)	4.74 32.99
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	E	F (Err)	5.77	F (Err)	14.41
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	D (32.9)	0.79	D (32.7)	0.76
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (37.2)	0.77	D (43.7)	0.82
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	D (26.8) C (21.9)	0.10 0.55	F (415.0) F (70.7)	0.77 0.92
14	Stonewall Tell Road at North Wexford Road	EB Stop	D	C (16.5)	0.06	C (15.2)	0.04
15	Stonewall Tell Road at Union Road	SB Stop	D	E (35.4)	0.69	D (29.0)	0.67
16	Union Road at Old Fairburn Road	WB Stop	D	B (13.0)	0.18	B (13.0)	0.32
17	Stonewall Tell Road at Jones Road	All Way Stop	D	C (23.8)	0.87	C (17.4)	0.73
18	Jones Road at Derrick Road	NB Stop	D	B (10.7)	0.16	B (11.1)	0.16
19	Derrick Road at Thompson Road	EB Stop	D	B (10.4)	0.01	A (9.3)	0.02

Table 13
Parkway South One DRI
No-Build 2020 Intersection Levels of Service IMPROVED

Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	D (54.1)	1.09	C (21.7)	0.87
3	South Fulton Parkway at Derrick Road	New Signal	E	B (13.5)	0.74	A (4.3)	0.50
4	South Fulton Parkway at Rosewood Place	New Signal	D	A (7.2)	0.57	A (2.7)	0.52
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (38.1)	0.91	C (30.8)	0.72
8	Campbellton-Fairburn Road at Jones Road	New Signal	E	B (12.9)	0.75	A (9.1)	0.74
9	Campbellton-Fairburn Road at Hall Road	New Signal	E	C (32.5)	0.78	C (20.5)	0.71
10	Campbellton-Fairburn Road at Thompson Road	New Signal	E	B (12.6)	0.77	B (14.8)	0.72
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	B (10.1)	0.42	B (14.8)	0.88
15	Stonewall Tell Road at Union Road	SB Stop	D	D (29.0)	0.63	C (22.8)	0.59

6.3 Projected 2020 (Partial Build-Out) Build Conditions

The traffic associated with partial build-out of the proposed development was added to the 2020 No-Build volumes. These volumes were then input into *Synchro 7.0* with existing roadway geometry. The intersection laneage and traffic volumes for the year 2020 Build Conditions are shown in **Figure 13A, 13B, and 13C**.

Twelve (12) intersections are projected to operate below the acceptable Level of Service standard during the AM Peak Hour and/or PM Peak Hour. Following implementation of the improvements recommended in the 2010 Existing Conditions analysis and the 2020 No-Build Conditions analysis, seven (7) intersections are still projected to operate below the acceptable Level of Service standard. Based on the Build 2020 Conditions, the following improvements result in the following seven (7) intersections operating above their LOS standard:

Please note that the following improvements are IN ADDITION TO the improvements needed in the No-Build 2020 Conditions for the study intersections to operate above their LOS standard.

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) northbound right-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound left-turn lane along Stonewall Tell Road.
- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional southbound left-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at B Engram Parkway (Int. #11)
 - Install a traffic signal (when warranted).
- Stonewall Tell Road at Union Road (Int. #15)
 - Install a traffic signal (when warranted).
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct one (1) southbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

The Projected 2020 Build levels of service with existing geometry are displayed in **Table 14**; the levels of service with the Existing 2010 improvements, No-Build 2020 improvements, and the improvements stated above are shown in **Table 15**.

Table 14
Parkway South One DRI
Build 2020 (Partial Build-Out) Intersection Levels of Service

Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	E (73.6)	1.10	C (26.1)	0.88
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	F (160.1)	1.50	E (72.8)	2.01
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err Err
4	South Fulton Parkway at Rosewood Place/Driveway A	NB Stop SB Stop	D	F (696.2) F (Err)	2.34 Err	F (226.6) F (Err)	0.85 26.14
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	F (99.7)	1.26	E (69.7)	1.10
6	South Fulton Parkway at Cedar Grove Road	Signal	D	D (44.2)	0.82	B (19.5)	0.55
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	D (43.7)	0.85	D (43.7)	0.88
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	E	F (278.1) F (643.7)	0.99 2.08	F (270.1) F (670.6)	1.02 2.06
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (6745.6)	6.34 178.81
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	E	F (Err)	13.42	F (Err)	27.95
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	F (56.6)	0.95	F (55.4)	0.91
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (39.2)	0.80	D (50.4)	0.90
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	D (30.2) D (25.5)	0.12 0.61	F (528.7) F (95.7)	0.91 1.02
14	Stonewall Tell Road at North Wexford Road	EB Stop	D	C (18.4)	0.08	B (14.7)	0.10
15	Stonewall Tell Road at Union Road	SB Stop	D	F (137.0)	1.16	F (73.3)	0.96
16	Union Road at Old Fairburn Road	WB Stop	D	C (17.2)	0.39	C (16.4)	0.45
17	Stonewall Tell Road at Jones Road	All Way Stop	D	E (49.8)	1.08	D (31.3)	0.92
18	Jones Road at Derrick Road	NB Stop	D	B (11.9)	0.27	B (12.1)	0.32
19	Derrick Road at Thompson Road	EB Stop	D	B (12.0)	0.09	B (11.7)	0.22

Table 15
Parkway South One DRI
Build 2020 (Partial Build-Out) Intersection Levels of Service IMPROVED

	Intersection	Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	B (15.0)	0.82	C (25.9)	0.93
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	C (32.0)	0.98	C (31.4)	0.96
3	South Fulton Parkway at Derrick Road	New Signal	E	B (19.7)	0.93	B (11.1)	0.78
4	South Fulton Parkway at Rosewood Place/Driveway A	New Signal	D	B (10.9)	0.76	B (15.6)	0.89
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (40.5)	0.94	C (33.3)	0.83
8	Campbellton-Fairburn Road at Jones Road	New Signal	E	B (16.4)	0.83	A (10.0)	0.82
9	Campbellton-Fairburn Road at Hall Road	New Signal	E	D (35.1)	0.83	C (21.4)	0.79
10	Campbellton-Fairburn Road at Thompson Road	New Signal	E	B (15.1)	0.83	C (21.6)	0.92
11	Campbellton-Fairburn Road at B Engram Parkway	New Signal	D	C (22.4)	0.48	C (23.4)	0.44
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	A (8.4)	0.44	B (19.0)	0.95
15	Stonewall Tell Road at Union Road	New Signal	D	B (19.7)	0.49	B (19.8)	0.42
17	Stonewall Tell Road at Jones Road	All Way Stop	D	C (20.4)	0.81	D (26.8)	0.91

6.4 Projected 2030 No-Build Conditions

To account for growth in the vicinity of the proposed development, the existing traffic volumes were increased for twenty (20) years at 2% per year throughout the study network. These volumes were input into *Synchro 7.0* with existing roadway geometry, and capacity analyses were performed. The intersection laneage and traffic volumes for the year 2030 No-Build Conditions are shown in **Figure 14A and 14B**.

Fifteen (15) intersections are projected to operate below the acceptable Level of Service standard during the AM Peak Hour and/or PM peak hour. Following implementation of the improvements recommended in the 2010 Existing Conditions analysis, eleven (11) intersections are still projected to operate below the acceptable Level of Service standard. Based on the No-Build 2030 Conditions, the following improvements result in the following eleven (11) intersections operating above their LOS standard:

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) northbound right-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound left-turn lane along Stonewall Tell Road.
- South Fulton Parkway at Rosewood Place (Int. #4)
 - Install a traffic signal (when warranted).
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound left-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) eastbound right-turn lane along Cascade-Palmetto Highway.
 - Construct one (1) westbound right-turn lane along Cascade-Palmetto Highway.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
 - Install protected-permissive left-turn phasing for the northbound approach along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at B Engram Parkway (Int. #11)
 - Install a traffic signal (when warranted).
- Roosevelt Highway at B Engram Parkway (Int. #12)
 - Construct one (1) additional northbound left-turn lane along B Engram Parkway.
- Stonewall Tell Road at Union Road (Int. #15)
 - Install a traffic signal (when warranted).
 - Construct an eastbound left-turn lane along Stonewall Tell Road.
 - Construct a westbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct one (1) southbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

The Projected 2030 No-Build levels of service with existing geometry are displayed in **Table 16**; the levels of service with the Existing 2010 improvements and the improvements stated above are shown in **Table 17**.

Table 16 Parkway South One DRI No-Build 2030 Intersection Levels of Service							
Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	F (121.5)	1.27	D (39.6)	1.00
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	F (220.3)	1.65	D (43.8)	1.09
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err 6.21
4	South Fulton Parkway at Rosewood Place	NB Stop	D	F (137.6)	0.97	D (27.7)	0.16
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	F (132.5)	1.42	F (93.9)	1.28
6	South Fulton Parkway at Cedar Grove Road	Signal	D	D (54.7)	0.97	C (22.3)	0.56
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	E (68.1)	1.01	E (64.9)	1.01
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	E	F (Err) F (Err)	3.32 3.39	F (813.8) F (Err)	2.11 4.17
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (Err)	17.30 Err
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	E	F (Err)	18.51	F (Err)	61.27
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	F (130.9)	1.18	F (117.4)	1.13
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (50.1)	0.90	E (65.4)	1.03
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	F (101.6) F (74.6)	0.38 0.95	F (Err) F (490.1)	5.10 1.95
14	Stonewall Tell Road at North Wexford Road	EB Stop	D	C (20.6)	0.09	C (18.6)	0.07
15	Stonewall Tell Road at Union Road	SB Stop	D	F (122.2)	1.09	F (85.8)	1.01
16	Union Road at Old Fairburn Road	WB Stop	D	C (15.1)	0.26	C (15.6)	0.44
17	Stonewall Tell Road at Jones Road	All Way Stop	D	F (66.5)	1.17	E (40.0)	1.01
18	Jones Road at Derrick Road	NB Stop	D	B (11.6)	0.22	B (12.2)	0.22
19	Derrick Road at Thompson Road	EB Stop	D	B (10.9)	0.02	A (9.6)	0.02

Table 17
Parkway South One DRI
No-Build 2030 Intersection Levels of Service IMPROVED

	Intersection	Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	C (21.4)	0.95	D (40.0)	1.00
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	D (44.6)	1.15	B (19.7)	0.90
3	South Fulton Parkway at Derrick Road	New Signal	E	C (24.7)	0.96	A (4.9)	0.62
4	South Fulton Parkway at Rosewood Place	New Signal	D	A (4.2)	0.70	A (2.7)	0.63
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (50.0)	1.00	D (43.4)	0.99
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	D (51.1)	0.93	D (55.0)	1.00
8	Campbellton-Fairburn Road at Jones Road	New Signal	E	C (24.2)	0.92	B (14.8)	0.91
9	Campbellton-Fairburn Road at Hall Road	New Signal	E	D (53.4)	0.93	C (31.8)	0.91
10	Campbellton-Fairburn Road at Thompson Road	New Signal	E	C (26.3)	0.93	C (28.3)	1.12
11	Campbellton-Fairburn Road at B Engram Parkway	New Signal	D	C (27.8)	0.54	C (28.1)	0.50
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (45.9)	0.92	D (37.9)	0.90
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	B (17.0)	0.53	D (38.3)	0.81
15	Stonewall Tell Road at Union Road	SB Stop	D	B (16.8)	0.49	C (23.5)	0.47
17	Stonewall Tell Road at Jones Road	All Way Stop	D	D (33.6)	0.99	D (33.7)	0.99

6.5 Projected 2030 (Full Build-Out) Build Conditions

The traffic associated with full build-out of the proposed development was added to the 2030 No-Build volumes. These volumes were then input into *Synchro 7.0* with existing roadway geometry. The intersection laneage and traffic volumes for the year 2030 Build Conditions are shown in **Figure 15A, 15B, and 15C**.

Sixteen (16) intersections are projected to operate below the acceptable Level of Service standard during the AM Peak Hour and/or PM Peak Hour. Following implementation of the improvements recommended in the 2010 Existing Conditions analysis and the 2030 No-Build Conditions analysis, eleven (11) intersections are still projected to operate below the acceptable Level of Service standard. Based on the Build 2030 Conditions, the following improvements result in the following eleven (11) intersections operating above their LOS standard:

Please note that the following improvements are IN ADDITION TO the improvements needed in the No-Build 2030 Conditions for the study intersections to operate above their LOS standard.

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) additional southbound left-turn lane along Stonewall Tell Road.
- South Fulton Parkway at Derrick Road (Int. #3)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound left-turn lane along Derrick Road.
 - Construct one (1) southbound left-turn lane along Derrick Road.
- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct three (3) southbound left-turn lanes and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) additional eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) additional westbound left-turn lane along South Fulton Parkway.

- South Fulton Parkway at Cedar Grove Road (Int. #6)
 - Construct one (1) northbound right-turn lane along Cedar Grove Road.
- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional northbound left-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Thompson Road (Int. #10)
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
- Roosevelt Highway at B Engram Parkway (Int. #12)
 - Construct one (1) northbound right-turn lane along B Engram Parkway.
 - Construct one (1) additional westbound left-turn lane and one (1) right-turn lane along Roosevelt Highway.
- Union Road at Old Fairburn Road (Int. #16)
 - Construct one (1) northbound right-turn lane along Union Road.
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct a single-lane modern roundabout.

The Projected 2030 Build levels of service with existing geometry are displayed in **Table 18**; the levels of service with the Existing 2010 improvements, No-Build 2030 improvements, and the improvements stated above are shown in **Table 19**.

Table 18
Parkway South One DRI
Build 2030 (Full Build-Out) Intersection Levels of Service

Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	F (197.7)	1.57	F (155.1)	1.37
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	F (389.1)	2.13	F (279.9)	3.22
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err Err
4	South Fulton Parkway at Rosewood Place/Driveway A	NB Stop SB Stop	D	F (Err) F (Err)	85.17 Err	F (Err) F (Err)	Err Err
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	F (201.2)	1.71	F (165.9)	1.49
6	South Fulton Parkway at Cedar Grove Road	Signal	D	F (90.5)	1.13	C (20.7)	0.71
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	E (78.8)	1.07	E (75.7)	0.99
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	E	F (Err) F (Err)	Err 11.30	F (9999.0) F (Err)	5.20 14.45
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	E	F (Err) F (Err)	Err Err	F (Err) F (Err)	71.97 Err
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	E	F (Err)	237.70	F (Err)	Err
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	F (359.6)	1.71	F (410.9)	1.81
12	Roosevelt Highway at B Engram Parkway	Signal	D	E (58.8)	0.96	F (95.9)	1.27
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	F (181.9) F (180.6)	0.57 1.26	F (Err) F (950.2)	Err 2.96
14	Stonewall Tell Road at North Wexford Road	EB Stop	D	D (29.1)	0.16	C (21.5)	0.19
15	Stonewall Tell Road at Union Road	SB Stop	D	F (937.3)	2.97	F (874.6)	2.82
16	Union Road at Old Fairburn Road	WB Stop	D	F (55.1)	0.87	F (56.2)	0.90
17	Stonewall Tell Road at Jones Road	All Way Stop	D	F (217.2)	1.84	F (170.1)	1.49
18	Jones Road at Derrick Road	NB Stop	D	C (18.4)	0.53	C (23.2)	0.73
19	Derrick Road at Thompson Road	EB Stop	D	C (16.0)	0.25	D (28.6)	0.75

Table 19
Parkway South One DRI
Build 2030 (Full Build-Out) Intersection Levels of Service IMPROVED

Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	C (20.7)	0.99	C (26.4)	0.93
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	D (43.7)	1.00	D (45.8)	1.15
3	South Fulton Parkway at Derrick Road	New Signal	E	C (34.9)	0.99	C (23.9)	1.17
4	South Fulton Parkway at Rosewood Place/Driveway A	New Signal	D	C (29.6)	0.73	D (38.0)	0.87
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (53.9)	1.08	D (45.8)	1.02
6	South Fulton Parkway at Cedar Grove Road	Signal	D	D (51.8)	1.01	B (18.7)	0.62
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	D (38.5)	0.79	D (40.4)	0.85
8	Campbellton-Fairburn Road at Jones Road	New Signal	E	E (62.3)	1.10	E (57.8)	1.10
9	Campbellton-Fairburn Road at Hall Road	New Signal	E	D (46.6)	0.99	E (68.3)	1.11
10	Campbellton-Fairburn Road at Thompson Road	New Signal	E	B (19.0)	0.82	D (38.2)	1.01
11	Campbellton-Fairburn Road at B Engram Parkway	New Signal	D	C (29.7)	0.63	C (23.5)	0.61
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (42.1)	0.95	D (46.7)	0.97
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	B (15.9)	0.54	D (38.3)	0.83
15	Stonewall Tell Road at Union Road	New Signal	D	C (30.4)	0.71	C (20.0)	0.63
16	Union Road at Old Fairburn Road	WB Stop	D	D (32.4)	0.72	D (28.0)	0.72
17	Stonewall Tell Road at Jones Road	All Way Stop	D	E (39.3) *	1.09	E (39.8) *	1.08
17	Stonewall Tell Road at Jones Road	New Roundabout	D	B (19.7)	0.961	B (17.3)	0.90

* Improvements consist of two (2) lane approaches on every approach.

7.0 INGRESS/EGRESS ANALYSIS

The *South Fulton Parkway Corridor Plan* was also considered for the proposed access along South Fulton Parkway. Two (2) new signals at existing intersections and two (2) of the three (3) new signals at proposed intersections are proposed at locations recommended in this document. The one (1) proposed new signal that is not at a recommended location is the eastern terminus of the proposed Thompson Road Extension once it makes a 90-degree turn and intersects with South Fulton Parkway. However, it should be noted that one signalized intersection/location is proposed in the *South Fulton Parkway Corridor Plan* that is NOT being proposed with this development. This location is between Campbellton-Fairburn Road and Rosewood Place.

Vehicular access to the Parkway South One site is proposed at seven (7) locations along South Fulton Parkway, two (2) locations along Stonewall Tell Road, and two (2) locations along Derrick Road. The approximate amount of site frontage along these roadways is as follows:

- South Fulton Parkway – Approximately 13,900' of frontage
- Stonewall Tell Road – Approximately 1,400' of frontage
- Derrick Road – Approximately 4,000' of frontage

<u>Driveway #</u>	<u>Access</u>	<u>Road</u>	<u>Location</u>
Driveway A	Full	South Fulton Parkway	Directly across from Rosewood Place
Driveway B	Limited	South Fulton Parkway	Approximately 1,300' east of Rosewood Place
Driveway C	Full	South Fulton Parkway	Approximately 2,500' west of Derrick Road
Driveway D	Limited	South Fulton Parkway	Approximately 2,000' east of Derrick Road
Driveway E	Full	South Fulton Parkway	Eastern terminus of proposed Thompson Road Extension, approximately 2,950' east of Derrick Road
Driveway F	Full	South Fulton Parkway	Proposed North Wexford Road Extension, approximately 2,800' west of Stonewall Tell Road
Driveway G	Limited	South Fulton Parkway	Approximately 1,100' west of Stonewall Tell Road
Driveway H	Full	Stonewall Tell Road	Approximately 400' north of South Fulton Parkway
Driveway I	Full	Stonewall Tell Road	Approximately 4,700' east of Jones Road and 3,600' west of Union Road
Driveway J	Full	Derrick Road	Proposed Thompson Road Extension, approximately 1,200' north of Derrick Road
Driveway K	Full	Derrick Road	Approximately 700' north of Derrick Road

7.1 Driveway Analysis – Partial Build-Out (Year 2020)

Capacity analyses were performed at the site driveways for the year 2020 Build Conditions. The intersection laneage and traffic volumes for the year 2020 Build Conditions are shown in **Figure 13C**.

The following improvements are the recommended driveway configurations:

- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Driveway B (Int. #20)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway B.
- South Fulton Parkway at Driveway C (Int. #21)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Driveway C.
- South Fulton Parkway at Driveway D (Int. #22)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway D.
- South Fulton Parkway at Driveway E/Thompson Road Extension (Int. #23)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Driveway E.
- South Fulton Parkway at Driveway F (Int. #24)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound shared left-turn/right-turn lane along Driveway F.

- South Fulton Parkway at Driveway G (Int. #25)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway G.
- Stonewall Tell Road at Driveway H (Int. #26)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway H.
- Stonewall Tell Road at Driveway I (Int. #27)
 - This driveway is not proposed as part of the Partial Build-Out (Year 2020).
- Derrick Road at Driveway J/Thompson Road Extension (Int. #28)
 - Construct one (1) northbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) eastbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
 - Construct one (1) westbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
- Derrick Road at Driveway K (Int. #29)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Derrick Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway K.

The levels of service for the site driveways and the intersection geometry stated above are shown in **Table 20**.

Table 20
Parkway South One DRI
Build 2020 (Partial Build-Out) Intersection Levels of Service – Driveways

Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
4	South Fulton Parkway at Rosewood Place/Driveway A	NB Stop SB Stop	D	B (10.9)	0.76	B (15.6)	0.89
20	South Fulton Parkway at Driveway B	SB Stop	D	B (10.5)	0.03	C (24.5)	0.35
21	South Fulton Parkway at Driveway C	New Signal	D	A (4.8)	0.70	A (7.4)	0.75
22	South Fulton Parkway at Driveway D	SB Stop	D	B (10.4)	0.01	B (12.2)	0.06
23	South Fulton Parkway at Driveway E (Thompson Ext)	New Signal	D	A (4.6)	0.75	B (11.6)	0.79
24	South Fulton Parkway at Driveway F (North Wexford Ext)	New Signal	D	A (4.6)	0.73	A (3.8)	0.67
25	South Fulton Parkway at Driveway G	SB Stop	D	B (10.1)	0.00	B (11.9)	0.04
26	Stonewall Tell Road at Driveway H	EB Stop	D	B (14.4)	0.05	B (13.1)	0.15
27	Stonewall Tell Road at Driveway I	NB Stop	D	A (0.0)	0.00	A (0.0)	0.00
28	Derrick Road at Driveway J (Thompson Ext)	EB Stop WB Stop	D	B (12.4) B (14.8)	0.04 0.07	B (10.2) B (14.1)	0.11 0.23
29	Derrick Road at Driveway K	EB Stop	D	B (10.5)	0.04	B (10.5)	0.02

7.2 Driveway Analysis – Full Build-Out (Year 2030)

Capacity analyses were performed at the site driveways for the year 2030 Build Conditions. The intersection laneage and traffic volumes for the year 2030 Build Conditions are shown in **Figure 15C**.

The following improvements are the recommended driveway configurations:

- South Fulton Parkway at Rosewood Place/Driveway A (Int. #4)
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct three (3) southbound left-turn lanes and one (1) shared through/right-turn lane along Driveway A.
- South Fulton Parkway at Driveway B (Int. #20)
 - Provide right-in/right-out access.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway B.
- South Fulton Parkway at Driveway C (Int. #21)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct two (2) southbound left-turn lanes and one (1) right-turn lane along Driveway C.
- South Fulton Parkway at Driveway D (Int. #22)
 - Provide right-in/right-out access.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway D.
- South Fulton Parkway at Driveway E/Thompson Road Extension (Int. #23)
 - Install a traffic signal (when warranted).
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct two (2) southbound left-turn lanes and one (1) right-turn lane along Driveway E.

- South Fulton Parkway at Driveway F (Int. #24)
 - Install a traffic signal (when warranted).
 - Construct one (1) additional eastbound through lane along South Fulton Parkway.
 - Construct one (1) eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Driveway F.
- South Fulton Parkway at Driveway G (Int. #25)
 - Provide right-in/right-out access.
 - Construct one (1) westbound right-turn lane along South Fulton Parkway.
 - Construct one (1) southbound right-turn lane along Driveway G.
- Stonewall Tell Road at Driveway H (Int. #26)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway H.
- Stonewall Tell Road at Driveway I (Int. #27)
 - Provide full-movement access.
 - Construct one (1) westbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) northbound shared left-turn/right-turn lane along Driveway I.
- Derrick Road at Driveway J/Thompson Road Extension (Int. #28)
 - Install a traffic signal (when warranted).
 - Construct one (1) northbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) southbound left-turn lane and one (1) right-turn lane along Derrick Road.
 - Construct one (1) eastbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
 - Construct one (1) westbound left-turn lane, two (2) through lanes, and one (1) right-turn lane along Driveway J.
- Derrick Road at Driveway K (Int. #29)
 - Provide full-movement access.
 - Construct one (1) northbound left-turn lane along Derrick Road.
 - Construct one (1) eastbound shared left-turn/right-turn lane along Driveway K.

The levels of service for the site driveways and the intersection geometry stated above are shown in **Table 21**.

Table 21
Parkway South One DRI
Build 2030 (Full Build-Out) Intersection Levels of Service – Driveways

Intersection		Control	LOS Std.	AM Peak Hour		PM Peak Hour	
				LOS	v/c	LOS	v/c
4	South Fulton Parkway at Rosewood Place/Driveway A	NB Stop SB Stop	D	C (29.6)	0.73	D (38.0)	0.87
20	South Fulton Parkway at Driveway B	SB Stop	D	B (11.0)	0.07	F (52.0) *	0.82
21	South Fulton Parkway at Driveway C	New Signal	D	B (17.6)	0.92	D (43.3)	1.08
22	South Fulton Parkway at Driveway D	SB Stop	D	B (10.1)	0.01	C (16.7)	0.12
23	South Fulton Parkway at Driveway E (Thompson Ext)	New Signal	D	D (53.0)	1.14	D (37.2)	1.06
24	South Fulton Parkway at Driveway F (North Wexford Ext)	New Signal	D	B (14.2)	0.83	D (46.2)	0.97
25	South Fulton Parkway at Driveway G	SB Stop	D	B (11.3)	0.00	B (11.9)	0.04
26	Stonewall Tell Road at Driveway H	EB Stop	D	C (19.4)	0.07	C (17.3)	0.21
27	Stonewall Tell Road at Driveway I	NB Stop	D	C (16.8)	0.18	B (14.6)	0.11
28	Derrick Road at Driveway J (Thompson Ext)	New Signal	D	B (12.7)	0.31	B (18.1)	0.22
29	Derrick Road at Driveway K	EB Stop	D	B (12.6)	0.12	B (13.8)	0.06

* Additional westbound through lanes needed to achieve LOS D; however, HCM cannot calculate delay and LOS with more than four (4) lanes on any approach.

8.0 IDENTIFICATION OF PROGRAMMED PROJECTS

The *TIP*, *STIP*, *RTP*, and *GDOT's Construction Work Program* were searched for currently programmed transportation projects within the vicinity of the proposed development. The identified projects are listed in **Table 22**. **Figure 16** shows the locations of the programmed transportation projects.

Table 22 Parkway South One DRI Programmed Improvements			
No.	Year	Project Number	Project Description
1	2010	ARC FS-196 GDOT 0006729	South Fulton Parkway (US 29/SR 14 ALT) access management plan from Douglas County line to I-285. This document will provide guidance for future decision-making regarding provision of private access to South Fulton Parkway, to maintain efficiency and safety.
2	2013	ARC FS-202B1 GDOT 0006913	Widening of Oakley Industrial Boulevard from 2 to 3 lanes (with a center two way left turn lane) between Jonesboro Road (SR 138) and Fayetteville Road. This will include intersection improvements, sidewalks, and improved shoulders.
3	2011	ARC AR-941 GDOT 0008738	Metro Arterial Connector corridor development study, looking at a network of state highways encircling the Atlanta region. Roadways comprising this network are proposed to have a minimum of 4 travel lanes along its entire length. Cascade Palmetto Highway (SR 154) is included.
4	2013	ARC FS-208 GDOT 0007533	Intersection improvement for Stonewall Tell Road at Butner Road. This project would consider signalization, realignment of skewed approaches, improved pedestrian facilities, and improved drainage.
5	2014	ARC AR-118D GDOT 0006864	Intersection improvement for SR 70/SR 154 at Cedar Grove Road/Ridge Road. This will include realignment for safety purposes.
6	2020	ARC FS-202A	Oakley Industrial Boulevard extension from Jonesboro Road (SR 138) to Flat Shoals Road at its intersection with Buffington Road. This would create a new 4-lane roadway.
7	2020	ARC FS-202B	Widening of Oakley Industrial Boulevard from 2 to 4 lanes between Jonesboro Road (SR 138) and Senoia Road (SR 74). A small portion of this will be new alignment.
8	2030	ARC FS-200A GDOT 751146-	Widening of Washington Road from 2 to 4 lanes between I-285 and Desert Drive. This would create a 4-lane undivided road, improve intersections, improve traffic signals, and install sidewalks and bike paths.
9	Long Range	ARC FS-030 GDOT 742890-	Widening of Roosevelt Highway (SR 14) from South Fulton Parkway to Old National Highway (SR 279). This project would widen the road from 2 to 4 lanes.

9.0 INTERNAL CIRCULATION ANALYSIS

One (1) of the “Urban Boulevards” is proposed through the Parkway South One site, and is identified as the Thompson Road Extension. This new roadway would extend from the existing terminus of Thompson Road (just east of Campbellton-Fairburn Road), traverse through Thompson Park, create a new 4-leg intersection with Derrick Road, traverse through Stonewall Tell Corporate Center, and make a 90-degree turn to intersect with South Fulton Parkway between Derrick Road and Stonewall Tell Road.

As an “Urban Boulevard”, the Thompson Road Extension would include (per the *South Fulton Parkway Corridor Plan*) a 4-lane divided roadway with a landscaped median and both sides would have a bicycle path, curb and gutter, and sidewalks. This roadway will provide a connection between Stonewall Tell Corporate Center and Thompson Park, and will be an alternative to South Fulton Parkway.

Mixed-use reductions were calculated according to the *ITE Trip Generation Handbook, 2004*. Total internal capture and vehicle trip reduction between the proposed land uses within Thompson Park is expected to be 9.6% for the weekday and 6.55% for the PM peak hour. This is the interaction between the residential, office, and retail land uses. Internal capture calculations were not performed within Stonewall Tell Corporate Center.

10.0 COMPLIANCE WITH COMPREHENSIVE PLAN ANALYSIS

The proposed development is mixed-use with residential, industrial, office, and retail components. The current zoning is TCMU (Town Center Mixed Use). The ARC Unified Growth Policy Map identifies the site as Urban Neighborhoods and Suburban Neighborhoods.

11.0 NON-EXPEDITED CRITERIA

11.1 Vehicle Miles of Travel

Table 23 displays the reduction in traffic generation due to internal capture, alternative mode, and pass-by reductions.

Table 23 Vehicle Mile Reductions	
	Weekday
Daily Gross Trip Generation:	47,933
(-)Mixed-use reductions (internal capture)	- 3,534
(-)Alternative modes	- 0
(-)Pass-by trips	- 4,506
Net Trips:	39,893

11.2 Transportation and Traffic Analysis

11.2.1 Planned and Programmed Improvements

The proposed project is not anticipated to preclude any transportation infrastructure improvement projects as identified by the City of Union City.

11.2.2 Preserving Regional Mobility

This project is proximate to South Fulton Parkway, a principal arterial that connects to I-285 and I-85.

11.2.3 Safe and Efficient Operations

Pedestrians and bicyclists were taken into consideration when formulating and testing recommended improvements as outlined in this report. The results of this traffic study represent a list of recommendations that not only address transportation enhancements for vehicular traffic, but also for pedestrians and bicyclists. The recommendations are intended to provide solutions that are context sensitive and create safe conditions and aim at balancing the mobility needs of all modes.

11.2.4 Minimize Congestion

The recommendations as described in this report are targeted at reducing vehicular congestion to standards as described earlier in this report. Recommendations reflect the goal of vehicular congestion mitigation, particularly the mixed-use nature of this development. The residential, industrial, office, and retail uses are proposed to accommodate pedestrians and bicyclists along the Thompson Road Extension and other internal roads.

11.3 Relationship of Existing Development and Infrastructure

The development is located in an area where the existing infrastructure is adequate to serve the needs of the development upon build-out (2030).

12.0 ARC'S AIR QUALITY BENCHMARK

The proposed development consists of a mix of uses with office serving as the dominant use. Approximately 33% of the floor area is residential. Therefore, the mix of uses meets the ARC criteria for a 4% VMT reduction.

The proposed development will contain a pedestrian network within the site, and connections to pedestrian and bicycle paths as deemed appropriate by the City of Union City. The proposed Thompson Road Extension is expected to include both sidewalks and bicycle lanes. Pedestrians will be able to access other uses within the proposed development via the pedestrian network and crosswalks across the proposed Thompson Road Extension. Additionally, because the project site is nearly entirely bounded by public roadways, providing connections to land uses adjoining the site may not be feasible. This anticipated pedestrian and bicycle internal network that connects to adjoining uses meets the ARC criteria for a 4% VMT reduction.

The proposed development earns a score of 8% VMT reduction for the ARC criteria. These reductions are displayed in **Table 24**.

Table 24 ARC VMT Reductions	
Projects where office is the dominant use	
Mix of uses such that of the entire site, at least 10% of the floor area is residential space	- 4%
Bike/ped networks in development that meet one Density or Mixed Use 'target'	- 4%
Total Reductions	- 8%