Transportation Analysis

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

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EXECUTIVE SUMMARY

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, and this analysis will consider the 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	Stonewall Tell Corporate Center
486 acres	384 acres
75 units – Single Family Residential	3,000,000 SF – Warehousing
600 units – Apartment	105 units - Single Family Residential
826 units – Condominium/Townhouse	82,000 SF – Office
2,568,000 SF – Office	15,000 SF – Retail
245,000 SF – Retail	
50,000 SF – School	

<u>TOTAL SITE</u> 3,000,000 SF – Warehousing 180 units – Single Family Residential 600 units – Apartment 826 units – Condominium/Townhouse 2,650,000 SF – Office 260,000 SF – Retail 50,000 SF – School

Capacity analyses were performed for the Existing 2010 Conditions, Projected 2030 No-Build Conditions, and Projected 2030 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 2030 No-Build Conditions represent the existing traffic volumes grown for twenty (20) years at 1% per year throughout the study network, plus project traffic associated with six (6) other DRIs.
- Projected 2030 Build Conditions represent the 2030 No-Build Conditions with the addition of project trips that are anticipated to be generated by 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).

• The six (6) other DRIs that are included in the 2030 No-Build and 2030 Build scenarios are projected to generate a total of 143,422 net daily trips (after mixed-use and pass-by reductions). NOTE: Only a portion of these trips are projected to travel through the study network contained in this report.

2010 Existing recommended improvements (present conditions; i.e. excludes background traffic growth, other DRI traffic, 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).

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

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct three (3) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lane along South Fulton Parkway.
- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct three (3) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound right-turn lane along Stonewall Tell Road.
 - Construct two (2) southbound left-turn lanes along Stonewall Tell Road.
- South Fulton Parkway at Derrick Road (Int. #3)
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.

- South Fulton Parkway at Rosewood Place (Int. #4)
 - Install a traffic signal (when warranted).
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct three (3) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lane along South Fulton Parkway.
 - Convert the existing northbound right-turn lane to a second northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
 - Construct two (2) additional southbound left-turn lanes along Campbellton-Fairburn Road.
 - Construct one (1) additional westbound right-turn lane along South Fulton Parkway.
- South Fulton Parkway at Cedar Grove Road (Int. #6)
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound right-turn lane along Cedar Grove Road.
- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) additional eastbound through lane along Cascade-Palmetto Highway.
 - Construct one (1) additional westbound through lane along Cascade-Palmetto Highway.
 - Construct one (1) northbound right-turn lane along Campbellton-Fairburn Road.
 - Construct one (1) southbound right-turn lane along Campbellton-Fairburn Road.
- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - 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).
- Stonewall Tell Road at Union Road (Int. #15)
 - Construct a westbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

NOTE: Due to the significant laneage requirements, consideration should be made to develop an alternative solution for study intersections along South Fulton Parkway.

2030 Build recommended improvements (includes background traffic growth, other DRI traffic, and 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 two (2) additional eastbound through lanes along South Fulton Parkway.
 - o Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound right-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) 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 four (4) 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 two (2) northbound right-turn lanes along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound left-turn lane and one (1) right-turn lane along Campbellton-Fairburn Road.
 - Construct one (1) additional eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) additional westbound left-turn lane along South Fulton Parkway.
 - Install permissive-overlap right-turn phasing for the northbound approach along Campbellton-Fairburn Road.
 - Install permissive-overlap right-turn phasing for the westbound approach along South Fulton Parkway.
- South Fulton Parkway at Cedar Grove Road (Int. #6)
 - Install permissive-overlap right-turn phasing for the northbound approach along Cedar Grove Road.

- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) eastbound right-turn lane along Cascade-Palmetto Highway.
 - Construct one (1) additional westbound left-turn lane and one (1) right-turn lane along Cascade-Palmetto Highway.
- Campbellton-Fairburn Road at Jones Road (Int. #8)
 - 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)
 - Install permissive-overlap right-turn phasing for the eastbound approach along Hall 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) additional northbound left-turn lane along B Engram Parkway.
- Stonewall Tell Road at Union Road (Int. #15)
 - Install a traffic signal (when warranted).
 - ALTERNATIVE: Construct a single-lane modern roundabout.
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound right-turn lane along Stonewall Tell Road.
 - Construct one (1) eastbound left-turn lane along Jones Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

NOTE: Due to the significant laneage requirements, consideration should be made to develop an alternative solution for study intersections along South Fulton Parkway.

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 four (4) 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 one (1) additional eastbound through lane along South Fulton Parkway.
 - 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 B.
- South Fulton Parkway at Driveway C (Int. #21)
 - Install a traffic signal (when warranted).
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes 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 three (3) 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 eastbound through lane along South Fulton Parkway.
 - 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 two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes 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 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 two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes 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) additional eastbound through lane along South Fulton Parkway.
 - 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 G.
- Stonewall Tell Road at Driveway H (Int. #26)
 - o 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.

NOTE: Due to the significant laneage requirements, consideration should be made to develop an alternative solution for the proposed site driveways along South Fulton Parkway.

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, and this analysis will consider the 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 is provided below in **Table 1**.

Table 1 Parkway South One DRI Proposed Land Uses				
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.

Driveway #	<u>Access</u>	Road	Location
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 1% per year along all adjacent roadways. Additionally, project traffic associated with six (6) other DRIs was included as background traffic. **Figure 5** shows the location of the Parkway South One proposed development and these six (6) other DRIs.

Development	New Net Trips by Development
DRI 552 Twin Lakes Community	22,857
DRI 1036 Serenbe	4,664
DRI 1309 Friendship Village	54,427
DRI 1460 Schultz-Butner Road Tract	4,755
DRI 1839 Foxhall Resort	18,732
DRI 1841 Foxhall Village	37,987
TOTAL	143,422

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 2**.

Table 2 Parkway South One DRI Peak Hour Summary						
Intersection	<u>AM Peak</u> <u>Hour</u>	<u>PM Peak</u> <u>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.

Roadway	ADT
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 are displayed in **Table 3**.

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 3 Parkway South One DRI Gross Trip Generation							
	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 4**.

Table 4 Parkway South One DRI Intersection Control Summary					
Intersection	Existing Control				
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 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 1% per year throughout the study network, plus project traffic associated with six (6) other DRIs. 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 5.

Table 5 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% pass-by reduction was applied for the weekday and for the PM peak hour.

Table 6 Parkway South One DRI Net Trip Generation									
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			
Mixed-Use Reduction	- 1,767	- 1,767	- 0	- 0	- 159	- 159			
Alternative More Reduction	- 0	- 0	- 0	- 0	- 0	- 0			
Pass-By Reduction (67.7% and 30.1% used)	Pass-By Reduction (67.7% and 30.1% used) - 2,253 - 0 - 0 - 209 - 209								
Net New Trips	19,947	19,947	3,223	1,207	1,563	3,691			

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

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 6 (residential), Figure 7 (industrial truck), and Figure 8 (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 9. 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 7**; the levels of service with the improvements stated above are shown in **Table 8**.



	Table 7Parkway South One DRIExisting 2010 Intersection Levels of Service								
		Control	LOS	AM Pea	k Hour	PM Peak Hour			
	Intersection	Control	Std.	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	Е	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	Е	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	Е	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	Е	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 8 Parkway South One DRI Existing 2010 Intersection Levels of Service IMPROVED											
	LOS AM Peak Hour PM Peak Hour											
Intersection		Control	Std.	LOS	v/c	LOS	v/c					
3	South Fulton Parkway at Derrick Road	New Signal	Е	B (14.9)	0.60	A (4.8)	0.41					
8	Campbellton-Fairburn Road at Jones Road	New Signal	Е	B (10.9)	0.61	A (7.8)	0.61					
9	Campbellton-Fairburn Road at Hall Road	New Signal	Е	D (48.1)	1.16	B (15.1)	0.57					
10	Campbellton-Fairburn Road at Thompson Road	New Signal	Е	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 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 1% per year throughout the study network. Additionally, project traffic associated with six (6) other DRIs was also added to 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 12A and 12B**.

Thirteen (13) 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, ten (10) 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 ten (10) intersections operating above their LOS standard:

- South Fulton Parkway at Hunter Road/Mason Road (Int. #1)
 - Construct three (3) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lane along South Fulton Parkway.

- South Fulton Parkway at Stonewall Tell Road (Int. #2)
 - Construct three (3) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound right-turn lane along Stonewall Tell Road.
 - Construct two (2) southbound left-turn lanes along Stonewall Tell Road.
- South Fulton Parkway at Derrick Road (Int. #3)
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
- South Fulton Parkway at Rosewood Place (Int. #4)
 - Install a traffic signal (when warranted).
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
- South Fulton Parkway at Campbellton-Fairburn Road (Int. #5)
 - Construct three (3) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lane along South Fulton Parkway.
 - Convert the existing northbound right-turn lane to a second northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound through lane along Campbellton-Fairburn Road.
 - o Construct two (2) additional southbound left-turn lanes along Campbellton-Fairburn Road.
 - Construct one (1) additional westbound right-turn lane along South Fulton Parkway.
- South Fulton Parkway at Cedar Grove Road (Int. #6)
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct one (1) additional westbound through lane along South Fulton Parkway.
 - Construct one (1) northbound right-turn lane along Cedar Grove Road.
- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) additional eastbound through lane along Cascade-Palmetto Highway.
 - Construct one (1) additional westbound through lane along Cascade-Palmetto Highway.
 - Construct one (1) northbound right-turn lane along Campbellton-Fairburn Road.
 - Construct one (1) southbound right-turn lane along Campbellton-Fairburn Road.

- Campbellton-Fairburn Road at Hall Road (Int. #9)
 - Construct one (1) additional northbound through lane along Campbellton-Fairburn Road.
 - 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).
- Stonewall Tell Road at Union Road (Int. #15)
 - o Construct a westbound right-turn lane along Stonewall Tell Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

NOTE: Due to the significant laneage requirements, consideration should be made to develop an alternative solution for study intersections along South Fulton Parkway.

The Projected 2030 No-Build levels of service with existing geometry are displayed in **Table 9**; the levels of service with the Existing 2010 improvements and the improvements stated above are shown in **Table 10**.



	Table 9Parkway South One DRINo-Build 2030 Intersection Levels of Service									
		Control	LOS	AM Pea	ık Hour	PM Peak Hour				
	Intersection	Control	Std.	LOS	v/c	LOS	v/c			
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	F (458.8)	1.96	F (279.1)	1.71			
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	F (504.2)	2.28	F (251.4)	1.76			
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	Е	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err Err			
4	South Fulton Parkway at Rosewood Place	NB Stop	D	F (3749.6)	109.96	F (4748.1)	12.31			
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	F (452.0)	2.54	F (327.5)	2.14			
6	South Fulton Parkway at Cedar Grove Road	Signal	D	F (244.4)	1.59	F (115.8)	1.32			
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	F (161.1)	1.39	F (205.2)	1.59			
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	Е	F (Err) F (Err)	Err 9.41	F (Err) F (Err)	13.90 Err			
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	Е	F (Err) F (Err)	Err Err	F (Err) F (Err)	266.40 Err			
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	Е	F (Err)	26.77	F (Err)	238.92			
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	F (66.7)	0.98	F (67.4)	0.96			
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (39.6)	0.80	D (47.3)	0.88			
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	D (26.8) C (22.0)	0.10 0.55	F (417.4) F (71.0)	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 10 Parkway South One DRI No-Build 2030 Intersection Levels of Service IMPROVED										
		Control	AM Pea	ak Hour	PM Pea	ak Hour					
	Intersection	Control	Std.	LOS	v/c	LOS	v/c				
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	C (31.7)	1.00	C (30.3)	0.96				
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	D (51.6)	1.06	C (30.4)	1.04				
3	South Fulton Parkway at Derrick Road	New Signal	Е	D (39.5)	1.07	D (35.1)	0.98				
4	South Fulton Parkway at Rosewood Place	New Signal	D	A (7.8)	0.87	C (28.5)	0.96				
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (51.5)	1.04	D (52.9)	0.94				
6	South Fulton Parkway at Cedar Grove Road	Signal	D	D (41.3)	0.98	C (22.0)	0.84				
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	D (41.4)	0.78	D (54.9)	0.91				
8	Campbellton-Fairburn Road at Jones Road	New Signal	Е	E (66.8)	1.10	E (75.0)	1.13				
9	Campbellton-Fairburn Road at Hall Road	New Signal	Е	E (65.0)	1.01	C (25.1)	0.69				
10	Campbellton-Fairburn Road at Thompson Road	New Signal	Е	E (65.8)	1.13	D (37.2)	0.97				
11	Campbellton-Fairburn Road at B Engram Parkway	New Signal	D	B (16.1)	0.49	B (17.0)	0.48				
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	B (15.9)	0.42	B (14.0)	0.84				
15	Stonewall Tell Road at Union Road	SB Stop	D	D (29.0)	0.63	C (22.8)	0.59				

6.3 Projected 2030 Build Conditions

The traffic associated with 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 13A**, **13B**, **and 13C**.

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 and the 2030 No-Build Conditions analysis, thirteen (13) 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 thirteen (13) 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 two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes along South Fulton Parkway.
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound right-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) 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 four (4) 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 two (2) northbound right-turn lanes along Campbellton-Fairburn Road.
 - Construct one (1) additional southbound left-turn lane and one (1) right-turn lane along Campbellton-Fairburn Road.
 - Construct one (1) additional eastbound left-turn lane along South Fulton Parkway.
 - Construct one (1) additional westbound left-turn lane along South Fulton Parkway.
 - Install permissive-overlap right-turn phasing for the northbound approach along Campbellton-Fairburn Road.
 - $\circ~$ Install permissive-overlap right-turn phasing for the westbound approach along South Fulton Parkway.
- South Fulton Parkway at Cedar Grove Road (Int. #6)
 - Install permissive-overlap right-turn phasing for the northbound approach along Cedar Grove Road.

- Campbellton-Fairburn Road at Cascade-Palmetto Highway (Int. #7)
 - Construct one (1) eastbound right-turn lane along Cascade-Palmetto Highway.
 - Construct one (1) additional westbound left-turn lane and one (1) right-turn lane along Cascade-Palmetto Highway.
- Campbellton-Fairburn Road at Jones Road (Int. #8)
 - 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)
 - Install permissive-overlap right-turn phasing for the eastbound approach along Hall 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) additional northbound left-turn lane along B Engram Parkway.
- Stonewall Tell Road at Union Road (Int. #15)
 - Install a traffic signal (when warranted).
 - ALTERNATIVE: Construct a single-lane modern roundabout.
- Stonewall Tell Road at Jones Road (Int. #17)
 - Construct one (1) northbound left-turn lane along Stonewall Tell Road.
 - Construct one (1) southbound right-turn lane along Stonewall Tell Road.
 - Construct one (1) eastbound left-turn lane along Jones Road.
 - ALTERNATIVE: Construct a single-lane modern roundabout.

NOTE: Due to the significant laneage requirements, consideration should be made to develop an alternative solution for study intersections along South Fulton Parkway.

The Projected 2030 Build levels of service with existing geometry are displayed in **Table 11**; the levels of service with the Existing 2010 improvements, No-Build 2030 improvements, and the improvements stated above are shown in **Table 12**.



	Table 11Parkway South One DRIBuild 2030 Intersection Levels of Service								
	Interception	Control	LOS	AM Pea	k Hour	PM Pea	ak Hour		
	Intersection	Control	Std.	LOS	v/c	LOS	v/c		
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	F (535.4)	2.36	F (495.1)	2.05		
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	F (697.8)	2.71	F (605.7)	3.20		
3	South Fulton Parkway at Derrick Road	NB Stop SB Stop	Е	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)	Err Err	F (Err) F (Err)	Err Err		
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	F (547.0)	2.82	F (464.4)	2.58		
6	South Fulton Parkway at Cedar Grove Road	Signal	D	F (310.6)	1.70	F (165.8)	1.46		
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	F (170.3)	1.36	F (230.2)	1.60		
8	Campbellton-Fairburn Road at Jones Road	EB Stop WB Stop	Е	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err Err		
9	Campbellton-Fairburn Road at Hall Road	EB Stop WB Stop	Е	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err Err		
10	Campbellton-Fairburn Road at Thompson Road	WB Stop	Е	F (9999.0)	330.85	F (Err) F (Err)	Err Err		
11	Campbellton-Fairburn Road at B Engram Parkway	NB Stop	D	F (268.3)	1.50	F (312.3)	1.58		
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (45.3)	0.84	E (70.7)	1.08		
13	Roosevelt Highway at Stonewall Tell Road	NB Stop SB Stop	D/E	E (37.4) D (30.9)	0.15 0.68	F (807.0) F (141.9)	1.24 1.17		
14	Stonewall Tell Road at North Wexford Road	EB Stop	D	C (22.0)	0.11	C (16.8)	0.14		
15	Stonewall Tell Road at Union Road	SB Stop	D	F (515.2)	2.05	F (456.3)	1.90		
16	Union Road at Old Fairburn Road	WB Stop	D	D (31.3)	0.70	D (30.4)	0.71		
17	Stonewall Tell Road at Jones Road	All Way Stop	D	F (113.2)	1.40	F (100.4)	1.21		
18	Jones Road at Derrick Road	NB Stop	D	B (14.7)	0.43	C (17.3)	0.62		
19	Derrick Road at Thompson Road	EB Stop	D	B (14.7)	0.22	C (24.5)	0.70		



	Table 12 Parkway South One DRI Build 2030 Intersection Levels of Service IMPROVED										
		Control	LOS	AM Pea	ak Hour	PM Peak Hour					
	Intersection	Control	Std.	LOS	v/c	LOS	v/c				
1	South Fulton Parkway at Hunter Road/Mason Road	Signal	D	D (39.1)	1.07	D (37.2)	1.00				
2	South Fulton Parkway at Stonewall Tell Road	Signal	D	D (47.4)	1.03	D (38.4)	1.16				
3	South Fulton Parkway at Derrick Road	New Signal	Е	E (73.8)	1.17	E (60.4)	1.17				
4	South Fulton Parkway at Rosewood Place/Driveway A	New Signal	D	D (50.0)	0.99	D (54.9)	1.13				
5	South Fulton Parkway at Campbellton-Fairburn Road	Signal	D	D (52.3)	1.02	D (46.4)	1.10				
6	South Fulton Parkway at Cedar Grove Road	Signal	D	D (46.5)	1.04	C (22.8)	0.92				
7	Campbellton-Fairburn Road at Cascade-Palmetto Highway	Signal	D	D (40.3)	0.82	D (54.0)	1.03				
8	Campbellton-Fairburn Road at Jones Road	New Signal	Е	B (13.8)	0.77	B (16.3)	0.93				
9	Campbellton-Fairburn Road at Hall Road	New Signal	Е	E (79.0)	1.15	B (18.1)	0.77				
10	Campbellton-Fairburn Road at Thompson Road	New Signal	Е	C (22.3)	0.79	D (53.7)	1.11				
11	Campbellton-Fairburn Road at B Engram Parkway	New Signal	D	B (19.5)	0.58	B (15.6)	0.57				
12	Roosevelt Highway at B Engram Parkway	Signal	D	D (45.0)	0.84	D (54.3)	1.02				
13	Roosevelt Highway at Stonewall Tell Road	New Signal	D/E	B (16.2)	0.50	C (31.3)	1.02				
15	Stonewall Tell Road at Union Road	New Signal	D	C (32.3)	0.81	C (24.9)	0.71				
17	Stonewall Tell Road at Jones Road	All Way Stop	D	C (22.0)	0.87	C (24.5)	0.88				

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

Driveway #	<u>Access</u>	Road	Location
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

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 13C**.

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 four (4) 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 one (1) additional eastbound through lane along South Fulton Parkway.
 - 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 B.
- South Fulton Parkway at Driveway C (Int. #21)
 - Install a traffic signal (when warranted).
 - Construct two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes 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 three (3) 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 eastbound through lane along South Fulton Parkway.
 - 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 two (2) additional eastbound through lanes along South Fulton Parkway.
 - Construct two (2) additional westbound through lanes 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 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 two (2) additional eastbound through lanes along South Fulton Parkway.
 - o Construct two (2) additional westbound through lanes 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) additional eastbound through lane along South Fulton Parkway.
 - 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 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.

NOTE: Due to the significant laneage requirements, consideration should be made to develop an alternative solution for the proposed site driveways along South Fulton Parkway.

The levels of service for the site driveways and the intersection geometry stated above are shown in Table 13.

	Table 13 Parkway South One DRI Build 2030 Intersection Levels of Service – Driveways										
	Intersection Control LOS AM Peak Hour PM Peak Hour										
	intersection	Control	Std.	LOS	v/c	LOS	v/c				
4	South Fulton Parkway at Rosewood Place/Driveway A	NB Stop SB Stop	D	F (Err) F (Err)	Err Err	F (Err) F (Err)	Err Err				
20	South Fulton Parkway at Driveway B	SB Stop	D	B (13.9)	0.10	F (861.7)	2.70				
21	South Fulton Parkway at Driveway C	New Signal	D	B (14.5)	0.93	D (41.8)	1.10				
22	South Fulton Parkway at Driveway D	SB Stop	D	B (10.1)	0.01	C (20.6)	0.16				
23	South Fulton Parkway at Driveway E (Thompson Ext)	New Signal	D	C (27.0)	0.97	D (44.1)	1.13				
24	South Fulton Parkway at Driveway F (North Wexford Ext)	New Signal	D	C (31.2)	0.95	D (42.3)	1.03				
25	South Fulton Parkway at Driveway G	SB Stop	D	B (10.8)	0.00	B (13.3)	0.05				
26	Stonewall Tell Road at Driveway H	EB Stop	D	C (16.5)	0.06	B (14.6)	0.17				
27	Stonewall Tell Road at Driveway I	NB Stop	D	B (14.7)	0.15	B (13.3)	0.09				
28	Derrick Road at Driveway J (Thompson Ext)	New Signal	D	B (15.6)	0.30	B (18.6)	0.21				
29	Derrick Road at Driveway K	EB Stop	D	B (12.0)	0.11	B (13.4)	0.06				

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 14**. Figure 14 shows the locations of the programmed transportation projects.

			Table 14 Parkway South One DRI Programmed Improvements
<u>No.</u>	<u>Year</u>	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 15 displays the reduction in traffic generation due to internal capture, alternative mode, and pass-by reductions.

Table 15 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 16.

Table 16 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%