

Transportation Analysis

**Village Capital
DRI #1898
City of Atlanta, Georgia**

Prepared for:
Cannon Equities, Inc.

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019782000

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EXECUTIVE SUMMARY

This report presents the analyses of the anticipated traffic impacts associated with the proposed Village Capital development. The site consists of three separate parcels adjacent to each other within the Buckhead Village area. Because the project is a mixed-use development exceeding 400,000 square feet, 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 GRTA's non-expedited review process.

The proposed development plan will consist of 187 residential units, 560,000 square feet of office use and 95,000 square feet of retail use over the three parcels. Parking will be provided within parking decks on each parcel, and a total of 1,976 spaces are proposed. The entire development is scheduled to be completed by the year 2012. Parcel C and the east portion of D are currently scheduled to be constructed in an earlier phase; however, this review reports on the development project as a single phase with build-out of 2012.

The results of the detailed intersection analysis of the twenty-one (21) study intersections for the 2012 No-Build (includes 3% per year background traffic growth for 4 years, but excludes trips generated by the Village Capital development) and 2012 Build conditions (includes background traffic plus trips generated by the Village Capital development) identify improvements that will be necessary in order to maintain the operational standards, as defined by GRTA's Technical Guidelines, within the study network. Listed below, by intersection number as described in the report, are the 2012 No-Build and Build Improvements.

2012 No-Build recommended improvements (includes background growth but does not include the Village Capital DRI project traffic).

#1 – Peachtree Road at Pharr Road

- Provide exclusive northbound left-turn lane with protected/permissive phasing¹
- Provide exclusive southbound left-turn lane with protected/permissive phasing¹
- Optimize the splits and offset of this coordinated signal

#3 – Peachtree Road at West Paces Ferry Road

- Optimize the splits and offset of this coordinated signal during the PM peak hour
- Relocate the mast-arm supporting the southbound signal heads for Peachtree Road in order to allow for a reduced all-red time at the southbound Peachtree Road and Roswell Road approaches¹

#10 – Pharr Road at North Fulton Drive

- Install a traffic signal, with pedestrian actuation¹

¹ Consistent with the *Buckhead Avenues DRI* Notice of Decision, dated March 7, 2007.

2012 Build recommended improvements (includes the Village Capital DRI project traffic). Note: These improvements are the same as listed in the 2012 No-Build recommended improvements.

#1 – Peachtree Road at Pharr Road

- Provide exclusive northbound left-turn lane with protected/permissive phasing¹
- Provide exclusive southbound left-turn lane with protected/permissive phasing¹

- Optimize the splits and offset of this coordinated signal

#3 – Peachtree Road at West Paces Ferry Road

- Optimize the splits and offset of this coordinated signal during the PM peak hour
- Relocate the mast-arm supporting the southbound signal heads for Peachtree Road in order to allow for a reduced all-red time at the southbound Peachtree Road and Roswell Road approaches¹

#10 – Pharr Road at North Fulton Drive

- Install a traffic signal, with pedestrian actuation¹

¹ Consistent with the *Buckhead Avenues DRI* Notice of Decision, dated March 7, 2007.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analyses of the anticipated traffic impacts associated with the proposed Village Capital development. The site consists of three separate parcels adjacent to each other within the Buckhead Village area. Because the project is a mixed-use development exceeding 400,000 square feet, 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 GRTA's non-expedited review process.

The proposed development plan will consist of 187 residential units, 560,000 square feet of office use and 95,000 square feet of retail use over the three parcels. Parking will be provided within parking decks on each parcel, and a total of 1,976 spaces are proposed. The entire development is scheduled to be completed by the year 2012. Parcel C and the east portion of D are currently scheduled to be constructed in an earlier phase; however, this review reports on the development project as a single phase with build-out of 2012.

A detailed summary of the proposed development program is provided in **Table 1**.

Table 1 Village Capital DRI Proposed Development Program			
	Residential	Office	Retail
Parcel C	N/A	180,000 square feet	30,000 square feet
Parcel D	132 dwelling units	280,000 square feet	45,000 square feet
Parcel E	55 dwelling units	100,000 square feet	20,000 square feet
Total Site	187 dwelling units	560,000 square feet	95,000 square feet

Figure 1 illustrates the project's location and **Figure 2** provides an aerial photograph of the area surrounding the site.

1.2 Site Plan Review

The proposed development plan is divided into three parcels: Parcel C, Parcel D and Parcel E. Parcel C is generally bounded by East Paces Ferry Road to the north, Buckhead Avenue to the south, and Parcel E to the west. Parcel D is generally bounded by Buckhead Avenue to the north, Pharr Road to the south, and Old Decatur Road to the east. A new road is proposed on Parcel D to connect Buckhead Avenue and Pharr Road. For the purpose of this study, the new road is labeled Parcel D Street. Parcel E is generally bounded by East Paces Ferry Road to the north, Buckhead Avenue to the south, Parcel C to the east, and Grandview Avenue to the west.

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

1.3 Site Access

The proposed site access points are described for each parcel below.

Parcel C

One full-movement access, Driveway A, is proposed along East Paces Ferry Road approximately 310 feet east of Grandview Avenue. Driveway B is a full-movement access proposed along Buckhead Avenue approximately 360 feet east of Grandview Avenue.

Parcel D

All driveways within Parcel D are proposed to be full-movement access points. Parcel D Street is proposed to intersect with Buckhead Avenue approximately 230 feet west of Old Decatur Road, and with Pharr Road approximately 250 feet west of Old Decatur Road. Driveway C is proposed to be located along Buckhead Avenue approximately 120 feet west of Old Decatur Road. Driveway D is proposed to be located along Pharr Road approximately 140 feet west of Old Decatur Road. Driveway E is proposed to be located along Parcel D Street approximately 150 feet north of Pharr Road, and Driveway F is proposed to be located along Parcel D Street approximately 120 feet south of Buckhead Avenue. These two driveways are proposed to be 70 feet from each other. Finally, Driveway G is proposed to be located along Pharr Road approximately 290 feet west of Parcel D Street.

Parcel E

All driveways within Parcel E are proposed to be full-movement access points. Driveway H is proposed along Buckhead Avenue approximately 140 feet east of Grandview Avenue. Driveway I is proposed along Grandview Avenue approximately 170 feet south of East Paces Ferry Road. Driveway J is proposed along East Paces Ferry Road approximately 170 feet east of Grandview Avenue.

1.4 Bicycle and Pedestrian Facilities

The Village Capital development is proposing the widening of sidewalks, the addition of on-street parking, various intersection improvements, and other pedestrian-friendly features. All new sidewalks will connect with currently existing sidewalks where possible. Bicycle and pedestrian facilities are currently in place along the roads throughout the Buckhead Village.

1.5 Transit Facilities

The proposed development is located along or within walking distance of two MARTA bus routes: Route 23 – Lenox / Arts Center (5-10-minute headways) and Route 38 – Chastain Park (60-minute headways). Route 23 intersects the Lenox MARTA Station, the Buckhead MARTA Station, and the Arts Center Station, while Route 38 intersects the Lindbergh MARTA Station. There are currently no bus stops directly on the site, but stops are within ¼ mile walking distance from the site. See the route maps included in the Appendix for detailed route descriptions. Given the transit, bicycle, and pedestrian opportunities available in the vicinity of the project, a mode reduction of 5% is used in this analysis for both residential and non-residential uses.

1.6 Existing Uses

Parcel C is currently vacant. Parcels D and E currently contain uses that are to be demolished with the construction of this project. Parcel D contains 162 apartment units and Parcel E contains 31,360 square feet of office area.

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 the Georgia DOT was reviewed for the area surrounding the proposed expansion, and growth rates along all roadways were agreed upon during the methodology meeting with GRTA, ARC, DeKalb County, and GDOT staff. A 3% per year background traffic growth rate was used for all roadways within the study network from 2008 to 2012. This background growth rate is consistent with GRTA's Letter of Understanding for this project.

2.2 Traffic Data Collection

The Streets of Buckhead development is located within the same general vicinity of this project, and is currently under construction. Therefore, current 2008 traffic volumes at several intersections in the area are likely not representative of the volumes that would normally travel in the area. As agreed upon in GRTA's Letter of Understanding, traffic counts for several intersections in the Buckhead Village area performed prior to the start of construction were used. These counts were performed during 2006 and January 2007, and have been grown at the recommended 3% per year growth rate to obtain projected 2008 "existing" volumes. The remaining intersections studied in this analysis were counted on Wednesday, August 20th, 2008.

The morning and afternoon peak hours varied between the intersections and are listed below. The historical counts are listed with the count year in italics following the name of the intersection.

- Peachtree Road @ Pharr Road (*2007*) (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Peachtree Road @ Buckhead Avenue (*2007*) (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Peachtree Road @ West Paces Ferry Road (*2007*) (AM Peak 8:00-9:00, PM Peak 5:30-6:30)
- Peachtree Road @ Mathieson Drive (*2006*) (AM Peak 8:00-9:00, PM Peak 5:15-6:15)
- Peachtree Road @ Grandview Avenue (*2006*) (AM Peak 8:00-9:00, PM Peak 5:15-6:15)
- Peachtree Road @ East Shadowlawn Avenue (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Peachtree Road @ Maple Drive (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Buckhead Avenue @ North Fulton Drive (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Buckhead Avenue @ Grandview Avenue (AM Peak 8:00-9:00, PM Peak 4:45-5:45)
- Pharr Road @ North Fulton Drive (*2006*) (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Pharr Road @ Grandview Avenue (*2006*) (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- East Paces Ferry Road @ North Fulton Drive (AM Peak 7:45-8:45, PM Peak 5:00-6:00)
- East Paces Ferry Road @ Grandview Avenue (*2006*) (AM Peak 8:00-9:00, PM Peak 4:45-5:45)
- East Paces Ferry Road @ East Shadowlawn Avenue (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- E. Paces Ferry Road @ Buckhead Avenue/ Old Decatur (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- East Paces Ferry Road @ Piedmont Road (North) (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- East Paces Ferry Road @ Piedmont Road (South) (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- East Paces Ferry Road @ Maple Avenue (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Old Decatur Road @ Pharr Road (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- Pharr Road @ Piedmont Road (AM Peak 8:00-9:00, PM Peak 5:00-6:00)

All raw count data is included in the Appendix.

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. **Table 2** illustrates LOS thresholds for unsignalized and signalized intersections. Level of service analyses were conducted at all intersections within the study network using *Synchro Professional, Version 6.0*.

Level of Service for signalized intersections is reported for the intersection as a whole. One or more movements at an intersection may experience a low LOS, while the intersection as a whole may operate at the LOS standard.

Level of Service for unsignalized intersections, with stop control on the minor street only, is reported for the side street approach. Low Levels of service for side street approaches are not uncommon, as vehicles may experience delay in turning onto a major roadway.

Table 2 Level of Service Criteria Unsignalized and Signalized Intersections			
Unsignalized Intersections		Signalized Intersections	
Level-of-Service	Average Control Delay (sec/veh)	Level-of-Service	Average Control Delay (sec/veh)
A	≤ 10	A	≤ 10.0
B	> 10 and ≤ 15	B	> 10.0 and ≤ 20.0
C	> 15 and ≤ 25	C	> 20.0 and ≤ 35.0
D	> 25 and ≤ 35	D	> 35.0 and ≤ 55.0
E	> 35 and ≤ 50	E	> 55.0 and ≤ 80.0
F	> 50	F	> 80.0

Source: 2000 Highway Capacity Manual

Volume to Capacity (v/c) ratio is also used to describe the operating characteristics of a road segment or intersection in relation to its capacity. The *Highway Capacity Manual* describes the v/c ratio as the ratio of traffic demand on a roadway facility divided by the facility's available capacity. V/C is often referred to as the degree of saturation. A facility with a v/c ratio between 0 and 1 operates with excess capacity; however, values above 1.0 indicate an excess of demand, or a facility operating over capacity.

3.0 STUDY NETWORK

3.1 Gross Trip Generation

As stated earlier, the proposed development is expected to consist of 187 residential units, 560,000 SF of office space, and 95,000 SF of retail. This analysis assumes the project will be complete (built out) by the year 2012.

Traffic for these land uses was 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. Gross trips generated are displayed below in **Table 3**.

Table 3 Village Capital DRI Gross Trip Generation							
Land Use	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
Build-Out (Year 2012)							
187 Dwelling Units	230	637	637	19	76	79	42
560,000 SF Office	710	2,514	2,513	655	89	120	586
95,000 SF Retail	820	3,284	3,284	93	59	290	315
Total		6,435	6,434	767	224	489	943

3.2 Trip Distribution

The directional distribution and assignment of new project trips was based on results obtained from engineering judgment and discussions with GRTA staff at the methodology meeting.

3.3 Operational Standards

For the purposes of this traffic analysis, two intersection operational standards are reported. First, a level of service (LOS) standard of D was used 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 GRTA's Letter of Understanding. Second, a volume to capacity (v/c) ratio standard of 1.2 was used for all intersections within the study network.

3.4 Study Network Determination

A general study area was determined using GRTA's 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) be considered for analysis. The study area was agreed upon during methodology discussions with GRTA, ARC, GDOT, and City of Atlanta staff, and consists of the following intersections, as listed in GRTA's Letter of Understanding:

Intersection #1 – Peachtree Road at Pharr Road	(Signalized)
Intersection #2 – Peachtree Road at Buckhead Avenue	(Signalized)
Intersection #3 – Peachtree Road at West Paces Ferry Road	(Signalized)
Intersection #4 – Peachtree Road at Mathieson Drive	(Signalized)
Intersection #5 – Peachtree Road at Grandview Avenue	(Unsignalized)
Intersection #6 – Peachtree Road at East Shadowlawn Avenue	(Signalized)
Intersection #7 – Peachtree Road at Maple Drive	(Signalized)
Intersection #8 – Buckhead Avenue at North Fulton Drive	(Unsignalized)
Intersection #9 – Buckhead Avenue at Grandview Avenue	(Unsignalized)
Intersection #10 – Pharr Road at North Fulton Drive	(Unsignalized)

Intersection #11 – Pharr Road at Grandview Avenue	(Signalized)
Intersection #12 – East Paces Ferry Road at North Fulton Drive	(Unsignalized)
Intersection #13 – East Paces Ferry Road at Grandview Avenue	(Signalized)
Intersection #14 – East Paces Ferry Road at East Shadowlawn Avenue	(Unsignalized)
Intersection #15 – East Paces Ferry Road at Buckhead Avenue	(Unsignalized)
Intersection #16 – Old Decatur Road at Buckhead Avenue	(Unsignalized)
Intersection #17 – East Paces Ferry Road at Piedmont Road (North)	(Signalized)
Intersection #18 – East Paces Ferry Road at Piedmont Road (South)	(Signalized)
Intersection #19 – East Paces Ferry Road at Maple Drive	(Signalized)
Intersection #20 – Old Decatur Road at Pharr Road	(Unsignalized)
Intersection #21 – Pharr Road at Piedmont Road	(Signalized)

Each of the above listed intersections was analyzed for Existing 2008 Conditions, the 2012 No-Build Conditions, and the 2012 Build Conditions. The 2012 No-Build conditions represent the existing traffic volumes grown at 3.0% per year from 2008 to 2012. The 2012 Build conditions add the projected trips associated with the development to the 2012 No-Build conditions.

The additional proposed site access points listed below were only analyzed for 2013 Build Conditions:

Intersection #22 – East Paces Ferry Road at Driveway A
Intersection #23 – Buckhead Avenue at Driveway B
Intersection #24 – Buckhead Avenue at Driveway C
Intersection #25 – Pharr Road at Driveway D
Intersection #26 – Parcel D Street at Driveway E
Intersection #27 – Parcel D Street at Driveway F
Intersection #28 – Pharr Road at Driveway G
Intersection #29 – Buckhead Avenue at Driveway H
Intersection #30 – Grandview Avenue at Driveway I
Intersection #31 – East Paces Ferry Road at Driveway J
Intersection #32 – Buckhead Avenue at Parcel D Street
Intersection #33 – Pharr Road at Parcel D Street

All of the study intersections were analyzed for the weekday AM and PM peak hours as discussed in *Section 2.2 Traffic Data Collection*.

3.5 Existing Facilities

The following section provides a written description of the study area roadway facilities.

Peachtree Road

- Peachtree Road is an Urban Principal Arterial with three lanes in each direction (northeast to southwest in the vicinity of the project). Peachtree Road begins when Peachtree Street transitions into it north of Midtown and extends to the Brookhaven area where it turns into Peachtree Industrial Boulevard.

Roswell Road

- Roswell Road is an Urban Minor Arterial of four lanes than is oriented north-south. Roswell Road begins at the intersection of Peachtree Road and East Paces Ferry Road (adjacent to the project) and extends north of I-285 into Roswell.

East Paces Ferry Road

- East Paces Ferry Road is a four-lane Urban Collector Street which runs east to west. East Paces Ferry Road begins at Peachtree Road and continues to Piedmont Road on the east, along the northern boundary of the project (Parcels C and E). It jogs to the north at Piedmont Road and continues east. West of Peachtree Road, it changes name to West Paces Ferry Road, and extends to Interstate 75.

Pharr Road

- Pharr Road is a five-lane Urban Collector Street which runs east to west (three westbound, two eastbound) in the vicinity of the project. Pharr Road connects Peachtree Road on the west with Piedmont Road on the east, along the southern boundary of the project (Parcel D).

Buckhead Avenue

- Buckhead Avenue is a two-lane Urban Local Street that extends from Peachtree Road on the west to East Paces Ferry Road on the east. It is the dividing roadway between Parcels C and E along the north and Parcel D along the south.

North Fulton Drive

- North Fulton Drive is a two-lane Urban Local Street that begins at East Paces Ferry Road and extends south of the project to Delmont Drive.

Grandview Avenue

- Grandview Avenue is a two-lane Urban Local Street that begins at Peachtree Road and extends south to Delmont Drive, along the western boundary of the project (Parcel E).

Mathieson Drive

- Mathieson Drive is a two-lane Urban Local Street that begins at Peachtree Road and extends north where it terminates prior to Piedmont Road.

Old Decatur Road

- Old Decatur Road is a two-lane Urban Local Street that connects Buckhead Avenue with Pharr Road adjacent to the eastern boundary of the project (Parcel D).

Maple Drive

- Maple Drive is a two-lane Urban Local Street that begins at Peachtree Road and extends south to Pharr Road.

East Shadowlawn Avenue

- East Shadowlawn Avenue is a two-lane Urban Local Street that begins at Peachtree Road and extends south to East Paces Ferry Road.

Piedmont Road

- Piedmont Road is an Urban Minor Arterial with three lanes in each direction. Piedmont Road begins at the intersection of Cheshire Bridge Road/Piedmont Circle/Piedmont Avenue and extends north to its termination at Roswell Road.

Roadway classification descriptions are provided in **Table 4**. Roadways adjacent to the site are listed in bold.

Table 4 Village Capital DRI Roadway Classification			
Roadway	Number Of Through Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification
Peachtree Road (SR 141 / SR 9 / US 19)	6	30	Urban Principal Arterial
Roswell Road (SR 9 / US 19)	4	35	Urban Minor Arterial
East Paces Ferry Road	4	35	Urban Collector Street
Pharr Road	5	35	Urban Collector Street
Buckhead Avenue	2	30	Urban Local Street
North Fulton Drive	2	25	Urban Local Street
Grandview Avenue	2	25	Urban Local Street
Mathieson Drive	2	25	Urban Local Street
Old Decatur Road	2	25	Urban Local Street
Maple Drive	2	25	Urban Local Street
East Shadowlawn Avenue	2	25	Urban Local Street
Piedmont Road (SR 237)	6	35	Urban Minor Arterial

4.0 TRIP GENERATION

As stated earlier, trips associated with the proposed development were estimated using the ITE *Trip Generation Manual, Seventh Edition (2003)*, using equations where available.

Mixed-use and pass-by reductions were taken according to the *ITE Trip Generation Handbook, 2003* and GRTA guidelines. Internal capture was taken for the entire project due to the mix uses proposed on all three parcels. Due to its location along two MARTA bus routes and the increased walkability of the Buckhead Village, a 5% mode reduction was also assumed. Pass-by trip reductions were taken for the proposed retail uses (34% daily, 34% PM) following the internal capture and alternative mode reductions.

The adjusted gross (with mixed-use and alternative mode reductions applied) trips generated and analyzed in this report are listed below in **Table 5**.

Table 5 Village Capital DRI Adjusted Gross Trip Generation					
Land Use	Daily Traffic	AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit
Build-Out (Year 2012)					
Gross Trips	12,869	767	224	489	943
Mixed-Use Reductions	-1,402	0	0	-63	-63
Alternate Mode Reductions	-573	-39	-11	-22	-44
Pass By Reductions	-1,901	0	0	-88	-88
Adjusted Gross Trips	8,993	728	213	316	748

The trip generation associated with the existing uses (162 apartment units and 31,360 SF office space) is 1,587 daily trips, 149 AM peak hour trips, and 210 PM peak hour trips. Using the trip distribution described in the following section for the proposed uses, the existing trips were removed from the intersections within the study network for 2012 Build Conditions only. The existing trip generation calculations are included in the Appendix.

5.0 TRIP DISTRIBUTION AND ASSIGNMENT

Project trip distribution (both new and removed trips) was based on engineering judgment and a review of land use densities in the area using aerial mapping. While each intersection shows the assignment for each parcel separately, the overall distribution is the same for all three parcels. The proposed trip distribution is as follows:

Residential (Parcels D and E only)

- To/from the north along Peachtree Road – 35%
- To/from the north along Roswell Road – 15%
- To/from the south – 23%
- To/from the east – 15%
- To/from the west – 12%

Office

- To/from the north along Peachtree Road – 30%
- To/from the north along Roswell Road – 15%
- To/from the south – 20%
- To/from the east – 15%
- To/from the west – 20%

Retail

- To/from the north along Peachtree Road – 20%

- To/from the north along Roswell Road – 15%
- To/from the south – 25%
- To/from the east – 20%
- To/from the west – 20%

Figures 4A through 6B display the expected trip percentages by land use for the project throughout the roadway study network. Where applicable close to the site, separate assignments are shown by parcel to account for the locations of proposed driveways for each parcel. These percentages were applied to the new trips calculated for the project (see Table 6), and the volumes were assigned to the roadway network. The expected peak hour project trips generated by the proposed development are shown in **Figures 7A and 7B**. The project trips shown in Figures 7A and 7B do not include trips removed based upon the demolition of existing uses. These removed volumes, however, are accounted for as background trips in the 2012 Build Conditions analysis.

6.0 TRAFFIC ANALYSIS

6.1 Existing 2008 Traffic

The observed existing peak hour traffic volumes (as well as pedestrian volumes and heavy vehicle factors) were input into *Synchro 6.0*, along with the existing traffic signal cycle lengths, splits, and offsets, and an Existing 2008 Conditions analysis was performed. The results of the operational analysis are displayed in **Table 6**.

Table 6
Village Capital DRI
Existing 2008 Intersection Operation
(Delay in Seconds)

Intersection		Control	AM Peak Hour		PM Peak Hour	
			LOS	v/c	LOS	v/c
1	Peachtree Road at Pharr Road	Signal	B (14.1)	0.56	C (24.2)	0.76
2	Peachtree Road at Buckhead Avenue	Signal	A (8.1)	0.52	B (12.5)	0.58
3	Peachtree Road at West Paces Ferry Road	Signal	D (36.2)	0.74	D (50.3)	0.82
4	Peachtree Road at Mathieson Drive	Signal	B (11.4)	0.41	B (10.1)	0.50
5	Peachtree Road at Grandview Avenue	Stop	B (14.3)*	0.12	C (17.9)*	0.29
6	Peachtree Road at East Shadowlawn Avenue	Signal	A (8.9)	0.37	A (5.0)	0.45
7	Peachtree Road at Maple Drive	Signal	A (5.8)	0.37	A (6.9)	0.46
8	Buckhead Avenue at North Fulton Drive	Stop	A (8.0)	N/A**	A (9.1)	N/A**
9	Buckhead Avenue at Grandview Avenue	Stop	A (8.7)	N/A**	A (9.2)	N/A**
10	Pharr Road at North Fulton Drive	Stop	D (34.9)*	0.49	E (43.0)*	0.64
11	Pharr Road at Grandview Avenue	Signal	B (17.2)	0.27	B (17.5)	0.34
12	East Paces Ferry Road at North Fulton Drive	Stop	B (12.3)*	0.16	B (13.0)*	0.16
13	East Paces Ferry Road at Grandview Avenue	Signal	A (6.2)	0.28	A (9.9)	0.36
14	East Paces Ferry Road at East Shadowlawn Avenue	Stop	B (11.5)*	0.07	B (12.3)*	0.14
15	East Paces Ferry Road at Buckhead Avenue	Stop	B (12.0)*	0.14	B (12.8)*	0.20
16	Buckhead Avenue at Old Decatur Road	Stop	A (9.5)*	0.09	A (9.5)*	0.05
17	East Paces Ferry Road at Piedmont Road (North)	Signal	A (3.5)	0.34	A (3.3)	0.37
18	East Paces Ferry Road at Piedmont Road (South)	Signal	A (5.8)	0.53	A (9.5)	0.48
19	East Paces Ferry Road at Maple Drive	Signal	B (10.1)	0.15	B (11.3)	0.22
20	Old Decatur Road at Pharr Road	Stop	B (14.2)*	0.09	B (14.1)*	0.18
21	Pharr Road at Piedmont Road	Signal	B (13.3)	0.65	B (16.5)	0.61

*Delay reported for higher minor street approach; v/c reported for higher minor street movement

** v/c not provided for all-way stop control intersection configuration.

As shown in Table 9, only one of the intersections studied currently operates below the Level of Service D standard. Pharr Road at North Fulton Drive currently operates at level of service E conditions during the PM peak hour. Per GRTA's Technical Guidelines and Letter of Understanding, the LOS standard is therefore lowered to LOS E for this time period at this location only. Given the adjusted LOS standard for that intersection, no improvements are needed for Existing 2008 Conditions.

The Existing 2008 Conditions laneage and improved laneage and peak hour traffic volumes are shown in **Figures 8A** and **8B**.

6.2 2012 No-Build Traffic

To account for growth in traffic in the vicinity of the proposed development, the existing traffic volumes were grown at 3.0% per year along all roadway links within the study network from 2008 to 2012.

These no-build volumes, along with existing roadway geometry, and existing signal timings were input into *Synchro 6.0* and an analysis of the projected 2012 No-Build Conditions was performed. The results are displayed below in **Table 7**.

Table 7 Village Capital DRI Projected 2012 No-Build Intersection Operation (Delay in Seconds)						
Intersection		Control	AM Peak Hour		PM Peak Hour	
			LOS	v/c	LOS	v/c
1	Peachtree Road at Pharr Road	Signal	B (14.9)	0.64	E (58.7)	0.91
2	Peachtree Road at Buckhead Avenue	Signal	A (8.2)	0.61	B (12.8)	0.67
3	Peachtree Road at West Paces Ferry Road	Signal	D (48.8)	0.81	F (118.4)	0.95
4	Peachtree Road at Mathieson Drive	Signal	B (11.7)	0.46	B (13.0)	0.59
5	Peachtree Road at Grandview Avenue	Stop	C (16.0)*	0.15	C (24.1)*	0.46
6	Peachtree Road at East Shadowlawn Avenue	Signal	A (9.2)	0.43	A (4.3)	0.51
7	Peachtree Road at Maple Drive	Signal	A (6.0)	0.44	A (7.5)	0.54
8	Buckhead Avenue at North Fulton Drive	Stop	A (8.0)	N/A**	A (8.9)	N/A**
9	Buckhead Avenue at Grandview Avenue	Stop	A (8.7)	N/A**	A (9.2)	N/A**
10	Pharr Road at North Fulton Drive	Stop	E (47.4)*	0.60	F (79.1)*	0.84
11	Pharr Road at Grandview Avenue	Signal	B (17.3)	0.26	B (18.7)	0.39
12	East Paces Ferry Road at North Fulton Drive	Stop	B (12.1)*	0.15	B (13.7)*	0.17
13	East Paces Ferry Road at Grandview Avenue	Signal	A (6.2)	0.32	A (9.1)	0.36
14	East Paces Ferry Road at East Shadowlawn Avenue	Stop	B (11.4)*	0.06	B (12.9)*	0.15
15	East Paces Ferry Road at Buckhead Avenue	Stop	B (11.8)*	0.13	B (13.7)*	0.15
16	Buckhead Avenue at Old Decatur Road	Stop	A (9.4)*	0.07	A (9.3)*	0.05
17	East Paces Ferry Road at Piedmont Road (North)	Signal	A (2.9)	0.35	A (3.3)	0.43
18	East Paces Ferry Road at Piedmont Road (South)	Signal	A (6.3)	0.58	A (8.2)	0.52
19	East Paces Ferry Road at Maple Drive	Signal	B (10.2)	0.17	B (11.3)	0.23
20	Old Decatur Road at Pharr Road	Stop	B (14.9)*	0.11	C (16.1)*	0.20
21	Pharr Road at Piedmont Road	Signal	B (14.8)	0.77	B (18.1)	0.69

*Delay reported for higher minor street approach; v/c reported for higher minor street movement

** v/c not provided for all-way stop control intersection configuration.

Maintaining existing signal timings and roadway geometry, three intersections are projected to operate below the operational standards during at least one peak hour for the year 2012 No-Build Conditions. Several improvements were identified to mitigate the delays projected for the No-Build Conditions. It should be noted that the main reason for improvements at Peachtree Road and Pharr Road is due to the lengthy queues projected along Peachtree Road. During peak times, left-turn vehicles queue in the shared left-through lanes due to significant opposing through volumes, which reduces capacity along Peachtree Road.

The recommended improvements are listed and discussed below by intersection:

2012 No-Build recommended improvements (includes background growth but does not include the Village Capital DRI project traffic).

#1 – Peachtree Road at Pharr Road

- Provide exclusive northbound left-turn lane with protected/permissive phasing¹
- Provide exclusive southbound left-turn lane with protected/permissive phasing¹
- Optimize the splits and offset of this coordinated signal

#3 – Peachtree Road at West Paces Ferry Road

- Optimize the splits and offset of this coordinated signal during the PM peak hour
- Relocate the mast-arm supporting the southbound signal heads for Peachtree Road in order to allow for a reduced all-red time at the southbound Peachtree Road and Roswell Road approaches¹

#10 – Pharr Road at North Fulton Drive

- Install a traffic signal, with pedestrian actuation¹

¹ Consistent with the *Buckhead Avenues DRI* Notice of Decision, dated March 7, 2007.

Given the above improvements, the 2012 No-Build Improved Conditions intersection levels of service and v/c ratios are displayed in **Table 8** below. Intersections #2, 4, 6, and 7 are also included to show the effect of optimizing the offsets for intersections #1 and 3 during the PM peak hour only. The projected 2012 Non-Build Improved Conditions laneage and traffic volumes are shown in **Figures 9A and 9B**.

Table 8 Village Capital DRI Projected 2012 No-Build Intersection Operation IMPROVED (Delay in Seconds)						
Intersection		Control	AM Peak Hour		PM Peak Hour	
			LOS	v/c	LOS	v/c
1	Peachtree Road at Pharr Road	Signal	B (17.0)	0.53	C (22.3)	0.64
2	Peachtree Road at Buckhead Avenue	Signal	A (8.7)	0.58	B (15.3)	0.67
3	Peachtree Road at West Paces Ferry Road	Signal	D (39.6)	0.84	D (52.2)	0.95
4	Peachtree Road at Mathieson Drive	Signal	B (13.4)	0.46	B (11.3)	0.59
6	Peachtree Road at East Shadowlawn Avenue	Signal	no change		A (4.5)	0.51
7	Peachtree Road at Maple Drive	Signal	no change		A (7.7)	0.54
10	Pharr Road at North Fulton Drive	Signal	A (5.8)	0.35	F (79.1)	0.84

6.3 2012 Build Traffic

The traffic associated with the proposed Village Capital development was added to the 2012 No-Build volumes. Additionally, trips associated with the existing uses as described earlier were removed from the study intersections using the distribution for the proposed uses. These Build volumes, along with existing roadway geometry and signal timings, were input into *Synchro 6.0* and an analysis of the projected 2012 Build Conditions was performed. The results of the analysis are displayed in **Table 9**. An analysis of the proposed site driveways was also performed and results are provided in the table.

Table 9
Village Capital DRI
Projected 2012 Build Intersection Operation
(Delay in Seconds)

	Intersection	Control	AM Peak Hour		PM Peak Hour	
			LOS	v/c	LOS	v/c
1	Peachtree Road at Pharr Road	Signal	B (18.9)	0.76	F (94.0)	1.04
2	Peachtree Road at Buckhead Avenue	Signal	B (10.0)	0.62	B (15.3)	0.79
3	Peachtree Road at West Paces Ferry Road	Signal	D (51.0)	0.90	F (115.6)	0.97
4	Peachtree Road at Mathieson Drive	Signal	B (12.4)	0.49	B (13.9)	0.61
5	Peachtree Road at Grandview Avenue	Stop	C (23.3)*	0.33	E (45.2)*	0.99
6	Peachtree Road at East Shadowlawn Avenue	Signal	B (12.7)	0.61	A (5.6)	0.60
7	Peachtree Road at Maple Drive	Signal	A (6.3)	0.50	A (7.6)	0.58
8	Buckhead Avenue at North Fulton Drive	Stop	A (8.9)	N/A**	B (10.1)	N/A**
9	Buckhead Avenue at Grandview Avenue	Stop	B (12.1)	N/A**	B (14.7)	N/A**
10	Pharr Road at North Fulton Drive	Stop	F (84.8)*	0.78	F (192.0)*	1.17
11	Pharr Road at Grandview Avenue	Signal	B (18.5)	0.34	B (19.2)	0.45
12	East Paces Ferry Road at North Fulton Drive	Stop	B (12.7)*	0.16	C (15.1)*	0.19
13	East Paces Ferry Road at Grandview Avenue	Signal	A (8.5)	0.41	B (15.0)	0.57
14	East Paces Ferry Road at East Shadowlawn Avenue	Stop	B (12.8)*	0.22	B (14.5)*	0.21
15	East Paces Ferry Road at Buckhead Avenue	Stop	B (13.0)*	0.17	C (17.2)*	0.41
16	Buckhead Avenue at Old Decatur Road	Stop	B (10.6)*	0.11	B (10.9)*	0.08
17	East Paces Ferry Road at Piedmont Road (North)	Signal	A (3.4)	0.37	A (3.8)	0.45
18	East Paces Ferry Road at Piedmont Road (South)	Signal	A (6.5)	0.60	A (9.7)	0.56
19	East Paces Ferry Road at Maple Drive	Signal	B (10.2)	0.20	B (11.3)	0.26
20	Old Decatur Road at Pharr Road	Stop	C (17.3)*	0.15	C (21.3)*	0.31
21	Pharr Road at Piedmont Road	Signal	B (15.5)	0.80	B (18.4)	0.71
22	East Paces Ferry Road at Driveway A	Stop	C (18.2)*	0.10	C (20.7)*	0.43
23	Buckhead Avenue at Driveway B	Stop	B (10.4)*	0.03	B (12.4)*	0.19
24	Buckhead Avenue at Driveway C	Stop	B (12.6)*	0.08	B (14.1)*	0.39
25	Pharr Road at Driveway D	Stop	B (12.8)*	0.03	C (15.6)*	0.23
26	Parcel D Street at Driveway E	Stop	A (8.7)*	0.03	A (8.8)*	0.03
27	Parcel D Street at Driveway F	Stop	A (8.8)*	0.03	A (8.9)*	0.03
28	Pharr Road at Driveway G	Stop	B (12.7)*	0.03	C (17.0)*	0.04
29	Buckhead Avenue at Driveway H	Stop	B (10.4)*	0.02	B (12.1)*	0.09
30	Grandview Avenue at Driveway I	Stop	B (11.4)*	0.03	B (12.2)*	0.11
31	East Paces Ferry Road at Driveway J	Stop	B (14.3)*	0.05	B (13.7)*	0.14
32	Buckhead Avenue at Parcel D Street	Stop	B (11.7)*	0.08	B (11.1)*	0.09
33	Pharr Road at Parcel D Street	Stop	B (12.8)*	0.03	C (17.6)*	0.09

*Delay reported for higher minor street approach; v/c reported for higher minor street movement

** v/c not provided for all-way stop control intersection configuration.

As shown in Table 13, maintaining existing roadway geometry and signal timing, and adding both background traffic growth as well as the traffic associated with the Village Capital project causes four of the study intersections to be projected to operate below the operational standards during at least one peak hour scenario for the 2012 Build Conditions. Operational improvements were made to the roadway network until each intersection's operation was elevated to an appropriate range as defined by GRTA's Technical Guidelines. As in the 2012 No-Build conditions, the main reason for improvements at Peachtree Road and Pharr Road is due to the lengthy queues projected along Peachtree Road. During peak times, left-turn vehicles queue in the shared left-through lanes due to significant opposing through volumes, which reduces capacity along Peachtree Road. The 2012 Build improvements made to the system are listed below, by intersection:

2012 Build recommended improvements (includes the Village Capital DRI project traffic). Note: These improvements are the same as listed in the 2012 No-Build recommended improvements.

#1 – Peachtree Road at Pharr Road

- Provide exclusive northbound left-turn lane with protected/permissive phasing¹
- Provide exclusive southbound left-turn lane with protected/permissive phasing¹
- Optimize the splits and offset of this coordinated signal

#3 – Peachtree Road at West Paces Ferry Road

- Optimize the splits and offset of this coordinated signal during the PM peak hour
- Relocate the mast-arm supporting the southbound signal heads for Peachtree Road in order to allow for a reduced all-red time at the southbound Peachtree Road and Roswell Road approaches¹

#10 – Pharr Road at North Fulton Drive

- Install a traffic signal, with pedestrian actuation¹

¹ Consistent with the *Buckhead Avenues DRI* Notice of Decision, dated March 7, 2007.

Given the recommended improvements above, the 2012 Build Improved Conditions intersection levels of service and v/c ratios are displayed in **Table 10**. Intersections #2, 4, 6, and 7 are also included to show the effect of optimizing the offsets for intersections #1 and 3. The projected 2012 Build Improved Conditions laneage and traffic volumes are shown in **Figures 10A and 10B**.

It should be noted that intersection #5 – Peachtree Road at Grandview Avenue does not have recommended improvements in order to meet the level of service standard D. Because it is currently an unsignalized intersection with a two-lane minor street approach, the improvement that would be most logical would be to signalize the intersection. However, the proximity of this location to the signalized intersection at Mathieson Drive would require a split-phase operation if signalized. Because split-phase operation is avoided by GDOT on state routes, the signalization of Grandview Avenue at Peachtree Road is not recommended. Additionally, the anticipated delay of 46.8 seconds is just 11 seconds more than the LOS D standard for unsignalized intersections, and the benefit of lowering the delay would not outweigh the detrimental impacts of another signal to the mainline progression along Peachtree Road. Finally, it is not uncommon for minor approaches of intersections with major roadways to experience delay during the peak hours.

Table 10
Village Capital DRI
Projected 2012 Build Intersection Operation IMPROVED
(Delay in Seconds)

Intersection	Control	AM Peak Hour		PM Peak Hour	
		LOS	v/c	LOS	v/c
1 Peachtree Road at Pharr Road	Signal	B (19.8)	0.64	C (27.2)	0.75
2 Peachtree Road at Buckhead Avenue	Signal	B (10.4)	0.62	B (17.2)	0.79
3 Peachtree Road at West Paces Ferry Road	Signal	D (44.7)	0.90	D (52.1)	0.97
4 Peachtree Road at Mathieson Drive	Signal	B (13.7)	0.49	B (11.5)	0.61
6 Peachtree Road at East Shadowlawn Avenue	Signal	no change		A (5.7)	0.60
7 Peachtree Road at Maple Drive	Signal	no change		A (7.8)	0.58
10 Pharr Road at North Fulton Drive	Stop	A (6.0)	0.41	A (6.3)	0.45

7.0 IDENTIFICATION OF PROGRAMMED PROJECTS

The Atlanta Regional Commissions' (ARC) Envision6 Regional Transportation Plan (RTP), the ARC's FY 2008-2013 Transportation Improvement Plan (TIP), the GDOT State Transportation Improvement Program (STIP), and the GDOT Construction Work Program (CWP) were all used as resources for future roadway and intersection projects in the vicinity of the proposed site. Area projects are displayed in **Table 11** and shown graphically in **Figure 11**. Descriptions of the projects are included in the Appendix.

According to ARC's Transportation Improvement Program, Regional Transportation Improvement Program, GDOT's Construction Work Program, and the STIP, the following projects are programmed or planned to be completed by the respective years.

Table 11
Village Capital DRI
Programmed Area Projects

AT-215C	2030	Peachtree Road Ped/Bike Upgrades (Shadowlawn Avenue to Maple Drive)
AR-456B	2030	Peachtree Streetcar Phase II
Sponsor: Buckhead Community Improvement District (BCID)		Streetscape and bike/ped improvements along East Paces Ferry Road and Pharr Road within the Buckhead Village; includes sidewalk widening and adding on-street parking

Additionally, the following intersections within the study network for this project are required improvements based on the GRTA Notice of Decision for the Buckhead Avenues (Streets of Buckhead) DRI #1269, dated March 7, 2007:

- Peachtree Road @ Pharr Road – Provide an exclusive northbound left-turn and southbound left-turn lane.
- Peachtree Road @ Buckhead Avenue – Provide an exclusive westbound left-turn lane.

- Peachtree Road @ West Paces Ferry Road – Relocate the mast-arm supporting the southbound signal heads for Peachtree Road.
- Buckhead Avenue @ North Fulton Drive – Install a signal, if warranted, with pedestrian actuation.
- Pharr Road @ North Fulton Drive – Install a signal, if warranted, with pedestrian actuation.

8.0 INGRESS/EGRESS ANALYSIS

Parcel C

Both proposed driveways for this parcel (Driveways A and B) are each proposed to have one ingress lane and one egress lane. The 2012 Build Conditions analysis assumed this laneage, and the results did not indicate a need for additional turn lanes at either driveway.

Parcel D

All proposed driveways for this parcel (Driveways C, D, E, F and G) are each proposed to have one ingress lane and one egress lane. The 2012 Build Conditions analysis assumed this laneage, and the results did not indicate a need for additional turn lanes at any of the driveways. Additionally, Parcel D Street is proposed to have one approach lane at its intersections with Buckhead Avenue and Pharr Road. The analysis showed turn lanes would not be needed along either existing road.

Parcel E

The three proposed driveways for this parcel (Driveways H, I and J) are each proposed to have one ingress lane and one egress lane. The 2012 Build Conditions analysis assumed this laneage, and the results did not indicate a need for additional turn lanes at any of the driveways.

9.0 INTERNAL CIRCULATION ANALYSIS

Internal circulation will occur between all three parcels along existing roadways (such as Buckhead Avenue) as well as a new proposed roadway, Parcel D Street. Additionally, vehicles will be able to circulate within each parcel's parking structure. Pedestrians will be able to travel easily between uses on each parcel and between parcels using sidewalks and walkways existing and proposed in the area.

10.0 COMPLIANCE WITH COMPREHENSIVE PLAN ANALYSIS

The future development does not comply with the City of Atlanta's Future Land Use map, which shows this area as high density commercial and medium density residential.

11.0 NON-EXPEDITED CRITERIA

11.1 Vehicle Miles of Travel

Table 12 displays the reduction in traffic generation due to internal capture, alternative mode reductions and retail pass by reductions.

Table 12 Village Capital DRI Vehicle Mile Reduction	
	Build-Out Total
Daily Gross Trip Generation	12,869
(-) Mixed-use reductions (internal capture)	-1,402
(-) Alternative modes	-573
(-) Pass-by trips	-1,901
Net Trips	8,993

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 Atlanta.

11.2.2 *Preserving Regional Mobility*

This proposed project is located near the main arterials of Peachtree Road, Roswell Road, and Piedmont Road. These arterials provide access to the major interstates and highways in the Atlanta area. MARTA also provides two bus routes which travel through or immediately adjacent to the site. These routes connect to many other locations throughout the region, including MARTA rail stations.

11.2.3 *Safe and Efficient Operations*

All intersections within the Buckhead Village provide or will provide in the future safe pedestrian crossing features, including raised crosswalks within this project as well as marked crosswalks at other locations in the area. Pedestrian actuation will be a feature for all new signals proposed in the Buckhead Village.

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, while giving priority to pedestrian and bicycle safety.

The project is also located within the Buckhead Area Transportation Management Association (BATMA).

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 (2012).

12.0 ARC'S AIR QUALITY BENCHMARK

The proposed development is to consist of 187 residential units, 560,000 square feet of office area, and 95,000 square feet of retail area. Because office is the dominant use and the development has floor area ratios greater than 0.8, the development meets the ARC criteria (1A) for a 6% reduction. Also, because the development has a mix of uses and at least 10% of the floor area is residential, this development meets the ARC criteria (2A) for an additional 4% reduction.

The proposed development is located within ¼ mile from several existing MARTA bus stops, along Peachtree Road and Pharr Road. Therefore, this development meets the ARC criteria (4) for a 3% VMT reduction.

Because the proposed development is located within the Buckhead Area Transportation Management Association, it meets ARC criteria (5B) and is eligible for a 3% VMT reduction.

Finally, the proposed mixed-use development will contain a complete pedestrian network within the site, and connections to the existing pedestrian network. Pedestrians will be able to access other uses within the proposed development via this network. This anticipated pedestrian internal network that connects to adjoining uses meets the ARC criteria (6E) for a 5% VMT reduction.

The proposed development earns a score of 20% VMT reduction for the ARC criteria. These reductions are displayed in **Table 13**.

Table 13 Village Capital DRI ARC VMT Reductions	
Projects where Office is the dominant use	
Density target – FAR greater than 0.8	-6%
Mixed-Use target – more than 10% residential use	-4%
Project is located within ¼ mile of a bus stop	-3%
Located within TMA	-3%
Bike/ped networks in development that connect to adjoining uses and meets a Density/Mixed-Use target	-5%
Total Reductions	20%