Transportation Analysis

Broadstone West
DRI #1394
City of Atlanta, Georgia

Prepared for:
Alliance Residential Company

May 2007
019479013

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts associated with the proposed Broadstone West project, a proposed approximate 3.2-acre mixed-use development bounded by Marietta Street to the west, 3rd Street to the east and Hampton Street to the south in the City of Atlanta, Georgia. This report is being prepared as part of a rezoning request from the City of Atlanta, Georgia. Because the project will contain over 400 residential units, 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 is expected to consist of 285 apartment dwelling units and approximately 25,000 square feet of retail space. The development is scheduled to be completed in one phase by 2010. The site is zoned PD-MU (Planned Development Mixed-Use) and will remain PD-MU with a change in density allowance.

The results of the detailed intersection analysis for the 2010 No-Build Conditions (includes 2% per year background traffic growth, but excludes trips generated by the Broadstone West DRI project) and 2010 Build Conditions (includes trips generated by the Broadstone West DRI project) identify suggested improvements that will be necessary in order to maintain the Level of Service standard within the study network. These improvements are listed below.

2010 No-Build recommended improvements (includes background traffic growth of 2% per year but does not include the Broadstone West DRI project traffic):

Marietta Street @ Northside Drive (Intersection #5)

- Add a northbound left-turn lane; modify and optimize signal timing (no change to cycle lengths).

2010 Build recommended improvements (adds the Broadstone West DRI project traffic):

Marietta Street @ Northside Drive (Intersection #5)

- Add a southbound left-turn lane; modify and optimize signal timing (no change to cycle lengths).

2010 Build site driveway recommendations/configuration:

Marietta Street @ Site Driveway #1 (Intersection #6)

- Provide one westbound egress lanes in the site driveway.

3rd Street @ Site Driveway #2 (Intersection #7)

- Provide one eastbound egress lane in the site driveway.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts associated with the proposed Broadstone West project, a proposed approximate 3.2-acre mixed-use development bounded by Marietta Street to the west, 3rd Street to the east and Hampton Street to the south in the City of Atlanta, Georgia. This report is being prepared as part of a rezoning request from the City of Atlanta, Georgia. Because the project will contain over 400 residential units, 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 is expected to consist of 285 apartment dwelling units and approximately 25,000 square feet of retail space. The development is scheduled to be completed in one phase by 2010. The site is zoned PD-MU (Planned Development Mixed-Use) and will remain PD-MU with a change in density allowance. There are no uses currently on the site.

A summary of the proposed land-uses and densities is provided below in **Table 1.**

Table 1
Broadstone West DRI
Proposed Land Uses

Apartment	285 dwelling units
Specialty Retail	25,000 square feet

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

1.2 Site Plan Review

The development site plan consists of three seven-story and two six-story buildings with one integrated parking deck. The site is generally bounded by Hampton Street to the south, 3rd Street to the east and Marietta Street to the west. The proposed site driveway locations are provided in *Section 1.3 Site Access*. Parking is proposed within the parking garage and along Marietta Street and 3rd Street adjacent to the property.

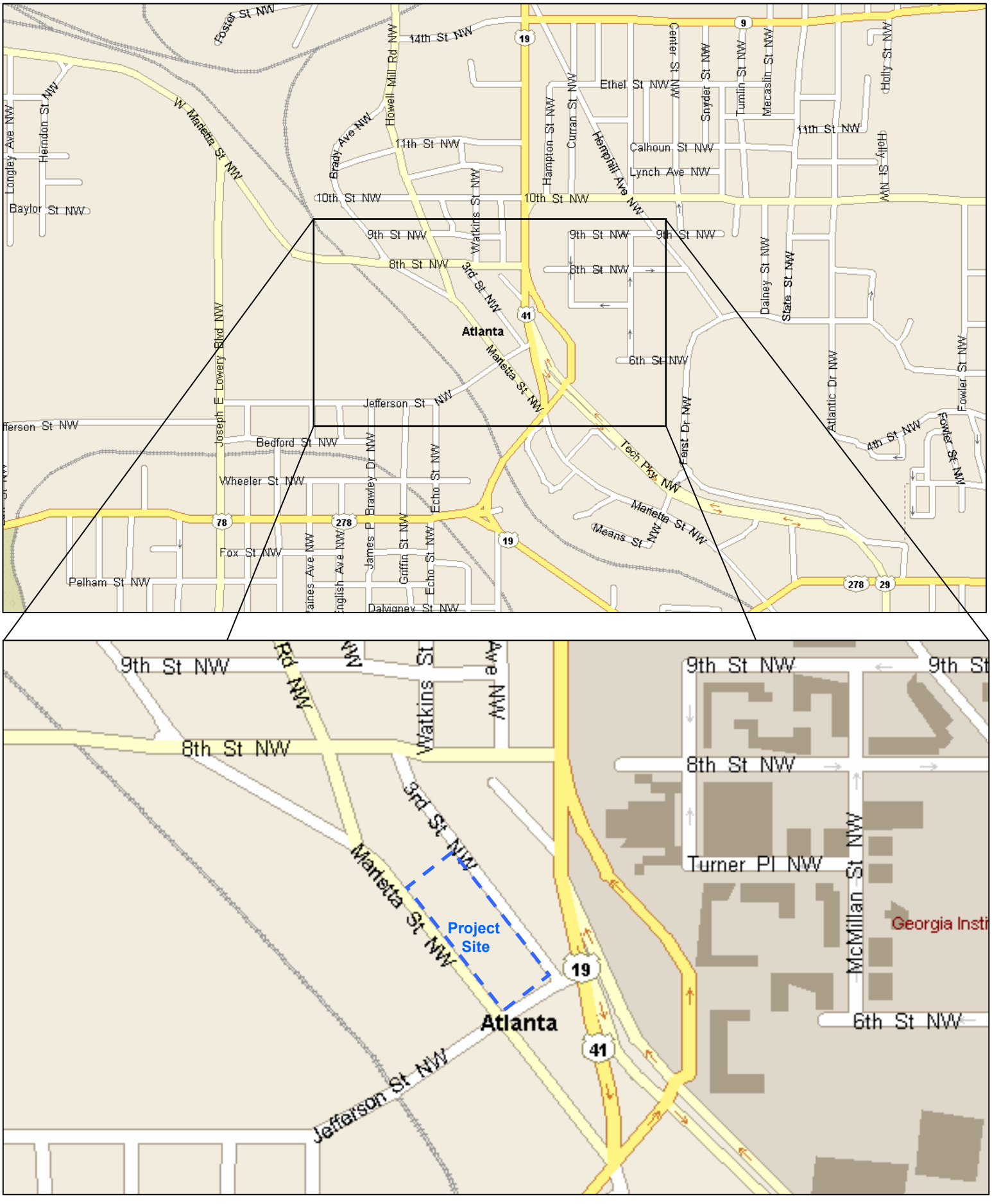
Figure 3 is a small-scale copy of the site plan. A full-size site plan consistent with GRTA's Site Plan Guidelines is also being submitted as part of the DRI Review Package.

1.3 Site Access

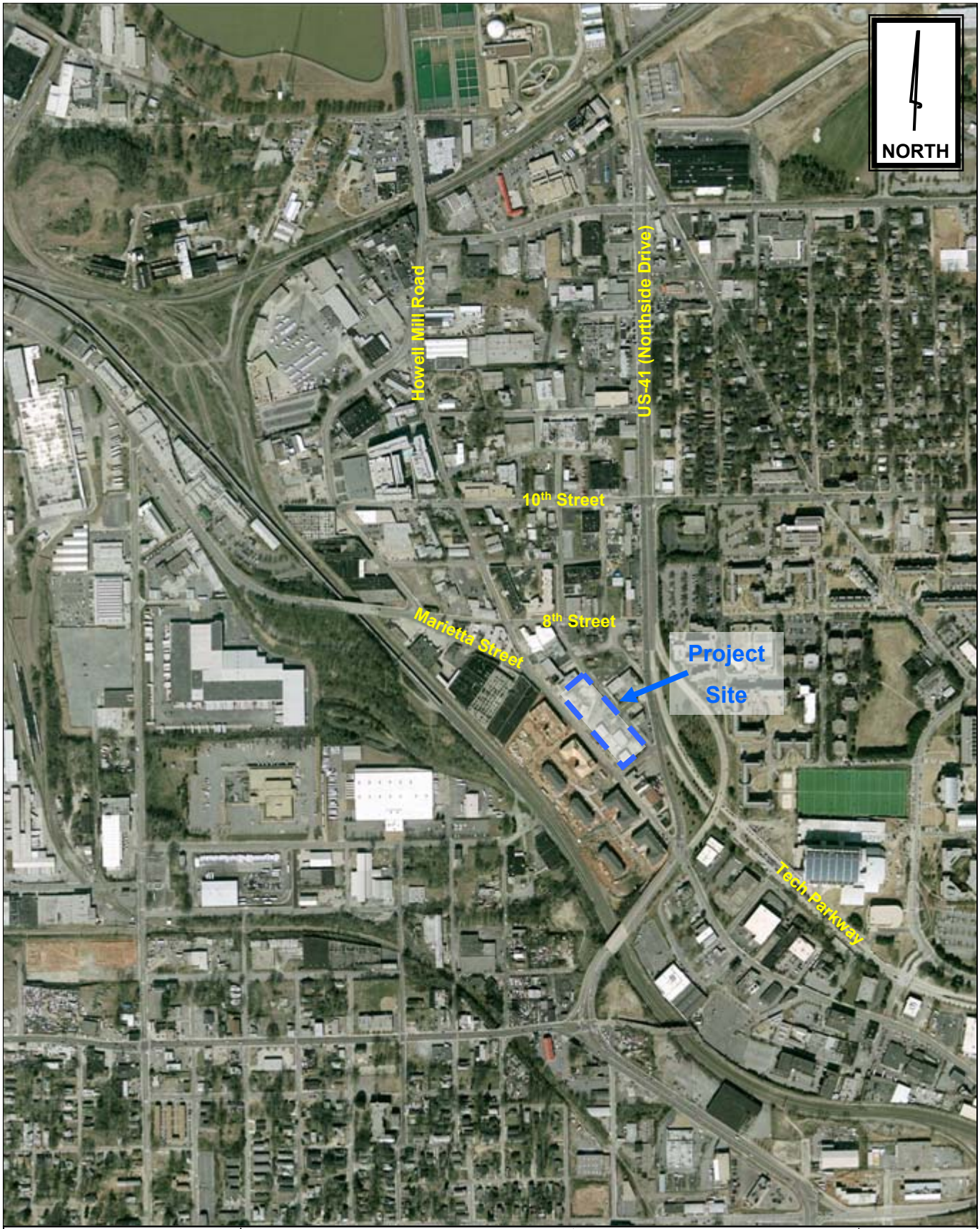
The development is proposing two site access points. One full access driveway is proposed on Marietta Street located approximately 380 feet north of Hampton Street, and one full access driveway is proposed on 3rd Street also located approximately 380 feet north of Hampton Street. The driveways will provide access to both the residential and retail uses. Both driveways access the parking garage and therefore no internal roadways are required or proposed.

1.4 Bicycle and Pedestrian Facilities

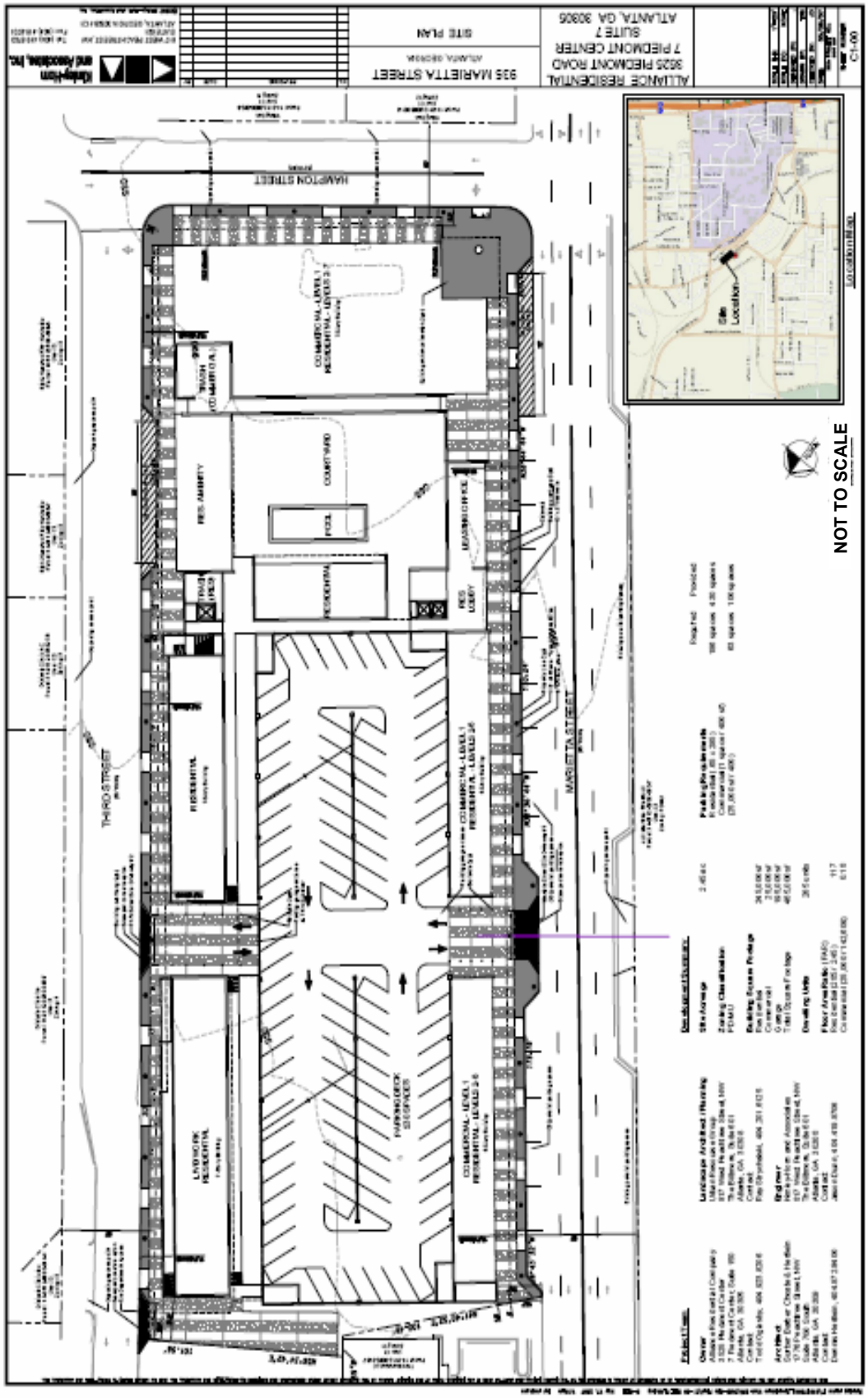
Pedestrian facilities (sidewalks) currently exist along Marietta Street, Hampton Street and 3rd Street, as well as along most area roadways. The proposed development will connect to the existing sidewalks. There are no marked bicycle paths or routes currently along Marietta Street.



Kimley-Horn and Associates, Inc.	**Broadstone West DRI Transportation Analysis**	**Site Location Map**	**Figure 1**



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Aerial Photograph	Figure 2



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Site Plan	Figure 3

1.5 Transit Facilities

The proposed development is located along MARTA bus route 1 – Coronet Way (approximate 15- to 20-minute headways, which intersects the Georgia State and Five Points MARTA rail stations. The route map and description providing detailed MARTA bus route information is located in the Appendix.

2.0 TRAFFIC ANALYSIS 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 development, and a growth rate of 2% per year for three years along all adjacent roadways was agreed upon during the pre-application meeting with GDOT and City of Atlanta staff.

2.2 Traffic Data Collection

Year 2007 weekday peak hour turning movement counts were conducted on Wednesday, April 18, and Thursday, April 19, 2007, at two signalized intersections and three unsignalized intersections during the AM and PM peak periods.

The morning and afternoon peak hours varied between the five (5) study intersections and are listed below:

- 8th Street @ 3rd Street (AM Peak 8:15-9:15, PM Peak 5:15-6:15)
- Marietta Street @ Howell Mill Road (AM Peak 7:45-8:45, PM Peak 5:00-6:00)
- Marietta Street @ Hampton Street (AM Peak 7:45-8:45, PM Peak 5:15-6:15)
- Hampton Street @ 3rd Street (AM Peak 8:15-9:15, PM Peak 5:00-6:00)
- Marietta Street @ Northside Drive (US 41) (AM Peak 8:00-9:00, PM Peak 4:45-5:45)

These study intersections are listed in *Section 3.4 Study Network Determination*.

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. Level of service analyses were conducted at all intersections within the study network using *Synchro Professional, Version 6.0*.

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

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

3.0 STUDY NETWORK

3.1 Gross Trip Generation

As stated earlier, the proposed development is expected to consist of 285 apartment dwelling units and approximately 25,000 square feet of specialty retail area.

Traffic projections 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 2**.

Table 2
Broadstone West 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 2011)							
285 Apartment Dwelling Units	*220*	932	932	29	114	113	61
25,000 SF Specialty Retail	*814*	553	553	114	124	36	45
Total		**1,485**	**1,485**	**143**	**238**	**149**	**106**

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 (aerial mapping), engineering judgment, and methodology discussions with GRTA, ARC, GDOT, and City of Atlanta 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 GRTA's Letter of Understanding.

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, typically LOS D) be considered for analysis. The study area was agreed upon during methodology discussions with GRTA, ARC, GDOT, and City of Atlanta staff, and includes the following intersections:

- 8th Street @ 3rd Street (Unsignalized)
- Marietta Street @ Howell Mill Road (Signalized)
- Marietta Street @ Hampton Street (Unsignalized)
- Hampton Street @ 3rd Street (Unsignalized)
- Marietta Street @ Northside Drive (US 41) (Signalized)

Each of the above listed intersections was analyzed for the Existing 2007 Conditions, the 2010 No-Build Conditions, and the 2010 Build Conditions. The 2010 No-Build Conditions represents the existing traffic volumes grown at 2% per year for three years. The 2010 Build Conditions adds the projected trips associated with the Broadstone West DRI development to the 2010 No-Build Conditions.

The additional proposed site access points listed below were only analyzed for the 2010 Build Conditions:

- Site Driveway #1 @ Marietta Street
- Site Driveway #2 @ 3rd Street

3.5 Existing Facilities

Marietta Street

- Marietta Street is a two-way, four-lane undivided roadway oriented in the north-south direction in the vicinity of the proposed development and extends from Peachtree Street in Downtown Atlanta to west of Marietta Boulevard, where it changes names to Perry Boulevard and ends at Hollywood Road. It also continues across Peachtree Street into East Atlanta and Dekalb County as Decatur Street or Dekalb Avenue. Marietta Street is classified as an Urban Minor Arterial with a posted speed limit in the vicinity of the proposed development of 30 MPH. According to the GDOT historical count data, the 2005 (most recent available) daily traffic volume along Marietta Street was 13,490 vehicles per day north of Northside Drive and 14,290 vehicles per day south of Northside Drive.

Hampton Street

- Hampton Street is a two-way, two-lane undivided roadway oriented in the east-west direction in the vicinity of the proposed development and extends from Northside Drive to Marietta Street. Hampton Street is classified as an Urban Local Street with no posted speed limit in the vicinity of the proposed development. No GDOT historical count data is available along Hampton Street.

8th Street

- 8th Street is a two-way, two-lane undivided roadway oriented in the east-west direction in the vicinity of the proposed development and extends from Northside Drive to Marietta Street. 8th Street is classified as an Urban Collector Street with no posted speed limit in the vicinity of the proposed development. No GDOT historical count data is available along 8th Street in the vicinity of this project.

3rd Street

- 3rd Street is a two-way, two-lane undivided roadway oriented in the north-south direction in the vicinity of the proposed development and extends from 8th Street to Hampton Street. 3rd Street is classified as an Urban Local Street with no posted speed limit. No GDOT historical count data is available along 3rd Street in the vicinity of the project.

Northside Drive (US 41)

- Northside Drive is a two-way, four-lane divided roadway oriented in the north-south direction (east-west at its intersection with Marietta Street) and extends from south of Downtown Atlanta (as US 41/US 19) to just south of Moores Mill Road, where it splits off US 41/US 19 and continues north to I-285. Northside Drive is classified as an Urban Principal Arterial with a posted speed limit of 35 MPH in the vicinity of the proposed development. According to the GDOT historical count data, the 2005 (most recent available) daily traffic volume along Northside Drive was 22,600 vehicles per day just north of 8th Street.

Howell Mill Road

- Howell Mill Road is a two-way undivided roadway with varying lanes from Marietta Street to Northside Parkway (US 41), just south of Moores Mill Road. Howell Mill Road is classified as an Urban Minor Arterial with a posted speed limit in the vicinity of the proposed development of 30 MPH. No GDOT historical count data is available along Howell Mill Road in the vicinity of the project.

Roadway classification descriptions are provided in **Table 3**.

Table 3
Broadstone West DRI
Roadway Classification

Roadway	Road Type	Number of Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification	Annual Average Daily Traffic (Veh/Day)
Marietta Street	Two-Way	4	30 MPH	Urban Minor Arterial	13,490 (2005)
Hampton Street	Two-Way	2	N/A	Urban Local Street	710 (2007)*
8th Street	Two-Way	2	N/A	Urban Collector Street	1,930 (2007)*
3rd Street	Two-Way	2	N/A	Urban Local Street	600 (2007)*
Northside Drive (US 41)	Two-Way	4	35 MPH	Urban Principal Arterial	22,600 (2005)
Howell Mill Road	Two-Way	varies	30 MPH	Urban Minor Arterial	8,350 (2007)*

** No GDOT count available. This represents estimated AADT based on peak hour traffic counts.*

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.

Alternative transportation mode (walking, bicycle, and transit) reductions were applied at 5% for the proposed development, as agreed upon during methodology discussions with GRTA, ARC, GDOT, and City of Atlanta staff.

In addition, a mixed-use reduction was applied due to internal capture between the residential and retail uses within the site, and a pass-by reduction was applied to the retail use to account for those vehicles currently on the adjacent roadway network anticipated to use the proposed retail use.

The total (net) trips generated and analyzed in this report are listed in **Table 4**.

Table 4
Broadstone West DRI
Net Trip Generation

	Daily Traffic		AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Gross Project Trips	**1,485**	**1,485**	**143**	**238**	**149**	**106**
Mixed-Use Reduction	*-111*	*-111*	*0*	*0*	*-8*	*-8*
Alternative Mode Reduction	*-69*	*-69*	*-7*	*-12*	*-7*	*-5*
Pass-by Reduction	*-161*	*-161*	*0*	*0*	*-12*	*-16*
Net New Trips	**1,144**	**1,144**	**136**	**226**	**122**	**77**

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 Atlanta staff. **Figure 4** and **Figure 5** display the expected residential and non-residential trip percentages for the development throughout the roadway network. These percentages were applied to the new trips generated by the development (see Table 4, above), and the volumes were assigned to the roadway network. The expected peak hour turning movements (project trips) generated by the proposed development are shown in **Figure 6**.

6.0 TRAFFIC ANALYSIS

6.1 Existing Traffic

The observed existing peak hour traffic volumes (as well as pedestrian volumes and heavy vehicle factors) were input in *Synchro 6.0*, along with the existing traffic signal cycle lengths, splits, and offsets, and an Existing 2007 Conditions analysis was performed. The results are displayed below in **Table 5**.

The existing peak hour traffic volumes are shown in **Figure 7**.

Table 5
Broadstone West DRI
Existing 2007 Intersection Levels of Service
(delay in seconds)

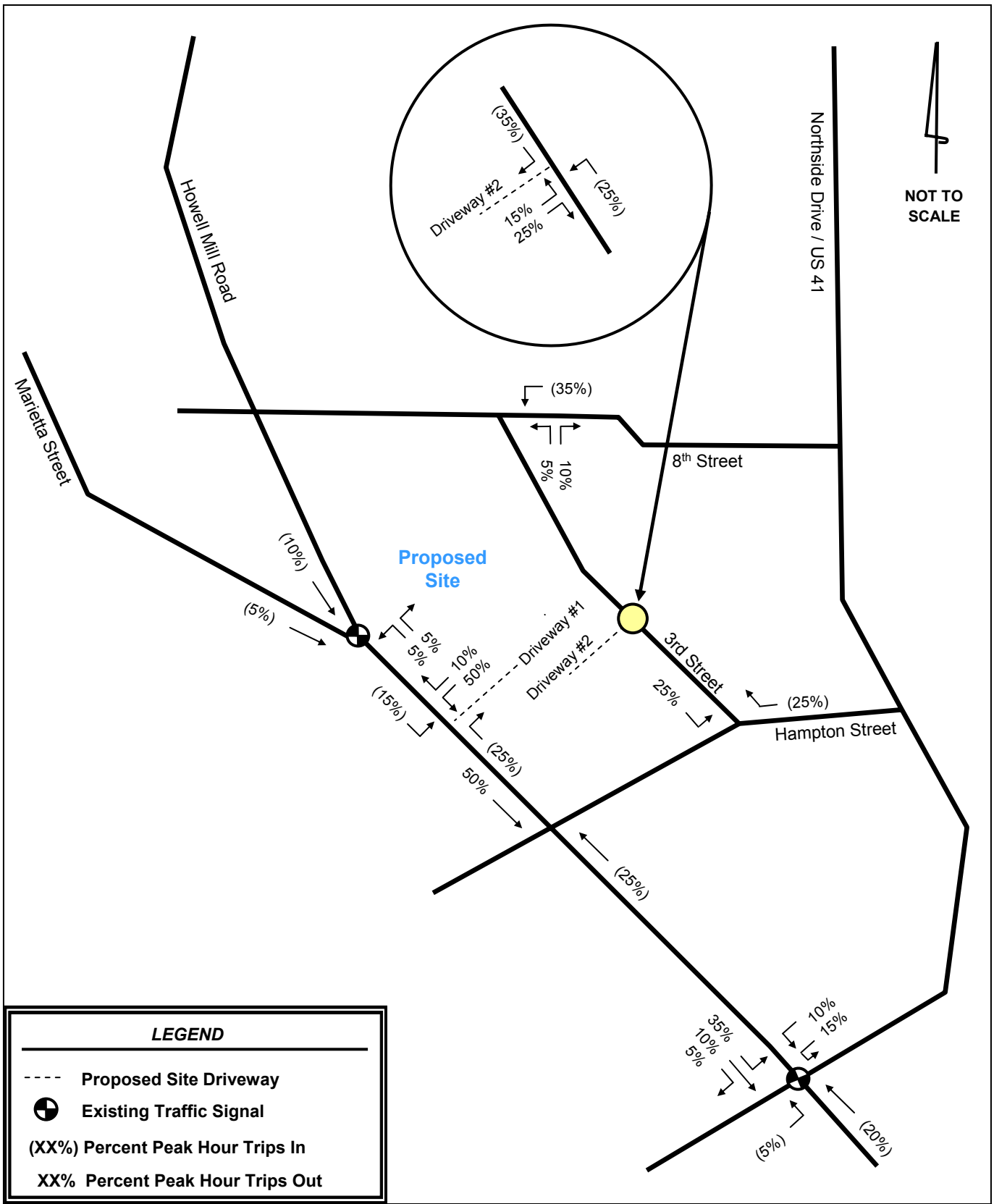
Intersection		Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	8th Street @ 3rd Street	Unsignalized	D	NB – A	NB – A
2	Marietta Street @ Howell Mill Road	Signalized	D	B (14.4)	C (26.5)
3	Marietta Street @ Hampton Street	Unsignalized	D	EB – C WB – D	EB – C WB – C
4	Hampton Street @ 3rd Street	Unsignalized	D	SB – A	SB – A
5	Marietta Street @ Northside Drive	Signalized	D	F (162.5)	F (205.2)

One intersection currently operates below the acceptable Level of Service standard (LOS D) during both the AM and PM peak hours. The signalized intersection of Marietta Street @ Northside Drive currently operates at LOS F during the peak hours. This intersection's No-Build and Build AM peak pour LOS standard is therefore lowered to LOS E per GRTA guidelines in the Letter of Understanding (LOU).

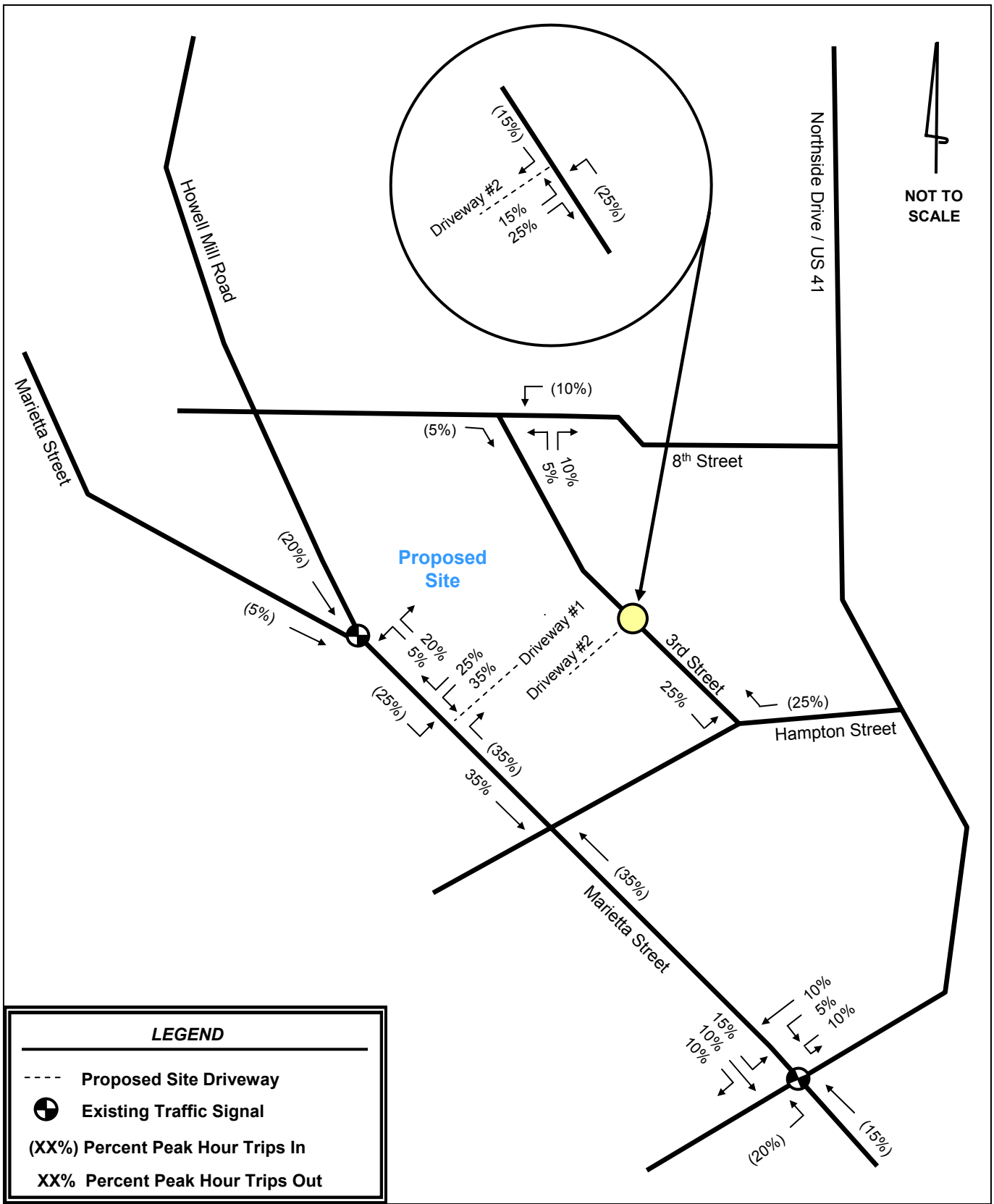
6.2 2010 No-Build Traffic

To account for growth in the vicinity of the proposed development, the existing traffic volumes were grown at 2.0% per year, for three years, along all roadway links within the study network.

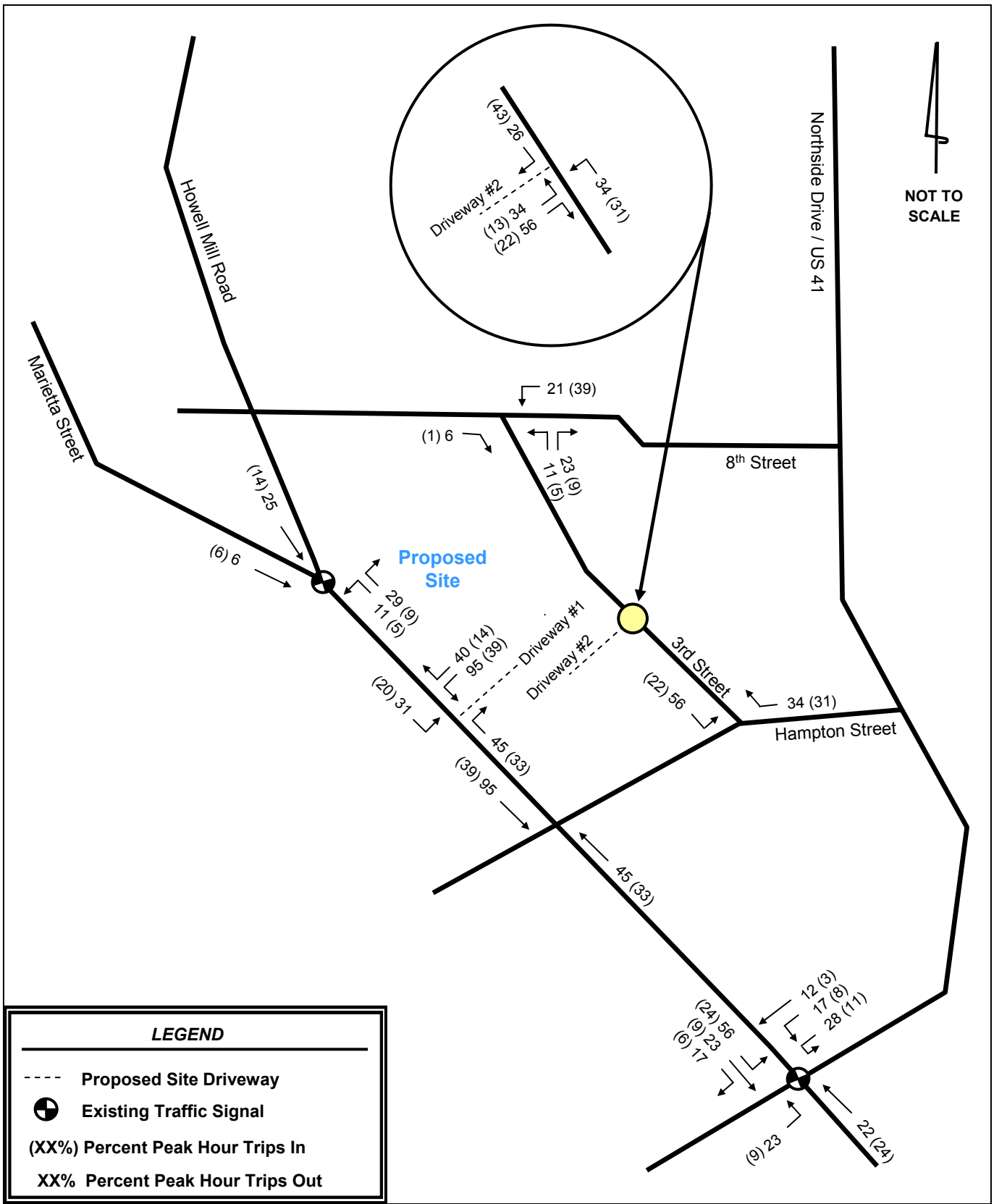
These volumes and the existing signal cycle lengths, splits, and offsets were input into *Synchro 6.0* and an analysis of the projected No-Build Conditions was performed. The results are displayed on the next page in **Table 6**.



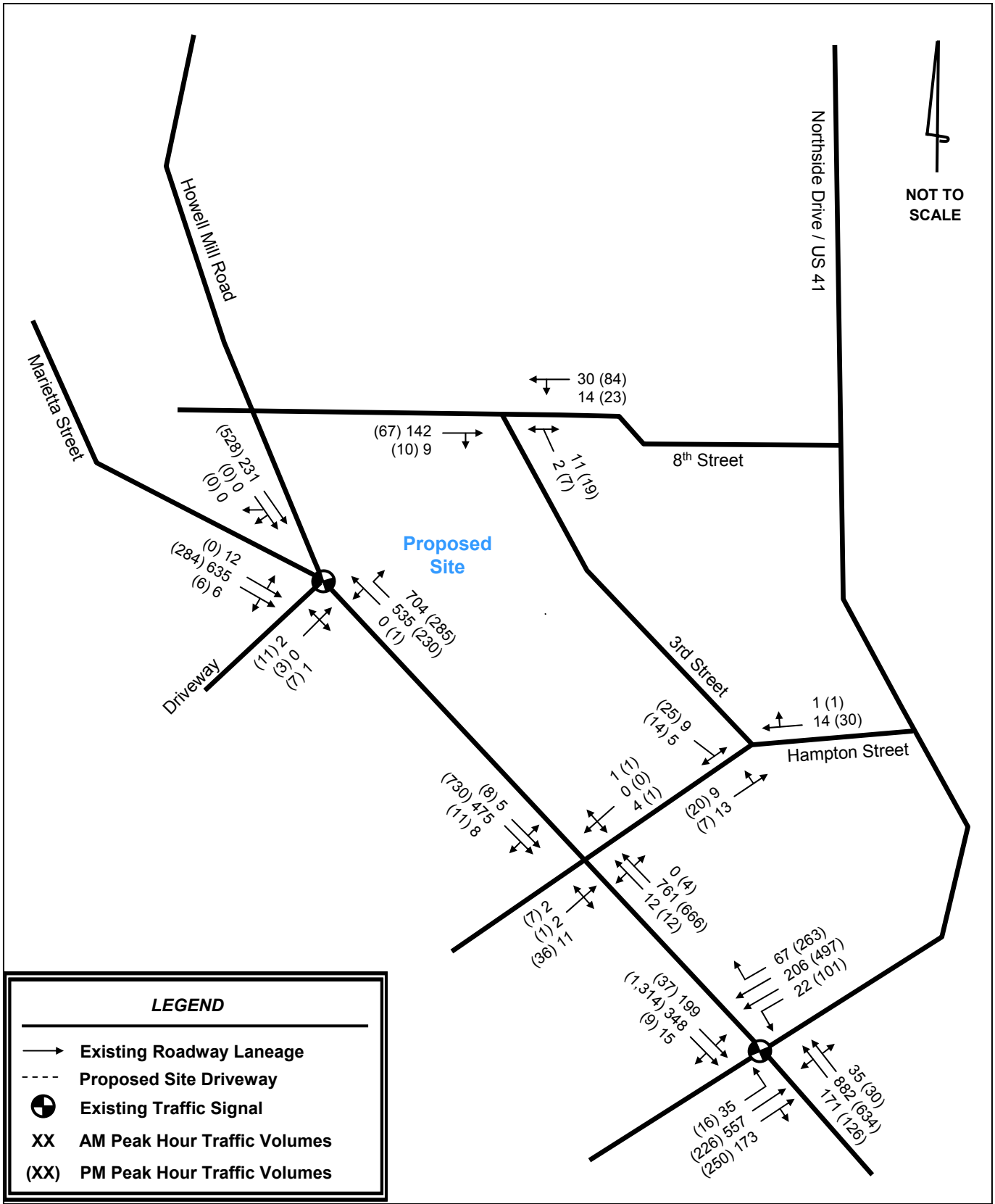
Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Residential Distributions	Figure 4



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Non-Residential Distributions	Figure 5



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Project Trips	Figure 6



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Existing 2007 Conditions	Figure 7

Table 6 Broadstone West DRI Projected 2010 No-Build Intersection Levels of Service (delay in seconds)					
Intersection		**Control**	**LOS Standard**	**AM Peak Hour**	**PM Peak Hour**
1	8th Street @ 3rd Street	Unsignalized	D	NB – A	NB – A
2	Marietta Street @ Howell Mill Road	Signalized	D	B (15.3)	C (28.5)
3	Marietta Street @ Hampton Street	Unsignalized	D	EB – C WB – D	EB – C WB – D
4	Hampton Street @ 3rd Street	Unsignalized	D	SB – A	SB – A
5	Marietta Street @ Northside Drive	Signalized	E	F (191.7)	F (246.8)

Maintaining existing signal timings and roadway geometry, the same intersection that does not meet the LOS D standard from the existing analysis is projected to operate below the acceptable Level of Service standard for the year 2010 No-Build Conditions during both AM and PM peak hours.

The intersection of Marietta Street @ Northside Drive is projected to operate at an LOS F during the AM and PM peak hours. It is recommended to install a separate northbound left-turn lane in order to meet the LOS E standard at this location. The signal timing would need to be modified to optimize green time for each movement; however, the cycle lengths would not need to be modified.

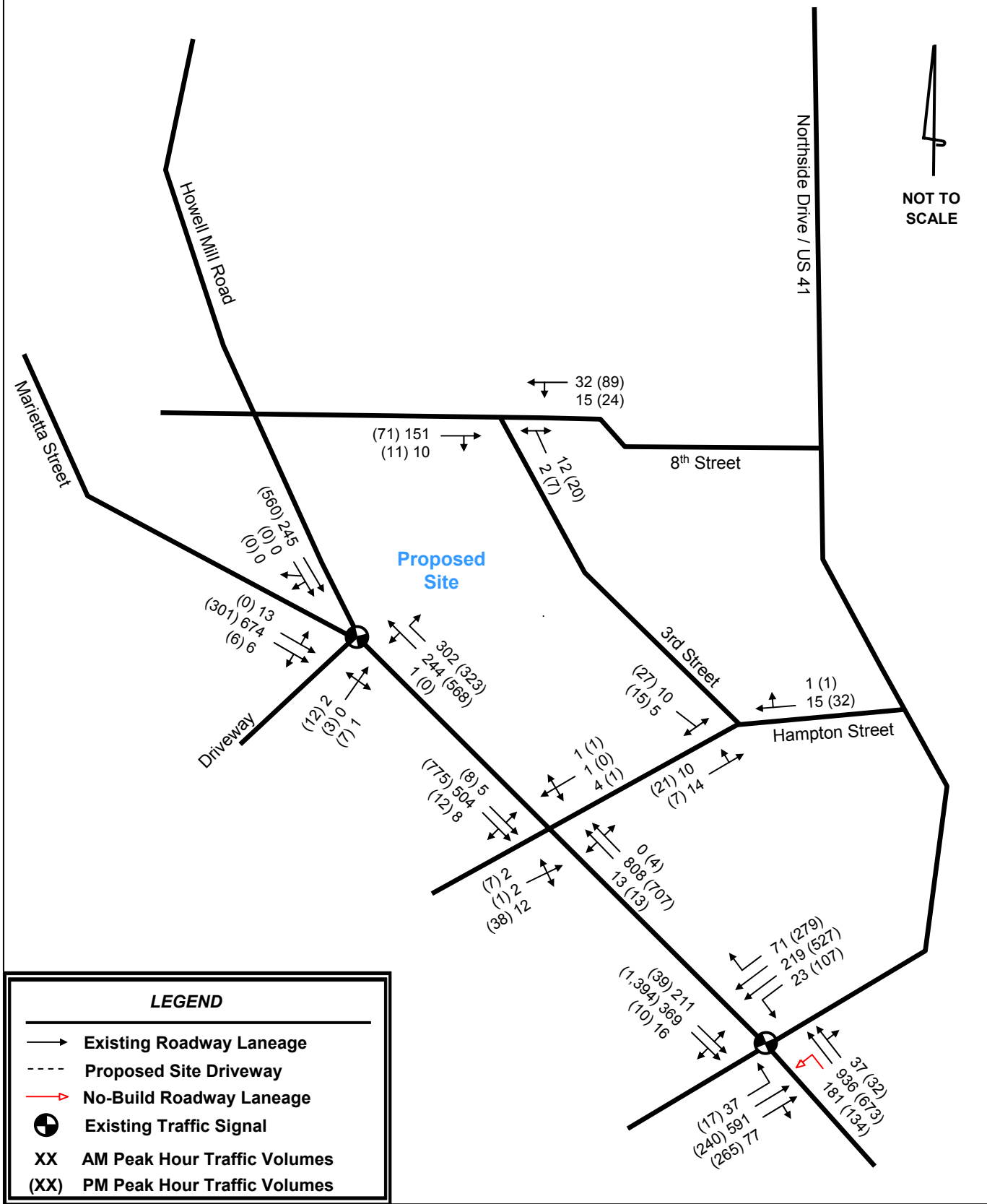
Incorporating this improvement, **Table 7** shows the level of service and delay for each intersection.

Table 7 Broadstone West DRI Projected 2010 No-Build <u>IMPROVED</u> Intersection Levels of Service (delay in seconds)					
Intersection		**Control**	**LOS Standard**	**AM Peak Hour**	**PM Peak Hour**
1	8th Street @ 3rd Street	Unsignalized	D	NB – A	NB – A
2	Marietta Street @ Howell Mill Road	Signalized	D	B (15.3)	C (28.5)
3	Marietta Street @ Hampton Street	Unsignalized	D	EB – C WB – D	EB – C WB – D
4	Hampton Street @ 3rd Street	Unsignalized	D	SB – A	SB – A
5	Marietta Street @ Northside Drive	Signalized	E	D (41.7)	E (74.3)

The projected intersection laneage, proposed improvements and traffic volumes for the year 2010 No-Build Conditions are shown in **Figure 8**.

6.3 2010 Build Traffic

The traffic associated with the proposed development was added to the 2010 No-Build volumes. Existing signal timings and roadway geometry were maintained at those intersections meeting the LOS standard with the No-Build Conditions, and the one improvement from the No-Build analysis at Marietta Street @ Northside Drive was incorporated in this analysis. The Build volumes were then input into *Synchro 6.0*. The results of the analysis are



Kimley-Horn and Associates, Inc.

Broadstone West DRI Transportation Analysis

Projected 2010 No-Build Conditions

Figure 8

displayed in **Table 8**. Analyses of the proposed unsignalized site driveways on Marietta Street and 3rd Street were also performed.

Table 8
Broadstone West DRI
Projected 2010 Build Intersection Levels of Service
(delay in seconds)

	Intersection	Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	8th Street @ 3rd Street	Unsignalized	D	NB – B	NB – B
2	Marietta Street @ Howell Mill Road	Signalized	D	B (16.5)	C (31.6)
3	Marietta Street @ Hampton Street	Unsignalized	D	EB – C WB – E	EB – C WB – D
4	Hampton Street @ 3rd Street	Unsignalized	D	SB – A	SB – A
5	Marietta Street @ Northside Drive	Signalized	E	E (63.0)	F (114.6)
6	Marietta Street @ Driveway #1	Side-Street Stop Control	D	WB – F	WB – D
7	3rd Street @ Driveway #2	Side-Street Stop Control	D	EB – A	EB – A

*Includes the No-Build Improvements.

Including the improvement from the No-Build Conditions analysis, the intersection of Marietta Street @ Northside Drive does not meet the LOS E standard. It is recommended to also install a separate southbound left-turn lane in order to meet the LOS E standard at this location. The signal timing would again need to be modified to optimize green time for each movement; however, the cycle lengths would not need to be modified.

Incorporating this improvement, **Table 9** shows the level of service and delay for each intersection. All other intersections with the exception of the westbound approach at Marietta Street @ Hampton Street are expected to meet the LOS standard.

Table 9
Broadstone West DRI
Projected 2010 Build IMPROVED Intersection Levels of Service
(delay in seconds)

	Intersection	Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	8th Street @ 3rd Street	Unsignalized	D	NB – B	NB – B
2	Marietta Street @ Howell Mill Road	Signalized	D	B (16.5)	C (31.6)
3	Marietta Street @ Hampton Street	Unsignalized	D	EB – C WB – E	EB – C WB – D
4	Hampton Street @ 3rd Street	Unsignalized	D	SB – A	SB – A
5	Marietta Street @ Northside Drive	Signalized	E	E (56.2)	E (56.6)
6	Marietta Street @ Driveway #1	Side-Street Stop Control	D	WB – F	WB – D
7	3rd Street @ Driveway #2	Side-Street Stop Control	D	EB – A	EB – A

The westbound approach of the unsignalized intersection of Marietta Street @ Hampton Street is projected to operate at LOS E conditions. It is not uncommon for side-street traffic to experience delays at an unsignalized intersection with a major street. The volume at this approach on Hampton Street is extremely low, and vehicles also have access to Northside Drive from Hampton Street.

The projected intersection laneage, proposed improvements and traffic volumes for the year 2010 Build Conditions are shown in **Figure 9**. Recommended driveway configurations are also shown in **Figure 9** and are listed below.

Marietta Street @ Site Driveway #1 (Intersection #6)
- Provide one westbound egress lanes in the site driveway.

3rd Street @ Site Driveway #2 (Intersection #7)
- Provide one eastbound egress lane in the site driveway.

7.0 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. Research concluded that several projects are currently programmed in the area surrounding the proposed development. Area projects are displayed in **Table 10** and shown in **Figure 10**. Detailed information on the projects is also included in the Appendix.

Table 10
Broadstone West DRI
Programmed Area Projects

GDOT #: 0001895 ARC #: AT-AR-BP302	Improvements to the Northside Drive bridge over the Norfolk Southern Railroad, north of Bankhead Highway – 2014
GDOT #: 0004399 ARC #: AT-212	Replacement of a substandard bridge on Bankhead Highway (US 78/278) over the CSX Railroad near Means Street – 2020

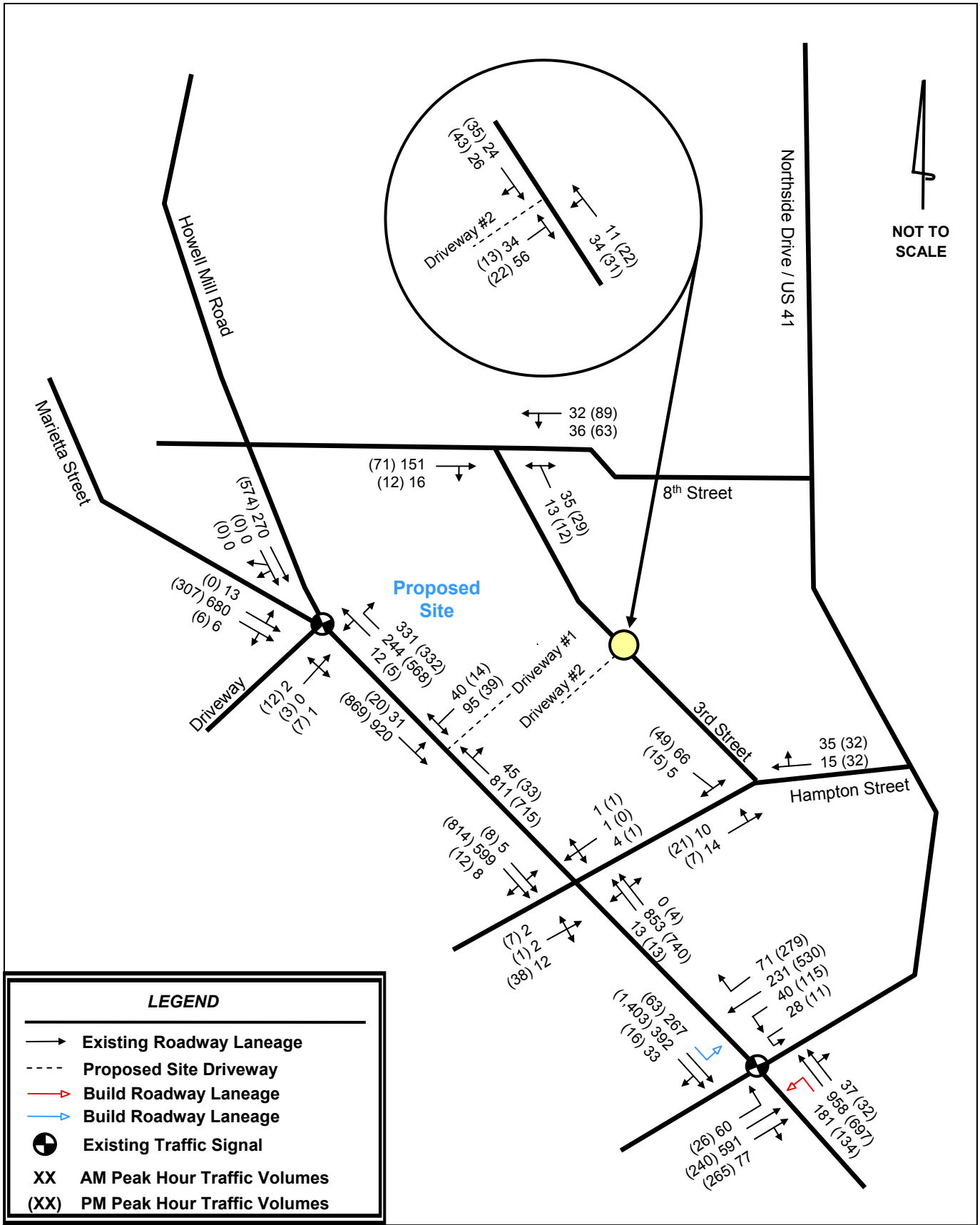
The Northside Drive Corridor Study (2004) and the Upper Westside LCI Study (2005) were also researched for recommended future roadway and pedestrian improvements in the immediate vicinity of the proposed development. These studies are included in the Appendix.

8.0 INGRESS/EGRESS ANALYSIS

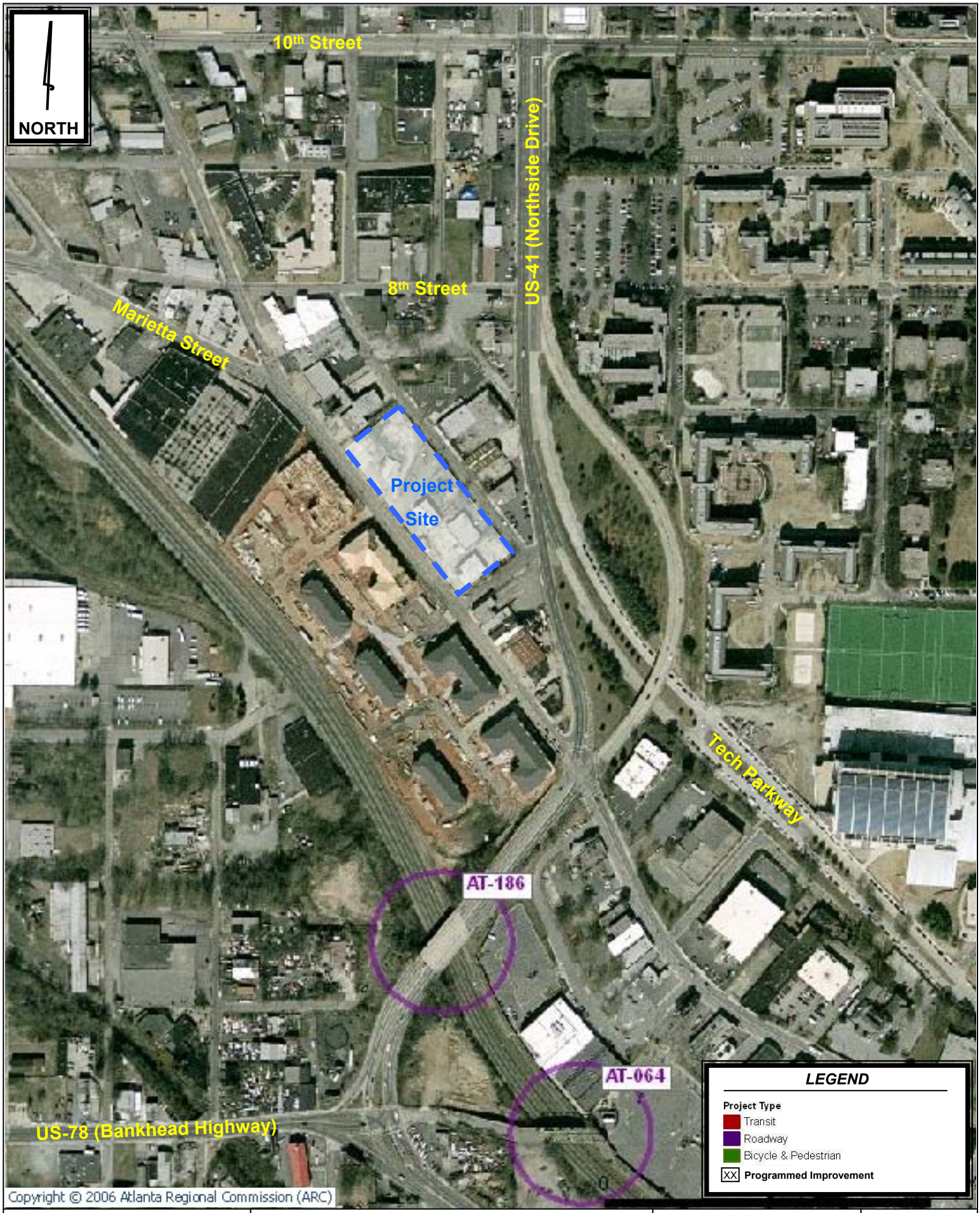
Access is proposed at two driveways; one full access unsignalized driveway along Marietta Street (Site Driveway #1) approximately 380 feet north of Hampton Street, and one full access unsignalized driveway along 3rd Street (Site Driveway #2) also located approximately 380 feet north of Hampton Street. The driveways will provide access to both the residential and retail uses. Below is a description of recommended driveway geometries. Both driveways are proposed to have one ingress lane and one egress lane.

Marietta Street @ Site Driveway #1 (Intersection #6)
- Provide one westbound egress lanes in the site driveway.

3rd Street @ Site Driveway #2 (Intersection #7)
- Provide one eastbound egress lane in the site driveway.



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Projected 2010 Build Conditions	Figure 9



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Programmed Improvements	Figure 10

9.0 INTERNAL CIRCULATION ANALYSIS

The proposed site plan consists of two vehicular driveways. Site Driveway #1 is located along Marietta Street. And Site Driveway #2 is located on 3rd Street at the western boundary of the site. Both driveways are anticipated to operate under side-street stop-control. Both driveways will immediately access the parking garage located on the site. Site Driveway #1 will access the garage from the second level while Site Driveway #2 will access the garage from the first level (ground level). Vehicles will be able to maneuver within the parking garage between both driveways. Pedestrian walkways are also proposed to provide access to sidewalks along the adjacent roadways.

10.0 COMPLIANCE WITH COMPREHENSIVE PLAN ANALYSIS

The City of Atlanta 2004-2019 Future Land Use Plan designates the project site as mixed-use, which is consistent with the Comprehensive Plan.

11.0 NON-EXPEDITED CRITERIA

11.1 Quality, Character, Convenience, and Flexibility of Transportation Options

The proposed development is located adjacent to MARTA Bus Route 1 on Marietta Street/Howell Mill Road. See the route map located in the Appendix for detailed route descriptions. Sidewalks are proposed along Marietta Street, Hampton Street and 3rd Street in the vicinity of the site. The Georgia Tech campus is also located within one-half mile to the east of the site, and provides free shuttle service from campus to the Midtown MARTA rail station.

Those traveling by vehicle have access to I-75/85 and Downtown Atlanta from 10th Street and North Avenue, and to I-75 from Northside Drive. Marietta Street and Northside Drive provide access to Downtown Atlanta south of the site, Marietta Street and Marietta Boulevard (S. Atlanta Road) provide access to Northwest Atlanta and I-285, and Northside Drive provides access to the Buckhead area.

11.2 Vehicle Miles Traveled

Table 11 displays the reduction in traffic generation due to alternative mode reductions. Total trip reductions equal 23% of gross trips.

Table 11
Trip Reductions

	Build-out Total
Daily Gross Trip Generation	2,970
(-) Mixed-Use Reductions	-222
(-) Alternative Mode Reductions	-138
(-) Pass-By Reductions	- 322
Net Trips	2,289

11.3 Relationship Between Location of Proposed DRI and Regional Mobility

The proposed development is located in Midtown Atlanta, just north of Downtown Atlanta. Many of the residents of this development will likely work in town, so vehicular commuting trips have the potential to be short (or even a reverse commute).

11.4 Relationship Between Proposed DRI and Existing or Planned Transit Facilities

The proposed development is located along MARTA Bus Route 1 on Marietta Street. No other existing or planned transit facilities are within the area of the proposed site.

11.5 Transportation Management Association Designation

The proposed development is not located within a Transportation Management Association (TMA).

11.6 Offsite Trip Reduction and Trip Reduction Techniques

Mixed-use and pass-by trip reductions were taken according to the *ITE Trip Generation Handbook, 2003*. Approximately 7.47% of the gross daily trips will be internal and approximately 6.27% of the gross PM peak hour trips will be internal. A 5% alternative mode reduction (those using transportation modes such as walking, bicycling, transit, etc.) was taken for all uses. Additionally, for the projected new daily and PM peak hour trips, a 34% daily and PM peak pass-by reduction was used for the proposed retail portion of the development.

11.7 Balance of Land Uses – Jobs/Housing Balance

Please refer to the Area of Influence Analysis, located in *Section 12.0* of this report.

11.8 Relationship Between Proposed DRI and 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 (2010).

12.0 AREA OF INFLUENCE

This section will describe the Area of Influence (AOI) demographics, AOI average wage levels, expected DRI housing costs, and the availability of jobs within the AOI that would reasonably position employees to purchase housing within the proposed DRI.

12.1 Criteria

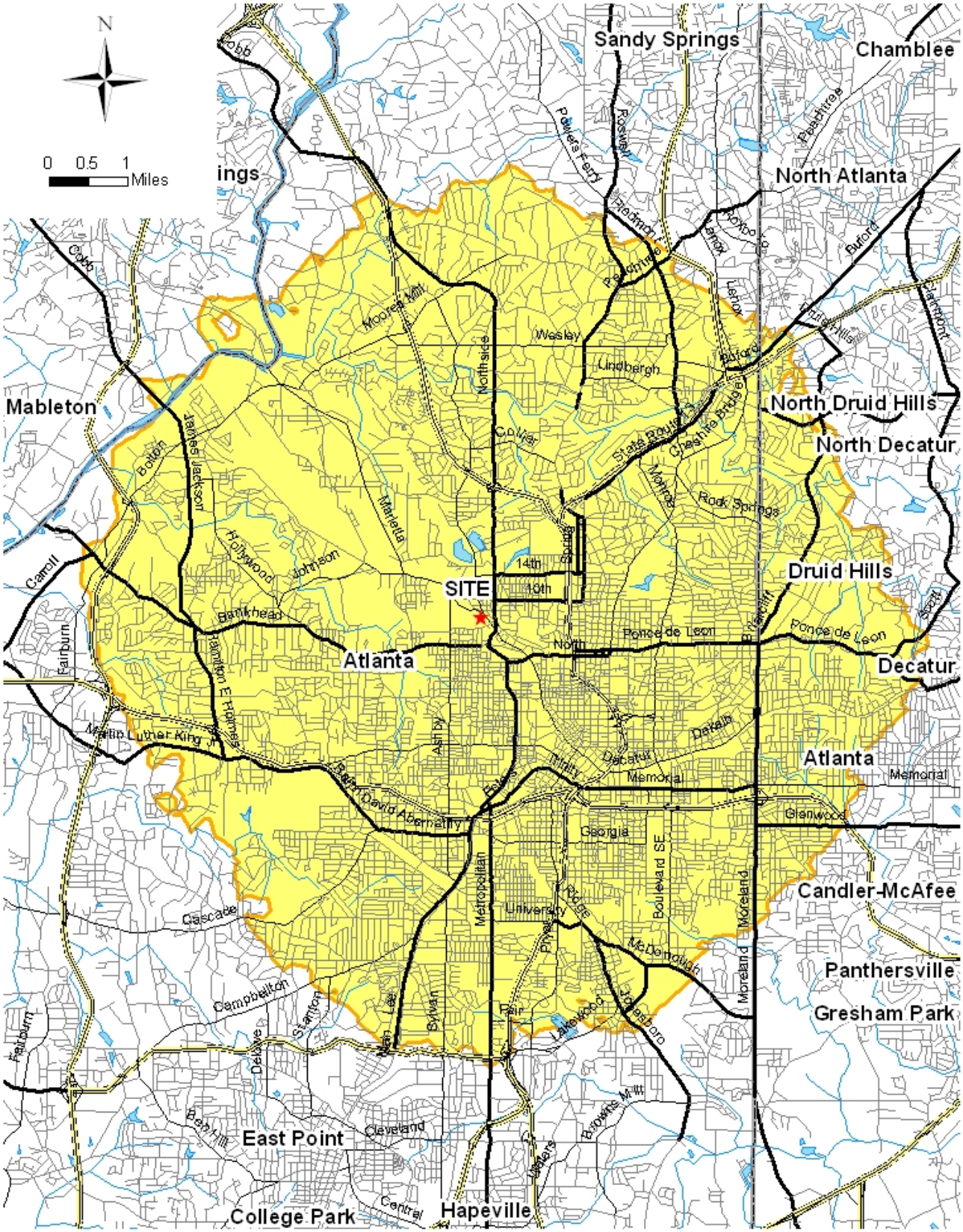
As part of the non-expedited review process for a DRI, an Area of Influence Analysis must be performed to determine the impact of the proposed development on the balance of housing and jobs within the immediate area surrounding the proposed development. For this proposed development expansion, the non-expedited review criterion is as follows:

This section is included to satisfy the following GRTA Non-expedited review criteria:

> 7. The proposed DRI:
>
> (c) Is located in an area of influence with employment opportunities which are such that at least twenty-five percent (25%) of the persons that are reasonably anticipated to live in the proposed DRI and are reasonably expected to be employed will have an opportunity to find employment appropriate to such persons' qualifications and experience within the Area of Influence.

12.2 Study Area Determination and Characteristics

The Area of Influence is comprised of the area within six road-miles of the proposed development. To determine the AOI, *TransCAD* was used to measure six road miles from the nearest intersection to the project (Marietta Street at Hampton Street). The population and housing statistics for the AOI were determined by taking the area outlined in *TransCAD*, creating a boundary in GIS format, and overlaying the boundary with a GIS layer containing census tract information. The Area of Influence (located within Fulton, DeKalb, and Cobb Counties) can be seen in **Figure 11**. Information obtained from the census tracts can be seen in **Table 12**.



Kimley-Horn and Associates, Inc.	Broadstone West DRI Transportation Analysis	Area of Influence	Figure 11

Table 12 Census Tract Information	
Total Households	129,170
Population in Households	280,955
Average household size	2.18
Total Workers	139,696
Workers per Household	1.08
Owner Occupied	41.57%
Rental Occupied	58.43%

As can be seen from the table above, the total population within the Area of Influence is 280,955, residing within 129,170 households (an average of 2.18 people per household). The AOI area totals 53,244 acres.

Using the above calculated average of 2.18 persons per household, it can be anticipated that the proposed DRI will house approximately 621 people (285 proposed dwelling units multiplied by 2.18). Based on information obtained from the Census Tracts, it is estimated that approximately 308 of these expected 621 residents would be workers. The remainder of this section will demonstrate the availability of jobs for these expected workers within the development at or above the necessary income level to afford housing within the DRI.

The Atlanta Journal-Constitution website was researched to find current listings of houses for sale in the vicinity of the proposed development (30318 Zip Code). At the time of this report, about 437 homes were listed for sale in the area, ranging in price from $72,000 to $13,997,260.

12.3 Development Housing Analysis

The development plan provides for houses for sale in one price range within the proposed development. **Table 13**, below, displays the number of units for sale, the average sale price for those units, and the number of workers expected to reside in the homes.

Table 13 Estimated Workers per Household				
Tier	**Description**	**Number of Units**	**Average Price**	**Number of Workers**
1	1 Bedroom Apartment	193	$1,075/month	209
2	2 Bedroom Apartment	92	$1,700/month	99

In order to determine the number of jobs available within the AOI that would provide adequate income, information about the types of jobs within the AOI and the average salaries for these positions was collected first. Information about the types of jobs available within the AOI was obtained from Claritas, a data solutions company. A map with the boundary of the AOI was sent to Claritas, and a report containing the types of employment opportunities and number of each type of job was compiled. The Claritas report is included in the Appendix of this report. Next, the Georgia Department of Labor website was researched to obtain average salary information for the positions available within the AOI. Average salary information for jobs in Fulton, DeKalb, and Cobb counties was matched to the jobs existing within the AOI. This information (also available in the Appendix), along with the information provided by Claritas, is included in the **Table 14**, on the following page.

Table 14
AOI Jobs and Average Salaries

Industry / Business Type	# Businesses	# Employees	Average Salary
Retail Trade	4,082	52,405	$26,987
Building Materials and Garden Supply	135	3,497	-
General Merchandise Stores	71	1,805	-
Food Stores	337	4,768	-
Auto Dealers and Gas Stations	219	1,794	-
Apparel and Accessory Stores	477	2,775	-
Home Furniture, Furnishings, and Equipment	494	4,510	-
Eating and Drinking Places	1,277	23,721	-
Miscellaneous Retail Stores	1,073	9,534	-
Finance	2,018	25,255	$38,696
Banks, Savings and Lending Institutions	418	7,313	-
Securities and Commodity Brokers	254	4,451	-
Insurance Carriers and Agencies	201	2,785	-
Real Estate Trusts, Holdings, and Other Investments	1,145	10,706	-
Services	9,839	159,307	-
Hotels and Other Lodging	111	8,763	$13,391
Personal Services	1,815	9,381	-
Business Services	2,845	40,330	$48,649
Motion Picture and Amusement	502	7,427	$18,373
Health Services	1,229	31,900	$35,378
Legal Services	1,271	13,265	$48,649
Education Services	306	25,851	$22,405
Social Services	509	8,427	$35,378
Miscellaneous, Membership Organizations and Nonclassified	1,251	13,965	-
Agriculture	258	2,259	$21,237
Mining	10	85	$46,847
Construction	1053	9,652	$38,724
Manufacturing	801	23,079	$39,685
Transportation, Communication/Public Utilities	663	27,962	$44,599
Wholesale Trade	843	18,126	$48,225
Public Administration	1,102	62,387	$38,324
Total	20,669	380,517	-

12.4 Affordable Housing Analysis

Various mortgage calculators are available online to aid in determining affordable housing based on given incomes and income ranges. These calculators were used to determine the minimum income necessary to afford housing within the proposed Broadstone West development. It was assumed that no more than one third of an individual's income would be used for mortgage costs (principal + interest), that a 6.13% interest rate on a 30-year conventional loan could be obtained, and that a 10% down payment would be made. The income required to purchase a home at the approximate price range was calculated and is displayed in **Table 15**. Because there is an average of 1.08 workers expected per household, the required income was divided by 1.08 to determine the average salary each worker within the development would be expected to earn in order to provide their "fair share" of the housing costs. This methodology assumes an equal burden on all workers within the development, and is considered to be a conservative approach since it eliminates the lower paying positions within the AOI from consideration in the analysis. Table 15 also displays the number of workers expected in each price range, as well as the number of jobs available at the necessary average income level to afford housing within that price range. As can be seen in the table, there are more than enough positions available within the AOI for expected workers within the proposed development to find employment at the required income level for the one level of pricing within the development, thus satisfying the GRTA requirement of 25%.

Table 15
Expected Workers

	Average Sale Price	Necessary Income per Expected Worker	Expected Worker per Price Range	Jobs at or above Necessary Income
1	$1,075/month	$35,833	209	220,141
2	$1,700/month	$56,666	99	0
Percent of expected workers likely to find necessary employment within the AOI				**67%**

13.0 ARC'S AIR QUALITY BENCHMARK

The proposed development is mixed-use, containing 285 apartment units and 25,000 square feet of specialty retail on approximately 3.2 acres. Because residential is the dominant use and the dwelling unit to acre ratio is greater than 15 units per acre, the development meets the ARC criteria for a 6% reduction.

The site is located within a quarter mile of a MARTA bus stop; therefore, the development meets the ARC criteria for a 3% reduction.

The proposed site plan shows pedestrian networks providing connections to uses within the site as well as to uses adjoining the site; therefore, the development meets the ARC criteria for a 4% reduction.

The proposed development does not meet the ARC criteria of 15% with a total of 13% VMT reduction. These reductions are displayed below in **Table 16**.

Table 16
ARC VMT Reductions

Units per acre greater than 15 du/ac	-6%
Located within ¼ mile of a MARTA bus stop	-3%
Provides bike/ped connections within/adjoining the site	-4%
Total Reductions	**13%**