

Transportation Analysis

**Northside Tract DRI
DRI# 1742
City of Atlanta, Georgia**

Prepared for:
Cortland Partners

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March 2008
019604002

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EXECUTIVE SUMMARY

This report presents the analysis of anticipated traffic impacts of a proposed 3.43-acre mixed-use development along the east side of Northside Drive (US 41), the south side of Northside Circle, and the north side of Deering Road in the City of Atlanta, Georgia. This report is being prepared as part of a submittal requesting rezoning from Commercial (C-2) to MR-5A (Multi-Family Residential, Sub District 5A). Because the project will exceed 400,000 square feet, the proposed development is considered a Development of Regional Impact (DRI) and is therefore subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review.

The development is proposed to have 260 residential units and 12,000 square feet (sf) of retail space. The development is scheduled to be completed in a single phase, by the year 2010.

The results of detailed intersection analyses for the 2010 No-Build and 2010 Build conditions identified improvements that will be necessary in order to maintain the Level of Service standard (LOS D) within the study network. These improvements are listed below:

2010 No-Build recommended improvements (includes background growth but does not include the Northside Tract DRI project traffic):

Intersection #2: Northside Drive at Northside Circle

- Construct a westbound right-turn lane.

2010 Build recommended improvements (includes the Northside Tract DRI project traffic):

Intersection #3: Northside Drive at Deering Road

- Construct a westbound right-turn lane.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents anticipated traffic impacts of a proposed 3.43-acre mixed-use development along the east side of Northside Drive (US 41), the south side of Northside Circle, and the north side of Deering Road in the City of Atlanta, Georgia. This report is being prepared as part of a submittal requesting rezoning from Commercial (C-2) to MR-5A (Multi-Family Residential, Sub District 5A). Because the project will exceed 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.

The development is proposed with 260 residential units and 12,000 square feet (sf) of retail space. The development is scheduled to be completed in a single phase, by the year 2010.

A summary of the proposed land-uses and densities can be found below in **Table 1**.

Table 1 Proposed Land Uses	
Residential Units	260 dwelling units
Retail	12,000 square feet

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

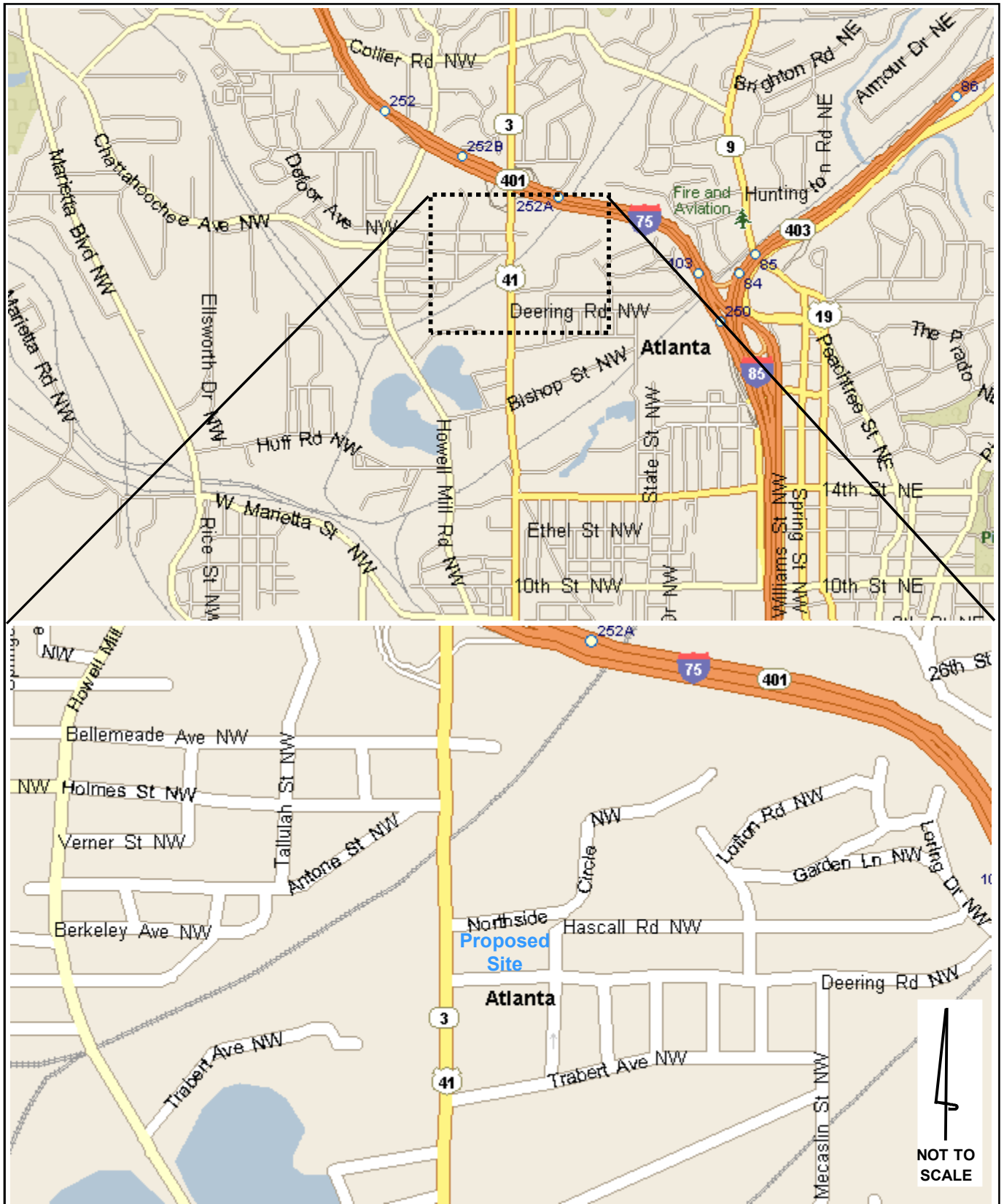
1.2 Site Plan Review

The development plan is included in one phase. The proposed site is surrounded by Northside Drive to the west, Northside Circle to the north, and Deering Road to the south. The plan includes apartments along Deering Road, Northside Drive, and Northside Circle, along with street-level retail along Northside Drive.

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

Access to the development is proposed at one location along Northside Circle, one location along Northside Drive, and one location along Deering Road. Driveway 1 along Northside Circle is a full-movement driveway located approximately 250' east of Northside Drive. Driveway 2 along Northside Drive is a right-in/right-out driveway located approximately 195' north of Deering Road. Driveway 3 along Deering Road is a full-movement driveway located approximately 435' east of Northside Drive.

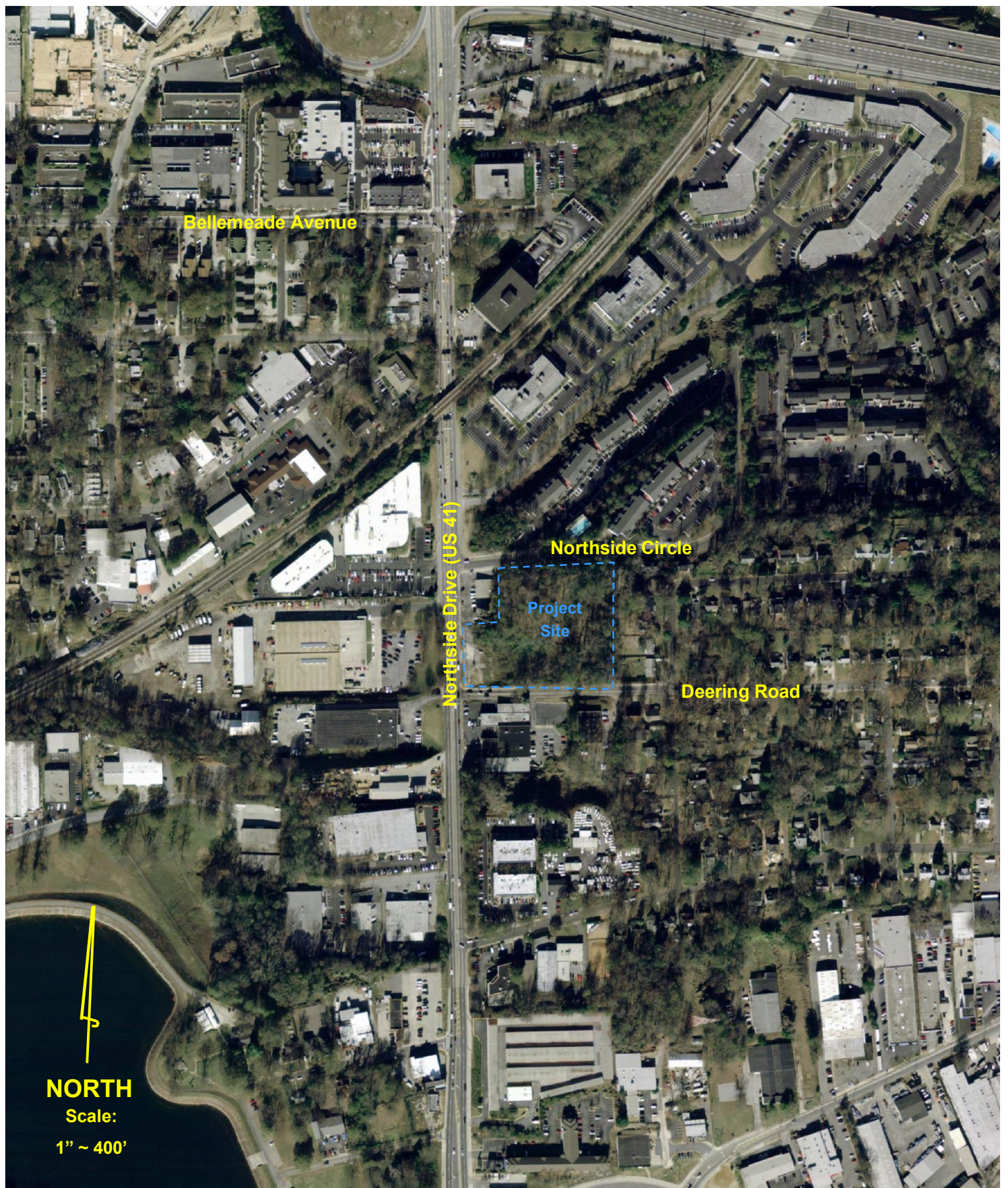


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Northside Tract DRI Transportation Analysis

Site Location

Figure
1





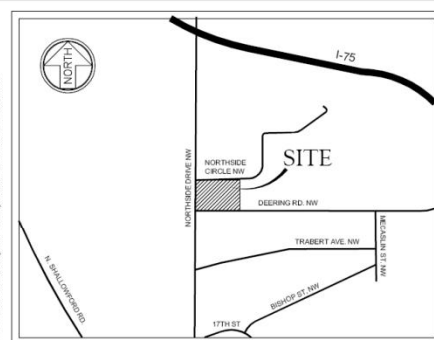
Site Plan

Northside Tract DRI Traffic Impact Study

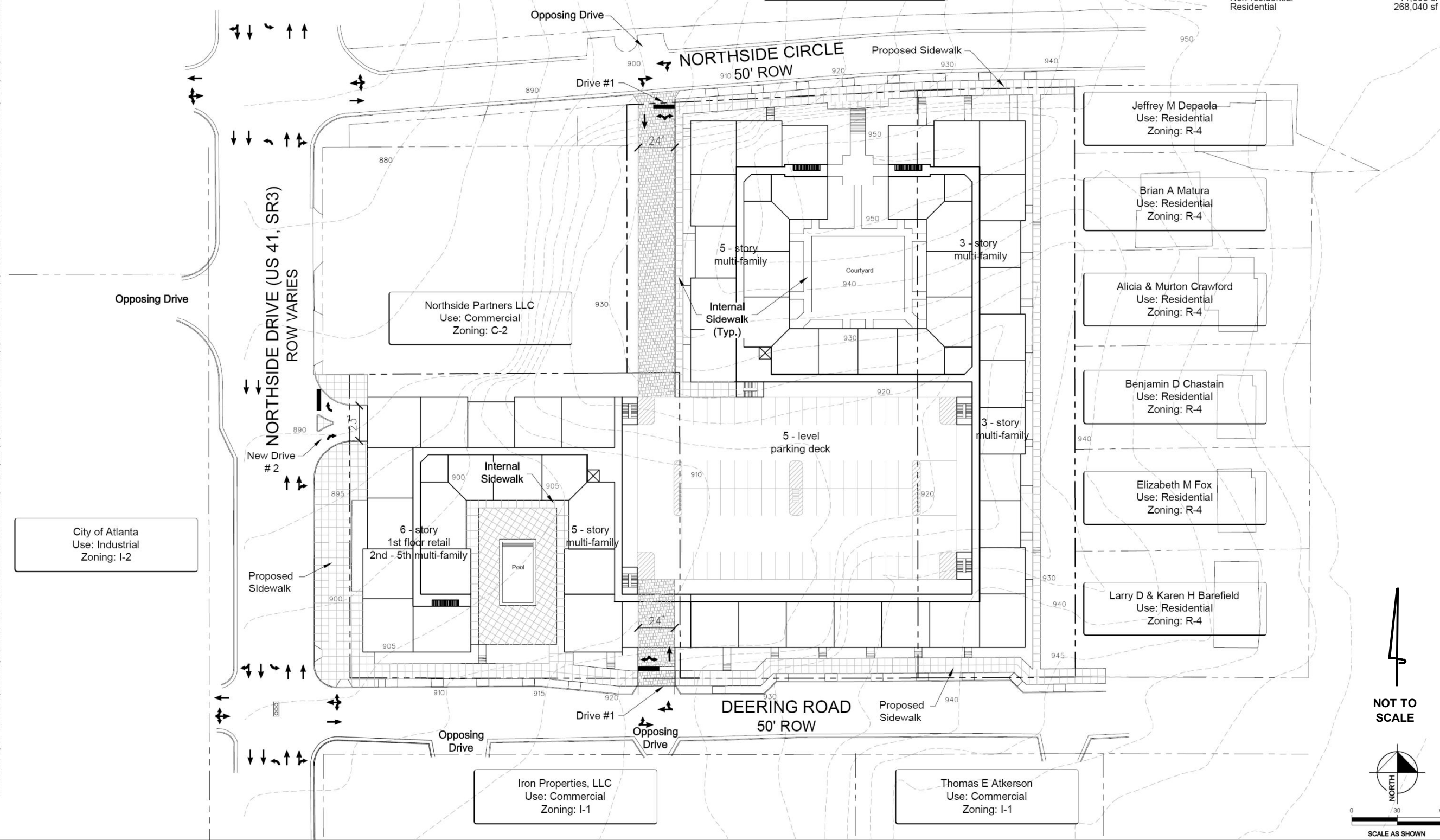
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Location Map



Development Summary

Site Acreage	3.43 acres
Residential Units	260 units
Residential Density	78.8 du/ acre
Other Density	0.08 FAR
Total Parking Required	279 spaces
Residential	347 spaces
Non-Residential	19 spaces
Total Parking Provided	366 spaces

Building Square Footage

Non-residential	11,300 sf
Residential	268,040 sf



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Northside Tract
Fulton County, Georgia

SITE PLAN

CORTLAND PARTNERS
260 PEACHTREE ST, SUITE 1001
ATLANTA, GA 30303
Contact: COLIN EDELSTEIN

ATLANTA, GA 30303
Contact: COLIN EDELSTEIN
404.965.3978

SCALE (H):	AS NOTED
SCALE (V):	NONE
DESIGNED BY:	CAW
DRAWN BY:	CAW
CHECKED BY:	AG
DATE:	03/12/08
KHA PROJECT NO.: 019604002	
SHEET NUMBER C1-00	

NOT TO
SCALE



0 30 60

SCALE AS SHOWN

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities currently exist along Northside Drive, Northside Circle, and Deering Road. The proposed development will connect to the existing sidewalks to provide pedestrian access (see Appendix for site photos).

1.5 Transit Facilities

Currently, two MARTA bus routes have bus stops adjacent to the site: Route 37 and 137. Route 37 connects the Midtown MARTA rail station with points along Marietta Boulevard. Route 37 operates on one-hour headways. Major stops on the route are at Collier Road at Defoors Road and Northside Drive at Bellemeade. Route 137 connects the Midtown MARTA rail station with points along Defoor Road and also operates on one-hour headways. Major stops along Route 137 are Northside at Deering and Howell Mill at Collier. See the attached route maps for detailed route descriptions. Additionally, the proposed Beltline transit line is in the vicinity of the project site, and will be a viable option for future residents of the development.

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 growth rates of 2.0% per year along all roadways were agreed upon during the methodology meeting with GRTA staff.

2.2 Traffic Data Collection

Year 2008 vehicle turning movement counts were performed at three intersections during the AM peak and PM peak periods from 7:30-9:30 AM and 4:30-6:30 PM on January 17, 2008 to quantify existing peak hour conditions adjacent to the proposed project. The peak hours for the study intersections are as follows:

1. Northside Drive (US 41) at Bellemeade Avenue
 - Peak Hours (8:00 – 9:00 AM, 5:15 – 6:15 PM)
2. Northside Drive (US 41) at Northside Circle
 - Peak Hours (8:15 – 9:15 AM, 5:15 – 6:15 PM)
3. Northside Drive (US 41) at Deering Road
 - Peak Hours (8:15 – 9:15 AM, 5:15 – 6:15 PM)

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 based on quantitative analyses. The Highway Capacity Manual defines six levels of service, LOS A through LOS F, with LOS A denoting acceptable conditions with little or no travel delay and LOS F indicating conditions with long delays for motorists. 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 individual movements as well as an average of all motorists using the intersection during the peak hour. One or more movements at an intersection may experience a poor 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. At unsignalized intersections with stop control on the side streets, there is no delay to traffic on the major street. Delays on side streets are not unusual at side street stop controlled intersections.

3.0 STUDY NETWORK

3.1 Gross Trip Generation

As stated earlier, the proposed development is expected to consist of 260 residential units and 12,000 square feet (sf) of retail space. The development is scheduled to be completed in a single phase, by the year 2010.

Traffic projections for each land use were calculated using equations contained in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, Seventh Edition, 2003*. The gross number of trips, prior to applicable reductions, are displayed in **Table 2**.

Table 2 Northside Tract 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 2008)							
260 Residential Units	220	856	856	26	105	105	56
12,000 square feet (sf) Retail	820	856	856	27	17	74	80
Total		1,712	1,712	53	122	179	136

3.2 Trip Distribution

The directional distribution and assignment of development-generated trips was based on engineering judgment, a review of land uses, and discussions with GRTA staff at the methodology meeting. The residential trip distributions are shown in Figure 4 and the non-residential trip distributions are shown in Figure 5.

3.3 *Level of Service Standards*

For the purpose 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 a peak period, the LOS standard for that period becomes LOS E, consistent with GRTA's Letter of Understanding.

3.4 *Study Network Determination*

A general study area was determined using the 7% rule. This rule recommends that all intersections and segments likely to be 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 general study area was refined during the methodology meeting and consists of the following intersections:

- Northside Drive (US 41) @ Bellemeade Avenue (signalized)
- Northside Drive (US 41) @ Deering Road (signalized)
- Northside Drive (US 41) @ Northside Circle (unsignalized)

Each intersection listed above was analyzed for the Existing 2008 Condition, the 2010 No-Build Condition, and the 2010 Build Condition. The 2010 No-Build condition represents the existing traffic volumes grown at 2% per year for two years. The 2010 Build condition adds the projected trips associated with the development to the 2010 No-Build condition. The additional proposed site access points listed below were only analyzed for the 2010 Build Conditions:

- Northside Circle @ Proposed Driveway 1
- Northside Drive @ Proposed Driveway 2
- Deering Road @ Proposed Driveway 3

All study intersections were analyzed for the AM and PM peak periods.

3.5 *Existing Facilities*

Northside Drive (US 41)

- Northside Drive is a north-south oriented roadway that extends from Ralph David Abernathy Boulevard on the south to beyond I-285 on the north. It is classified as an Urban Major Arterial road by the Georgia Department of Transportation. In the vicinity of the project site, Northside Drive is a five-lane roadway with a center two-way left-turn lane; however the roadway is divided by a raised median just south of the intersection of Northside Drive at Bellemeade Avenue. In the vicinity of the project site, approximately 2,000 feet north of Northside Circle, there is an interchange with I-75.

Deering Road

- Deering Road is an east-west oriented roadway that extends from Peachtree Street to Northside Drive. In the vicinity of the project site, Deering Road is a two-lane undivided roadway. Deering Road is classified as an Urban Collector Road by the Georgia Department of Transportation.

Northside Circle

- Northside Circle is an east-west oriented roadway that provides access to an apartment complex from Northside Drive. Northside Circle is a two-lane undivided roadway. It is classified as an Urban Local Road by GDOT.

Table 3 Roadway Summary				
Roadway	Road Type	Number of Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification
Northside Drive (US 41)	Two-Way	4	35	Urban Major Arterial
Deering Road	Two-Way	2	30	Urban Collector
Northside Circle	Two-Way	2	Not Posted	Urban Local Road

4.0 TRIP GENERATION

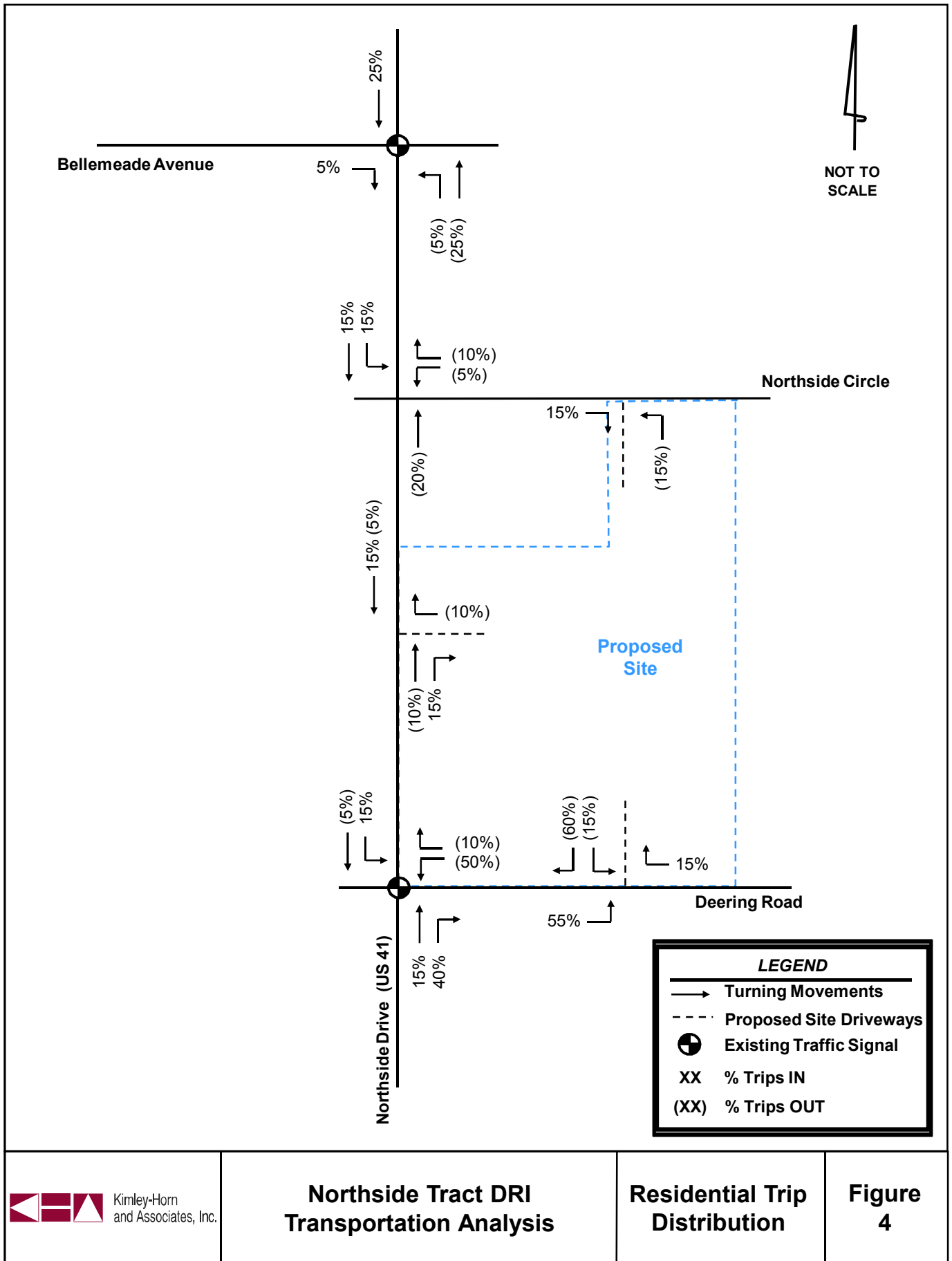
The number of vehicle trips projected for the proposed development was estimated using the *ITE Trip Generation Manual*, Seventh Edition (2003), using equations where available.

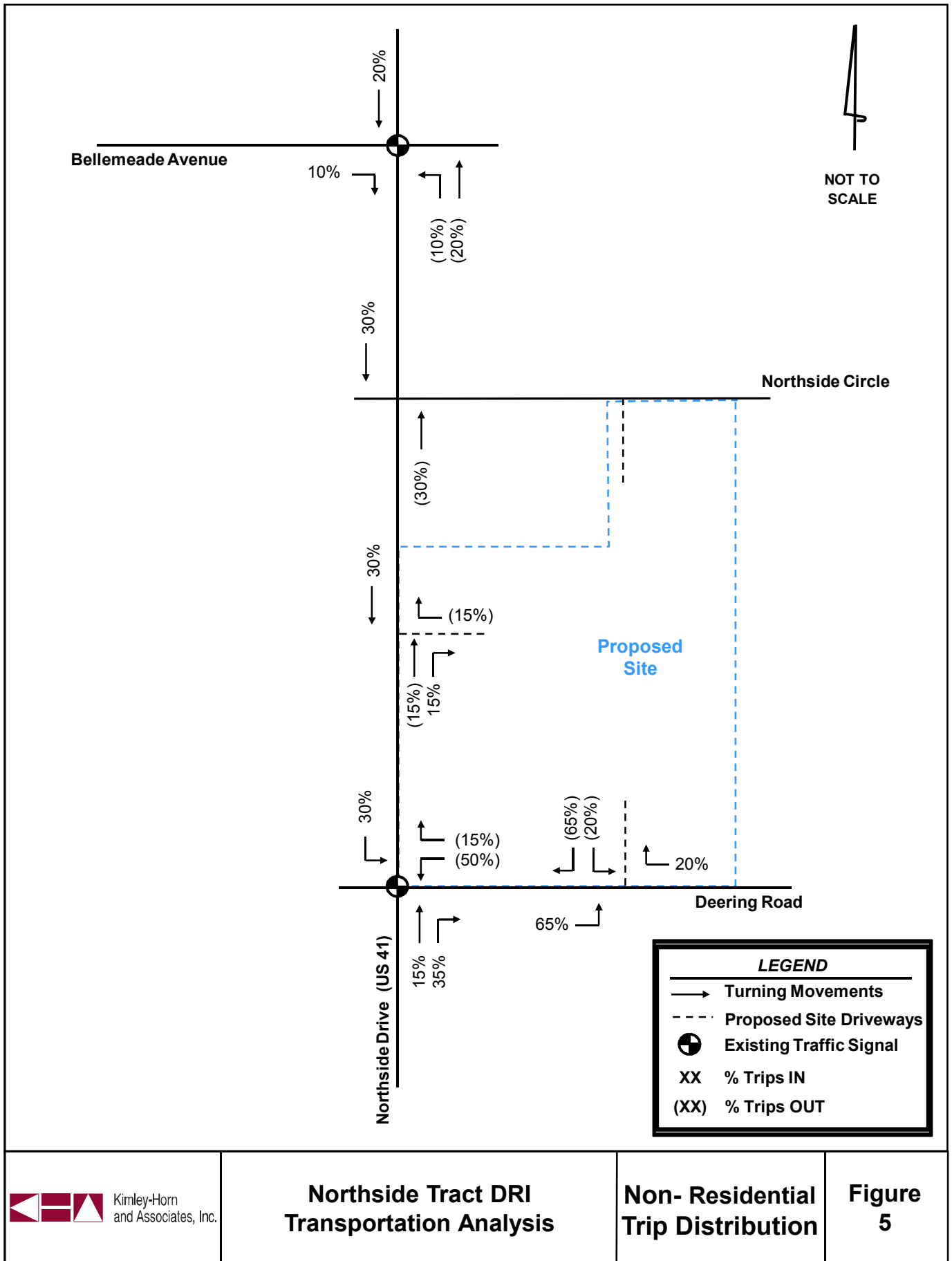
Trip reductions recognized by GRTA guidelines are listed in Table 3, including reductions for internal trip capture within a mixed-use development, use of alternative modes, and pass-by trips were applied according to the *ITE Trip Generation Handbook*, 1998 and GRTA guidelines. The number of projected vehicle trips generated and analyzed in the report are listed below in **Table 4**.

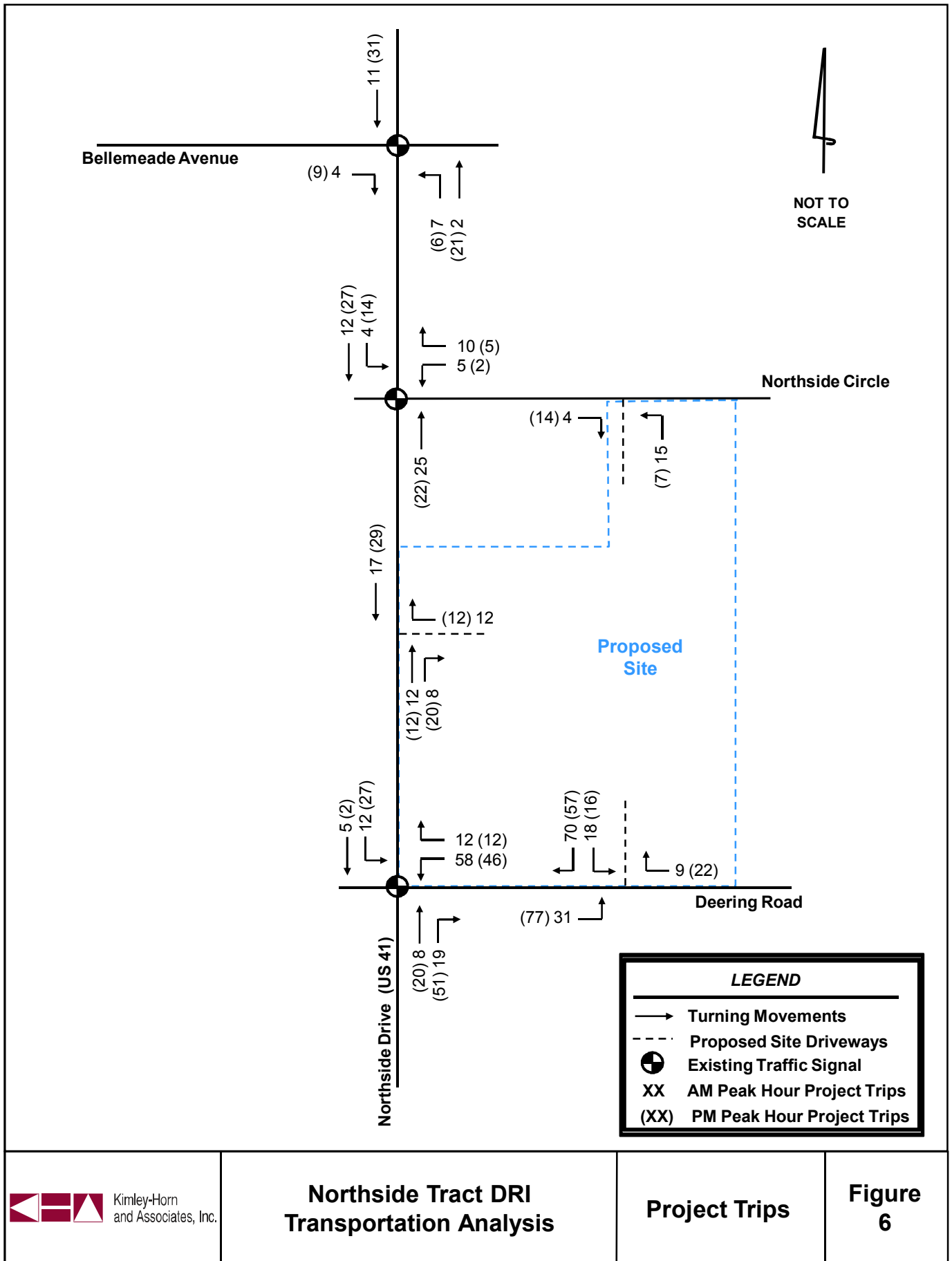
Table 4 Northside Tract DRI Net Trip Generation						
Land Use	Daily Traffic		AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Build-Out (Year 2010)						
Gross Trips	1,712	1,712	53	122	179	136
<i>Internal Capture Reductions</i>	<i>-171</i>	<i>-171</i>	<i>-</i>	<i>-</i>	<i>-17</i>	<i>-17</i>
<i>Alternative Mode Reductions</i>	<i>-77</i>	<i>-77</i>	<i>-2</i>	<i>-6</i>	<i>-8</i>	<i>-6</i>
<i>Pass-by Reductions</i>	<i>-277</i>	<i>-277</i>	<i>-</i>	<i>-</i>	<i>-24</i>	<i>-24</i>
New Trips	1,193	1,193	51	116	130	89

5.0 TRIP DISTRIBUTION AND ASSIGNMENT

New trips were distributed onto the roadway network using the percentages agreed to during the methodology meeting with GRTA staff. **Figures 4** and **5** display the expected percentages for the development throughout the roadway network. These percentages were applied to the new trips generated by the development (see Table 3, above), and the volumes were assigned to the roadway network. The expected peak hour turning movements generated by the proposed development are shown in **Figure 6**.







6.0 TRAFFIC ANALYSIS

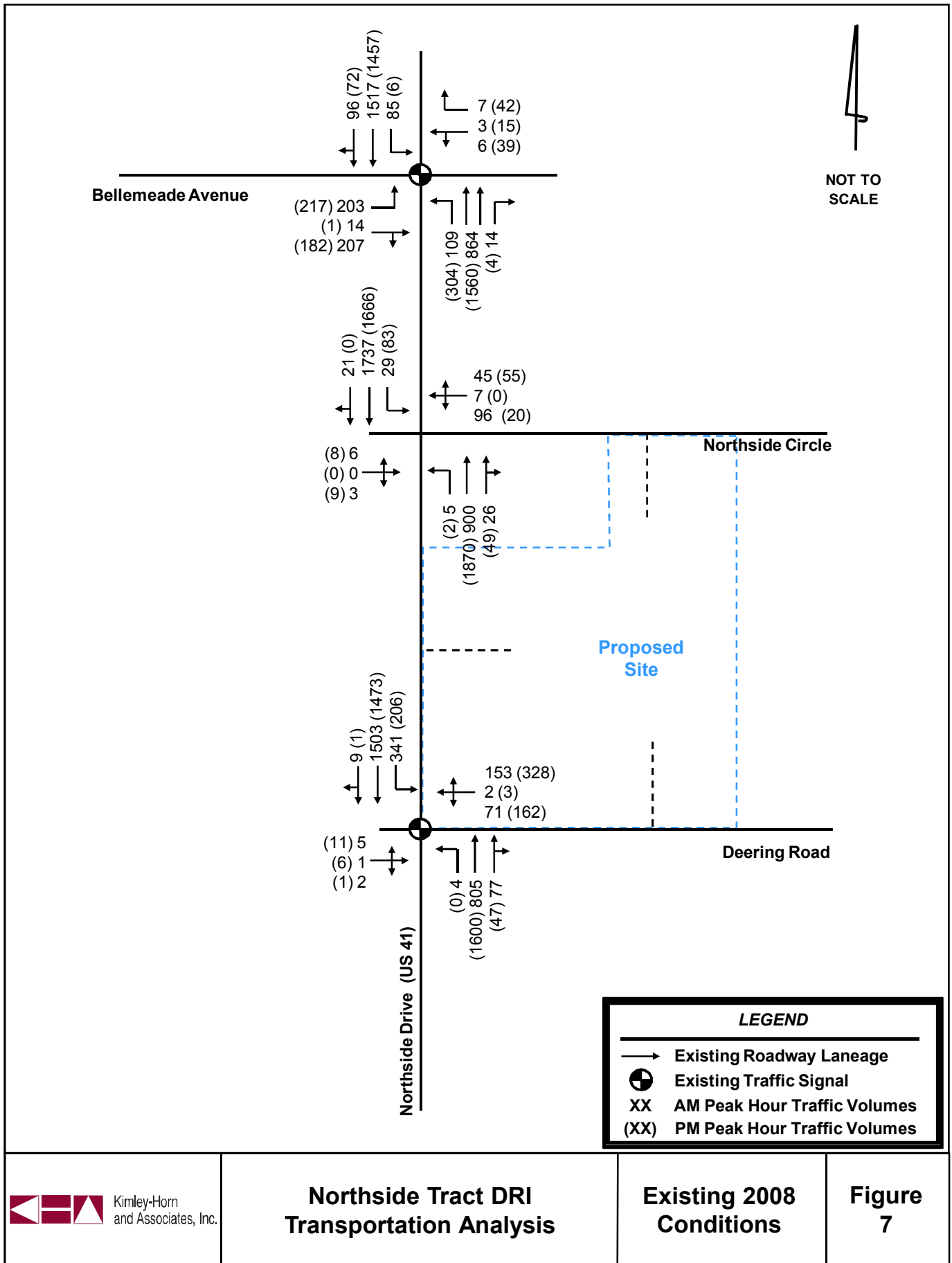
6.1 Existing Traffic

The existing traffic volumes are shown in **Figure 7**. These volumes were used as inputs in the Synchro 6.0 software and an Existing Conditions analysis was performed. The results are displayed below in **Table 5**.

Table 5 Northside Tract DRI Existing 2008 Intersection Levels of Service (average intersection delay for signalized intersections shown in seconds per vehicle)				
	Intersection	Control	AM Peak Hour	PM Peak Hour
1	Northside Drive at Bellemeade Avenue	Signal	C (21.9)	F (127.1)
2	Northside Drive at Northside Circle - Westbound Approach	Side-Street Stop Control	F	F
3	Northside Drive at Deering Road	Signal	B (18.4)	E (57.8)

Table 4 shows that all three study intersections currently operate at unacceptable levels of service during the PM Peak Hour, and the intersection of Northside Drive at Northside Circle also operates below the acceptable Level of Service during the AM Peak Hour. The No-Build and Build LOS Standard during the failing peak hours will be lowered to LOS E per GRTA guidelines in the Letter of Understanding.

Results of the Synchro analysis show a westbound 50th percentile queue length to be 177 feet during the AM Peak Hour and 552 feet during the PM Peak Hour. Based on field observations, the average PM Peak Hour queue length was approximately 390 feet.



6.2 2010 No-Build Traffic

The existing traffic volumes were increased at the rate of 2% per year along all roadway links within the study network. The projected traffic volumes were used as inputs in the Synchro software. The results are displayed in **Table 6**.

Table 6 Northside Tract DRI 2010 No-Build Intersection Levels of Service (average vehicle delay at signalized intersections, in seconds per vehicle)					
Intersection		Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	Northside Drive at Bellemeade Avenue ¹	Signal	D (AM) E (PM)	C (22.9)	F (141.3)
2	Northside Drive at Northside Circle - Westbound Approach	Side-Street Stop Control	E	F	F
3	Northside Drive at Deering Road	Signal	D (AM) E (PM)	C (21.3)	E (64.8)

Maintaining existing signal timings and roadway geometry, two of the intersections currently operate below the acceptable Level of Service standard during the PM Peak Hour, and the intersection of Northside Drive at Northside Circle also operates below the acceptable Level of Service during the AM Peak Hour.

¹ At the intersection of Northside Drive at Bellemeade Avenue, installation of an additional northbound left-turn lane along Northside Drive and optimization of the signal timings would only slightly improve the PM peak hour level of service. An additional northbound and southbound through lane along Northside Drive would increase the capacity of the roadway, thereby improving the operations of the intersection; however, due to right-of-way constraints due to the bridge over Northside Drive, this improvement would not be feasible. Therefore, no improvements were recommended at this intersection in the No-Build or Build conditions.

Although the GRTA standard could not be met, improvements were identified at the intersection of Northside Drive at Northside Circle to decrease the delay and provide additional approach lanes to the stop-controlled approach (see Note 2). The 2010 No-Build with Improvement intersection Level of Service is displayed below in **Table 7**.

Table 7 Northside Tract DRI 2010 No-Build Intersection Levels of Service - With Improvements (average vehicle delay at signalized intersections, in seconds per vehicle)					
Intersection		Control	LOS Standard	AM Peak Hour	PM Peak Hour
2	Northside Drive at Northside Circle - Westbound Approach ²	Side-Street Stop Control	E	F	F

² The westbound approach of the intersection of Northside Drive at Northside Circle is projected to operate at an LOS F during both the AM and PM peak hours. It is not uncommon for side street traffic to experience poor levels of service. Because of the relatively low volume of left-turning vehicles at the intersection in question, it is unlikely that a signal warrant will be met. Although it is not uncommon for side street traffic to experience low levels of service, a second westbound lane is recommended to separate the left- and right-turn movements which would reduce the overall delay at this approach. The side street delay would be reduced with the recommended lane addition; however, the LOS would remain the same.

The 2010 No-Build improvement made to the intersections is shown in **Figure 8** and is listed below:

Intersection #2: Northside Drive at Northside Circle

- Construct a westbound right-turn lane.

6.3 2010 Build Traffic

The traffic associated with the proposed development (Northside Tract Development) was added to the 2010 No-Build volumes. These volumes were then used as input into the Synchro software. Results of the analyses are displayed in **Table 8**.

Table 8 Northside Tract DRI 2010 Build Intersection Levels of Service (average vehicle delay for signalized intersections, in seconds per vehicle)					
Intersection		Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	Northside Drive at Bellemeade Avenue ¹	Signal	D (AM) E (PM)	C (23.2)	F (146.6)
2	Northside Drive at Northside Circle - Westbound Approach ²	Side-Street Stop Control	E	F	F
3	Northside Drive at Deering Road	Signal	D (AM) E (PM)	C (28.0)	F (87.0)
4	Northside Circle at Driveway #1 - Northbound Approach	Side-Street Stop Control	D	A (9.9)	A (10.0)
5	Northside Drive at Driveway #2 - Westbound Approach	Side-Street Stop Control	D	B (12.6)	C (24.8)
6	Deering Road at Driveway #3 - Southbound Approach	Side-Street Stop Control	D	B (12.0)	C (16.3)

As shown in Table 7, three study intersections would fail to meet the Level of Service standard for at least one of the peak hours. Improvements that could be made to the intersection of Northside Drive at Deering Road elevate the LOS to acceptable conditions, as shown in **Table 9** (see Notes 1 and 2 in Section 6.2).

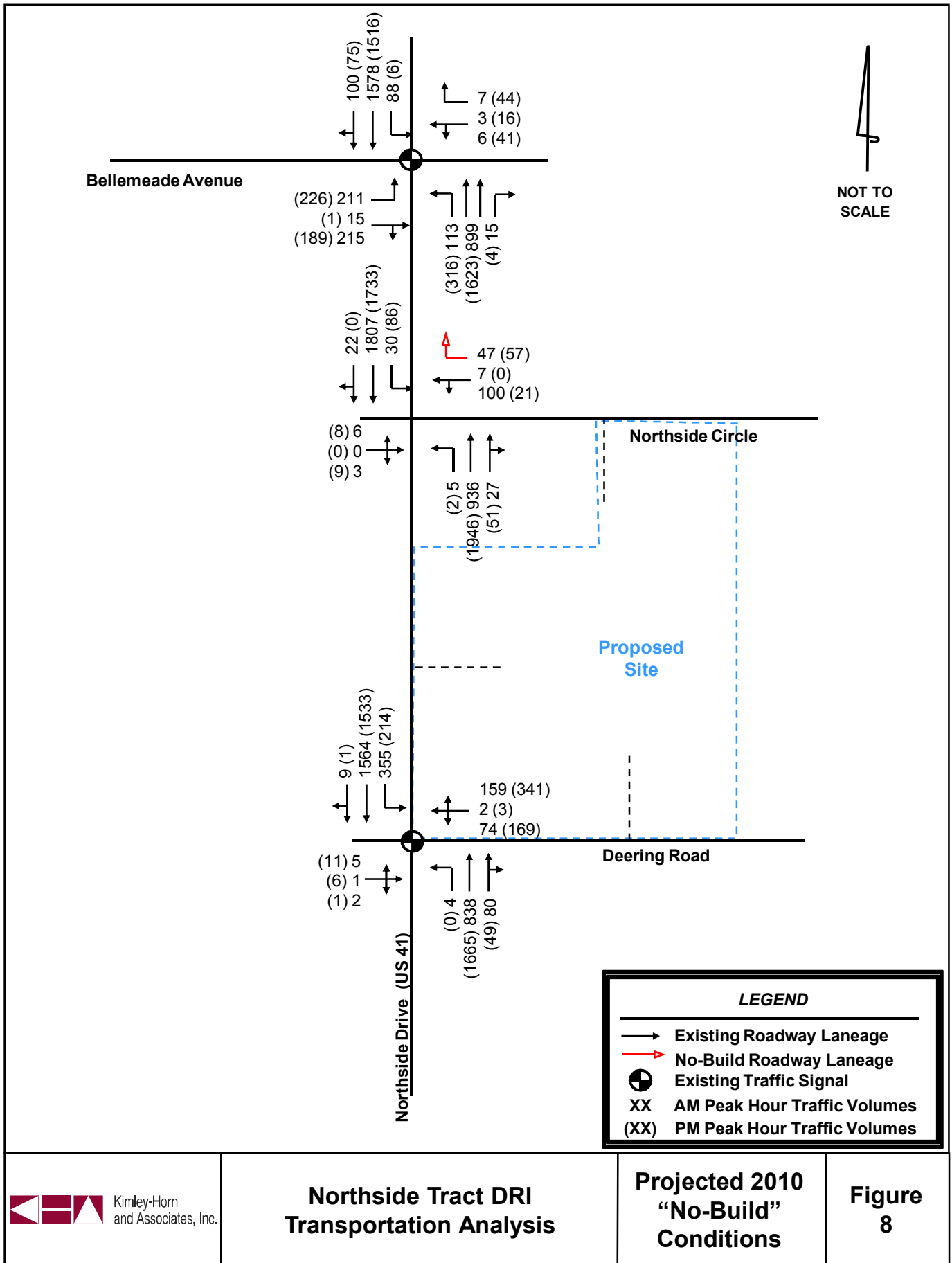


Table 9 Northside Tract DRI 2010 Build Intersection Levels of Service - With Improvements (delay in seconds)					
Intersection		Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	Northside Drive at Deering Road	Signal	D (AM) E (PM)	B (18.6)	D (48.7)

The improvement for the intersection of Northside Drive at Deering Road to elevate the level of service to achieve the GRTA standard is listed below. **Figure 9** displays projected 2010 Build Conditions.

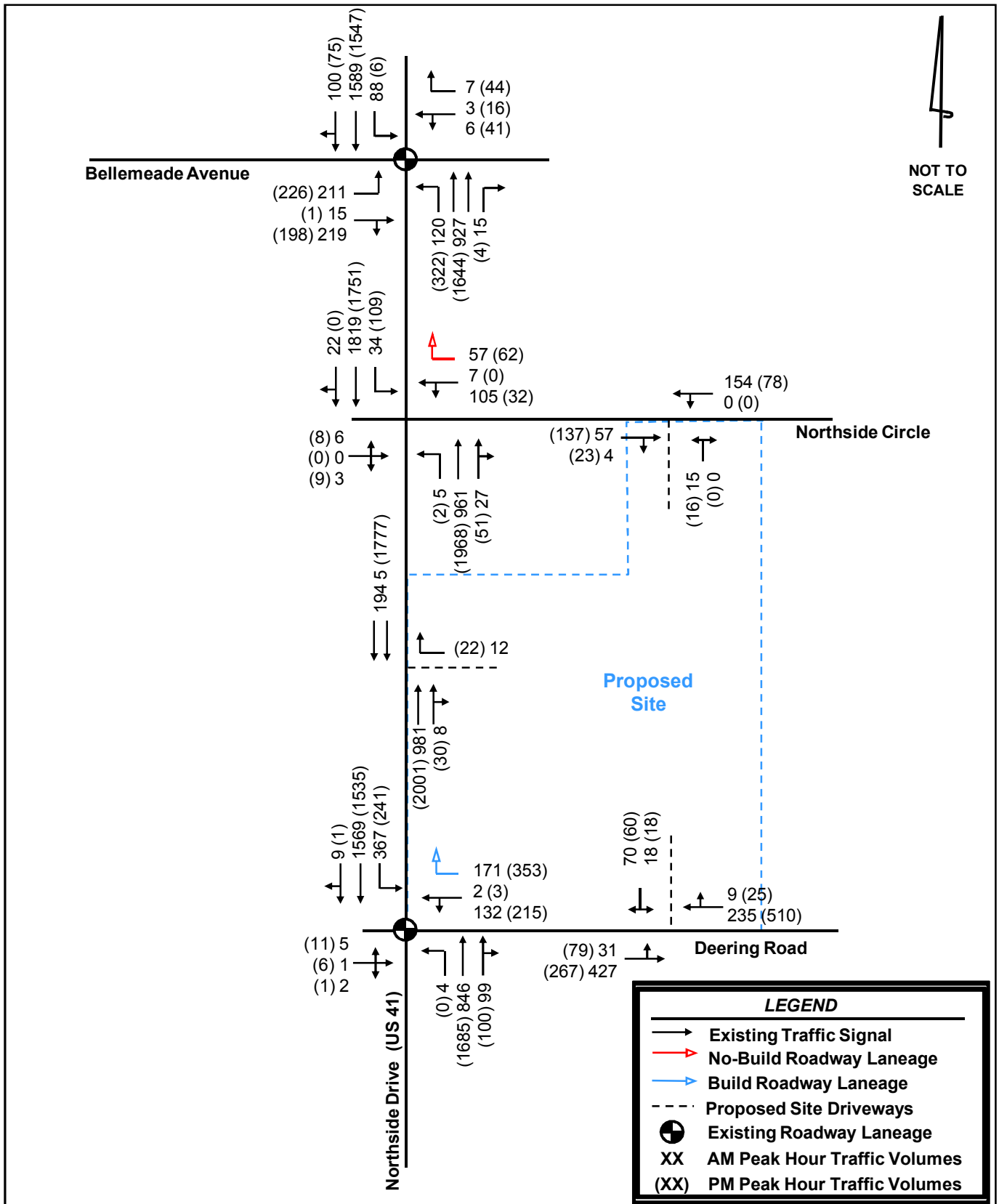
Intersection #3: Northside Drive at Deering Road

- Construct a westbound right-turn lane.

7.0 IDENTIFICATION OF PROGRAMMED PROJECTS

The 2008-2013 *TIP*, *STIP*, *RTP*, *GDOT's Construction Work Program*, the *Northside Drive Corridor Study*, and the *Upper West Side LCI study* were reviewed for currently programmed transportation projects within the vicinity of the proposed development. Several projects are programmed for the area surrounding the study network. Information about the projects is included in the Appendix.

1. **GDOT # 0001298**
ARC # AT-AR-224D
(RTP, TIP, STIP, GDOT) Relocation of Williams Street and the northbound off-ramp from the Downtown Connector to 14th Street in order to accommodate a new northbound off-ramp to 17th Street.
2. **GDOT # 0001792**
ARC # AR-H-600A,B
(RTP, TIP, STIP) Addition of new HOV ramp access from the Downtown Connector to the newly constructed 15th Street bridge.
3. **GDOT # 0004393**
ARC # AT-205
(RTP, TIP, STIP, GDOT) Pedestrian facility improvements in the Midtown area, including along 14th Street from West Peachtree Street to Piedmont Avenue.
4. **GDOT # 0005945**
ARC # AT-189
(RTP, TIP, STIP, GDOT) Through the reconstruction of the 14th Street bridge, one left-turn lane in each direction will be added between Spring and West Peachtree Streets. A median on 14th Street for access management and possible use in the future for additional left-turn lanes will also be installed.
5. **GDOT # 0006841**
(RTP, TIP, STIP, GDOT) Belt Line Multi-use Path (Phase 1) will provide funds for the purchase of right of way for a multi-use trail and a fixed guideway transit line as well as the construction of the multi-use trail (6.2 miles) along the alignment in the northeast quadrant of the City of Atlanta.
6. **GDOT # 0007683**
(RTP, TIP, STIP) Belt Line Multi-use Path (Phase 2) for the purchase of right of way for a multi-use trail and a fixed guideway transit line as well as the construction of the multi-use trail (6.5 miles) along the alignment in the southeast



quadrant of the City of Atlanta.

7. **GDOT # 0006841**
(RTP, TIP, STIP, GDOT) Construction to upgrade the railroad overpass at the CSX Railroad and Northside Drive.

The Midtown Alliance is working with GDOT on the 14th Street and 15th Street bridges over the Downtown Connector. The design calls for widening the bridge to six (6) travel lanes with a landscaped median. At Fowler Street, 14th Street will taper to five (5) travel lanes with a landscaped median (see Appendix for the Concept Design).

As discussed in GDOT Project #0001792, the 15th Street Bridge will cross over the Downtown Connector and connect Atlantic Station with Midtown. This bridge is intended for HOV access but the possibility of general access is still being discussed.

Northside Drive Corridor Study performed by URS and accepted by the City of Atlanta

Northside Drive @ Tenth Street

- Add eastbound and westbound left-turn lanes
- Remove northbound channelized right-turn lane
- Improve pedestrian facilities by repairing and adding pedestrian signal heads, push buttons, and crosswalk striping across the south leg of the intersection
- Repair the sidewalk along the eastbound approach
- Make connections of Ethel Street and Eighth Street on the east side of Northside Drive and signalize both intersections
- Construct a raised median along Northside Drive to prohibit left-turn maneuvers at mid-block locations and provide pedestrian refuge islands at major intersections
- Widen all bridges and underpasses to provide six general-use lanes and two transit lanes along entire length of Northside Drive study corridor
- Institute higher frequency and higher quality-of-service transit along the entire length of the Northside Drive study corridor (bus rapid transit, light rail, etc.)
- Reduce the number of curb-cuts along Northside Drive wherever practical
- Provide mid-block on-street parking along Northside Drive at retail locations when possible (with on-street parking prohibited during peak hours for use as travel lanes)

Upper Westside LCI Study:

- Northside Drive @ Tenth Street
 - Improve sight distance
 - Provide improved pedestrian crosswalks and refuge areas
- Improve sidewalks and street lighting on both sides of the street along Tenth Street from Northside Drive to Brady Avenue
- Construct a small park (open space) at Watkins Street @ Ninth Street
- Close Hemphill Avenue at Fourteenth Street (creating a dead end), allowing only pedestrian (and bicycle) access from Fourteenth onto Hemphill
- Improve roadway network (grid) along the west side of Northside Drive by making connections between Howell Mill Road and Northside Drive with extensions of both Ethel Street and Bellingrath Avenue.

New Travel Lanes:

To accommodate future travel demands and proposed transit improvements, new travel lanes should be added on Northside Drive to bring the entire corridor up to a six lane cross section. This lane addition will impact Northside Drive from 14th Street to I-75.

Intersection Reconfiguration:

Difficulty maneuvering through specific closely-spaced offset intersections prompted a recommendation to consolidate the intersection of Northside Drive/Hemphill Street/14th Street into a single intersection. This particular intersection features an inefficient configuration.

8.0 INGRESS/EGRESS ANALYSIS

Access to the development is proposed at one location along Northside Circle, one location along Northside Drive, and one location along Deering Road. Driveway 1 along Northside Circle is a full-movement driveway located approximately 250' east of Northside Drive. Driveway 2 along Northside Drive is a right-in/right-out driveway located approximately 195' north of Deering Road. Driveway 3 along Deering Road is a full-movement driveway located approximately 435' east of Northside Drive.

9.0 INTERNAL CIRCULATION ANALYSIS

The proposed development will generate trips between the residential and non-residential uses. The parking deck connects the mixed uses and will provide connectivity for internal trips. Using the *ITE Trip Generation Handbook, 1998* as a reference, approximately 9.98% of the gross daily trips will be internal and approximately 10.79% of the gross PM peak hour trips will be internal.

10.0 COMPLIANCE WITH COMPREHENSIVE PLAN ANALYSIS

The City of Atlanta Land Use Plan designates this area as Low Density Commercial.

11.0 NON-EXPEDITED CRITERIA

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

The proposed development is located on Northside Drive, between Deering Road and Northside Circle. Currently, two MARTA bus routes have bus stops adjacent to the site: Route 37 and 137. Route 37 connects the Midtown rail station and Marietta Boulevard on 1-hour headways. Major stops on the route are Collier Road at Defoors Road and Northside Drive at Bellemeade. Route 137 connects Midtown Station with Defoors Road on 1-hour headways. Major stops along the route are Northside at Deering and Howell Mill at Collier. See the attached route maps for detailed route descriptions. Additionally, the proposed Beltline transit line is in the vicinity of the project site, and will be a viable option for future residents of the development.

11.2 Vehicle Miles Traveled

The following table displays the reduction in traffic generation due to internal capture and pass-by trips.

	Build-out Total
Daily Gross Trip Generation:	3,425 vehicles
(-)Mixed-use reductions (internal capture)	-342
(-)Pass-by trips	-498
(-)Alternative modes	-154
Daily Net Trip Generation:	2,431 vehicles

11.3 Relationship of Site in the context of Regional Mobility

The proposed development is located within an urban area, but not within an activity center or town center, nor is it part of an infill initiative. The proposed development's primary frontage will be located along US Highway 41. Within one mile of the project site exists access to northbound and southbound I-75. The site is located within 1.5 miles of the Brookwood Interchange, providing convenient access to I-85. Access to transit is achieved through two MARTA bus routes.

11.4 Relationship Between Proposed DRI and Existing or Planned Transit Facilities

Currently, two MARTA bus routes have bus stops adjacent to the site: Route 37 and 137. Route 37 connects the Midtown rail station and Marietta Boulevard on 1-hour headways. Major stops on the route are Collier Road at Defoors Road and Northside Drive at Bellemeade. Route 137 connects Midtown Station with Defoor Road on 1-hour headways. Major stops along the route are Northside at Deering and Howell Mill at Collier. See the attached route maps for detailed route descriptions. Additionally, the proposed Beltline transit line is in the vicinity of the project site, and will be a viable option for future residents of the development.

11.5 Transportation Management Area Designation

The proposed development is not located within an established 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, 1998*. Approximately 9.98% of the gross daily trips will be internal and approximately 10.79% of the gross PM peak hour trips will be internal. For the projected new PM peak hour trips, a 34% pass-by reduction was used for the proposed retail space.

11.7 Balance of Land Uses – Jobs/Housing Balance

Please refer to the Area of Influence Analysis, located in Section 12.0 of the 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. The non-expedited review criteria are 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

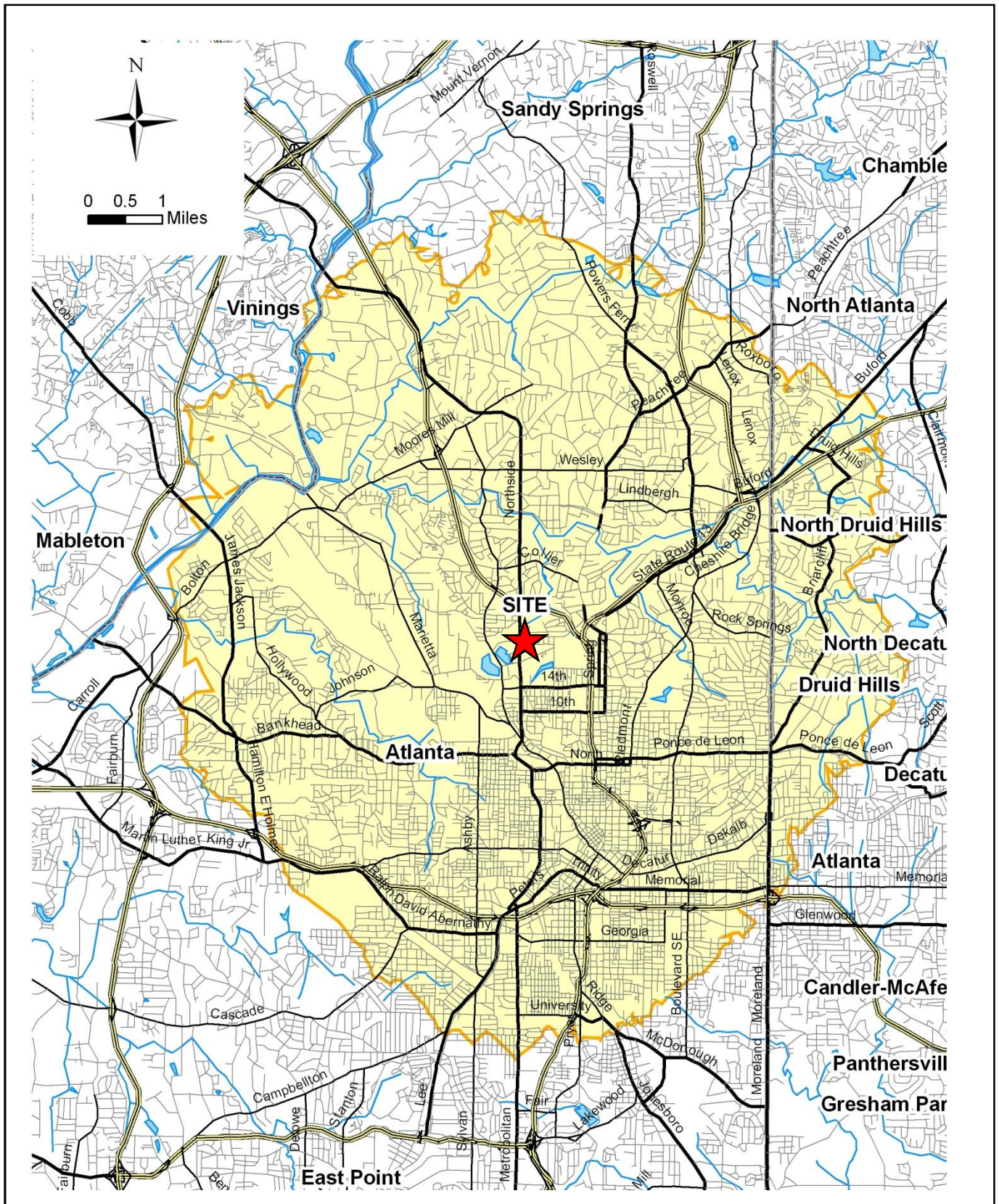
The Area of Influence is comprised of the area within six road-miles of the proposed development. To determine the AOI, *TransCAD* was used to measure six road miles from the nearest intersection to the project (Northside Drive at Deering Road). The population and housing statistics for the AOI were 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 in portions of Fulton, Cobb, and DeKalb counties) can be seen in **Figure 10**. Information obtained from the census tracts can be seen in **Table 10**.

Table 10 Census Tract Information	
Total Households	93,534
Population in Households	190,704
Average household size	2.04
Workers per Household	1.09
Owner Occupied	33.46%
Renter Occupied	66.54%

As can be seen from the table above, the total population within the Area of Influence is 190,704, residing within 93,534 households (an average of 2.04 people per household). The AOI area totals 50,464 acres.

Using the above calculated average of 2.04 persons per household, it can be anticipated that the proposed DRI will house approximately 530 people (260 proposed dwelling units multiplied by 2.04). Based on information obtained from the Census Tracts, it is estimated that approximately 283 of these expected 530 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.

It is expected that many apartments are available in the vicinity of the project (Zip code 30318) at the time of this report.



 <p>Kimley-Horn and Associates, Inc.</p>	<p>Northside Tract DRI Transportation Analysis</p>	<p>Area of Influence</p>	<p>Figure 10</p>
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12.3 Development Housing Analysis

The development plan provides for apartments for rent in one price range within the proposed development. **Table 11**, below, displays the number of units for rent, the average rent price for those units, and the number of workers expected to reside in the homes.

Table 11 Estimated Workers per Household				
Tier	Description	Number of Units	Average Price	Number of Workers
1	Average Apartment	260	\$1,350/month	283

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, Cobb, and DeKalb 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 12**, on the following page.

Table 12
AOI Jobs and Average Salaries

Industry / Business Type	# Businesses	# Employees	Average Salary
Retail Trade	4,507	67,691	\$28,569
Building Materials and Garden Supply	161	7,448	-
General Merchandise Stores	112	4,173	-
Food Stores	314	4,728	-
Auto Dealers and Gas Stations	214	1,766	-
Apparel and Accessory Stores	565	4,064	-
Home Furniture, Furnishings, and Equipment	573	6,422	-
Eating and Drinking Places	1,386	27,924	-
Miscellaneous Retail Stores	1,182	11,166	-
Finance	2,785	40,156	\$61,054
Banks, Savings and Lending Institutions	525	8,325	-
Securities and Commodity Brokers	451	7,276	-
Insurance Carriers and Agencies	312	7,151	-
Real Estate	1,497	17,404	-
Trusts, Holdings, and Other Investments			
Services	13,286	221,057	-
Hotels and Other Lodging	133	12,726	\$18,727
Personal Services	1,893	9,297	-
Business Services	3,337	52,985	\$71,660
Motion Picture and Amusement	572	10,367	\$44,775
Health Services	1,588	42,417	\$44,420
Legal Services	2,112	18,752	\$71,660
Education Services	340	36,007	\$37,100
Social Services	519	8,635	\$44,420
Miscellaneous, Membership Organizations and Nonclassified	2,792	29,871	-
Agriculture	319	2,415	\$2,458
Mining	13	100	\$7,614
Construction	1207	11,368	\$48,994
Manufacturing	840	24,428	\$58,919
Transportation, Communication/Public Utilities	796	30,699	\$90,135
Wholesale Trade	783	9,845	\$63,296
Public Administration	1,039	57,869	\$44,413
Total	25,575	465,628	-

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 Northside 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 6.10% 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 13**. Because there is an average of 1.09 workers expected per household, the required income was divided by 1.09 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 12 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 13 Expected Workers				
	Average Rent Price	Necessary Income per Expected Worker	Expected Worker per Price Range	Jobs at or above Necessary Income
1	\$1,350/month	\$44,578	283	190,600
Percent of expected workers likely to find necessary employment within the AOI				100%

13.0 ARC'S AIR QUALITY BENCHMARK

The proposed project is a mixed-use redevelopment, containing 260 residential units along with 12,000 square feet (sf) of retail space on approximately 3.43 acres. Because residential is the dominant use and the residential density is approximately 75 units per acre, the development meets the ARC criteria (1 b) for a 6% reduction.

Additionally, the proposed development will contain a "mix" of uses. There will be retail space provided in addition to the residential units provided. The dominant use is residential for the site which qualifies for a -4% reduction according to ARC criteria (2c).

Two bus routes travel along the proposed project site. Route 137 travels from Defoor Hills Rd. to the Midtown MARTA Station. There is a bus stop for Route 137 approximately 1,120 feet north of the proposed development at the corner of Northside Dr. and Bellemeade Ave. Route 37 travels on Marietta Boulevard and Moores Mill Road to the Midtown MARTA Station. There is a bus stop for Route 37 approximately 1,000 feet south of the proposed development at the corner of Trabert Avenue and Hawthorn Avenue NW. Therefore, 2 bus stops are within ¼ mile of the project, and the project meets the ARC criteria (4) for a 3% reduction.

Since the development contains bike/ped networks in developments that meet one Mixed Use 'target' and connect to adjoining uses, the project meets the ARC criteria (6) for a 5% reduction.

The proposed development meets the ARC criteria for a total 18% VMT reduction. These reductions are displayed below in **Table 14**.

Table 14	
ARC Vehicle-Miles-Traveled Reductions	
<i>Mixed-Use Projects where Residential is the dominant use</i>	
Density greater than 15 dwelling units per acre	-6%
At least 10% of the gross floor area is retail space	-4%
Project is located within ¼ mile of a bus stop	-3%
Bike/ped networks in developments that meet one Mixed Use 'target' and connect to adjoining uses	-5%
Total Reductions in VMT	18%