Transportation Analysis

Collier Road Redevelopment DRI #1311 City of Atlanta, Georgia

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts associated with the proposed Collier Road Redevelopment project, a proposed approximate 13-acre mixed-use development located west of Interstate 75 on the north side on Collier Road in the City of Atlanta. This report is being prepared as part of a submittal requesting a rezoning from the City of Atlanta. Because the project will contain over 400,000 square feet of mixed-use floor area, 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 approximately 419 apartment dwelling units, 224 condominium units, and 55,050 square feet of commercial space. The development is scheduled to be completed in one phase by year 2011. The site is zoned I-1 (Light Industrial), R-4 (Single-Family Residential) and RG-2 (General Residential), and currently consists of approximately 170,000 square feet of industrial use, an approximate 6,500 square-foot office building, and approximately 320 surface parking spaces. The redevelopment plan calls for all of the existing structures and surface parking to be eliminated before construction of the new development begins, and for a rezoning of the entire site to MRC-3 (Mixed Residential Commercial).

The results of the detailed intersection analysis for the 2011 No-Build Conditions (includes 2% per year background traffic growth and trips anticipated by the Carter-Howell Mill project, but excludes trips generated by the Collier Road Redevelopment DRI project) and 2011 Build Conditions (includes trips generated by the Collier Road Redevelopment 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.

2011 No-Build recommended improvements (includes background traffic growth of 2% and trips associated with the Carter-Howell Mill project but does not include the Collier Road Redevelopment DRI project traffic):

Collier Road @ Emery Street (Intersection #3)

 Install a signal at this location, if warranted by the MUTCD standards, and add eastbound and westbound left-turn lanes. Coordinate the signal timing with signals at Collier Road @ Howell Mill Road and Beck Street @ Howell Mill Road.

Collier Road @ Howell Mill Road (Intersection #4)

 Modify the signal timing to coordinate with new signals recommended at Collier Road @ Emery Street and Beck Street @ Howell Mill Road.

Collier Road @ Northside Drive (Intersection #5)

Incorporate GDOT improvements at this intersection (no northbound and southbound left turns, add northbound right-turn lane), including the creation of two northbound through lanes and two southbound through lanes. A second westbound left-turn lane is also needed to meet the LOS standard but is not recommended due to feasibility related to right-of-way acquisition constraints.

Beck Street @ Howell Mill Road (Intersection #6)

 Install a signal at this location, if warranted by the MUTCD standards, and add an eastbound leftturn lane. Coordinate the signal timing with signals at Collier Road @ Howell Mill Road, Collier Road @ Emery Street, and Howell Mill Road @ the I-75 Ramps.

Interstate 75 Ramps @ Howell Mill Road (Intersections #7 and #8)

Modify signal timing to optimize coordination.

Bellemeade Avenue @ Howell Mill Road (Intersection #9)

• Add a northbound lane to create two northbound lanes with shared turning movements, add a southbound exclusive right-turn lane, add a second eastbound left-turn lane, and modify green timing. These are not recommended improvements at this time due to right-of-way constraints, but are required to meet the LOS standard at this intersection.

Bellemeade Avenue @ Northside Drive (Intersection #10)

• Modify green timing during the AM peak hour.

2011 Build recommended improvements (adds the Collier Road Redevelopment DRI project traffic):

Collier Road @ Howell Mill Road (Intersection #4)

• Provide an exclusive eastbound right-turn lane along Collier Road.

Bellemeade Avenue @ Northside Drive (Intersection #10)

• Modify green timing during the PM peak hour.

2011 Build site driveway recommendations/configuration:

Collier Road @ Site Driveway #1

• Provide one northbound ingress lane and one southbound egress lane in the site driveway, sidestreet stop-controlled and restricted to right-in/right-out movements only.

Collier Road @ Site Driveway #2

• Provide one northbound ingress lane and two southbound egress lanes in the site driveway, an eastbound left-turn lane on Collier Road and a westbound right-turn lane on Collier Road. If warranted, provide a signal at this location.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts associated with the proposed Collier Road Redevelopment project, a proposed approximate 13-acre mixed-use development located west of Interstate 75 in on the north side on Collier Road in the City of Atlanta. This report is being prepared as part of a submittal requesting a rezoning from the City of Atlanta. Because the project will contain over 400,000 square feet of mixed-use floor area, 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 approximately 419 apartment dwelling units, 224 condominium units, and 55,050 square feet of commercial space. The development is scheduled to be completed in one phase by year 2011. The site is zoned I-1 (Light Industrial), R-4 (Single-Family Residential) and RG-2 (General Residential), and currently consists of approximately 170,000 square feet of industrial use, an approximate 6,500 square-foot office building, and approximately 320 surface parking spaces. The redevelopment plan calls for all of the existing structures and surface parking to be eliminated before construction of the new development begins, and for a rezoning of the entire site to MRC-3 (Mixed Residential Commercial).

Table 1 Collier Road Redevelopment DRI Proposed Land Uses					
Apartment	419 dwelling units				
Condominium	224 dwelling units				
Commercial	55,050 square feet				

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

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 five multi-story buildings, ranging from 4 to 8 stories. The two 4-story buildings along Collier Road will contain street level commercial use and 2-story parking decks with residential units above the commercial and parking areas. Two 5-story buildings will be located behind the 4-story buildings and will contain street level commercial use and 5-story parking decks with residential units above. The 8-story building in the northern portion of the site will contain only residential units with a 6-story parking deck. The site is bounded by Collier Road to the south, Interstate 75 to the east, Georgian Hills Apartments to the north and northeast, and Carlyle Place Condominiums to the west. The proposed site driveway locations are provided in *Section 1.3 Site Access*. Parking is proposed along Collier Road along the southern edge of the site for the commercial uses, but these spaces have not been included in the parking count provided on the site plan.

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

Access to the existing land uses is currently provided by one driveway along Collier Road. A curb cut currently exists at the western boundary of the site on Collier Road, but is not used for access to the site. The proposed development will eliminate the existing driveway and construct a new right-in/right-out driveway at the existing curb cut at the western site boundary, and a new full-access driveway approximately 280 feet east of the western site boundary, near the middle of the site. Both driveways will provide access to all uses within the site.

1.4 Bicycle and Pedestrian Facilities

No pedestrian facilities (sidewalks) currently exist along Collier Road in the vicinity of the site. Additionally, no bicycle lanes or designated paths are provided along Collier Road. The proposed development will construct sidewalks along Collier Road in front of the site, and throughout the site along all interior roadways.

1.5 Transit Facilities

The proposed development is located near two MARTA bus routes: Route 12 – Howell Mill (30-minute headways along Howell Mill Road) and Route 37 – Loring Heights (varying headways along Defoors Ferry Avenue). See the attached route maps for detailed route descriptions. Neither route has a bus stop located within one quarter mile of the proposed 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 a growth rate of 2% per year for two years along all adjacent roadways was agreed upon during the pre-application meeting with GDOT and City of Atlanta staff. Additionally, trips anticipated for the Carter-Howell Mill project (located along the west side of Howell Mill Road, south of I-75) were included as background traffic.

2.2 Traffic Data Collection

Year 2006 weekday peak hour turning movement counts were conducted on Wednesday, April 12 and Wednesday, September 6, 2006, at four signalized intersections during the AM and PM peak periods. Additionally, year 2007 weekday peak hour turning movement counts were conducted on Thursday, January 18, Wednesday, January 24 and Wednesday, February 7, 2007 at three unsignalized intersections and three signalized intersection during the AM and PM peak periods. The April 2006 count was adjusted to 2007 using the 2% growth rate. All other 2006 counts were not adjusted because they were performed towards the end of the year.

The morning and afternoon peak hours varied between the ten (10) study intersections and are listed below:

0	Collier Road @ Defoor Avenue (Signalized) - 1/24/07	(AM Peak 7:45-8:45, PM Peak 5:00-6:00)
0	Collier Road @ Seaboard Place (Unsignalized) - 1/18/07	(AM Peak 7:45-8:45, PM Peak 4:45-5:45)
0	Collier Road @ Emery Street (Unsignalized) – 2/7/07	(AM Peak 8:00-9:00, PM Peak 5:00-6:00)
0	Collier Road @ Howell Mill Road (Signalized) – 1/24/07	(AM Peak 7:45-8:45, PM Peak 5:00-6:00)
0	Collier Road @ Northside Drive (Signalized) – 4/12/06	(AM Peak 7:45-8:45, PM Peak 5:00-6:00)

• Beck Street @ Howell Mill Road (Unsignalized) – 2/7/07 (AM Peak 7:45-8:45, PM Peak 5:00-6:00)

- I-75 NB Ramps @ Howell Mill Road (Signalized) 9/6/06 (AM Peak 8:00-9:00, PM Peak 5:00-6:00)
- I-75 SB Ramps @ Howell Mill Road (Signalized) 9/6/06 (AM Peak 7:45-8:45, PM Peak 5:00-6:00)
- Bellemeade Ave @ Howell Mill Road (Signalized) 9/6/06 (AM Peak 8:00-9:00, PM Peak 4:45-5:45)
- Bellemeade Ave (a) Northside Drive (Signalized) $\frac{1}{24}/07$ (AM Peak 7:45-8:45, PM Peak 5:00-6:00)

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 approximately 419 apartment dwelling units, 224 condominium dwelling units, and 55,050 square feet of commercial space.

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 Collier Road Redevelopment DRI Gross Trip Generation							
		Daily [•]	Traffic	AM Pea	ak Hour	PM Pea	k Hour
Land Use	ITE Code	Enter	Exit	Enter	Exit	Enter	Exit
	В	uild-Out (Y	'ear 2011)				
419 Apartment Dwelling Units	220	1,334	1,334	42	167	161	87
224 Condominium Dwelling Units	230	637	637	17	81	78	38
55,050 Square Feet Commercial Use	820	2,304	2,304	66	43	203	219
Total		4,275	4,275	125	291	442	344

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:

0	Collier Road @ Defoor Avenue	(Signalized)
0	Collier Road @ Seaboard Place	(Unsignalized)
0	Collier Road @ Emery Street	(Unsignalized)
0	Collier Road @ Howell Mill Road	(Signalized)
0	Collier Road @ Northside Drive	(Signalized)
0	Beck Street @ Howell Mill Road	(Unsignalized)
0	I-75 NB Ramps @ Howell Mill Road	(Signalized)
0	I-75 SB Ramps @ Howell Mill Road	(Signalized)
0	Bellemeade Avenue @ Howell Mill Road	(Signalized)
0	Bellemeade Avenue @ Northside Drive	(Signalized)

Each of the above listed intersections was analyzed for the Existing 2007 Conditions, the 2011 No-Build Conditions, and the 2011 Build Conditions. The 2011 No-Build Conditions represents the existing traffic volumes grown at 2% per year for four years, plus the anticipated trips associated with the Carter-Howell Mill project located on Howell Mill Road behind the existing Shell Gas Station, southwest of Interstate 75. These anticipated trips from with the Carter-Howell Mill project also includes any reduction in volume at movements associated with the relocation of uses at Piedmont Hospital (Collier Road @ Peachtree Road) to the new Carter-Howell Mill site. Additionally, it should be noted that the 2011 No-Build Conditions were not reduced based on the existing uses on-site that will be demolished. The 2011 Build Conditions adds the projected trips associated with the Collier Road Redevelopment DRI development to the 2011 No-Build Conditions.

The additional proposed site access points listed below were only analyzed for the 2011 Build Conditions:

- Proposed Site Driveway #1 @ Collier Road (western site driveway)
- Proposed Site Driveway #2 @ Collier Road (eastern site driveway)

3.5 Existing Facilities

Collier Road

Collier Road is a two-way, two-lane roadway oriented in the east-west direction in the vicinity of the proposed development which extends from Peachtree Road to west of Defoor Avenue, where it changes to Hills Avenue and ends at Chattahoochee Avenue. Collier Road is classified as an Urban Collector Street 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 Collier Road was 10,820 vehicles per day east of Howell Mill Road and 6,450 vehicles per day west of Defoor Avenue.

Defoor Avenue (also known as Defoors Ferry Avenue)

Defoor Avenue is a two-way, two-lane roadway in the vicinity of the proposed development which extends from Coronet Way and Bolton Road to Howell Mill Road. Defoor Avenue is classified as an Urban Collector Street with a posted speed limit in the vicinity of the proposed development of 35 MPH. According to the GDOT historical count data, the 2005 (most recent available) daily traffic volume along Defoor Avenue was 3,300 vehicles per day north of Collier Avenue.

Howell Mill Road

Howell Mill Road is a two-way roadway with varying laneage which extends from Northside Parkway (US 41) near West Paces Ferry Road to Marietta Street, just north of Downtown Atlanta. The facility has 2 lanes north of Collier Road, 1 lane southbound and 2 lanes northbound from Collier Road to Interstate 75, 4 lanes from Interstate 75 to Bellemeade/Defoor Avenue, and continues to vary until Marietta Street. The facility is classified as an Urban Collector Street with a posted speed limit of 35 MPH in the vicinity of the proposed development. No GDOT historical data is available for Howell Mill Road in the vicinity of the proposed development.

Roadway classification descriptions are provided in Table 3.

Table 3 Collier Road Redevelopment DRI Roadway Classification								
Roadway	Road Type	Number of Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification	Annual Average Daily Traffic (Veh/Day)			
Collier Road	Two-Way	2	35 MPH	Urban Collector Street	10,820/6,450 (2005)			
Defoor Avenue	Two-Way	2	35 MPH	Urban Collector Street	3,300 (2005)			
Howell Mill Road	Two-Way	2/3/4	30 MPH	Urban Collector Street	14,140 (2007)*			

* No GDOT count available. This represents estimated AADT based on traffic counts (PM peak hour times 10).

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.

Mixed-use vehicle trip reductions were taken according to the *ITE Trip Generation Handbook, June 2004*. Total daily internal capture and vehicle trip reduction between the residential and commercial land uses is expected to be 20.51%, whereas total PM peak hour internal capture is expected to be 21.88%.

Alternative transportation mode (walking, bicycle, and transit) reductions were not applied for this analysis as agreed upon during methodology discussions with GRTA, ARC, GDOT, and City of Atlanta staff, due to the lack of public transit opportunities in this area as well as insufficient bicycle and pedestrian facilities.

Pass-by vehicle trip reductions were taken for the proposed commercial uses at 33.38% daily and 34% PM peak hour rates following the internal capture reductions. These values are consistent with those recommended in the *ITE Trip Generation Handbook*, 2004.

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

Table 4 Collier Road Redevelopment DRI Net Trip Generation							
Daily Traffic AM Peak Hour PM Peak Hour						k Hour	
	Enter	Exit	Enter	Exit	Enter	Exit	
Build-Out (Year 2011)							
Gross Project Trips	4,275	4,275	125	291	442	344	
Mixed-Use Reduction	-877	-877	-0	-0	-86	-86	
Pass-By Reduction -622 -623 -0 -0 -57 -57							
Net New Trips	2,776	2,775	125	291	299	201	

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, respectively, 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 Collier Road Redevelopment DRI Existing 2007 Intersection Levels of Service (delay in seconds)								
	Intersection Control LOS AM Peak Standard Hour PM Peak Hour								
1	Collier Road @ Defoor Avenue	Signalized	D	B (13.2)	B (12.2)				
2	Collier Road @ Seaboard Place	Side-Street Stop Control	D	NB – C	NB – C				
3	Collier Road @ Emery Street	Side-Street Stop Control	D	NB – F SB – C	NB – F SB – F				
4	Collier Road @ Howell Mill Road	Signalized	D	D (48.8)	D (46.6)				
5	Collier Road @ Northside Drive	Signalized	D	F (548.1)	F (2767.7)				
6	Beck Street @ Howell Mill Road	Side-Street Stop Control	D	EB-C	EB-C				
7	I-75 NB Ramps @ Howell Mill Rd	Signalized	D	C (34.9)	D (37.7)				
8	I-75 SB Ramps @ Howell Mill Rd	Signalized	D	E (69.8)	D (38.0)				
9	Bellemeade Ave @ Howell Mill Rd	Signalized	D	D (53.7)	D (50.1)				
10	Bellemeade Ave @ Northside Drive	Signalized	D	C (30.1)	C (37.0)				

Two intersections currently operate below the acceptable Level of Service standard (LOS D) during both peak hours and one additional intersection operates below the LOS D standards during the AM peak hour only. The northbound approach of the unsignalized Collier Road @ Emery Street intersection and the signalized Collier Road @ Northside Drive intersection currently operate at LOS F during both peak hours. The No-Build and Build peak hour LOS standard for each of these two intersections is therefore lowered to LOS E per GRTA guidelines in the Letter of Understanding (LOU). The southbound approach of the unsignalized Collier Road @ Emery Street intersection currently operates at LOS F during the PM peak hour. This intersection southbound approach's No-Build and Build PM peak hour LOS standard is therefore lowered to LOS E per GRTA guidelines in the Letter of Understanding (LOU). Finally, the signalized I-75 SB Ramps @ Howell Mill Road intersection currently operates at LOS E per GRTA guidelines in the Letter of Understanding the AM peak hour. This intersection is therefore lowered to LOS E per GRTA guidelines in the Letter of Understanding (LOU). Finally, the signalized I-75 SB Ramps @ Howell Mill Road intersection currently operates at LOS E per GRTA guidelines in the Letter of Understanding (LOU). Finally, the signalized I-75 SB Ramps (LOU).

Extensive queues were observed at the northbound approach to the Collier Road @ Howell Mill Road intersection, specifically related to the left-turn maneuver.

6.2 2011 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 two years, along all roadway links within the study network. Additionally, estimated project trips during year 2011 from the Carter-Howell Mill project were included in the 2011 No-Build volumes.

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 below in **Table 6**.





Table 6 Collier Road Redevelopment DRI 2011 No-Build Intersection Levels of Service (delay in seconds)								
	Intersection Control LOS AM Peak Hour PM Peak Hour							
1	Collier Road @ Defoor Avenue	Signalized	D	B (14.8)	B (13.6)			
2	Collier Road @ Seaboard Place	Side-Street Stop Control	D	NB – C	NB – C			
3	Collier Road @ Emery Street	Side-Street Stop Control	Е	NB – F SB – C	NB – F SB – F			
4	Collier Road @ Howell Mill Road	Signalized	D	E (71.0)	E (60.0)			
5	Collier Road @ Northside Drive	Signalized	Е	F (677.3)	F (3156.9)			
6	Beck Street @ Howell Mill Road	Side-Street Stop Control	D	EB-E	EB – D			
7	I-75 NB Ramps @ Howell Mill Rd	Signalized	D	D (40.5)	D (48.3)			
8	I-75 SB Ramps @ Howell Mill Rd	Signalized	E	F (88.1)	D (47.1)			
9	Bellemeade Ave @ Howell Mill Rd	Signalized	D	F (85.3)	F (148.2)			
10	Bellemeade Ave @ Northside Drive	Signalized	D	E (60.0)	D (53.8)			

Maintaining existing signal timings and roadway geometry, the same three intersections from the existing analysis are projected to operate below the acceptable Level of Service standards for the year 2011 No-Build Conditions during the same peak hours. In addition, the intersections of Collier Road @ Howell Mill Road and Bellemeade Avenue @ Howell Mill Road are projected to operate below the acceptable LOS standard for the year 2011 No-Build Conditions during both peak hours. The eastbound approach of the Beck Street @ Howell Mill Road intersection of Bellemeade Avenue @ Northside Drive are both projected to operate below the standard during the AM peak hour only.

The northbound and southbound approaches of the unsignalized intersection of Emery Street @ Collier Road are projected to operate at an LOS F during both peak hours with the exception of the southbound approach during the AM peak hour. Because of the volume of left-turning vehicles at this intersection, it is likely that a signal warrant will be met. Therefore, it is recommended to install a signal at this location provided a signal warrant analysis shows a signal is warranted. Eastbound and westbound left-turn lanes will most likely be required at this location with the installation of a signal.

The eastbound approach of the unsignalized intersection of Beck Street @ Howell Mill Road is projected to operate at an LOS E during the AM peak hour. It is recommended to construct a separate eastbound left-turn lane at this intersection and maintain the two-way stop control. A short left-turn lane will allow the heavy eastbound right-turn volume to get around the left-turning vehicles. In addition, it is recommended to install a signal at this location with a northbound protected-permissive phase provided a signal warrant analysis shows a signal is warranted.

The intersection of Collier Road @ Howell Mill Road is projected to operate at an LOS E during the AM peak hour. It is recommended to provide signal coordination between this intersection, the two new recommended signalized intersections of Collier Road @ Emery Street and Beck Street @ Howell Mill Road, and the two signalized intersections at I-75 and Howell Mill Road.

During field observations and discussions with GRTA and the local neighborhoods, it was noted that many vehicles bypass the intersection of Collier Road @ Howell Mill Road by using Beck Street and Emery Streets to travel between the area west on Collier Road and the area just north of the Howell Mill Road/I-75 interchange. Recognizing that additional vehicles will most likely travel along these roads with the addition of signals at the intersections of Collier Road @ Emery Street and Beck Street @ Howell Mill Road, 2011 No-Build volumes were adjusted to account for the diversion of trips that would occur with those improvements. These adjustments correspond to the three intersections discussed in this paragraph only, and are shown in the intersection worksheets in the Appendix. A 2011 No-Build Conditions with Improvements analysis was performed for the alternate solution of not installing signals at the two unsignalized intersections and only improving the intersection of Collier Road @ Howell Mill Road. This would require the restriping of the eastbound approach at Collier Road @ Howell Mill Road to a shared left-through lane and an exclusive right-turn lane, with some shifting of lanes required in order to align the eastbound through movement with the receiving lane on the east side of the intersection. The results of this alternate analysis are summarized in **Table 7** and included in the Appendix, titled "Alternate." This alternate analysis is not the recommended solution, however, and is not depicted on **Figure 8**.

The intersection of Collier Road @ Northside Drive is projected to operate at an LOS F during both peak hours. Currently, GDOT has a planned intersection improvement for 2008 at this location which removes the reversible lanes, restricts northbound and southbound left-turn movements and adds a northbound right-turn lane. While it is not clear if the planned improvement includes two permanent northbound and southbound through lanes in lieu of the reversible lane, it is recommended to include this laneage to improve the LOS at this intersection. In addition, a second westbound left-turn lane is needed in order to meet the LOS standard, and shown on **Figure 8**. However, this is not a recommended improvement due feasibility related to right-of-way acquisition constraints.

The Interstate 75 southbound ramps @ Howell Mill Road intersection is projected to operate at an LOS F during the AM peak hour. It is recommended to modify the green timing at both intersections at this interchange to optimize coordination with Collier Road @ Howell Mill Road and the two recommended signals at Collier Road @ Emery Street and Beck Street @ Howell Mill Road to meet the LOS standard.

The intersection of Bellemeade Avenue @ Howell Mill Road is also projected to operate at an LOS E during both peak hours. An additional northbound through lane is needed to meet the LOS standard, creating two northbound through lanes that share left and right turning movements. A southbound exclusive right-turn lane is also needed based on the volumes at this movement and in order to meet the LOS standard. In addition, a second eastbound left-turn lane is needed to meet the LOS standard. Right-of-way is a significant constraint at this intersection and these improvements are recommended if right-of-way can be obtained to construct the improvements.

The intersection of Bellemeade Avenue @ Northside Drive is projected to operate at an LOS E during the AM peak hour. It is recommended to modify the green timing to meet the LOS standard during this peak hour.

The following improvements have been identified for the No-Build analysis in order to meet the level of service standard:

Collier Road @ Emery Street (Intersection #3)

 Install a signal at this location, if warranted by the MUTCD standards, and add eastbound and westbound left-turn lanes. Coordinate the signal timing with signals at Collier Road @ Howell Mill Road and Beck Street @ Howell Mill Road.

Collier Road @ Howell Mill Road (Intersection #4)

 Modify the signal timing to coordinate with new signals recommended at Collier Road @ Emery Street and Beck Street @ Howell Mill Road.



Collier Road @ Northside Drive (Intersection #5)

Incorporate GDOT improvements at this intersection (no northbound and southbound left turns, add northbound right-turn lane), including the creation of two northbound through lanes and two southbound through lanes. A second westbound left-turn lane is also needed to meet the LOS standard but is not recommended due to neighborhood constraints.

Beck Street @ Howell Mill Road (Intersection #6)

• Install a signal at this location, if warranted by the MUTCD standards, and add an eastbound leftturn lane. Coordinate the signal timing with signals at Collier Road @ Howell Mill Road and Collier Road @ Emery Street.

Interstate 75 Ramps @ Howell Mill Road (Intersections #7 and #8)

• Modify signal timing to optimize coordination between these two signals.

Bellemeade Avenue @ Howell Mill Road (Intersection #9)

• Add a northbound lane to create two northbound lanes with shared turning movements, add a southbound exclusive right-turn lane, add a second eastbound left-turn lane, and modify green timing. These are not recommended improvements at this time due to right-of-way constraints, but are required to meet the LOS standard at this intersection.

Bellemeade Avenue @ Northside Drive (Intersection #10)

• Modify green timing during the AM peak hour.

Incorporating these improvements, Table 7 shows the level of service and delay for each intersection.

Table 7 Collier Road Redevelopment DRI 2011 No-Build w/ Improvements Intersection Levels of Service (delay in seconds)							
	Intersection Control LOS AM Peak Standard Hour PM Peak Hour						
1	Collier Road @ Defoor Avenue	Signalized	D	B (14.8)	B (13.6)		
2	Collier Road @ Seaboard Place	Side-Street Stop Control	D	NB – C	NB – C		
3	Collier Road @ Emery Street	Signalized	Е	B (17.2)	C (21.6)		
4	Collier Road @ Howell Mill Road	Signalized	D	D (47.2)	D (41.4)		
5	Collier Road @ Northside Drive	Signalized	Е	D (40.7)	C (33.3)		
6	Beck Street @ Howell Mill Road	Signalized	D	B (11.2)	B (10.7)		
7	I-75 NB Ramps @ Howell Mill Rd	Signalized	D	D (37.0)	D (36.8)		
8	I-75 SB Ramps @ Howell Mill Rd	Signalized	E	D (46.6)	D (35.1)		
9	Bellemeade Ave @ Howell Mill Rd	Signalized	D	D (42.4)	D (47.9)		
10	Bellemeade Ave @ Northside Drive	Signalized	D	D (48.7)	D (53.8)		

The projected intersection laneage, proposed improvements and traffic volumes for the year 2011 No-Build Conditions are shown in **Figure 8**.

6.3 2011 Build Traffic

The traffic associated with the proposed development was added to the 2011 No-Build volumes. Existing signal timings and roadway geometry were maintained at those intersections meeting the LOS standard with the No-Build Conditions, and any recommended improvements from the No-Build analysis were incorporated in the intersections that failed to meet the LOS standard with the No-Build Conditions. In addition, the improvements required to meet the LOS standard in the No-Build analysis but that were not recommended due to right-of-way constraints were also incorporated into this analysis. The Build volumes were then input into *Synchro 6.0*. The results of the analysis are displayed in **Table 8**. An analysis of the proposed site driveways along Collier Road was also performed and results are provided in **Table 8**.

Table 8 Collier Road Redevelopment DRI 2011 Build Intersection Levels of Service (delay in seconds)							
	Intersection Control LOS AM Peak Hour PM Peak Hour						
1	Collier Road @ Defoor Avenue	Signalized	D	B (18.1)	B (17.0)		
2	Collier Road @ Seaboard Place	Side-Street Stop Control	D	NB – C	NB – C		
3 Collier Road @ Emery Street		Signalized	E	D (40.1)	C (34.9)		
4	Collier Road @ Howell Mill Road	Signalized	D	E (70.2)	D (51.3)		
5	Collier Road @ Northside Drive	Signalized	Е	D (50.9)	D (37.3)		
6	Beck Street @ Howell Mill Road	Signalized	D	B (15.5)	B (17.3)		
7	I-75 NB Ramps @ Howell Mill Rd	Signalized	D	D (35.3)	D (38.3)		
8	I-75 SB Ramps @ Howell Mill Rd	Signalized	Е	E (55.6)	D (35.9)		
9	Bellemeade Ave @ Howell Mill Rd	Signalized	D	D (44.0)	D (54.7)		
10	Bellemeade Ave @ Northside Drive	Signalized	D	E (57.4)	E (60.2)		
11 Collier Road @ Site Drivev	Collier Road @ Site Driveway #1	Side-Street Stop Control	D	SB – B	SB – C		
12	Collier Road @ Site Driveway #2	Signalized	D	A (9.2)	A (8.4)		

Including all improvements from the No-Build Conditions analysis and the recommendations for the site driveways listed below, one intersection is projected to not meet the LOS standard in the AM peak hour, one intersection is projected to not meet the LOS standard in the PM peak hour and one intersection is projected to not meet the LOS standard in both peak hours. All other intersections and the site driveways are projected to operate at or above the acceptable Level of Service standard (LOS D) during both the AM and PM Peak Hours.

Incorporating the recommended improvements at Collier Road @ Emery Street, Collier Road @ Howell Mill Road, and Beck Street @ Howell Mill Road in the 2011 No-Build analysis, the intersection of Collier Road @ Howell Mill Road is projected to operate at an LOS E during the AM peak hour with 2011 Build Conditions. An exclusive eastbound right-turn lane is needed at this intersection in order to meet the LOS standard. Currently, right-of-way to construct this turn lane does not exist on Collier Road.

The intersection of Bellemeade Avenue @ Northside Drive is projected to operate at an LOS E during both peak hours during 2011 Build Conditions. It is recommended to modify the green timing to meet the LOS standard.

The following improvements have been identified for the Build analysis in order to meet the level of service standard:

Collier Road @ Howell Mill Road (Intersection #4)

• Provide an exclusive eastbound right-turn lane along Collier Road.

Bellemeade Avenue @ Northside Drive (Intersection #10)

Modify green timing during both peak hours.

Incorporating these improvements, Table 9 shows the level of service and delay for each intersection.

Table 9 Collier Road Redevelopment DRI 2011 Build w/ Improvements Intersection Levels of Service (delay in seconds)							
	Intersection Control LOS AM Peak Hour PM Peak Hour						
1	Collier Road @ Defoor Avenue	Signalized	D	B (18.1)	B (17.0)		
2	Collier Road @ Seaboard Place	Side-Street Stop Control	D	NB – C	NB – C		
3	Collier Road @ Emery Street	Signalized	E	D (41.0)	C (35.0)		
4	Collier Road @ Howell Mill Road	Signalized	D	D (41.0)	D (51.6)		
5	Collier Road @ Northside Drive	Signalized	Е	D (50.9)	D (37.3)		
6	Beck Street @ Howell Mill Road	Signalized	D	B (16.1)	B (17.2)		
7	I-75 NB Ramps @ Howell Mill Rd	Signalized	D	D (36.6)	D (38.0)		
8	I-75 SB Ramps @ Howell Mill Rd	Signalized	Е	E (55.5)	D (35.9)		
9	Bellemeade Ave @ Howell Mill Rd	Signalized	D	D (44.0)	D (54.4)		
10	Bellemeade Ave @ Northside Drive	Signalized	D	D (54.5)	D (50.5)		
11	Collier Road @ Site Driveway #1	Side-Street Stop Control	D	SB – B	SB – C		
12	Collier Road @ Site Driveway #2	Signalized	D	A (9.2)	A (8.4)		

The projected intersection laneage, proposed improvements and traffic volumes for the year 2011 Build Conditions are shown in **Figure 9**. Recommended driveway configurations are also shown in **Figure 9** and are listed below.

Collier Road @ Site Driveway #1

• Provide one northbound ingress lane and one southbound egress lane in the site driveway, sidestreet stop-controlled and restricted to right-in/right-out movements only.

Collier Road @ Site Driveway #2

• Provide one northbound ingress lane and two southbound egress lanes in the site driveway, an eastbound left-turn lane on Collier Road and a westbound right-turn lane on Collier Road. If warranted, provide a signal at this location.



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 graphically in **Figure 10**. Detailed information on the projects is included in the Appendix.

Table 10 Collier Road Redevelopment DRI Programmed Area Projects				
GDOT #: 0000611 ARC #: AT-AR-BP154	Construct sidewalks along Collier Road from Howell Mill Road to Piedmont Hospital Complex - 2006			
GDOT #: 751560 ARC #: AT-026	Widen narrow lanes on Howell Mill Road from Chattahoochee Avenue to Bellemeade Avenue to improve truck traffic in the area; includes sidewalks and bicycle lanes - 2008			
GDOT #: 0004166 ARC #: N/A	Intersection improvements at Northside Drive and Collier Road - 2008			

Information on the proposed improvements is included in the Appendix.

8.0 INGRESS/EGRESS ANALYSIS

Access is proposed at two driveways; one right-in/right-out driveway along Collier Road (Site Driveway #1) and one full-movement driveway along Collier Road (Site Driveway #2). It is proposed that all residents and commercial patrons will have access to both driveways. Below is a description of recommended driveway geometries.

Site Driveway # 1 – Collier Road

• The proposed right-in/right-out driveway should consist of one northbound ingress lane and one southbound exclusive right-turn egress lane. The driveway should consist of a striped island to discourage left turns into and out of the site and operate under side-street stop-control conditions.

Site Driveway # 2 – Collier Road

• The proposed full-movement driveway should consist of one northbound ingress lane and two southbound egress lanes. In addition, an eastbound left-turn lane and a westbound right-turn lane should be constructed on Collier Road. The driveway should operate under signalized conditions, if warranted through a signal warrant analysis.

9.0 INTERNAL CIRCULATION ANALYSIS

The proposed site plan consists of two vehicular driveways. Site Driveway #1 is located at the western boundary of the site along Collier Road and is restricted to provide right-in/right-out access only. Site Driveway #2 is located approximately 280 feet east of Driveway #1 along Collier Road and is anticipated to operate as a full-access driveway with a traffic signal if warranted. Several internal roadways will provide excellent vehicular connections within the site, as well as pedestrian circulation via internal sidewalks.



10.0 COMPLIANCE WITH COMPREHENSIVE PLAN ANALYSIS

The City of Atlanta NPU-C 2004-2019 Future Land Use Plan designates the project site as industrial and medium density residential, 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 approximately three tenths of a mile (1,600 feet) from MARTA bus route 37 on Defoor Avenue, and approximately four tenths of a mile (2,200 feet) from MARTA bus route 12 on Howell Mill Road. See the attached route maps for detailed route descriptions. Sidewalks are located within the development and to the west of the site along Collier Road.

Those traveling by vehicle have convenient access to I-75 from Howell Mill Road. Defoor Avenue (through Bohler Road) and Howell Mill Road also provide access to east-west roads that lead to Buckhead. Additionally, several other major arterials in central Atlanta, including Peachtree Road and Marietta Boulevard (Atlanta Road), are within a couple of miles of the development.

11.2 Vehicle Miles Traveled

Table 11 displays the reduction in traffic generation due to mixed-use, alternative mode, and pass-by reductions. Total combined trip reductions equal approximately 35% of gross trips.

Table 11 Trip Reductions				
	Build-out Total			
Daily Gross Trip Generation	8,550			
(-) Mixed-use reductions (internal capture)	- 1,754			
(-) Pass-by trips	- 1,245			
Net Trips	5,551			

11.3 Relationship Between Location of Proposed DRI and Regional Mobility

The proposed development is located in Northwest Atlanta, just northwest of the Downtown Connector (Interstate 75/85). The site is located near the interchange of I-75 and Howell Mill Road, which provides convenient access to many of Atlanta's major arterials and highways in a matter of a few minutes. 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 approximately three tenths of a mile (1,600 feet) from MARTA bus route 37 on Defoor Avenue, and approximately four tenths of a mile (2,200 feet) from MARTA bus route 12 on Howell Mill Road. No other existing or planned transit facilities are within the area of the proposed site.

11.5 Transportation Management Area Designation

The proposed development is not located within Transportation Management Area.

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 20.51% of the gross daily trips will be internal and approximately 21.88% of the gross PM peak hour trips will be internal. Additionally, for the projected new daily and PM peak hour trips, a 33.38% daily and 34% PM peak pass-by reduction was used for the proposed commercial portion of the development.

11.7 Balance of Land Uses – Jobs/Housing Balance

Please refer to the Area of Influence Analysis, located in *Section 13.0* 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 (2011).

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 or rent 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:

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 (Collier Road and Seaboard Place). 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 and DeKalb Counties) can be seen in **Figure 11**. Information obtained from the census tracts can be seen in **Table 12**.



Table 12 Area of Influence Census Tract Information				
Total Households	106,269			
Population in Households	240,919			
Average household size	2.03			
Total Workers	117,334			
Workers per Household	1.10			
Owner Occupied	40.0%			
Renter Occupied	60.0%			

As can be seen from the table above, the total population within the Area of Influence is 240,919, residing within 106,269 households (an average of 2.03 people per household). The AOI area totals 47,193 acres.

Using the above calculated average of 2.03 persons per household, it can be anticipated that the proposed DRI will house approximately 1,305 people (643 proposed dwelling units multiplied by 2.03). Based on information obtained from the Census tracts, it is estimated that approximately 707 of these expected 1,305 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 condominiums/townhouses for sale and apartments for rent in the vicinity of the proposed development (30318 Zip Code). At the time of this report, approximately 349 condo/townhouse/single family homes were listed in the area, ranging in price from \$40,000 to \$1,350,000 (purchase price). Approximately 83 apartments/homes were available for rent, ranging in price from \$395 to \$2,500 (monthly rental).

12.3 Development Housing Analysis

Approximately three different price ranges of condominiums and two different price ranges of apartments will be available for purchase within the proposed development. **Tables 13 and 14** display the number of units available for purchase/rental, the average purchase/rental price, and the number of workers expected to reside in homes at each price range.



Table 13 Estimated Workers per Household (Purchase)						
	Number of Units Average Price Number of Workers					
А	90 units for sale	\$225,000	99			
В	112 units for sale	\$330,000	123			
С	22 units for sale	\$390,000	25			
	224 total units	-	246 total workers			

Table 14 Estimated Workers per Household (Rental)					
	Number of Average Units Cost/Month				
D	251 units for rent	\$1,050	277		
Е	168 units for rent	\$1,650	184		
	419 total units	-	461 total workers		

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 **Table 15**, on the following page.



Table 15 Area of Influence Jobs and Average Salaries				
Industry / Business Type	# Businesses	# Employees	Average Salary	
Retail Trade	4,077	56,464	\$28,614	
Building Materials and Garden Supply	132	4,125	-	
General Merchandise Stores	67	2,622	-	
Food Stores	270	3,807	-	
Auto Dealers and Gas Stations	174	1,662	-	
Apparel and Accessory Stores	527	3,632	-	
Home Furniture, Furnishings, and Equipment	530	5,905	-	
Eating and Drinking Places	1,284	25,610	-	
Miscellaneous Retail Stores	1,093	9,101	-	
Finance	2,401	34,575	\$61,130	
Banks, Savings and Lending Institutions	489	8,658	-	
Securities and Commodity Brokers	385	6,845	-	
Insurance Carriers and Agencies	268	6,038	-	
Real Estate	1,159	11,449	-	
Trusts, Holdings, and Other Investments	100	1,585		
Services	9,901	148,035	-	
Hotels and Other Lodging	129	10,651	\$18,768	
Personal Services	1,678	8,876	-	
Business Services	3,088	46,454	\$71,864	
Motion Picture and Amusement	479	4,557	\$44,274	
Health Services	1,276	27,617	\$44,730	
Legal Services	1,450	15,296	\$71,864	
Education Services	258	16,547	\$35,797	
Social Services	424	8,042	\$44,730	
Miscellaneous, Membership	1 1 1 9	9 995	_	
Organizations and Nonclassified	1,119	7,775	-	
Agriculture	240	2,426	\$23,179	
Mining	10	70	\$43,428	
Construction	988	9,971	\$48,980	
Manufacturing	810	21,113	\$59,292	
Transportation, Communication/Public Utilities	673	28,075	\$87,115	
Wholesale Trade	837	17,303	\$63,478	
Public Administration	1,046	55,467	\$43,665	
Total	20,983	373,499	-	

12.4 Affordable Housing Analysis

In order to calculate the number of expected workers likely to find appropriate employment within the AOI, it was necessary to first estimate the yearly cost of each tier. Several online calculators aid in determining affordable housing based on given incomes and income ranges. These calculators were used to determine the minimum income necessary to afford purchased housing within the proposed development. It was assumed that no more than one third of an individual's income would be used for mortgage costs, that a 7.0% interest rate on a 30-year conventional loan could be obtained, and that a 10% down payment would be made. Because there is an average of 1.10 workers expected per household, the required income for each range was divided by 1.10 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 16** 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 development at the required minimum income level for both levels of pricing within the development, thus satisfying the GRTA requirement of 25%.

	Table 16 Expected Workers					
	Average Monthly Price	Necessary Income per Expected Worker (Yearly)	Expected Workers per Price Range	Jobs at or above Necessary Income		
Α	90 units for sale	\$44,091	99	213,003		
В	112 units for sale	\$64,667	123	89,825		
С	22 units for sale	\$76,425	25	28,075		
D	251 units for rent	\$34,364	277	285,087		
Е	168 units for rent	\$54,000	184	162,816		
	Percent of expected workers likely to find necessary employment within the AOI 100%					

13.0 ARC'S AIR QUALITY BENCHMARK

The proposed development is mixed-use, containing 419 apartment units, 224 condominium units and 55,050 square feet of commercial on approximately 13 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 proposed site plan shows bike/ped 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 10% VMT reduction. These reductions are displayed below in **Table 17**.



Table 17 ARC VMT Reductions				
Mixed-Use Projects where Residential is the dominant use				
Units per acre greater than 15 du/ac	-6%			
Provides bike/ped connections within/adjoining the site	-4%			
Total Reductions	10%			