Transportation Analysis

Cobb West Park DRI #1110
Cobb County, Georgia

Prepared for:

Jadow Realty Company, L.P.

Prepared by:

Kimley-Horn and Associates, Inc.
Norcross, Georgia

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019404001

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of a proposed 91.7-acre warehouse/distribution development (Cobb West Park) located along the south side of Factory Shoals Road east of Thornton Road in Cobb County, Georgia. This report is being prepared as part of a submittal requesting rezoning from R-20 (Single Family Residential), IF (Future Industrial), and LI (Light Industrial) to LI (Light Industrial). Because the project will exceed 500,000 square feet, the proposed development is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) review. The Cobb County Future Land Use Plan identifies the area as Industrial.

The proposed development is expected to consist of approximately 1,188,400 square feet of warehouse/distribution space in three (3) buildings. The development is scheduled to be completed in multiple phases by the year 2011. For the purposes of the traffic analysis, one build-out phase will be analyzed for the year 2011.

It is important to note this proposed development is a continuation of the existing Cobb West Park development, containing warehouse/distribution buildings to the south of the site. The entire Cobb West Park development consists of +/- 322 acres.

The results of the detailed intersection analysis for the 2011 No-Build (includes background traffic growth) and 2011 Build conditions (2011 No-Build conditions plus the Cobb West Park development) identified improvements that will be necessary in order to maintain the Level of Service standard (LOS D or E) within the study network. Per GRTA's Letter of Understanding guidelines, improvements were made to the intersections until the Level of Service was elevated to an appropriate level. These improvements are listed below:

2011 No-Build recommended improvements (includes background growth but does not include the Cobb West Park DRI project traffic):

Six Flags Road @ Factory Shoals Road (#2)

- Install a separate southbound left-turn lane along Six Flags Road.
- Install a separate eastbound right-turn lane along Factory Shoals Road.

Six Flags Drive @ Factory Shoals Road (#3)

- Change the right-turn lane to a shared through/right-turn lane along eastbound Six Flags Drive.

2011 Build recommended improvements (adds the Cobb West Park DRI project traffic to the 2011 No-Build conditions):

No improvements recommended because all of the intersections met the acceptable Level of Service standard for the AM and PM peak hours.

The following intersection geometry and improvements are recommended at the project site driveways:

Factory Shoals Road @ Proposed Driveway #1 (Full-movement)

- Install a separate northbound left-turn lane and right-turn lane exiting the site; stop-controlled.
- Install an Eastbound right-turn lane along Factory Shoals Road.
- Install a Westbound left-turn lane along Factory Shoals Road.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts of a proposed 91.7-acre warehouse/distribution development (Cobb West Park) located along the south side of Factory Shoals Road east of Thornton Road in Cobb County, Georgia. This report is being prepared as part of a submittal requesting rezoning from R-20 (Single Family Residential), IF (Future Industrial), and LI (Light Industrial) to LI (Light Industrial). Because the project will exceed 500,000 square feet, the proposed development is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) review. The Cobb County Future Land Use Plan identifies the area as Industrial.

The proposed development is expected to consist of approximately 1,188,400 square feet of warehouse/distribution space in three (3) buildings. The development is scheduled to be completed in multiple phases by the year 2011. For the purposes of the traffic analysis, one build-out phase will be analyzed for the year 2011.

It is important to note this proposed development is a continuation of the existing Cobb West Park development, containing warehouse/distribution buildings to the south of the site. The entire Cobb West Park development consists of +/- 322 acres.

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

Table 1
Proposed Land Uses

Warehouse/Distribution Space	1,188,400 SF

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

1.2 Site Plan Review

The development plan consists of three warehouse/distribution buildings. The site is bounded by Factory Shoals Road to the north, the existing Cobb West Park development to the south and west, and partially White Road to the east. Sidewalks will be provided in accordance with Cobb County requirements, which is expected to be providing sidewalks along one side of the proposed internal roadway(Third Flag Parkway). Sidewalks are not proposed along external or adjacent roadways. The existing site is currently undeveloped.

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 two locations. Third Flag Parkway is proposed to be extended from Second Flag Drive to connect to Factory Shoals Road. Proposed Driveway #1 is the full-movement driveway located along Factory Shoals Road. Access will also be provided to the south and west, via Second Flag Drive and Third Flag Parkway, to Six Flags Road.

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities currently do not exist along Factory Shoals Road or Six Flags Road. The proposed development will provide pedestrian access in accordance with Cobb County development requirements. The development is expected to provide sidewalks along one side of Third Flag Parkway. Sidewalks are not proposed along external or adjacent roadways.

1.5 Transit Facilities

There are no existing transit facilities in the area of the development.

2.0 TRAFFIC ANALYSES METHODOLOGY AND ASSUMPTIONS

2.1 Growth Rate

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the proposed project. Historical traffic count data from the Georgia DOT was reviewed for the area surrounding the proposed development, and growth rates of 3.0% per year along all roadways were agreed upon in the GRTA Letter of Understanding.

In addition to background traffic growth, future traffic from two proposed buildings in the existing Cobb West Park development will be included. The two buildings are proposed to consist of approximately 344,932 square feet building and 44,000 square feet.

2.2 Traffic Data Collection

Year 2006 peak hour turning movement counts were conducted at five intersections between 7:00-9:00 AM and 4:00-6:00 PM in June. The morning and afternoon peak hours varied between the seven intersections:

- Thornton Road @ Factory Shoals Road (AM Peak 7:00-8:00, PM Peak 4:45-5:45)
- Six Flags Road @ Factory Shoals Road (AM Peak 7:15-8:15, PM Peak 4:45-5:45)
- Six Flags Drive @ Factory Shoals Road (AM Peak 7:15-8:15, PM Peak 5:00-6:00)
- Six Flags Road @ Second Flag Drive (AM Peak 7:15-8:15, PM Peak 4:45-5:45)
- Thornton Road @ Douglas Hills Road (AM Peak 7:00-8:00, PM Peak 4:45-5:45)

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 individual movements as well as 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 1,188,400 square feet of warehouse/distribution space. For the purposes of the traffic analysis, one build-out phase was analyzed for the year 2011.

Traffic for the warehouse/distribution land use was calculated using trip generation rates previously accepted by GRTA on similar developments. The GRTA trip rates are based on empirical data collected for other existing similar warehouse/industrial land uses in the Atlanta area. The GRTA trip rates are 55% of the ITE trip rates(ITE Code 150 – Warehousing, based on square footage) contained in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, Seventh Edition, 2003*. The truck percentage of development traffic is expected to be 25 percent. Gross trips generated are displayed below in **Table 2**.

Table 2
Cobb West Park DRI
Gross Trip Generation

Land Use	Daily Traffic		AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Build-Out (Year 2011)						
1,188,400 SF Warehouse/Distribution	1,299	1,299	217	48	63	191
Total	**1,299**	**1,299**	**217**	**48**	**63**	**191**

3.2 Trip Distribution

The directional distribution and assignment of new project trips was based on the project land use, a review of land use densities in the area, combined with engineering judgment and discussions with staff at the Pre-Application meeting.

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 the 7% rule. This rule recommends that all intersections and segments be analyzed which are impacted to the extent that the traffic from the proposed site is 7% or more of the Service Volume of the facility (at a previously established LOS standard) be considered for analysis. This general study area was refined during the Pre-Application meeting, and includes the following intersections:

- Thornton Road @ Factory Shoals Road (signalized)
- Six Flags Road @ Factory Shoals Road (unsignalized)
- Six Flags Drive @ Factory Shoals Road (signalized)
- Six Flags Road @ Second Flag Drive (unsignalized)
- Thornton Road @ Douglas Hills Road (signalized)

Each of the above listed intersections was analyzed for the Existing 2006 Condition, the 2011 No-Build Condition, and the 2011 Build Condition. The 2011 No-Build condition represents the existing traffic volumes grown at 3.0% per year for five years, plus the traffic from the two proposed buildings in the existing Cobb West Park development. The 2011 Build condition adds the projected trips associated with the Cobb West Park development to the 2011 No-Build condition.

Additionally, the proposed site driveway listed below was only analyzed for the 2011 Build Condition:

- Factory Shoals Road @ Proposed Driveway #1 (Third Flag Parkway Extension)

This intersection was analyzed for the weekday AM and PM peak hour conditions.

3.5 Existing Facilities

Thornton Road (SR 6) is a north-south oriented roadway that extends from I-20 to I-285. The 2005 Annual Daily Traffic (ADT) south of I-20 was 30,550 vehicles per day (vpd) (GDOT). The 2005 ADT between Douglas Hills Road and Factory Shoals Road was 34,670 vpd (GDOT). The posted speed limit along Thornton Road is 55 MPH.

Factory Shoals Road is an east-west oriented roadway. The posted speed limit is 40 mph.

Six Flags Drive is an east-west oriented roadway. The posted speed limit is 40 mph.

Six Flags Road is a north-south oriented roadway. The 2005 ADT north of Douglas Hills Road was 4,610 vpd (GDOT). The posted speed limit is 45 mph.

Douglas Hills Road is an east-west oriented roadway. The posted speed limit is 35 mph.

Second Flag Drive is an east-west oriented roadway. The posted speed limit is 35 mph.

Third Flag Parkway is a north-south oriented roadway. The posted speed limit is 35 mph.

Roadway	Road Type	Number of Lanes	Posted Speed Limit (MPH)	GDOT Functional Classification	Cobb County DOT Functional Classification
Thornton Road (SR 6)	Two-Way	4	55	Urban Principal Arterial	N/A
Factory Shoals Road	Two-Way	2	40	Urban Local Street	Major Collector
Six Flags Drive	Two-Way	2/4	40	Urban Minor Arterial	Arterial
Six Flags Road	Two-Way	2	45	Urban Minor Arterial	Major Collector
Douglas Hills Road	Two-Way	2	35	Urban Local Street	N/A
Second Flag Drive	Two-Way	2	35	Urban Local Street	N/A
Third Flag Parkway	Two-Way	2	35	Urban Local Street	N/A

3.6 Proposed Roadway Facilities

There are four proposed roadway projects within the vicinity of the study area; one proposed roadway project is located within the transportation analysis study area. Truck lanes are proposed along SR 6 (Thornton Road) from I-20 to SR 70 (Fulton Industrial Boulevard). This is a long range transportation project.

Section 7.0 lists the four proposed roadway projects. None of the roadway projects were assumed in the 2011 No-Build or 2011 Build conditions analysis per GRTA's guidelines.

4.0 TRIP GENERATION

As stated earlier, trips associated with the proposed development were estimated using the trip generation rates previously accepted by GRTA on similar developments. The GRTA trip rates are based on empirical data collected for other existing similar warehouse/industrial land uses in the Atlanta area. The GRTA trip rates are 55% of the ITE trip rates(ITE Code 150 – Warehousing, based on square footage) contained in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, Seventh Edition, 2003*. The truck percentage of development traffic is expected to be 25 percent, as assumed in previous studies prepared for GRTA.

No alternate modes of transportation reductions were taken. The total trips generated and analyzed in the report are listed below in **Table 3**.

Table 3
Cobb West Park DRI
Net Trip Generation

Land Use	Daily Traffic		AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Build-Out (Year 2011)						
Gross Trips	1,299	1,299	217	48	63	191
Truck Volumes	325	325	54	12	16	48
Employee Volumes	974	974	163	36	47	143
New Trips	1,299	1,299	217	48	63	191

5.0 TRIP DISTRIBUTION AND ASSIGNMENT

New trips were distributed onto the roadway network using the percentages agreed to during the Pre-Application meeting. **Figure 4 and Figure 5** displays the expected truck and employee distribution 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 input in Synchro 6.0 and an Existing Conditions analysis was performed. The results are displayed below in **Table 4**.

Table 4
Cobb West Park DRI
2006 Existing Intersection Levels of Service
(delay in seconds)

	Intersection	Control	AM Peak Hour	PM Peak Hour
1	Thornton Road @ Factory Shoals Road	Signalized	B (19.5)	B (14.0)
2	Six Flags Road @ Factory Shoals Road	All-Way Stop Control	D (27.5)	B (12.4)
3	Six Flags Drive @ Factory Shoals Road	Signalized	C (34.6)	C (26.1)
4	Six Flags Road @ Second Flag Drive	Side-Street Stop Control	WB - A (9.5)	WB - B (10.3)
5	Thornton Road @ Douglas Hills Road	Signalized	B (12.4)	B (12.4)

As you can see in the table, none of the intersections currently operate below the acceptable Level of Service standard (LOS D) during the AM or PM peak hours.

6.2 2011 No-Build Traffic

The existing traffic volumes were grown at 3.0% per year along all roadway links within the study network. In addition to background traffic growth, future traffic from two proposed buildings in the existing Cobb West Park development will be included. The two buildings are proposed to consist of approximately 344,932 square feet building and 44,000 square feet.

The 2011 No-Build traffic volumes were input in Synchro 6.0 and analyses of the projected No-Build conditions were performed. The results are displayed below in **Table 5.** The projected volumes for the year 2011 No-Build conditions are shown in **Figure 8**.

Table 5
Cobb West Park DRI
2011 No-Build Intersection Levels of Service
(delay in seconds)

	Intersection	Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	Thornton Road @ Factory Shoals Road	Signalized	D	D (41.7)	C (22.9)
2	Six Flags Road @ Factory Shoals Road	All-Way Stop Control	D	F (73.6)	C (17.8)
3	Six Flags Drive @ Factory Shoals Road	Signalized	D	E (58.2)	D (37.5)
4	Six Flags Road @ Second Flag Drive	Side-Street Stop Control	D	WB - A (9.7)	WB - B (10.9)
5	Thornton Road @ Douglas Hills Road	Signalized	D	C (23.6)	B (15.2)

Two of the intersections failed to meet acceptable Level of Service standards for the year 2011 No-Build condition. It is not uncommon for side-street traffic to experience delays at an intersection with a major street. Per GRTA's Letter of Understanding, improvements were made to the two intersections until the Level of Service was elevated to the GRTA standards. The 2011 No-Build with Improvements intersection analysis Levels of Service are displayed below in **Table 6**.

Table 6
Cobb West Park DRI
2011 No-Build with Improvements Intersection Levels of Service
(delay in seconds)

Intersection		Control	LOS Standard	AM Peak Hour	PM Peak Hour
2	Six Flags Road @ Factory Shoals Road	All-Way Stop Control	D	D (25.9)	C (20.9)
3	Six Flags Drive @ Factory Shoals Road	Signalized	D	C (27.1)	D (37.5)

The 2011 No-Build improvements made to the intersections are shown in Figure 8, and are listed below by intersection:

Six Flags Road @ Factory Shoals Road (#2)

- Install a separate southbound left-turn lane along Six Flags Road.
- Install a separate eastbound right-turn lane along Factory Shoals Road.

Six Flags Drive @ Factory Shoals Road (#3)

- Change the right-turn lane to a shared through/right-turn lane along eastbound Six Flags Drive.

6.3 2011 Build Traffic

The traffic associated with the proposed development (Cobb West Park DRI) was added to the 2011 No-Build volumes. These volumes were then input into the 2011 No-Build with Improvements roadway network and analyzed with Synchro 6.0. The results of the analyses are displayed in **Table 7**. The projected volumes for the year 2011 Build conditions are shown in **Figure 9**.

Table 7
Cobb West Park DRI
2011 Build Intersection Levels of Service
(delay in seconds)

	Intersection	Control	LOS Standard	AM Peak Hour	PM Peak Hour
1	Thornton Road @ Factory Shoals Road	Signalized	D	D (46.1)	D (37.6)
2	Six Flags Road @ Factory Shoals Road	All-Way Stop Control	D	D (33.7)	D (34.1)
3	Six Flags Drive @ Factory Shoals Road	Signalized	D	C (30.6)	D (38.0)
4	Six Flags Road @ Second Flag Drive	Side-Street Stop Control	D	WB - A (9.6)	WB - B (11.0)
5	Thornton Road @ Douglas Hills Road	Signalized	D	C (23.7)	C (19.5)

As shown in **Table 7**, none of the intersections failed to meet acceptable Level of Service standards for the year 2011 Build condition. (Note: Improvements were made at the intersection of the Proposed Driveway #1 and included in the 2011 Build analysis. The improvements are listed under project site driveways improvements.)

Proposed Driveway #1 was analyzed for the 2011 Build condition. The results of the analyses are presented in **Table 8**. The projected volumes and recommended intersection geometry are shown in Figure 9.

Table 8
Cobb West Park DRI
2011 Build Intersection Levels of Service
(delay in seconds)

Intersection	Control	AM Peak Hour	PM Peak Hour
Factory Shoals Road @ Driveway #1	Side-Street Stop Control	NB-A (9.1)	NB-A (10.9)

The proposed site driveway #1 meets the Level of Service standard 'D' for the year 2011 Build conditions. A traffic signal is not expected to be warranted based on the projected side-street left-turn volumes. *The following intersection geometry and improvements are recommended at the project site driveway:*

Factory Shoals Road @ Proposed Driveway #1 (Full-movement)

- Install a separate northbound left-turn lane and right-turn lane exiting the site; stop-controlled.
- Install an eastbound right-turn lane along Factory Shoals Road.
- Install a westbound left-turn lane along Factory Shoals Road.

7.0 IDENTIFICATION OF PROGRAMMED PROJECTS

The *TIP, STIP, RTP, GDOT's Construction Work Program, and Cobb County SPLOST Program* were researched for currently programmed transportation projects within the vicinity of the proposed development. Several projects are programmed for the area surrounding the study network. Information on the projects is included in the Appendix. **Figure 10** illustrates the programmed projects listed below.

1. GDOT # 722040 (RTP)	Addition of truck lanes to SR 6 (Thornton Road) from I-20 to SR 70 (Fulton Industrial Boulevard). Long range project, expected to be completed in 2026. (See p. 1 in appendix)
2. GDOT # AT-AR-178 (RTP)	Reconstruction of I-20 and new six lane collector-distributor road system between the I-285 interchange and Thornton Road. Long range project, expected to be completed in 2014. (See p. 2 in appendix)
3. GDOT # AR-H-200 (RTP, STIP, CWP)	Addition of 1 HOV lane in both directions on I-20 between SR 280 and SR 6 (Thornton Road). Construction is expected after 2009 per the GDOT CWP. (See p. 3, 5, and 7 in appendix).
4. GDOT # AR-444 (RTP, STIP, CWP)	I-20 east and west ramp meters / highway advisory radio from SR 6 (Thornton Road) in Douglas County to Evans Mill Road in Dekalb County. Construction is expected in 2007 per the GDOT STIP. (See p. 4, 6, and 8 in appendix).

* CWP = Construction Work Program.

8.0 INGRESS/EGRESS ANALYSIS

Access to the development is proposed at two locations. Third Flag Parkway is proposed to be extended from Second Flag Drive to connect to Factory Shoals Road. Proposed Driveway #1 is the full-movement driveway located along Factory Shoals Road. Access will also be provided to the south and west, via Second Flag Drive and Third Flag Parkway, to Six Flags Road.

9.0 INTERNAL CIRCULATION ANALYSIS

No internal capture reductions were assumed in the analysis because of the single industrial land use.

10.0 COMPLIANCE WITH COMPREHENSIVE PLAN ANALYSIS

The Cobb County Future Land Use Plan identifies the area as Industrial.

11.0 NON-EXPEDITED CRITERIA

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

There are currently no transit opportunities in the vicinity of the proposed development.

11.2 Vehicle Miles Traveled

The are no expected reduction in traffic generation due to internal capture or pass-by trips because of the single industrial land use of the development.

11.3 Relationship Between Location of Proposed DRI and Regional Mobility

The proposed development is not located within an urban core, activity center or town center, it is not within walking distance to a rail station or transit facility; and it is not part of an infill initiative. The proposed development is located near Thornton Road (SR 6) which provides access to I-20 and I-285.

11.4 Relationship Between Proposed DRI and Existing or Planned Transit Facilities

The proposed DRI is not located near any existing or planned transit facilities or bus stops.

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

No internal capture reductions were assumed in the analysis because of the single industrial land use.

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, according to the most recent information, 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 AOI housing costs, and the availability of housing within the AOI that would reasonably position employees within the proposed DRI.

12.1 Criteria

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

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

7. The proposed DRI:

(b) Is located in an Area of Influence where the proposed DRI is reasonably anticipated to contribute to the balancing of land uses within the Area of Influence such that twenty-five percent (25%) of the persons that are reasonably anticipated to be employed in the proposed DRI have the opportunity to live 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 (Six Flags Road @ Second Flags Drive). 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 Cobb County, Douglas County, and Fulton County) can be seen in **Figure 11**. Information obtained from the census tracts can be seen in **Table 9.**

Table 9
Census Tract Information

Total Households	21,723
Population in Households	58,063
Average household size	2.67
Total Workers	28,533
Workers per Household	1.31
Owner Occupied	59.6%
Rental Occupied	40.4%

As can be seen from the table above, the total population within the Area of Influence is 58,063, residing within 21,723 households (an average of 2.67 people per household). The AOI area totals 41,609 acres.

The total number of expected employees within the proposed DRI was calculated to be **297 total employees**. This calculation was based on rates of 1 employee per 4,000 square feet of warehouse / distribution center for the proposed Cobb West Park Development (1,188,400SF). The total number of expected employees was based on information provided by the developer.

12.3 DRI Employment and Salary Figures

The DRI is expected to employ approximately 297 workers in the following areas: management, laborers and material movers, truckers, and heavy machinery and vehicle operators. It is estimated that five percent of the total employees could provide management, twenty percent of the employees could be truckers, sixty percent of the employees could be hand movers, and fifteen percent could be heavy machinery and vehicle operators. **Table 10** displays the department positions, the numbers of employees in each occupation, the monthly employee and household salaries, and the respective affordable housing payments.

Using the departmental and occupational guidelines provided by the client, along with the U.S. Department of Labor's *May 2005 Metropolitan Area Occupational Employment and Wage Estimates Atlanta-Sandy Springs-Marietta, GA*, salaries were approximated for each occupation. The following occupational codes were used for the above jobs:

11-3071	Transportation, Storage and Distribution Managers	(Warehousing and Storage)
53-3032	Truck Drivers, Heavy and Tractor-Trailer	(General Freight Trucking)
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	(Warehousing and Storage)
53-7051	Industrial Truck and Tractor Operators	(Warehousing and Storage)

Household salary was calculated based on the computed workers per household ratio of 1.31 multiplied by the salary in each bracket. It is assumed then that each household has 1.31 workers who contribute to the monthly household salary. The affordable housing payment is calculated as 30% of the monthly household salary, as based on GRTA's *Area of Influence (AOI) Guidebook for Non-Expedited Reviews*.

Table 10
Employment, Salary, and Affordable Housing Payment by Occupation

Departments	Occupation	Employees	Monthly Employee Salary	Monthly Household Salary	Affordable Housing Payment
Warehousing and Storage	Transportation, Storage and Distribution Managers	15	$5,863	$7,680	$2,304
General Freight Trucking	Truck Drivers, Heavy and Tractor-Trailer	59	$3,139	$4,112	$1,234
Warehousing and Storage	Laborers and Freight, Stock, and Material Movers, Hand	178	$2,115	$2,771	$831
Warehousing and Storage	Industrial Truck and Tractor Operators	45	$2,338	$3,063	$919
	Total Employees	**297**	-	-	-

Given the above calculated salaries, each household is eligible for a specific housing tier within the Area of Influence. **Table 11** below displays the number of households that fall into each tier based on the household salary. All employees of the proposed development are projected to afford a housing payment of $800 or more per month.

Table 11 Number of Households in the DRI by Range of Monthly Income	
Range of Monthly Income for Housing	**Number of Households**
$499 or less	0
$500 to $599	0
$600 to $699	0
$700 to $799	0
$800 to $899	178
$900 to $999	45
$1,000 to $1,249	59
$1,250 to $1,499	0
$1,500 to $1,999	0
$2,000 or more	15
Total	**297**

12.4 AOI Occupied Housing Figures

An analysis of existing occupied housing was conducted based on 2000 Census data for owner- and renter-occupied housing. A GIS analysis identified approximately 13,000 owner-occupied units and 8,000 renter-occupied units in the AOI. **Table 12** below displays the housing units in comparable price tiers as are shown in **Table 11**. Owner-occupied housing includes housing with and without a mortgage. Renter-occupied housing includes all rental units with the exception of those with no cash rent.

Table 12 Selected Monthly Costs for All Occupied Housing Units in the AOI			
Monthly Dollar Range	**Owner-Occupied Housing Units in the AOI**	**Renter-Occupied Housing Units in the AOI**	**Total Occupied Housing Units in the AOI**
$499 or less	3,704	2,269	5,973
$500 to $599	590	2,240	2,830
$600 to $699	752	2,019	2,771
$700 to $799	1,013	1,050	2,063
$800 to $899	1,180	131	1,311
$900 to $999	950	131	1,081
$1,000 to $1,249	2,160	108	2,268
$1,250 to $1,499	1,268	17	1,285
$1,500 to $1,999	930	29	959
$2,000 or more	574	27	601
Total	**13,121**	**8,021**	**21,142**

Using the households in the DRI per price tier information in **Table 11** and the renter / owner distribution of occupied housing in the AOI in **Table 12** above, a comparison was done to analyze the available housing by price range within the AOI against the number of households per price tier expected within the proposed DRI. This comparison is shown below in **Table 13**.

Table 13
Comparison of Workers' Monthly Household Incomes in the DRI and Monthly Costs of Housing Units in the AOI

Monthly Dollar Range	Total Occupied Housing Units in the AOI	Number of DRI Households with One or More Workers Working in the DRI	Difference in Number of Housing Units in AOI and Number of Households with Workers in DRI
$499 or less	5,973	0	5,973
$500 to $599	2,830	0	2,830
$600 to $699	2,771	0	2,771
$700 to $799	2,063	0	2,063
$800 to $899	1,311	178	1,133
$900 to $999	1,081	45	1,036
$1,000 to $1,249	2,268	59	2,209
$1,250 to $1,499	1,285	0	1,285
$1,500 to $1,999	959	0	959
$2,000 or more	601	15	586
Total	**21,142**	**297**	**20,845**

As can be seen from **Table 13**, adequate housing opportunities exist for all wage-earning levels in the DRI for both owner and renter properties. Additionally, because the salaries of the employees are concentrated at the upper limits of the price tiers, considerable extra housing is available in lower price tiers if a household desires to choose a more conservative price range. Given this information, over 25% of the employees of the DRI have an opportunity to reside within the Area of Influence.

13.0 ARC'S AIR QUALITY BENCHMARK

The development consists of 1,188,400 square feet of warehouse/distribution space. The project's land use is industrial. ARC has establish criteria that link reductions in vehicle miles traveled (VMT) to improvements in air quality. The ARC VMT credits do not contain few reductions for industrial land uses. The proposed development does not meet any of the ARC VMT credits. Public transportation does not currently serve the area.

The development will contain a network of sidewalks for pedestrians and bicyclist within the site. This development meets the ARC criteria (6 a) for a 2% reduction.

The proposed development meets the ARC criteria for a total 2% VMT reduction. These reductions are displayed below in **Table 14**.

Table 14
ARC VMT Reductions

Mixed-Use Project where Industrial is the dominant use	
Bike/ped networks providing connections to uses within the site	-2%
Total Reductions	**-2%**