Data Description

Population Analysis:

1. Residential Population:

   Data Source: 2010 census block data. The ID of the table is "P1" and the name of the table is "Total Population"

   Estimation Method: Estimation Formula is $Population_{new} = \frac{Population_{block_i} * Area_{within\ study\ area}}{Area_{block_i}}$

   Data Summary: The total population within the quarter mile buffer from the streetcar route is 6487.

2. Percentage of Home Owners:

   Data Source: 2010 census block data. ID of the table is "QT-H3" and the name of the table is "Household Population and Household Type by Tenure: 2010"

   Data Summary: There are a total of 3078 people living in the occupied housing unit. Only 711 are home owners and the rest 2367 are renters. Thus, up to 77% of the population within the study area rent the housing unit.

3. Average Household Median Income:

   Data Source: 2010 median household income is obtained from American Community Survey (ACS) 5-year estimate table. ID of the table is "S1903" and the name of the table is "household income in the past 12 months (in 2010 inflation-adjusted dollars)"

   Data Summary: There are a total of 3078 people living in the occupied housing unit. Only 711 are home owners and the rest 2367 are renters. Thus, up to 77% of the population within the study area rent the housing unit.

4. GSU Student Population by Dorms:

   Data Source: GSU dorm website: http://myhousing.gsu.edu/

   Data Summary: There are five GSU residential properties in the study area. The total number of dorm bed is 4010. Given the assumption that all the dorm beds are occupied, we estimated that student population within the study area in 2014 is 4010.

5. Age Groups by Census:

   Data Source: 2010 census tract level population age information is obtained from U.S. Census Bureau. ID of the table is "QTP1" and the name of the table is "Age Groups and Sex: 2010"

   Estimation Method: Estimation Formula is $New\ Population_{age_i} = \frac{Population_{age_i} * Area_{within\ study\ area}}{Total\ Area_{census\ tract_i}}$. The final age group population data are rescaled to match the block level population data.

   Data Summary: a majority of the population fall within the age groups of 15 to 19 and 20 to 24. The proportion of middle age population, however, is quite small. This may attribute to the fact that Georgia State University occupies a large portion of the study area.

Land Use/ Development Analysis:

1. Land-use Type:

Data Source: 2010 Fulton Parcel data

Estimation Method: We aggregated parcel area by land use type to obtain the final results. For condos (with land use code "106" and "110"), we used the following formula to estimate the area, as there are duplicated records for each unit of the condo that falls on one land parcel.

$$Parcel\ Area_{add_j} = \frac{\sum_{add_i}^{N} Parcel\ Area_{add_{j_i}}}{N}$$

Where,

$Parcel\ Area_{add_j}$, is the parcel area for address j;

$Parcel\ Area_{add_{j_i}}$, is the parcel area for the i[th] unit at address j;

N, is the total number of units at address j.

Data Summary: The distribution of various land use type is summarized in the following table:

Land Use Type	Land Use Code	Acres	Percentage	Vacant Acres	Vacant Percentage
Residential	"100" – "166"	23.6	5.5%	5.1	22%
Commercial	"200" – "399"	221.0	51.5%	14.8	7%
Industrial	"400" – "499"	2.4	0.6%	0.1	6%
Institutional/Exempt	"600" – "699"	165.7	38.6%	29.0	18%
Utility	"700" – "799"	6.7	1.6%	1.7	25%
Other	"800" – "999"	10.2	2.4%	0.3	3%
Total		429.6	100.0%	51.1	12%

2. Land Use/Development Intensity:

Data Source: Floor Area Ratio (FAR) data is obtained from 2013 Tax Assessor Data and Fulton Parcel Data

Estimation Method: Some FAR values (especially for condos) from the original file are extremely high (ranging from 113 to 98889) and are considered as unreasonable. Thus, those records are eliminated from the final analysis. It has to be noticed that the FAR is calculated using the following formula:

$$FAR = \frac{Taxable\ Floor\ Area}{Parcel\ Area}$$

Therefore, the FAR or development intensity is underestimated in some part of the study area, especially the southern part, as most of the properties are not taxable in that area.

Data Summary: The highest FAR in the study area is 83.56 in the parcel where the Peachtree Tower is located.

Residential Development:

1. Single Family Homes:

   Data Source: 2013 Tax Assessor Data and Fulton Parcel Data
   Estimation Method: The land use code "101" (residential 1 family) and "107" (Single Family Residential Townhomes) are considered as land for single family homes. We also calibrated the data with the latest Google street view images.
   Data Summary: There is a total of 69 units on land with code "101" and 38 units on land with code "107". Therefore, the total number of single family homes is 107. All of the single family housing locates west of the I-75.

2. Apartment / Condo:

   Data Source: 2013 Tax Assessor Data and Fulton Parcel Data
   Estimation Method: The following land use codes such as "106", "110", "2A1", "2B1", "2B2", "2C1", and "2D1" are considered as apartment or condos. The number of living units are aggregated from the "liv_unit" field in Fulton parcel data. It has to be noticed that the number of living unit in the Fulton parcel data for address "171 Auburn Avenue" are all zeros. This may not be correct, as there are property for condos for sale and for rent for this property on Trulia and Zillow. Thus, the numbers are recoded into one. Additionally, based on the Google street view images, the some properties,
   Data Summary: There is a total of 69 units on land with code "101" and 38 units on land with code "107". Therefore, the total number of single family homes is 107. All of the single family housing locates west of the I-75.

3. Residential Value:

   Data Source: 2013 Tax Assessor Data and Fulton Parcel Data
   Estimation Method: The "Total Appraise" property value is used to present the residential property values.

4. Residential Vacancy Rate:

   Data Source: 2010 Census block level of household data
   Estimation Method: The vacancy rate is estimated using the following formula:

$$Vacancy\ Rate_i = \frac{Occupied\ Housing\ Unit_i}{Total\ Housing\ Unit_i}$$

   Where, *i* is the index for census blocks.
   Data Summary: The total number of occupied housing unit is 2172 and the total number of housing unit within the study area is 3069. Thus, the vacancy rate for the housing units is approximately 29%.

5. Number of Dorm Beds:

   Data Source: GSU dorm website: http://myhousing.gsu.edu/
   Data Summary: There are five GSU residential properties in the study area. The total number of dorm bed is 4010. Given the assumption that all the dorm beds are occupied, we estimated that student population within the study area in 2014 is 4010.

Retail Development:

1. Retail Employment:

Data Source: 2010 Reference USA Data

Data Summary: There is a total of 680 retail trades establishments within the study area. The retail trades are further classified into eight sub categories and the count of firms for each category are tabulated in the following table. The result shows that the most prevailing type of retail establishment in the study area is "eating and drinking places" occupies up to 35.1% of the entire retail trade firms and the "miscellaneous retail" is the second most popular.

SIC	Description	Count	Percentage
5200	Building Material, Hardware, Garden Supply, and Mobile Home Dealers	30	4.4%
5300	General Merchandise Stores	17	2.5%
5400	Food Stores	53	7.8%
5500	Automotive Dealers and Gasoline Service Stations	19	2.8%
5600	Apparel and Accessory Stores	84	12.4%
5700	Home Furniture, Furnishings, and Equipment Stores	64	9.4%
5800	Eating and Drinking Places	239	35.1%
5900	Miscellaneous Retail	174	25.6%
Total		680	100.0%

There are 5,621 retail associated employment in the study area. Fandangles Restaurant located at 165 Courtland St. NE. with 400 employment is the largest among all the retail trades.

2. Retail Square Footage:

Data Source: 2010 Reference USA Data and 2013 Fulton Tax Assessor and Parcel Joined Dataset.

Estimation Method: Parcels with land use code from "321" to "348" in the parcel data is considered as retail property in this study. The assessor square footage ("assessorSq") is used to estimate the final total retail square footage. The data source for the visualized square footage on the website is 2010 Reference USA. This dataset provide a square footage range for each establishment.

Data Summary: The result indicates that there is a total of 11,311,434 square footage of retail establishment in the study area.

3. Retail Sales:

Data Source: 2010 Reference USA Data

Data Summary: The total sales revenue is 661.772 million US Dollar, as shown in the following table. Among all types of retail trades, the automotive dealers and Gasoline Service Stations have the highest sales revenue per firm, which is 10.31 million per firm. The average sales per retail firm is approximately 0.97 million.

SIC	Description	Count	Sales	Sales per Firm
5200	Building Material, Hardware, Garden Supply, and Mobile Home Dealers	30	28	0.93
5300	General Merchandise Stores	17	25.35	1.49
5400	Food Stores	53	27.184	0.51

5500	Automotive Dealers and Gasoline Service Stations	19	195.979	10.31
5600	Apparel and Accessory Stores	84	48.248	0.57
5700	Home Furniture, Furnishings, and Equipment Stores	64	80.089	1.25
5800	Eating and Drinking Places	239	150.288	0.63
5900	Miscellaneous Retail	174	106.634	0.61
Total		680	661.772	0.97

4. Retail Tax Receipt: (No Spatial Data is Available)

Data Source: City of Atlanta 2013

Estimation Method: City of Atlanta classified business license into 8 categories based on the SIC code. The SIC for retail sale is included in license class 3. However, some other SIC codes are also included into this class (see http://www.atlantaga.gov/index.aspx?page=1000 for more detailed classification method). We only obtained 2013 gross receipt value at the license class level. Therefore, the final result is inflated.

Data Summary: The total of gross receipt is $984,703,074.53 for license class 3.

Office Development Analysis:

1. Total Number/Type of Establishments: (No Spatial Data is Available)

   Data Source: Costar 2014
   Data Summary: There are a total of 144 Offices within the study area, located primarily on the west side of the I-75. Only 15 of them located at the east side of I-75.

2. Total Office Square Footage: (Added Layer 27)

   Data Source: Costar 2014
   Estimation Method: The square footage for each space type is estimated by summing all the corresponding value from each office property. However, this value can be significantly underestimated, as the Costar office data has 100 (out of 144) missing values in the square footage related fields.
   Data Summary: The total Available Space is 3,521,006 Square Footage, the total relent space is 3,329,740 square footage, the total sublet space is 191,266 square footage, the total vacant available relent space is 2669420 square footage, the total vacant available sublet space is 39332 square footage, and the total vacant available space is 2708752 square footage.

3. Quality of Office Space Available: (Added Layer 28)

   Data Source: Costar 2014
   Estimation Method: The "star rating" field is used to evaluate the quality of office spaces within the study area.
   Data Summary: A majority (54.9%) of the office has the rate of 2-star. There are also a few (28.4%) 3-star offices and (13.2%) 4-star offices. There are only four 1-star offices and one 5-star office within the study area. It has to be noticed that all the offices that are east to the I-75 have star ratings lower or equal to 3-star.

Hospitality Development:

1. Hotel Employment:

   Data Source: 2010 Reference USA Data
   Estimation Method: Based on 2010 Reference USA, there are 23 hotel related firms within the study area. However, 4 of them turn out to be hotel management companies or consulting company. Thus, by excluding the management companies, there is a total of 19 hotels within the study area.
   Data Summary: There are a total of 4353 employment from the 19 hotels. The largest is the Omni-CNN Center Hotel with 1200 employees, located at 100 CNN Ctr.

2. Hotel Rooms:

   Data Source: Website of all the associated hotels.
   Data Summary: The total number of hotel rooms in the study area is 7,035. This number can be a little underestimated, as it is unclear how many rooms there are in the "Hillard Street Motel", which is the only hotel that locates east to the I-75.

3. Hotel Square Footage:

   Data Source: 2010 Reference USA Data and 2013 Fulton Tax Assessor and Parcel Joined Dataset.
   Estimation Method: The hotel establishment point data and tax assessor data are overlayed to estimate the total square footage of hotels. The result indicates that although some parcel has land use code associated with hotel/motel uses, there are no actual hotel/motel establishments on it. Thus, these lands are excluded for further analysis. The total square footage is estimated by adding the rest assessor square footage.
   Data Summary: The total Assessor Square Footage for the rest of the land is 5,148,345.

4. Hotel Sales:

   Data Source: 2010 Reference USA Data
   Data Summary: The total hotel sales is $410,951,000.

5. Attractions:

   Data Source: Atlanta Streetcar Official Website.
   Data Summary: There are 6 attractions located within our study area.

Traffic Analysis:

1. Vehicle Ownership (Added layer 29)

Data Source: Census Bureau 2012 5-year estimate ACS data. The ID of the table is DP04 and the name of the table is household characteristics.

Estimation Method: Estimation Formula is $ehicle_{new} = \frac{Vehicle_{tract_i} * Area_{within\ study\ area}}{Area_{tract_i}}$. The visualized data is the estimated number of available vehicle per occupied household.

Data Summary: The total number of available vehicle is approximately 2193. The household vehicle occupancy ranges from 0.84 to 1.28 at the census tract level. The average household vehicle occupancy rate is 1.01.

Transportation Network Analysis:

2. Number of Accessible Bike Lanes/Routes:

Data Source: Cycle Atlanta (Phase I) provided by CAP

Data Summary: There are four existing bike lanes in within the study area and they located at Jackson Street, Edgewood Avenue, and Marietta Street. The total length of the existing bike lanes is 0.98 mile. There are seven founded bike land projects within the study area. Some of them located along the streetcar line. The total length of the funded bike lanes is 3.47 mile. Additionally, there are 26 places of bike lanes that are planned according to the plan developed by Alta. The total length of planned bike lanes is 4.29 mile.