Alpharetta
GEORGIA • USA

RESOLUTION NO. 1782

A RESOLUTION OF THE CITY COUNCIL OF ALPHARETTA, GEORGIA FOR THE TRANSMITTAL OF A DRAFT CAPITAL IMPROVEMENTS ELEMENT AMENDMENT AND A DRAFT CAPITAL IMPROVEMENTS ELEMENT 2015 ANNUAL UPDATE REPORT TO THE ATLANTA REGIONAL COMMISSION

WHEREAS, the City of Alpharetta has prepared a draft Capital Improvements Element, amending its current Capital Improvements Element, which will be incorporated into and update the Alpharetta Comprehensive Plan; and

WHEREAS, the City of Alpharetta has prepared a draft 2015 Capital Improvements Element 2015 Annual Update report; and

WHEREAS, the draft Capital Improvements Element amendment, which includes the draft 2015 Annual Update report, were prepared in accordance with the "Development Impact Fee Compliance Requirements" and the "Minimum Standards and Procedures for Local Comprehensive Planning" adopted by the Board of Community Affairs pursuant to the Georgia Planning Act of 1989; and,

WHEREAS, a duly advertised Public Hearing was held on May 18, 2015, at 7:30 p.m. in the Alpharetta City Hall Council Chambers in accordance with Section (10)(a)1 of Chapter 110-12-2-.04 of the Development Impact Fee Compliance Requirements;

BE IT THEREFORE RESOLVED, that the City Council of the City of Alpharetta does hereby submit the draft Capital Improvements Element amendment and the draft 2015 Annual Update report to the Atlanta Regional Commission for Regional and State review, as per the requirements of the Development Impact Fee Compliance Requirements.

SO RESOLVED this 18th day May, 2015.

CITY OF ALPHARETTA

By: _____
David C. Belle Isle, Mayor

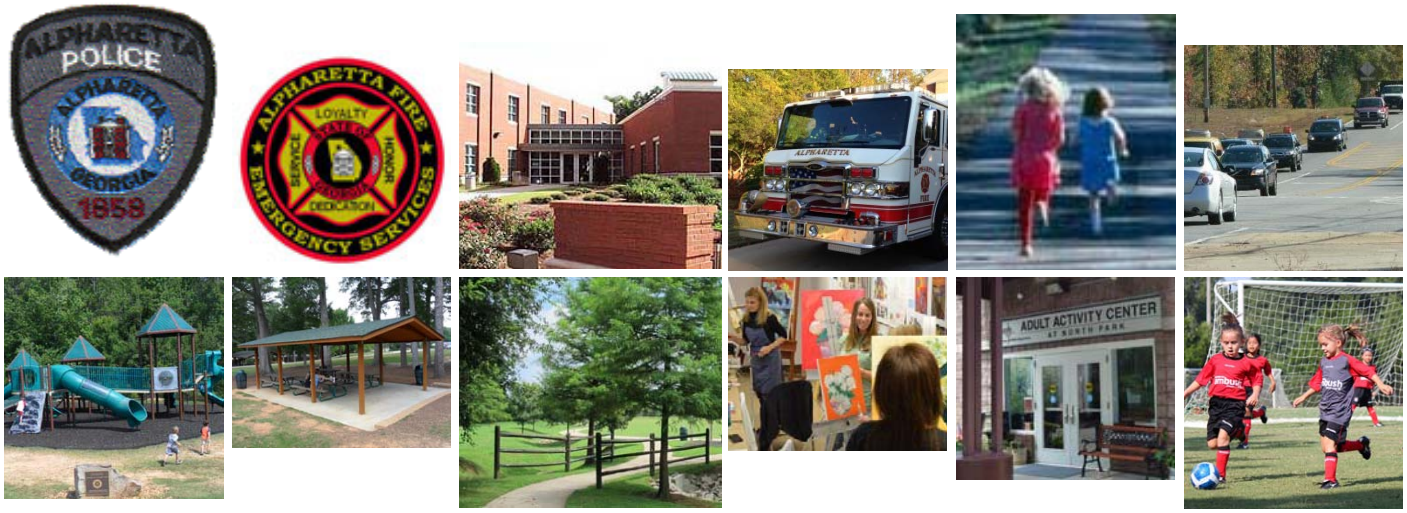
COUNCIL MEMBERS

Official Seal

City Clerk

Capital Improvements Element Amendment and 2015 Annual CIE Update Report

Alpharetta Impact Fee Program



City of Alpharetta, Georgia

Final Draft – April 27, 2015

ROSS+associates

urban planning & plan implementation

in association with

amec foster wheeler

NOTICE:

This report is a continuation, refinement and update of the existing Alpharetta impact fee program, created through the prior adoption and amendments of the City's Capital Improvements Element and the Alpharetta Impact Fee Ordinances. This report consolidates and amends the previous Capital Improvement Element currently in place.

As such, the 'base' year of this report has been updated to 2014, with updates to new growth demand, cost estimates, inflation factors, etc., as appropriate.

In Addition:

This report includes the City's required 2015 Annual CIE Update report, including the financial report for the last complete fiscal year and an updated listing of impact fee eligible projects, their status and costs, presented in the same format as all previously reports.

Table of Contents

Introduction

The purpose of a Capital Improvements Element (CIE) is to establish where and when certain new capital facilities will be provided within a jurisdiction and how they may be financed through an impact fee program. Alpharetta currently has an impact fee program in place, initially created in 1992, addressing capital improvements for public safety, recreation & parks, and roads. This Capital Improvements Element is an amendment and update to previously adopted CIEs.

As required by the Development Impact Fee Act, and defined by the Department of Community Affairs in its *Development Impact Fee Compliance Requirements*, the CIE must include the following for each capital facility category for which an impact fee will be charged:

- a **projection of needs** for the twenty-year planning period—2014 to 2035;
- the designation of **service areas**—the geographic area in which a defined set of public facilities provide service to development within the area;
- the designation of **levels of service** (LOS)—the service level that is being and will be provided;
- a **schedule of improvements** listing impact fee related projects and costs for the twenty-year planning period;
- a description of **funding sources** for the twenty-year planning period.

Additionally, in accordance with the state act and DCA's *Development Impact Fee Compliance Requirements,* a policy statement regarding potential impact fees exemptions is included in this CIE if the City wishes to adopt or apply such exemptions in the future.

Impact Fees Authorized

Impact fees are authorized in Georgia under Code Section 37-71, the *Georgia Development Impact Fee Act* (DIFA), and are administered by the Georgia Department of Community Affairs under Chapter 110-12-2, *Development Impact Fee Compliance Requirements*. Under DIFA, the City can collect money from new development based on that development's proportionate share—the 'fair share'—of the cost to provide the facilities needed specifically to serve new development. This includes the categories of public safety and parks. Revenue for such facilities can be produced from new development in two ways: through future taxes paid by the homes and businesses that growth creates, and through an impact fee assessed as new development occurs.

Categories for Assessment of Impact Fees

To assist in paying for the high costs of expanding public facilities and services to meet the needs of projected growth and to ensure that new development pays a reasonable share of the costs of public facilities, Alpharetta is updating its impact fees for public safety facilities (police & fire protection, the detention center and emergency communications), recreation & parks, and roads. The chapters in this Capital Improvements Element provide population and employment forecasts and detailed information regarding the inventory of current facilities, the level of service, and detailed calculations of the impact cost for the specific public facilities.

The following table shows the facility categories that are eligible for impact fee funding under Georgia law and that are considered in this report. The service area for each public facility category—that is, the geographical area served by the facility category—is also given, along with the standard adopted as the level of service to be delivered for each facility category.

Overview of Impact Fee Program Facilities

	Public Safety			Recreation & Parks		Roads
	Police and Fire Protection	**Detention Center**	**E-911 Center**	**Parks Projects**	**Walkway System**	**Road Projects**
Eligible Facilities	Administrative and operations space, heavy vehicles	Facility space	Facility space and communications equipment	Park acres and recreation facilities (ballfields, etc.), off-street trails and greenways	On-street walking and jogging sidewalks and paths	Road improvements providing increased traffic capacity
Service Area	Citywide	Citywide	Citywide	Citywide	Citywide	Citywide
Level of Service Standard based on:	Square footage and number of heavy vehicles, per day/night population	Square footage of facility per day/night population	Square footage of facility per day/night population	Number of acres and recreation components per dwelling unit	Length of walkways per day/night population	Average LOS "D" for citywide road network
Historic Funding Source(s)	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund

Terms used in the **Overview Table**:

Eligible Facilities under the State Act are limited to capital items having a life expectancy of at least ten years, such as land, buildings and certain vehicles. Impact fees cannot be used for the maintenance, supplies, personnel salaries, or other operational costs, or for short-term capital items such as computers, furniture or most automobiles. None of these costs are included in the impact fee system.

Service Areas are the geographic areas that the facilities serve, and the areas within which the impact fee can be collected. Monies collected in a service area for a particular category may only be spent for that purpose, and only for projects that serve that service area.

Level of Service Standards are critical to determining new development's fair share of the costs. The same standards must be applied to existing development as well as new to assure that each is paying only for the facilities that serve it. New development cannot be required to pay for facilities at a higher standard than that available to existing residents and businesses, nor to subsidize existing facility deficiencies.

Funding Sources include both impact fee collections and General Fund tax collections. Impact fees will be used to fund all or a portion of eligible impact fee costs. Tax collections include the City's normal annual property tax levy and any special levies for debt instruments (such as bonds) that are intended to provide funding for impact fee projects in whole or in part.

Editorial Conventions

This report observes the following conventions:

The capitalized word 'City' applies to the government of Alpharetta, the City Council or any of its departments or officials, as appropriate to the context. An example is "the City has adopted an impact fee ordinance".

The lower case word 'city' refers to the geographical area of Alpharetta, as in "the population of the city has grown".

The same conventions are applied to the words 'County' and 'county', 'State' and 'state'.

Single quote marks (' and ') are used to highlight a word or phrase that has a particular meaning or refers to a heading in a table.

Double quote marks (" and ") are used to set off a word or phrase that is a direct quote taken from another source, such as a passage or requirement copied directly from a law or report.

Numbers shown on tables are often rounded from the actual calculation of the figures for clarity, but the actual calculated number of decimal points is retained within the table for accuracy and further calculations.

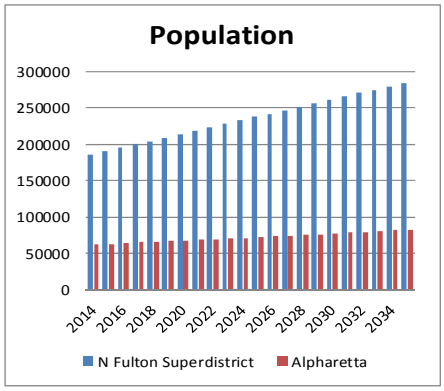
Forecasts

In order to accurately calculate the demand for future services in Alpharetta, new growth and development must be quantified in future projections. These projections include forecasts for population, households, housing units, and employment to the year 2035. These projections provide the base-line conditions from which the current or future Level of Service calculations are produced. Also, projections are combined to produce what is known as 'day/night population.' This is a method that combines resident population and employees in a service area to produce an accurate picture of the total number of persons that rely on certain 24-hour services, such as fire protection. The projections used for each public facility category are specified in each public facility chapter.

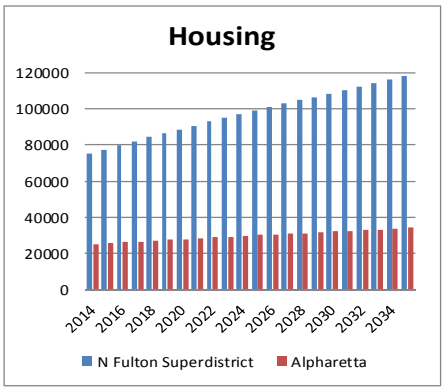
This Chapter presents a summary of the forecasts that have been identified as the most appropriate for Alpharetta, based on a wide-ranging analysis of alternate approaches that were considered for their reasonableness and correlation to the City's growth policies contained in its 2030 Comprehensive Plan, adopted in 2011.

Regional Setting

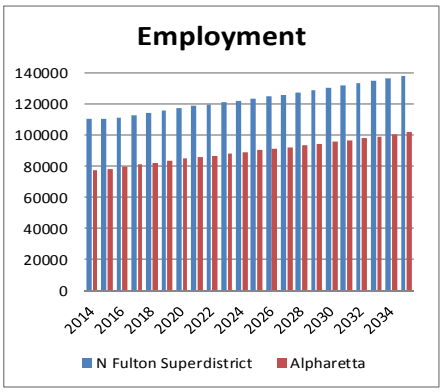
Continuing past trends, Alpharetta is expected to continue to grow with regard to population, housing and jobs. Other cities in the N Fulton Superdistrict—Milton and John's Creek—are expected to grow collectively at a faster pace than Alpharetta (increasing from 67% to 71% of total area population and housing in the N Fulton area between 2014 and 2035). Still, over the coming twenty years, the city is expected to add 34% more housing units and to continue to dominate job growth in the area, adding 31% new jobs by 2035 and increasing its share of all jobs in the area from 70% to 74%.



	N Fulton Superdistrict	Alpharetta
2014	190,025	63,320
2035	270,032	79,307
Increase	42%	25%



	N Fulton Superdistrict	Alpharetta
2014	75,027	25,455
2035	117,860	34,228
Increase	57%	34%



	N Fulton Superdistrict	Alpharetta
2014	110,241	77,418
2035	137,445	101,492
Increase	25%	31%

ARC's N Fulton Superdistrict includes Alpharetta along with Milton and John's Creek. Superdistrict projections interpolated by ROSS+associates.

Population and Housing Unit Forecasts

Table 1 presents the forecasts for population for each year from 2014 to 2035 and provides the forecasts for households and housing units over the same period. The figures shown are, in essence, mid-year estimates reflecting Census Bureau practice. In other words, the increase in population between 2014 and 2035 would actually be from July 1, 2014 to June 30, 2035.

The population forecasts represent a refinement to the forecasts contained in the City's Comprehensive Plan, modified to reflect annual population figures reported by the Census Bureau through 2012. The number of households is calculated based on average household sizes in the city relative to countywide figures prepared by Woods & Poole Economists, Inc., and divided into the population forecasts for the city. Since households are synonymous with 'occupied housing units', the total number of housing units is calculated by applying an occupancy rate to account for vacant units.

Table 1: Population, Housing and Employment Forecasts

	Alpharetta Population	Households	Housing Units	Jobs
2014	62,874	24,032	25,455	77,418
2015	63,320	24,351	25,792	78,469
2016	64,164	24,803	26,271	79,751
2017	65,020	25,239	26,733	81,019
2018	65,886	25,660	27,179	82,260
2019	66,765	26,072	27,615	83,486
2020	67,655	26,482	28,050	84,709
2021	68,557	26,890	28,482	85,798
2022	69,470	27,284	28,899	86,863
2023	70,396	27,670	29,308	87,914
2024	71,335	28,053	29,714	88,961
2025	72,286	28,434	30,117	90,004
2026	73,249	28,814	30,520	91,131
2027	74,226	29,196	30,924	92,261
2028	75,215	29,577	31,328	93,390
2029	76,218	29,961	31,735	94,524
2030	77,234	30,344	32,140	95,656
2031	78,263	30,730	32,549	96,809
2032	79,307	31,120	32,962	97,969
2033	80,364	31,513	33,378	99,135
2034	81,435	31,912	33,801	100,310
2035	82,520	32,315	34,228	101,492

Source: ROSS+associates.
Population - Memo and Analysis of May 9, 2014. Households, Housing Units and Employment - Memo and Analysis of June 12, 2014.

Employment Forecasts

Table 1 also shows the forecasts for employment growth in Alpharetta, from 2014 to 2035. The employment figures for Alpharetta reflect an average of two approaches:

One, a 'percentage share' approach in which the city's number of employees is based on a constant share of all employment in the immediate area (which includes Milton and John's Creek), that in 2010 were 2/3 of all jobs in the area.

The other approach assumes a correlation between employment and the number of households in the city. Although in 2010, 85% of all people working in Alpharetta commuted in from outside the city, the 'internal' ratio can be a valuable guideline in making estimates (in this case on the high side).

This 'averaged' forecast between the 'low' of the percentage share approach and the 'high' of the employment-to-households ratio method maintains the expectation that Alpharetta will continue to be the major center of employment among the three cities in the immediate North Fulton area into the future.

Service Area Projections

In Table 2 the service area forecasts are presented for a single citywide service area measured in two ways: citywide housing units (which quantifies service demands for public parks), and citywide day/night population (for walkway projects and Public Safety services, such as Police and Fire).

The day/night population calculation is a combination of the population projections and future employment information. The use of day/night population in impact cost and impact fee calculations is based upon the clear rational nexus between persons and services demanded.

Table 2: Service Area Forecasts

Year	Housing Units (Recreation & Parks)	Day/Night Population (Public Safety)
2014	25,455	140,292
2015	25,792	141,789
2016	26,271	143,915
2017	26,733	146,039
2018	27,179	148,146
2019	27,615	150,251
2020	28,050	152,364
2021	28,482	154,355
2022	28,899	156,333
2023	29,308	158,310
2024	29,714	160,296
2025	30,117	162,290
2026	30,520	164,380
2027	30,924	166,487
2028	31,328	168,605
2029	31,735	170,742
2030	32,140	172,890
2031	32,549	175,072
2032	32,962	177,276
2033	33,378	179,499
2034	33,801	181,745
2035	34,228	184,012
Increase:	**8,773**	**43,720**

The day/night population is used to determine Level of Service standards for facilities that serve both the resident population and business employment. The fire department, for instance, protects one's house from fire whether or not they are at home, and protects stores and offices whether or not they are open for business. Thus, this 'day/night' population is a measure of the total services demanded of a 24-hour service provider facility and a fair way to allocate the costs of such a facility among all of the beneficiaries.

Police and Fire Protection

Introduction

The Alpharetta Public Safety Department is a modern and proactive law, fire and medical protection agency, combining police, fire, and E–911 services in a consolidated command and administrative structure. This Chapter addresses the fire and police services provided by the department.

Service Area

The city is considered a single service area for the provision of primary fire protection and law enforcement services because all residents and employees in the city have equal access to the benefits of the services provided.

Level of Service

The Level of Service (LOS) calculations are based on current inventories serving the residents and businesses located in the city today.

Fire Services

Fire protection is provided by the City through its Fire and Emergency Services Department. The capital value of fire protection is based upon fire stations, administrative office space, and fire apparatus (vehicles).

Table 3: Inventory of Fire Protection Facilities

Description	Existing Square Feet	Existing Vehicles
Fire Stations		
Fire Marshal's Office	1,472	
Fire Station 1	10,640	
Fire Station 2	7,830	
Fire Station 3	9,600	
Fire Station 4	9,600	
Fire Station 5	6,566	
Fire Station 6	6,566	
Total Square Feet	**52,274**	
*Heavy Vehicles**		
Fire Engines		8
Ladder Trucks		2
Air/Light Truck		1
HazMat Trailer		1
Total Heavy Vehicles		**12**

* Vehicles having a service life of 10 years or more.

Emergency medical services are administered by the Fire and Emergency Services Department, but are provided under contract to a private vendor. While the private vendor provides and maintains ambulances, EMS equipment and staffing, the Department provides space to house the EMS vehicles in its fire stations.

Currently, fire protection is provided by facilities with a combined square footage of 52,274, including 6 fire stations and utilizing a total of 12 heavy vehicles (that is, vehicles having a service life of 10 years or more). Table 3 presents the current inventory of Fire Department facilities and vehicles.

The Fire Department has determined that its current number and distribution of fire stations are positioned to provide full coverage throughout the city while maintaining full compliance with ISO rating criteria. In addi-

tion, the number of heavy vehicles will fully meet the needs of future growth and development, although vehicle replacement will be necessary as the various vehicles age. Since the capacity provided by the existing inventory of fire stations and the number of vehicles does not need to be expanded to serve future growth in the city, none are proposed as part of the impact fee program. An increase in administrative space is needed, however; this expansion is included as part of the Public Safety Headquarters, discussed under the Police Services sections below.

Police Services

The Alpharetta Police Department provides primary law enforcement throughout the city. Through a variety of active law enforcement, community outreach and educational programs, the Police Department serves all of the population and employees within the city.

Table 4: Inventory of Police Facilities

Description	Existing Square Feet	Existing Vehicles
Facility Space		
Headquarters	19,827	
Evidence and Property Storage	7,164	
Logistics	240	
Total Square Feet	**27,231**	
*Heavy Vehicles**		
SWAT Truck		1
Mobile Command Center		1
Total Heavy Vehicles		**2**

* Vehicles having a service life of 10 years or more.

The level of service for Police Department services in Alpharetta is measured in terms of the number of heavy vehicles (i.e. SWAT vehicle, Mobile Command Center), and the number of square feet of occupied facility space, per day/night population in the service area. Table 4 presents a current inventory of facility space and heavy vehicles. Day/night population is used as a measure in that Police Department is a set of law enforcement services provided to both residences and businesses in the service area.

Table 5 presents the calculation of the current level of service for police services, based on the inventory above.

Table 5: Current Level of Service Calculation

Facility	Service Population	Level of Service
Existing Square Feet	**2014 Day/Night Population**	**Square Feet per Day/Night Population**
27,231	140,292	0.1941

Existing Heavy Vehicles	2014 Day/Night Population	Heavy Vehicles per Day/Night Population
2	140,292	0.000014

Forecasts for Service Area

Future Demand

For the purposes of impact fee calculations the City has determined that a level of service, based on the current LOS, would be appropriate to serve the future service area population.

Table 6: Future Demand Calculation

Level of Service	Future Population	New Growth Demand

Square Feet per Day/Night Population	Day/Night Population Increase (2014-35)	Net New Square Feet Demanded
0.1941	43,720	8,486

Heavy Vehicles per Day/Night Population	Day/Night Population Increase (2014-35)	Net New Heavy Vehicles Demanded*
0.000014	43,720	0.623

* 1 heavy vehicle will have to be added to the inventory, 62.3% of which is eligible for impact fee funding.

In Table 6, the facility space and heavy vehicle LOS standards from Table 5 are next multiplied by the forecasted citywide day/night population increase to produce the expected demand that future growth and development will place on the city.

Table 7: Future System Improvement Costs

		Buildings		Major Vehicles	
Year	Facility	Square Feet	2014 Cost*	Number	2014 Cost**
2014		-	$ -	-	$ -
2015		-	-	-	-
2016	HQ Phase 1	1,300	$ 298,719	-	-
2017	HQ Phase 2	7,186	$ 1,651,226	-	-
2018		-	-	-	-
2028		-	-	-	-
2029		-	-	1	$ 250,000
2030		-	-	-	-
		8,486	$ 1,949,944	1	$ 250,000

* Construction cost for the Headquarters building is estimated at $230 per square foot for construction, including design and related outdoor parking expansion cost.

** Vehicle cost is based on average replacement cost of current vehicles.

Table 7 provides current cost estimates (in 2014 dollars) of new system improvements that are proposed to address future needs. All of the floor area that is justified to meet future growth needs is devoted to the expansion of the Public Safety Headquarters. 'Phase 1' of the project is essentially expansion of the parking area to serve the new building, while 'Phase 2' begins construction of the building expansion itself.

The estimated improvement costs (in 2014 dollars) are based on the following:

- For new facility space: Prevailing construction costs averaging $230 per square foot are used. This includes both the headquarters building expansion, the expansion of the related parking facility, and design services. Furniture is not included.
- For major vehicles, the cost is based on the average prevailing cost for the existing heavy vehicles on hand, outfitted meeting Alpharetta specifications.

Note that, if the headquarters expansion exceeds the 8,486 square feet that are impact fee eligible, the additional floor area will require funding from another source.

Future Costs

The future facility floor area and the number of heavy vehicles needed to meet the demand created by new growth and development in the future are transferred from Table 7 to Table 8, including the years in which the various improvements are anticipated to be needed.

The LOS demand for the future heavy vehicle calls for only a portion of a vehicle. Because only 'whole' vehicles can be purchased, one new vehicle is proposed to be purchased but only a portion would be impact fee-eligible and subject to impact fee collections from new growth. Thus, while 1 major vehicle has to be acquired, only 0.623 of the vehicle is required to address the needs of future growth and development; thus it is only 62.3% impact fee eligible. The vehicle will, however, provide service to growth beyond 2035, and can be funded through a future extension of the City's impact fee program at that time.

The total cost figures are then aggregated to produce the 'total impact fee eligible' dollars on the table, based on the percentage that each improvement is impact fee eligible. These impact fee eligible costs, which are shown in current (2014) dollars, are then converted to their Net Present Values based on the year in which they are scheduled.

Table 8: Project Costs to Meet Future Demand

Year	Costs in 2014 Dollars					Net Present Value*
	Building Costs	% Impact Fee Eligible	Major Vehicle Cost	% Impact Fee Eligible	Total Impact Fee Eligible	
2014	$ -		$ -		$ -	$ -
2015	-		-		$ -	-
2016	$ 298,718.81	100.0%	-		$ 298,718.81	308,154.55
2017	$ 1,651,225.65	100.0%	-		$ 1,651,225.65	1,730,077.12
2018	-		-		$ -	-
2028	-		-		$ -	-
2029	-		$ 250,000.00	62.3%	$ 155,819.50	182,866.43
2030	-		-		$ -	-
	$ 1,949,944		**$ 250,000**		**$ 2,105,764**	**$ 2,221,098**

* Net Present Value = 2014 cost estimate for buildings inflated to target year using the ENR Building Cost Index (BCI), and the Consumer Price Index (CPI) for vehicles, all reduced to 2014 NPV using the Discount Rate.

The Net Present Value of the cost estimates for new building construction are calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2014 dollars using the Net discount Rate. For non-construction improvements (the heavy vehicle) the currently estimated costs are inflated to its target year using the 10-year average CPI and then reduced using the Net Discount Rate to produce the Net Present Value.

Police Detention Center

Introduction

The Police Detention Center is owned and maintained by the City of Alpharetta but is staffed and operated by Fulton County. The facility has a total of 75 beds, 12 of which are allocated to the City. Impact fee calculations for the Police Detention Center will be based on a citywide service area.

Service Area

The entire city is considered a single service area for the provision of the law enforcement activities, including those provided by the Police Detention Center (to the extent that it exclusively serves the city), because all residents and employees in the city have equal access to the benefits of the program.

Level of Service

The current level of service is determined by an inventory of the square footage allocated to Alpharetta under their agreement with Fulton County. Statistics are shown in Table 9.

Table 9: Police Detention Center Facility Space

Facility	Square Feet
Police Detention Center Total	17,721
Percent of beds allocated to Alpharetta	*16%*
Alpharetta floor area	2,835

The level of service for Police Detention Center services in Alpharetta is measured in terms of square footage per day/night population in the citywide service area. Day/night population is used as a measure in that the Police Detention Center provides law enforcement services to both residences and businesses throughout the service area on a 24-hour basis.

Table 10: Current Level of Service Calculation

Facility	Service Population	Level of Service
Allocated Square Feet	**2014 Day/Night Population**	**Square Feet per Day/Night Population**
2,835	140,292	0.0202

The current level of service (LOS) is shown in Table 10. It is calculated by dividing the square feet of floor area available to Alpharetta by the citywide day/night population, which produces a LOS in terms of square feet per person.

Forecasts for Service Area

Table 11: Future Demand Calculation

Level of Service	Future Population	New Growth Demand
Square Feet per Day/Night Population	**Day/Night Population Increase (2014-35)**	**Net New Square Feet Demanded**
0.0202	43,720	884

Future Demand

The City has adopted a LOS based on the current level of service. In Table 11 the adopted level of service, based on the current LOS calculated above, is applied to future growth.

To calculate future demand, the additional number of day/night population to the year 2035 is multiplied by the adopted level of service to produce the future new growth demand figure.

A future project is contemplated to meet this future demand, shown on Table 12. This project could be reconfigured; 884 square feet are ultimately impact fee eligible.

Table 12: Future Police Detention Center Projects

Year	Day/Night Population Increase	Square Feet Demanded (annual)	Running Total: Square Feet Needed	Project	Square Footage
2014	0	0	0		
2015	1,497	30	30		
2016	2,126	43	73		
2017	2,123	43	116		
2018	2,108	43	159		
2019	2,104	43	201		
2020	2,113	43	244		
2021	1,991	40	284		
2022	1,979	40	324		
2023	1,977	40	364		
2024	1,985	40	404		
2025	1,994	40	445		
2026	2,091	42	487		
2027	2,106	43	529		
2028	2,118	43	572		
2029	2,137	43	615		
2030	2,148	43	659	Detention Center Expansion	884
2031	2,183	44	703		
2032	2,203	45	747		
2033	2,223	45	792		
2034	2,246	45	838		
2035	2,268	46	884		
	43,720	**884**			**884**

Future Costs

The future facility floor area needed to meet the demand created by new growth and development in the future is transferred from Table 12 to Table 13, including the year in which the expansion is anticipated to be needed.

Estimated improvement costs (in 2014 dollars) for new facility is based on prevailing construction costs averaging $240 per square foot.

Table 13: Project Costs to Meet Future Demand

Year	Facilities (Sq Feet)	Total Cost in 2014 Dollars	Impact Fee Eligible	Impact Fee Cost (2014)	Net Present Value
2014	-	$ -		$ -	$ -
2015	-	$ -		$ -	$ -
2016	-	$ -		$ -	$ -
2017	-	$ -		$ -	$ -
2018	-	$ -		$ -	$ -
2019	-	$ -		$ -	$ -
2020	-	$ -		$ -	$ -
2021	-	$ -		$ -	$ -
2022	-	$ -		$ -	$ -
2023	-	$ -		$ -	$ -
2024	-	$ -		$ -	$ -
2025	-	$ -		$ -	$ -
2026	-	$ -		$ -	$ -
2027	-	$ -		$ -	$ -
2028	-	$ -		$ -	$ -
2029	-	$ -		$ -	$ -
2030	884	$ 212,066.10	100%	$ 212,066.10	$ 271,969.03
2031	-	$ -		$ -	$ -
2032	-	$ -		$ -	$ -
2033	-	$ -		$ -	$ -
2034	-	$ -		$ -	$ -
2035	-	$ -		$ -	$ -
Avg Cost per Unit	$240	**$ 212,066.10**		**$ 212,066.10**	**$ 271,969.03**

The Net Present Value of the cost estimate for the building expansion is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2014 dollars using the Net Discount Rate.

Emergency Communications

Introduction

The City of Alpharetta operates its Emergency-911 service through the Public Safety Division's E-911 Communications Center; all aspects of the emergency communications activities are administered from a central location.

Service Area

The entire city is considered a single service area for the provision of the emergency communications services because all residents and employees in the city have equal access to the benefits of the program.

Level of Service

The City has outgrown its current emergency communications center. Space needs include additional supervision space, file storage, restrooms, locker space, training/cool-down facilities, and secure server storage space. Expansion of the current facility is proposed in the immediate future, and will accommodate emergency management response personnel from the City and such third parties as utilities, the Red Cross, etc., in emergency situations. This revamped Emergency Operations Center will also involve a significant upgrade to its E-911 phone system to include VOIP and improved GPS functionality.

Statistics for the expanded facility are shown in Table 14.

Table 14: E-911 Facility Inventory

Property	Square Feet
Existing E-911 Center	2,537
Planned Expansion*	2,000
Total Floor Area	4,537

*Includes Communications System Upgrade.

The level of service for emergency communications services in Alpharetta is measured in terms of square footage per day/night population in the city. Day/night population is used as a measure in that emergency communications is a set of services provided to both residences and businesses in the service area on a 24-hour basis.

The revamped Emergency Operations Center is expected to serve the current and future population to 2035.

Table 15: Current Level of Service Calculation

Facility	Service Population	Level of Service
Total Future Square Feet	2035 Day/Night Population	Square Feet per Day/Night Population
4,537	184,012	0.0247

Table 15 presents a calculation of the level of service, based on the planned, expanded facility space and the future (2035) day/night population.

Forecasts for Service Area

Future Demand

Since the Emergency Operations Center is needed now to relieve overcrowded conditions and will serve future needs for years to come, the portion of the expansion that will specifically meet the needs of new growth and development must be determined.

Table 16: Future Demand Calculation

Level of Service	Future Population	New Growth Demand
Square Feet per Day/Night Population	**Day/Night Population Increase (2014-35)**	**Net New Square Feet Demanded**
0.0247	43,720	1,078

In Table 16 the adopted level of service standard, based on the future LOS for facility space calculated in Table 15, is applied to future growth. The 'day/night population increase' figure is brought forward from Table 2. The additional number of forecasted day/night population to the year 2035 is multiplied by the adopted level of service to produce the future demand figure in square feet.

Future Costs

Future cost to meet the improvements demanded by new growth to 2035 is shown in Table 17, which also indicates the year in which the system improvement projects are proposed.

Estimated improvement cost (in 2014 dollars) is based on prevailing costs averaging $225 per square foot for the building expansion, including programming and design. The communications system upgrade is estimated at a flat cost of $350,000.

The total cost figures are then converted to 'impact fee cost (2014)' dollars based on the percentage that the improvements are impact fee eligible.

Table 17: Project Costs to Meet Future Demand

Year	Improvement Project	Total Cost in 2014 Dollars*	Impact Fee Eligible**	Impact Fee Cost (2014)	Net Present Value
2014	-	$ -		$ -	$ -
2015	Communications Upgrade	$ 350,000.00	53.9%	$ 188,644.57	$ 190,668.28
2016	E-911 Center Expansion	$ 450,000.00	53.9%	$ 242,543.02	$ 250,204.32
2017	-	$ -		$ -	$ -
		$ 800,000.00		**$ 431,187.59**	**$ 440,872.61**

* Communications Upgrade - total cost shown.
E-911 Center expansion - 2,000 square feet at $220 per sq ft including programming and design.
** 1,078 sq ft of the 2,000 sq ft expansion is impact fee eligible.

Of the 2,000 square foot expansion, 1,078 is impact fee eligible as calculated on Table 16 (which is 53.9% of the total). This percentage is applied to the cost of the expansion and the related communications system upgrade on Table 17 to determine the amount that could be collected in an impact fee program. In turn, the amounts that are impact fee eligible (in 2014 dollars) are converted to Net Present Value.

The Net Present Value of the cost estimate for the building expansion is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2014 dollars using the Net Discount Rate. For the communications equipment upgrade, the Consumer Price Index (CPI) is used.

Public Parks

Introduction

Public recreational opportunities are available in Alpharetta through a number of parks facilities operated by the City of Alpharetta Recreation and Parks Department. In addition, an extensive walkway system is provided throughout the city that interfaces with the public parks, their internal trails and the greenway system.

Demand for public parks, including the recreational facilities in them, is almost exclusively related to the city's resident population. Businesses make some incidental use of public parks for office events, company softball leagues, etc., but the use is minimal compared to that of the families and individuals who live in the city. Thus, the public parks impact fee is limited to future residential growth.

Conversely, the City's walkway system connects residential areas to parks, schools and other community uses, and to and between business centers. Since the walkway system is used by residents and local employees alike for walking, jogging, and as access to parks and other destinations, its impact fee addresses the needs of both residential and nonresidential future growth. Because the 'service population' is different from that for public parks, the walkway system is addressed in the next Chapter as a component of the Recreation and Parks public facility category.

This Chapter focuses on the City's parks, parks facilities, and the trails and greenways that are part of the public parks system.

Service Area—Public Parks

The parks, park facilities and trails/greenways are operated as a citywide system. Facilities are provided equally to all residents, and often used on the basis of the programs available, as opposed to proximity of the facility. For instance, children active in soccer play games at various locations, based on scheduling rather than geography. Other programs are located only at certain centralized facilities, to which any Alpharetta resident can come. Thus, the entire city is considered a single service area for parks facilities and services.

Level of Service

Level of Service standards for park lands and for most parks facilities (i.e., 'recreational components' such as baseball fields, playgrounds and recreation centers) have been adopted by the City in the Recreation and Parks Master Plan 2025. A few components are not addressed in the Master Plan and are individually calculated, as noted in the footnotes to the table below.

The Level of Service standards for park lands and recreation components in the city are expressed in terms of 'components per 1,000 people'. Since impact fees are assessed at the time a building permit is issued (and the impact fee will be limited to residential uses), the LOS must be converted to a 'per housing unit' basis.

Table 18 shows how the adopted level of service for each recreation component is converted from a 'per 1,000 population' basis to a 'per housing unit' basis. First, the currently adopted LOS of 1 per 'X' thousands of people for each component is converted to one component per 'X' thousands of housing units using the city's current average household size. This number is then divided into '1' to produce the 'per housing unit' figure.

Table 18: Level of Service Conversion

Component Type	R&P Plan Adopted LOS*			LOS per 1000 Housing Units**	LOS per Each Housing Unit***
Park Land	1 acre per	100	population =	40.5	0.0247001
Baseball Field	1 per	5,000	population =	2,024.3	0.0004940
Softball Field	1 per	9,000	population =	3,643.7	0.0002744
Multi-Purpose Field	1 per	6,000	population =	2,429.1	0.0004117
Open Grassed Play Field	1 per	10,000	population =	4,048.6	0.0002470
Tennis Court	1 per	5,000	population =	2,024.3	0.0004940
Basketball Court	1 per	20,000	population =	8,097.1	0.0001235
Swimming Pool	1 per	30,000	population =	12,145.7	0.0000823
Playground	1 per	5,000	population =	2,024.3	0.0004940
Picnic Area / Pavilion	1 per	6,000	population =	2,429.1	0.0004117
Disc Golf	1 per	30,000	population =	12,145.7	0.0000823
Botanical Garden	1 per	82,520	population =	33,409.0	0.0000299
Recreation Center	1 per	20,000	population =	8,097.1	0.0001235
Senior Center	1 per	35,000	population =	14,170.0	0.0000706
Dog Park	1 per	27,507	population =	11,136.3	0.0000898
Concessions (w/restrooms)	1 per	6,287	population =	2,545.5	0.0003929
Restrooms (stand alone)	1 per	7,859	population =	3,181.9	0.0003143
Equestrian Ring (outdoor)	1 per	31,437	population =	12,727.5	0.0000786
Park/Walking Trail	1 mile per	13,377	population =	5,416.0	0.0001846
Greenways****	1 mile per	5,351	population =	2,166.4	0.0004616

* Level of Service adopted in Recreation & Parks Master Plan, except for the following:
For dog parks, R&P Plan LOS of 1 for each of 3 parks to serve future (2035) population.
For concessions, restrooms, equistrian rings and trails, current LOS calculated as current number (or trail miles) per current (2014) population.
One botanical garden assumed to serve population to 2035.

** Converted using average population per housing unit in 2014.

*** "1" divided by LOS per 1000 Housing Units = LOS for 1 housing unit.

**** Big Creek Greenway as planned, including extensions to Union Hill and Webb Bridge Park.

By way of example, the current LOS for baseball fields is 1 field per 5,000 people. That number—5,000—is divided by the 2014 average household size to convert 'people' into 'housing units'. The result is the converted standard of 1 baseball field per 2,024 housing units. By dividing the component (1) by the number of housing units it serves results in the portion of a baseball field that serves 1 housing unit (0.0004940).

[Reversing the calculation, 0.0004940 times 2,024 housing units yields 1 baseball field.]

■ Forecasts for Service Area

Existing and Future Demand

Table 19 shows the current and future demand in parks acreage and recreation components based on the LOS standards adopted by the City and shown on Table 18.

Existing demand is calculated in order to determine if there are currently more than enough facilities to serve the current (2014) population or if there is a shortfall requiring future facilities to be built to serve today's population.

For the number of acres and facilities to meet future population needs, the increase in housing units between now and 2035 is multiplied by each level of service standard to produce the future demand. The 'new units' figure on the Table is the citywide increase taken from Table 2.

Table 19: Existing and Future Demand

Component Type	Adopted LOS per Housing Unit	Existing Demand (2014)	New Growth Demand (2015-35)
Park Land	0.0247001	628.74 acres	216.694 acres
Baseball Field	0.0004940	12.575 components	4.334 components
Softball Field	0.0002744	6.986 components	2.408 components
Multi-Purpose Field	0.0004117	10.479 components	3.612 components
Open Grassed Play Field	0.0002470	6.287 components	2.167 components
Tennis Court	0.0004940	12.575 components	4.334 components
Basketball Court	0.0001235	3.144 components	1.083 components
Swimming Pool	0.0000823	2.096 components	0.722 components
Playground	0.0004940	12.575 components	4.334 components
Picnic Area / Pavilion	0.0004117	10.479 components	3.612 components
Disc Golf	0.0000823	2.096 components	0.722 components
Botanical Garden	0.0000299	0.762 components	0.263 components
Recreation Center	0.0001235	3.144 components	1.083 components
Senior Center	0.0000706	1.796 components	0.619 components
Dog Park	0.0000898	2.286 components	0.788 components
Concessions (w/restrooms)	0.0003929	10.000 components	3.446 components
Restrooms (stand alone)	0.0003143	8.000 components	2.757 components
Equestrian Ring (outdoor)	0.0000786	2.000 components	0.689 components
Park/Walking Trail	0.0001846	4.700 miles	1.620 miles
Greenways	0.0004616	11.750 miles	4.050 miles

2014 Housing Units = 25,455 New Units (2035) = 8,773

Note that 'demand' figures are expressed in decimals rather than whole numbers. This allows a high level of accuracy when dealing with cost allocations between existing residents and future growth. For instance, a particular new facility may in part meet a current need and in part serve future growth; each would be responsible for their 'fair share' of the cost. As will be seen, however, ultimately recreation component needs are converted to whole numbers.

Table 20 provides an inventory of the acreage of parks under the control of the Recreation and Parks Department in 2014. The current inventory of recreation components is shown in the first column of Table 21.

Table 20: Current Inventory of Park Acres

Park / Facility Name	Number of Acres
Adult Activity Center	2.25
Alpharetta Community Center	10.00
Big Creek Greenway	400.00
Brooke Street Park (under construction)	5.00
Canton Street/Old Canton Street Pocket Park	0.25
Cogburn Road Park	5.08
Crabapple Government Center	2.00
Maddox Park	0.75
North Park	97.00
Ole Milton Park	0.50
Rock Mill Park	6.00
Roswell Street/Old Roswell Street Pocket Park	0.25
Silos Park	1.00
Union Hill Park	12.38
Veterans Park	1.00
Webb Bridge Park	109.00
Westside Park	2.60
Willis Park and Equestrian Center	120.00
Wills Park Recreation Center	2.00
Windward Soccer Facility	2.32
Total Park Acres:	**779.38**

Impact Fee Eligibility

New parks and recreation components are eligible for impact fee funding only to the extent that the improvements are needed to specifically serve new growth and development, and only at the level of service applicable citywide.

Table 21 shows the number of new park acres and recreation components that are needed to satisfy both current and future needs of the city's residents, and the extent to which fulfillment of those needs will serve future growth demand. The table begins with the current inventory of park lands and components, and the 'existing' demand for those components to meet the needs of the current (2014) population based on the adopted level of service standards (from Table 19). The 'excess or (shortfall)' column compares the existing demand to the current supply of park acres and recreation components.

Table 21: Future Park Facility Impact Fee Eligibility

Facility	Current Inventory	Existing Demand	Excess or (Shortfall)	New Growth Demand	Net Total Needed	Whole Total Needed	Percent Impact Fee Eligible
Park Land	779.38	628.74	150.64	216.69	66.05	66.05	100%
Baseball Field	14	12.575	1.425	4.334	2.909	3.000	96.96%
Softball Field	8	6.986	1.014	2.408	1.394	2.000	69.69%
Multi-Purpose Field	5	10.479	(5.479)	3.612	9.091	10.000	36.12%
Open Grassed Play Field	4	6.287	(2.287)	2.167	4.454	5.000	43.34%
Tennis Court	17	12.575	4.425	4.334	(0.091)	-	0.00%
Basketball Court	2	3.144	(1.144)	1.083	2.227	3.000	36.12%
Swimming Pool	1	2.096	(1.096)	0.722	1.818	2.000	36.12%
Playground	8	12.575	(4.575)	4.334	8.909	9.000	48.15%
Picnic Area / Pavilion	14	10.479	3.521	3.612	0.091	1.000	9.06%
Disc Golf	1	2.096	(1.096)	0.722	1.818	2.000	36.12%
Botanical Garden	0	0.762	(0.762)	0.263	1.000	1.000	26.26%
Recreation Center	3	3.144	(0.144)	1.083	1.227	2.000	54.17%
Senior Center	1	1.796	(0.796)	0.619	1.416	2.000	30.96%
Dog Park	1	2.286	(1.286)	0.788	2.074	2.000	39.39%
Concessions (w/restrooms)	10	10.000	-	3.446	3.446	4.000	86.16%
Restrooms (stand alone)	8	8.000	-	2.757	2.757	3.000	91.91%
Equestrian Ring (outdoor)	2	2.000	-	0.689	0.689	1.000	68.93%
Park/Walking Trail	4.70	4.70	-	1.62	1.62	1.62	100.00%
Big Creek Greenway*	11.75	11.75	-	-	-	-	25.63%

* Big Creek greenway improvements eligiblity is equal to the proportion to new housing units to total housing units in 2035.

In those instances in which an 'excess' is identified, that means that more components (or portions of components) exist than are needed to meet the recreation needs of the current population, and those 'excesses' create capacity to meet the recreational needs of future growth. Conversely, a 'shortfall' indicates that there are not enough facilities and more components (or portions of components) are needed to meet the recreational needs of the current population.

The next column on Table 21 shows the total demand in components specifically to meet future growth needs, and the 'net total needed' to meet all existing and future needs combined. A current 'excess' in facilities reduces the need for new facilities because the 'excess' is already available to serve new growth. A 'shortfall', however, adds to new growth's needs with facilities to bring the current population up to the adopted level of service required to be available to all—both current and future residents.

For example, the City has 14 baseball fields but the adopted level of service indicates that only 12 fields and a portion of a 13th (0.575 or 57.5%) are needed to serve the current population, leaving the remainder of the 13th field (0.425) and all of the 14th field available to serve future growth. Future growth, however, will need a total of 4.334 baseball fields to fully satisfy its needs, based on the adopted LOS. Since 1.425 existing fields are currently available, only 2.909 new field capacity will be needed to meet future demand. This figure is rounded up to 3 new fields (since the Recreation and Parks Department cannot construct only a portion of a new facility), of which the 2.909 portion needed for new growth represents 97% of the total to be built.

On the other hand, the City has only 2 basketball courts where 3.144 in court capacity is needed to serve current needs, leaving a 'shortfall' in capacity of 1.144 courts. New growth will need 1.083 courts for itself, to which is added the current population's shortfall for a total of 2.227 to provide for both current and future needs. Rounded to 3 new courts, new growth needs only 36.1% of the total to satisfy its own demand.

Table 22: Planned System Improvements – Parks Projects

Project	Form Page #	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10-Year Total
Adaptive Playground Equipment (New)	72f	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
Design Services (sites)	76f	$ 25,000	$ 25,500	$ 26,000	$ 26,500	$ 27,000	$ 27,500	$ 28,100	$ 28,700	$ 29,300	$ 29,900	$ 273,500
Park Master Plan Projects	82u	$ -	$ 80,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 110,000
Wills Park Equestrian Center Ring Addition	85u	$ -	$ 10,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 85,000
North Park Concession/Restroom Buildings	88u	$ -	$ 30,000	$ 270,000	$ 270,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 570,000
Webb Bridge Park Playground Equipment	93u	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ 100,000
Windward Complex Conversion	95u	$ -	$ -	$ 37,250	$ 707,750	$ -	$ -	$ -	$ -	$ -	$ -	$ 745,000
Expand Westside Parkway Pocket Park	96u	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000	$ 90,000	$ -	$ -	$ 100,000
Pocket Park Development	97u	$ -	$ -	$ 250,000	$ -	$ 250,000	$ -	$ 250,000	$ -	$ 250,000	$ -	$ 1,000,000
Regional Aquatic Facility	98u	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,000,000	$ 8,050,000	$ -	$ -	$ 15,050,000
Botanical Garden	99u	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 1,900,000	$ 2,000,000
Alpharetta Community Ctr Expansion Ph. III	87u	$ -	$ 245,000	$ 4,570,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,815,000
Webb Bridge Park Community Center	91u	$ -	$ -	$ -	$ -	$ 750,000	$ 17,000,000	$ -	$ -	$ -	$ -	$ 17,750,000
Eastside Adult Activity Center	100u	$ -	$ -	$ -	$ 142,500	$ 2,707,500	$ -	$ -	$ -	$ -	$ -	$ 2,850,000
Eastside Dog Park	101u	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ 285,000	$ -	$ -	$ -	$ 300,000
Linear Park (Avalon to City Center connectivity)	102u	$ -	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,000,000
Park Land Acquisition	103u	$ -	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 13,500,000
North Park Trail System (1.2 mi loop)	89u	$ -	$ -	$ -	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000
Big Creek Greenway:												
Observation Deck at Big Creek Greenway	104u	$ -	$ 10,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,000
Extension (Windward Pkwy to Union Hill Rd)	105u	$ -	$ 750,000	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,750,000
Greenway Linkages	106u	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000	$ 300,000	$ -	$ -	$ 500,000
Webb Bridge Rd Multi-use Trail (2 miles)	55u	$ -	$ 2,525,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,525,000
Georgia 400 Greenway (5 miles)	24u	$ -	$ 16,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,000,000
		$ 50,000	$ 26,175,500	$ 11,808,250	$ 2,646,750	$ 5,484,500	$ 18,542,500	$ 9,273,100	$ 10,068,700	$ 1,879,300	$ 3,429,900	**$ 89,358,500**

Source: City of Alpharetta Draft *Capital Improvement Program 2015-2024* .

Future Costs

The table on the preceding page—Table 22—shows parks projects that are currently planned by the City and identified to be funded over the coming 10 years. These projects have been excerpted from the Capital Improvement Program as being those that create additional capacity, and therefore could meet additional service demands of both the existing residents and future growth as needed. Additional projects further in the future are included in the table below.

Table 23 presents the estimated cost calculations for the land acquisition, recreation component and trail projects proposed to 2035. The figures in the 'components proposed' column are drawn from the 'whole total needed' column in Table 21. The 'total cost figures' on the table are converted to 'new growth share' dollars based on the percentage that each improvement is impact fee eligible. Note that this affects most of the recreation components to the extent that partial components identified in the 'net total needed' column of Table 21 had to be rounded up to whole components, creating an 'overage' portion of each facility type.

Table 23: Future Costs to Meet Future Demand

Facility	Components Proposed	Net Cost per Unit*	Gross Cost per Unit**	Total Cost	% Impact Fee Eligible	New Growth Share	Net Present Value***
Park Land	66.05	$ 225,000	$ 225,000	$ 14,862,064	100.00%	$ 14,862,064	$ 17,256,677
Baseball Field	3	$ 375,000	$ 457,500	$ 1,372,500	96.96%	$ 1,330,718	$ 1,928,761
Softball Field	2	$ 375,000	$ 457,500	$ 915,000	69.69%	$ 637,621	$ 924,177
Multi-Purpose Field	10	$ 600,000	$ 732,000	$ 7,320,000	36.12%	$ 2,643,662	$ 3,831,762
Open Grassed Play Field	5	$ 250,000	$ 305,000	$ 1,525,000	43.34%	$ 660,916	$ 767,404
Tennis Court	0	$ 90,000	$ 109,800	$ -	0.00%	$ -	$ -
Basketball Court	3	$ 70,000	$ 85,400	$ 256,200	36.12%	$ 92,528	$ 134,112
Swimming Pool	2	$ 7,525,000	$ 9,180,500	$ 18,361,000	36.12%	$ 6,631,186	$ 9,611,336
Playground	9	$ 125,000	$ 152,500	$ 1,372,500	48.15%	$ 660,916	$ 957,940
Picnic Area / Pavilion	1	$ 55,000	$ 67,100	$ 67,100	9.06%	$ 6,077	$ 8,808
Disc Golf	2	$ 18,000	$ 21,960	$ 43,920	36.12%	$ 15,862	$ 22,991
Botanical Garden	1	$ 2,000,000	$ 2,440,000	$ 2,440,000	26.26%	$ 640,729	$ 712,879
Recreation Center	2	$ 11,282,500	$ 13,764,650	$ 27,529,300	54.17%	$ 14,913,559	$ 16,119,307
Senior Center	2	$ 2,850,000	$ 3,477,000	$ 6,954,000	30.96%	$ 2,152,696	$ 2,676,239
Dog Park	2	$ 300,000	$ 366,000	$ 732,000	39.39%	$ 288,328	$ 417,907
Concessions (w/restrooms)	4	$ 285,000	$ 347,700	$ 1,390,800	86.16%	$ 1,198,339	$ 1,489,779
Restrooms (stand alone)	3	$ 100,000	$ 122,000	$ 366,000	91.91%	$ 336,376	$ 418,184
Equestrian Ring (outdoor)	1	$ 85,000	$ 103,700	$ 103,700	68.93%	$ 71,480	$ 77,397
Park/Walking Trail	1.62	$ 210,000	$ 256,200	$ 415,004	100.00%	$ 415,004	$ 473,828
Big Creek Greenway	1.00	$ 8,835,000	$ 10,778,700	$ 10,778,700	25.63%	$ 2,762,695	$ 2,991,398
			Totals:	$ 96,804,788		$ 50,320,754	$ 60,820,884

* Source: Alpharetta Recreation and Parks Master Plan 2025, Draft Capital Improvement Program - 2015-2024, or prevailing construction costs for similar projects, as appropriate.

** Includes contingency at 15% and planning and design services at 7%, except for land acquisition.

*** Construction dates vary. NPV based on CPI, BCI or CCI as appropriate, in planned years if known or in 2028 on average.

To calculate the Net Present Value of the impact fee-eligible cost estimate for non-construction improvements (such as new park land acquisition), the currently estimated 2014 cost is inflated to the target year using the 10-year average CPI and then is reduced using the Net Discount Rate. For the construction of the recreation components and trails, the NPVs are calculated by increasing the current (2014) estimated costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate for buildings (such as recreation centers and senior centers) and the average construction cost inflation (CCI) rate for all other projects. All project costs are then reduced to current dollars using the Net discount Rate.

Walkway System

Introduction

The City's walkway system is a major component of its overall recreation and parks services. The previous Chapter addressed the City's public parks, including the recreation facilities within the parks and the trails and greenway systems, which primarily serve Alpharetta's residents.

The City's walkway system connects residential areas to parks, schools and other community uses, and to and between business centers. Unlike parks and recreational components such as ball fields, picnic pavilions and community centers that are primarily viewed as 'residential' amenities; the City's walkway system is used by residents and local employees alike for walking, jogging, and as access to parks and other destinations. There is thus a clear benefit to businesses as residents access the shops and offices in the city using the walkways and employees take advantage of the walkways to walk or exercise on their time off, to walk to lunch or a shop nearby, or to access local parks or recreation facilities.

This Chapter focuses on the City's walkway system that, by its very nature, serves both the residential and employee populations.

Service Area

As are the parks and park facilities, the walkway system maintained by the City operates as an inter-related citywide system. Thus, the entire city is considered a single service area for the walkway system.

Level of Service

The City has already put into place an extensive network of walkways throughout the city. Many of these walkways, however, have gaps between where one ends and another begins, leaving the system inefficient and service incomplete. While the Level of Service for walkways is expressed in terms of walkway length (feet) per service population, the objective is to complete the system citywide over the coming 20 years.

To accomplish this, a number of specific walkway projects have been identified for construction, filling in all of the remaining gaps. These are identified as to their location, length and cost in the Walkway Project Listing in the Appendix. The map showing all of the projects underlines the citywide nature of both the existing sidewalks and the projects proposed to close the gaps.

Table 24 shows the total length of the planned walkway connections and extensions needed to complete the system for the city's residents and businesses today and for future growth over the coming 20 years. In miles, the planned system improvements will involve an additional 44.4 miles.

Table 24: Walkway System

System Improvement	Linear Feet
Planned Walkway Improvements	234,238

Table 25 shows the calculation of the Level of Service for the walkway system. For these system improvements, the LOS is based on the total day/night population forecasted for 2035 since the entire system, as it exists today and is proposed to be expanded, will serve all of the city's residents and businesses collectively by that target year.

Table 25: Level of Service Calculation

Total Linear Feet	2035 Day/Night Population	Feet per 2035 Day/Night Pop
234,238	184,012	1.272946

To determine the LOS, the total length (in feet) of the future system is divided by the day/night population expected to live or work in the city by 2035, resulting in the number of feet per person—resident or employee—that will benefit from the total path system when it is completed

Forecasts for Service Area

Future Demand

Applying the City's Level of Service standard to the increase in the day/night population that is projected for the city by 2035 results in a figure that establishes the maximum number of walkway feet that could be included in an impact fee program. This maximum is shown on Table 26.

Table 26: New Growth Demand Calculation

Feet per 2035 Day/Night Pop	Day/Night Pop Increase (2014-35)	Total Feet for New Growth
1.272946	43,720	55,654

The 'total feet for new growth' figure is determined by multiplying the Level of Service standard times the day/night population anticipated to be added to the city between 2014 and 2035. The day/night population figure is the citywide increase taken from Table 2.

Future Costs

As discussed above, there are specific plans for improvements to expand the multi-use path system to accommodate both existing and future development throughout the city.

Table 27 presents the City's proposed system improvement costs that will benefit the entire city and extend service to its future growth and development. There is a 'trade-off' implicit in this table: existing development has already paid for the existing system, which will be available equally to new growth at 'no cost', while existing residents and businesses will have equal access to the proposed system improvements. The approach in calculating the Level of Service system-wide and new growth's 'proportional share' of the entire completed system, in terms of a portion of the future costs, preserves the proportionality of cost responsibility between existing and future development.

Overall, then, new growth's 'proportional share' of the entire future system (55,654 feet of the total 234,238 feet to be constructed) is 24% of the length and therefore 24% of the cost of the system expansion.

Table 27: Future System Improvement Costs

Year	Facility	Linear Feet	2014 Cost*	% Impact Fee Eligible	Eligible 2014 Cost	Net Present Value**
2024						
2025	New Walkways	234,238	$ 49,063,845	24%	$ 11,657,370.83	$ 15,604,573.40
2026						
		234,238	$ 49,063,845		$ 11,657,370.83	$ 15,604,573.40

* Costs for individual projects vary (see *Appendix: Walkway Project Listing*). Overall average is $209.46 per linear foot.

** Average construction year of 2025 used. Net Present Value = 2014 cost estimate inflated to target year using the ENR Construction Cost Index (CCI), reduced to 2014 NPV using the Discount Rate.

The Net Present Value of the construction of the new walkways is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average construction cost inflation (CCI) rate, and then discounting the future amounts back to 2014 dollars using the Net discount Rate. Since progress on the new construction will span the coming 20 years, an 'average' construction year midway through the process—2025—is used for the NPV calculation.

Road Improvements

Introduction

The information in this Chapter is derived from road project information contained in the *Alpharetta Capital Improvement Plan 2015—2024* (the "CIP").

Service Area

The service area for these road projects is defined as the entire city, in that these road projects are recognized as providing primary access to all properties within the city as part of the citywide network of principal streets and thoroughfares. All new development within the city will be served by this citywide network, such that improvements to any part of this network to relieve congestion or to otherwise improve capacity will positively affect capacity and reduce congestion throughout the city.

Level of Service Standards

Level of Service for roadways and intersections is measured on a 'letter grade' system that rates a road within a range of service from A to F. Level of Service A is the best rating, representing unencumbered travel; Level of Service F is the worst rating, representing heavy congestion and long delays. This system is a means of relating the connection between speed and travel time, freedom to maneuver, traffic interruption, comfort, convenience and safety to the capacity that exists in a roadway. This refers to both a quantitative measure expressed as a service flow rate and an assigned qualitative measure describing parameters. *The Highway Capacity Manual, Special Report 209*, Transportation Research Board (1985), defines Level of Service A through F as having the following characteristics during peak hours at an intersection:

1. LOS A: free flow, excellent level of freedom and comfort;
2. LOS B: stable flow, decline in freedom to maneuver, desired speed is relatively unaffected;
3. LOS C: stable flow, but marks the beginning of users becoming affected by others, selection of speed and maneuvering becomes difficult, comfort declines at this level;
4. LOS D: high density, but stable flow, speed and freedom to maneuver are severely restricted, poor level of comfort, small increases in traffic flow will cause operational problems;
5. LOS E: at or near capacity level, speeds reduced to low but uniform level, maneuvering is extremely difficult, comfort level poor, frustration high, level unstable; and
6. LOS F: forced/breakdown of flow. The amount of traffic approaching a point exceeds the amount that can transverse the point. Queues form, stop & go. Arrival flow exceeds discharge flow.

The traffic volume that produces different Level of Service grades differs according to road type, size, signalization, topography, condition and access.

Level of Service

The City has set its Level of Service for road improvements at LOS "D", a level to which it will strive ultimately. However, interim road improvement projects that do not result in a LOS of "D" will still provide traffic relief to current and future traffic alike, and are thus eligible for impact fee funding.

All road improvement projects benefit existing and future traffic proportionally to the extent that relief from over-capacity conditions eases traffic problems for everyone. For example, since new growth by 2035 will represent a certain portion of all 2035 traffic, new growth would be responsible for that portions' cost of the road improvements.

It is noted that the cost-impact of non-Alpharetta generated traffic on the roads traversing the city (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Alpharetta reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Alpharetta residents and businesses.

The basis for the road impact fee would therefore be Alpharetta's cost for the improvements divided by all traffic in 2035 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, the cost per trip would be applied to the number of trips that will be generated by the new development when a building permit is issued, assuring that new growth would only pay its 'fair share' of the road improvements that serve it.

Forecasts for Service Area

Projects that provide road capacity that will serve new growth have been identified in the City's CIP and are shown on Table 28. This is not a list of all City road projects in the CIP. These projects were selected for inclusion in the City's impact fee program because the specific improvements proposed will increase traffic capacity and reduce congestion to some extent, whether through road widening, improved intersection operations or upgraded signalization. For reference, the detailed project description for each road improvement contained in the CIP is noted in the 'CIP Form #' column.

The cost figures shown on Table 28 are in current dollars. These figures are calculated in Net Present Value and shown on Table 29.

Eligible Costs

Overall new growth and development will represent 24.1% of the traffic on most of the roads that are part of Alpharetta's road network in 2035. For entirely new road projects, which are occasioned primarily by new growth in developing areas (i.e., the Haynes Bridge Road Extension to Cumming Street, the Davis Road Extension to Westside Parkway, and the Northwinds Parkway Road Extension), the maximum 'fair share' is the converse percentage—75.9%.

To that extent, the Net Present Value of the share of each road project's total costs that are attributed to new growth are shown on the following Table 30 on page 34.

Table 28: Road Projects and Estimated Costs – Current Dollars

Project	CIP Form #	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total Cost
Rucker Rd Corridor Roadway Improvements (ROW)	35f	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
Broadwell Rd at Rucker Rd Intersection Improvements	36f	160,000	-	-	-	-	-	-	-	-	-	160,000
Haynes Bridge Road Extension to Cumming Street	4u	-	125,000	1,500,000	1,500,000	-	-	-	-	-	-	3,125,000
Lily Garden Terrace (Trailer St) Extension	5u	-	40,000	800,000	550,000	-	-	-	-	-	-	1,390,000
Major Intersection Improvements	12u	-	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,250,000
Adaptive Traffic Signal Control	13u	-	2,000,000	-	-	-	-	-	-	-	-	2,000,000
Webb Bridge Rd at Webb Bridge Way Intersection Imp.	18u	-	600,000	-	-	-	-	-	-	-	-	600,000
Webb Bridge Rd Widening (Westside Pkwy to NP Pkwy)	19u	-	6,900,000	-	-	-	-	-	-	-	-	6,900,000
Kimball Bridge Rd Widening (Westside Pkwy to North Point Pkwy)	20u	-	11,500,000	-	-	-	-	-	-	-	-	11,500,000
Kimball Bridge Rd Widening (North Point Pkwy to Waters Rd)	21u	-	8,370,000	-	-	-	-	-	-	-	-	8,370,000
Davis Road Extension to Westside Parkway	22u	-	1,600,000	-	-	-	-	-	-	-	-	1,600,000
Connector Road (North Point Pkwy to Edison Dr)	23u	-	805,000	-	-	-	-	-	-	-	-	805,000
Windward Pkwy Widening (S.R. 9 to Westside; Design in 2015)	27u	-	3,100,000	-	-	-	-	-	-	-	-	3,100,000
Bethany Rd at Mayfield Rd/Mid-Broadwell Rd Intersection Imp.	28u	-	300,000	1,000,000	-	-	-	-	-	-	-	1,300,000
Rucker Rd Corridor Roadway Improvements	30u	-	14,350,000	-	-	-	-	-	-	-	-	14,350,000
Morris Road Roadway Expansion	31u	-	1,000,000	-	-	-	-	-	-	-	-	1,000,000
Westside/Morrison Parkway Improvements	32u	-	2,300,000	-	-	-	-	-	-	-	-	2,300,000
Old Milton Parkway Intersection Improvements	33u	-	50,000	-	-	-	-	-	-	-	-	50,000
Old Milton Parkway at Park Bridge Parkway Intersection Imp.	34u	-	-	100,000	-	-	-	-	-	-	-	100,000
Old Milton Parkway at Southbridge Parkway Intersection Imp.	35u	-	-	-	100,000	-	-	-	-	-	-	100,000
Old Milton Parkway at Vista Forest Drive Intersection Imp.	36u	-	-	100,000	-	-	-	-	-	-	-	100,000
Southlake Drive Intersection Improvements	37u	-	-	-	-	-	500,000	-	-	-	-	500,000
Southlake Drive at Westchester Way Intersection Improvements	38u	-	-	-	-	-	-	500,000	-	-	-	500,000
Southlake Drive at Schooner Ridge Intersection Improvements	39u	-	-	-	-	-	-	-	500,000	-	-	500,000
Southlake Drive at Intrepid Cut Intersection Improvements	40u	-	-	-	-	-	-	-	-	500,000	-	500,000
Southlake Drive at Courageous Wake Intersection Imp.	41u	-	-	-	-	-	-	-	-	-	500,000	500,000
Northwinds Parkway Road Extension	43u	-	1,857,143	-	-	-	-	-	-	-	-	1,857,143
North Point Drive Corridor Improvements	44u	-	-	150,000	-	-	-	-	-	-	-	150,000
Charlotte Rd at Rucker Rd Intersection Improvements	45u	-	275,000	-	-	-	-	-	-	-	-	275,000
Mansell Road Intersection Improvements	46u	-	50,000	-	-	-	-	-	-	-	-	50,000
Fairfax Lane at Rucker Rd Intersection Improvements	47u	-	-	375,000	-	-	-	-	-	-	-	375,000
		$ 210,000	$ 55,472,143	$ 4,275,000	$ 2,400,000	$ 250,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 66,357,143

Source: City of Alpharetta Draft *Capital Improvements Plan, 2015-2024* .

Table 29: Road Projects and Estimated Costs – Net Present Value

Project	CIP Form #	Net Present Value*										
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total NPV
Rucker Rd Corridor Roadway Improvements (ROW)	35f	$ 51,343	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,343
Broadwell Rd at Rucker Rd Intersection Improvements	36f	164,299	-	-	-	-	-	-	-	-	-	164,299
Haynes Bridge Road Extension to Cumming Street	4u	-	131,807	1,624,174	1,667,809	-	-	-	-	-	-	3,423,789
Lily Garden Terrace (Trailer St) Extension	5u	-	42,178	866,226	611,530	-	-	-	-	-	-	1,519,934
Major Intersection Improvements	12u	-	263,613	270,696	277,968	285,436	293,105	300,979	309,065	317,368	325,895	2,644,125
Adaptive Traffic Signal Control	13u	-	2,108,907	-	-	-	-	-	-	-	-	2,108,907
Webb Bridge Rd at Webb Bridge Way Intersection Imp.	18u	-	632,672	-	-	-	-	-	-	-	-	632,672
Webb Bridge Rd Widening (Westside Pkwy to NP Pkwy)	19u	-	7,275,730	-	-	-	-	-	-	-	-	7,275,730
Kimball Bridge Rd Widening (Westside Pkwy to North Point Pkwy)	20u	-	12,126,217	-	-	-	-	-	-	-	-	12,126,217
Kimball Bridge Rd Widening (North Point Pkwy to Waters Rd)	21u	-	8,825,777	-	-	-	-	-	-	-	-	8,825,777
Davis Road Extension to Westside Parkway	22u	-	1,687,126	-	-	-	-	-	-	-	-	1,687,126
Connector Road (North Point Pkwy to Edison Dr)	23u	-	848,835	-	-	-	-	-	-	-	-	848,835
Windward Pkwy Widening (S.R. 9 to Westside; Design in 2015)	27u	-	3,268,806	-	-	-	-	-	-	-	-	3,268,806
Bethany Rd at Mayfield Rd/Mid-Broadwell Rd Intersection Imp.	28u	-	316,336	1,082,783	-	-	-	-	-	-	-	1,399,119
Rucker Rd Corridor Roadway Improvements	30u	-	15,131,410	-	-	-	-	-	-	-	-	15,131,410
Morris Road Roadway Expansion	31u	-	1,054,454	-	-	-	-	-	-	-	-	1,054,454
Westside/Morrison Parkway Improvements	32u	-	2,425,243	-	-	-	-	-	-	-	-	2,425,243
Old Milton Parkway Intersection Improvements	33u	-	52,723	-	-	-	-	-	-	-	-	52,723
Old Milton Parkway at Park Bridge Parkway Intersection Imp.	34u	-	-	108,278	-	-	-	-	-	-	-	108,278
Old Milton Parkway at Southbridge Parkway Intersection Imp.	35u	-	-	-	111,187	-	-	-	-	-	-	111,187
Old Milton Parkway at Vista Forest Drive Intersection Imp.	36u	-	-	108,278	-	-	-	-	-	-	-	108,278
Southlake Drive Intersection Improvements	37u	-	-	-	-	-	586,209	-	-	-	-	586,209
Southlake Drive at Westchester Way Intersection Improvements	38u	-	-	-	-	-	-	601,958	-	-	-	601,958
Southlake Drive at Schooner Ridge Intersection Improvements	39u	-	-	-	-	-	-	-	618,130	-	-	618,130
Southlake Drive at Intrepid Cut Intersection Improvements	40u	-	-	-	-	-	-	-	-	634,737	-	634,737
Southlake Drive at Courageous Wake Intersection Imp.	41u	-	-	-	-	-	-	-	-	-	651,790	651,790
Northwinds Parkway Road Extension	43u	-	1,958,271	-	-	-	-	-	-	-	-	1,958,271
North Point Drive Corridor Improvements	44u	-	-	162,417	-	-	-	-	-	-	-	162,417
Charlotte Rd at Rucker Rd Intersection Improvements	45u	-	289,975	-	-	-	-	-	-	-	-	289,975
Mansell Road Intersection Improvements	46u	-	52,723	-	-	-	-	-	-	-	-	52,723
Fairfax Lane at Rucker Rd Intersection Improvements	47u	-	-	406,043	-	-	-	-	-	-	-	406,043
		$ 215,642	$ 58,492,805	$ 4,628,896	$ 2,668,494	$ 285,436	$ 879,314	$ 902,937	$ 927,195	$ 952,105	$ 977,685	$ 70,930,509

* Net Present Value = 2014 cost estimate inflated to target year using the ENR Construction Cost Index, reduced to 2014 NPV using the Discount Rate.

Table 30: Impact Fee Eligible Costs – Net Present Value

Project	Percent Eligible	Net Present Value* 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total NPV
Rucker Rd Corridor Roadway Improvements (ROW)	24.1%	$ 12,357	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,357
Broadwell Rd at Rucker Rd Intersection Improvements	24.1%	39,542	-	-	-	-	-	-	-	-	-	39,542
Haynes Bridge Road Extension to Cumming Street	75.9%	-	100,085	1,233,284	1,266,417	-	-	-	-	-	-	2,599,786
Lily Garden Terrace (Trailer St) Extension	24.1%	-	10,151	208,475	147,177	-	-	-	-	-	-	365,803
Major Intersection Improvements	24.1%	-	63,444	65,148	66,899	68,696	70,542	72,437	74,383	76,381	78,433	636,362
Adaptive Traffic Signal Control	24.1%	-	507,551	-	-	-	-	-	-	-	-	507,551
Webb Bridge Rd at Webb Bridge Way Intersection Imp.	24.1%	-	152,265	-	-	-	-	-	-	-	-	152,265
Webb Bridge Rd Widening (Westside Pkwy to NP Pkwy)	24.1%	-	1,751,051	-	-	-	-	-	-	-	-	1,751,051
Kimball Bridge Rd Widening (Westside Pkwy to North Point Pkwy)	24.1%	-	2,918,418	-	-	-	-	-	-	-	-	2,918,418
Kimball Bridge Rd Widening (North Point Pkwy to Waters Rd)	24.1%	-	2,124,101	-	-	-	-	-	-	-	-	2,124,101
Davis Road Extension to Westside Parkway	75.9%	-	1,281,085	-	-	-	-	-	-	-	-	1,281,085
Connector Road (North Point Pkwy to Edison Dr)	24.1%	-	204,289	-	-	-	-	-	-	-	-	204,289
Windward Pkwy Widening (S.R. 9 to Westside; Design in 2015)	24.1%	-	786,704	-	-	-	-	-	-	-	-	786,704
Bethany Rd at Mayfield Rd/Mid-Broadwell Rd Intersection Imp.	24.1%	-	76,133	260,593	-	-	-	-	-	-	-	336,726
Rucker Rd Corridor Roadway Improvements	24.1%	-	3,641,679	-	-	-	-	-	-	-	-	3,641,679
Morris Road Roadway Expansion	24.1%	-	253,776	-	-	-	-	-	-	-	-	253,776
Westside/Morrison Parkway Improvements	24.1%	-	583,684	-	-	-	-	-	-	-	-	583,684
Old Milton Parkway Intersection Improvements	24.1%	-	12,689	-	-	-	-	-	-	-	-	12,689
Old Milton Parkway at Park Bridge Parkway Intersection Imp.	24.1%	-	-	26,059	-	-	-	-	-	-	-	26,059
Old Milton Parkway at Southbridge Parkway Intersection Imp.	24.1%	-	-	-	26,759	-	-	-	-	-	-	26,759
Old Milton Parkway at Vista Forest Drive Intersection Imp.	24.1%	-	-	26,059	-	-	-	-	-	-	-	26,059
Southlake Drive Intersection Improvements	24.1%	-	-	-	-	-	141,083	-	-	-	-	141,083
Southlake Drive at Westchester Way Intersection Improvements	24.1%	-	-	-	-	-	-	144,873	-	-	-	144,873
Southlake Drive at Schooner Ridge Intersection Improvements	24.1%	-	-	-	-	-	-	-	148,766	-	-	148,766
Southlake Drive at Intrepid Cut Intersection Improvements	24.1%	-	-	-	-	-	-	-	-	152,762	-	152,762
Southlake Drive at Courageous Wake Intersection Imp.	24.1%	-	-	-	-	-	-	-	-	-	156,866	156,866
Northwinds Parkway Road Extension	75.9%	-	1,486,974	-	-	-	-	-	-	-	-	1,486,974
North Point Drive Corridor Improvements	24.1%	-	-	39,089	-	-	-	-	-	-	-	39,089
Charlotte Rd at Rucker Rd Intersection Improvements	24.1%	-	69,788	-	-	-	-	-	-	-	-	69,788
Mansell Road Intersection Improvements	24.1%	-	12,689	-	-	-	-	-	-	-	-	12,689
Fairfax Lane at Rucker Rd Intersection Improvements	24.1%	-	-	97,723	-	-	-	-	-	-	-	97,723
		$ 51,899	$ 16,036,555	$ 1,956,431	$ 1,507,252	$ 68,696	$ 211,625	$ 217,310	$ 223,148	$ 229,143	$ 235,300	$ 20,737,358

* Net Present Value = 2014 cost estimate inflated to target year using the ENR Construction Cost Index, reduced to 2014 NPV using the Discount Rate.

The Net Present Value of the construction of the new road improvements is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average construction cost inflation (CCI) rate, and then discounting the future amounts back to 2014 dollars using the Net discount Rate.

Exemption Policy

The Georgia Development Impact Fee Act provides that the City's "impact fee ordinance may exempt all or part of particular development projects from development impact fees if:

(1) Such projects are determined to create extraordinary economic development and employment growth or affordable housing;

(2) The public policy which supports the exemption is contained in the municipality's or city's comprehensive plan; and

(3) The exempt development project's proportionate share of the system improvement is funded through a revenue source other than development impact fees."

The following Exemption Policy is included in this CIE and thus becomes part of the City's Comprehensive Plan:

> The City of Alpharetta recognizes that certain office, retail trade and industrial development projects provide extraordinary benefit in support of the economic advancement of the city's citizens over and above the access to jobs, goods and services that such uses offer in general. To encourage such development projects, the Mayor and City Council may consider granting a reduction in the impact fee for such a development project upon the determination and relative to the extent that the business or project represents extraordinary economic development and employment growth of public benefit to Alpharetta, in accordance with exemption criteria the City may adopt. It is also recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees.

While this policy provides that exemption criteria may be approved by the City Council as part of its Impact Fee Ordinance, the adoption of such criteria is elective on the part of the City Council and may or may not be activated through inclusion in the Ordinance.

2015 Annual CIE Update

This report contains both an Amendment to the City's Capital Improvements Element (in the chapters above) as well as the required Annual CIE Update, which consists of a financial report and a schedule of improvements, below.

Financial Report

The Financial Report included in this document is based on the requirements of DIFA, specifically:

"As part of its annual audit process, a municipality or county shall prepare an annual report describing the amount of any development impact fees collected, encumbered, and used during the preceding year by category of public facility and service area." (O.C.G.A. 36-71-8(c))

The required financial information for each public facility category appears in the main financial table (below); each of the public facility categories has a single, city-wide service area.

The City's fiscal year runs from July 1 to June 31.

CITY OF ALPHARETTA, GA
ANNUAL IMPACT FEE FINANCIAL REPORT
FISCAL YEAR 2014

	Recreation & Parks	Transportation	Public Safety	Total
Beginning Impact Fee Fund Balance	**$ 145,914**	**$ 453,375**	**$ 196,795**	**$ 796,084**
Fiscal Year 2014 Activity				
Sources:				
Impact Fees Collected	66,213	190,384	80,511	337,108
Accrued Interest	483	1,466	632	2,581
Uses:				
Project Expenditures/Debt Service	(1,188)	(3,500)	(1,563)	(6,250)
Administrative Costs	(1,986)	(5,712)	(2,415)	(10,113)
Impact Fee Refunds	-	-	-	-
subtotal	$ 63,522	$ 182,639	$ 77,165	$ 323,326
Ending Impact Fee Fund Balance	**$ 209,436**	**$ 636,014**	**$ 273,960**	**$ 1,119,410**
Impact Fees Encumbered at June 30, 2014	***$ 10,688***	***$ 31,500***	***$ 14,063***	***$ 56,250***

Schedule of Improvements

This Annual Update lists all impact fee eligible projects based on the City of Alpharetta's Capital Improvements Element that was in place during the past fiscal year. To be consistent with all previous Annual Updates, the same format has been maintained for this report.

The status of all impact fee projects contained in the currently adopted CIE, by public facility category, is shown on the tables on pages that follow.

CITY OF ALPHARETTA, GA
2015 CAPITAL IMPROVEMENT ELEMENT
IMPACT FEE ELIGIBLE PROJECTS**

Project Description	Status	Account #		Total Encumbrances /Expenses	Funding: % Allocable to Impact Fees*	Funding: $ Funded through Impact Fees	Funding: through Property Taxes (Debt Service)	Total Funding
Impact Fee Ordinance Update	In Process	27074110-521200		$ 60,000.00	100.0%	$ 60,000	$ -	$ 60,000
Series 2006 General Obligation Bonds								
Greenways								
Downtown Road Greenways	Complete	31441100-541510-	C0005	$ 130,956	37.0%	$ 48,454	$ 82,502	$ 130,956
Northern Greenway Extension	Complete	31461150-541510-	C0013	$ 341,346	1.0%	3,413	337,932	$ 341,346
Roads, Traffic, Intersection Improvements, Right-of-Way								
N Point Pkwy @ N Point Court	Complete	314-4101-541-0501		$ 132,406		-	132,406	$ 132,406
Mayfield Rd @ Canton St	Complete	31441100-541410-	C0000	$ 207,484	76.0%	157,688	49,796	$ 207,484
Old Milton @ Haynes Bridge	Complete	314-4101-541-0503		$ 102,796		-	102,796	$ 102,796
SR 9 North of Vaughan Road	Complete	31441100-541410-	C0001	$ 32,072	3.2%	1,026	31,046	$ 32,072
Hembree Road @ Maxwell Road	Complete	31441100-541410-	C0014	$ 340,000		-	340,000	$ 340,000
Kimball Bridge @ Waters Road	Complete	31441100-541410-	C0054	$ 183,876	24.0%	44,130	139,746	$ 183,876
Kimball Bridge Road Bridge	Complete	31441100-541410-	C0002	$ 190,089		-	190,089	$ 190,089
Westside Parkway Phase III	Complete	31441100-541410-	C0003	$ 7,131,152	2.8%	199,672	6,931,479	$ 7,131,152
Downtown Road Construction	Complete	31441100-541410-	C0004	$ 147,070	6.0%	8,824	138,246	$ 147,070
Downtown Road Alley	Complete	31441100-541410-	C0006	$ 298,449		-	298,449	$ 298,449
Traffic Signal Interconnect	Complete	31441100-541410-	C0007	$ 344,547	20.0%	68,909	275,638	$ 344,547
Traffic Control Center	Complete	31441100-542400-	C0008	$ 159,889	2.6%	4,157	155,732	$ 159,889
Shirley Bridge Rd Sidewalks	Complete	31441100-541420-	C1243	$ 41,000		-	41,000	$ 41,000
Bethany Road Sidewalks	Complete	314-4101-541-0522		$ 29,484		-	29,484	$ 29,484
Cogburn Road Sidewalks	Complete	314-4101-541-0523		$ 182,357		-	182,357	$ 182,357
Devore Road Sidewalks	Complete	31441100-541420-	C1134	$ 316,693		-	316,693	$ 316,693
Mid-Broadwell Sidewalks	Complete	31441100-541420-	C0907	$ 375,510	17.6%	66,090	309,420	$ 375,510
Kimball Bridge Road Sidewalks	Complete	314-4101-541-0526		$ 176,721		-	176,721	$ 176,721
Greenway Connection Sidewalk	Complete	314-4101-541-0527		$ 499,677		-	499,677	$ 499,677
Mayfield Rd Sidewalk	Complete	314-4101-541-0531		$ 13,902		-	13,902	$ 13,902
Westside S.ROW.GDOT/CID	Complete	314-4101-541-0533		$ 600,000		-	600,000	$ 600,000
Adaptive Traffic Control	Complete	31441100-541410-	C0914	$ 3,180		-	3,180	$ 3,180
Old Milton Pkwy/SR9 Intersection Improvement	Complete	31441100-541410-	C1137	$ 740,699		-	740,699	$ 740,699
Westside Pkwy Street Lights (Webb Br to Cumming St)	Complete	31441100-541410-	C1138	$ 142,073		-	142,073	$ 142,073
Milling & Resurfacing	Complete	31441100-541410-	C1219	$ 2,600,000		-	2,600,000	$ 2,600,000
Haynes Bridge Rd Side Walk	Complete	31441100-541420-	C0015	$ 217,857		-	217,857	$ 217,857
Wills Drive Sidewalk	Complete	31441100-541420-	C0016	$ 139,965		-	139,965	$ 139,965
Douglas Rd Bridge Replacement & Sidewalk	Complete	31441100-541420-	C1135	$ 1,546,157		-	1,546,157	$ 1,546,157
Alpha Park Drainage Repair & Improvement	Complete	31441100-541430-	C1136	$ 331,320		-	331,320	$ 331,320

CITY OF ALPHARETTA, GA
2015 CAPITAL IMPROVEMENT ELEMENT
IMPACT FEE ELIGIBLE PROJECTS**

Project Description	Status	Account #		Total Encumbrances /Expenses	Funding: % Allocable to Impact Fees*	Funding: $ Funded through Impact Fees	Funding: through Property Taxes (Debt Service)	Total Funding
Public Safety								
Police Storage Garage	Complete	314-3210-541-0516		$ 649,999		-	649,999	$ 649,999
Fire Station Six	Complete	31431155-541300-	C0009	$ 1,467,078		-	1,467,078	$ 1,467,078
Fire Trucks	Complete	31431155-542200-	C0010	$ 1,047,558		-	1,047,558	$ 1,047,558
Parks and Land								
Cogburn Road Park	Complete	31461150-541500-	C0011	$ 399,438		-	399,438	$ 399,438
Webb Bridge Park Phase III	Complete	31461150-541500-	C0012	$ 1,649,450	21.8%	359,580	1,289,870	$ 1,649,450
Park Land Acquisition	Complete	31461150-541000-	C1139	$ 4,242,416		-	4,242,416	$ 4,242,416
Webb Br Park Grant Match	Complete	31461150-541500-	C0017	$ 100,000		-	100,000	$ 100,000
Artificial Turf - Wills Park Field 4	Complete	31461150-541500-	C1128	$ 69,831		-	69,831	$ 69,831
Artificial Turf - North Park Field 2	Complete	31461150-541500-	C1140	$ 699,981		-	699,981	$ 699,981
				$ 28,024,478		$ 961,944	$ 27,062,534	$ 28,024,478

Notes

*Impact fees were used for debt service payments on general obligation bonds sold to finance the projects listed above. As such, the allocable project percentages listed above also apply against the allocable debt service carrying costs.

**Currently, the City charges an impact fee for road improvement projects, parks and recreation projects, and public safety projects. For each of the improvement categories, the service area is considered to be the City as a whole.

Glossary

The following terms are used in the Impact Fee Methodology Report. Where possible, the definitions are taken directly from the Development Impact Fee Act.

Capital improvement: an improvement with a useful life of ten years or more, by new construction or other action, which increases the service capacity of a public facility.

Capital improvements element: a component of a comprehensive plan adopted pursuant to Chapter 70 of the Development Impact Fee Act which sets out projected needs for system improvements during a planning horizon established in the comprehensive plan, a schedule of capital improvements that will meet the anticipated need for system improvements, and a description of anticipated funding sources for each required improvement.

Development: any construction or expansion of a building, structure, or use, any change in use of a building or structure, or any change in the use of land, any of which creates additional demand and need for public facilities.

Development impact fee: a payment of money imposed upon development as a condition of development approval to pay for a proportionate share of the cost of system improvements needed to serve new growth and development.

Eligible facilities: capital improvements in one of the following categories:

(A) Water supply production, treatment, and distribution facilities;

(B) Waste-water collection, treatment, and disposal facilities;

(C) Roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways;

(D) Storm-water collection, retention, detention, treatment, and disposal facilities, flood control facilities, and bank and shore protection and enhancement improvements;

(E) Parks, open space, and recreation areas and related facilities;

(F) Public safety facilities, including police, fire, emergency medical, and rescue facilities; and

(G) Libraries and related facilities.

Impact Cost: the proportionate share of capital improvements costs to provide service to new growth, less any applicable credits.

Impact Fee: the impact cost plus surcharges for program administration and recoupment of the cost to prepare the Capital Improvements Element.

Level of service: a measure of the relationship between service capacity and service demand for public facilities in terms of demand to capacity ratios or the comfort and convenience of use or service of public facilities or both.

Project improvements: site improvements and facilities that are planned and designed to provide service for a particular development project and that are necessary for the use and convenience of the occupants or users of the project and are not system improvements. The character of the improvement shall control a determination of whether an improvement is a project improvement or system improvement and the physical location of the improvement on site or off site shall not be considered determinative of whether an improvement is a project improvement or a system improvement. If an improvement or facility provides or will provide more than incidental service or

facilities capacity to persons other than users or occupants of a particular project, the improvement or facility is a system improvement and shall not be considered a project improvement. No improvement or facility included in a plan for public facilities approved by the governing body of the municipality or county shall be considered a project improvement.

Proportionate share: means that portion of the cost of system improvements which is reasonably related to the service demands and needs of the project.

Rational Nexus: the clear and fair relationship between fees charged and services provided.

Service area: a geographic area defined by a municipality, county, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas shall be designated on the basis of sound planning or engineering principles or both.

System improvement costs: costs incurred to provide additional public facilities capacity needed to serve new growth and development for planning, design and engineering related thereto, including the cost of constructing or reconstructing system improvements or facility expansions, including but not limited to the construction contract price, surveying and engineering fees, related land acquisition costs (including land purchases, court awards and costs, attorneys' fees, and expert witness fees), and expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element, and administrative costs, provided that such administrative costs shall not exceed 3 percent of the total amount of the costs. Projected interest charges and other finance costs may be included if the impact fees are to be used for the payment of principal and interest on bonds, notes, or other financial obligations issued by or on behalf of the municipality or county to finance the capital improvements element but such costs do not include routine and periodic maintenance expenditures, personnel training, and other operating costs.

System improvements: capital improvements that are public facilities and are designed to provide service to the community at large, in contrast to 'project improvements.'

Appendix: Walkway Project Listing

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
				Total:	**234,238**	**$49,063,845**	
001	Academy Street	North	West PL of The Preserve at Academy Pk	East PL of Alpharetta Presbyterian Church	1,012	$203,120	$200.71
002	Academy Street	North	Fire Station #1 Entrance	East PL of The Preserve at Academy Park	1,523	$311,095	$204.26
003	Academy Street	South	Entrance to Webb Bridge Crossing Apts	East PL of Webb Bridge Crossing Apartments	431	$58,185	$135.00
004	Alderman Drive	East/South	South PL of 1005 Alderman Drive	West PL of 1375 Alderman Drive	2,136	$278,700	$130.48
005	Alderman Drive	East/South	Nobel Court	West PL of 1200 Windward Concourse	488	$36,225	$74.23
006	Alderman Drive	West/North	Windward Concourse	North PL of 1050 Alderman Drive	1,960	$153,325	$78.23
009	Bates Road	North	Providence Road	West PL of The Oaks at Harrington Falls	953	$128,655	$135.00
011	Bethany Road	West	South PL of Danbury Park	North PL of Bethany Commons	955	$138,925	$145.47
012	Bethany Road	East	Chantilly Drive	Mayfield Road	1,071	$227,085	$212.03
013	Brady Place	North	Maxwell Road	State Route 9	728	$258,210	$354.68
014	Brady Place	South	State Route 9	Maxwell Road	803	$259,920	$323.69
015	Broadwell Road	East	Rucker Road	North PL of 12295 Broadwell Road	1,020	$137,700	$135.00
016	Brookside Parkway	North	Frontage of parcel behind Arbys	Frontage of parcel behind Brusters	610	$30,500	$50.00
017	Canton Street	East	Church Street	Trailer Street	313	$152,675	$487.78
018	Canton Street	West	Shady Grove Lane	Mayfield Road	1,342	$760,620	$566.78
019	Canton Street	East	North PL 381 Canton Street	North PL of 410 Main Street	376	$68,260	$181.54
020	Canton Street	West	City Limits	Driveway of 12790 Hopewell Road	45	$8,740	$194.22
021	Charlotte Drive	East	Rucker Road	Mid Broadwell	4,342	$553,300	$127.43
022	Charlotte Drive	West	North PL of 12490 Charlotte Drive	North PL of 12370 Charlotte Drive	1,348	$205,605	$152.53
023	Church Street	North	Canton Street	East PL of 89 Canton Street	160	$35,445	$221.53
024	Cingular Way	East	End of Public ROW	Windward Parkway	704	$103,200	$146.59
025	Clubhouse Drive	West/South	Lake Shore Overlook	Douglas Road	6,611	$335,550	$50.76
026	Cogburn Road	East	North PL of Cogburn Road Park	North PL of 12895 Cogburn Road	635	$116,600	$183.62

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
027	Cogburn Road	East	South PL of 12975 Cogburn Road	City Limits	216	$52,000	$240.74
028	Cotton Creek Entry	East	Cotton Mill Place	Cul-de-sac	554	$27,700	$50.00
029	Cotton Creek Entry	West	Cul-de-sac	Old Milton Parkway	1,101	$125,925	$114.37
030	Cotton Mill Path	East	Old Milton Parkway	Cotton Mill Place	317	$15,850	$50.00
031	Cotton Mill Place	North	Cotton Mill Path	Cotton Creek Entry	425	$21,250	$50.00
032	Crabapple Road	East/South	Silos Park frontage	Silos Park frontage	229	$75,010	$327.55
033	Crabapple Road	East/South	East PL of 12389 Crabapple Road	City Limits	1,287	$284,620	$221.15
034	Crabapple Road	West/North	Frontage of parcel 22 386011670467	Frontage of parcel 22 386011670467	425	$91,750	$215.88
035	Cumming Street	South	West PL of Parcel 22-498112530605	West PL of 12365 Clairmonte Avenue	2,655	$783,850	$295.24
036	Cumming Street	South	East PL of Manning Oaks Elementary	Westside Parkway	640	$114,500	$178.91
037	Devore Road	North	West PL of QT	State Route 9	1,763	$390,305	$221.39
038	Douglas Road	East	Frontage of 12375 Douglas Road	Frontage of 12375 Douglas Road	241	$47,535	$197.24
039	Douglas Road	East	South PL of 12383 Douglas Road	North PL of 12387 Douglas Road	208	$28,080	$135.00
040	Douglas Road	East	North PL of 110 Gate Dancer Way	City Limits	406	$100,285	$247.01
041	Dryden Road	East	Morris Road	North Point Parkway	2,312	$120,600	$52.16
042	Duke Drive	East	Cul-de-sac	Mansell Road	1,200	$80,000	$66.67
043	Edison Drive	West	Windward Parkway	North PL of 5815 Windward Parkway	902	$244,925	$271.54
044	Edison Drive	West	South of driveway to 5815 Windward Pky	Cul-de-sac	1,370	$71,000	$51.82
045	Edison Drive	East	Cul-de-sac	South PL of 12655 Edison Drive	1,769	$90,950	$51.41
046	Encore Parkway	North	West end of bridge over Georgia 400	Western ROW of Georgia 400	66	$21,350	$323.48
047	Encore Parkway	North	North Point Parkway	East end of bridge over Georgia 400	1,451	$131,325	$90.51
048	Encore Parkway	South	East end of bridge over Georgia 400	West PL of Wells Fargo Bank	1,151	$478,125	$415.40
049	Founders Parkway	South	Frontage of 1755 Founders Parkway	Frontage of 1755 Founders Parkway	322	$16,100	$50.00
050	Harris Road	East	Upper Hembree Road	North PL of 1200 Upper Hembree Road	350	$62,250	$177.86
051	Harris Road	East	Harris Commons Place	Rucker Road	1,410	$229,900	$163.05
052	Harris Road	West	Rucker Road	North PL of 505 Kingsport Drive	271	$36,585	$135.00
053	Haynes Bridge Road	East	North end of bridge over Georgia 400	Southbound Georgia 400 off ramp	330	$48,250	$146.21
054	Haynes Bridge Road	East	Northbound Georgia 400 on ramp	South end of bridge over Georgia 400	93	$51,425	$552.96
055	Haynes Bridge Road	West	Mansell Road	Blackwatch Lane	1,154	$427,290	$370.27

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
056	Haynes Bridge Road	West	West PL of 10590 Haynes Bridge Road	City Limits	2,440	$1,009,800	$413.85
057	Hembree Road	North	Westside Parkway / Morrison Parkway	North Fulton Industrial Boulevard	2,130	$574,465	$269.70
058	Hembree Road	South	North Fulton Industrial Boulevard	East PL of 1805 North Fulton Ind Blvd	258	$12,900	$50.00
059	Hembree Road	South	East PL of 2055 Hembree Road	Westside Parkway / Morrison Parkway	557	$69,075	$124.01
060	Henderson Parkway	East	Cumming Street	Henderson Place	1,713	$203,300	$118.68
061	Henderson Parkway	East	West PL of 1300 Millstone Drive	North PL of 5175 North Somerset Lane	1,573	$83,650	$53.18
062	Kimball Bridge Road	North	Parkway 400 driveway	Westside Parkway	202	$28,275	$139.98
063	Kimball Bridge Road	North	Northwinds Parkway / Bailey Johnson Road	Northern property line of FCBOE parcel	1,933	$453,730	$234.73
064	Kimball Bridge Road	North	West end of bridge over Georgia 400	Northwinds Parkway / Bailey Johnson Road	725	$253,200	$349.24
065	Kimball Bridge Road	South	Teasley Place	Northwinds Parkway	1,171	$196,085	$167.45
066	Kimball Bridge Road	South	Western ROW of Georgia 400	West end of bridge over Georgia 400	303	$100,980	$333.27
067	Kimball Bridge Road	North	Approx. 108' north of 4905 North Point Pkwy	East end of bridge over 400	450	$192,050	$426.78
068	Kimball Bridge Road	South	East end of bridge over 400	Approx. 75' north of Ga Power facility drive	966	$271,310	$280.86
069	Lake Windward Drive	West	Approx. 100' south of Signal Pointe	Willow Tree Way	1,809	$185,400	$102.49
070	Lake Windward Drive	West	Clubhouse Drive	Signal Pointe	3,250	$167,500	$51.54
071	Little Pine Trail	North	Union Hill Road	Union Hill Park Entrance	208	$12,900	$62.02
072	Little Pine Trail	North	Union Hill Park Entrance	Cul-de-sac	215	$13,250	$61.63
073	Little Pine Trail	South	Cul-de-sac	Union Hill Road	490	$48,215	$98.40
074	Mansell Court	North	Warsaw Road	Cul-de-sac	374	$87,075	$232.82
075	Mansell Court	South	Cul-de-sac	Warsaw Road	353	$37,650	$106.66
078	Marconi Drive	East/North	Driveway for 2050 Marconi Dr	Windward Parkway	1,215	$158,250	$130.25
079	Marconi Drive	West/South	Southern PL of 3755 Marconi Dr	Cul-de-sac	723	$46,150	$63.83
080	Marietta Street	South	Roswell Street	State Route 9	617	$223,845	$362.80
081	Marietta Street	North	Roswell Street	Cotton Alley	33	$18,900	$572.73
083	Market Place	West	Opposite Fire Station #2	Cul-de-sac	846	$99,225	$117.29
084	Market Place	East	Cul-de-sac	South side of Fire Station #2 Driveway	781	$50,125	$64.18
085	Marstrow Drive	West	Crabapple Road	City Limits	361	$121,760	$337.29
086	Marstrow Drive	East	City Parking Lot	Crabapple Road	340	$34,500	$101.47
087	Maxwell Road	West	State Route 9	65' north of driveway to 375 Maxwell	1,150	$484,500	$421.30

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
091	Mayfield Road	North	193 Mayfield Road Driveway	West PL of 285 Mayfield Road	1,691	$541,860	$320.44
092	Mayfield Road	North	Approx. 135' west of1788 Mayfield Road	West PL of 1760 Mayfield Road	930	$317,800	$341.72
093	Mayfield Road	South	West PL of 1001 Colony Drive	Mayfield Manor Drive	1,077	$317,320	$294.63
096	Mayfield Road	North	Bates Road	West PL of 1630 Mayfield Road	522	$70,470	$135.00
097	Mayfield Road	South	Bethany Road	East PL of 1645 Mayfield Road	4,036	$746,260	$184.90
098	Mayfield Road	North	East PL of 1580 Mayfield Road	Approx. 90' east of Harrington Drive	323	$64,105	$198.47
099	Mayfield Road	North	West PL of 12950 Harrington Drive	East PL of 1110 Mayfield Road	3,776	$522,260	$138.31
100	Mayfield Road	North	West PL of 1110 Mayfield Road	Freemanville Road	297	$54,095	$182.14
102	McGinnis Ferry Road	South	City Limits	Windward Concourse	988	$424,390	$429.54
103	McGinnis Ferry Road	South	Approx. 500' east of Windward Concourse	Approx. 1150' east of Windward Concourse	660	$170,600	$258.48
104	McGinnis Ferry Road	South	Approx. 160' south of 4225 McGinnis Ferry Rd	West PL of 13053 Dartmore Avenue	7,887	$3,184,695	$403.79
105	McGinnis Ferry Road	South	East PL of 13005 Dartmore Avenue	Windward Parkway	350	$140,250	$400.71
106	McGinnis Ferry Road	South	Approx. 225' east of Windward Parkway	West PL of 340 Fieldstone Walk	1,015	$322,750	$317.98
107	Mid Broadwell Road	South	East PL of Lexington Farm Apartments	Wills Road	973	$519,530	$533.95
108	Mid Broadwell Road	South	Approx. 75' west of Lex. Farm. Apart.	Approx. 80' east of Lex. Farm Apart.	162	$52,520	$324.20
109	Mid Broadwell Road	South	West PL of 1501 Mid Broadwell Road	Approx. 45' east of 1501 Mid Broadwell Rd	976	$337,570	$345.87
110	Mid Broadwell Road	South	West PL of 1395 Mid Broadwell Road	West PL of Fire Station #5	334	$47,590	$142.49
112	Mid Broadwell Road	South	Charlotte Drive	West PL of 12490 Pindell Circle	1,639	$481,250	$293.62
113	Mid Broadwell Road	North	West PL of 1000 St. Michelle Drive	City Limits	60	$21,600	$360.00
114	Mill Creek Avenue	East	Pallisades at Milton Park entrance	Driveway to 29000 Mill Creek Avenue	1,228	$110,350	$89.86
115	Morris Road	West	Webb Bridge Road	Country Place Court	1,589	$404,420	$254.51
116	Morris Road	East	North PL of 3330 Preston Ridge Rd	Webb Bridge Road	715	$81,500	$113.99
117	Morris Road	West	Tradewinds Parkway	Webb Bridge Road	2,045	$107,250	$52.44
118	Morris Road	East	North PL of 22 546012591380 (Data Center)	Tradewinds Parkway	687	$63,600	$92.58
119	Morris Road	North	North Point Parkway	Morris Road	661	$304,235	$460.26
120	Morris Road	South	Cul-de-sac	East PL of 12410 Morris Road	871	$158,460	$181.93
121	Morris Road	North	Dryden Rd	Cul-de-sac	239	$64,890	$271.51
122	Morrison Parkway	North	Fed Ex Driveway	Hembree Road	1,477	$511,520	$346.32
123	Morrison Parkway	South	Hembree Rd	Approx. 170' west of Lakeview Parkway	1,943	$422,430	$217.41

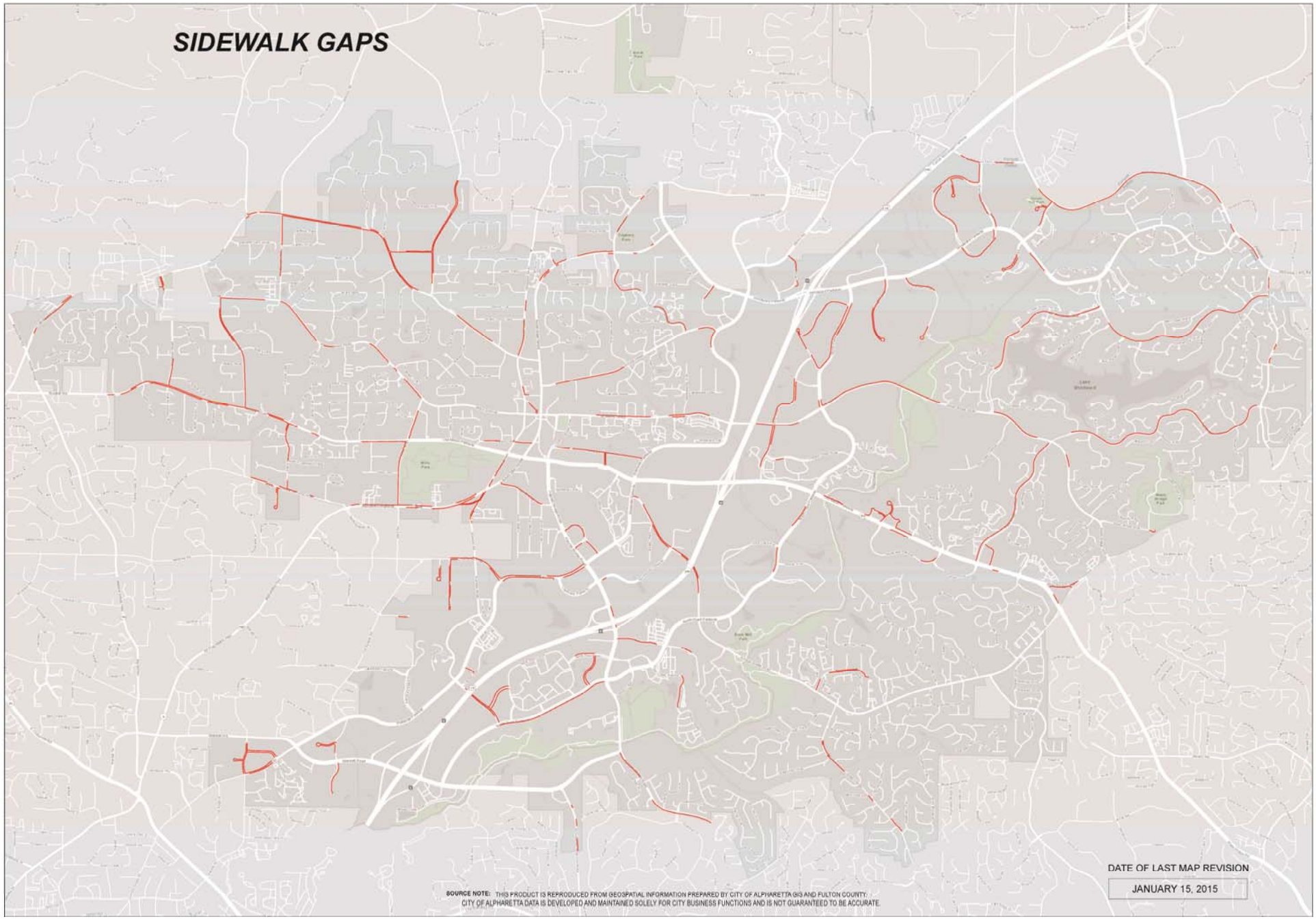
	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
124	Morrison Parkway	North	Haynes Bridge Road	East PL of Fed Ex property	1,458	$356,325	$244.39
125	Morrison Parkway	South	Approx. 100' east of Lakeview Parkway	Haynes Bridge Road	857	$114,275	$133.34
126	Nobel Court	West	South PL of 1375 Alderman	Cul-de-sac	483	$50,350	$104.24
127	Nobel Court	East	Cul-de-sac	Alderman Drive	726	$147,550	$203.24
128	North Fulton Ind Blvd	West	South PL of 1775 Hembree Road	Amphitheatre	1,642	$416,920	$253.91
129	North Fulton Ind Blvd	East	South PL of 11445 North Fulton Ind Blvd	Hembree Road	849	$152,290	$179.38
130	North Fulton Ind Blvd	East	Driveway of 11395 North Fulton Ind Blvd	South PL of 11435 North Fulton Ind Blvd	293	$39,555	$135.00
131	North Fulton Ind Blvd	East	Verizon Wireless Amphitheatre	North PL of 11361 North Fulton Ind Blvd	126	$17,010	$135.00
132	North Point Center East	West	Mall Loop Road	Encore Parkway	1,159	$115,450	$99.61
133	North Point Center East	East	Encore Parkway	Mall Loop Road	1,059	$102,950	$97.21
134	North Point Court	East	North Point Parkway	North Point Drive	1,248	$139,900	$112.10
135	North Point Court	West	North Point Drive	North Point Parkway	1,289	$116,950	$90.73
136	North Point Drive	North	North Point Court	East PL of Residence Inn	684	$61,700	$90.20
137	North Point Parkway	East	Encore Parkway	Haynes Bridge Road	4,222	$935,400	$221.55
138	North Point Parkway	West	Great Oaks Way (north)	North PL of 4501 North Point Parkway	928	$135,700	$146.23
139	North Point Parkway	West	South PL of 4125 North Point Parkway	South PL of 3333 Old Milton Parkway	878	$68,350	$77.85
140	North Point Parkway	West	South PL of 925 North Point Parkway	Webb Bridge Road	278	$80,850	$290.83
141	North Point Parkway	East	Webb Bridge Road	North PL of 960 North Point Parkway	229	$71,675	$312.99
142	North Point Parkway	West	Dryden Road	Morris Road	2,515	$228,625	$90.90
143	North Point Parkway	East	Southern driveway of 300 Windward Pky	South PL of 5815 Windward Parkway	1,315	$210,575	$160.13
144	Northwinds Parkway	South	Haynes Bridge Road	165' North of Hayne Bridge Road	165	$35,625	$215.91
145	Old Alabama Connector	East	Frontage of 10525 Mansell Road	Frontage of 10525 Mansell Road	94	$4,700	$50.00
146	Old Alabama Connector	East	Approx 80' south of 10455 Old Alabama Conn	Approx. 145' north of 10455 Old Alabama Conn	233	$11,650	$50.00
147	Old Alabama Connector	East	City Limits	Approx. 90' south of 10425 Old Al. Conn	494	$24,700	$50.00
149	Old Canton Street	West/South	Driveway of 44 Old Canton Street	Milton Avenue	507	$198,445	$391.41
150	Old Milton Parkway	North	West PL of 3548 Old Milton Parkway	West of Big Creek	809	$859,090	$1,061.92
151	Old Milton Parkway	North	Waters Ferry Drive	East PL of 3548 Old Milton Parkway	181	$38,470	$212.54
152	Old Milton Parkway	North	Camden Way	Cotton Mill Path	646	$113,130	$175.12
153	Old Milton Parkway	South	East PL of 3665 Old Milton Parkway	West PL of 3750 Brookside Parkway	700	$111,065	$158.66

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
154	Old Milton Parkway	South	Frontage of 4155 Old Milton Parkway	Frontage of 4155 Old Milton Parkway	202	$51,845	$256.66
155	Old Milton Parkway	North	Kimball Bridge Road	Driveway to 11378 State Bridge Road	363	$112,785	$310.70
156	Old Morris Road	East	North PL of 16875 Old Morris Road	Morris Road / Morris Road Extension	689	$64,450	$93.54
157	Old Morris Road	East	East PL of 5580 Windward Parkway	South PL of 16875 Old Morris Road	274	$31,200	$113.87
158	Old Roswell Road	West	Approx. 150' south of 1020 Old Roswell Rd	Warsaw Road	1,101	$103,025	$93.57
159	Old Roswell Road	East	East PL of 1085 Warsaw Road	Approx. 200' of Manchester at Mansell Apt.	918	$244,630	$266.48
160	Park Street	West	Thompson Street	Old Milton Parkway	432	$95,820	$221.81
161	Park Street	East	Old Milton Parkway	Thompson Street	433	$60,955	$140.77
162	Park Woods Circle	West/South	Parkbridge Parkway	Old Milton Parkway	960	$73,525	$76.59
163	Parkbridge Parkway	West	Webb Bridge Road	Old Milton Parkway	5,397	$334,750	$62.03
164	Pointe Place	West	Upper Hembree Road	North PL of 11775 Pointe Pl	213	$10,650	$50.00
165	Pointe Place	West	South PL of 11735 Pointe Pl	Cul-de-sac	150	$7,500	$50.00
166	Pointe Place	East	Cul-de-sac	Upper Hembree Road	842	$52,100	$61.88
167	Preston Ridge Road	South	East PL of 11975 Morris Road	Western-most drive to Northside Hospital	289	$15,625	$54.07
168	Providence Road	West	North PL of 12650 Providence Road	Middle of frontage of 12610 Providence Road	508	$122,480	$241.10
170	Providence Road	West	South PL of 12760 Providence Road	Bates Road	546	$102,360	$187.47
171	Providence Road	West	City Limits	South PL of 12760 Providence Road	2,316	$358,910	$154.97
172	Providence Road	East	Weatherstone Way	City Limits	3,692	$843,320	$228.42
173	Rainwater Boulevard	South	Haynes Bridge Road	Driveway	1,071	$278,050	$259.62
174	Rainwater Drive	West/South	Haynes Bridge Road	Roundabout	306	$124,750	$407.68
175	Rainwater Drive	West/South	Roundabout	Westside Parkway	619	$158,425	$255.94
176	Rock Mill Road	South	Haynes Bridge Road	Driveway of 5865 North Point Parkway	1,484	$226,700	$152.76
177	Rock Mill Road	North	Atlantis Place Cul-de-Sac	West PL of New Prospect Elementary	461	$126,450	$274.30
178	Rockmill Way	North	Westside Way	Cul-de-sac	872	$303,050	$347.53
179	Rockmill Way	South	Cul-de-sac	Westside Way	680	$111,505	$163.98
180	Roswell Street	East	State Route 9	South PL of 241 South Main Street (Pizza Hut)	297	$74,805	$251.87
181	Roswell Street	East	North PL of 241 South Main Street	South PL of 158 Roswell Street (Zaxbys)	697	$268,270	$384.89
183	Rucker Road	South	West PL of 1535 Rucker Road	East PL of 1595 Rucker Road	915	$361,190	$394.74
184	Rucker Road	South	Driveway of 1295 Rucker Road	Dennis Drive	303	$50,980	$168.25

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
185	Rucker Road	South	Foe Killer Creek	West PL of 1255 Rucker Road	1,128	$402,130	$356.50
186	Rucker Road	North	East PL of 1220 Rucker Road	West PL of 1200 Rucker Road	645	$256,600	$397.83
187	Rucker Road	North	East PL of 1080 Rucker Road	Foe Killer Tributary	4,940	$1,530,500	$309.82
188	Rucker Road	South	Old Station Place	West PL of 973 Southerby Lane	744	$152,420	$204.87
189	Rucker Road	South	East PL of 100 Welford Trace	East PL of 11850 North Hickory Trace	1,998	$682,505	$341.59
190	Rucker Road	South	Driveway of St. Thomas Aquinas Church	West PL of 105 Welford Trace	624	$328,115	$525.83
191	Rucker Road	South	Barrow Downs / City Limits	West PL of St. Thomas Aquinas Church	235	$44,405	$188.96
192	Shirley Bridge / Southlake	North	Douglas Road	West PL of 21 563212500014	8,368	$737,000	$88.07
193	Sims Industrial Boulevard	West	Vehicle Drop off	Cul-de-sac	513	$200,755	$391.34
194	Sims Industrial Boulevard	East	Cul-de-sac	Performance Auto Collision driveway	567	$215,195	$379.53
195	Spruell Circle	West	North PL of 3400 Kimball Bridge Road	Kimball Bridge Road	445	$142,450	$320.11
196	Spruell Circle	South	East PL of 10997 Waters Road	End	1,624	$251,905	$155.11
197	Spruell Circle	North	East PL of 3550 Spruell Circle	West PL of 3500 Spruell Circle	790	$146,500	$185.44
198	State Route 9	West/North	East PL of 1495 Alpharetta Highway	City Limits	270	$136,550	$505.74
199	State Route 9	West/North	West PL of 571 State Highway 9	Haney Drive	1,812	$245,650	$135.57
200	State Route 9	East/South	East PL of 1675 South Main Street	West PL of 530 State Highway 9	461	$233,975	$507.54
201	State Route 9	West/North	West PL of 501 South Main Street	East PL of 571 State Highway 9	613	$60,975	$99.47
202	State Route 9	East/South	East PL of 520 State Highway 9	Driveway of 342 South Main Street	1,672	$706,700	$422.67
203	State Route 9	West/North	West PL of 305 South Main Street	East PL of 411 State Highway 9	798	$249,375	$312.50
204	State Route 9	West/North	West PL of 540 North Main Street	Opposite Winthrope Park Drive	544	$118,115	$217.12
206	State Route 9	West/North	City Limits	Vaughan Drive	452	$186,620	$412.88
207	State Route 9	East/South	Driveway of 551 State Highway 9	Approx. 90' east of 551 State Highway 9	97	$41,575	$428.61
208	State Route 9	West/North	Cogburn Road	City Limits	1,300	$165,000	$126.92
209	State Route 9	East/South	West PL of 711 State Highway 9	Henderson Parkway	154	$26,550	$172.40
210	State Route 9	East/South	Frontage of 789 North Main Street	Frontage of 789 North Main Street	112	$62,720	$560.00
211	State Route 9	West/North	Lowes Driveway	East PL of 830 North Main Street	107	$115,525	$1,079.67
212	State Bridge Way	North	City Limits	310' west of City Limits	310	$38,750	$125.00
213	State Bridge Way	South	Kimball Bridge Road	Old Milton Parkway	838	$310,150	$370.11
214	Tempo Lane	South	Westside Parkway	Fanfare Way	368	$18,400	$50.00

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
215	Thompson Street	North	West PL of 72 Thompson Street	Approx. 130' east of Haynes Bridge Road	430	$73,435	$170.78
216	Thompson Street	North	Westside Parkway	East PL of 72 Thompson Street	2,605	$838,725	$321.97
217	Union Hill Road	West	McGinnis Ferry Road	North PL of 1650 Union Hill Road	1,030	$79,000	$76.70
218	Upper Hembree Road	North	West PL of 1300 Upper Hembree Road	East PL of 1260 Upper Hembree Road	139	$120,890	$869.71
219	Upper Hembree Road	North	West PL of 1230 Upper Hembree Road	West PL of 1190 Upper Hembree Road	667	$100,045	$149.99
220	Upper Hembree Road	South	Pointe Place	West PL of 1180 Upper Hembree Road	63	$23,150	$367.46
221	Upper Hembree Road	South	East PL of 11725 Upper Hembree Road	Approx. 190' west of Pointe Place	283	$38,205	$135.00
222	Upper Hembree Road	North	West PL of 1130 Upper Hembree Road	City Limits	628	$67,460	$107.42
223	Vaughan Drive	East/North	State Route 9	North PL of 562 State Highway 9	203	$64,980	$320.10
224	Warsaw Road	East	Old Roswell Road	South PL of 1055 Mansell Road	1,134	$84,200	$74.25
225	Warsaw Road	West	South PL of 1035 Mansell Road	Old Roswell Road	1,146	$236,275	$206.17
226	Waters Road	East	South PL of 10715 Waters Road	North PL of 10795 Waters Road	650	$220,750	$339.62
227	Waters Road	West	Frontage of 10790 Waters Road	Frontage of 10790 Waters Road	125	$16,875	$135.00
228	Waters Road	West	South PL of 3400 Mainstay Place	Long Indian Creek	862	$184,400	$213.92
229	Waters Road	West	Frontage of 10480 Waters Road	Frontage of 10480 Waters Road	250	$50,050	$200.20
230	Waters Road	East	Waterview Drive	Milton Park Drive	629	$209,720	$333.42
231	Waters Ferry Drive	West	Cul-de-sac	Old Milton Parkway	314	$15,700	$50.00
232	Waters Ferry Way	North	Cotton Creek Entry	Cul-de-sac	604	$30,200	$50.00
233	Waters Ferry Way	South	Old QT frontage	Old QT frontage	290	$14,500	$50.00
234	Webb Bridge Road	South	East end of bridge over Georgia 400	East PL of 22 546012610826	1,600	$97,425	$60.89
235	Webb Bridge Road	North	Alpharetta High School Traffic Signal	North Point Parkway	1,419	$256,425	$180.71
237	Webb Bridge Road	North	West PL of 720 Westwind Lane	Webb Bridge Road at Eastgate SD entrance	1,836	$1,525,460	$830.86
238	Webb Bridge Road	North	East PL of 21 559012490422	Lake Windward Drive	1,895	$306,320	$161.65
239	Webb Bridge Road	North	North PL of 1430 Bittercress Court	Approx. 140' south of 4430 Webb Bridge Road	450	$146,000	$324.44
240	Webb Bridge Road	South	Webb Bridge Park Entrance	Johns Creek Trail / Cul-de-sac	238	$103,145	$433.38
241	Westside Parkway	West	Cumming Street	North PL of 2580 Westside Dr	626	$174,950	$279.47
242	Westside Way	West	Frontage of 10740 Westside Way	Frontage of 10740 Westside Way	342	$19,600	$57.31
243	Wills Road	West	Southern PL of Enclave at Wills SD	State Route 9	1,584	$323,580	$204.28
245	Wills Road	East	Rucker Road / Old Milton Parkway	Burnett Way	1,079	$202,925	$188.07

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
246	Windward Concourse	East	Windward Parkway	Driveway of 1001 Windward Concourse	513	$82,150	$160.14
247	Windward Concourse	West	South PL of 1200 Windward Concourse	South driveway of 1000 Windward Concourse	869	$88,250	$101.55
248	Windward Concourse	West	McGinnis Ferry Road	Alderman Drive	693	$100,600	$145.17
249	Windward Parkway	South	Approx. 110' east of 6225 Windward Pky	Approx. 115' east of bridge over Big Creek	881	$817,780	$928.24
250	Windward Plaza	North	Windward Parkway	South PL of Wells Fargo	320	$21,000	$65.63
251	Windward Plaza	South	Windward Parkway	South PL of Gas Station	1,694	$159,175	$93.96


SIDEWALK GAPS
DATE OF LAST MAP REVISION
JANUARY 15, 2015
SOURCE NOTE: THIS PRODUCT IS REPRODUCED FROM GEOSPATIAL INFORMATION PREPARED BY CITY OF ALPHARETTA GIS AND FULTON COUNTY.
CITY OF ALPHARETTA DATA IS DEVELOPED AND MAINTAINED SOLELY FOR CITY BUSINESS FUNCTIONS AND IS NOT GUARANTEED TO BE ACCURATE.

Impact Fee Methodology Report

Alpharetta Impact Fee Program

Including the following public facility categories—

Public Safety:
Fire and Police Services
Police Detention Center
Emergency Communications
Recreation and Parks
Roads

April 27, 2015

ROSS+associates
urban planning & plan implementation

in association with
amec foster wheeler

NOTICE:

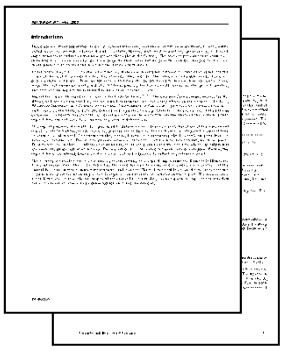
This report is a continuation, refinement and update of the existing Alpharetta impact fee program, created through the prior adoption and amendments of the City's Capital Improvements Element and the Alpharetta Impact Fee Ordinances.

As such, the 'base' year of this report has been updated to 2014, with updates to new growth demand, cost estimates, inflation factors, etc., as appropriate.

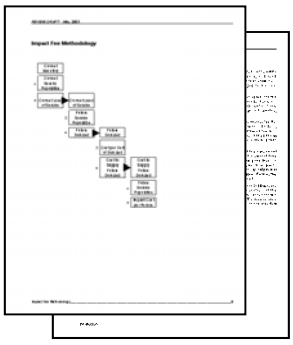
Table of Contents

Organization of the Report

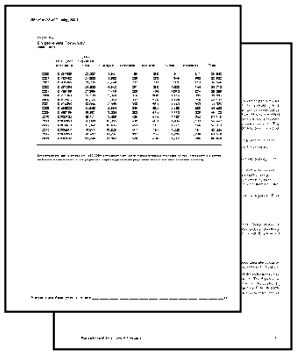
The following describes the chapters that make up the *Impact Fee Methodology Report*.



Introduction – this chapter introduces and summarizes the calculation of impact fees, as well as the requirements for adoption and maintenance of the impact fee program. It includes an **Overview of the Impact Fee Program**, and concludes with the schedule of **Maximum Impact Fees**.

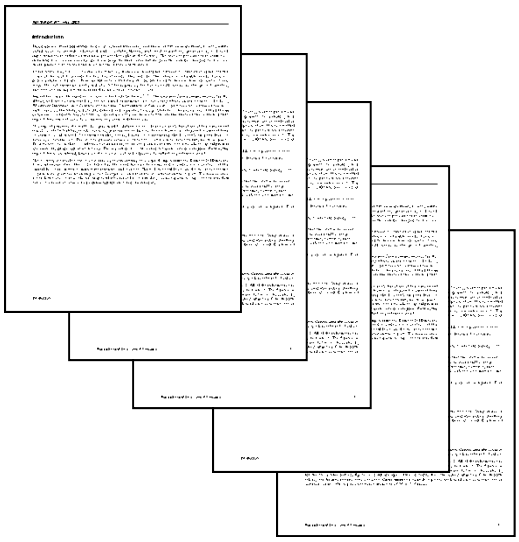


Methodology – this chapter outlines the calculations and data required for impact fee calculation, including information on level of service and service area considerations.



Forecasts – this section presents the population, housing unit, and employment forecasts for the city and the 'service area' figures to be used in the calculations—housing units for Parks & Recreation and a 'day/night' populations for Public Safety service demand.

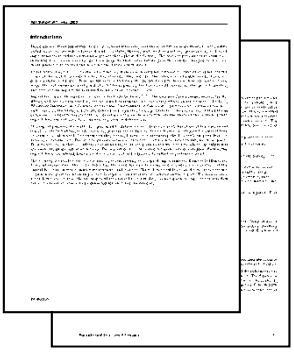
Cost Adjustments and Credits – considering inflation in future project cost is critical in setting impact fees that will produce adequate funds at the anticipated future date when the funds will be needed. Conversely, taxes that will be collected from new growth for the same projects that their impact fees are intended to cover must be taken as a credit from the impact fee amount in order to avoid double taxation—paying for the same improvements twice.



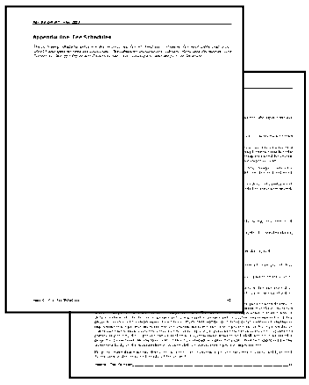
Public Facility Category Chapters – these chapters walk through the calculation of level of service, future demand, capital improvements to meet the future demand, and determination of project costs for each public facility category.

The public facility categories covered are **Public Safety**, including the Police and Fire Protection, the Detention Center and Emergency Communications components, as well as **Recreation & Parks**, including Parks Projects and the Walkway System components, and **Roads**.

Each public facility component chapter ends with the calculation of any relevant credit against future taxes that will be collected from new growth in future years for the same capital improvements, and the resulting impact fee that could be adopted. A schedule of maximum fees by type of land use concludes each chapter.



Glossary – this chapter presents definitions of many key terms used in the report related to impact fees.



Technical Appendix – the appendix presents detailed Technical Analyses underlying the forecasts prepared to 2035 for population, households, housing units and employment in the city; an analysis of traffic generation; and a summary and map of planned improvements to the walkway System.

Executive Summary

An impact fee is a FEE, not a tax. With taxes—like property taxes and sales taxes—there is no direct relationship between the taxes one pays and the return—the services—that each taxpayer receives. Everyone pays school taxes based on the value of their property, regardless of whether they have one kid in school, six kids in school or no kids at all. A fee, on the other hand, must be related to the service being made available. For instance, only those obtaining a building permit pay the building permit fee (which covers the cost of plan reviews and approvals, and construction inspections). One's water bill is a fee because the amount is based on how much water they used. In the case of impact fees, the amount of each fee is directly related to the City's cost of making particular services available—the cost of fire trucks and fire stations located within reasonable response distances, for instance, or the 911 center's ability to handle emergency calls efficiently, or the ability to quickly respond with law enforcement personnel.

Under the State impact fee law, impact fees can be collected only for specific public facility categories. These include public safety (fire, law enforcement, emergency communications, emergency medical services), parks and recreation, and roads.

■ Focus of This Report

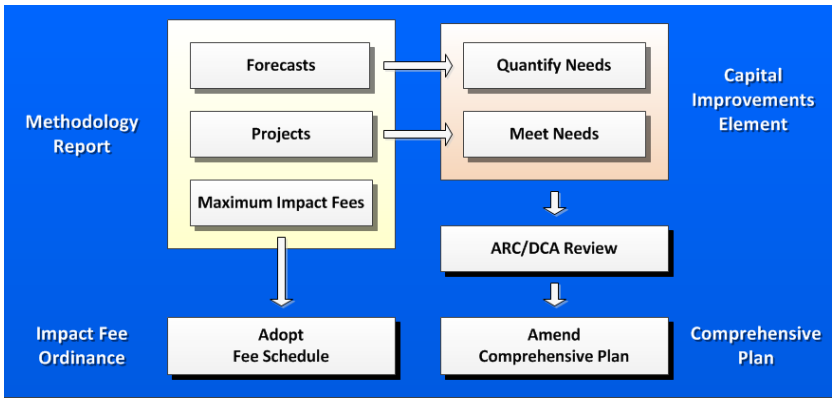
This report focuses on the public facilities that will be needed to meet the demands of future growth and development while maintaining the current level of service enjoyed by residents and businesses in the city today. The key is that the capital improvement, whether it's land, buildings or long-lived vehicles, must create new capacity within the system to keep pace with the number of future residents and businesses as the city grows. Maintenance and personnel are not eligible for impact fee funding, nor would replacement of deteriorated floor space or a run-down vehicle because, although the replacement is maintaining the level of service, no new capacity is created to serve the needs of new growth.

In this report capital costs have been examined for several public facility components: police and fire protection, the police detention center, emergency communications, parks projects, the walkway system, and road improvements.

■ Components of the Impact Fee System

The Alpharetta Impact Fee System consists of four components:

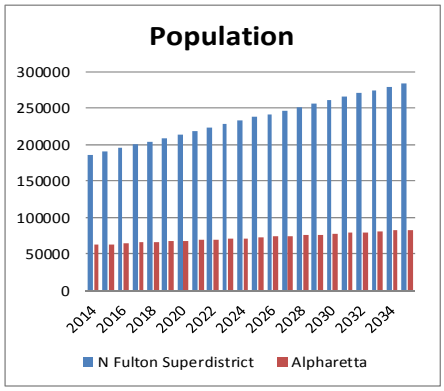
- This **Methodology Report**, which includes:
  - updated forecasts of population, housing units and employment for the city;
  - capital improvement projects to serve new growth, based on appropriate Level of Service standards, for each public facility category; and,
  - the impact cost of new growth and development (and thus the maximum impact fees that can be assessed).

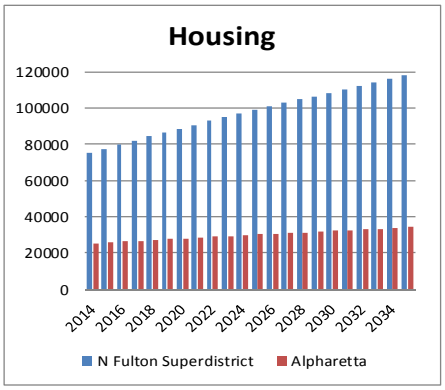


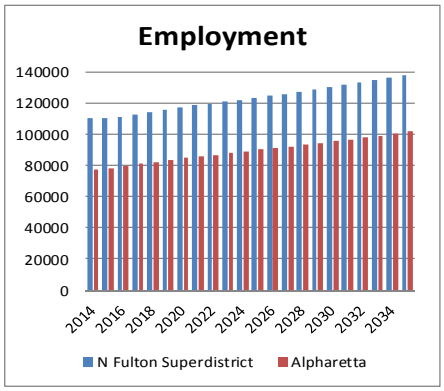
- A **Capital Improvements Element** (CIE) to implement the City's proposed improvements, including an updated Five-Year Community Work Program.
- An **Impact Fee Ordinance**, including an impact fee schedule by land use category.
- The City's **Comprehensive Plan**, which will be amended by the adoption of the CIE.

■ Forecasts

Continuing past trends, Alpharetta is expected to continue to grow with regard to population, housing and jobs. Other cities in the N Fulton Superdistrict—Milton and John's Creek—are expected to grow collectively at a faster pace than Alpharetta (increasing from 67% to 71% of total area population and housing in the N Fulton area between 2014 and 2035). Still, over the coming twenty years, the city is expected to add 34% more housing units and to continue to dominate job growth in the area, adding 31% new jobs by 2035 and increasing its share of all jobs in the area from 70% to 74%.







	N Fulton Superdistrict	Alpharetta
2014	190,025	63,320
2035	270,032	79,307
Increase	42%	25%

	N Fulton Superdistrict	Alpharetta
2014	75,027	25,455
2035	117,860	34,228
Increase	57%	34%

	N Fulton Superdistrict	Alpharetta
2014	110,241	77,418
2035	137,445	101,492
Increase	25%	31%

ARC's N Fulton Superdistrict includes Alpharetta along with Milton and John's Creek. Superdistrict projections interpolated by ROSS+associates.

■ Cost Adjustments

Calculations related to impact fees are required by law to be made in terms of the 'present value' of past and future costs in current (2014) dollars. For future expenditures, the current cost estimate is inflated to the year when the expenditure will be made, and then is 'discounted' back to 2014 to account for the current value of future money.

Index	10-Year Average Rate
Consumer Price Index (CPI)	2.083%
Construction Cost Index (CCI)*	3.713%
Building Cost Index (BCI)*	2.583%
Discount Rate**	1.000%

* Source: *Engineering News Record*, Annual (December) Indices.
**Current interest rate for funds in escrow.

Three different cost inflators are used in the impact fee calculations, based on the type of project being considered. For infrastructure projects, such as recreation components, a 'construction cost inflator' is used. For projects that require construction of a structure (such as a fire station), a 'building cost inflator' is used as the appropriate inflation rate. For all non-construction types of projects (such as a fire truck or park land), an inflation

rate is used that is based on the Consumer Price Index. Ten-year average rates for these three indices are shown on the table above.

In all cases, the current interest rate that the City receives on its fund balances is used as the 'discount rate' for Net Present Value calculations.

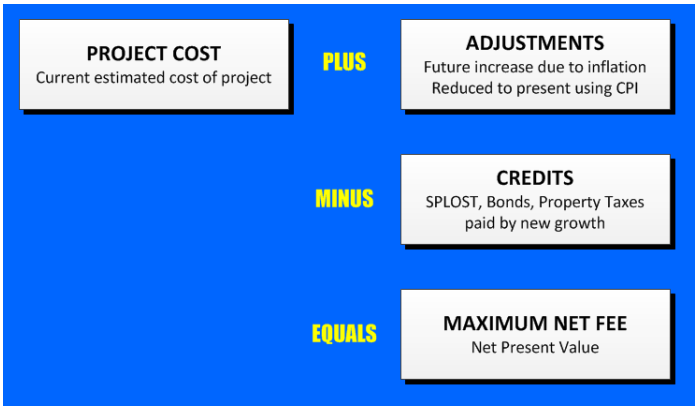
■ Credits

Under certain circumstances, future residents and businesses pay for capital improvements needed to serve them through an impact fee when a building permit is issued, and again through subsequent tax levies that pay for the same improvements. To avoid this 'double taxation,' credits are subtracted from the impact fees in compensation so that new growth pays its 'fair share' only once.

A basic type of credit included in this report is for property taxes that may be paid in the future for program costs that are not eligible for impact fee collections, such as expenditures from the general fund to pay the fair share for existing development.

■ Fee Calculations

Calculating an impact fee involves several operations. These include determining the current cost estimate of each capital expenditure, the determination of that future cost in 2014 dollars using appropriate inflation factors, and the subtraction of credits for property taxes to avoid double taxation. In this report, the maximum allowable impact fee has been calculated for each public facility category to establish the 'ceiling' allowed under Georgia law.



■ Net Program Costs

The table below summarizes the capital expenditures and credits underlying the impact fee program for each public facility category.

The cost figures are shown as the Net Present Value of current cost estimates. That is, based on current cost estimates, NPV is the amount of money that will need to be available in the year project expenditures are expected to be made, considering future inflation. This is explained in the Cost Adjustments and Credits Chapter in detail.

	Public Safety			Recreation & Parks			
	Police & Fire	Detention Center	E-911 Center	Parks Projects	Walkways	Roads	TOTAL
Total Costs	$ 2,327,779	$ 284,469	$ 830,469	$ 118,679,725	$ 65,676,934	$ 70,943,009	$ 258,742,385
Less: Ineligible Costs	$ (94,180)	$ -	$ (377,096)	$ (57,846,341)	$ (50,072,360)	$ (50,193,151)	$ (158,583,129)
Impact Fee Eligible Cost	$ 2,233,598	$ 284,469	$ 453,373	$ 60,833,384	$ 15,604,573	$ 20,749,858	$ 100,159,255
Less: Property Tax Credits	$ (34,979)	$ -	$ (15,475)	$ (18,191,947)	$ (12,192,902)	$ (3,356,558)	$ (33,791,861)
Less: Funds on Hand	$ (306,284)	$ -	$ -	$ (246,598)	$ -	$ (698,918)	$ (1,251,801)
Net Impact Fee Program Cost	$ 1,892,335	$ 284,469	$ 437,897	$ 42,394,838	$ 3,411,671	$ 16,694,382	$ 65,115,593
Total by Category		**$ 2,614,701**			**$ 79,394,197**	**$ 16,694,382**	**$ 65,115,593**

The table above is organized under the City's three public facility categories, as authorized in the Georgia Development Impact Fee Act—public safety, recreation & parks, and road improvements. The first two are also broken down by their constituent components, which are addressed in separate chapters of this report.

As shown on the table, based on Level of Service (LOS) standards adopted by the City, the portion of future capital costs that could be met through impact fees has been calculated. The first part of the table shows the total project costs (including the cost of preparation of the City's Capital Improvement Element), the maximum amount that is eligible to be collected in an impact fee program, and the net amount that is non-eligible and would have to be funded from other sources. In summary, of the $258.7 million in proposed capital expenditures, a gross total of $100.2 million can be included in an impact fee program, leaving $158.6 million requiring alternate funding.

The second part of the table shows the potential impact fee program amounts. Here, the NPV of impact fee eligible costs are reduced by credits to avoid double-taxation on future growth and for funds on hand that have been previously collected from past 'future growth' but not yet expended.

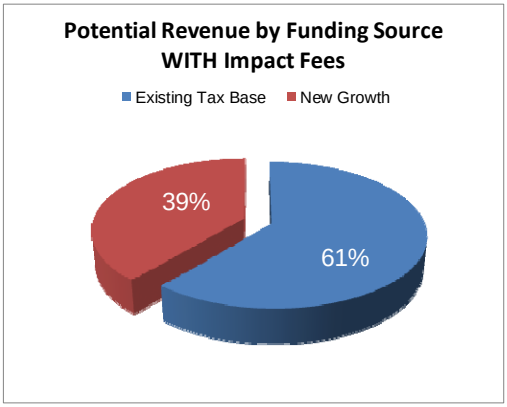
In short, a total of about $65.1 million will have to be collected as impact fees by the City to fully address the needs of future growth. In addition, about $33.8 million collected in taxes paid by new growth would need to be applied from the General Fund to impact fee projects.

Continuation of the impact fee program therefore can play an important role in the City's long-range funding strategy. If general funds alone were used to meet the $258.7 million in future costs, Alpharetta would need to charge an average of about 2.28 mils in property tax for each of the next twenty years.

To fund all project improvements:

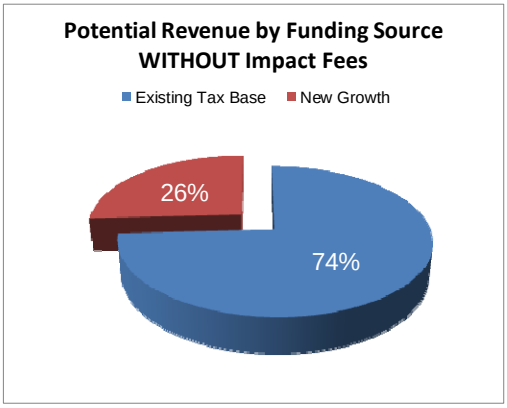
WITH 100% impact fee program in place:

- Tax rate to fund ineligible portion of projects: about 1.32 mils per year for the next twenty years.
- Taxes generated by new growth: $33.8 million.
- Impact Fee Funds on Hand: $1.3 million.
- Impact fees from new growth: $65.1 million.
- Total contribution from future growth: $100.2 million.
- Taxes generated by current tax base: 61% of total.



WITHOUT an impact fee program:

- Tax rate to fund all improvements: about 2.28 mils per year for the next 20 years.
- Taxes generated by new growth: $66.7 million (26% of total needed).
- Difference made up by current tax base: 74%.



Example Maximum Impact Fees

The following table shows the **maximum** impact fees (with all public facility categories at 100% funding) that could be charged for a number of common land uses. The uses listed here are drawn from the Maximum Impact Fee Schedule, which lists many additional land uses, and is located at the end of the Introduction Chapter on page 15.

Land Use	Unit	Public Safety	Recreation & Parks	Roads	Total Fee
Single-Family House	per dwelling	$ 137.95	$ 5,157.39	$ 880.76	$ 6,176.10
Apartment	per dwelling	$ 137.95	$ 5,157.39	$ 880.76	$ 6,176.10
General Light Industrial	per square foot	$ 0.14	$ 0.19	$ 0.17	$ 0.50
Warehousing	per square foot	$ 0.06	$ 0.07	$ 0.09	$ 0.22
General Office Building	per square foot	$ 0.20	$ 0.27	$ 0.27	$ 0.74
Motel	per room	$ 27.07	$ 35.32	$ 148.07	$ 210.46
Day Care Center	per square foot	$ 0.17	$ 0.23	$ 0.21	$ 0.61
Drive-in Bank	per square foot	$ 0.30	$ 0.38	$ 0.86	$ 1.54
Discount Superstore	per square foot	$ 0.06	$ 0.08	$ 1.00	$ 1.14
Shopping Center	per square foot	$ 0.10	$ 0.13	$ 0.85	$ 1.08
Specialty Retail Center	per square foot	$ 0.12	$ 0.16	$ 0.94	$ 1.23
Quality Restaurant	per square foot	$ 0.46	$ 0.60	$ 0.90	$ 1.96
Fast-Food Restaurant	per square foot	$ 0.67	$ 0.88	$ 3.52	$ 5.07
Pharmacy/Drugstore	per square foot	$ 0.10	$ 0.13	$ 0.95	$ 1.18
Convenience Market w/gas	per square foot	$ 0.11	$ 0.14	$ 3.56	$ 3.81
Supermarket	per square foot	$ 0.07	$ 0.09	$ 1.16	$ 1.32

Notes: All dollar amounts shown rounded to "cents".
All fees include administration at 3%.

Under the new maximum fee schedule:

- Based on a survey of current new home listings, the average sales price of a new single-family home in Alpharetta is listing at $529,217. The impact fee would represent about 1.2% of the total sales price, ultimately paid by the new homeowner.
- Nonresidential costs vary considerably. For a supermarket running $220 per square foot in construction costs, the impact fee cost would be about 0.6% of the total; for an office building, 0.3%, and for a quality restaurant, 0.9%. For most commercial uses, the fees would represent less than a 1% increase in development costs, although some uses could be somewhat higher—for instance, a fast food restaurant would pay up to 2.3%.

The table on the next page compares examples of the City's **currently adopted** impact fees with the **maximum** impact fees that now could be charged (with all public facility categories at 100% funding).

Across the board, the new maximum fees are notably higher in the Recreation & Parks category, and lower than those currently adopted for most land uses under the Public Safety and Roads categories.

Comparison of Current and Maximum Impact Fees

Land Use	Units in Example	Public Safety	Recreation & Parks	Roads	Total
		Maximum Impact Fees--2015			
Single-Family House	1 house	$ 138	$ 5,157	$ 881	$ 6,176
Apartment	200 units	$ 27,590	$ 1,031,477	$ 176,153	$ 1,235,220
General Light Industrial	30,000 sq. feet	$ 4,264	$ 5,565	$ 5,058	$ 14,888
Warehousing	100,000 sq. feet	$ 5,644	$ 7,354	$ 8,611	$ 21,609
General Office Building	40,000 sq. feet	$ 8,186	$ 10,683	$ 10,675	$ 29,545
Motel	120 rooms	$ 3,249	$ 4,239	$ 17,768	$ 25,256
Day Care Center	3,000 sq. feet	$ 521	$ 679	$ 625	$ 1,826
Drive-in Bank	3,000 sq. feet	$ 885	$ 1,154	$ 2,571	$ 4,611
Discount Superstore	120,000 sq. feet	$ 7,095	$ 9,258	$ 120,127	$ 136,479
Shopping Center	600,000 sq. feet	$ 61,738	$ 80,525	$ 508,181	$ 650,445
Specialty Retail Center	10,000 sq. feet	$ 1,222	$ 1,593	$ 9,441	$ 12,256
Quality Restaurant	3,000 sq. feet	$ 1,378	$ 1,799	$ 2,697	$ 5,874
Fast-Food Restaurant	2,500 sq. feet	$ 1,679	$ 2,190	$ 8,807	$ 12,676
Pharmacy/Drugstore	30,000 sq. feet	$ 3,087	$ 4,026	$ 28,422	$ 35,535
Convenience Market w/gas	2,000 sq. feet	$ 222	$ 289	$ 7,116	$ 7,628
Supermarket	60,000 sq. feet	$ 4,307	$ 5,611	$ 69,371	$ 79,289
		Currently Adopted Impact Fees			
Single-Family House	1 house	$ 264	$ 545	$ 1,131	$ 1,940
Apartment	200 units	$ 40,600	$ 79,200	$ 224,600	$ 344,400
General Light Industrial	30,000 sq. feet	$ 8,160	$ 420	$ 15,390	$ 23,970
Warehousing	100,000 sq. feet	$ 28,500	$ 1,400	$ 65,400	$ 95,300
General Office Building	40,000 sq. feet	$ 7,840	$ 560	$ 48,440	$ 56,840
Motel	120 rooms	$ 24,480	$ 960	$ 130,920	$ 156,360
Day Care Center	3,000 sq. feet	$ 753	$ 42	$ 8,295	$ 9,090
Drive-in Bank	3,000 sq. feet	$ 753	$ 42	$ 8,295	$ 9,090
Discount Superstore	120,000 sq. feet	$ 28,800	$ 1,680	$ 499,920	$ 530,400
Shopping Center	600,000 sq. feet	$ 137,400	$ 8,400	$ 2,401,200	$ 2,547,000
Specialty Retail Center	10,000 sq. feet	$ 2,510	$ 140	$ 27,650	$ 30,300
Quality Restaurant	3,000 sq. feet	$ 753	$ 42	$ 8,295	$ 9,090
Fast-Food Restaurant	2,500 sq. feet	$ 628	$ 35	$ 6,913	$ 7,575
Pharmacy/Drugstore	30,000 sq. feet	$ 7,440	$ 420	$ 89,070	$ 96,930
Convenience Market w/gas	2,000 sq. feet	$ 502	$ 28	$ 5,530	$ 6,060
Supermarket	60,000 sq. feet	$ 14,640	$ 840	$ 252,600	$ 268,080
		Difference: 2015 Maximum minus Currently Adopted			
Single-Family House	1 house	$ (126)	$ 4,612	$ (250)	$ 4,236
Apartment	200 units	$ (13,010)	$ 952,277	$ (48,447)	$ 890,820
General Light Industrial	30,000 sq. feet	$ (3,896)	$ 5,145	$ (10,332)	$ (9,082)
Warehousing	100,000 sq. feet	$ (22,856)	$ 5,954	$ (56,789)	$ (73,691)
General Office Building	40,000 sq. feet	$ 346	$ 10,123	$ (37,765)	$ (27,295)
Motel	120 rooms	$ (21,231)	$ 3,279	$ (113,152)	$ (131,104)
Day Care Center	3,000 sq. feet	$ (232)	$ 637	$ (7,670)	$ (7,264)
Drive-in Bank	3,000 sq. feet	$ 132	$ 1,112	$ (5,724)	$ (4,479)
Discount Superstore	120,000 sq. feet	$ (21,705)	$ 7,578	$ (379,793)	$ (393,921)
Shopping Center	600,000 sq. feet	$ (75,662)	$ 72,125	$ (1,893,019)	$ (1,896,555)
Specialty Retail Center	10,000 sq. feet	$ (1,288)	$ 1,453	$ (18,209)	$ (18,044)
Quality Restaurant	3,000 sq. feet	$ 625	$ 1,757	$ (5,598)	$ (3,216)
Fast-Food Restaurant	2,500 sq. feet	$ 1,051	$ 2,155	$ 1,895	$ 5,101
Pharmacy/Drugstore	30,000 sq. feet	$ (4,353)	$ 3,606	$ (60,648)	$ (61,395)
Convenience Market w/gas	2,000 sq. feet	$ (280)	$ 261	$ 1,586	$ 1,568
Supermarket	60,000 sq. feet	$ (10,333)	$ 4,771	$ (183,230)	$ (188,791)

Note: All figures rounded to whole dollars.

The current impact fees were initially adopted as separate ordinances by 1992, with one amendment to the Public Safety ordinance in 1998. Much has changed since then.

Alpharetta has grown considerably in land area and population since 1990, increasing to 62,824 people in 2014, a 350% increase over 1990's 13,984. Today, the city finds itself hemmed in by its neighbors: Roswell, John's Creek and Milton. With much of the city now developed, land for new growth is dwindling and expansion is no longer an option. However, projects like Avalon suggest more intensive use of appropriate remaining lands. Still, projections for the next 20 years reflect population growth to 85,220, a 36% increase.

The new impact fees reflect several factors:

- the progress already made by the City,
- limitations on future growth, and
- a focus on quality of life.

At this point, Fire Department facilities and equipment are in place to serve the city's residents and businesses without further expansion, other than the need for additional administrative space. Police Department needs for additional capacity focus on expansion of the Public Safety Headquarters (which will accommodate the Fire Department also) and one additional 'heavy' vehicle. While personnel, maintenance and vehicle replacement needs will continue, only capital improvements that expand capacity (and have at least a 10-year life) are impact fee eligible.

The major road network in the city has also undergone major improvements as a result of the current impact fee program over the past 25 years. Many improvements are planned for the future as traffic congestion persists, but impact fee eligibility has lessened as the proportion of vehicle trips generated by new growth, compared to existing traffic, is much smaller than 20 years ago when Alpharetta was on the cusp of explosive growth. Overall, of the planned major road improvements that will relieve congestion, slightly less than 30% of the cost can come from new growth.

On the other hand, Recreation & Parks reflects a major increase in potential impact fee funding. This is due primarily because of the increase in Level of Service standards adopted as part of the Master Plan Update 2015, supplemented by numerous recreation projects included in the City's Capital Improvement Plan. The Recreation & Parks Master Plan Update raises the Level of Service for parks and recreation facilities for today's residents and those expected in the future, in many cases showing the existing facilities to be below the new standards even for the current population. These new standards, extended from the Master Plan's target of 2025 out to 2035, results in a major increase in recreational opportunities for all citizens of the city. Of the $234.1 million in planned improvements, $118.7 million are eligible impact fee expenditures (with $86.2 million coming directly from impact fee collections).

Editorial Conventions

This report observes the following conventions:

The capitalized word 'City' applies to the government of Alpharetta, the City Council or any of its departments or officials, as appropriate to the context. An example is "the City has adopted an impact fee ordinance".

The lower case word 'city' refers to the geographical area of Alpharetta, as in "the population of the city has grown".

The same conventions are applied to the words 'County' and 'county', 'State' and 'state'.

Single quote marks (' and ') are used to highlight a word or phrase that has a particular meaning or refers to a heading in a table.

Double quote marks (" and ") are used to set off a word or phrase that is a direct quote taken from another source, such as a passage or requirement copied directly from a law or report.

Numbers shown on tables are often rounded from the actual calculation of the figures for clarity, but the actual calculated number of decimal points is retained within the table for accuracy and further calculations.

Introduction

Based upon the latest population and employment forecasts, by the year 2035 Alpharetta will be called upon to provide about $308.5 million in capital improvements for public safety (fire & police protection, police detention and E-911 emergency communications), recreation & parks (parks projects and the walkway system), and roads that will create capacity, at least in part, for new growth and development. That total includes over $105.5 million in City dollars specifically needed to serve new growth at the same level of service enjoyed by all residents and businesses in the city equally. The costs to serve new growth with these capital improvements can be charged to the new growth and development that creates the need for the additional facilities.

This Methodology Report presents the methodologies used to determine new development's fair share of the City's investment in public safety, parks and road projects. This report establishes clear public policies regarding infrastructure development and ensures sound fiscal planning for capital improvements. The report identifies the need for new facilities and includes a compilation of the capital facilities on which impact fee revenue can be spent. The calculations and information contained in this Methodology Report, repeated (as applicable) for each category of public facility for which an impact fee will be charged, are:

- a **projection of needs** for the twenty-year planning period—2014 to 2035;
- the designation of **service areas**—the geographic area in which a defined set of public facilities provide service to development within the area;
- the designation of **levels of service** (LOS)—the service level that is being and will be provided;
- a **schedule of improvements** listing impact fee related projects and costs for the twenty-year planning period;
- a description of **funding sources** for the twenty-year planning period;
- The calculation of the **cost impact** of new development, credits, and impact fees; and
- A schedule of **maximum impact fees** that could be adopted, by land use category.

An additional document required for the collection of impact fees is called the Capital Improvements Element (CIE), and is adopted as a chapter, or 'element', in the City's Comprehensive Plan. As defined by the State's Department of Community Affairs, the CIE must include certain calculations and information, which will be drawn from this Methodology Report as applicable.

■ Impact Fees Authorized

Impact fees are authorized in Georgia under Code Section 37-71, the *Georgia Development Impact Fee Act* (DIFA), and are administered by the Georgia Department of Community Affairs under Chapter 110-12-2, *Development Impact Fee Compliance Requirements*. Under DIFA, the City can collect money from new development based on that development's proportionate share—the 'fair share'—of the cost to provide the facilities needed specifically to serve new development. This includes the categories of public safety and parks. Revenue for such facilities can be produced from new development in two ways: through future taxes paid by the homes and businesses that growth creates, and through an impact fee assessed as new development occurs.

■ Investment Recovery

The Georgia Development Impact Fee Act permits recovery by a local government of the cost of providing an improvement that serves new growth and development, even though that cost may have been incurred prior to the adoption of an impact fee ordinance. As with all impact fees, the

cost of the portion of the facility meeting current needs must be borne by the locality (i.e., existing taxpayers), with future development being assessed only for the excess capacity that has been made available to serve that future growth in accordance with level of service standards that apply equally to both existing and future development.

Because the amount of dollars eligible to be recovered through an impact fee is based on the capacity available to support future growth and development within the whole system, a value for the existing system must be determined if excess capacity exists.

■ Categories for Assessment of Impact Fees

To assist in paying for the high costs of expanding public facilities and services to meet the needs of projected growth and to ensure that new development pays a reasonable share of the costs of public facilities, Alpharetta is updating its impact fees for public safety facilities (police & fire protection, the detention center and emergency communications), recreation & parks, and roads. The chapters in this Methodology Report provide population and employment forecasts and detailed information regarding the inventory of current facilities, the level of service, and detailed calculations of the impact cost for the specific public facilities.

The following table shows the facility categories that are eligible for impact fee funding under Georgia law and that are considered in this report. The service area for each public facility category—that is, the geographical area served by the facility category—is also given, along with the standard adopted as the level of service to be delivered for each facility category.

Overview of Impact Fee Program Facilities

	Public Safety			Recreation & Parks		Roads
	Police and Fire Protection	**Detention Center**	**E-911 Center**	**Parks Projects**	**Walkway System**	**Road Projects**
Eligible Facilities	Administrative and operations space, heavy vehicles	Facility space	Facility space and communications equipment	Park acres and recreation facilities (ballfields, etc.), off-street trails and greenways	On-street walking and jogging sidewalks and paths	Road improvements providing increased traffic capacity
Service Area	Citywide	Citywide	Citywide	Citywide	Citywide	Citywide
Level of Service Standard based on:	Square footage and number of heavy vehicles, per day/night population	Square footage of facility per day/night population	Square footage of facility per day/night population	Number of acres and recreation components per dwelling unit	Length of walkways per day/night population	Average LOS "D" for citywide road network
Historic Funding Source(s)	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund	Impact Fees, General Fund

Terms used in the **Overview Table**:

Eligible Facilities under the State Act are limited to capital items having a life expectancy of at least ten years, such as land, buildings and certain vehicles. Impact fees cannot be used for the maintenance, supplies, personnel salaries, or other operational costs, or for

short-term capital items such as computers, furniture or most automobiles. None of these costs are included in the impact fee system.

Service Areas are the geographic areas that the facilities serve, and the areas within which the impact fee can be collected. Monies collected in a service area for a particular category may only be spent for that purpose, and only for projects that serve that service area.

Level of Service Standards are critical to determining new development's fair share of the costs. The same standards must be applied to existing development as well as new to assure that each is paying only for the facilities that serve it. New development cannot be required to pay for facilities at a higher standard than that available to existing residents and businesses, nor to subsidize existing facility deficiencies.

Monitoring Change

A number of the factors that form the base-line assumptions in this report's impact cost calculations may change over time. The impact fee methodologies for the public facilities categories should be reviewed periodically, and should reflect changes in the growth and development of the city. Also, the fiscal elements of the impact fee system should be brought up to 'current' dollars to account for inflation.

- The 'planning horizon' of this methodology report is 2035, covering a twenty-year time span. When the City's *Comprehensive Plan* is again updated, the methodology report (and impact fee methodologies) should be considered for updating if needed.
- The amount of future tax revenue generated by future growth is directly related to the City's population and employment projections. These projections should be reviewed periodically against other data, such as building permits and utility hook-ups, to confirm continuing validity or to modify the methodologies.
- Costs should be maintained in net present value terms. The land and equipment costs for public safety facilities and parks, as well as the various facility construction costs, should be updated as costs rise.
- Projections in tax base growth should be updated to reflect actual growth, and to update the average new house values and value/employee then current in future years.
- Any changes in funding strategy for the facilities included in the impact fee program should be reflected in the impact fee calculation.
- New revenue sources, such as implementation of a new SPLOST program or bond issuance, should be reviewed for potential tax credits against impact fees if capital improvements being funded by impact fees will also receive SPLOST or bond funding.

Changes in the pace of development will affect the timing of service delivery but not, per se, the methodology used to calculate the impact costs. If more residential and business development is built than was projected, facilities will be needed sooner to meet the level of service standard. Tax revenues will increase faster than projected as growth accelerates and more impact fees will be collected. In this way, more funds are produced to provide the services demanded. If growth slows, the opposite occurs: reduced revenue and lowered demand for services.

Program Administration

As noted above, a surcharge of 3% for administration has been added to the subtotal of the impact fee for each land use category. The fees collected in this category can only be used for the administration of the impact fee program, and are reported annually to the State just like the other service categories. Like any fee, this must have some rational and reasonable connection to the service rendered. Commonly, the administrative fee collected is used to offset some or all of the cost

to handle impact fee calculations by the building permit staff; some or all of the cost for the finance department to process, record and distribute impact fees; and some or all of the cost for the management and oversight of the program by administrative staff in accordance with the provisions of the Impact Fee Ordinance and the State's Development Impact Fee Act.

■ Reductions in Impact Fee Assessments

Individual Fee Assessment

A landowner or developer may request an individual assessment when the average figures used in this Methodology Report do not apply to the specific project being proposed. This individual assessment determination will be made preferentially on alternate data available regarding the number of housing units or employment characteristics of the specific project, as applicable. Under the appeal procedures of the Development Impact Fee Ordinance, special circumstances can be considered and approved in modifying the fee for a particular project demonstrably differing from the average values used in this methodology.

Adoption of Reduced Impact Fees

As noted, the fee schedule shows the **maximum** impact fee that could be adopted under State law. The City may adopt the maximum fee for any given public facility category, or could adopt a lower fee, as part of the Impact Fee Ordinance. In order to fulfill DIFA's requirement that new growth pay its fair, proportionate share, all fees in a particular public facility category could be reduced proportionally (that is, by the same percentage), but individual land use categories within the particular public facility category cannot be individually reduced or deleted.

Individual Appeals

The City's Impact Fee Ordinance provides for the appeal by anyone assessed an impact fee first to the Impact Fee Administrator and then, if not resolved, to the City Council.

Exemptions

Exemptions from the established impact fee amounts on the adopted Impact Fee Schedule can be adopted by the City Council for development that represents 'extraordinary economic or employment growth.' The exemptions must be spelled out as part of the Impact Fee Ordinance and can be applied by the City Council in whole or in part to specified uses based on standards included in the Ordinance.

■ Limitations on Impact Fees

There are several requirements placed on impact fees by the Georgia Development Impact Fee Act and the rules and regulations of the Georgia Department of Community Affairs. These include:

- Impact fees must be spent in the same public facility category for which they were collected.
- Impact fees must be deposited into an interest bearing account.
- Impact fees not encumbered within 6 years must be refunded to the fee payer, with interest.
- The same Level of Service must be applied to both the existing population and to new growth.
- All calculations must be made in Net Present Value.
- Annual Financial Reporting and Short Term Work Program Update required.

Maximum Impact Fee Schedule

The Summary fee schedule presented on the next page shows the maximum impact fee that could be charged in Alpharetta for each of the land use categories shown. The land use categories are the most common uses identified in the *Trip Generation* Manual, 9th Edition, Institute of Transportation Engineers (ITE); the ITE designation is shown in the left-hand column.

The net impact fee shown for each public facility category is a summary of the related component categories. The **total impact fee** shown in the last column includes the 3% fee for administration.

The Detailed Impact Fee Schedule that follows the Summary Schedule brings forward the maximum fee calculations for each of the component category chapters.

To read either Impact Fee Schedule, first find the land use you want to investigate. Land uses are listed on the left side of the table, and are grouped into categories. For example, institutional uses are grouped together, as are all retail uses. Next, find the Total Impact Fee figure on the right of the row. This is the total impact fee per unit of measure. Finally, find the unit of measure—it is the last column of the land use category. The information can be read as follows: *this land use has an impact fee of $X per unit of measure*.

Summary Maximum Impact Fee Schedule

ITE Code	Land Use Category	Public Safety	Recreation & Parks	Roads	*Subtotal*	Adminis-tration (3%)	Total Impact Fee	Unit of Measure
Residential (200-299)								
210	Single-Family Detached Housing	133.93	5,007.17	855.11	*$ 5,996.21*	179.89	$ 6,176.10	per dwelling
220	Apartment	133.93	5,007.17	855.11	*$ 5,996.21*	179.89	$ 6,176.10	per dwelling
230	Residential Condominium/Townhouse	133.93	5,007.17	855.11	*$ 5,996.21*	179.89	$ 6,176.10	per dwelling
Port and Terminal (000-099)								
030	Intermodal Truck Terminal	0.08	0.11	0.23	*$ 0.43*	0.01	$ 0.44	per square foot
Industrial/Agricultural (100-199)								
110	General Light Industrial	0.14	0.18	0.16	*$ 0.48*	0.01	$ 0.50	per square foot
120	General Heavy Industrial	0.11	0.14	0.04	*$ 0.29*	0.01	$ 0.30	per square foot
140	Manufacturing	0.11	0.14	0.09	*$ 0.34*	0.01	$ 0.35	per square foot
150	Warehousing	0.05	0.07	0.08	*$ 0.21*	0.01	$ 0.22	per square foot
151	Mini-Warehouse	0.00	0.01	0.06	*$ 0.07*	0.00	$ 0.07	per square foot
152	High-Cube Warehouse	0.00	0.01	0.04	*$ 0.05*	0.00	$ 0.05	per square foot
Lodging (300-399)								
310	Hotel or Conference Motel	34.07	44.46	208.61	*$ 287.14*	8.61	$ 295.75	per room
311	All Suites Hotel	29.90	39.02	125.11	*$ 194.03*	5.82	$ 199.85	per room
320	Motel	26.28	34.30	143.75	*$ 204.33*	6.13	$ 210.46	per room
Recreational (400-499)								
430	Golf Course	14.69	19.17	109.38	*$ 143.24*	4.30	$ 147.54	per acre
437	Bowling Alley	0.06	0.08	0.72	*$ 0.86*	0.03	$ 0.89	per square foot
443	Movie Theater	0.09	0.11	1.69	*$ 1.90*	0.06	$ 1.95	per square foot
460	Arena	199.33	260.09	723.37	*$ 1,182.79*	35.48	$ 1,218.27	per acre
480	Amusement Park	543.92	709.70	1,644.24	*$ 2,897.86*	86.94	$ 2,984.80	per acre
490	Tennis Courts	14.59	19.03	352.90	*$ 386.51*	11.60	$ 398.11	per acre
491	Racquet/Tennis Club	0.02	0.02	0.30	*$ 0.35*	0.01	$ 0.36	per square foot
492	Health/Fitness Center	0.04	0.06	0.71	*$ 0.81*	0.02	$ 0.84	per square foot
495	Recreational Community Center	0.07	0.10	0.73	*$ 0.91*	0.03	$ 0.93	per square foot
Institutional (500-599)								
520	Private Elementary School	0.06	0.08	0.32	*$ 0.45*	0.01	$ 0.46	per square foot
530	Private High School	0.04	0.05	0.28	*$ 0.37*	0.01	$ 0.38	per square foot
560	Church/Place of Worship	0.02	0.03	0.21	*$ 0.26*	0.01	$ 0.26	per square foot
565	Day Care Center	0.17	0.22	0.20	*$ 0.59*	0.02	$ 0.61	per square foot
566	Cemetery	4.87	6.35	108.70	*$ 119.92*	3.60	$ 123.52	per acre
Medical (600-699)								
610	Hospital	0.18	0.23	0.26	*$ 0.66*	0.02	$ 0.68	per square foot
620	Nursing Home	0.14	0.18	0.15	*$ 0.47*	0.01	$ 0.48	per square foot
630	Clinic	0.23	0.31	0.62	*$ 1.16*	0.03	$ 1.19	per square foot

Notes: All dollar amounts shown rounded to "cents". See fee schedule for each public facility component for more accurate amounts.
ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.
"Square foot" means square foot of gross building floor area.

ITE Code	Land Use Category	Public Safety	Recreation & Parks	Roads	*Subtotal*	Adminis-tration (3%)	Total Impact Fee	Unit of Measure
Office (700-799)								
710	General Office Building	0.20	0.26	0.26	*$ 0.72*	0.02	$ 0.74	per square foot
714	Corporate Headquarters Building	0.20	0.27	0.19	*$ 0.66*	0.02	$ 0.68	per square foot
715	Single-Tenant Office Building	0.19	0.25	0.27	*$ 0.71*	0.02	$ 0.73	per square foot
720	Medical-Dental Office Building	0.24	0.32	0.85	*$ 1.41*	0.04	$ 1.45	per square foot
760	Research and Development Center	0.18	0.23	0.19	*$ 0.59*	0.02	$ 0.61	per square foot
770	Business Park	0.18	0.24	0.29	*$ 0.72*	0.02	$ 0.74	per square foot
Retail (800-899)								
812	Building Materials and Lumber Store	0.08	0.11	0.93	*$ 1.13*	0.03	$ 1.16	per square foot
813	Free-Standing Discount Superstore	0.06	0.07	0.97	*$ 1.10*	0.03	$ 1.14	per square foot
814	Variety Store	0.06	0.07	0.80	*$ 0.93*	0.03	$ 0.96	per square foot
815	Free-Standing Discount Store	0.12	0.15	0.89	*$ 1.17*	0.03	$ 1.20	per square foot
816	Hardware/Paint Store	0.06	0.08	0.52	*$ 0.66*	0.02	$ 0.68	per square foot
817	Nursery (Garden Center)	0.19	0.24	1.41	*$ 1.84*	0.06	$ 1.89	per square foot
818	Nursery (Wholesale)	0.10	0.13	0.81	*$ 1.04*	0.03	$ 1.07	per square foot
820	Shopping Center	0.10	0.13	0.82	*$ 1.05*	0.03	$ 1.08	per square foot
823	Factory Outlet Center	0.10	0.13	0.55	*$ 0.78*	0.02	$ 0.80	per square foot
826	Specialty Retail Center	0.12	0.15	0.92	*$ 1.19*	0.04	$ 1.23	per square foot
841	Automobile Sales	0.09	0.12	0.65	*$ 0.86*	0.03	$ 0.89	per square foot
843	Auto Parts Store	0.06	0.07	0.70	*$ 0.83*	0.02	$ 0.85	per square foot
848	Tire Store	0.08	0.10	0.43	*$ 0.60*	0.02	$ 0.62	per square foot
849	Tire Superstore	0.08	0.10	0.43	*$ 0.61*	0.02	$ 0.63	per square foot
850	Supermarket	0.07	0.09	1.12	*$ 1.28*	0.04	$ 1.32	per square foot
851	Convenience Market (Open 24 Hours)	0.11	0.14	3.77	*$ 4.02*	0.12	$ 4.14	per square foot
853	Convenience Market with Gasoline Pumps	0.11	0.14	3.45	*$ 3.70*	0.11	$ 3.81	per square foot
854	Discount Supermarket	0.13	0.18	1.21	*$ 1.52*	0.05	$ 1.56	per square foot
860	Wholesale Market	0.05	0.06	0.10	*$ 0.22*	0.01	$ 0.22	per square foot
861	Discount Club	0.08	0.10	0.65	*$ 0.83*	0.02	$ 0.85	per square foot
862	Home Improvement Superstore	0.06	0.07	0.24	*$ 0.38*	0.01	$ 0.39	per square foot
863	Electronics Superstore	0.06	0.07	0.31	*$ 0.44*	0.01	$ 0.46	per square foot
870	Apparel Store	0.10	0.13	0.83	*$ 1.06*	0.03	$ 1.09	per square foot
875	Department Store	0.12	0.15	0.29	*$ 0.56*	0.02	$ 0.58	per square foot
880	Pharmacy/Drugstore	0.10	0.13	0.92	*$ 1.15*	0.03	$ 1.18	per square foot
890	Furniture Store	0.02	0.03	0.03	*$ 0.08*	0.00	$ 0.09	per square foot
Services (900-999)								
912	Drive-in Bank	0.29	0.37	0.83	*$ 1.49*	0.04	$ 1.54	per square foot
931	Quality Restaurant	0.45	0.58	0.87	*$ 1.90*	0.06	$ 1.96	per square foot
932	High-Turnover (Sit-Down) Restauant	0.45	0.58	1.23	*$ 2.26*	0.07	$ 2.33	per square foot
934	Fast-Food Restaurant	0.65	0.85	3.42	*$ 4.92*	0.15	$ 5.07	per square foot
941	Quick Lubrication Vehicle Shop	125.59	163.87	847.71	*$ 1,137.17*	34.12	$ 1,171.28	per service bay
944	Gasoline/Service Station	9.57	12.49	860.78	*$ 882.83*	26.48	$ 909.32	per pump
945	Gasoline Station w/Convenience Market	0.01	0.02	581.88	*$ 581.91*	17.46	$ 599.37	per pump
947	Self-Service Car Wash	11.96	15.61	1,103.04	*$ 1,130.61*	33.92	$ 1,164.52	per stall

■ Detailed Impact Fee Schedule

ITE Code	Land Use Category	Public Safety			Recreation & Parks		Roads	*Subtotal*	Adminis-tration (3%)	Total Impact Fee	Unit of Measure
		Police & Fire	Detention Center	E-911 Center	Parks Projects	Walkways					
Residential (200-299)											
210	Single-Family Detached Housing	96.93	14.57	22.43	4,832.42	174.75	855.11	*$ 5,996.21*	179.89	$ 6,176.10	per dwelling
220	Apartment	96.93	14.57	22.43	4,832.42	174.75	855.11	*$ 5,996.21*	179.89	$ 6,176.10	per dwelling
230	Residential Condominium/Townhouse	96.93	14.57	22.43	4,832.42	174.75	855.11	*$ 5,996.21*	179.89	$ 6,176.10	per dwelling
Port and Terminal (000-099)											
030	Intermodal Truck Terminal	0.06	0.01	0.01		0.11	0.23	*$ 0.43*	0.01	$ 0.44	per square foot
Industrial/Agricultural (100-199)											
110	General Light Industrial	0.10	0.02	0.02		0.18	0.16	*$ 0.48*	0.01	$ 0.50	per square foot
120	General Heavy Industrial	0.08	0.01	0.02		0.14	0.04	*$ 0.29*	0.01	$ 0.30	per square foot
140	Manufacturing	0.08	0.01	0.02		0.14	0.09	*$ 0.34*	0.01	$ 0.35	per square foot
150	Warehousing	0.04	0.01	0.01		0.07	0.08	*$ 0.21*	0.01	$ 0.22	per square foot
151	Mini-Warehouse	0.00	0.00	0.00		0.01	0.06	*$ 0.07*	0.00	$ 0.07	per square foot
152	High-Cube Warehouse	0.00	0.00	0.00		0.01	0.04	*$ 0.05*	0.00	$ 0.05	per square foot
Lodging (300-399)											
310	Hotel or Conference Motel	24.66	3.71	5.71		44.46	208.61	*$ 287.14*	8.61	$ 295.75	per room
311	All Suites Hotel	21.64	3.25	5.01		39.02	125.11	*$ 194.03*	5.82	$ 199.85	per room
320	Motel	19.02	2.86	4.40		34.30	143.75	*$ 204.33*	6.13	$ 210.46	per room
Recreational (400-499)											
430	Golf Course	10.63	1.60	2.46		19.17	109.38	*$ 143.24*	4.30	$ 147.54	per acre
437	Bowling Alley	0.04	0.01	0.01		0.08	0.72	*$ 0.86*	0.03	$ 0.89	per square foot
443	Movie Theater	0.06	0.01	0.01		0.11	1.69	*$ 1.90*	0.06	$ 1.95	per square foot
460	Arena	144.26	21.69	33.38		260.09	723.37	*$ 1,182.79*	35.48	$ 1,218.27	per acre
480	Amusement Park	393.65	59.18	91.09		709.70	1,644.24	*$ 2,897.86*	86.94	$ 2,984.80	per acre
490	Tennis Courts	10.56	1.59	2.44		19.03	352.90	*$ 386.51*	11.60	$ 398.11	per acre
491	Racquet/Tennis Club	0.01	0.00	0.00		0.02	0.30	*$ 0.35*	0.01	$ 0.36	per square foot
492	Health/Fitness Center	0.03	0.00	0.01		0.06	0.71	*$ 0.81*	0.02	$ 0.84	per square foot
495	Recreational Community Center	0.05	0.01	0.01		0.10	0.73	*$ 0.91*	0.03	$ 0.93	per square foot
Institutional (500-599)											
520	Private Elementary School	0.04	0.01	0.01		0.08	0.32	*$ 0.45*	0.01	$ 0.46	per square foot
530	Private High School	0.03	0.00	0.01		0.05	0.28	*$ 0.37*	0.01	$ 0.38	per square foot
560	Church/Place of Worship	0.02	0.00	0.00		0.03	0.21	*$ 0.26*	0.01	$ 0.26	per square foot
565	Day Care Center	0.12	0.02	0.03		0.22	0.20	*$ 0.59*	0.02	$ 0.61	per square foot
566	Cemetery	3.52	0.53	0.82		6.35	108.70	*$ 119.92*	3.60	$ 123.52	per acre
Medical (600-699)											
610	Hospital	0.13	0.02	0.03		0.23	0.26	*$ 0.66*	0.02	$ 0.68	per square foot
620	Nursing Home	0.10	0.02	0.02		0.18	0.15	*$ 0.47*	0.01	$ 0.48	per square foot
630	Clinic	0.17	0.03	0.04		0.31	0.62	*$ 1.16*	0.03	$ 1.19	per square foot

Detailed Impact Fee Schedule (continued)

ITE Code	Land Use Category	Public Safety			Recreation & Parks		Roads	*Subtotal*	Adminis-tration (3%)	Total Impact Fee	Unit of Measure
		Police & Fire	Detention Center	E-911 Center	Parks Projects	Walkways					
Office (700-799)											
710	General Office Building	0.14	0.02	0.03		0.26	0.26	*$ 0.72*	0.02	$ 0.74	per square foot
714	Corporate Headquarters Building	0.15	0.02	0.03		0.27	0.19	*$ 0.66*	0.02	$ 0.68	per square foot
715	Single-Tenant Office Building	0.14	0.02	0.03		0.25	0.27	*$ 0.71*	0.02	$ 0.73	per square foot
720	Medical-Dental Office Building	0.18	0.03	0.04		0.32	0.85	*$ 1.41*	0.04	$ 1.45	per square foot
760	Research and Development Center	0.13	0.02	0.03		0.23	0.19	*$ 0.59*	0.02	$ 0.61	per square foot
770	Business Park	0.13	0.02	0.03		0.24	0.29	*$ 0.72*	0.02	$ 0.74	per square foot
Retail (800-899)											
812	Building Materials and Lumber Store	0.06	0.01	0.01		0.11	0.93	*$ 1.13*	0.03	$ 1.16	per square foot
813	Free-Standing Discount Superstore	0.04	0.01	0.01		0.07	0.97	*$ 1.10*	0.03	$ 1.14	per square foot
814	Variety Store	0.04	0.01	0.01		0.07	0.80	*$ 0.93*	0.03	$ 0.96	per square foot
815	Free-Standing Discount Store	0.09	0.01	0.02		0.15	0.89	*$ 1.17*	0.03	$ 1.20	per square foot
816	Hardware/Paint Store	0.04	0.01	0.01		0.08	0.52	*$ 0.66*	0.02	$ 0.68	per square foot
817	Nursery (Garden Center)	0.14	0.02	0.03		0.24	1.41	*$ 1.84*	0.06	$ 1.89	per square foot
818	Nursery (Wholesale)	0.07	0.01	0.02		0.13	0.81	*$ 1.04*	0.03	$ 1.07	per square foot
820	Shopping Center	0.07	0.01	0.02		0.13	0.82	*$ 1.05*	0.03	$ 1.08	per square foot
823	Factory Outlet Center	0.07	0.01	0.02		0.13	0.55	*$ 0.78*	0.02	$ 0.80	per square foot
826	Specialty Retail Center	0.09	0.01	0.02		0.15	0.92	*$ 1.19*	0.04	$ 1.23	per square foot
841	Automobile Sales	0.07	0.01	0.02		0.12	0.65	*$ 0.86*	0.03	$ 0.89	per square foot
843	Auto Parts Store	0.04	0.01	0.01		0.07	0.70	*$ 0.83*	0.02	$ 0.85	per square foot
848	Tire Store	0.06	0.01	0.01		0.10	0.43	*$ 0.60*	0.02	$ 0.62	per square foot
849	Tire Superstore	0.06	0.01	0.01		0.10	0.43	*$ 0.61*	0.02	$ 0.63	per square foot
850	Supermarket	0.05	0.01	0.01		0.09	1.12	*$ 1.28*	0.04	$ 1.32	per square foot
851	Convenience Market (Open 24 Hours)	0.08	0.01	0.02		0.14	3.77	*$ 4.02*	0.12	$ 4.14	per square foot
853	Convenience Market with Gasoline Pumps	0.08	0.01	0.02		0.14	3.45	*$ 3.70*	0.11	$ 3.81	per square foot
854	Discount Supermarket	0.10	0.01	0.02		0.18	1.21	*$ 1.52*	0.05	$ 1.56	per square foot
860	Wholesale Market	0.04	0.01	0.01		0.06	0.10	*$ 0.22*	0.01	$ 0.22	per square foot
861	Discount Club	0.06	0.01	0.01		0.10	0.65	*$ 0.83*	0.02	$ 0.85	per square foot
862	Home Improvement Superstore	0.04	0.01	0.01		0.07	0.24	*$ 0.38*	0.01	$ 0.39	per square foot
863	Electronics Superstore	0.04	0.01	0.01		0.07	0.31	*$ 0.44*	0.01	$ 0.46	per square foot
870	Apparel Store	0.07	0.01	0.02		0.13	0.83	*$ 1.06*	0.03	$ 1.09	per square foot
875	Department Store	0.09	0.01	0.02		0.15	0.29	*$ 0.56*	0.02	$ 0.58	per square foot
880	Pharmacy/Drugstore	0.07	0.01	0.02		0.13	0.92	*$ 1.15*	0.03	$ 1.18	per square foot
890	Furniture Store	0.02	0.00	0.00		0.03	0.03	*$ 0.08*	0.00	$ 0.09	per square foot
Services (900-999)											
912	Drive-in Bank	0.21	0.03	0.05		0.37	0.83	*$ 1.49*	0.04	$ 1.54	per square foot
931	Quality Restaurant	0.32	0.05	0.07		0.58	0.87	*$ 1.90*	0.06	$ 1.96	per square foot
932	High-Turnover (Sit-Down) Restauant	0.32	0.05	0.07		0.58	1.23	*$ 2.26*	0.07	$ 2.33	per square foot
934	Fast-Food Restaurant	0.47	0.07	0.11		0.85	3.42	*$ 4.92*	0.15	$ 5.07	per square foot
941	Quick Lubrication Vehicle Shop	90.89	13.66	21.03		163.87	847.71	*$ 1,137.17*	34.12	$ 1,171.28	per service bay
944	Gasoline/Service Station	6.93	1.04	1.60		12.49	860.78	*$ 882.83*	26.48	$ 909.32	per pump
945	Gasoline Station w/Convenience Market	0.01	0.00	0.00		0.02	581.88	*$ 581.91*	17.46	$ 599.37	per pump
947	Self-Service Car Wash	8.66	1.30	2.00		15.61	1,103.04	*$ 1,130.61*	33.92	$ 1,164.52	per stall

Impact Fee Methodology

Introduction

In this chapter, the methodology of impact fee calculation, as carried out in this report, is outlined. Without an understanding of the philosophy behind the work, the calculations can be somewhat confusing. The bottom line is that a **rational nexus**—a clear and fair relationship between the fee charged and the services provided—must exist for each public facility category. It is perhaps wise to keep in mind the basic tenet of impact fees:

New development pays no more than its fair share of the costs to provide services to new development.

The calculations carried out in this report are intended to meet two inter-related goals: calculating the 'fair share' of project costs applicable to new development, and meeting the requirements of the *Development Impact Fee Act*. The DIFA provides a series of protections for development. In addition to providing the methodological basis for impact fee calculations, it protects new development against the possibility of double-taxation, and against being required to provide for a different level of service than that adopted for existing development.

Data Requirements

In order to calculate impact fees certain data is required. All of this data can be seen in the applicable chapters of this report. Required for calculations are the following:

- Current population, housing unit, and employment figures (appears in the 'Forecasts' section).
- Forecasts of population, housing units, and employment (appears in the 'Forecasts' section).
- Current tax digest value (appears in the 'Cost Adjustments and Credits' section).
- Forecasts of tax base growth (appears in the 'Cost Adjustments and Credits' section).
- Current inventories of capital facilities in the categories of Fire Protection, Emergency Medical Services, Sheriff's Office, 911 Emergency Communications, and Parks and Recreation (appears in each public facility category chapter).
- Proposed capital improvement projects to meet future demand (appears in each public facility category chapter).

Given this data, calculations can be made to produce the gross impact cost in each public facility category, and the net impact fee after credits are applied. The actual calculations are presented in each public facility category chapter. Lastly, the addition of an administrative fee results in the Maximum Impact Fee shown on the fee schedule at the end of the Introduction to this report.

■ Impact Cost Calculation

The following illustration outlines a common example of the general steps undertaken for impact cost calculation. Although variations often occur when addressing the nature of a particular public facility category, the following example provides an understanding of how the calculations lead to the determination of a net impact fee for an average situation.

Note that the 'service population' depends upon the public facility category being examined. For example, fire protection services are available to all residents and businesses on a 24-hour basis, while recreation facilities are used almost exclusively by residents (and quantified by the number of housing units).

Decisions must be made regarding certain parts of the calculation. In terms of level of service, for instance, it must be determined whether the current level of service is adequate to serve the current population or a different level of service should be adopted, whether to achieve future plans or to address an existing shortfall or excess capacity available.

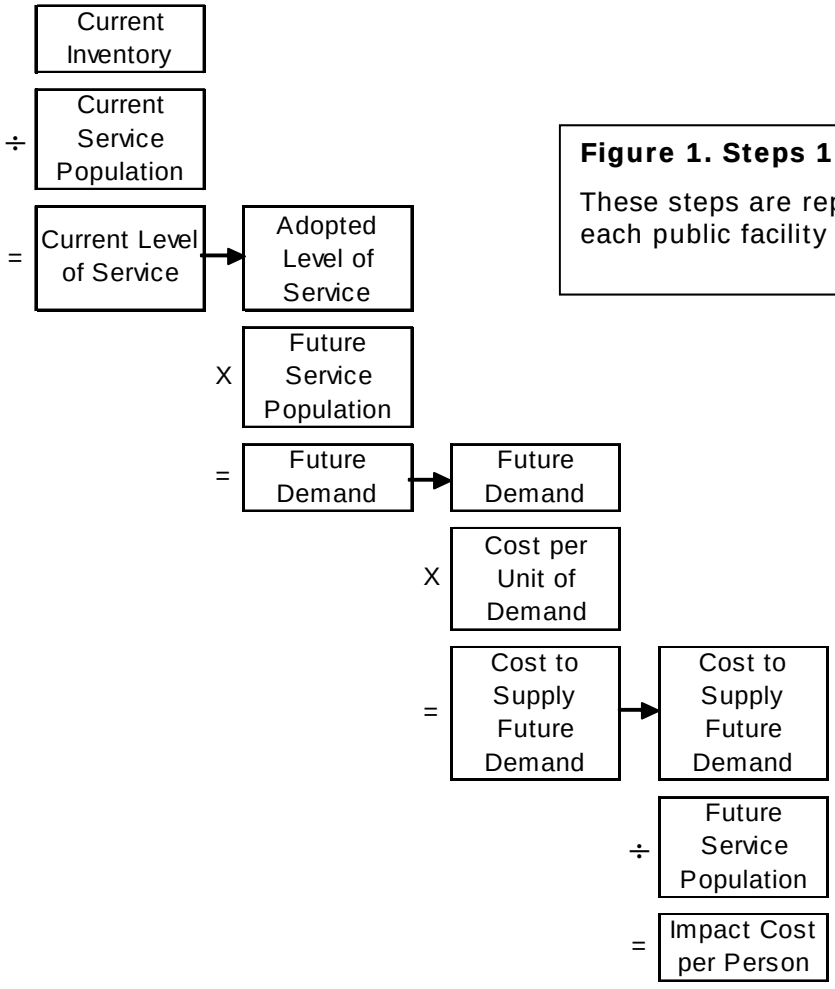


Figure 1. Steps 1 through 4

These steps are repeated for each public facility category.

The following steps, outlined in the illustration above, are undertaken in order to calculate the impact cost for each public facility category:

1. The current inventory of eligible facilities providing service is divided by the current population served by those facilities to produce the current level of service. For example, the total

square footage of fire stations, divided by the population and employment served by those fire stations produces a square foot per person level of service.

The current level of service can be adopted by the City as the level of service standard. Alternately, the City may determine that the adopted level of service should be higher or lower than the current level of service. Adopting a higher level of service creates an existing deficiency that must be made up by the existing service population; decreasing the level of service creates excess capacity in the system for new growth that can be recouped through impact fee collection.

2. The adopted level of service is then multiplied by the future population to be served in order to produce the future demand figure. Continuing the fire station example, the square foot per person level of service is multiplied by the increase in population and employment in the city between 2014 and 2035 to produce a future demand figure in square feet.
3. The future demand figure is multiplied by the cost per unit for future facilities to calculate the cost to supply services that meet future demand. This is an incremental increase method; the average cost to supply one unit of capacity is multiplied by the number of units demanded. Staying with our example, the average cost to acquire land and construct a fire station—converted into a cost per square foot figure—is multiplied by the increase in population and employment in the city between 2014 and 2035, producing the cost to supply services to that increase in population and employment at the adopted level of service.

   Alternately, a methodology based on known or estimated costs can be used instead of the incremental increase method. In this method, the step '*future demand X cost per unit of demand = cost to supply future demand*' is omitted. Instead, projects are selected that will meet the future demand. Where estimated costs for planned projects are available those figures are used in place of average cost per unit. Where debt service for financing the facility is known, or can be reasonably estimated, those costs can also be included. Finally, the value of excess capacity in the system can be recouped by also including it in the 'cost to supply future demand'.

   Quite often, the impact cost calculation uses a combination of the incremental increase and known costs methodologies. For example, a *Comprehensive Plan* may list facilities to be built in the near term (known costs). But over the planning horizon (generally 20 years) more facilities may be demanded than will be provided by the proposed facilities. Future projects, based on incremental increase project cost forecasting, would be proposed in order to serve future growth.
4. The cost to supply future demand is divided by the population to be served to produce an impact cost per person. To finish the example, the cost to construct demanded jail space is divided by the increase in population and employment in the area served by the jail between 2014 and 2035 to produce an impact cost per person.

■ Net Impact Cost Calculation

Each of the public facility category chapters in this report presents detailed calculations of the impact cost for the specific services. The impact costs in this report are not 'impact fees,' which are calculated in Step 11. The impact cost and net impact fee cost are calculated for each public facility category in the appropriate chapters of this report. In calculating the net impact cost, the impact cost must be reduced to the extent that new growth and development will pay future sales or property taxes toward financing the facility, in order to avoid double taxation. The steps for moving from a total impact cost to a net impact cost, continuing from the impact cost calculation steps in the previous section, are as follows:

5. The estimated increase in added value to the tax base, based on forecasted population, dwelling unit and employment growth, is calculated. Added value is derived from the aver-

age new dwelling unit value and average value of new nonresidential floor space per employee.

6. Any impact fee eligible projects anticipated to be financed in whole or in part through debt financing are identified. The costs to service the debt are calculated on an annual basis against the forecast tax base value, per year. The amount of taxes collected for debt service, per public facility category, is identified. In addition, any project costs expected to be met through a 'pay as you go' strategy using general funds, are also included in the 'annual funding requirement'.

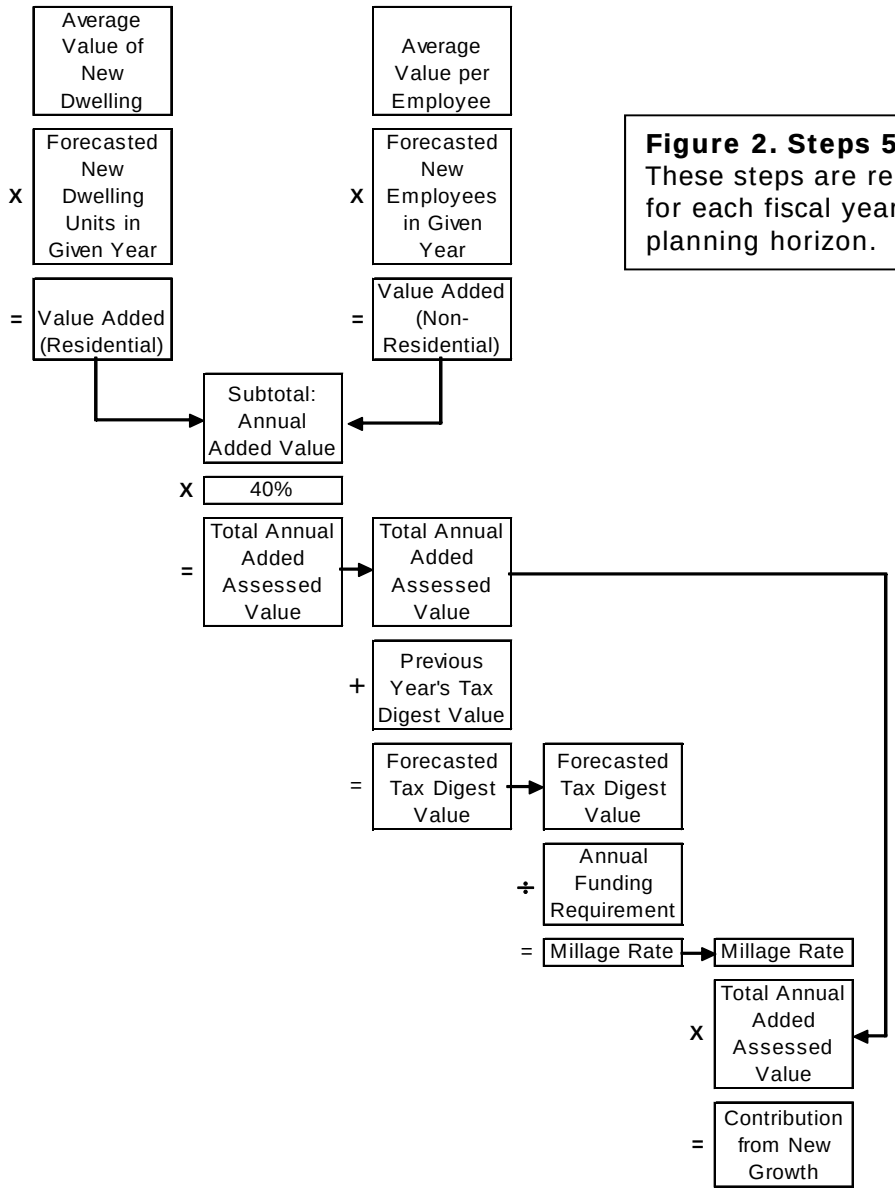


Figure 2. Steps 5 and 6
These steps are repeated for each fiscal year to the planning horizon.

7. Where applicable, estimated SPLOST collections are calculated, based on historic reported average per-capita basis, and against forecasted population and employment figures. Alternately, SPLOST collections can be forecast by dividing the expected total revenue by the total population paying into the program.

8. Any impact fee eligible projects anticipated to be financed in whole or in part through SPLOST collections are identified. The funding contribution toward these projects attributable to new growth is calculated, based on the forecasted collections and the percentage of the SPLOST total that is ear-marked for the specific projects. These contributions are subtotaled by public facility category. Where known, proposed future SPLOST programs are included.

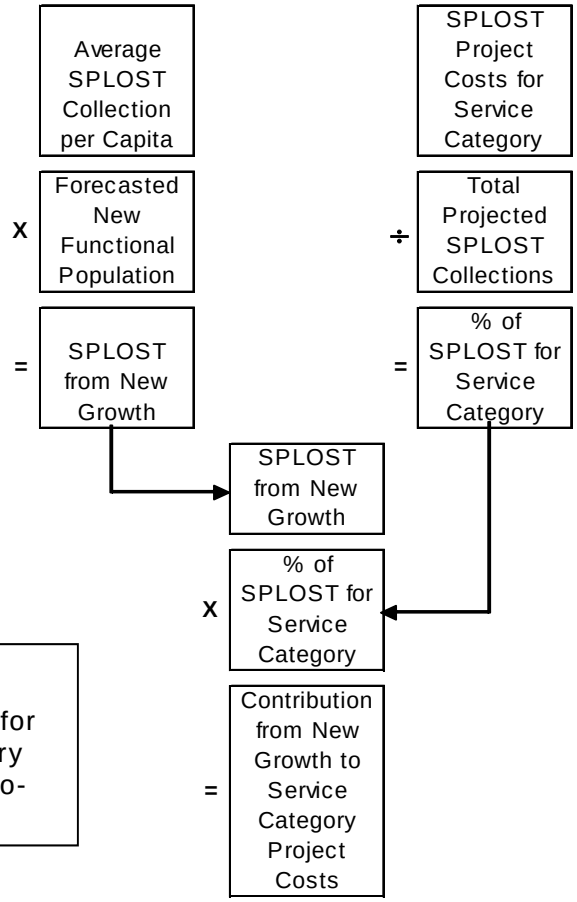


Figure 3. Steps 7 and 8

These steps are repeated for each public facility category included in the SPLOST program, where applicable.

If bond financing is used to fund impact fee eligible improvements, the taxes that are collected to cover the debt service are handled in the same manner as SPLOST collections to determine the contribution generated by new growth and development, and taken as a credit against total projects costs in Step 9.

9. The total of funds expected to be raised through property taxes (general fund financing and debt service repayment) and SPLOST or bond tax collection (if applicable), totaled by public facility category, is subtracted from the cost to supply future demand (calculated in step 4) to produce a net projects cost for each public facility category.

10. The net projects cost for each public facility category is divided by the population to be served to produce a net impact cost. This is a reiteration of step 4, but with net rather than gross projects cost. (Compare Figure 4 with Figure 1.) The net impact cost is applied to the average number of persons by specific land use to produce a schedule of net impact costs for the public facility category.

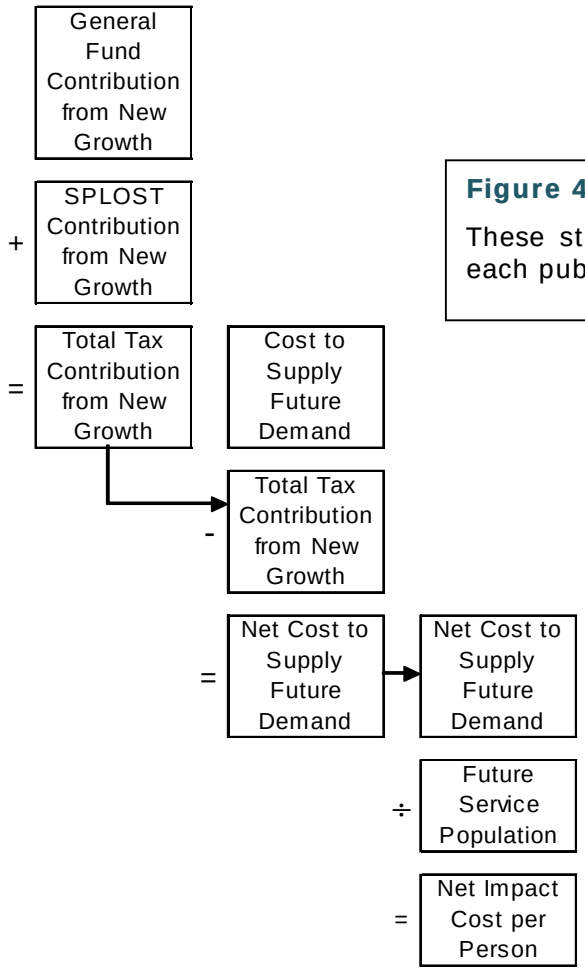


Figure 4. Steps 9 and 10

These steps are repeated for each public facility category.

■ Impact Fee Calculation

11. In order to calculate the impact fee for a specific land use category, the net impact cost per person, by public facility category, is multiplied by the average number of persons per unit of measure for that land use to produce the net impact fee for that land use. A 3% administrative fee is added to produce the **maximum allowable impact fee** for each land use category, which are shown on the fee schedule at the end of each public facility category chapter. The impact fees for each public facility category are transferred to the summary fee schedule showing all public facility categories at the end of the Introduction chapter.

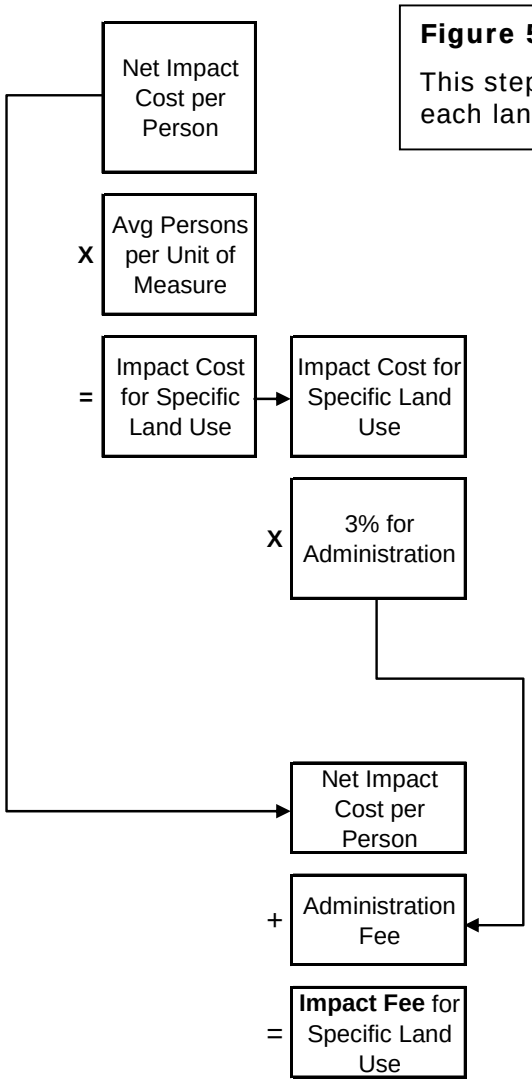


Figure 5. Step 11

This step is repeated for each land use category.

In this report, the unit of measure for residential land uses is the housing unit. Population and housing unit forecasts provide the average number of residents per housing unit type (single family, multi-family). The nonresidential 'average number of persons per unit of measure' is calculated, in this methodology, from data presented in the Institute of Transportation Engineers' *Trip Generation, 9th ed.* For the majority of nonresidential land uses in the impact fee schedule the average number of employees per 1,000 square feet of building floor area for specific land uses can be derived. By dividing this number by 1,000, one square foot of floor area becomes the common unit of measure. Note that there are a few cases where an alternate unit of measure is used; hotels, for example, use guest rooms as a unit of measure.

Forecasts

In order to accurately calculate the demand for future services in Alpharetta, new growth and development must be quantified in future projections. These projections include forecasts for population, households, housing units, and employment to the year 2035. These projections provide the base-line conditions from which the current (2014) Level of Service calculations are produced. Also, projections are combined to produce what is known as 'day/night population.' This is a method that combines resident population and employees in a service area to produce an accurate picture of the total number of persons that rely on certain 24-hour services, such as fire protection. The projections used for each public facility category are specified in each public facility chapter.

Accurate projections of population, households, housing units, and employment are important in that:

- Population data and forecasts are used to establish current and future demand for services standards where the Level of Service (LOS) is per capita based.
- Household data and forecasts are used to forecast future growth in the number of housing units.
- Housing unit data and forecasts relate to certain service demands that are household based, such as parks, and are used to calculate impact costs when the cost is assessed when a building permit is issued. The number of households—defined as *occupied* housing units—is always smaller than the supply of available housing units. Over time, however, each housing unit is expected to become occupied by a household, even though the unit may become vacant during future re-sales or turnovers.
- Employment forecasts are combined with population data to produce 'day/night population' figures. These figures represent the total number of persons receiving services, both in their homes and in their businesses, particularly from 24-hour operations such as fire protection and law enforcement.

This chapter presents a summary of the forecasts that have been identified as the most appropriate for Alpharetta, based on a wide-ranging analysis of alternate approaches that were considered for their reasonableness and correlation to the City's growth policies contained in its 2030 Comprehensive Plan, adopted in 2011.

For a more detailed description of the methodologies considered in preparing the population, household, housing unit and employment forecasts, see the Technical Appendix to this report. For statistical reasons, the forecasts in the Appendix cover the 2010 to 2040 time frame, but the figures used for impact fee purposes cover the 20-year period from the present (2014) to 2035.

■ Population and Housing Unit Forecasts

For a more detailed description of the methodologies considered in preparing the population, household, housing unit and employment forecasts, see the Technical Appendix to this report. For statistical reasons, the forecasts in the Appendix cover the 2010 to 2040 time frame, but the figures used for impact fee purposes cover the 20-year period from the present (2014) to 2035.

Table 1 presents the forecasts for population for each year from 2014 to 2035 and provides the forecasts for households and housing units over the same period. The figures shown are, in essence, mid-year estimates reflecting Census Bureau practice. In other words, the increase in population between 2014 and 2035 would actually be from July 1, 2014 to July 1, 2035.

The population forecasts represent a refinement to the forecasts contained in the City's Comprehensive Plan, modified to reflect actual population figures reported by the Census Bureau through 2012. The number of households is calculated based on average household sizes in the city relative to countywide figures prepared by Woods & Poole Economists, Inc., and divided into the population forecasts for the city. Since households are synonymous with 'occupied housing units', the total number of housing units is calculated by applying an occupancy rate to account for vacant units.

Table 1: Population, Housing and Employment Forecasts

	Alpharetta Population	Households	Housing Units	Jobs
2014	62,874	24,032	25,455	77,418
2015	63,320	24,351	25,792	78,469
2016	64,164	24,803	26,271	79,751
2017	65,020	25,239	26,733	81,019
2018	65,886	25,660	27,179	82,260
2019	66,765	26,072	27,615	83,486
2020	67,655	26,482	28,050	84,709
2021	68,557	26,890	28,482	85,798
2022	69,470	27,284	28,899	86,863
2023	70,396	27,670	29,308	87,914
2024	71,335	28,053	29,714	88,961
2025	72,286	28,434	30,117	90,004
2026	73,249	28,814	30,520	91,131
2027	74,226	29,196	30,924	92,261
2028	75,215	29,577	31,328	93,390
2029	76,218	29,961	31,735	94,524
2030	77,234	30,344	32,140	95,656
2031	78,263	30,730	32,549	96,809
2032	79,307	31,120	32,962	97,969
2033	80,364	31,513	33,378	99,135
2034	81,435	31,912	33,801	100,310
2035	82,520	32,315	34,228	101,492

Source: ROSS+associates.
Population - Memo and Analysis of May 9, 2014. Households, Housing Units and Employment - Memo and Analysis of June 12, 2014.

■ Employment Forecasts

Table 1 also shows the forecasts for employment growth in Alpharetta, from 2014 to 2035. The employment figures for Alpharetta reflect an average of two approaches:

One, a 'percentage share' approach in which the city's number of employees is based on a constant share of all employment in the immediate area (which includes Milton and John's Creek), that in 2010 were 2/3 of all jobs in the area.

The other approach assumes a correlation between employment and the number of households in the city. Although in 2010, 85% of all people working in Alpharetta commuted in from outside the city, the 'internal' ratio can be a valuable guideline in making estimates (in this case on the high side).

This 'averaged' forecast between the 'low' of the percentage share approach and the 'high' of the employment-to-households ratio method maintains the expectation that Alpharetta will continue to be the major center of employment among the three cities in the immediate North Fulton area into the future.

Service Area Projections

In Table 2 the service area forecasts are presented for a single citywide service area measured in two ways: citywide housing units (which quantifies Parks and Recreation service demands), and citywide day/night population (for Public Safety services, such as Police and Fire).

The day/night population calculation is a combination of the population projections and future employment information. The use of day/night population in impact cost and impact fee calculations is based upon the clear rational nexus between persons and services demanded.

The day/night population is used to determine Level of Service standards for facilities that serve both the resident population and business employment. The fire department, for instance, protects one's house from fire whether or not they are at home, and protects stores and offices whether or not they are open for business. Thus, this 'day/night' population is a measure of the total services demanded of a 24-hour service provider facility and a fair way to allocate the costs of such a facility among all of the beneficiaries.

The figures on Table 2 are the figures that will be used in subsequent public facility category chapters to calculate impact costs and fees.

Table 2: Service Area Forecasts

Year	Housing Units (Recreation & Parks)	Day/Night Population (Public Safety)
2014	25,455	140,292
2015	25,792	141,789
2016	26,271	143,915
2017	26,733	146,039
2018	27,179	148,146
2019	27,615	150,251
2020	28,050	152,364
2021	28,482	154,355
2022	28,899	156,333
2023	29,308	158,310
2024	29,714	160,296
2025	30,117	162,290
2026	30,520	164,380
2027	30,924	166,487
2028	31,328	168,605
2029	31,735	170,742
2030	32,140	172,890
2031	32,549	175,072
2032	32,962	177,276
2033	33,378	179,499
2034	33,801	181,745
2035	34,228	184,012
Increase:	**8,773**	**43,720**

Cost Adjustments and Credits

Cost Adjustments

Calculations related to impact fees are made in terms of the 'present value' of past and future amounts of money, including project cost expenditures and credits for future revenue.

The Georgia Development Impact Fee Act defines 'present value' as "the current value of past, present, or future payments, contributions or dedications of goods, services, materials, construction, or money." This chapter describes the methodologies used to make appropriate adjustments to project cost figures, both past and future, to convert these costs into current dollars when such an adjustment is appropriate.

Calculations for present value (PV) differ when considering past expenditures versus future costs. In both cases, however, the concept is the same—the 'actual' expenditure made or to be made is adjusted to the current year using appropriate rates (an inflation rate for past expenditures and a deflator for future costs). In essence, the present value is considered in light of the value of money as it changes over time as the result of inflation.

Past Expenditures

Past expenditures are considered in impact fee calculations only for previous expenditures for projects that created excess capacity for new development and are being recouped. An expenditure that was made in the past is converted to PV using the inflation rate of money—in this case the Consumer Price Index (CPI). Although this approach ignores the value of technological innovation (i.e., better computers are available today for the same or lower historic prices) and evolving land prices (often accelerated beyond inflation by market pressures), the approach best captures the value of the money actually spent. For instance, it is not important that you can buy a better computer today for the same price that was paid 5 years ago; what is important is the money was spent 5 years ago and what that money would be worth today had it been saved instead of spent.

Future Project Costs

In order to determine the present value of a project expenditure that will be made in the future, the Net Present Value (NPV) of the expenditure is determined. To calculate the NPV of any project cost, two figures are needed—the future cost of the project anticipated in the year the expenditure will be made, and the Net Discount Rate. Given the current cost of a project, that cost is first inflated into the future to the target expenditure year to establish the estimated future cost. The future cost is then deflated to the present using the Net Discount Rate, which establishes the NPV for the project in current dollars. These two formulas are:

$$\text{Future Cost} = \text{Current Cost} \times (1 + \text{Inflation Rate})^{\text{Year of Expenditure} - \text{Current Year}}$$

$$\text{Net Present Value} = \text{Future Cost} \times (1 + \text{Net Discount Rate})^{\text{Current Year} - \text{Year of Expenditure}}$$

In this chapter two important adjustments are discussed that are required to convert current costs into future cost figures, and then back into current dollars. First, an appropriate cost inflator is identified. This adjustment factor is important in determining the future cost of a project, based on current cost estimates. The cost inflator may be based on anticipated inflation in construction or building costs, or on anticipated inflation in the value of money (for capital projects that do not include a construction component). In essence, costs increase over time. By identifying the appropriate inflation rate that is related to the type of project (building construction, project construction or

non-construction), current 2014 estimates can be used to predict future costs in the year they are expected to occur.

The second cost adjustment is a deflator—the Net Discount Rate. In essence, the Net Discount Rate is the interest rate that accrues to monies being held in escrow. That is, as impact fees are collected and 'saved up' over the years for the future expenditure, they increase at the rate that the account is accruing interest. Having determined the inflated cost of a project at some future date, the cost in today's dollars can be reduced to the extent that interest will increase the funds on hand. In essence, the calculation determines how much money needs to be added to the account so that, with interest, it will grow to the amount needed for that future expenditure at that time. This is the Net Present Value of that future expenditure.

As will be seen below, the cost of project construction and building construction has been increasing faster than the CPI inflation rate over the past 10 years.

■ Cost Inflators

Three different cost inflators are used in the impact fee calculations, based on the type of project being considered. For infrastructure projects, such as roads or ball fields, a 'construction cost inflator' is used. For projects that require construction of a structure (such as a fire station), a 'building cost inflator' is used as the appropriate inflation rate. For all non-construction types of projects (such as a fire truck or park land), an inflation rate is used that is based on the Consumer Price Index. These different types of inflators are discussed below.

Engineering News Record's Cost Indexes

ENR publishes both a Construction Cost Index (CCI) and a Building Cost Index (BCI) that are widely used in the construction industry. The indexes are based on annual cost increases of various construction materials and applicable labor rates and calibrated regionally. For calculation of the CCI and the BCI, costs in 1913 are set at 100.

Table 3: Construction Cost Inflator - CCI

		CCI*		Effect of Inflation	
Year	Amount	1913=100	2004=1.0	CCI	Avg. Rate =
					3.7134610%
2004	$ 100,000.00	4,611.31	1.0000	$ 100,000.00	$ 100,000.00
2005		4,829.74	1.0474	104,736.83	103,713.46
2006		4,893.35	1.0612	106,116.27	107,564.82
2007		5,259.37	1.1405	114,053.71	111,559.20
2008		5,801.13	1.2580	125,802.21	115,701.90
2009		5,710.25	1.2383	123,831.41	119,998.45
2010		5,772.10	1.2517	125,172.67	124,454.55
2011		5,872.54	1.2735	127,350.80	129,076.12
2012		5,892.99	1.2779	127,794.27	133,869.31
2013		5,991.02	1.2992	129,920.13	138,840.49
				$1,184,778.30	$1,184,778.30

* Construction Cost Index.
Source: Engineering News Record, Annual (December) Indices.

Construction Cost Inflator

Table 3 uses the example of a calculation of the annual average rate of increase reflected in construction costs. For this analysis, the 2004-2013 ten-year period is used as a base time period for an estimate of future construction cost increases due to inflation in labor and materials costs.

Table 3 shows a construction project that cost $100,000 in 2004, and how much the same project would cost in each subsequent year using the Construction Cost Index published by Engineering

News Record for the Atlanta area. Setting the 2004 Construction Cost Index (CCI) at '1.0,' the increase in the CCI as a multiple of 2004 is also shown on the table. The equivalent cost of the same project in each subsequent year is calculated by multiplying the CCI multiplier times $100,000. When the total for all such projects is summed for the 2004-2013 period, the equivalent average annual rate of increase is calculated as the percentage that would produce the same total. This percentage is used in the text of this report as the applicable inflator for construction projects that will begin in future years.

Table 4: Building Cost Inflator – BCI

		BCI*		Effect of Inflation	
Year	Amount	1913=100	2004=1.0	BCI	Avg. Rate =
					2.5827615%
2004	$ 100,000.00	3,321.80	1.0000	$ 100,000.00	$ 100,000.00
2005		3,599.04	1.0835	108,346.08	102,582.76
2006		3,624.54	1.0911	109,113.73	105,232.23
2007		3,624.54	1.0911	109,113.73	107,950.13
2008		3,768.88	1.1346	113,458.97	110,738.22
2009		3,703.98	1.1151	111,505.21	113,598.33
2010		3,765.83	1.1337	113,367.15	116,532.30
2011		3,950.83	1.1894	118,936.42	119,542.05
2012		3,971.29	1.1955	119,552.35	122,629.54
2013		4,026.31	1.2121	121,208.68	125,796.76
				$1,124,602.32	$1,124,602.32

* Building Cost Index.
Source: Engineering News Record, Annual (December) Indices.

Building Cost Inflator

The inflator for future construction costs for buildings is based on ENR's Building Cost Index for each year from 2004 through 2013, and is calculated in the same manner as described above for the Construction Cost Inflator. Table 4 shows the results.

CPI Inflator

For projects that do not involve construction, only the future value of money needs to be considered (without regard to inflation in labor or materials costs). For this calculation, the Consumer Price Index (CPI) is used, assuming past experience will continue into the foreseeable future.

Table 5 shows the CPI figures for every year since 1982, with the 1982-84 index being 100. By 2013 the CPI had risen considerably over the 1982 CPI. The first column under the 'CPI' heading on the table shows the average annual CPI figures. Using 2013 as the base (2013=1.0), the second column under 'CPI' on the table shows the multipliers that would convert an amount of money spent in each year into current present value dollars.

Using an annual expenditure of $10,000 as an example, the multipliers on Table 5 yield the figures shown for the CPI on the table under the 'present value' heading. Cumulatively, the $320,000 spent over the 1982-2013 period would have a total present value of $490,346.04 in today's dollars. Considering the present value figures for the $10,000 annual expenditures, an average annual inflation rate of almost 2.6% yields the same total amount over the 1982-2013 period.

Table 5: Non-Construction Cost Inflator – CPI

Year	Amount	CPI* 1982-84=100	CPI* 2013=1.0	Present Value: CPI	Long Term Inflator = 2.6058884%	10-Year Inflator =
1982	10,000.00	96.5	2.41406	24,140.62	22,199.38	
1983	10,000.00	99.6	2.33893	23,389.26	21,635.58	
1984	10,000.00	103.9	2.24213	22,421.27	21,086.10	
1985	10,000.00	107.6	2.16503	21,650.28	20,550.58	
1986	10,000.00	109.6	2.12552	21,255.20	20,028.65	
1987	10,000.00	113.6	2.05068	20,506.78	19,519.98	
1988	10,000.00	118.3	1.96921	19,692.05	19,024.23	
1989	10,000.00	124.0	1.87869	18,786.85	18,541.07	
1990	10,000.00	130.7	1.78238	17,823.79	18,070.18	
1991	10,000.00	136.2	1.71040	17,104.04	17,611.25	
1992	10,000.00	140.3	1.66042	16,604.21	17,163.98	
1993	10,000.00	144.5	1.61216	16,121.59	16,728.06	
1994	10,000.00	148.2	1.57191	15,719.10	16,303.22	
1995	10,000.00	152.4	1.52859	15,285.89	15,889.17	
1996	10,000.00	156.9	1.48475	14,847.48	15,485.63	
1997	10,000.00	160.5	1.45145	14,514.45	15,092.34	
1998	10,000.00	163.0	1.42918	14,291.84	14,709.04	
1999	10,000.00	166.6	1.39830	13,983.01	14,335.47	
2000	10,000.00	172.2	1.35283	13,528.28	13,971.39	
2001	10,000.00	177.1	1.31540	13,153.98	13,616.56	
2002	10,000.00	179.9	1.29492	12,949.25	13,270.74	**2.08349%**
2003	10,000.00	184.0	1.26607	12,660.71	12,933.70	
2004	10,000.00	188.9	1.23323	12,332.29	12,605.22	12,039.26
2005	10,000.00	195.3	1.19282	11,928.16	12,285.09	11,793.54
2006	10,000.00	201.6	1.15554	11,555.41	11,973.08	11,552.84
2007	10,000.00	207.3	1.12354	11,235.40	11,669.00	11,317.05
2008	10,000.00	215.3	1.08200	10,819.96	11,372.64	11,086.07
2009	10,000.00	214.5	1.08586	10,858.59	11,083.81	10,859.81
2010	10,000.00	218.1	1.06834	10,683.36	10,802.32	10,638.16
2011	10,000.00	224.9	1.03565	10,356.45	10,527.97	10,421.04
2012	10,000.00	229.6	1.01465	10,146.48	10,260.59	10,208.35
2013	10,000.00	233.0	1.00000	10,000.00	10,000.00	10,000.00
1982-13	$320,000.00			$ 490,346.04	$ 490,346.04	
2004-13	$100,000.00			$ 109,916.10		$ 109,916.10

*Consumer Price Index data is from the U. S. Department of Labor, Bureau of Labor Statistics, as of January, 2014

The 32-year average of annual CPI change (the period of 1982-2013) shown on Table 5 would be useful in estimating the present value (PV) of past expenditures, but would not be the best indicator of future change because of the long time frame covered. While the historic CPI multipliers reflect the swings in inflation in the past, these rates have moderated somewhat in recent years as inflation has become a primary target of federal monetary policy. Looking only at the change in CPI for the 10 years from 2004 to 2013, an average annual inflation rate of a little under 2.1% best

captures the change over that period. This lower inflation rate (compared to the 1982-2013 period) is assumed to be experienced 'on average' in future years, and is used for inflator calculations for future non-construction expenditures. (This comports with recent pronouncements by the FED that an annual inflation rate of 2% would be considered normal and desirable for the national economy.)

Calculating Net Present Value

Determining the NPV of future project expenditures depends on the type of 'project' being funded.

For a building construction project (such as a fire station), the current cost estimate for the project is inflated into the future using the average Building Cost Inflator (from Table 4) applied to the number of years until the year planned for its construction. This future cost is then deflated back to the present using the Net Discount Rate (currently 1.0%) since this reflects the present value of a future amount of money.

For other construction projects (such as recreation facilities), the current cost estimate for the project is inflated into the future using the average Construction Cost Inflator (from Table 3) applied to the number of years until the year planned for its construction. Like building construction projects, this future cost is then deflated back to the present using the Net Discount Rate.

For non-construction capital projects (such as fire truck purchases or land acquisition), the 10-year average CPI inflator is used to estimate the project expenditure in future dollars while the Net Discount Rate is applied to deflate that future cost to present value.

■ Property Tax Credits

An important component of impact fee calculations is a forecast of the expected revenues from taxes. New development pays for the capital improvements needed to serve that development through impact fees, charged at the time that the building permit is issued, as well as through future taxes that are reasonably expected to be spent for those same capital improvements or on projects that are the responsibility of the current residents and businesses. Credit must be granted for those future taxes that will be paid by new development; failure to do so would be a form of double taxation.

For example, assume a $50,000 project is 50% impact fee eligible—new growth and the property owners in the city today would each 'owe' $25,000 to fund the project. The City, however, will cover its $25,000 share through property tax collections. Since the City's property tax levy would tax the current property owners and new growth alike, new growth will be paying some amount in property taxes that it doesn't 'owe'—for this example let's say that new growth will generate $5,000 in future property taxes that will go to paying the current property owners share. To assure that new growth will not pay more than their fair share (as mandated by the state impact fee law), a credit of $5,000 is deducted from the amount to be collected from new growth in impact fees. Thus, new growth will pay its fair share through a combination of impact fees and future property taxes.

For each public facility category where a credit is due, the credit is applied equally to all new development against their impact fees by deducting the amount that will be paid through taxes from the total public facility costs that are attributable to new development. The credit to be deducted from the impact fee is calculated as the present value of the future tax stream for the years the tax will be collected, to the extent that the taxes will be expended on impact fee eligible facilities (for which impact fees are being collected) and the non-impact fee eligible portion of capital improvements. In Alpharetta, some future non-impact fee eligible capital improvements are expected to receive some portion of their funding from general fund expenditures. Credits based on future growth's contributions to this source are calculated in the appropriate public facility category chapters.

Property owners in Alpharetta contribute to the general fund of the City through property tax payments. These payments are levied based on the budgetary demands to provide services and capital improvements throughout the city. After establishing the financial needs for the next fiscal year through a budget-setting process, the City then determines the millage[1] rate required to raise the necessary funds. The millage rate is applied against the assessed value of property (40% of the appraised value). General fund revenues can also be used to guarantee a variety of general obligation bonds, tax anticipation notes, or other types of loans; these financial instruments, in turn, may be used to undertake capital improvement projects.

In Table 6, the value added to the tax base by new growth is calculated. New houses currently for sale throughout the city are being offered at an overall average sales price of $529,217 ($211,687 assessed value). Nonresidential value added is calculated as the current number of jobs in the City divided by the assessed value of all commercial, industrial and utility property, resulting in a figure of $32,636 in assessed value per employee. The value added is expressed in *assessed* value; this is 40% of the actual or appraised value. Millage rates are applied to assessed value, rather than appraised.

Table 6: New Growth Added Value – City of Alpharetta

Year	Residential			Non-Residential			Total Annual Added Assessed Value
	Total Housing Units	New Housing Units	Added Assessed Value*	Total Employees	New Employees	Added Assessed Value**	
2014	25,455			77,418			
2015	25,792	337	$ 71,338,519	78,469	1,051	$ 34,300,436	$ 105,638,955
2016	26,271	479	$ 101,398,073	79,751	1,282	$ 41,839,352	$ 143,237,425
2017	26,733	462	$ 97,799,394	81,019	1,268	$ 41,382,448	$ 139,181,842
2018	27,179	446	$ 94,412,402	82,260	1,241	$ 40,501,276	$ 134,913,678
2019	27,615	436	$ 92,295,532	83,486	1,226	$ 40,011,736	$ 132,307,268
2020	28,050	435	$ 92,083,845	84,709	1,223	$ 39,913,828	$ 131,997,673
2021	28,482	432	$ 91,448,784	85,798	1,089	$ 35,540,604	$ 126,989,388
2022	28,899	417	$ 88,273,479	86,863	1,065	$ 34,757,340	$ 123,030,819
2023	29,308	409	$ 86,579,983	87,914	1,051	$ 34,300,436	$ 120,880,419
2024	29,714	406	$ 85,944,922	88,961	1,047	$ 34,169,892	$ 120,114,814
2025	30,117	403	$ 85,309,861	90,004	1,043	$ 34,039,348	$ 119,349,209
2026	30,520	403	$ 85,309,861	91,131	1,127	$ 36,780,772	$ 122,090,633
2027	30,924	404	$ 85,521,548	92,261	1,130	$ 36,878,680	$ 122,400,228
2028	31,328	404	$ 85,521,548	93,390	1,129	$ 36,846,044	$ 122,367,592
2029	31,735	407	$ 86,156,609	94,524	1,134	$ 37,009,224	$ 123,165,833
2030	32,140	405	$ 85,733,235	95,656	1,132	$ 36,943,952	$ 122,677,187
2031	32,549	409	$ 86,579,983	96,809	1,153	$ 37,629,308	$ 124,209,291
2032	32,962	413	$ 87,426,731	97,969	1,160	$ 37,857,760	$ 125,284,491
2033	33,378	416	$ 88,061,792	99,135	1,166	$ 38,053,576	$ 126,115,368
2034	33,801	423	$ 89,543,601	100,310	1,175	$ 38,347,300	$ 127,890,901
2035	34,228	427	$ 90,390,349	101,492	1,182	$ 38,575,752	$ 128,966,101

*New housing unit value is estimated at an assessed value per housing unit of: $211,687
**Nonresidential value is estimated at an assessed value per employee of: $32,636

[1] A mil is one thousandth of a cent; the millage rate is stated in dollars per one thousand dollars of assessed value.

Table 7: Alpharetta Tax Digest – 2013

Category	Total Assessed Value (@40%)	Total Tax Valuation (100% value)
Residential	$ 1,853,433,060	$ 4,633,582,650
Agricultural	126,080	315,200
Conservation Use	6,009,960	15,024,900
Commercial	2,405,547,940	6,013,869,850
Industrial	58,989,110	147,472,775
Utility	62,093,651	155,234,128
Exemptions (M&O)	(44,173,421)	(110,433,553)
Net Digest*	$ 4,342,026,380	$ 10,855,065,950

* Excludes Motor Vehicles and Mobile Homes.
Source: Georgia Dept. of Revenue, Consolidated Alpharetta Tax Digest.

Table 7 provides a summary of the current tax digest. Note that motor vehicles and mobile homes are not included in the table in order to focus on the contributions of new land development to the tax base in the future.

Table 8: Alpharetta Tax Base Growth

Year	Total City Tax Base (Net 2013 Digest)	Total Annual Added Assessed Value	Net City Tax Digest (40% value)
2014	$ 4,342,026,380		$ 4,342,026,380
2015		$ 105,638,955	$ 4,447,665,335
2016		$ 143,237,425	$ 4,590,902,760
2017		$ 139,181,842	$ 4,730,084,602
2018		$ 134,913,678	$ 4,864,998,280
2019		$ 132,307,268	$ 4,997,305,548
2020		$ 131,997,673	$ 5,129,303,221
2021		$ 126,989,388	$ 5,256,292,609
2022		$ 123,030,819	$ 5,379,323,428
2023		$ 120,880,419	$ 5,500,203,847
2024		$ 120,114,814	$ 5,620,318,661
2025		$ 119,349,209	$ 5,739,667,870
2026		$ 122,090,633	$ 5,861,758,503
2027		$ 122,400,228	$ 5,984,158,731
2028		$ 122,367,592	$ 6,106,526,323
2029		$ 123,165,833	$ 6,229,692,156
2030		$ 122,677,187	$ 6,352,369,343
2031		$ 124,209,291	$ 6,476,578,634
2032		$ 125,284,491	$ 6,601,863,125
2033		$ 126,115,368	$ 6,727,978,493
2034		$ 127,890,901	$ 6,855,869,394
2035		$ 128,966,101	$ 6,984,835,495

In Table 8 the property tax base of the City is forecast to the year 2035. This is a combination of the tax digest base year (2013) from Table 7 and the annual increase in assessed value from new growth in the city from Table 6.

The tax base figures from this table are used where impact fees can be levied for both residential and nonresidential development for a citywide service (i.e., the Public Safety categories).

Table 9: Residential Tax Base Growth

Year	Residential Tax Base (Net 2013 Digest)*	Annual Added Residential Assessed Value	Net Residential Tax Digest (40% value)
2014	$ 1,809,259,639		$ 1,809,259,639
2015		$ 71,338,519	$ 1,880,598,158
2016		$ 101,398,073	$ 1,981,996,231
2017		$ 97,799,394	$ 2,079,795,625
2018		$ 94,412,402	$ 2,174,208,027
2019		$ 92,295,532	$ 2,266,503,559
2020		$ 92,083,845	$ 2,358,587,404
2021		$ 91,448,784	$ 2,450,036,188
2022		$ 88,273,479	$ 2,538,309,667
2023		$ 86,579,983	$ 2,624,889,650
2024		$ 85,944,922	$ 2,710,834,572
2025		$ 85,309,861	$ 2,796,144,433
2026		$ 85,309,861	$ 2,881,454,294
2027		$ 85,521,548	$ 2,966,975,842
2028		$ 85,521,548	$ 3,052,497,390
2029		$ 86,156,609	$ 3,138,653,999
2030		$ 85,733,235	$ 3,224,387,234
2031		$ 86,579,983	$ 3,310,967,217
2032		$ 87,426,731	$ 3,398,393,948
2033		$ 88,061,792	$ 3,486,455,740
2034		$ 89,543,601	$ 3,575,999,341
2035		$ 90,390,349	$ 3,666,389,690

* Residential total, minus Homestead and related residential exemptions.

The value added by new residential growth alone, shown in Table 9, is used for credit calculations where only residential growth is charged impact fees (i.e., Parks & Recreation).

■ Funds on Hand

The City has impact fee monies from previous collections in its various impact fee accounts. To the extent that the funds have not been encumbered for previous impact fee projects, the amounts will be applied to new impact fee costs as a credit. The most recently reported fund balances are shown on Table 10.

Table 10: Impact Fee Fund Balances

Parks & Recreation	Transportation	Public Safety	Total
$ 246,598.29	$ 698,918.20	$ 306,284.25	$ 1,251,800.74

Fund Balances as of 12/31/2014.

Police and Fire Protection

Introduction

The Alpharetta Public Safety Department is a modern and proactive law, fire and medical protection agency, combining police, fire, and E–911 services in a consolidated command and administrative structure. This chapter addresses the fire and police services provided by the department.

Service Area

The city is considered a single service area for the provision of primary fire protection and law enforcement services because all residents and employees in the city have equal access to the benefits of the services provided.

Level of Service

The Level of Service (LOS) calculations are based on current inventories serving the residents and businesses located in the city today.

Fire Services

Fire protection is provided by the City through its Fire and Emergency Services Department. The capital value of fire protection is based upon fire stations, administrative office space, and fire apparatus (vehicles).

Table 11: Inventory of Fire Protection Facilities

Description	Existing Square Feet	Existing Vehicles
Fire Stations		
Fire Marshal's Office	1,472	
Fire Station 1	10,640	
Fire Station 2	7,830	
Fire Station 3	9,600	
Fire Station 4	9,600	
Fire Station 5	6,566	
Fire Station 6	6,566	
Total Square Feet	**52,274**	
*Heavy Vehicles**		
Fire Engines		8
Ladder Trucks		2
Air/Light Truck		1
HazMat Trailer		1
Total Heavy Vehicles		**12**

* Vehicles having a service life of 10 years or more.

Emergency medical services are administered by the Fire and Emergency Services Department, but are provided under contract to a private vendor. While the private vendor provides and maintains ambulances, EMS equipment and staffing, the Department provides space to house the EMS vehicles in its fire stations.

Currently, fire protection is provided by facilities with a combined square footage of 52,274, including 6 fire stations and utilizing a total of 12 heavy vehicles (that is, vehicles having a service life of 10 years or more). Table 11 presents the current inventory of Fire Department facilities and vehicles.

The Fire Department has determined that its current number and distribution of fire stations are positioned to provide full coverage throughout the city while main-

taining full compliance with ISO rating criteria. In addition, the number of heavy vehicles will fully meet the needs of future growth and development, although vehicle replacement will be necessary as the various vehicles age. Since the capacity provided by the existing inventory of fire stations and the number of vehicles does not need to be expanded to serve future growth in the city, none are proposed as part of the impact fee program. An increase in administrative space is needed, however; this expansion is included as part of the Public Safety Headquarters, discussed under the Police Services sections below.

Police Services

The Alpharetta Police Department provides primary law enforcement throughout the city. Through a variety of active law enforcement, community outreach and educational programs, the Police Department serves all of the population and employees within the city.

Table 12: Inventory of Police Facilities

Description	Existing Square Feet	Existing Vehicles
Facility Space		
Headquarters	19,827	
Evidence and Property Storage	7,164	
Logistics	240	
Total Square Feet	**27,231**	
*Heavy Vehicles**		
SWAT Truck		1
Mobile Command Center		1
Total Heavy Vehicles		**2**

* Vehicles having a service life of 10 years or more.

The level of service for Police Department services in Alpharetta is measured in terms of the number of heavy vehicles (i.e. SWAT vehicle, Mobile Command Center), and the number of square feet of occupied facility space, per day/night population in the service area. Table 12 presents a current inventory of facility space and heavy vehicles. Day/night population is used as a measure in that Police Department is a set of law enforcement services provided to both residences and businesses in the service area.

Table 13 presents the calculation of the current level of service for police services, based on the inventory above.

Table 13: Current Level of Service Calculation

Facility	Service Population	Level of Service
Existing Square Feet	**2014 Day/Night Population**	**Square Feet per Day/Night Population**
27,231	140,292	0.1941

Existing Heavy Vehicles	2014 Day/Night Population	Heavy Vehicles per Day/Night Population
2	140,292	0.000014

■ Forecasts for Service Area

Future Demand

For the purposes of impact fee calculations the City has determined that a level of service, based on the current LOS, would be appropriate to serve the future service area population.

Table 14: Future Demand Calculation

Level of Service	Future Population	New Growth Demand

Square Feet per Day/Night Population	Day/Night Population Increase (2014-35)	Net New Square Feet Demanded
0.1941	43,720	8,486

Heavy Vehicles per Day/Night Population	Day/Night Population Increase (2014-35)	Net New Heavy Vehicles Demanded*
0.000014	43,720	0.623

* 1 heavy vehicle will have to be added to the inventory, 62.3% of which is eligible for impact fee funding.

In Table 14, the facility space and heavy vehicle LOS standards from Table 13 are next multiplied by the forecasted citywide day/night population increase to produce the expected demand that future growth and development will place on the city.

Table 15: Future System Improvement Costs

		Buildings		Major Vehicles	
Year	Facility	Square Feet	2014 Cost*	Number	2014 Cost**
2014		-	$ -	-	$ -
2015		-	-	-	-
2016	HQ Phase 1	1,300	$ 298,719	-	-
2017	HQ Phase 2	7,186	$ 1,651,226	-	-
2018		-	-	-	-
2028		-	-	-	-
2029		-	-	1	$ 250,000
2030		-	-	-	-
		8,486	$ 1,949,944	1	$ 250,000

* Construction cost for the Headquarters building is estimated at $230 per square foot for construction, including design and related outdoor parking expansion cost.

** Vehicle cost is based on average replacement cost of current vehicles.

Table 15 provides current cost estimates (in 2014 dollars) of new system improvements that are proposed to address future needs. All of the floor area that is justified to meet future growth needs is devoted to the expansion of the Public Safety Headquarters. 'Phase 1' of the project is essentially expansion of the parking area to serve the new building, while 'Phase 2' begins construction of the building expansion itself.

The estimated improvement costs (in 2014 dollars) are based on the following:

- For new facility space: Prevailing construction costs averaging $230 per square foot are used. This includes both the headquarters building expansion, the expansion of the related parking facility, and design services. Furniture is not included.
- For major vehicles, the cost is based on the average prevailing cost for the existing heavy vehicles on hand, outfitted meeting Alpharetta specifications.

Note that, if the headquarters expansion exceeds the 8,486 square feet that are impact fee eligible, the additional floor area will require funding from another source.

Future Costs

The future facility floor area and the number of heavy vehicles needed to meet the demand created by new growth and development in the future are transferred from Table 15 to Table 16, including the years in which the various improvements are anticipated to be needed.

The LOS demand for the future heavy vehicle calls for only a portion of a vehicle. Because only 'whole' vehicles can be purchased, one new vehicle is proposed to be purchased but only a portion would be impact fee-eligible and subject to impact fee collections from new growth. Thus, while 1 major vehicle has to be acquired, only 0.623 of the vehicle is required to address the needs of future growth and development; thus it is only 62.3% impact fee eligible. The vehicle will, however, provide service to growth beyond 2035, and can be funded through a future extension of the City's impact fee program at that time.

The total cost figures are then aggregated to produce the 'total impact fee eligible' dollars on the table, based on the percentage that each improvement is impact fee eligible. These impact fee eligible costs, which are shown in current (2014) dollars, are then converted to their Net Present Values based on the year in which they are scheduled.

Table 16: Project Costs to Meet Future Demand

Year	Costs in 2014 Dollars					Net Present Value*
	Building Costs	% Impact Fee Eligible	Major Vehicle Cost	% Impact Fee Eligible	Total Impact Fee Eligible	
2014	$ -		$ -		$ -	$ -
2015	-		-		$ -	-
2016	$ 298,718.81	100.0%	-		$ 298,718.81	308,154.55
2017	$ 1,651,225.65	100.0%	-		$ 1,651,225.65	1,730,077.12
2018	-		-		$ -	-
2028	-		-		$ -	-
2029	-		$ 250,000.00	62.3%	$ 155,819.50	182,866.43
2030	-		-		$ -	-
	$ 1,949,944		**$ 250,000**		**$ 2,105,764**	**$ 2,221,098**

* Net Present Value = 2014 cost estimate for buildings inflated to target year using the ENR Building Cost Index (BCI), and the Consumer Price Index (CPI) for vehicles, all reduced to 2014 NPV using the Discount Rate.

The Net Present Value of the cost estimates for new building construction are calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2014 dollars using the Net discount Rate. For non-construction improvements (the heavy vehicle) the currently estimated costs are inflated to its target year using the 10-year average CPI and then reduced using the Net Discount Rate to produce the Net Present Value. (The approaches to calculating NPV are explained in detail in the Cost Adjustments and Credits Section of this report.)

■ Credit Calculation

There is a credit calculation that is carried out for this public facility category. For this calculation, it is assumed that the City will meet its financial obligations towards non-eligible project costs through general fund expenditures. For this reason, the credit calculated here is based on future property tax contributions into the general fund that will be generated by new growth and development to pay for the non-eligible costs.

Table 17: New Growth Contribution through Property Taxes

Year	Tax Digest*	Non-eligible Project Funding (NPV)	Millage Rate	New Growth Added Value*	Contribution from New Growth
2015	$ 4,447,665,335		-	$ 105,638,955	$ -
2016	$ 4,590,902,760		-	$ 248,876,380	-
2017	$ 4,730,084,602		-	$ 388,058,222	-
2018	$ 4,864,998,280		-	$ 522,971,900	-
2019	$ 4,997,305,548		-	$ 655,279,168	-
2020	$ 5,129,303,221		-	$ 787,276,841	-
2021	$ 5,256,292,609		-	$ 914,266,229	-
2022	$ 5,379,323,428		-	$ 1,037,297,048	-
2023	$ 5,500,203,847		-	$ 1,158,177,467	-
2024	$ 5,620,318,661		-	$ 1,278,292,281	-
2025	$ 5,739,667,870		-	$ 1,397,641,490	-
2026	$ 5,861,758,503		-	$ 1,519,732,123	-
2027	$ 5,984,158,731		-	$ 1,642,132,351	-
2028	$ 6,106,526,323		-	$ 1,764,499,943	-
2029	$ 6,229,692,156		-	$ 1,887,665,776	-
2030	$ 6,352,369,343	$ 110,528.22	0.01740	$ 2,010,342,963	$ 34,979.02
2031	$ 6,476,578,634		-	$ 2,134,552,254	-
2032	$ 6,601,863,125		-	$ 2,259,836,745	-
2033	$ 6,727,978,493		-	$ 2,385,952,113	-
2034	$ 6,855,869,394		-	$ 2,513,843,014	-
2035	$ 6,984,835,495		-	$ 2,642,809,115	-
			Total New Growth Contribution		**$ 34,979.02**

*Running Totals; Tax digest and new growth added value information taken from the *Alpharetta Tax Base Growth* Table in the Cost Adjustments and Credits Chapter.

In order to calculate the tax credit, the total non-eligible project costs are shown in the year of their anticipated expenditure on Table 17. The estimated property tax contribution from new growth is then calculated, based on the portion of the City's millage rate that would need to be levied, citywide, to pay for the non-eligible project costs. The millage rate is simply the rate required to meet the annual funding requirement with the given total tax digest value. The contribution from new growth is that millage rate multiplied by the cumulative total value added by new growth.

In addition to the credit for taxes generated by future development, there are funds on hand from impact fee collections in prior years that are credited against future eligible impact fee costs.

Impact Cost Calculation

As an addition to the system improvement costs for police services improvements, the City will recoup through impact fee collections the cost of preparing the Capital Improvements Element.[2] The total cost to prepare the CIE ($62,500) has been divided equally among the five public facility categories being considered: police and fire protection, police detention center, emergency communications, recreation & parks (public parks and walkways combined), and road improvements. This produces an amount that is applied to each public facility category's funding responsibility ($62,500 ÷ 5 = $12,500). The cost of the CIE preparation is wholly applicable to new growth since the demand for future services—the reason for the CIE preparation—is attributable to that same new growth. The cost of the CIE preparation is added to the total eligible project costs in the first part of Table 18.

Table 18: Net Cost to Serve New Growth

Description		Total
Eligible Cost of Police Projects	$	2,221,098.10
plus CIE Preparation	$	12,500.00
minus Credit for Tax Contributions	$	(34,979.02)
minus Impact Fee Fund Balance	$	(306,284.25)
= Net Eligible Police Project Costs	$	1,892,334.84
÷ Day/Night Population Increase		43,720
= Net Impact Cost per Person	**$**	**43.28**

Secondly, in calculating the net impact cost, the applicable credits for future tax contributions and carry-over impact fee funds on hand are subtracted from the total impact fee eligible project costs to produce a net impact fee-eligible project cost figure.

Using the 'net eligible police project costs' figure on Table 18, the impact cost per person is calculated, based on the increase in day/night population between 2014 and 2035.

A final calculation, shown in Table 19, is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth, because they are assessed impact fees per housing unit rather than on a person by person basis. Under the methodology followed here, this is only required in public facility categories that serve both residential and nonresidential populations.

Table 19: Calculation of Housing Unit Fee

Factor	Data
Day/Night Population Increase (2014-2035)	43,720
Residential Population Increase (2014-2035)	19,646
Residential Increase as % of Total Increase	44.937%
Total Net Eligible Police Project Costs	$ 1,892,334.84
Cost Attributable to New Residential Growth	$ 850,349.70
New Housing Units in City (2014-2035)	8,773
Impact Fee per Housing Unit	**$ 96.93**

Since it is anticipated that the average household size will change over time—it is expected to decrease, based on forecasts—a constant fee based on the number of persons per dwelling unit would be both unfair and impractical. Instead, the portion of project costs that is attributable to new residential growth is calculated and assigned to the anticipated housing unit increase. This is accomplished by first identifying the percentage of the total city population increase that will be made up by new residents. This

[2] DIFA specifies that the City may collect fees for "expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element".

percentage is then applied to the 'total net eligible police project costs' figure to produce a 'cost attributable to new residential growth' figure. Finally, the 'cost attributable to new residential growth' is divided by the number of new housing units that future growth and development is projected to generate, to produce a per housing unit impact fee.

■ Impact Fee Schedule – Police and Fire Services

The fee schedule that follows presents the maximum impact fee that could be charged in Alpharetta for the police and fire services public facility category, based on the calculations carried out in this chapter. Impact fees for police and fire services are collected from residential and nonresidential development.

Police and Fire Services impact fees are collected from residential development based on dwelling units, and nonresidential development based on floor area of the building or other specified unit of measure.

The figures under the 'net fee per unit' column are transferred to the Police & Fire column of the Detailed Impact Fee Schedule, and added together with the Detention Center and E-911 Center components under the Public Safety column on the Summary Maximum Impact Fee Schedule. The fee for administration is included under the Administration column of both Fee Schedules in combination with all other administrative fees.

The Summary Schedule is located at the end of the Introduction Chapter of this report, starting on page 15, and the Detailed Schedule begins on page 17.

Table 20: Maximum Impact Fee Schedule – Police and Fire Protection

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
	Net Cost per Day/Night Person (Employee):			**$ 43.2826**		
Residential (200-299)						
210	Single-Family Detached Housing	n/a	per dwelling	$ 96.9300	$ 2.9079	$ 99.8379
220	Apartment	n/a	per dwelling	$ 96.9300	$ 2.9079	$ 99.8379
230	Residential Condominium/Townhouse	n/a	per dwelling	$ 96.9300	$ 2.9079	$ 99.8379
Port and Terminal (000-099)						
030	Intermodal Truck Terminal	0.001415	per square foot	$ 0.0612	$ 0.0018	$ 0.0630
Industrial/Agricultural (100-199)						
110	General Light Industrial	0.002308	per square foot	$ 0.0999	$ 0.0030	$ 0.1029
120	General Heavy Industrial	0.001829	per square foot	$ 0.0792	$ 0.0024	$ 0.0816
140	Manufacturing	0.001793	per square foot	$ 0.0776	$ 0.0023	$ 0.0799
150	Warehousing	0.000915	per square foot	$ 0.0396	$ 0.0012	$ 0.0408
151	Mini-Warehouse	0.000077	per square foot	$ 0.0033	$ 0.0001	$ 0.0034
152	High-Cube Warehouse	0.000076	per square foot	$ 0.0033	$ 0.0001	$ 0.0034
Lodging (300-399)						
310	Hotel or Conference Motel	0.569735	per room	$ 24.6596	$ 0.7398	$ 25.3994
311	All Suites Hotel	0.500000	per room	$ 21.6413	$ 0.6492	$ 22.2905
320	Motel	0.439500	per room	$ 19.0227	$ 0.5707	$ 19.5934
Recreational (400-499)						
430	Golf Course	0.245614	per acre	$ 10.6308	$ 0.3189	$ 10.9497
437	Bowling Alley	0.001000	per square foot	$ 0.0433	$ 0.0013	$ 0.0446
443	Movie Theater	0.001470	per square foot	$ 0.0636	$ 0.0019	$ 0.0655
460	Arena	3.333000	per acre	$ 144.2609	$ 4.3278	$ 148.5887
480	Amusement Park	9.094838	per acre	$ 393.6482	$ 11.8094	$ 405.4576
490	Tennis Courts	0.243888	per acre	$ 10.5561	$ 0.3167	$ 10.8728
491	Racquet/Tennis Club	0.000307	per square foot	$ 0.0133	$ 0.0004	$ 0.0137
492	Health/Fitness Center	0.000705	per square foot	$ 0.0305	$ 0.0009	$ 0.0314
495	Recreational Community Center	0.001241	per square foot	$ 0.0537	$ 0.0016	$ 0.0553
Institutional (500-599)						
520	Private Elementary School	0.000982	per square foot	$ 0.0425	$ 0.0013	$ 0.0438
530	Private High School	0.000653	per square foot	$ 0.0283	$ 0.0008	$ 0.0291
560	Church/Place of Worship	0.000347	per square foot	$ 0.0150	$ 0.0005	$ 0.0155
565	Day Care Center	0.002818	per square foot	$ 0.1220	$ 0.0037	$ 0.1257
566	Cemetery	0.081425	per acre	$ 3.5243	$ 0.1057	$ 3.6300
Medical (600-699)						
610	Hospital	0.002938	per square foot	$ 0.1272	$ 0.0038	$ 0.1310
620	Nursing Home	0.002331	per square foot	$ 0.1009	$ 0.0030	$ 0.1039
630	Clinic	0.003926	per square foot	$ 0.1699	$ 0.0051	$ 0.1750

Maximum Impact Fee Schedule – Police and Fire Protection (continued)

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
Office (700-799)						
710	General Office Building	0.003322	per square foot	$ 0.1438	$ 0.0043	$ 0.1481
714	Corporate Headquarters Building	0.003425	per square foot	$ 0.1482	$ 0.0044	$ 0.1526
715	Single-Tenant Office Building	0.003149	per square foot	$ 0.1363	$ 0.0041	$ 0.1404
720	Medical-Dental Office Building	0.004055	per square foot	$ 0.1755	$ 0.0053	$ 0.1808
760	Research and Development Center	0.002928	per square foot	$ 0.1267	$ 0.0038	$ 0.1305
770	Business Park	0.003079	per square foot	$ 0.1333	$ 0.0040	$ 0.1373
Retail (800-899)						
812	Building Materials and Lumber Store	0.001406	per square foot	$ 0.0609	$ 0.0018	$ 0.0627
813	Free-Standing Discount Superstore	0.000960	per square foot	$ 0.0416	$ 0.0012	$ 0.0428
814	Variety Store	0.000960	per square foot	$ 0.0416	$ 0.0012	$ 0.0428
815	Free-Standing Discount Store	0.001985	per square foot	$ 0.0859	$ 0.0026	$ 0.0885
816	Hardware/Paint Store	0.000964	per square foot	$ 0.0417	$ 0.0013	$ 0.0430
817	Nursery (Garden Center)	0.003120	per square foot	$ 0.1350	$ 0.0041	$ 0.1391
818	Nursery (Wholesale)	0.001667	per square foot	$ 0.0721	$ 0.0022	$ 0.0743
820	Shopping Center	0.001670	per square foot	$ 0.0723	$ 0.0022	$ 0.0745
823	Factory Outlet Center	0.001670	per square foot	$ 0.0723	$ 0.0022	$ 0.0745
826	Specialty Retail Center	0.001982	per square foot	$ 0.0858	$ 0.0026	$ 0.0884
841	Automobile Sales	0.001528	per square foot	$ 0.0661	$ 0.0020	$ 0.0681
843	Auto Parts Store	0.000960	per square foot	$ 0.0416	$ 0.0012	$ 0.0428
848	Tire Store	0.001280	per square foot	$ 0.0554	$ 0.0017	$ 0.0571
849	Tire Superstore	0.001280	per square foot	$ 0.0554	$ 0.0017	$ 0.0571
850	Supermarket	0.001164	per square foot	$ 0.0504	$ 0.0015	$ 0.0519
851	Convenience Market (Open 24 Hours)	0.001800	per square foot	$ 0.0779	$ 0.0023	$ 0.0802
853	Convenience Market with Gasoline Pumps	0.001800	per square foot	$ 0.0779	$ 0.0023	$ 0.0802
854	Discount Supermarket	0.002251	per square foot	$ 0.0974	$ 0.0029	$ 0.1003
860	Wholesale Market	0.000820	per square foot	$ 0.0355	$ 0.0011	$ 0.0366
861	Discount Club	0.001298	per square foot	$ 0.0562	$ 0.0017	$ 0.0579
862	Home Improvement Superstore	0.000960	per square foot	$ 0.0416	$ 0.0012	$ 0.0428
863	Electronics Superstore	0.000960	per square foot	$ 0.0416	$ 0.0012	$ 0.0428
870	Apparel Store	0.001670	per square foot	$ 0.0723	$ 0.0022	$ 0.0745
875	Department Store	0.001980	per square foot	$ 0.0857	$ 0.0026	$ 0.0883
880	Pharmacy/Drugstore	0.001670	per square foot	$ 0.0723	$ 0.0022	$ 0.0745
890	Furniture Store	0.000415	per square foot	$ 0.0180	$ 0.0005	$ 0.0185
Services (900-999)						
912	Drive-in Bank	0.004788	per square foot	$ 0.2073	$ 0.0062	$ 0.2135
931	Quality Restaurant	0.007460	per square foot	$ 0.3229	$ 0.0097	$ 0.3326
932	High-Turnover (Sit-Down) Restauant	0.007460	per square foot	$ 0.3229	$ 0.0097	$ 0.3326
934	Fast-Food Restaurant	0.010900	per square foot	$ 0.4718	$ 0.0142	$ 0.4860
941	Quick Lubrication Vehicle Shop	2.100000	per service bay	$ 90.8934	$ 2.7268	$ 93.6202
944	Gasoline/Service Station	0.160000	per pump	$ 6.9252	$ 0.2078	$ 7.1330
945	Gasoline Station w/Convenience Market	0.000216	per pump	$ 0.0093	$ 0.0003	$ 0.0096
947	Self-Service Car Wash	0.200000	per stall	$ 8.6565	$ 0.2597	$ 8.9162

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee taken from the *Calculation of Housing Unit Fee* table.
"Square foot" means square foot of gross building floor area.

Police Detention Center

Introduction

The Police Detention Center is owned and maintained by the City of Alpharetta but is staffed and operated by Fulton County. The facility has a total of 75 beds, 12 of which are allocated to the City. Impact fee calculations for the Police Detention Center will be based on a citywide service area.

Service Area

The entire city is considered a single service area for the provision of the law enforcement activities, including those provided by the Police Detention Center (to the extent that it exclusively serves the city), because all residents and employees in the city have equal access to the benefits of the program.

Level of Service

The current level of service is determined by an inventory of the square footage allocated to Alpharetta under their agreement with Fulton County. Statistics are shown in Table 21.

Table 21: Police Detention Center Facility Space

Facility	Square Feet
Police Detention Center Total	17,721
Percent of beds allocated to Alpharetta	*16%*
Alpharetta floor area	2,835

The level of service for Police Detention Center services in Alpharetta is measured in terms of square footage per day/night population in the citywide service area. Day/night population is used as a measure in that the Police Detention Center provides law enforcement services to both residences and businesses throughout the service area on a 24-hour basis.

Table 22: Current Level of Service Calculation

Facility	Service Population	Level of Service
Allocated Square Feet	**2014 Day/Night Population**	**Square Feet per Day/Night Population**
2,835	140,292	0.0202

The current level of service (LOS) is shown in Table 22. It is calculated by dividing the square feet of floor area available to Alpharetta by the citywide day/night population, which produces a LOS in terms of square feet per person.

■ Forecasts for Service Area

Table 23: Future Demand Calculation

Level of Service	Future Population	New Growth Demand
Square Feet per Day/Night Population	**Day/Night Population Increase (2014-35)**	**Net New Square Feet Demanded**
0.0202	43,720	884

Future Demand

The City has adopted a LOS based on the current level of service. In Table 23 the adopted level of service, based on the current LOS calculated above, is applied to future growth.

To calculate future demand, the additional number of day/night population to the year 2035 is multiplied by the adopted level of service to produce the future new growth demand figure.

A future project is contemplated to meet this future demand, shown on Table 24. This project could be reconfigured; 884 square feet are ultimately impact fee eligible.

Table 24: Future Police Detention Center Projects

Year	Day/Night Population Increase	Square Feet Demanded (annual)	Running Total: Square Feet Needed	Project	Square Footage
2014	0	0	0		
2015	1,497	30	30		
2016	2,126	43	73		
2017	2,123	43	116		
2018	2,108	43	159		
2019	2,104	43	201		
2020	2,113	43	244		
2021	1,991	40	284		
2022	1,979	40	324		
2023	1,977	40	364		
2024	1,985	40	404		
2025	1,994	40	445		
2026	2,091	42	487		
2027	2,106	43	529		
2028	2,118	43	572		
2029	2,137	43	615		
2030	2,148	43	659	Detention Center Expansion	884
2031	2,183	44	703		
2032	2,203	45	747		
2033	2,223	45	792		
2034	2,246	45	838		
2035	2,268	46	884		
	43,720	**884**			**884**

Future Costs

The future facility floor area needed to meet the demand created by new growth and development in the future is transferred from Table 24 to Table 25, including the year in which the expansion is anticipated to be needed.

Estimated improvement costs (in 2014 dollars) for new facility is based on prevailing construction costs averaging $240 per square foot.

Table 25: Project Costs to Meet Future Demand

Year	Facilities (Sq Feet)	Total Cost in 2014 Dollars	Impact Fee Eligible	Impact Fee Cost (2014)	Net Present Value
2014	-	$ -		$ -	$ -
2015	-	$ -		$ -	$ -
2016	-	$ -		$ -	$ -
2017	-	$ -		$ -	$ -
2018	-	$ -		$ -	$ -
2019	-	$ -		$ -	$ -
2020	-	$ -		$ -	$ -
2021	-	$ -		$ -	$ -
2022	-	$ -		$ -	$ -
2023	-	$ -		$ -	$ -
2024	-	$ -		$ -	$ -
2025	-	$ -		$ -	$ -
2026	-	$ -		$ -	$ -
2027	-	$ -		$ -	$ -
2028	-	$ -		$ -	$ -
2029	-	$ -		$ -	$ -
2030	884	$ 212,066.10	100%	$ 212,066.10	$ 271,969.03
2031	-	$ -		$ -	$ -
2032	-	$ -		$ -	$ -
2033	-	$ -		$ -	$ -
2034	-	$ -		$ -	$ -
2035	-	$ -		$ -	$ -
Avg Cost per Unit	$240	**$ 212,066.10**		**$ 212,066.10**	**$ 271,969.03**

The Net Present Value of the cost estimate for the building expansion is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2014 dollars using the Net Discount Rate. (The approaches to calculating NPV are explained in detail in the Cost Adjustments and Credits Section of this report.)

■ Credit Calculation

Because the Detention Center expansion project is 100% impact fee eligible, new growth and development will not be paying any property taxes that, in turn, will be used to meet a non-eligible share of the project. There is, therefore, no property tax credit that would be applicable.

Impact Cost Calculation

As an addition to the system improvement costs for the detention center improvements, the City will recoup through impact fee collections the cost of preparing the Capital Improvements Element.[3] The total cost to prepare the CIE ($62,500) has been divided equally among the five public facility categories being considered: police and fire protection, police detention center, emergency communications, recreation & parks (public parks and walkways combined), and road improvements. This produces an amount that is applied to each public facility category's funding responsibility ($62,500 ÷ 5 = $12,500). The cost of the CIE preparation is wholly applicable to new growth since the demand for future services—the reason for the CIE preparation—is attributable to that same new growth. The cost of the CIE preparation is added to the total eligible project costs in the first part of Table 26.

Table 26: Net Costs to Serve New Growth

Description		Total
Eligible Cost of Detention Center	$	271,969.03
plus CIE Preparation	$	12,500.00
minus Credit for Tax Contributions	$	-
minus Impact Fee Fund Balance	$	-
= Net Eligible Detention Costs	$	284,469.03
÷ Day/Night Population Increase		43,720
= Net Impact Cost per Person	**$**	**6.51**

As noted above, there are no applicable credits for future tax contributions. The carry-over impact fee funds on hand were assigned in the Police and Fire Protection Chapter as part of the larger Public Safety category.

Using the 'net eligible detention costs' figure on Table 26, the impact cost per person is calculated, based on the increase in day/night population between 2014 and 2035.

A final calculation, shown in Table 27, is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth, because they are assessed impact fees per housing unit rather than on a person by person basis. Under the methodology followed here, this is only required in public facility categories that serve both residential and nonresidential populations.

Table 27: Calculation of Housing Unit Fee

Factor	Data
Day/Night Population Increase (2014-2035)	43,720
Residential Population Increase (2014-2035)	19,646
Residential Increase as % of Total Increase	44.937%
Total Net Eligible Detention Costs	$ 284,469.03
Cost Attributable to New Residential Growth	$ 127,830.52
New Housing Units in City (2014-2035)	8,773
Impact Fee per Housing Unit	**$ 14.57**

Since it is anticipated that the average household size will change over time—it is expected to decrease, based on forecasts—a constant fee based on the number of persons per dwelling unit would be both unfair and impractical. Instead, the portion of project costs that is attributable to new residential growth is calculated and assigned to the anticipated housing unit increase. This is accomplished by first identifying the percentage of the total city population increase that will be made up by new residents. This percentage is then applied to the 'total net eligible police project costs' figure to produce a 'cost attributable to new residential growth' figure.

[3] DIFA specifies that the City may collect fees for "expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element".

Finally, the 'cost attributable to new residential growth' is divided by the number of new housing units that future growth and development is projected to generate, to produce a per housing unit impact fee.

■ Impact Fee Schedule – Detention Center

The fee schedule that follows presents the maximum impact fee that could be charged in Alpharetta for the Police Detention Center category, based on the calculations carried out in this Chapter. These impact fees are collected from residential and nonresidential development.

The figures under the 'net fee per unit' column are transferred to the Detention Center column of the Detailed Impact Fee Schedule, and added together with the Police & Fire and E-911 Center components under the Public Safety column on the Summary Maximum Impact Fee Schedule. The fee for administration is included under the Administration column of both Fee Schedules in combination with all other administrative fees.

The Summary Schedule is located at the end of the Introduction Chapter of this report, starting on page 15, and the Detailed Schedule begins on page 17.

Table 28: Maximum Impact Fee Schedule – Detention Center

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
	Net Cost per Day/Night Person (Employee):			**$ 6.5065**		
Residential (200-299)						
210	Single-Family Detached Housing	n/a	per dwelling	$ 14.5700	$ 0.4371	$ 15.0071
220	Apartment	n/a	per dwelling	$ 14.5700	$ 0.4371	$ 15.0071
230	Residential Condominium/Townhouse	n/a	per dwelling	$ 14.5700	$ 0.4371	$ 15.0071
Port and Terminal (000-099)						
030	Intermodal Truck Terminal	0.001415	per square foot	$ 0.0092	$ 0.0003	$ 0.0095
Industrial/Agricultural (100-199)						
110	General Light Industrial	0.002308	per square foot	$ 0.0150	$ 0.0005	$ 0.0155
120	General Heavy Industrial	0.001829	per square foot	$ 0.0119	$ 0.0004	$ 0.0123
140	Manufacturing	0.001793	per square foot	$ 0.0117	$ 0.0004	$ 0.0121
150	Warehousing	0.000915	per square foot	$ 0.0060	$ 0.0002	$ 0.0062
151	Mini-Warehouse	0.000077	per square foot	$ 0.0005	$ -	$ 0.0005
152	High-Cube Warehouse	0.000076	per square foot	$ 0.0005	$ -	$ 0.0005
Lodging (300-399)						
310	Hotel	0.569735	per room	$ 3.7070	$ 0.1112	$ 3.8182
311	All Suites Hotel	0.500000	per room	$ 3.2533	$ 0.0976	$ 3.3509
320	Motel	0.439500	per room	$ 2.8596	$ 0.0858	$ 2.9454
Recreational (400-499)						
430	Golf Course	0.245614	per acre	$ 1.5981	$ 0.0479	$ 1.6460
437	Bowling Alley	0.001000	per square foot	$ 0.0065	$ 0.0002	$ 0.0067
443	Movie Theater	0.001470	per square foot	$ 0.0096	$ 0.0003	$ 0.0099
460	Arena	3.333000	per acre	$ 21.6863	$ 0.6506	$ 22.3369
480	Amusement Park	9.094838	per acre	$ 59.1760	$ 1.7753	$ 60.9513
490	Tennis Courts	0.243888	per acre	$ 1.5869	$ 0.0476	$ 1.6345
491	Racquet/Tennis Club	0.000307	per square foot	$ 0.0020	$ 0.0001	$ 0.0021
492	Health/Fitness Center	0.000705	per square foot	$ 0.0046	$ 0.0001	$ 0.0047
495	Recreational Community Center	0.001241	per square foot	$ 0.0081	$ 0.0002	$ 0.0083
Institutional (500-599)						
520	Private Elementary School	0.000982	per square foot	$ 0.0064	$ 0.0002	$ 0.0066
530	Private High School	0.000653	per square foot	$ 0.0042	$ 0.0001	$ 0.0043
560	Church/Place of Worship	0.000347	per square foot	$ 0.0023	$ 0.0001	$ 0.0024
565	Day Care Center	0.002818	per square foot	$ 0.0183	$ 0.0005	$ 0.0188
566	Cemetery	0.081425	per acre	$ 0.5298	$ 0.0159	$ 0.5457
Medical (600-699)						
610	Hospital	0.002938	per square foot	$ 0.0191	$ 0.0006	$ 0.0197
620	Nursing Home	0.002331	per square foot	$ 0.0152	$ 0.0005	$ 0.0157
630	Clinic	0.003926	per square foot	$ 0.0255	$ 0.0008	$ 0.0263

Maximum Impact Fee Schedule – Detention Center (continued)

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
Office (700-799)						
710	General Office Building	0.003322	per square foot	$ 0.0216	$ 0.0006	$ 0.0222
714	Corporate Headquarters Building	0.003425	per square foot	$ 0.0223	$ 0.0007	$ 0.0230
715	Single-Tenant Office Building	0.003149	per square foot	$ 0.0205	$ 0.0006	$ 0.0211
720	Medical-Dental Office Building	0.004055	per square foot	$ 0.0264	$ 0.0008	$ 0.0272
760	Research and Development Center	0.002928	per square foot	$ 0.0190	$ 0.0006	$ 0.0196
770	Business Park	0.003079	per square foot	$ 0.0200	$ 0.0006	$ 0.0206
Retail (800-899)						
812	Building Materials and Lumber Store	0.001406	per square foot	$ 0.0091	$ 0.0003	$ 0.0094
813	Free-Standing Discount Superstore	0.000960	per square foot	$ 0.0062	$ 0.0002	$ 0.0064
814	Variety Store	0.000960	per square foot	$ 0.0062	$ 0.0002	$ 0.0064
815	Free-Standing Discount Store	0.001985	per square foot	$ 0.0129	$ 0.0004	$ 0.0133
816	Hardware/Paint Store	0.000964	per square foot	$ 0.0063	$ 0.0002	$ 0.0065
817	Nursery (Garden Center)	0.003120	per square foot	$ 0.0203	$ 0.0006	$ 0.0209
818	Nursery (Wholesale)	0.001667	per square foot	$ 0.0108	$ 0.0003	$ 0.0111
820	Shopping Center	0.001670	per square foot	$ 0.0109	$ 0.0003	$ 0.0112
823	Factory Outlet Center	0.001670	per square foot	$ 0.0109	$ 0.0003	$ 0.0112
826	Specialty Retail Center	0.001982	per square foot	$ 0.0129	$ 0.0004	$ 0.0133
841	Automobile Sales	0.001528	per square foot	$ 0.0099	$ 0.0003	$ 0.0102
843	Auto Parts Store	0.000960	per square foot	$ 0.0062	$ 0.0002	$ 0.0064
848	Tire Store	0.001280	per square foot	$ 0.0083	$ 0.0002	$ 0.0085
849	Tire Superstore	0.001280	per square foot	$ 0.0083	$ 0.0002	$ 0.0085
850	Supermarket	0.001164	per square foot	$ 0.0076	$ 0.0002	$ 0.0078
851	Convenience Market (Open 24 Hours)	0.001800	per square foot	$ 0.0117	$ 0.0004	$ 0.0121
853	Convenience Market with Gasoline Pumps	0.001800	per square foot	$ 0.0117	$ 0.0004	$ 0.0121
854	Discount Supermarket	0.002251	per square foot	$ 0.0146	$ 0.0004	$ 0.0150
860	Wholesale Market	0.000820	per square foot	$ 0.0053	$ 0.0002	$ 0.0055
861	Discount Club	0.001298	per square foot	$ 0.0084	$ 0.0003	$ 0.0087
862	Home Improvement Superstore	0.000960	per square foot	$ 0.0062	$ 0.0002	$ 0.0064
863	Electronics Superstore	0.000960	per square foot	$ 0.0062	$ 0.0002	$ 0.0064
870	Apparel Store	0.001670	per square foot	$ 0.0109	$ 0.0003	$ 0.0112
875	Department Store	0.001980	per square foot	$ 0.0129	$ 0.0004	$ 0.0133
880	Pharmacy/Drugstore	0.001670	per square foot	$ 0.0109	$ 0.0003	$ 0.0112
890	Furniture Store	0.000415	per square foot	$ 0.0027	$ 0.0001	$ 0.0028
Services (900-999)						
912	Drive-in Bank	0.004788	per square foot	$ 0.0312	$ 0.0009	$ 0.0321
931	Quality Restaurant	0.007460	per square foot	$ 0.0485	$ 0.0015	$ 0.0500
932	High-Turnover (Sit-Down) Restauant	0.007460	per square foot	$ 0.0485	$ 0.0015	$ 0.0500
934	Fast-Food Restaurant	0.010900	per square foot	$ 0.0709	$ 0.0021	$ 0.0730
941	Quick Lubrication Vehicle Shop	2.100000	per service bay	$ 13.6637	$ 0.4099	$ 14.0736
944	Gasoline/Service Station	0.160000	per pump	$ 1.0410	$ 0.0312	$ 1.0722
945	Gasoline Station w/Convenience Market	0.000216	per pump	$ 0.0014	$ -	$ 0.0014
947	Self-Service Car Wash	0.200000	per stall	$ 1.3013	$ 0.0390	$ 1.3403

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee taken from the *Calculation of Housing Unit Fee* table.
"Square foot" means square foot of gross building floor area.

Emergency Communications

Introduction

The City of Alpharetta operates its Emergency-911 service through the Public Safety Division's E-911 Communications Center; all aspects of the emergency communications activities are administered from a central location.

Service Area

The entire city is considered a single service area for the provision of the emergency communications services because all residents and employees in the city have equal access to the benefits of the program.

Level of Service

The City has outgrown its current emergency communications center. Space needs include additional supervision space, file storage, restrooms, locker space, training/cool-down facilities, and secure server storage space. Expansion of the current facility is proposed in the immediate future, and will accommodate emergency management response personnel from the City and such third parties as utilities, the Red Cross, etc., in emergency situations. This revamped Emergency Operations Center will also involve a significant upgrade to its E-911 phone system to include VOIP and improved GPS functionality.

Statistics for the expanded facility are shown in Table 29.

Table 29: E-911 Facility Inventory

Property	Square Feet
Existing E-911 Center	2,537
Planned Expansion*	2,000
Total Floor Area	4,537

*Includes Communications System Upgrade.

The level of service for emergency communications services in Alpharetta is measured in terms of square footage per day/night population in the city. Day/night population is used as a measure in that emergency communications is a set of services provided to both residences and businesses in the service area on a 24-hour basis.

The revamped Emergency Operations Center is expected to serve the current and future population to 2035.

Table 30: Current Level of Service Calculation

Facility	Service Population	Level of Service
Total Future Square Feet	**2035 Day/Night Population**	**Square Feet per Day/Night Population**
4,537	184,012	0.0247

Table 30 presents a calculation of the level of service, based on the planned, expanded facility space and the future (2035) day/night population.

■ Forecasts for Service Area

Future Demand

Since the Emergency Operations Center is needed now to relieve overcrowded conditions and will serve future needs for years to come, the portion of the expansion that will specifically meet the needs of new growth and development must be determined.

Table 31: Future Demand Calculation

Level of Service	Future Population	New Growth Demand
Square Feet per Day/Night Population	**Day/Night Population Increase (2014-35)**	**Net New Square Feet Demanded**
0.0247	43,720	1,078

In Table 31 the adopted level of service standard, based on the future LOS for facility space calculated in Table 30, is applied to future growth. The 'day/night population increase' figure is brought forward from Table 2. The additional number of forecasted day/night population to the year 2035 is multiplied by the adopted level of service to produce the future demand figure in square feet.

Future Costs

Future cost to meet the improvements demanded by new growth to 2035 is shown in Table 32, which also indicates the year in which the system improvement projects are proposed.

Estimated improvement cost (in 2014 dollars) is based on prevailing costs averaging $225 per square foot for the building expansion, including programming and design. The communications system upgrade is estimated at a flat cost of $350,000.

The total cost figures are then converted to 'impact fee cost (2014)' dollars based on the percentage that the improvements are impact fee eligible.

Table 32: Project Costs to Meet Future Demand

Year	Improvement Project	Total Cost in 2014 Dollars*	Impact Fee Eligible**	Impact Fee Cost (2014)	Net Present Value
2014	-	$ -		$ -	$ -
2015	Communications Upgrade	$ 350,000.00	53.9%	$ 188,644.57	$ 190,668.28
2016	E-911 Center Expansion	$ 450,000.00	53.9%	$ 242,543.02	$ 250,204.32
2017	-	$ -		$ -	$ -
		$ 800,000.00		**$ 431,187.59**	**$ 440,872.61**

* Communications Upgrade - total cost shown.
E-911 Center expansion - 2,000 square feet at $220 per sq ft including programming and design.
** 1,078 sq ft of the 2,000 sq ft expansion is impact fee eligible.

Of the 2,000 square foot expansion, 1,078 is impact fee eligible as calculated on Table 31 (which is 53.9% of the total). This percentage is applied to the cost of the expansion and the related communications system upgrade on Table 32 to determine the amount that could be collected in an impact fee program. In turn, the amounts that are impact fee eligible (in 2014 dollars) are converted to Net Present Value.

The Net Present Value of the cost estimate for the building expansion is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2014 dollars using the Net Discount Rate. For the communications equipment upgrade, the Consumer Price Index (CPI) is used. (The approaches to calculating NPV are explained in detail in the Cost Adjustments and Credits Section of this report.)

■ Credit Calculation

Only a portion of the costs involved in the Emergency Communications Center improvements are eligible to be generated from new growth. However, as new growth occurs, the new residents and businesses will contribute to city expenditures through their taxes. There is therefore a credit calculation that is carried out for this public facility category for the taxes new growth will pay for the facility costs for which they are not responsible. For this calculation, it is assumed that the City will meet its financial obligations towards non-eligible project costs through general fund expenditures. For this reason, the credit calculated here is based on future property tax contributions into the general fund that will be generated by new growth and development to pay for the non-eligible costs.

Table 33: New Growth Contribution Through Property Taxes

Year	Tax Digest*	Non-eligible Project Funding (NPV)	Millage Rate	New Growth Added Value*	Contribution from New Growth
2015	$ 4,447,665,335	$ 163,086.39	0.03667	$ 105,638,955	$ 3,873.55
2016	$ 4,590,902,760	$ 214,010.00	0.04662	$ 248,876,380	11,601.65
2017	$ 4,730,084,602	$ -	-	$ 388,058,222	-
2018	$ 4,864,998,280	$ -	-	$ 522,971,900	-
				Total New Growth Contribution	**$ 15,475.20**

*Running Totals; Tax digest and new growth added value information taken from the *Alpharetta Tax Base Growth* Table in the Cost Adjustments and Credits Chapter.

In order to calculate the tax credit, the total non-eligible project costs (in Net Present Value) are shown in the year of their anticipated expenditure on Table 33. The estimated property tax contribution from new growth is then calculated, based on the portion of the City's millage rate that would need to be levied, citywide, to pay for the non-eligible project costs. The millage rate is simply the rate required to meet the annual funding requirement with the given total tax digest value. The contribution from new growth is that millage rate multiplied by the cumulative total value added by new growth.

In addition to the credit for taxes generated by future development, there are funds on hand from impact fee collections in prior years that are credited against future eligible impact fee costs.

■ Impact Cost Calculation

The City will recoup the cost of preparing the Capital Improvements Element through impact fee collections in addition to the system improvement costs for the detention center improvements.[4] The total cost to prepare the CIE ($62,500) has been divided equally among the five public facility categories being considered: police and fire protection, police detention center, emergency communications, recreation & parks (public parks and walkways combined), and road improvements. This produces an amount that is applied to each public facility category's funding responsibility ($62,500 ÷ 5 = $12,500). The cost of the CIE preparation is wholly applicable to new growth since the demand for future services—the reason for the CIE preparation—is attributable to that same new growth. The cost of the CIE preparation is added to the total eligible project costs in the first part of Table 34.

Table 34: Net Costs to Serve New Growth

Description		Total
Eligible Cost of E-911 Center	$	440,872.61
plus CIE Preparation	$	12,500.00
minus Credit for Tax Contributions	$	(15,475.20)
minus Impact Fee Fund Balance	$	-
= Net Eligible E-911 Center Costs	$	437,897.40
÷ Day/Night Population Increase		43,720
= Net Impact Cost per Person	**$**	**10.02**

Also, in calculating the net impact cost, the applicable credit for future tax contributions are subtracted from the total impact fee eligible project costs to produce a net impact fee eligible project cost figure.

The carry-over impact fee funds on hand were assigned in the Police and Fire Protection Chapter as part of the larger Public Safety category.

Using the 'net eligible E-911 center costs' figure on Table 34, the impact cost per person is calculated, based on the increase in day/night population between 2014 and 2035.

Because new residential growth is assessed impact fees per housing unit rather than on a person by person basis, a final calculation, shown in Table 35, is made in order to fairly distribute the portion of project costs that are specifically attributable to such growth. Under the methodology followed here, this is only required in public facility categories that serve both residential and nonresidential populations.

Table 35: Calculation of Housing Unit Fee

Factor		Data
Day/Night Population Increase (2014-2035)		43,720
Residential Population Increase (2014-2035)		19,646
Residential Increase as % of Total Increase		44.937%
Total Net Eligible E-911 Center Costs	$	437,897.40
Cost Attributable to New Residential Growth	$	196,775.92
New Housing Units in City (2014-2035)		8,773
Impact Fee per Housing Unit	**$**	**22.43**

Since the average household size is expected to change over the coming 20 years, a constant fee based on the number of persons per dwelling unit would be both unfair and impractical. Instead, the portion of project costs that is attributable to new residential growth is calculated and assigned to

[4] DIFA specifies that the City may collect fees for "expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element".

the anticipated housing unit increase. As shown on Table 35, this is accomplished by first identifying the percentage of the total city population increase that will be made up by new residents. This percentage is then applied to the 'total net eligible E-911 center costs' figure to produce the amount of the 'cost attributable to new residential growth'. Finally, the 'cost attributable to new residential growth' is divided by the number of new housing units that future growth and development is projected to generate, to produce a per housing unit impact fee.

■ Impact Fee Schedule – E-911

The fee schedule that follows presents the maximum impact fee that could be charged in Alpharetta for the emergency communications public facility category, based on the calculations carried out in this chapter. These impact fees are collected from residential and nonresidential development.

The figures under the 'net fee per unit' column are transferred to the E-911 Center column of the Detailed Impact Fee Schedule, and added together with the Police & Fire and Detention Center components under the Public Safety column on the Summary Maximum Impact Fee Schedule. The fee for administration is included under the Administration column of both Fee Schedules in combination with all other administrative fees.

The Summary Schedule is located at the end of the Introduction Chapter of this report, starting on page 15, and the Detailed Schedule begins on page 17.

Table 36: Maximum Impact Fee Schedule - Emergency Communications

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
	Net Cost per Day/Night Person (Employee):			**$ 10.0158**		
Residential (200-299)						
210	Single-Family Detached Housing	n/a	per dwelling	$ 22.4300	$ 0.6729	$ 23.1029
220	Apartment	n/a	per dwelling	$ 22.4300	$ 0.6729	$ 23.1029
230	Residential Condominium/Townhouse	n/a	per dwelling	$ 22.4300	$ 0.6729	$ 23.1029
Port and Terminal (000-099)						
030	Intermodal Truck Terminal	0.001415	per square foot	$ 0.0142	$ 0.0004	$ 0.0146
Industrial/Agricultural (100-199)						
110	General Light Industrial	0.002308	per square foot	$ 0.0231	$ 0.0007	$ 0.0238
120	General Heavy Industrial	0.001829	per square foot	$ 0.0183	$ 0.0005	$ 0.0188
140	Manufacturing	0.001793	per square foot	$ 0.0180	$ 0.0005	$ 0.0185
150	Warehousing	0.000915	per square foot	$ 0.0092	$ 0.0003	$ 0.0095
151	Mini-Warehouse	0.000077	per square foot	$ 0.0008	$ -	$ 0.0008
152	High-Cube Warehouse	0.000076	per square foot	$ 0.0008	$ -	$ 0.0008
Lodging (300-399)						
310	Hotel	0.569735	per room	$ 5.7064	$ 0.1712	$ 5.8776
311	All Suites Hotel	0.500000	per room	$ 5.0079	$ 0.1502	$ 5.1581
320	Motel	0.439500	per room	$ 4.4020	$ 0.1321	$ 4.5341
Recreational (400-499)						
430	Golf Course	0.245614	per acre	$ 2.4600	$ 0.0738	$ 2.5338
437	Bowling Alley	0.001000	per square foot	$ 0.0100	$ 0.0003	$ 0.0103
443	Movie Theater	0.001470	per square foot	$ 0.0147	$ 0.0004	$ 0.0151
460	Arena	3.333000	per acre	$ 33.3828	$ 1.0015	$ 34.3843
480	Amusement Park	9.094838	per acre	$ 91.0925	$ 2.7328	$ 93.8253
490	Tennis Courts	0.243888	per acre	$ 2.4427	$ 0.0733	$ 2.5160
491	Racquet/Tennis Club	0.000307	per square foot	$ 0.0031	$ 0.0001	$ 0.0032
492	Health/Fitness Center	0.000705	per square foot	$ 0.0071	$ 0.0002	$ 0.0073
495	Recreational Community Center	0.001241	per square foot	$ 0.0124	$ 0.0004	$ 0.0128
Institutional (500-599)						
520	Private Elementary School	0.000982	per square foot	$ 0.0098	$ 0.0003	$ 0.0101
530	Private High School	0.000653	per square foot	$ 0.0065	$ 0.0002	$ 0.0067
560	Church/Place of Worship	0.000347	per square foot	$ 0.0035	$ 0.0001	$ 0.0036
565	Day Care Center	0.002818	per square foot	$ 0.0282	$ 0.0008	$ 0.0290
566	Cemetery	0.081425	per acre	$ 0.8155	$ 0.0245	$ 0.8400
Medical (600-699)						
610	Hospital	0.002938	per square foot	$ 0.0294	$ 0.0009	$ 0.0303
620	Nursing Home	0.002331	per square foot	$ 0.0233	$ 0.0007	$ 0.0240
630	Clinic	0.003926	per square foot	$ 0.0393	$ 0.0012	$ 0.0405

Maximum Impact Fee Schedule - Emergency Communications (continued)

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
Office (700-799)						
710	General Office Building	0.003322	per square foot	$ 0.0333	$ 0.0010	$ 0.0343
714	Corporate Headquarters Building	0.003425	per square foot	$ 0.0343	$ 0.0010	$ 0.0353
715	Single-Tenant Office Building	0.003149	per square foot	$ 0.0315	$ 0.0009	$ 0.0324
720	Medical-Dental Office Building	0.004055	per square foot	$ 0.0406	$ 0.0012	$ 0.0418
760	Research and Development Center	0.002928	per square foot	$ 0.0293	$ 0.0009	$ 0.0302
770	Business Park	0.003079	per square foot	$ 0.0308	$ 0.0009	$ 0.0317
Retail (800-899)						
812	Building Materials and Lumber Store	0.001406	per square foot	$ 0.0141	$ 0.0004	$ 0.0145
813	Free-Standing Discount Superstore	0.000960	per square foot	$ 0.0096	$ 0.0003	$ 0.0099
814	Variety Store	0.000960	per square foot	$ 0.0096	$ 0.0003	$ 0.0099
815	Free-Standing Discount Store	0.001985	per square foot	$ 0.0199	$ 0.0006	$ 0.0205
816	Hardware/Paint Store	0.000964	per square foot	$ 0.0097	$ 0.0003	$ 0.0100
817	Nursery (Garden Center)	0.003120	per square foot	$ 0.0312	$ 0.0009	$ 0.0321
818	Nursery (Wholesale)	0.001667	per square foot	$ 0.0167	$ 0.0005	$ 0.0172
820	Shopping Center	0.001670	per square foot	$ 0.0167	$ 0.0005	$ 0.0172
823	Factory Outlet Center	0.001670	per square foot	$ 0.0167	$ 0.0005	$ 0.0172
826	Specialty Retail Center	0.001982	per square foot	$ 0.0199	$ 0.0006	$ 0.0205
841	Automobile Sales	0.001528	per square foot	$ 0.0153	$ 0.0005	$ 0.0158
843	Auto Parts Store	0.000960	per square foot	$ 0.0096	$ 0.0003	$ 0.0099
848	Tire Store	0.001280	per square foot	$ 0.0128	$ 0.0004	$ 0.0132
849	Tire Superstore	0.001280	per square foot	$ 0.0128	$ 0.0004	$ 0.0132
850	Supermarket	0.001164	per square foot	$ 0.0117	$ 0.0004	$ 0.0121
851	Convenience Market (Open 24 Hours)	0.001800	per square foot	$ 0.0180	$ 0.0005	$ 0.0185
853	Convenience Market with Gasoline Pumps	0.001800	per square foot	$ 0.0180	$ 0.0005	$ 0.0185
854	Discount Supermarket	0.002251	per square foot	$ 0.0225	$ 0.0007	$ 0.0232
860	Wholesale Market	0.000820	per square foot	$ 0.0082	$ 0.0002	$ 0.0084
861	Discount Club	0.001298	per square foot	$ 0.0130	$ 0.0004	$ 0.0134
862	Home Improvement Superstore	0.000960	per square foot	$ 0.0096	$ 0.0003	$ 0.0099
863	Electronics Superstore	0.000960	per square foot	$ 0.0096	$ 0.0003	$ 0.0099
870	Apparel Store	0.001670	per square foot	$ 0.0167	$ 0.0005	$ 0.0172
875	Department Store	0.001980	per square foot	$ 0.0198	$ 0.0006	$ 0.0204
880	Pharmacy/Drugstore	0.001670	per square foot	$ 0.0167	$ 0.0005	$ 0.0172
890	Furniture Store	0.000415	per square foot	$ 0.0042	$ 0.0001	$ 0.0043
Services (900-999)						
912	Drive-in Bank	0.004788	per square foot	$ 0.0480	$ 0.0014	$ 0.0494
931	Quality Restaurant	0.007460	per square foot	$ 0.0747	$ 0.0022	$ 0.0769
932	High-Turnover (Sit-Down) Restauant	0.007460	per square foot	$ 0.0747	$ 0.0022	$ 0.0769
934	Fast-Food Restaurant	0.010900	per square foot	$ 0.1092	$ 0.0033	$ 0.1125
941	Quick Lubrication Vehicle Shop	2.100000	per service bay	$ 21.0333	$ 0.6310	$ 21.6643
944	Gasoline/Service Station	0.160000	per pump	$ 1.6025	$ 0.0481	$ 1.6506
945	Gasoline Station w/Convenience Market	0.000216	per pump	$ 0.0022	$ 0.0001	$ 0.0023
947	Self-Service Car Wash	0.200000	per stall	$ 2.0032	$ 0.0601	$ 2.0633

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee taken from the *Calculation of Housing Unit Fee* table.
"Square foot" means square foot of gross building floor area.

Public Parks

Introduction

Public recreational opportunities are available in Alpharetta through a number of parks facilities operated by the City of Alpharetta Recreation and Parks Department. In addition, an extensive walkway system is provided throughout the city that interfaces with the public parks, their internal trails and the greenway system.

Demand for public parks, including the recreational facilities in them, is almost exclusively related to the city's resident population. Businesses make some incidental use of public parks for office events, company softball leagues, etc., but the use is minimal compared to that of the families and individuals who live in the city. Thus, the public parks impact fee is limited to future residential growth.

Conversely, the City's walkway system connects residential areas to parks, schools and other community uses, and to and between business centers. Since the walkway system is used by residents and local employees alike for walking, jogging, and as access to parks and other destinations, its impact fee addresses the needs of both residential and nonresidential future growth. Because the 'service population' is different from that for public parks, the walkway system is addressed in the next Chapter as a component of the Recreation and Parks public facility category.

This Chapter focuses on the City's parks, parks facilities, and the trails and greenways that are part of the public parks system.

Service Area—Public Parks

The parks, park facilities and trails/greenways are operated as a citywide system. Facilities are provided equally to all residents, and often used on the basis of the programs available, as opposed to proximity of the facility. For instance, children active in soccer play games at various locations, based on scheduling rather than geography. Other programs are located only at certain centralized facilities, to which any Alpharetta resident can come. Thus, the entire city is considered a single service area for parks facilities and services.

Level of Service

Level of Service standards for park lands and for most parks facilities (i.e., 'recreational components' such as baseball fields, playgrounds and recreation centers) have been adopted by the City in the Recreation and Parks Master Plan 2025. A few components are not addressed in the Master Plan and are individually calculated, as noted in the footnotes to the table below.

The Level of Service standards for park lands and recreation components in the city are expressed in terms of 'components per 1,000 people'. Since impact fees are assessed at the time a building permit is issued (and the impact fee will be limited to residential uses), the LOS must be converted to a 'per housing unit' basis.

Table 37 shows how the adopted level of service for each recreation component is converted from a 'per 1,000 population' basis to a 'per housing unit' basis. First, the currently adopted LOS of 1 per 'X' thousands of people for each component is converted to one component per 'X' thousands of housing units using the city's current average household size. This number is then divided into '1' to produce the 'per housing unit' figure.

Table 37: Level of Service Conversion

Component Type	R&P Plan Adopted LOS*			LOS per 1000 Housing Units**	LOS per Each Housing Unit***
Park Land	1 acre per	100	population =	40.5	0.0247001
Baseball Field	1 per	5,000	population =	2,024.3	0.0004940
Softball Field	1 per	9,000	population =	3,643.7	0.0002744
Multi-Purpose Field	1 per	6,000	population =	2,429.1	0.0004117
Open Grassed Play Field	1 per	10,000	population =	4,048.6	0.0002470
Tennis Court	1 per	5,000	population =	2,024.3	0.0004940
Basketball Court	1 per	20,000	population =	8,097.1	0.0001235
Swimming Pool	1 per	30,000	population =	12,145.7	0.0000823
Playground	1 per	5,000	population =	2,024.3	0.0004940
Picnic Area / Pavilion	1 per	6,000	population =	2,429.1	0.0004117
Disc Golf	1 per	30,000	population =	12,145.7	0.0000823
Botanical Garden	1 per	82,520	population =	33,409.0	0.0000299
Recreation Center	1 per	20,000	population =	8,097.1	0.0001235
Senior Center	1 per	35,000	population =	14,170.0	0.0000706
Dog Park	1 per	27,507	population =	11,136.3	0.0000898
Concessions (w/restrooms)	1 per	6,287	population =	2,545.5	0.0003929
Restrooms (stand alone)	1 per	7,859	population =	3,181.9	0.0003143
Equestrian Ring (outdoor)	1 per	31,437	population =	12,727.5	0.0000786
Park/Walking Trail	1 mile per	13,377	population =	5,416.0	0.0001846
Greenways****	1 mile per	5,351	population =	2,166.4	0.0004616

* Level of Service adopted in Recreation & Parks Master Plan, except for the following:
For dog parks, R&P Plan LOS of 1 for each of 3 parks to serve future (2035) population.
For concessions, restrooms, equistrian rings and trails, current LOS calculated as current number (or trail miles) per current (2014) population.
One botanical garden assumed to serve population to 2035.

** Converted using average population per housing unit in 2014.

*** "1" divided by LOS per 1000 Housing Units = LOS for 1 housing unit.

**** Big Creek Greenway as planned, including extensions to Union Hill and Webb Bridge Park.

By way of example, the current LOS for baseball fields is 1 field per 5,000 people. That number—5,000—is divided by the 2014 average household size to convert 'people' into 'housing units'. The result is the converted standard of 1 baseball field per 2,024 housing units. By dividing the component (1) by the number of housing units it serves results in the portion of a baseball field that serves 1 housing unit (0.0004940).

[Reversing the calculation, 0.0004940 times 2,024 housing units yields 1 baseball field.]

■ Forecasts for Service Area

Existing and Future Demand

Table 38 shows the current and future demand in parks acreage and recreation components based on the LOS standards adopted by the City and shown on Table 37.

Existing demand is calculated in order to determine if there are currently more than enough facilities to serve the current (2014) population or if there is a shortfall requiring future facilities to be built to serve today's population.

For the number of acres and facilities to meet future population needs, the increase in housing units between now and 2035 is multiplied by each level of service standard to produce the future demand. The 'new units' figure on the Table is the citywide increase taken from Table 2.

Table 38: Existing and Future Demand

Component Type	Adopted LOS per Housing Unit	Existing Demand (2014)	New Growth Demand (2015-35)
Park Land	0.0247001	628.74 acres	216.694 acres
Baseball Field	0.0004940	12.575 components	4.334 components
Softball Field	0.0002744	6.986 components	2.408 components
Multi-Purpose Field	0.0004117	10.479 components	3.612 components
Open Grassed Play Field	0.0002470	6.287 components	2.167 components
Tennis Court	0.0004940	12.575 components	4.334 components
Basketball Court	0.0001235	3.144 components	1.083 components
Swimming Pool	0.0000823	2.096 components	0.722 components
Playground	0.0004940	12.575 components	4.334 components
Picnic Area / Pavilion	0.0004117	10.479 components	3.612 components
Disc Golf	0.0000823	2.096 components	0.722 components
Botanical Garden	0.0000299	0.762 components	0.263 components
Recreation Center	0.0001235	3.144 components	1.083 components
Senior Center	0.0000706	1.796 components	0.619 components
Dog Park	0.0000898	2.286 components	0.788 components
Concessions (w/restrooms)	0.0003929	10.000 components	3.446 components
Restrooms (stand alone)	0.0003143	8.000 components	2.757 components
Equestrian Ring (outdoor)	0.0000786	2.000 components	0.689 components
Park/Walking Trail	0.0001846	4.700 miles	1.620 miles
Greenways	0.0004616	11.750 miles	4.050 miles

2014 Housing Units = 25,455 New Units (2035) = 8,773

Note that 'demand' figures are expressed in decimals rather than whole numbers. This allows a high level of accuracy when dealing with cost allocations between existing residents and future growth. For instance, a particular new facility may in part meet a current need and in part serve future growth; each would be responsible for their 'fair share' of the cost. As will be seen, however, ultimately recreation component needs are converted to whole numbers.

Table 39 provides an inventory of the acreage of parks under the control of the Recreation and Parks Department in 2014. The current inventory of recreation components is shown in the first column of Table 40.

Table 39: Current Inventory of Park Acres

Park / Facility Name	Number of Acres
Adult Activity Center	2.25
Alpharetta Community Center	10.00
Big Creek Greenway	400.00
Brooke Street Park (under construction)	5.00
Canton Street/Old Canton Street Pocket Park	0.25
Cogburn Road Park	5.08
Crabapple Government Center	2.00
Maddox Park	0.75
North Park	97.00
Ole Milton Park	0.50
Rock Mill Park	6.00
Roswell Street/Old Roswell Street Pocket Park	0.25
Silos Park	1.00
Union Hill Park	12.38
Veterans Park	1.00
Webb Bridge Park	109.00
Westside Park	2.60
Willis Park and Equestrian Center	120.00
Wills Park Recreation Center	2.00
Windward Soccer Facility	2.32
Total Park Acres:	**779.38**

Impact Fee Eligibility

New parks and recreation components are eligible for impact fee funding only to the extent that the improvements are needed to specifically serve new growth and development, and only at the level of service applicable citywide.

Table 40 shows the number of new park acres and recreation components that are needed to satisfy both current and future needs of the city's residents, and the extent to which fulfillment of those needs will serve future growth demand. The table begins with the current inventory of park lands and components, and the 'existing' demand for those components to meet the needs of the current (2014) population based on the adopted level of service standards (from Table 38). The 'excess or (shortfall)' column compares the existing demand to the current supply of park acres and recreation components.

Table 40: Future Park Facility Impact Fee Eligibility

Facility	Current Inventory	Existing Demand	Excess or (Shortfall)	New Growth Demand	Net Total Needed	Whole Total Needed	Percent Impact Fee Eligible
Park Land	779.38	628.74	150.64	216.69	66.05	66.05	100%
Baseball Field	14	12.575	1.425	4.334	2.909	3.000	96.96%
Softball Field	8	6.986	1.014	2.408	1.394	2.000	69.69%
Multi-Purpose Field	5	10.479	(5.479)	3.612	9.091	10.000	36.12%
Open Grassed Play Field	4	6.287	(2.287)	2.167	4.454	5.000	43.34%
Tennis Court	17	12.575	4.425	4.334	(0.091)	-	0.00%
Basketball Court	2	3.144	(1.144)	1.083	2.227	3.000	36.12%
Swimming Pool	1	2.096	(1.096)	0.722	1.818	2.000	36.12%
Playground	8	12.575	(4.575)	4.334	8.909	9.000	48.15%
Picnic Area / Pavilion	14	10.479	3.521	3.612	0.091	1.000	9.06%
Disc Golf	1	2.096	(1.096)	0.722	1.818	2.000	36.12%
Botanical Garden	0	0.762	(0.762)	0.263	1.000	1.000	26.26%
Recreation Center	3	3.144	(0.144)	1.083	1.227	2.000	54.17%
Senior Center	1	1.796	(0.796)	0.619	1.416	2.000	30.96%
Dog Park	1	2.286	(1.286)	0.788	2.074	2.000	39.39%
Concessions (w/restrooms)	10	10.000	-	3.446	3.446	4.000	86.16%
Restrooms (stand alone)	8	8.000	-	2.757	2.757	3.000	91.91%
Equestrian Ring (outdoor)	2	2.000	-	0.689	0.689	1.000	68.93%
Park/Walking Trail	4.70	4.70	-	1.62	1.62	1.62	100.00%
Big Creek Greenway*	11.75	11.75	-	-	-	-	25.63%

* Big Creek greenway improvements eligiblity is equal to the proportion to new housing units to total housing units in 2035.

In those instances in which an 'excess' is identified, that means that more components (or portions of components) exist than are needed to meet the recreation needs of the current population, and those 'excesses' create capacity to meet the recreational needs of future growth. Conversely, a 'shortfall' indicates that there are not enough facilities and more components (or portions of components) are needed to meet the recreational needs of the current population.

The next column on Table 40 shows the total demand in components specifically to meet future growth needs, and the 'net total needed' to meet all existing and future needs combined. A current 'excess' in facilities reduces the need for new facilities because the 'excess' is already available to serve new growth. A 'shortfall', however, adds to new growth's needs with facilities to bring the current population up to the adopted level of service required to be available to all—both current and future residents.

For example, the City has 14 baseball fields but the adopted level of service indicates that only 12 fields and a portion of a 13th (0.575 or 57.5%) are needed to serve the current population, leaving the remainder of the 13th field (0.425) and all of the 14th field available to serve future growth. Future growth, however, will need a total of 4.334 baseball fields to fully satisfy its needs, based on the adopted LOS. Since 1.425 existing fields are currently available, only 2.909 new field capacity will be needed to meet future demand. This figure is rounded up to 3 new fields (since the Recreation and Parks Department cannot construct only a portion of a new facility), of which the 2.909 portion needed for new growth represents 97% of the total to be built.

On the other hand, the City has only 2 basketball courts where 3.144 in court capacity is needed to serve current needs, leaving a 'shortfall' in capacity of 1.144 courts. New growth will need 1.083 courts for itself, to which is added the current population's shortfall for a total of 2.227 to provide for both current and future needs. Rounded to 3 new courts, new growth needs only 36.1% of the total to satisfy its own demand.

Table 41: Planned System Improvements – Parks Projects

Project	Form Page #	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10-Year Total
Adaptive Playground Equipment (New)	72f	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
Design Services (sites)	76f	$ 25,000	$ 25,500	$ 26,000	$ 26,500	$ 27,000	$ 27,500	$ 28,100	$ 28,700	$ 29,300	$ 29,900	$ 273,500
Park Master Plan Projects	82u	$ -	$ 80,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 110,000
Wills Park Equestrian Center Ring Addition	85u	$ -	$ 10,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 85,000
North Park Concession/Restroom Buildings	88u	$ -	$ 30,000	$ 270,000	$ 270,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 570,000
Webb Bridge Park Playground Equipment	93u	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ 100,000
Windward Complex Conversion	95u	$ -	$ -	$ 37,250	$ 707,750	$ -	$ -	$ -	$ -	$ -	$ -	$ 745,000
Expand Westside Parkway Pocket Park	96u	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000	$ 90,000	$ -	$ -	$ 100,000
Pocket Park Development	97u	$ -	$ -	$ 250,000	$ -	$ 250,000	$ -	$ 250,000	$ -	$ 250,000	$ -	$ 1,000,000
Regional Aquatic Facility	98u	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,000,000	$ 8,050,000	$ -	$ -	$ 15,050,000
Botanical Garden	99u	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 1,900,000	$ 2,000,000
Alpharetta Community Ctr Expansion Ph. III	87u	$ -	$ 245,000	$ 4,570,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,815,000
Webb Bridge Park Community Center	91u	$ -	$ -	$ -	$ -	$ 750,000	$ 17,000,000	$ -	$ -	$ -	$ -	$ 17,750,000
Eastside Adult Activity Center	100u	$ -	$ -	$ -	$ 142,500	$ 2,707,500	$ -	$ -	$ -	$ -	$ -	$ 2,850,000
Eastside Dog Park	101u	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ 285,000	$ -	$ -	$ -	$ 300,000
Linear Park (Avalon to City Center connectivity)	102u	$ -	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,000,000
Park Land Acquisition	103u	$ -	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 13,500,000
North Park Trail System (1.2 mi loop)	89u	$ -	$ -	$ -	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000
Big Creek Greenway:												
Observation Deck at Big Creek Greenway	104u	$ -	$ 10,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,000
Extension (Windward Pkwy to Union Hill Rd)	105u	$ -	$ 750,000	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,750,000
Greenway Linkages	106u	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000	$ 300,000	$ -	$ -	$ 500,000
Webb Bridge Rd Multi-use Trail (2 miles)	55u	$ -	$ 2,525,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,525,000
Georgia 400 Greenway (5 miles)	24u	$ -	$ 16,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,000,000
		$ 50,000	$ 26,175,500	$ 11,808,250	$ 2,646,750	$ 5,484,500	$ 18,542,500	$ 9,273,100	$ 10,068,700	$ 1,879,300	$ 3,429,900	**$ 89,358,500**

Source: City of Alpharetta Draft *Capital Improvement Program 2015-2024* .

Future Costs

The table on the preceding page—Table 41—shows parks projects that are currently planned by the City and identified to be funded over the coming 10 years. These projects have been excerpted from the Capital Improvement Program as being those that create additional capacity, and therefore could meet additional service demands of both the existing residents and future growth as needed. Additional projects further in the future are included in the table below.

Table 42 presents the estimated cost calculations for the land acquisition, recreation component and trail projects proposed to 2035. The figures in the 'components proposed' column are drawn from the 'whole total needed' column in Table 40. The 'total cost figures' on the table are converted to 'new growth share' dollars based on the percentage that each improvement is impact fee eligible. Note that this affects most of the recreation components to the extent that partial components identified in the 'net total needed' column of Table 40 had to be rounded up to whole components, creating an 'overage' portion of each facility type.

The calculations of the 'net present value' amounts are detailed on the following page and the results are transferred here from the 'discounted 1%' column on Table 43.

Table 42: Future Costs to Meet Future Demand

Facility	Components Proposed	Net Cost per Unit*	Gross Cost per Unit**	Total Cost	% Impact Fee Eligible	New Growth Share	Net Present Value***
Park Land	66.05	$ 225,000	$ 225,000	$ 14,862,064	100.00%	$ 14,862,064	$ 17,256,677
Baseball Field	3	$ 375,000	$ 457,500	$ 1,372,500	96.96%	$ 1,330,718	$ 1,928,761
Softball Field	2	$ 375,000	$ 457,500	$ 915,000	69.69%	$ 637,621	$ 924,177
Multi-Purpose Field	10	$ 600,000	$ 732,000	$ 7,320,000	36.12%	$ 2,643,662	$ 3,831,762
Open Grassed Play Field	5	$ 250,000	$ 305,000	$ 1,525,000	43.34%	$ 660,916	$ 767,404
Tennis Court	0	$ 90,000	$ 109,800	$ -	0.00%	$ -	$ -
Basketball Court	3	$ 70,000	$ 85,400	$ 256,200	36.12%	$ 92,528	$ 134,112
Swimming Pool	2	$ 7,525,000	$ 9,180,500	$ 18,361,000	36.12%	$ 6,631,186	$ 9,611,336
Playground	9	$ 125,000	$ 152,500	$ 1,372,500	48.15%	$ 660,916	$ 957,940
Picnic Area / Pavilion	1	$ 55,000	$ 67,100	$ 67,100	9.06%	$ 6,077	$ 8,808
Disc Golf	2	$ 18,000	$ 21,960	$ 43,920	36.12%	$ 15,862	$ 22,991
Botanical Garden	1	$ 2,000,000	$ 2,440,000	$ 2,440,000	26.26%	$ 640,729	$ 712,879
Recreation Center	2	$ 11,282,500	$ 13,764,650	$ 27,529,300	54.17%	$ 14,913,559	$ 16,119,307
Senior Center	2	$ 2,850,000	$ 3,477,000	$ 6,954,000	30.96%	$ 2,152,696	$ 2,676,239
Dog Park	2	$ 300,000	$ 366,000	$ 732,000	39.39%	$ 288,328	$ 417,907
Concessions (w/restrooms)	4	$ 285,000	$ 347,700	$ 1,390,800	86.16%	$ 1,198,339	$ 1,489,779
Restrooms (stand alone)	3	$ 100,000	$ 122,000	$ 366,000	91.91%	$ 336,376	$ 418,184
Equestrian Ring (outdoor)	1	$ 85,000	$ 103,700	$ 103,700	68.93%	$ 71,480	$ 77,397
Park/Walking Trail	1.62	$ 210,000	$ 256,200	$ 415,004	100.00%	$ 415,004	$ 473,828
Big Creek Greenway	1.00	$ 8,835,000	$ 10,778,700	$ 10,778,700	25.63%	$ 2,762,695	$ 2,991,398
			Totals:	$ 96,804,788		$ 50,320,754	$ 60,820,884

* Source: Alpharetta Recreation and Parks Master Plan 2025, Draft Capital Improvement Program - 2015-2024, or prevailing construction costs for similar projects, as appropriate.

** Includes contingency at 15% and planning and design services at 7%, except for land acquisition.

*** Construction dates vary. NPV based on CPI, BCI or CCI as appropriate, in planned years if known or in 2028 on average.

To calculate the Net Present Value of the impact fee-eligible cost estimate for non-construction improvements (such as new park land acquisition), the currently estimated 2014 cost is inflated to the target year using the 10-year average CPI and then is reduced using the Net Discount Rate. For the construction of the recreation components and trails, the NPVs are calculated by increasing the current (2014) estimated costs using the Engineering News Record's 10-year average building cost inflation (BCI) rate for buildings (such as recreation centers and senior centers) and the average construction cost inflation (CCI) rate for all other projects. All project costs are then reduced to current dollars using the Net discount Rate. (The approaches to calculating NPV are explained in detail in the Cost Adjustments and Credits chapter of this report.)

Table 43: Net Present Value Calculations

	Facility	Project Year	BCI 2.58%	CCI 3.71%	CPI 2.08%	Future Cost	Discounted 1.00%
Impact Fee Eligible Costs	Park Land	2028	$ -	$ -	$ 19,836,105	$ 19,836,105	$ 17,256,677
	Baseball Field	2028	$ -	$ 2,217,061	$ -	$ 2,217,061	$ 1,928,761
	Softball Field	2028	$ -	$ 1,062,317	$ -	$ 1,062,317	$ 924,177
	Multi-Purpose Field	2028	$ -	$ 4,404,511	$ -	$ 4,404,511	$ 3,831,762
	Open Grassed Play Field	2028	$ -	$ -	$ 882,111	$ 882,111	$ 767,404
	Tennis Court	2028	$ -	$ -	$ -	$ -	$ -
	Basketball Court	2028	$ -	$ 154,158	$ -	$ 154,158	$ 134,112
	Swimming Pool	2028	$ -	$ 11,047,983	$ -	$ 11,047,983	$ 9,611,336
	Playground	2028	$ -	$ 1,101,128	$ -	$ 1,101,128	$ 957,940
	Picnic Area / Pavilion	2028	$ -	$ 10,124	$ -	$ 10,124	$ 8,808
	Disc Golf	2028	$ -	$ 26,427	$ -	$ 26,427	$ 22,991
	Botanical Garden	2024	$ -	$ -	$ 787,462	$ 787,462	$ 712,879
	Recreation Center	2019	$ 16,941,553	$ -	$ -	$ 16,941,553	$ 16,119,307
	Senior Center	2028	$ 3,076,268	$ -	$ -	$ 3,076,268	$ 2,676,239
	Dog Park	2028	$ -	$ 480,373	$ -	$ 480,373	$ 417,907
	Concessions (w/restrooms)	2028	$ 1,712,463	$ -	$ -	$ 1,712,463	$ 1,489,779
	Restrooms (stand alone)	2028	$ 480,691	$ -	$ -	$ 480,691	$ 418,184
	Equestrian Ring (outdoor)	2017	$ -	$ 79,742	$ -	$ 79,742	$ 77,397
	Park/Walking Trail	2019	$ -	$ 497,998	$ -	$ 497,998	$ 473,828
	Big Creek Greenway	2017	$ -	$ 3,082,041	$ -	$ 3,082,041	$ 2,991,398

Non-Eligible Impact Fee Costs	Park Land	2028	$ -	$ -	$ -	$ -	$ -
	Baseball Field	2028	$ -	$ 69,612	$ -	$ 69,612	$ 60,560
	Softball Field	2028	$ -	$ 462,131	$ -	$ 462,131	$ 402,037
	Multi-Purpose Field	2028	$ -	$ 7,791,080	$ -	$ 7,791,080	$ 6,777,951
	Open Grassed Play Field	2028	$ -	$ -	$ 1,153,277	$ 1,153,277	$ 1,003,308
	Tennis Court	2028	$ -	$ -	$ -	$ -	$ -
	Basketball Court	2028	$ -	$ 272,688	$ -	$ 272,688	$ 237,228
	Swimming Pool	2028	$ -	$ 19,542,626	$ -	$ 19,542,626	$ 17,001,361
	Playground	2028	$ -	$ 1,185,546	$ -	$ 1,185,546	$ 1,031,381
	Picnic Area / Pavilion	2028	$ -	$ 101,669	$ -	$ 101,669	$ 88,448
	Disc Golf	2028	$ -	$ 46,746	$ -	$ 46,746	$ 40,668
	Botanical Garden	2024	$ -	$ -	$ 2,211,321	$ 2,211,321	$ 2,001,880
	Recreation Center	2019	$ 14,331,271	$ -	$ -	$ 14,331,271	$ 13,635,712
	Senior Center	2028	$ 6,861,208	$ -	$ -	$ 6,861,208	$ 5,968,997
	Dog Park	2028	$ -	$ 739,186	$ -	$ 739,186	$ 643,065
	Concessions (w/restrooms)	2028	$ 275,032	$ -	$ -	$ 275,032	$ 239,268
	Restrooms (stand alone)	2028	$ 42,334	$ -	$ -	$ 42,334	$ 36,829
	Equestrian Ring (outdoor)	2017	$ -	$ 35,945	$ -	$ 35,945	$ 34,887
	Park/Walking Trail	2019	$ -	$ -	$ -	$ -	$ -
	Big Creek Greenway	2017	$ -	$ 8,942,591	$ -	$ 8,942,591	$ 8,679,590

■ Credit Calculation

There is a credit calculation that is carried out for this public facility category. (See the Cost Adjustments and Credits chapter for further explanation.)

For this calculation, it is assumed that the City will meet its financial obligations towards non-eligible project costs through general fund expenditures. For this reason, the credit calculated here is based on future property tax contributions into the general fund that will be generated by new growth and development to pay for the non-eligible costs.

In order to calculate the tax credit, the total non-eligible project costs from Table 43 are totaled by the year of their anticipated expenditure and shown on Table 44.

Table 44: New Residential Growth Contribution through Property Taxes

Year	Tax Digest*	Non-Eligible Project Funding (NPV)	Millage Rate	New Growth Added Value*	Contribution from New Growth
Recreation & Parks System					
2015	$ 1,880,598,158		-	$ 71,338,519	$ -
2016	$ 1,981,996,231	-	-	$ 172,736,592	-
2017	$ 2,079,795,625	8,714,477.63	4.19006	$ 270,535,986	1,133,563.21
2018	$ 2,174,208,027		-	$ 364,948,388	-
2019	$ 2,266,503,559	13,635,712.17	6.01619	$ 457,243,920	2,750,865.52
2020	$ 2,358,587,404		-	$ 549,327,765	-
2021	$ 2,450,036,188		-	$ 640,776,549	-
2022	$ 2,538,309,667		-	$ 729,050,028	-
2023	$ 2,624,889,650		-	$ 815,630,011	-
2024	$ 2,710,834,572	2,001,880.10	0.73847	$ 901,574,933	665,789.40
2025	$ 2,796,144,433		-	$ 986,884,794	-
2026	$ 2,881,454,294		-	$ 1,072,194,655	-
2027	$ 2,966,975,842		-	$ 1,157,716,203	-
2028	$ 3,052,497,390	33,494,271.25	10.97274	$ 1,243,237,751	13,641,729.10
2029	$ 3,138,653,999		-	$ 1,329,394,360	-
2030	$ 3,224,387,234		-	$ 1,415,127,595	-
2031	$ 3,310,967,217		-	$ 1,501,707,578	-
2032	$ 3,398,393,948		-	$ 1,589,134,309	-
2033	$ 3,486,455,740		-	$ 1,677,196,101	-
2034	$ 3,575,999,341		-	$ 1,766,739,702	-
2035	$ 3,666,389,690		-	$ 1,857,130,051	-
				New Residential Growth Contribution	**$ 18,191,947**

*Tax digest and new growth added value information taken from the *Residential Tax Base Growth* Table and the *Alpharetta Tax Base Growth* Table in the Cost Adjustments and Credits Chapter.

■ Impact Cost Calculation

Table 45 summarizes the costs to provide the park improvements proposed to serve future residential growth and development.

Table 45: Net Costs to Serve New Growth

Description	Total
Eligible Cost of Parks Projects	$ 60,820,883.92
plus CIE Preparation	$ 12,500.00
minus Credit for Tax Contributions	$ (18,191,947.22)
minus Impact Fee Fund Balance	$ (246,598.29)
= Net Eligible Parks Project Costs	$ 42,394,838.42
÷ Housing Unit Increase	$ 8,773
= Net Impact Cost per Housing Unit	**$ 4,832.42**

The total net present value of the impact fee eligible cost of the City's parks projects is brought forward from Table 42. In addition, the City will recoup through impact fee collections the cost of preparing the Capital Improvements Element. The total cost to prepare the CIE ($62,500) has been divided equally among the five public facility categories being considered (police and fire services, police detention center, emergency communications, recreation & parks, and road improvements) to produce an amount that is applied to each public facility category's funding responsibility ($62,500 ÷ 5 = $12,500). The cost of the CIE preparation is wholly applicable to new growth since the demand for future services—the reason for the CIE preparation—is attributable to that same new growth. The cost of the CIE preparation is added to the total eligible project costs in the first part of Table 45.

Secondly, in calculating the net impact cost, the applicable credit for future tax contributions is subtracted from the total impact fee eligible project costs to produce a net impact fee eligible project cost figure.

Using this 'net eligible parks project costs' figure, the impact cost per housing unit is calculated, based on the increase in the number of housing units between 2014 and 2035.

■ Maximum Impact Fee Schedule – Parks

Using the net impact cost figure from Table 45, the total impact fee per housing unit is calculated by adding in the City's 3% administration fee. These fees are added together with the Walkway fees under the Recreation & Parks category on the Summary Maximum Impact Fee Schedule, which begins on page 15 of the Introduction Chapter of this report.

Table 46: Maximum Impact Fee Schedule – Parks Projects

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Administration (3%)	Total Impact Fee
Residential (200-299)						
210	Single-Family Detached Housing	n/a	per dwelling	$ 4,832.4220	$ 144.9727	$ 4,977.3947
220	Apartment	n/a	per dwelling	$ 4,832.4220	$ 144.9727	$ 4,977.3947
230	Residential Condominium/Townhouse	n/a	per dwelling	$ 4,832.4220	$ 144.9727	$ 4,977.3947

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee taken from the *Calculation of Housing Unit Fee* table.
"Square foot" means square foot of gross building floor area.

Walkway System

Introduction

The City's walkway system is a major component of its overall recreation and parks services. The previous Chapter addressed the City's public parks, including the recreation facilities within the parks and the trails and greenway systems, which primarily serve Alpharetta's residents.

The City's walkway system connects residential areas to parks, schools and other community uses, and to and between business centers. Unlike parks and recreational components such as ball fields, picnic pavilions and community centers that are primarily viewed as 'residential' amenities; the City's walkway system is used by residents and local employees alike for walking, jogging, and as access to parks and other destinations. There is thus a clear benefit to businesses as residents access the shops and offices in the city using the walkways and employees take advantage of the walkways to walk or exercise on their time off, to walk to lunch or a shop nearby, or to access local parks or recreation facilities.

This Chapter focuses on the City's walkway system that, by its very nature, serves both the residential and employee populations.

Service Area

As are the parks and park facilities, the walkway system maintained by the City operates as an inter-related citywide system. Thus, the entire city is considered a single service area for the walkway system.

Level of Service

The City has already put into place an extensive network of walkways throughout the city. Many of these walkways, however, have gaps between where one ends and another begins, leaving the system inefficient and service incomplete. While the Level of Service for walkways is expressed in terms of walkway length (feet) per service population, the objective is to complete the system citywide over the coming 20 years.

To accomplish this, a number of specific walkway projects have been identified for construction, filling in all of the remaining gaps. These are identified as to their location, length and cost in the Walkway Project Listing in the Appendix. The map showing all of the projects underlines the citywide nature of both the existing sidewalks and the projects proposed to close the gaps.

Table 47 shows the total length of the planned walkway connections and extensions needed to complete the system for the city's residents and businesses today and for future growth over the coming 20 years. In miles, the planned system improvements will involve an additional 44.4 miles.

Table 47: Walkway System

System Improvement	Linear Feet
Planned Walkway Improvements	234,238

Table 48 shows the calculation of the Level of Service for the walkway system. For these system improvements, the LOS is based on the total day/night population forecasted for 2035 since the entire system, as it exists today and is proposed to be expanded, will serve all of the city's residents and businesses collectively by that target year.

Table 48: Level of Service Calculation

Total Linear Feet	2035 Day/Night Population	Feet per 2035 Day/Night Pop
234,238	184,012	1.272946

To determine the LOS, the total length (in feet) of the future system is divided by the day/night population expected to live or work in the city by 2035, resulting in the number of feet per person—resident or employee—that will benefit from the total path system when it is completed

■ Forecasts for Service Area

Future Demand

Applying the City's Level of Service standard to the increase in the day/night population that is projected for the city by 2035 results in a figure that establishes the maximum number of walkway feet that could be included in an impact fee program. This maximum is shown on Table 49.

Table 49: New Growth Demand Calculation

Feet per 2035 Day/Night Pop	Day/Night Pop Increase (2014-35)	Total Feet for New Growth
1.272946	43,720	55,654

The 'total feet for new growth' figure is determined by multiplying the Level of Service standard times the day/night population anticipated to be added to the city between 2014 and 2035. The day/night population figure is the citywide increase taken from Table 2.

Future Costs

As discussed above, there are specific plans for improvements to expand the multi-use path system to accommodate both existing and future development throughout the city.

Table 50 presents the City's proposed system improvement costs that will benefit the entire city and extend service to its future growth and development. There is a 'trade-off' implicit in this table: existing development has already paid for the existing system, which will be available equally to new growth at 'no cost', while existing residents and businesses will have equal access to the proposed system improvements. The approach in calculating the Level of Service system-wide and new growth's 'proportional share' of the entire completed system, in terms of a portion of the future costs, preserves the proportionality of cost responsibility between existing and future development.

Overall, then, new growth's 'proportional share' of the entire future system (55,654 feet of the total 234,238 feet to be constructed) is 24% of the length and therefore 24% of the cost of the system expansion.

Table 50: Future System Improvement Costs

Year	Facility	Linear Feet	2014 Cost*	% Impact Fee Eligible	Eligible 2014 Cost	Net Present Value**
2024						
2025	New Walkways	234,238	$ 49,063,845	24%	$ 11,657,370.83	$ 15,604,573.40
2026						
		234,238	$ 49,063,845		$ 11,657,370.83	$ 15,604,573.40

* Costs for individual projects vary (see *Appendix: Walkway Project Listing*). Overall average is $209.46 per linear foot.

** Average construction year of 2025 used. Net Present Value = 2014 cost estimate inflated to target year using the ENR Construction Cost Index (CCI), reduced to 2014 NPV using the Discount Rate.

The Net Present Value of the construction of the new walkways is calculated by increasing the current (2014) estimated construction costs using the Engineering News Record's 10-year average construction cost inflation (CCI) rate, and then discounting the future amounts back to 2014 dollars using the Net discount Rate. (The approaches to calculating NPV are explained in detail in the Cost Adjustments and Credits Section of this report.) Since progress on the new construction will span the coming 20 years, an 'average' construction year midway through the process—2025—is used for the NPV calculation.

■ Credit Calculation

There is a credit calculation that is carried out for this public facility category. For this calculation, it is assumed that the City will meet its financial obligations towards non-eligible project costs through general fund expenditures. For this reason, the credit calculated here is based on future property tax contributions into the general fund that will be generated by new growth and development to pay for the non-eligible costs.

Table 51: New Growth Contribution through Property Taxes

Year	Tax Digest*	Non-eligible Project Funding (NPV)	Millage Rate	New Growth Added Value*	Contribution from New Growth
2024	$ 5,620,318,661	-	-	1,278,292,281	-
2025	$ 5,739,667,870	50,072,360.22	8.72391	1,397,641,490	12,192,902.05
2026	$ 5,861,758,503	-	-	1,519,732,123	-
				Total New Growth Contribution	**$ 12,192,902.05**

*Running Totals; Tax digest and new growth added value information taken from the *Peachtree City Tax Base Growth* Table in the Cost Adjustments and Credits Chapter.

In order to calculate the tax credit, the total non-eligible project costs are shown in the year of their anticipated expenditure on Table 51.

The estimated property tax contribution from new growth is then calculated, based on the portion of the City's millage rate that would need to be levied to pay for the non-eligible project costs.

The millage rate is simply the rate required to meet the annual funding requirement with the given tax digest value. The contribution from new growth is that millage rate multiplied by the cumulative total value added by new growth.

■ Impact Cost Calculation

Table 52 summarizes the costs to provide the multi-use path system improvements proposed to serve future growth and development.

Table 52: Net Cost to Serve New Growth

Description	Total
Eligible Cost of Walkway Projects	$ 15,604,573.40
plus CIE Preparation	$ -
minus Credit for Tax Contributions	$ (12,192,902.05)
= Net Eligible Walkway Project Costs	$ 3,411,671.35
÷ Day/Night Population Increase	43,720
= Net Impact Cost per Person	**$ 78.03**

The total net present value of the impact fee eligible cost of the City's walkway projects is brought forward from Table 50. Since the cost of the CIE preparation was applied to the public parks fee calculations, it is not added here.

In calculating the net impact cost, however, the applicable credit for future tax contributions is subtracted from the total impact fee eligible project costs to produce a net impact fee eligible project cost figure.

Using this 'net eligible path system project costs' figure, the impact cost per person is calculated, based on the increase in the day/night population between 2014 and 2035.

A final calculation, shown in Table 53, is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth, because they are assessed impact fees per housing unit rather than on a person by person basis. Under the methodology followed here, this is only required in public facility categories that serve both residential and nonresidential populations.

Table 53: Calculation of Housing Unit Fee

Factor	Data
Day/Night Population Increase (2014-2035)	43,720
Residential Population Increase (2014-2035)	19,646
Residential Increase as % of Total Increase	44.937%
Total Net Eligible Walkway Project Costs	$ 3,411,671.35
Cost Attributable to New Residential Growth	$ 1,533,086.87
New Housing Units in Service Area (2014-2035)	8,773
Impact Fee per Housing Unit	**$ 174.75**

Since the average household size is anticipated to change over time—it is expected to decrease, based on forecasts—a constant fee based on the number of persons per dwelling unit would be both unfair and impractical. Instead, the portion of the project cost that is attributable to new residential growth is calculated and assigned to the anticipated housing unit increase.

This is accomplished by multiplying the percentage of the total service area population increase that will be made up by new residents, times the 'total net eligible police project costs' figure to produce a 'cost attributable to new residential growth' figure. The 'cost attributable to new residential growth' is then divided by the number of new housing units that future growth and development is projected to generate, to produce a net per housing unit impact fee.

Impact Fee Schedule – Walkway System

The fee schedule that follows presents the **maximum impact fee** that could be charged in Alpharetta for the walkway system improvements, based on the calculations carried out in this Chapter.

These impact fees are collected from residential development based on dwelling units, and nonresidential development based on floor area of the building or other specified unit of measure.

The figures under the 'net fee per unit' column are transferred to the Walkways column of the Detailed Impact Fee Schedule, and added together with the Parks Projects component under the Recreation & Parks column on the Summary Maximum Impact Fee Schedule. The fee for administration is included under the Administration column of both Fee Schedules in combination with all other administrative fees.

The Summary Schedule is located at the end of the Introduction Chapter of this report, starting on page 15, and the Detailed Schedule begins on page 17.

Table 54: Maximum Impact Fee Schedule - Walkway System

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
	Net Cost per Day/Night Person (Employee):			**$ 78.0337**		
Residential (200-299)						
210	Single-Family Detached Housing	n/a	per dwelling	$ 174.7500	$ 5.2425	$ 179.9925
220	Apartment	n/a	per dwelling	$ 174.7500	$ 5.2425	$ 179.9925
230	Residential Condominium/Townhouse	n/a	per dwelling	$ 174.7500	$ 5.2425	$ 179.9925
Port and Terminal (000-099)						
030	Intermodal Truck Terminal	0.001415	per square foot	$ 0.1104	$ 0.0033	$ 0.1137
Industrial/Agricultural (100-199)						
110	General Light Industrial	0.002308	per square foot	$ 0.1801	$ 0.0054	$ 0.1855
120	General Heavy Industrial	0.001829	per square foot	$ 0.1427	$ 0.0043	$ 0.1470
140	Manufacturing	0.001793	per square foot	$ 0.1399	$ 0.0042	$ 0.1441
150	Warehousing	0.000915	per square foot	$ 0.0714	$ 0.0021	$ 0.0735
151	Mini-Warehouse	0.000077	per square foot	$ 0.0060	$ 0.0002	$ 0.0062
152	High-Cube Warehouse	0.000076	per square foot	$ 0.0059	$ 0.0002	$ 0.0061
Lodging (300-399)						
310	Hotel or Conference Motel	0.569735	per room	$ 44.4586	$ 1.3338	$ 45.7924
311	All Suites Hotel	0.500000	per room	$ 39.0169	$ 1.1705	$ 40.1874
320	Motel	0.439500	per room	$ 34.2959	$ 1.0289	$ 35.3248
Recreational (400-499)						
430	Golf Course	0.245614	per acre	$ 19.1662	$ 0.5750	$ 19.7412
437	Bowling Alley	0.001000	per square foot	$ 0.0780	$ 0.0023	$ 0.0803
443	Movie Theater	0.001470	per square foot	$ 0.1147	$ 0.0034	$ 0.1181
460	Arena	3.333000	per acre	$ 260.0865	$ 7.8026	$ 267.8891
480	Amusement Park	9.094838	per acre	$ 709.7043	$ 21.2911	$ 730.9954
490	Tennis Courts	0.243888	per acre	$ 19.0315	$ 0.5709	$ 19.6024
491	Racquet/Tennis Club	0.000307	per square foot	$ 0.0240	$ 0.0007	$ 0.0247
492	Health/Fitness Center	0.000705	per square foot	$ 0.0550	$ 0.0017	$ 0.0567
495	Recreational Community Center	0.001241	per square foot	$ 0.0968	$ 0.0029	$ 0.0997
Institutional (500-599)						
520	Private Elementary School	0.000982	per square foot	$ 0.0766	$ 0.0023	$ 0.0789
530	Private High School	0.000653	per square foot	$ 0.0510	$ 0.0015	$ 0.0525
560	Church/Place of Worship	0.000347	per square foot	$ 0.0271	$ 0.0008	$ 0.0279
565	Day Care Center	0.002818	per square foot	$ 0.2199	$ 0.0066	$ 0.2265
566	Cemetery	0.081425	per acre	$ 6.3539	$ 0.1906	$ 6.5445
Medical (600-699)						
610	Hospital	0.002938	per square foot	$ 0.2292	$ 0.0069	$ 0.2361
620	Nursing Home	0.002331	per square foot	$ 0.1819	$ 0.0055	$ 0.1874
630	Clinic	0.003926	per square foot	$ 0.3064	$ 0.0092	$ 0.3156

Maximum Impact Fee Schedule - Walkway System (continued)

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
Office (700-799)						
710	General Office Building	0.003322	per square foot	$ 0.2593	$ 0.0078	$ 0.2671
714	Corporate Headquarters Building	0.003425	per square foot	$ 0.2673	$ 0.0080	$ 0.2753
715	Single-Tenant Office Building	0.003149	per square foot	$ 0.2457	$ 0.0074	$ 0.2531
720	Medical-Dental Office Building	0.004055	per square foot	$ 0.3164	$ 0.0095	$ 0.3259
760	Research and Development Center	0.002928	per square foot	$ 0.2285	$ 0.0069	$ 0.2354
770	Business Park	0.003079	per square foot	$ 0.2403	$ 0.0072	$ 0.2475
Retail (800-899)						
812	Building Materials and Lumber Store	0.001406	per square foot	$ 0.1097	$ 0.0033	$ 0.1130
813	Free-Standing Discount Superstore	0.000960	per square foot	$ 0.0749	$ 0.0022	$ 0.0771
814	Variety Store	0.000960	per square foot	$ 0.0749	$ 0.0022	$ 0.0771
815	Free-Standing Discount Store	0.001985	per square foot	$ 0.1549	$ 0.0046	$ 0.1595
816	Hardware/Paint Store	0.000964	per square foot	$ 0.0752	$ 0.0023	$ 0.0775
817	Nursery (Garden Center)	0.003120	per square foot	$ 0.2434	$ 0.0073	$ 0.2507
818	Nursery (Wholesale)	0.001667	per square foot	$ 0.1301	$ 0.0039	$ 0.1340
820	Shopping Center	0.001670	per square foot	$ 0.1303	$ 0.0039	$ 0.1342
823	Factory Outlet Center	0.001670	per square foot	$ 0.1303	$ 0.0039	$ 0.1342
826	Specialty Retail Center	0.001982	per square foot	$ 0.1547	$ 0.0046	$ 0.1593
841	Automobile Sales	0.001528	per square foot	$ 0.1192	$ 0.0036	$ 0.1228
843	Auto Parts Store	0.000960	per square foot	$ 0.0749	$ 0.0022	$ 0.0771
848	Tire Store	0.001280	per square foot	$ 0.0999	$ 0.0030	$ 0.1029
849	Tire Superstore	0.001280	per square foot	$ 0.0999	$ 0.0030	$ 0.1029
850	Supermarket	0.001164	per square foot	$ 0.0908	$ 0.0027	$ 0.0935
851	Convenience Market (Open 24 Hours)	0.001800	per square foot	$ 0.1405	$ 0.0042	$ 0.1447
853	Convenience Market with Gasoline Pumps	0.001800	per square foot	$ 0.1405	$ 0.0042	$ 0.1447
854	Discount Supermarket	0.002251	per square foot	$ 0.1757	$ 0.0053	$ 0.1810
860	Wholesale Market	0.000820	per square foot	$ 0.0640	$ 0.0019	$ 0.0659
861	Discount Club	0.001298	per square foot	$ 0.1013	$ 0.0030	$ 0.1043
862	Home Improvement Superstore	0.000960	per square foot	$ 0.0749	$ 0.0022	$ 0.0771
863	Electronics Superstore	0.000960	per square foot	$ 0.0749	$ 0.0022	$ 0.0771
870	Apparel Store	0.001670	per square foot	$ 0.1303	$ 0.0039	$ 0.1342
875	Department Store	0.001980	per square foot	$ 0.1545	$ 0.0046	$ 0.1591
880	Pharmacy/Drugstore	0.001670	per square foot	$ 0.1303	$ 0.0039	$ 0.1342
890	Furniture Store	0.000415	per square foot	$ 0.0324	$ 0.0010	$ 0.0334
Services (900-999)						
912	Drive-in Bank	0.004788	per square foot	$ 0.3736	$ 0.0112	$ 0.3848
931	Quality Restaurant	0.007460	per square foot	$ 0.5821	$ 0.0175	$ 0.5996
932	High-Turnover (Sit-Down) Restauant	0.007460	per square foot	$ 0.5821	$ 0.0175	$ 0.5996
934	Fast-Food Restaurant	0.010900	per square foot	$ 0.8506	$ 0.0255	$ 0.8761
941	Quick Lubrication Vehicle Shop	2.100000	per service bay	$ 163.8709	$ 4.9161	$ 168.7870
944	Gasoline/Service Station	0.160000	per pump	$ 12.4854	$ 0.3746	$ 12.8600
945	Gasoline Station w/Convenience Market	0.000216	per pump	$ 0.0169	$ 0.0005	$ 0.0174
947	Self-Service Car Wash	0.200000	per stall	$ 15.6067	$ 0.4682	$ 16.0749

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee taken from the *Calculation of Housing Unit Fee* table.
"Square foot" means square foot of gross building floor area.

Road Improvements

Introduction

The information in this chapter is derived from road project information contained in the *Alpharetta Capital Improvement Plan 2015—2024* (the "CIP").

Service Area

The service area for these road projects is defined as the entire city, in that these road projects are recognized as providing primary access to all properties within the city as part of the citywide network of principal streets and thoroughfares. All new development within the city will be served by this citywide network, such that improvements to any part of this network to relieve congestion or to otherwise improve capacity will positively affect capacity and reduce congestion throughout the city.

Level of Service Standards

Level of Service for roadways and intersections is measured on a 'letter grade' system that rates a road within a range of service from A to F. Level of Service A is the best rating, representing unencumbered travel; Level of Service F is the worst rating, representing heavy congestion and long delays. This system is a means of relating the connection between speed and travel time, freedom to maneuver, traffic interruption, comfort, convenience and safety to the capacity that exists in a roadway. This refers to both a quantitative measure expressed as a service flow rate and an assigned qualitative measure describing parameters. *The Highway Capacity Manual, Special Report 209*, Transportation Research Board (1985), defines Level of Service A through F as having the following characteristics during peak hours at an intersection:

1. LOS A: free flow, excellent level of freedom and comfort;
2. LOS B: stable flow, decline in freedom to maneuver, desired speed is relatively unaffected;
3. LOS C: stable flow, but marks the beginning of users becoming affected by others, selection of speed and maneuvering becomes difficult, comfort declines at this level;
4. LOS D: high density, but stable flow, speed and freedom to maneuver are severely restricted, poor level of comfort, small increases in traffic flow will cause operational problems;
5. LOS E: at or near capacity level, speeds reduced to low but uniform level, maneuvering is extremely difficult, comfort level poor, frustration high, level unstable; and
6. LOS F: forced/breakdown of flow. The amount of traffic approaching a point exceeds the amount that can transverse the point. Queues form, stop & go. Arrival flow exceeds discharge flow.

The traffic volume that produces different Level of Service grades differs according to road type, size, signalization, topography, condition and access.

Level of Service

The City has set its Level of Service for road improvements at LOS "D", a level to which it will strive ultimately. However, interim road improvement projects that do not result in a LOS of "D" will still provide traffic relief to current and future traffic alike, and are thus eligible for impact fee funding.

All road improvement projects benefit existing and future traffic proportionally to the extent that relief from over-capacity conditions eases traffic problems for everyone. For example, since new

growth by 2035 will represent a certain portion of all 2035 traffic, new growth would be responsible for that portions' cost of the road improvements.

It is noted that the cost-impact of non-Alpharetta generated traffic on the roads traversing the city (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Alpharetta reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Alpharetta residents and businesses.

The basis for the road impact fee would therefore be Alpharetta's cost for the improvements divided by all traffic in 2035 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, the cost per trip (above) would be applied to the number of trips that will be generated by the new development when a building permit is issued, assuring that new growth would only pay its 'fair share' of the road improvements that serve it.

Forecasts for Service Area

Projects that provide road capacity that will serve new growth have been identified in the City's CIP and are shown on Table 55. This is not a list of all City road projects in the CIP. These projects were selected for inclusion in the City's impact fee program because the specific improvements proposed will increase traffic capacity and reduce congestion to some extent, whether through road widening, improved intersection operations or upgraded signalization. For reference, the detailed project description for each road improvement contained in the CIP is noted in the 'CIP Form #' column.

The cost figures shown on Table 55 are in current dollars. These figures are calculated in Net Present Value (as discussed in the Credits and Adjustments chapter) and shown on .

Eligible Costs

As discussed thoroughly in the *Methodology: Trip Generation* section of the Technical Appendix, overall new growth and development will represent 24.1% of the traffic on most of the roads that are part of Alpharetta's road network in 2035. For entirely new road projects, which are occasioned primarily by new growth in developing areas (i.e., the Haynes Bridge Road Extension to Cumming Street, the Davis Road Extension to Westside Parkway, and the Northwinds Parkway Road Extension), the maximum 'fair share' is the converse percentage—75.9%.

To that extent, the Net Present Value of the share of each road project's total costs that are attributed to new growth are shown on the following Table 57 on page 80.

Table 55: Road Projects and Estimated Costs – Current Dollars

Project	CIP Form #	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total Cost
Rucker Rd Corridor Roadway Improvements (ROW)	35f	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
Broadwell Rd at Rucker Rd Intersection Improvements	36f	160,000	-	-	-	-	-	-	-	-	-	160,000
Haynes Bridge Road Extension to Cumming Street	4u	-	125,000	1,500,000	1,500,000	-	-	-	-	-	-	3,125,000
Lily Garden Terrace (Trailer St) Extension	5u	-	40,000	800,000	550,000	-	-	-	-	-	-	1,390,000
Major Intersection Improvements	12u	-	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,250,000
Adaptive Traffic Signal Control	13u	-	2,000,000	-	-	-	-	-	-	-	-	2,000,000
Webb Bridge Rd at Webb Bridge Way Intersection Imp.	18u	-	600,000	-	-	-	-	-	-	-	-	600,000
Webb Bridge Rd Widening (Westside Pkwy to NP Pkwy)	19u	-	6,900,000	-	-	-	-	-	-	-	-	6,900,000
Kimball Bridge Rd Widening (Westside Pkwy to North Point Pkwy)	20u	-	11,500,000	-	-	-	-	-	-	-	-	11,500,000
Kimball Bridge Rd Widening (North Point Pkwy to Waters Rd)	21u	-	8,370,000	-	-	-	-	-	-	-	-	8,370,000
Davis Road Extension to Westside Parkway	22u	-	1,600,000	-	-	-	-	-	-	-	-	1,600,000
Connector Road (North Point Pkwy to Edison Dr)	23u	-	805,000	-	-	-	-	-	-	-	-	805,000
Windward Pkwy Widening (S.R. 9 to Westside; Design in 2015)	27u	-	3,100,000	-	-	-	-	-	-	-	-	3,100,000
Bethany Rd at Mayfield Rd/Mid-Broadwell Rd Intersection Imp.	28u	-	300,000	1,000,000	-	-	-	-	-	-	-	1,300,000
Rucker Rd Corridor Roadway Improvements	30u	-	14,350,000	-	-	-	-	-	-	-	-	14,350,000
Morris Road Roadway Expansion	31u	-	1,000,000	-	-	-	-	-	-	-	-	1,000,000
Westside/Morrison Parkway Improvements	32u	-	2,300,000	-	-	-	-	-	-	-	-	2,300,000
Old Milton Parkway Intersection Improvements	33u	-	50,000	-	-	-	-	-	-	-	-	50,000
Old Milton Parkway at Park Bridge Parkway Intersection Imp.	34u	-	-	100,000	-	-	-	-	-	-	-	100,000
Old Milton Parkway at Southbridge Parkway Intersection Imp.	35u	-	-	-	100,000	-	-	-	-	-	-	100,000
Old Milton Parkway at Vista Forest Drive Intersection Imp.	36u	-	-	100,000	-	-	-	-	-	-	-	100,000
Southlake Drive Intersection Improvements	37u	-	-	-	-	-	500,000	-	-	-	-	500,000
Southlake Drive at Westchester Way Intersection Improvements	38u	-	-	-	-	-	-	500,000	-	-	-	500,000
Southlake Drive at Schooner Ridge Intersection Improvements	39u	-	-	-	-	-	-	-	500,000	-	-	500,000
Southlake Drive at Intrepid Cut Intersection Improvements	40u	-	-	-	-	-	-	-	-	500,000	-	500,000
Southlake Drive at Courageous Wake Intersection Imp.	41u	-	-	-	-	-	-	-	-	-	500,000	500,000
Northwinds Parkway Road Extension	43u	-	1,857,143	-	-	-	-	-	-	-	-	1,857,143
North Point Drive Corridor Improvements	44u	-	-	150,000	-	-	-	-	-	-	-	150,000
Charlotte Rd at Rucker Rd Intersection Improvements	45u	-	275,000	-	-	-	-	-	-	-	-	275,000
Mansell Road Intersection Improvements	46u	-	50,000	-	-	-	-	-	-	-	-	50,000
Fairfax Lane at Rucker Rd Intersection Improvements	47u	-	-	375,000	-	-	-	-	-	-	-	375,000
		$ 210,000	$ 55,472,143	$ 4,275,000	$ 2,400,000	$ 250,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 66,357,143

Source: City of Alpharetta Draft *Capital Improvements Plan, 2015-2024* .

Table 56: Road Projects and Estimated Costs – Net Present Value

Project	CIP Form #	Net Present Value*										
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total NPV
Rucker Rd Corridor Roadway Improvements (ROW)	35f	$ 51,343	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,343
Broadwell Rd at Rucker Rd Intersection Improvements	36f	164,299	-	-	-	-	-	-	-	-	-	164,299
Haynes Bridge Road Extension to Cumming Street	4u	-	131,807	1,624,174	1,667,809	-	-	-	-	-	-	3,423,789
Lily Garden Terrace (Trailer St) Extension	5u	-	42,178	866,226	611,530	-	-	-	-	-	-	1,519,934
Major Intersection Improvements	12u	-	263,613	270,696	277,968	285,436	293,105	300,979	309,065	317,368	325,895	2,644,125
Adaptive Traffic Signal Control	13u	-	2,108,907	-	-	-	-	-	-	-	-	2,108,907
Webb Bridge Rd at Webb Bridge Way Intersection Imp.	18u	-	632,672	-	-	-	-	-	-	-	-	632,672
Webb Bridge Rd Widening (Westside Pkwy to NP Pkwy)	19u	-	7,275,730	-	-	-	-	-	-	-	-	7,275,730
Kimball Bridge Rd Widening (Westside Pkwy to North Point Pkwy)	20u	-	12,126,217	-	-	-	-	-	-	-	-	12,126,217
Kimball Bridge Rd Widening (North Point Pkwy to Waters Rd)	21u	-	8,825,777	-	-	-	-	-	-	-	-	8,825,777
Davis Road Extension to Westside Parkway	22u	-	1,687,126	-	-	-	-	-	-	-	-	1,687,126
Connector Road (North Point Pkwy to Edison Dr)	23u	-	848,835	-	-	-	-	-	-	-	-	848,835
Windward Pkwy Widening (S.R. 9 to Westside; Design in 2015)	27u	-	3,268,806	-	-	-	-	-	-	-	-	3,268,806
Bethany Rd at Mayfield Rd/Mid-Broadwell Rd Intersection Imp.	28u	-	316,336	1,082,783	-	-	-	-	-	-	-	1,399,119
Rucker Rd Corridor Roadway Improvements	30u	-	15,131,410	-	-	-	-	-	-	-	-	15,131,410
Morris Road Roadway Expansion	31u	-	1,054,454	-	-	-	-	-	-	-	-	1,054,454
Westside/Morrison Parkway Improvements	32u	-	2,425,243	-	-	-	-	-	-	-	-	2,425,243
Old Milton Parkway Intersection Improvements	33u	-	52,723	-	-	-	-	-	-	-	-	52,723
Old Milton Parkway at Park Bridge Parkway Intersection Imp.	34u	-	-	108,278	-	-	-	-	-	-	-	108,278
Old Milton Parkway at Southbridge Parkway Intersection Imp.	35u	-	-	-	111,187	-	-	-	-	-	-	111,187
Old Milton Parkway at Vista Forest Drive Intersection Imp.	36u	-	-	108,278	-	-	-	-	-	-	-	108,278
Southlake Drive Intersection Improvements	37u	-	-	-	-	-	586,209	-	-	-	-	586,209
Southlake Drive at Westchester Way Intersection Improvements	38u	-	-	-	-	-	-	601,958	-	-	-	601,958
Southlake Drive at Schooner Ridge Intersection Improvements	39u	-	-	-	-	-	-	-	618,130	-	-	618,130
Southlake Drive at Intrepid Cut Intersection Improvements	40u	-	-	-	-	-	-	-	-	634,737	-	634,737
Southlake Drive at Courageous Wake Intersection Imp.	41u	-	-	-	-	-	-	-	-	-	651,790	651,790
Northwinds Parkway Road Extension	43u	-	1,958,271	-	-	-	-	-	-	-	-	1,958,271
North Point Drive Corridor Improvements	44u	-	-	162,417	-	-	-	-	-	-	-	162,417
Charlotte Rd at Rucker Rd Intersection Improvements	45u	-	289,975	-	-	-	-	-	-	-	-	289,975
Mansell Road Intersection Improvements	46u	-	52,723	-	-	-	-	-	-	-	-	52,723
Fairfax Lane at Rucker Rd Intersection Improvements	47u	-	-	406,043	-	-	-	-	-	-	-	406,043
		$ 215,642	$ 58,492,805	$ 4,628,896	$ 2,668,494	$ 285,436	$ 879,314	$ 902,937	$ 927,195	$ 952,105	$ 977,685	$ 70,930,509

* Net Present Value = 2014 cost estimate inflated to target year using the ENR Construction Cost Index, reduced to 2014 NPV using the Discount Rate.

Table 57: Impact Fee Eligible Costs – Net Present Value

Project	Percent Eligible	Net Present Value* 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total NPV
Rucker Rd Corridor Roadway Improvements (ROW)	24.1%	$ 12,357	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,357
Broadwell Rd at Rucker Rd Intersection Improvements	24.1%	39,542	-	-	-	-	-	-	-	-	-	39,542
Haynes Bridge Road Extension to Cumming Street	75.9%	-	100,085	1,233,284	1,266,417	-	-	-	-	-	-	2,599,786
Lily Garden Terrace (Trailer St) Extension	24.1%	-	10,151	208,475	147,177	-	-	-	-	-	-	365,803
Major Intersection Improvements	24.1%	-	63,444	65,148	66,899	68,696	70,542	72,437	74,383	76,381	78,433	636,362
Adaptive Traffic Signal Control	24.1%	-	507,551	-	-	-	-	-	-	-	-	507,551
Webb Bridge Rd at Webb Bridge Way Intersection Imp.	24.1%	-	152,265	-	-	-	-	-	-	-	-	152,265
Webb Bridge Rd Widening (Westside Pkwy to NP Pkwy)	24.1%	-	1,751,051	-	-	-	-	-	-	-	-	1,751,051
Kimball Bridge Rd Widening (Westside Pkwy to North Point Pkwy)	24.1%	-	2,918,418	-	-	-	-	-	-	-	-	2,918,418
Kimball Bridge Rd Widening (North Point Pkwy to Waters Rd)	24.1%	-	2,124,101	-	-	-	-	-	-	-	-	2,124,101
Davis Road Extension to Westside Parkway	75.9%	-	1,281,085	-	-	-	-	-	-	-	-	1,281,085
Connector Road (North Point Pkwy to Edison Dr)	24.1%	-	204,289	-	-	-	-	-	-	-	-	204,289
Windward Pkwy Widening (S.R. 9 to Westside; Design in 2015)	24.1%	-	786,704	-	-	-	-	-	-	-	-	786,704
Bethany Rd at Mayfield Rd/Mid-Broadwell Rd Intersection Imp.	24.1%	-	76,133	260,593	-	-	-	-	-	-	-	336,726
Rucker Rd Corridor Roadway Improvements	24.1%	-	3,641,679	-	-	-	-	-	-	-	-	3,641,679
Morris Road Roadway Expansion	24.1%	-	253,776	-	-	-	-	-	-	-	-	253,776
Westside/Morrison Parkway Improvements	24.1%	-	583,684	-	-	-	-	-	-	-	-	583,684
Old Milton Parkway Intersection Improvements	24.1%	-	12,689	-	-	-	-	-	-	-	-	12,689
Old Milton Parkway at Park Bridge Parkway Intersection Imp.	24.1%	-	-	26,059	-	-	-	-	-	-	-	26,059
Old Milton Parkway at Southbridge Parkway Intersection Imp.	24.1%	-	-	-	26,759	-	-	-	-	-	-	26,759
Old Milton Parkway at Vista Forest Drive Intersection Imp.	24.1%	-	-	26,059	-	-	-	-	-	-	-	26,059
Southlake Drive Intersection Improvements	24.1%	-	-	-	-	-	141,083	-	-	-	-	141,083
Southlake Drive at Westchester Way Intersection Improvements	24.1%	-	-	-	-	-	-	144,873	-	-	-	144,873
Southlake Drive at Schooner Ridge Intersection Improvements	24.1%	-	-	-	-	-	-	-	148,766	-	-	148,766
Southlake Drive at Intrepid Cut Intersection Improvements	24.1%	-	-	-	-	-	-	-	-	152,762	-	152,762
Southlake Drive at Courageous Wake Intersection Imp.	24.1%	-	-	-	-	-	-	-	-	-	156,866	156,866
Northwinds Parkway Road Extension	75.9%	-	1,486,974	-	-	-	-	-	-	-	-	1,486,974
North Point Drive Corridor Improvements	24.1%	-	-	39,089	-	-	-	-	-	-	-	39,089
Charlotte Rd at Rucker Rd Intersection Improvements	24.1%	-	69,788	-	-	-	-	-	-	-	-	69,788
Mansell Road Intersection Improvements	24.1%	-	12,689	-	-	-	-	-	-	-	-	12,689
Fairfax Lane at Rucker Rd Intersection Improvements	24.1%	-	-	97,723	-	-	-	-	-	-	-	97,723
		$ 51,899	$ 16,036,555	$ 1,956,431	$ 1,507,252	$ 68,696	$ 211,625	$ 217,310	$ 223,148	$ 229,143	$ 235,300	$ 20,737,358

* Net Present Value = 2014 cost estimate inflated to target year using the ENR Construction Cost Index, reduced to 2014 NPV using the Discount Rate.

■ Credit Calculation

Because new growth and development will only be assessed a portion of the total road improvement costs, there is a credit against impact fees for the portion that is not impact fee eligible to the extent that new growth will contribute to those non-eligible costs.

Table 58 shows the amount, in Net Present Value, of the non-eligible portions of the road improvement costs by year of expected expenditure.

Table 58: Annual Road Project Funding

	Total Cost (NPV)	New Growth Cost (NPV)	Non-Eligible Cost (NPV)
2015	$ 215,642	$ 51,899	$ 163,743
2016	$ 58,492,805	$ 16,036,555	$ 42,456,250
2017	$ 4,628,896	$ 1,956,431	$ 2,672,465
2018	$ 2,668,494	$ 1,507,252	$ 1,161,242
2019	$ 285,436	$ 68,696	$ 216,740
2020	$ 879,314	$ 211,625	$ 667,689
2021	$ 902,937	$ 217,310	$ 685,627
2022	$ 927,195	$ 223,148	$ 704,047
2023	$ 952,105	$ 229,143	$ 722,962
2024	$ 977,685	$ 235,300	$ 742,385
2025	$ -		
	$ 70,930,509	$ 20,737,358	$ 50,193,151

The total project costs on the table are taken from the yearly totals on Table 56, while the costs that represent new growth's fair share of the total costs are brought forward from Table 57.

For the credit calculation, it is assumed that the City will meet its financial obligations towards non-eligible project costs through general fund expenditures. For this reason, the credit calculated here is based on future property tax contributions into the general fund that will be generated by new growth and development to pay for the non-eligible costs.

Table 59: New Growth Contribution Through Property Taxes

Year	Tax Digest*	Non-Eligible Cost (NPV)	Millage Rate	New Growth Added Value*	Paid by New Growth
2015	$ 4,447,665,335	$ 163,743	0.03682	$ 105,638,955	$ 3,889
2016	$ 4,590,902,760	$ 42,456,250	9.24791	$ 248,876,380	$ 2,301,586
2017	$ 4,730,084,602	$ 2,672,465	0.56499	$ 388,058,222	$ 219,250
2018	$ 4,864,998,280	$ 1,161,242	0.23869	$ 522,971,900	$ 124,830
2019	$ 4,997,305,548	$ 216,740	0.04337	$ 655,279,168	$ 28,420
2020	$ 5,129,303,221	$ 667,689	0.13017	$ 787,276,841	$ 102,481
2021	$ 5,256,292,609	$ 685,627	0.13044	$ 914,266,229	$ 119,256
2022	$ 5,379,323,428	$ 704,047	0.13088	$ 1,037,297,048	$ 135,762
2023	$ 5,500,203,847	$ 722,962	0.13144	$ 1,158,177,467	$ 152,234
2024	$ 5,620,318,661	$ 742,385	0.13209	$ 1,278,292,281	$ 168,849
2025	$ 5,739,667,870	$ -	-	$ 1,397,641,490	$ -
				Total New Growth Contribution	**$ 3,356,558**

In addition to the credit for taxes generated by future development, there are funds on hand from impact fee collections in prior years that are credited against future eligible impact fee costs.

*Running Totals; Tax digest and new growth added value information taken from the *Alpharetta Tax Base Growth* Table in the Cost Adjustments and Credits Chapter.

■ Impact Cost Calculation

The total impact fee eligible cost from Table 58 is transferred to Table 60. In addition to the system improvement costs for road improvements, the City will recoup through impact fee collections the cost of preparing the Capital Improvements Element.[5] The total cost to prepare the CIE ($62,500) has been divided equally among the five public facility categories being considered: police and fire protection, police detention center, emergency communications, recreation & parks (public parks and walkways combined), and road improvements. This produces an amount that is applied to each public facility category's funding responsibility ($62,500 ÷ 5 = $12,500). The cost of the CIE preparation is wholly applicable to new growth since the demand for future services—the reason for the CIE preparation—is attributable to that same new growth. The cost of the CIE preparation is added to the total eligible project costs in the first part of Table 60.

Table 60: Net Cost to Serve New Growth

Description	Total
Eligible Cost of Road Projects	$ 20,737,358.05
plus CIE Preparation	$ 12,500.00
minus Credit for Tax Contributions	$ (3,356,557.66)
Less: Impact Fee Fund Balance*	$ (698,918.20)
Net New Growth Cost	**$ 16,694,382.20**
÷ New Growth Trip Ends**	653,828
= Net Impact Cost per Trip End	$ 25.5333

* See the Cost Adjustments and Credits Chapter.
** Primary trip ends attributed to new growth.

Secondly, in calculating the net impact cost, the applicable credits for future tax contributions and carry-over impact fee funds on hand are subtracted from the total impact fee eligible project costs to produce a net impact fee eligible project cost figure.

Using this 'net new growth cost' figure, the 'net impact cost per trip end' is calculated, based on the total primary trip ends that will be generated by new growth by 2035.

Table 61: Calculation of Housing Unit Fee

Factor	Data
Day/Night Population Increase (2014-2035)	43,720
Residential Population Increase (2014-2035)	19,646
Residential Increase as % of Total Increase	44.937%
Total Net Eligible Road Project Costs	$ 16,694,382.20
Cost Attributable to New Residential Growth	$ 7,501,876.80
New Housing Units in City (2014-2035)	8,773
Impact Fee per Housing Unit	**$ 855.11**

A final calculation, shown in Table 61, is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth, because they are assessed impact fees per housing unit rather than on a person by person basis. Under the methodology followed here, this is only required in public facility categories that serve both residential and nonresidential populations.

[5] DIFA specifies that the City may collect fees for "expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element".

Since it is anticipated that the average household size will change over time—it is expected to decrease, based on forecasts—a constant fee based on the number of persons per dwelling unit would be both unfair and impractical. Instead, the portion of project costs that is attributable to new residential growth is calculated and assigned to the anticipated housing unit increase. This is accomplished by first identifying the percentage of the total city population increase that will be made up by new residents. This percentage is then applied to the 'total net eligible police project costs' figure to produce a 'cost attributable to new residential growth' figure. Finally, the 'cost attributable to new residential growth' is divided by the number of new housing units that future growth and development is projected to generate, to produce a per housing unit impact fee.

■ Impact Fee Schedule – Road Improvements

The fee schedule that follows presents the maximum net impact fee that could be charged for the Road Improvements category, based on the calculations carried out in this chapter. Note that total trip ends for each use, based on the *Trip Generation* manual published by the Institute of Transportation Engineers (ITE), is reduced by a percentage representing pass-by and diverted trips where applicable (also derived from ITE).

Road Improvement impact fees are collected from residential and nonresidential development.

The figures under the 'net fee per unit' column are transferred to the Roads column of both the Detailed Impact Fee Schedule and the Summary Maximum Impact Fee Schedule, while the fee for administration is included under the Administration column of both Fee Schedules in combination with all other administrative fees.

The Summary Schedule is located at the end of the Introduction Chapter of this report, starting on page 15, and the Detailed Schedule begins on page 17.

Table 62: Maximum Impact Fee Schedule - Roads

ITE Code	Land Use	Trip Ends*	% New Trips	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
			Net Cost per Trip End:		**$ 25.5333**		
Residential (200-299)							
210	Single-Family Detached Housing	n/a	n/a	per dwelling	$ 855.11	$ 25.6533	$ 880.7633
220	Apartment	n/a	n/a	per dwelling	$ 855.11	$ 25.6533	$ 880.7633
230	Residential Condominium/Townhouse	n/a	n/a	per dwelling	$ 855.11	$ 25.6533	$ 880.7633
Port and Terminal (000-099)							
030	Intermodal Truck Terminal	9.89	92%	per square foot	$ 0.2323	$ 0.0070	$ 0.2393
Industrial/Agricultural (100-199)							
110	General Light Industrial	6.97	92%	per square foot	$ 0.1637	$ 0.0049	$ 0.1686
120	General Heavy Industrial	1.50	92%	per square foot	$ 0.0352	$ 0.0011	$ 0.0363
140	Manufacturing	3.82	92%	per square foot	$ 0.0897	$ 0.0027	$ 0.0924
150	Warehousing	3.56	92%	per square foot	$ 0.0836	$ 0.0025	$ 0.0861
151	Mini-Warehouse	2.50	92%	per square foot	$ 0.0587	$ 0.0018	$ 0.0605
152	High-Cube Warehouse	1.68	92%	per square foot	$ 0.0395	$ 0.0012	$ 0.0407
Lodging (300-399)							
310	Hotel or Conference Motel	8.17	100%	per room	$ 208.6071	$ 6.2582	$ 214.8653
311	All Suites Hotel	4.90	100%	per room	$ 125.1132	$ 3.7534	$ 128.8666
320	Motel	5.63	100%	per room	$ 143.7525	$ 4.3126	$ 148.0651
Recreational (400-499)							
430	Golf Course	5.04	85%	per acre	$ 109.3847	$ 3.2815	$ 112.6662
437	Bowling Alley	33.33	85%	per square foot	$ 0.7234	$ 0.0217	$ 0.7451
443	Movie Theater	78.06	85%	per square foot	$ 1.6942	$ 0.0508	$ 1.7450
460	Arena	33.33	85%	per acre	$ 723.3712	$ 21.7011	$ 745.0723
480	Amusement Park	75.76	85%	per acre	$ 1,644.2424	$ 49.3273	$ 1,693.5697
490	Tennis Courts	16.26	85%	per acre	$ 352.8957	$ 10.5869	$ 363.4826
491	Racquet/Tennis Club	14.03	85%	per square foot	$ 0.3045	$ 0.0091	$ 0.3136
492	Health/Fitness Center	32.93	85%	per square foot	$ 0.7147	$ 0.0214	$ 0.7361
495	Recreational Community Center	33.82	85%	per square foot	$ 0.7340	$ 0.0220	$ 0.7560
Institutional (500-599)							
520	Private Elementary School	15.43	80%	per square foot	$ 0.3152	$ 0.0095	$ 0.3247
530	Private High School	12.89	85%	per square foot	$ 0.2798	$ 0.0084	$ 0.2882
560	Church/Place of Worship	9.11	90%	per square foot	$ 0.2093	$ 0.0063	$ 0.2156
565	Day Care Center	79.26	10%	per square foot	$ 0.2024	$ 0.0061	$ 0.2085
566	Cemetery	4.73	90%	per acre	$ 108.6953	$ 3.2609	$ 111.9562
Medical (600-699)							
610	Hospital	13.22	77%	per square foot	$ 0.2599	$ 0.0078	$ 0.2677
620	Nursing Home	7.60	75%	per square foot	$ 0.1455	$ 0.0044	$ 0.1499
630	Clinic	31.45	77%	per square foot	$ 0.6183	$ 0.0185	$ 0.6368

Maximum Impact Fee Schedule – Roads (Continued)

ITE Code	Land Use	Trip Ends*	% New Trips	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	Total Impact Fee
Office (700-799)							
710	General Office Building	11.03	92%	per square foot	$ 0.2591	$ 0.0078	$ 0.2669
714	Corporate Headquarters Building	7.98	92%	per square foot	$ 0.1875	$ 0.0056	$ 0.1931
715	Single-Tenant Office Building	11.65	92%	per square foot	$ 0.2737	$ 0.0082	$ 0.2819
720	Medical-Dental Office Building	36.13	92%	per square foot	$ 0.8487	$ 0.0255	$ 0.8742
760	Research and Development Center	8.11	92%	per square foot	$ 0.1905	$ 0.0057	$ 0.1962
770	Business Park	12.44	92%	per square foot	$ 0.2922	$ 0.0088	$ 0.3010
Retail (800-899)							
812	Building Materials and Lumber Store	45.16	81%	per square foot	$ 0.9340	$ 0.0280	$ 0.9620
813	Free-Standing Discount Superstore	50.75	75%	per square foot	$ 0.9719	$ 0.0292	$ 1.0011
814	Variety Store	64.03	49%	per square foot	$ 0.8011	$ 0.0240	$ 0.8251
815	Free-Standing Discount Store	57.24	61%	per square foot	$ 0.8915	$ 0.0267	$ 0.9182
816	Hardware/Paint Store	51.29	40%	per square foot	$ 0.5238	$ 0.0157	$ 0.5395
817	Nursery (Garden Center)	68.10	81%	per square foot	$ 1.4084	$ 0.0423	$ 1.4507
818	Nursery (Wholesale)	39.00	81%	per square foot	$ 0.8066	$ 0.0242	$ 0.8308
820	Shopping Center	42.94	75%	per square foot	$ 0.8223	$ 0.0247	$ 0.8470
823	Factory Outlet Center	26.59	81%	per square foot	$ 0.5499	$ 0.0165	$ 0.5664
826	Specialty Retail Center	44.32	81%	per square foot	$ 0.9166	$ 0.0275	$ 0.9441
841	Automobile Sales	32.30	79%	per square foot	$ 0.6515	$ 0.0195	$ 0.6710
843	Auto Parts Store	61.91	44%	per square foot	$ 0.6955	$ 0.0209	$ 0.7164
848	Tire Store	24.87	67%	per square foot	$ 0.4255	$ 0.0128	$ 0.4383
849	Tire Superstore	20.36	83%	per square foot	$ 0.4315	$ 0.0129	$ 0.4444
850	Supermarket	102.24	43%	per square foot	$ 1.1225	$ 0.0337	$ 1.1562
851	Convenience Market (Open 24 Hours)	737.99	20%	per square foot	$ 3.7687	$ 0.1131	$ 3.8818
853	Convenience Market with Gasoline Pumps	845.60	16%	per square foot	$ 3.4546	$ 0.1036	$ 3.5582
854	Discount Supermarket	90.86	52%	per square foot	$ 1.2064	$ 0.0362	$ 1.2426
860	Wholesale Market	6.73	61%	per square foot	$ 0.1048	$ 0.0031	$ 0.1079
861	Discount Club	41.80	61%	per square foot	$ 0.6510	$ 0.0195	$ 0.6705
862	Home Improvement Superstore	29.80	32%	per square foot	$ 0.2435	$ 0.0073	$ 0.2508
863	Electronics Superstore	45.04	27%	per square foot	$ 0.3105	$ 0.0093	$ 0.3198
870	Apparel Store	66.40	49%	per square foot	$ 0.8308	$ 0.0249	$ 0.8557
875	Department Store	22.88	49%	per square foot	$ 0.2863	$ 0.0086	$ 0.2949
880	Pharmacy/Drugstore	90.06	40%	per square foot	$ 0.9198	$ 0.0276	$ 0.9474
890	Furniture Store	5.06	20%	per square foot	$ 0.0258	$ 0.0008	$ 0.0266
Services (900-999)							
912	Drive-in Bank	148.15	22%	per square foot	$ 0.8322	$ 0.0250	$ 0.8572
931	Quality Restaurant	89.95	38%	per square foot	$ 0.8728	$ 0.0262	$ 0.8990
932	High-Turnover (Sit-Down) Restauant	127.15	38%	per square foot	$ 1.2337	$ 0.0370	$ 1.2707
934	Fast-Food Restaurant	496.12	27%	per square foot	$ 3.4202	$ 0.1026	$ 3.5228
941	Quick Lubrication Vehicle Shop	40.00	83%	per service bay	$ 847.7056	$ 25.4312	$ 873.1368
944	Gasoline/Service Station	168.56	20%	per pump	$ 860.7786	$ 25.8234	$ 886.6020
945	Gasoline Station w/Convenience Market	162.78	14%	per pump	$ 581.8835	$ 17.4565	$ 599.3400
947	Self-Service Car Wash	108.00	40%	per stall	$ 1,103.0386	$ 33.0912	$ 1,136.1298

Note: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.

*Trip Ends are total trip ends per 1,000 square feet of floor area or other unit of measure as noted, per ITE *Trip Generation* manual. "Square foot" means square foot of gross building floor area. **n/a** - not applicable. Fee taken from the Housing Unit Fee table.

Glossary

The following terms are used in the Impact Fee Methodology Report. Where possible, the definitions are taken directly from the Development Impact Fee Act.

Capital improvement: an improvement with a useful life of ten years or more, by new construction or other action, which increases the service capacity of a public facility.

Capital improvements element: a component of a comprehensive plan adopted pursuant to Chapter 70 of the Development Impact Fee Act which sets out projected needs for system improvements during a planning horizon established in the comprehensive plan, a schedule of capital improvements that will meet the anticipated need for system improvements, and a description of anticipated funding sources for each required improvement.

Development: any construction or expansion of a building, structure, or use, any change in use of a building or structure, or any change in the use of land, any of which creates additional demand and need for public facilities.

Development impact fee: a payment of money imposed upon development as a condition of development approval to pay for a proportionate share of the cost of system improvements needed to serve new growth and development.

Eligible facilities: capital improvements in one of the following categories:

(A) Water supply production, treatment, and distribution facilities;

(B) Waste-water collection, treatment, and disposal facilities;

(C) Roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways;

(D) Storm-water collection, retention, detention, treatment, and disposal facilities, flood control facilities, and bank and shore protection and enhancement improvements;

(E) Parks, open space, and recreation areas and related facilities;

(F) Public safety facilities, including police, fire, emergency medical, and rescue facilities; and

(G) Libraries and related facilities.

Impact Cost: the proportionate share of capital improvements costs to provide service to new growth, less any applicable credits.

Impact Fee: the impact cost plus surcharges for program administration and recoupment of the cost to prepare the Capital Improvements Element.

Level of service: a measure of the relationship between service capacity and service demand for public facilities in terms of demand to capacity ratios or the comfort and convenience of use or service of public facilities or both.

Project improvements: site improvements and facilities that are planned and designed to provide service for a particular development project and that are necessary for the use and convenience of the occupants or users of the project and are not system improvements. The character of the improvement shall control a determination of whether an improvement is a project improvement or system improvement and the physical location of the improvement on site or off site shall not be considered determinative of whether an improvement is a project improvement or a system improvement. If an improvement or facility provides or will provide more than incidental service or

facilities capacity to persons other than users or occupants of a particular project, the improvement or facility is a system improvement and shall not be considered a project improvement. No improvement or facility included in a plan for public facilities approved by the governing body of the municipality or county shall be considered a project improvement.

Proportionate share: means that portion of the cost of system improvements which is reasonably related to the service demands and needs of the project.

Rational Nexus: the clear and fair relationship between fees charged and services provided.

Service area: a geographic area defined by a municipality, county, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas shall be designated on the basis of sound planning or engineering principles or both.

System improvement costs: costs incurred to provide additional public facilities capacity needed to serve new growth and development for planning, design and engineering related thereto, including the cost of constructing or reconstructing system improvements or facility expansions, including but not limited to the construction contract price, surveying and engineering fees, related land acquisition costs (including land purchases, court awards and costs, attorneys' fees, and expert witness fees), and expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element, and administrative costs, provided that such administrative costs shall not exceed 3 percent of the total amount of the costs. Projected interest charges and other finance costs may be included if the impact fees are to be used for the payment of principal and interest on bonds, notes, or other financial obligations issued by or on behalf of the municipality or county to finance the capital improvements element but such costs do not include routine and periodic maintenance expenditures, personnel training, and other operating costs.

System improvements: capital improvements that are public facilities and are designed to provide service to the community at large, in contrast to 'project improvements.'

Technical Appendix

Including:

- **Memorandum and Analysis: Population Forecasts**
- **Memorandum: Housing and Employment Forecasts**
- **Methodology: Trip Generation**
- **Appendix: Walkway Project Listing**

ROSS+associates
urban planning & plan implementation

Memorandum

TO: Kathi Cook
cc: Shawn Mitchell

FROM: Bill Ross

DATE: May 19, 2014

RE: Alpharetta Population Forecasts

The purpose of this memo is to confirm, modify or replace the population forecasts contained in the *Alpharetta Comprehensive Plan 2030* for use in establishing Level of Service calculations for the City's impact fee program update. The population forecasts will subsequently influence the housing unit and employment forecasts used in the Update.

To accomplish this, a variety of projection approaches were prepared for comparison to the Comprehensive Plan figures. Data from both the US Bureau of the Census and the Atlanta Regional Commission were considered, as well as countywide forecasts prepared by Woods & Poole Economists, Inc.

The various approaches presented in the attached analysis are:

- 2000–2012 Census population data projected to 2040 on a "straight line" basis for each city in North Fulton County.
- 2000–2012 Census population data projected to 2040 for each North Fulton city assuming that the ARC Plan 2040 North Fulton projections are incorrect by the same increment as "straight line" determined for 2016.
- 2000–2012 Census population data projected to 2040 on a "curved line" basis for each city in North Fulton County as a "growth trend" regression.
- 2000–2012 Census population data projected to 2040 assuming that the ARC Plan 2040 North Fulton projections are incorrect by the same increment as determined for 2016 using the growth trend figure.
- The percentage share of countywide population projected for each city taken against the ARC Plan 2040 forecasts and those of Woods & Poole Economists, Inc.

Conclusion

The Comprehensive Plan forecasts, adjusted to the latest Census Bureau estimates for 2010-2012 and extended to 2040, compare well within the ranges of several of the more credible alternate approaches. We conclude that the Comprehensive Plan forecasts continue to provide the basis for the City's outlook to the future, as refined in the analysis attached to this memo and shown on Table 9.

Recommendations

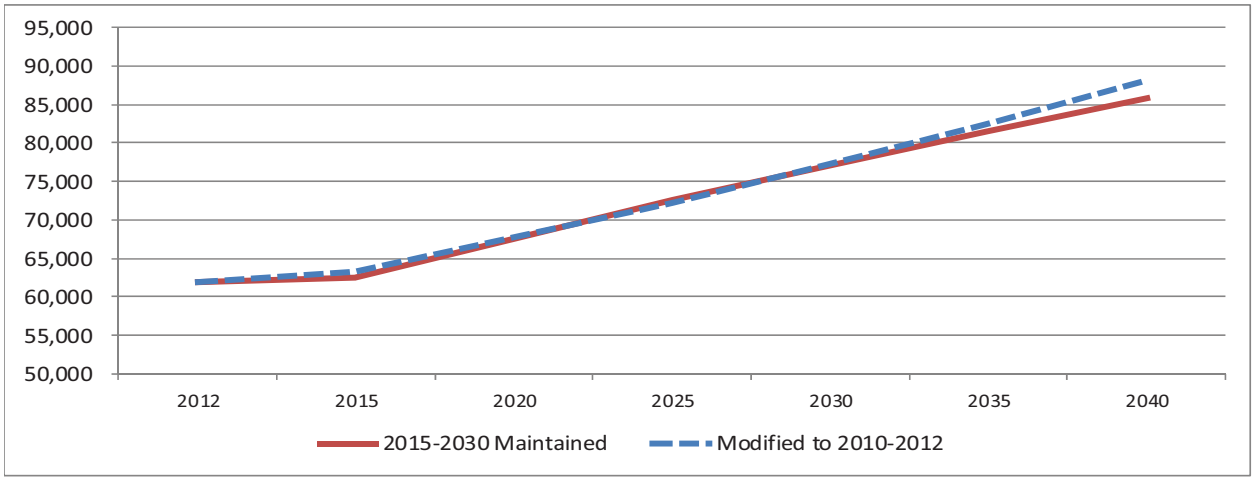
Either of the modified Comprehensive Plan population forecasts shown on the following chart is recommended for use in the Impact Fee Program Update. The choice of which one to adopt boils down to this:

- If maintaining the greatest consistency with the Comprehensive Plan is paramount, the "Comprehensive Plan 2015-2030 Maintained" projections should be adopted.
- If recognizing the recent post-recession "uptick" in population increase is important, the "Comprehensive Plan Modified to 2010-2012 Actual" should be adopted.

Recommended Population Forecasts

City of Alpharetta 2012 - 2040

	2012	2015	2020	2025	2030	2035	2040	2012-2040 Increase
Comprehensive Plan 2015-2030 Maintained	61,981	62,577	67,494	72,638	77,035	81,432	85,830	23,849
Comprehensive Plan Modified to 2010-2012 Actual	61,981	63,320	67,655	72,286	77,234	82,520	88,169	26,188



Lastly, the span of the population forecasts should be considered. The attached analysis provides projections to 2040. However, if preferred, a 20-year time span would be appropriate, taking the forecasts out to 2035 instead.

Considering the alternative of maintaining consistency with the Comprehensive Plan, the total population increase from 2012 to 2035 is 19,451, and there is no difference between the "red line" forecasts and both the Comprehensive Plan 2030 and extended 2035 figures.

If the Modified forecasts (the dashed blue line) make more sense, the total population increase from 2012 to 2035 is 20,539, and results in a 0.3% increase over the Comprehensive Plan forecasts in 2030 and a 1.3% increase by 2035.

An Analysis of Population Forecasts: 2012 – 2040

City of Alpharetta

Historic Population Growth

Table 1 shows the latest population estimates for each year between 2000 and 2012, for each city in North Fulton County, prepared by the Census Bureau as part of their Annual Estimates program. These particular figures are from the Intercensal Estimates for 2000-2009 (the Bureau revises its annual estimates for a decade after a Decennial Census to correct individual errors) and from the Census Bureau's Annual Estimates Program for 2010, 2011 and 2012. (When the 2012 estimates were published, 2010 was slightly revised.)

It is important to note that Census Bureau estimates are made as of July 1 of each year, so they are slightly off from the Decennial Census figures for 2000 and 2010, which were taken as of April 1.

Also shown on Table 1 are each North Fulton city's percentage of the total North Fulton population each year. Following that, the total population of Fulton County for each year is shown, followed by each city's percentage of the total Fulton County population each year. These percentages are used later in different approaches of comparisons to the Comprehensive Plan 2030 forecasts.

Regional Forecasts

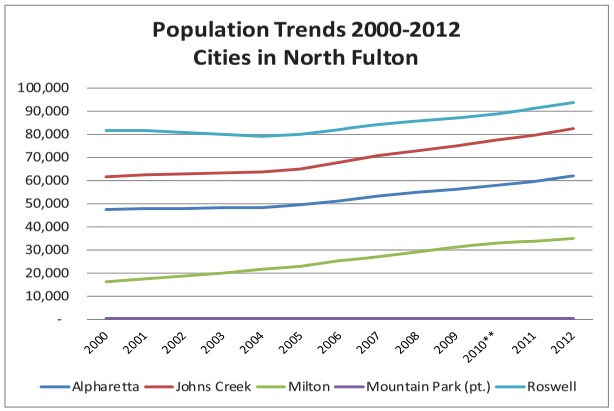
Next, a summary of the forecasts prepared by the Atlanta Regional Commission as part of their Plan 2040 is shown on Table 2, for North Fulton and the county as a whole.

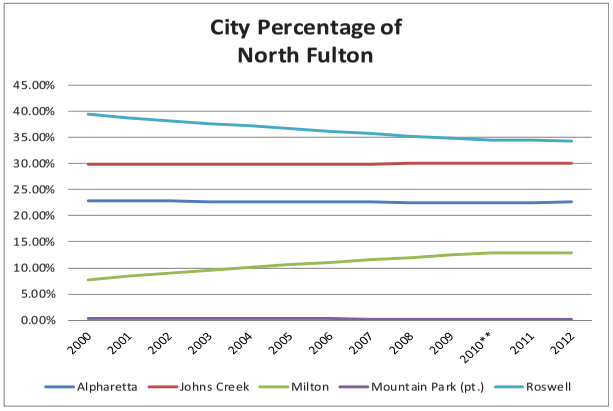
Two ARC Superdistricts comprise North Fulton County – the Roswell Superdistrict and the N Fulton Superdistrict. They are totaled to compare to the five cities collectively that make up North Fulton.

Table 2 shows the figures for ARC's benchmark years starting in 2016 and ending in 2040. Population, household and employment figures are shown. In addition, countywide data from Woods & Poole Economics are shown for comparison. Woods & Poole population fore-

Table 1: Population Estimates 2000 - 2012

	Population Estimates*												
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010**	2011	2012
Alpharetta	47,229	47,895	48,011	48,096	48,279	49,339	51,390	53,239	54,830	56,286	57,825	59,387	61,981
Johns Creek	61,522	62,566	62,891	63,163	63,562	65,116	67,978	70,580	72,844	74,929	77,198	79,473	82,306
Milton	16,035	17,592	18,913	20,170	21,432	23,064	25,183	27,246	29,210	31,119	32,908	33,893	35,015
Mountain Park (pt.)	518	514	505	497	489	490	502	510	516	521	550	563	576
Roswell	81,361	81,411	80,563	79,739	79,075	79,826	82,172	84,183	85,751	87,089	88,845	91,142	93,692
Total - North Fulton	206,665	209,978	210,883	211,665	212,837	217,835	227,225	235,758	243,151	249,944	257,326	264,458	273,570
Percent of North Fulton													
Alpharetta	22.85%	22.81%	22.77%	22.72%	22.68%	22.65%	22.62%	22.58%	22.55%	22.52%	22.47%	22.46%	22.66%
Johns Creek	29.77%	29.80%	29.82%	29.84%	29.86%	29.89%	29.92%	29.94%	29.96%	29.98%	30.00%	30.05%	30.09%
Milton	7.76%	8.38%	8.97%	9.53%	10.07%	10.59%	11.08%	11.56%	12.01%	12.45%	12.79%	12.82%	12.80%
Mountain Park (pt.)	0.25%	0.24%	0.24%	0.23%	0.23%	0.22%	0.22%	0.22%	0.21%	0.21%	0.21%	0.21%	0.21%
Roswell	39.37%	38.77%	38.20%	37.67%	37.15%	36.65%	36.16%	35.71%	35.27%	34.84%	34.53%	34.46%	34.25%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Fulton County Total	816,190	820,213	815,224	812,568	809,481	818,737	845,181	869,329	888,694	905,511	926,119	949,580	977,773
Percent of Fulton County													
Alpharetta	5.79%	5.84%	5.89%	5.92%	5.96%	6.03%	6.08%	6.12%	6.17%	6.22%	6.24%	6.25%	6.34%
Johns Creek	7.54%	7.63%	7.71%	7.77%	7.85%	7.95%	8.04%	8.12%	8.20%	8.27%	8.34%	8.37%	8.42%
Milton	1.96%	2.14%	2.32%	2.48%	2.65%	2.82%	2.98%	3.13%	3.29%	3.44%	3.55%	3.57%	3.58%
Mountain Park (pt.)	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%
Roswell	9.97%	9.93%	9.88%	9.81%	9.77%	9.75%	9.72%	9.68%	9.65%	9.62%	9.59%	9.60%	9.58%
Total	25.32%	25.60%	25.87%	26.05%	26.29%	26.61%	26.88%	27.12%	27.36%	27.60%	27.79%	27.85%	27.98%





* As of July 1 of each year. 2000 and 2010 differ from Census counts, which are as of April 1.
** Revised by Census Bureau in 2012.
Sources: Census Estimates Program, 2011-2012, US Bureau of the Census.
Intercensal Estimates 2000-2010, US Bureau of the Census.

casts are consistently lower than ARC's for the county as a whole, as are their forecasts of the number of households, as would be expected. We note that ARC used a population for the county in 2010 of 965,593 while the Census Bureau's 2010 Census count was considerably lower at 920,581.

More notably, Woods & Poole countywide employment forecasts are notably higher than the ARC figures. Working with the US Bureau of Economic Analysis, Woods & Poole counts jobs and includes sole proprietors and part-time jobs. Employment data from other sources often are counting the number of persons that work, so a person working at two or more jobs would be counted as only "one". This difference will be important when the employment forecasts are prepared for the Impact Fee Program Update.

Projecting Historic Trends into the Future

In order to get a "handle" on population projections for North Fulton, the population figures from the Census Bureau (Table 1) are projected to the year 2040 using two types of regression analysis (often called "trend analysis"):

- The "linear trend" regression assumes a straight line relationship between the data for each year, and projects that line forward.
- The "growth trend" regression assumes there may be some curve to the data, whether an acceleration or deceleration over time, that will continue into the future.

Both of these are mathematical exercises, but valuable for comparison purposes. The results of the two projections for 2013 – 2040 for North Fulton are shown on Table 3.

Adjusting the Regional Forecasts

ARC's Plan 2040 population forecasts for North Fulton are clearly inaccurate. The ARC population figure for 2016 (247,310) is far less than the projected population figures from Table 3, which range from 290,264 (linear trend) to 295,879 (growth trend), and is even less than the Census figure for 2012.

Two approaches are used to address this problem with regard to population, and are shown on Table 4.

- The first is to use the projections for the benchmark years taken from Table 3. When used on later tables, these projections are referred to as the "trend approach".
- The second is to assume that ARC's figures are incrementally off, and to adjust each benchmark year by the 2016 multiplier; this shifts their line on a graph up without changing its rate of increase (i.e., the "slope" of the graph line remains the same).

Table 2: Regional Forecasts 2016-2040

Population

	2016	2020	2025	2030	2040
N Fulton Superdistrict	145,453	148,312	151,139	153,160	156,837
Roswell Superdistrict	101,857	103,479	104,925	105,943	109,129
Total - North Fulton	247,310	251,791	256,064	259,103	265,966
Fulton Co Total (ARC)	1,103,781	1,148,576	1,198,143	1,244,333	1,338,891
Woods & Poole	1,003,725	1,047,328	1,100,737	1,151,556	1,243,925
ARC minus W&P	100,056	101,248	97,406	92,777	94,966

Households

	2016	2020	2025	2030	2040
N Fulton Superdistrict	53,839	55,050	56,497	57,588	60,295
Roswell Superdistrict	38,686	39,711	40,741	41,517	43,454
Total - North Fulton	92,525	94,761	97,238	99,105	103,749
Fulton Co Total (ARC)	423,617	445,446	472,306	495,818	547,594
Woods & Poole	419,931	443,688	468,614	489,663	526,369
ARC minus W&P	3,686	1,758	3,692	6,155	21,225

Employment

	2016	2020	2025	2030	2040
N Fulton Superdistrict	110,954	117,165	123,005	130,106	144,783
Roswell Superdistrict	45,252	48,458	51,579	55,357	63,610
Total - North Fulton	156,206	165,623	174,584	185,463	208,393
Fulton Co Total (ARC)	767,619	814,009	859,777	914,302	1,032,717
Woods & Poole	1,012,790	1,066,146	1,136,194	1,210,092	1,243,925
ARC minus W&P	(245,171)	(252,137)	(276,417)	(295,790)	(211,208)

Sources: Atlanta Regional Commission, Plan 2040 Forecasts.
2014 Data Pamphlet, Fulton County, Woods & Poole Economics, Inc., Washington DC.

Table 3: Historic Trend Projections

	North Fulton		
	Census Estimates	Linear Trend	Growth Trend
2000	206,665	206,665	206,665
2001	209,978	209,978	209,978
2002	210,883	210,883	210,883
2003	211,665	211,665	211,665
2004	212,837	212,837	212,837
2005	217,835	217,835	217,835
2006	227,225	227,225	227,225
2007	235,758	235,758	235,758
2008	243,151	243,151	243,151
2009	249,944	249,944	249,944
2010	257,326	257,326	257,326
2011	264,458	264,458	264,458
2012	273,570	273,570	273,570
2013		272,907	274,833
2014		278,693	281,676
2015		284,478	288,690
2016		290,264	295,879
2017		296,050	303,246
2018		301,835	310,797
2019		307,621	318,536
2020		313,407	326,468
2021		319,192	334,597
2022		324,978	342,929
2023		330,764	351,468
2024		336,549	360,220
2025		342,335	369,189
2026		348,120	378,382
2027		353,906	387,804
2028		359,692	397,461
2029		365,477	407,358
2030		371,263	417,501
2031		377,049	427,897
2032		382,834	438,552
2033		388,620	449,472
2034		394,406	460,664
2035		400,191	472,135
2036		405,977	483,891
2037		411,763	495,940
2038		417,548	508,289
2039		423,334	520,946
2040		429,120	533,918

The North Fulton Population section of Table 4 shows the two adjustment approaches indicated above. The Linear Trend and Growth Trend results from the regression analysis of the 2000-2012 Census Bureau estimates from Table 3 are inserted under their appropriate years.

Below that on Table 4, the ratio between the linear trend figure and the ARC figure for 2016 is calculated, and applied to the ARC figures in subsequent years as a multiplier. This is referred to as the

"linear shift" approach. Similarly, the growth trend-to-ARC ratio is calculated and multiplied times subsequent years to produce the "growth shift" approach.

For adjustments to the number of households, we fall back on average household size calculations. The average household size determined by dividing the ARC population by the ARC number of households for North Fulton is divided into the linear trend and growth trend populations to produce the respective household projections for each year.

Adjustments to employment utilized the ratio between the ARC employment figures and the number of households in the ARC projections. These employment-to-households ratios are then applied to the linear trend and growth trend number of households calculated above to produce new employment figures for each benchmark year for each approach. (Though employment is not directly connected to the number of households because of cross-jurisdictional commuting, the point was to adjust the ARC figures using their own data which had already taken commuting patterns into consideration.)

Alternate Projections

The tables on the next three pages present three alternate projections for the cities that comprise North Fulton. The first two alternates are the linear model approach (including the "trend" method and the "shift" method discussed above), and the growth model approach ("trend" and "shift"). In each case, the city percentages of North Fulton population are projected to 2040 using the linear regression and the growth regression methods, respectively. These percentages are multiplied times the North Fulton total population figures projected using the linear and growth regression methods, and the "shift" method discussed above.

The third set of tables (on page 6) present the Fulton County Share approach. To accomplish this, the city percentages of the Fulton County population totals estimated by the Census Bureau for the 2000-2012 years (from Table 1) are projected to 2040 using a linear regression. These percentages are then multiplied against the ARC Plan 2040 county totals and the Woods & Poole county totals for comparison. This approach, of course, assumes an evolving relationship between the population of the cities in North Fulton and the county as a whole.

Comparison of Projections to Comprehensive Plan

All of the various projections above for Alpharetta are brought together on Table 8.

Shown also on Table 8 are the population projections for the city taken from the Comprehensive Plan 2030. That data stream started in 2010 and went to 2030 (the benchmark years are shown in bold). The Comprehensive Plan forecasts are extended on the table to 2040 using a linear regression since this most closely correlates with the current 2010-2030 forecasts.

While there is considerable divergence among the various approaches, the extended Comprehensive Plan forecast for the city compares well with the Linear Trend approach as well as the County Share approach using the Woods & Poole countywide figures.

Lastly, the Alpharetta Comprehensive Plan population forecasts are refined on the last page of this analysis.

Table 4: Adjustments to Regional Forecasts 2016-2040

	North Fulton Population				
	2016	2020	2025	2030	2040
North Fulton - ARC	247,310	251,791	256,064	259,103	265,966
North Fulton - Linear Trend	290,264	313,407	342,335	371,263	429,120
North Fulton - Growth Trend	295,879	326,468	369,189	417,501	533,918
2016 Linear Trend:ARC Ratio	1.1737				
Linear Shift Population	290,264	295,523	300,538	304,105	312,160
2016 Growth Trend:ARC Ratio	1.1964				
Growth Shift Population	295,879	301,240	306,352	309,988	318,198

	North Fulton Households				
	2016	2020	2025	2030	2040
Number of Households - ARC	92,525	94,761	97,238	99,105	103,749
Avg Household Size - ARC	2.67	2.66	2.63	2.61	2.56
North Fulton - Linear Trend	108,595	117,950	129,999	142,005	167,393
North Fulton - Growth Trend	110,696	122,865	140,196	159,691	208,273

	North Fulton Employment				
	2016	2020	2025	2030	2040
Employment - ARC	156,206	165,623	174,584	185,463	208,393
Emp:Household Ratio - ARC	1.69	1.75	1.80	1.87	2.01
North Fulton - Linear Trend	183,337	206,152	233,403	265,746	336,229
North Fulton - Growth Trend	186,883	214,744	251,713	298,842	418,342

Table 5: Population Projections, Linear Model

	Percent of North Fulton				
	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	22.85%	29.77%	7.76%	0.25%	39.37%
2001	22.81%	29.80%	8.38%	0.24%	38.77%
2002	22.77%	29.82%	8.97%	0.24%	38.20%
2003	22.72%	29.84%	9.53%	0.23%	37.67%
2004	22.68%	29.86%	10.07%	0.23%	37.15%
2005	22.65%	29.89%	10.59%	0.22%	36.65%
2006	22.62%	29.92%	11.08%	0.22%	36.16%
2007	22.58%	29.94%	11.56%	0.22%	35.71%
2008	22.55%	29.96%	12.01%	0.21%	35.27%
2009	22.52%	29.98%	12.45%	0.21%	34.84%
2010	22.47%	30.00%	12.79%	0.21%	34.53%
2011	22.46%	30.05%	12.82%	0.21%	34.46%
2012	22.66%	30.09%	12.80%	0.21%	34.25%
2013	22.45%	30.09%	13.96%	0.20%	33.30%
2014	22.42%	30.12%	14.41%	0.20%	32.86%
2015	22.39%	30.14%	14.85%	0.19%	32.42%
2016	22.36%	30.17%	15.30%	0.19%	31.98%
2017	22.33%	30.19%	15.75%	0.19%	31.54%
2018	22.31%	30.22%	16.19%	0.18%	31.10%
2019	22.28%	30.24%	16.64%	0.18%	30.66%
2020	22.25%	30.26%	17.09%	0.18%	30.22%
2021	22.22%	30.29%	17.53%	0.17%	29.78%
2022	22.20%	30.31%	17.98%	0.17%	29.34%
2023	22.17%	30.34%	18.43%	0.17%	28.90%
2024	22.14%	30.36%	18.87%	0.16%	28.46%
2025	22.11%	30.39%	19.32%	0.16%	28.02%
2026	22.08%	30.41%	19.77%	0.16%	27.58%
2027	22.06%	30.44%	20.22%	0.15%	27.14%
2028	22.03%	30.46%	20.66%	0.15%	26.70%
2029	22.00%	30.49%	21.11%	0.15%	26.26%
2030	21.97%	30.51%	21.56%	0.14%	25.82%
2031	21.94%	30.54%	22.00%	0.14%	25.38%
2032	21.92%	30.56%	22.45%	0.14%	24.93%
2033	21.89%	30.59%	22.90%	0.13%	24.49%
2034	21.86%	30.61%	23.34%	0.13%	24.05%
2035	21.83%	30.64%	23.79%	0.12%	23.61%
2036	21.81%	30.66%	24.24%	0.12%	23.17%
2037	21.78%	30.69%	24.68%	0.12%	22.73%
2038	21.75%	30.71%	25.13%	0.11%	22.29%
2039	21.72%	30.74%	25.58%	0.11%	21.85%
2040	21.69%	30.76%	26.02%	0.11%	21.41%

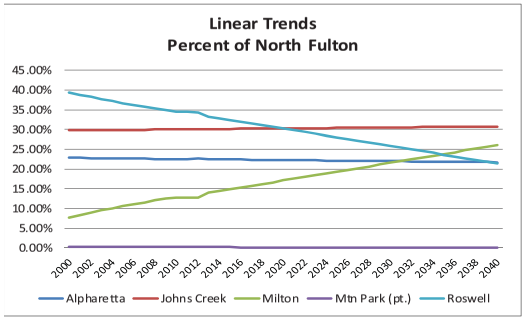


Table 5A: Linear Trend Approach

	Linear Trend North Fulton	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	206,665	47,229	61,522	16,035	518	81,361
2001	209,978	47,895	62,566	17,592	514	81,411
2002	210,883	48,011	62,891	18,913	505	80,563
2003	211,665	48,096	63,163	20,170	497	79,739
2004	212,837	48,279	63,562	21,432	489	79,075
2005	217,835	49,339	65,116	23,064	490	79,826
2006	227,225	51,390	67,978	25,183	502	82,172
2007	235,758	53,239	70,580	27,246	510	84,183
2008	243,151	54,830	72,844	29,210	516	85,751
2009	249,944	56,286	74,929	31,119	521	87,089
2010	257,326	57,825	77,198	32,908	550	88,845
2011	264,458	59,387	79,473	33,893	563	91,142
2012	273,570	61,981	82,306	35,015	576	93,692
2013	277,743	62,343	83,575	38,770	557	92,499
2014	281,917	63,201	84,901	40,612	556	92,647
2015	286,090	64,057	86,229	42,492	554	92,759
2016	**290,264**	64,911	87,559	44,409	552	92,833
2017	296,050	66,122	89,378	46,617	553	93,380
2018	301,835	67,330	91,200	48,877	553	93,875
2019	307,621	68,535	93,025	51,188	553	94,320
2020	**313,407**	69,736	94,852	53,552	553	94,713
2021	319,192	70,935	96,683	55,967	552	95,056
2022	324,978	72,130	98,516	58,433	551	95,347
2023	330,764	73,322	100,353	60,952	549	95,588
2024	336,549	74,511	102,191	63,522	548	95,777
2025	**342,335**	75,696	104,034	66,144	545	95,916
2026	348,120	76,879	105,878	68,817	542	96,004
2027	353,906	78,058	107,726	71,542	539	96,041
2028	359,692	79,234	109,577	74,319	536	96,026
2029	365,477	80,406	111,430	77,148	532	95,961
2030	**371,263**	81,576	113,287	80,028	527	95,845
2031	377,049	82,742	115,146	82,961	523	95,678
2032	382,834	83,905	117,008	85,944	518	95,460
2033	388,620	85,064	118,873	88,980	512	95,191
2034	394,406	86,221	120,741	92,067	506	94,871
2035	400,191	87,374	122,612	95,206	500	94,500
2036	405,977	88,524	124,486	98,396	493	94,078
2037	411,763	89,671	126,362	101,639	486	93,605
2038	417,548	90,815	128,242	104,933	478	93,081
2039	423,334	91,955	130,124	108,279	470	92,506
2040	**429,120**	93,092	132,009	111,676	462	91,880

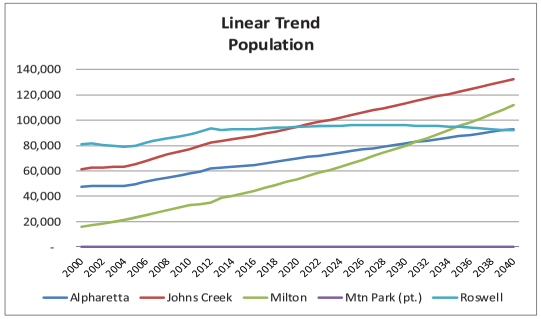


Table 5B: Linear Shift Approach

	Linear Shift North Fulton	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	206,665	47,229	61,522	16,035	518	81,361
2001	209,978	47,895	62,566	17,592	514	81,411
2002	210,883	48,011	62,891	18,913	505	80,563
2003	211,665	48,096	63,163	20,170	497	79,739
2004	212,837	48,279	63,562	21,432	489	79,075
2005	217,835	49,339	65,116	23,064	490	79,826
2006	227,225	51,390	67,978	25,183	502	82,172
2007	235,758	53,239	70,580	27,246	510	84,183
2008	243,151	54,830	72,844	29,210	516	85,751
2009	249,944	56,286	74,929	31,119	521	87,089
2010	257,326	57,825	77,198	32,908	550	88,845
2011	264,458	59,387	79,473	33,893	563	91,142
2012	273,570	61,981	82,306	35,015	576	93,692
2013	277,743	62,343	83,575	38,770	557	92,499
2014	281,917	63,201	84,901	40,612	556	92,647
2015	286,090	64,057	86,229	42,492	554	92,759
2016	**290,264**	64,911	87,559	44,409	552	92,833
2017	291,579	65,123	88,028	45,913	545	91,970
2018	292,893	65,335	88,498	47,429	537	91,094
2019	294,208	65,547	88,969	48,956	529	90,207
2020	**295,523**	65,757	89,440	50,496	521	89,309
2021	296,526	65,898	89,817	51,992	513	88,306
2022	297,529	66,038	90,195	53,498	504	87,294
2023	298,532	66,177	90,573	55,012	496	86,273
2024	299,535	66,316	90,952	56,536	487	85,244
2025	**300,538**	66,454	91,332	58,068	479	84,205
2026	301,251	66,528	91,623	59,552	469	83,078
2027	301,965	66,602	91,916	61,042	460	81,945
2028	302,678	66,674	92,208	62,539	451	80,805
2029	303,392	66,747	92,501	64,042	441	79,660
2030	**304,105**	66,819	92,794	65,552	432	78,508
2031	304,911	66,911	93,116	67,088	423	77,373
2032	305,716	67,003	93,438	68,632	413	76,230
2033	306,522	67,094	93,761	70,182	404	75,081
2034	307,327	67,185	94,083	71,740	394	73,925
2035	308,133	67,275	94,407	73,305	385	72,761
2036	308,938	67,365	94,730	74,877	375	71,591
2037	309,744	67,454	95,055	76,457	365	70,413
2038	310,549	67,543	95,379	78,043	356	69,228
2039	311,355	67,631	95,704	79,637	346	68,037
2040	**312,160**	67,719	96,029	81,238	336	66,838

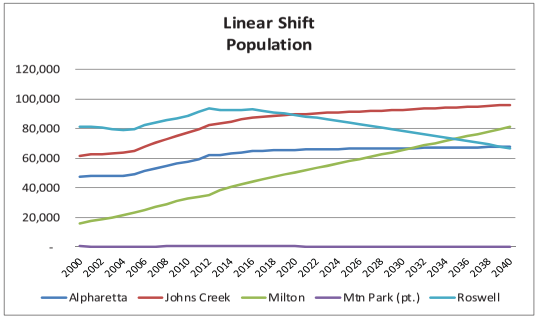


Table 6: Population Projections, Growth Model

	Percent of North Fulton				
	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	22.85%	29.77%	7.76%	0.25%	39.37%
2001	22.81%	29.80%	8.38%	0.24%	38.77%
2002	22.77%	29.82%	8.97%	0.24%	38.20%
2003	22.72%	29.84%	9.53%	0.23%	37.67%
2004	22.68%	29.86%	10.07%	0.23%	37.15%
2005	22.65%	29.89%	10.59%	0.22%	36.65%
2006	22.62%	29.92%	11.08%	0.22%	36.16%
2007	22.58%	29.94%	11.56%	0.22%	35.71%
2008	22.55%	29.96%	12.01%	0.21%	35.27%
2009	22.52%	29.98%	12.45%	0.21%	34.84%
2010	22.47%	30.00%	12.79%	0.21%	34.53%
2011	22.46%	30.05%	12.82%	0.21%	34.46%
2012	22.66%	30.09%	12.80%	0.21%	34.25%
2013	22.45%	30.09%	14.42%	0.20%	33.41%
2014	22.42%	30.12%	15.06%	0.20%	33.01%
2015	22.39%	30.14%	15.71%	0.20%	32.61%
2016	22.36%	30.17%	16.40%	0.19%	32.22%
2017	22.34%	30.19%	17.12%	0.19%	31.84%
2018	22.31%	30.22%	17.87%	0.19%	31.45%
2019	22.28%	30.24%	18.65%	0.18%	31.08%
2020	22.25%	30.27%	19.46%	0.18%	30.70%
2021	22.23%	30.29%	20.32%	0.18%	30.34%
2022	22.20%	30.32%	21.20%	0.18%	29.97%
2023	22.17%	30.34%	22.13%	0.17%	29.61%
2024	22.15%	30.37%	23.10%	0.17%	29.26%
2025	22.12%	30.39%	24.11%	0.17%	28.91%
2026	22.09%	30.42%	25.16%	0.17%	28.56%
2027	22.06%	30.44%	26.26%	0.16%	28.22%
2028	22.04%	30.47%	27.41%	0.16%	27.88%
2029	22.01%	30.49%	28.61%	0.16%	27.55%
2030	21.98%	30.52%	29.86%	0.16%	27.22%
2031	21.96%	30.55%	31.17%	0.15%	26.89%
2032	21.93%	30.57%	32.53%	0.15%	26.57%
2033	21.90%	30.60%	33.96%	0.15%	26.25%
2034	21.87%	30.62%	35.44%	0.15%	25.94%
2035	21.85%	30.65%	36.99%	0.14%	25.63%
2036	21.82%	30.67%	38.61%	0.14%	25.32%
2037	21.79%	30.70%	40.30%	0.14%	25.01%
2038	21.77%	30.72%	42.06%	0.14%	24.72%
2039	21.74%	30.75%	43.90%	0.14%	24.42%
2040	21.71%	30.77%	45.82%	0.13%	24.13%

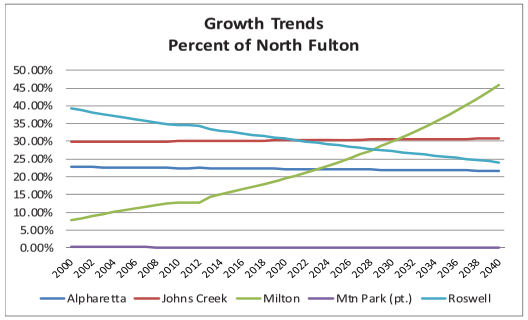


Table 6A: Growth Trend Approach

	Growth Trend North Fulton	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	206,665	47,229	61,522	16,035	518	81,361
2001	209,978	47,895	62,566	17,592	514	81,411
2002	210,883	48,011	62,891	18,913	505	80,563
2003	211,665	48,096	63,163	20,170	497	79,739
2004	212,837	48,279	63,562	21,432	489	79,075
2005	217,835	49,339	65,116	23,064	490	79,826
2006	227,225	51,390	67,978	25,183	502	82,172
2007	235,758	53,239	70,580	27,246	510	84,183
2008	243,151	54,830	72,844	29,210	516	85,751
2009	249,944	56,286	74,929	31,119	521	87,089
2010	257,326	57,825	77,198	32,908	550	88,845
2011	264,458	59,387	79,473	33,893	563	91,142
2012	273,570	61,981	82,306	35,015	576	93,692
2013	279,147	62,660	83,998	40,266	563	93,257
2014	284,724	63,833	85,748	42,867	566	93,980
2015	290,302	65,004	87,500	45,618	568	94,673
2016	**295,879**	66,171	89,255	48,528	570	95,336
2017	303,526	67,798	91,639	51,959	576	96,628
2018	311,173	69,420	94,025	55,598	582	97,875
2019	318,821	71,039	96,417	59,456	587	99,079
2020	**326,468**	72,653	98,811	63,544	592	100,240
2021	335,012	74,463	101,482	68,059	599	101,631
2022	343,556	76,268	104,157	72,847	605	102,974
2023	352,101	78,069	106,836	77,925	610	104,271
2024	360,645	79,865	109,519	83,306	616	105,521
2025	**369,189**	81,657	112,207	89,010	621	106,727
2026	378,852	83,691	115,240	95,334	628	108,208
2027	388,514	85,720	118,278	102,041	634	109,638
2028	398,176	87,744	121,320	109,153	640	111,018
2029	407,839	89,763	124,367	116,691	646	112,350
2030	**417,501**	91,776	127,420	124,680	651	113,633
2031	429,143	94,220	131,082	133,762	659	115,402
2032	440,784	96,656	134,750	143,399	667	117,112
2033	452,426	99,087	138,424	153,624	674	118,765
2034	464,068	101,512	142,104	164,468	681	120,362
2035	475,709	103,931	145,790	175,968	688	121,902
2036	487,351	106,343	149,482	188,158	694	123,389
2037	498,993	108,750	153,180	201,079	700	124,823
2038	510,635	111,150	156,885	214,770	705	126,205
2039	522,276	113,544	160,595	229,273	711	127,535
2040	**533,918**	115,933	164,311	244,634	716	128,816

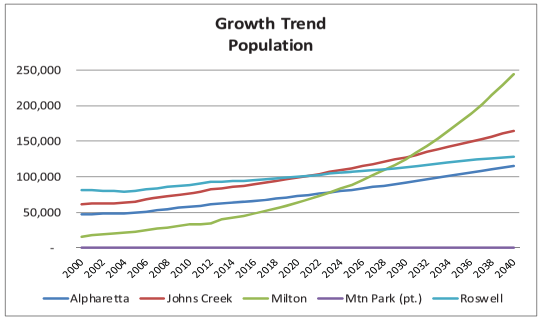


Table 6B: Growth Shift Approach

	Growth Shift North Fulton	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	206,665	47,229	61,522	16,035	518	81,361
2001	209,978	47,895	62,566	17,592	514	81,411
2002	210,883	48,011	62,891	18,913	505	80,563
2003	211,665	48,096	63,163	20,170	497	79,739
2004	212,837	48,279	63,562	21,432	489	79,075
2005	217,835	49,339	65,116	23,064	490	79,826
2006	227,225	51,390	67,978	25,183	502	82,172
2007	235,758	53,239	70,580	27,246	510	84,183
2008	243,151	54,830	72,844	29,210	516	85,751
2009	249,944	56,286	74,929	31,119	521	87,089
2010	257,326	57,825	77,198	32,908	550	88,845
2011	264,458	59,387	79,473	33,893	563	91,142
2012	273,570	61,981	82,306	35,015	576	93,692
2013	279,147	62,660	83,998	40,266	563	93,257
2014	284,724	63,833	85,748	42,867	566	93,980
2015	290,302	65,004	87,500	45,618	568	94,673
2016	**295,879**	66,171	89,255	48,528	570	95,336
2017	297,219	66,389	89,734	50,879	564	94,620
2018	298,559	66,606	90,214	53,344	558	93,908
2019	299,900	66,823	90,695	55,927	552	93,199
2020	**301,240**	67,039	91,176	58,634	546	92,494
2021	302,262	67,184	91,561	61,406	540	91,696
2022	303,285	67,328	91,947	64,308	534	90,904
2023	304,307	67,472	92,334	67,347	527	90,117
2024	305,330	67,616	92,722	70,529	521	89,337
2025	**306,352**	67,759	93,109	73,860	515	88,561
2026	307,079	67,836	93,408	77,273	509	87,708
2027	307,806	67,913	93,707	80,844	502	86,862
2028	308,534	67,990	94,007	84,579	496	86,024
2029	309,261	68,066	94,307	88,486	490	85,194
2030	**309,988**	68,142	94,607	92,573	483	84,371
2031	310,809	68,239	94,937	96,878	477	83,581
2032	311,630	68,335	95,267	101,382	471	82,797
2033	312,451	68,431	95,597	106,094	466	82,021
2034	313,272	68,526	95,928	111,025	460	81,251
2035	314,093	68,622	96,260	116,185	454	80,488
2036	314,914	68,716	96,592	121,583	448	79,731
2037	315,735	68,811	96,924	127,232	443	78,981
2038	316,556	68,905	97,257	133,141	437	78,238
2039	317,377	68,999	97,590	139,325	432	77,501
2040	**318,198**	69,092	97,924	145,794	426	76,770

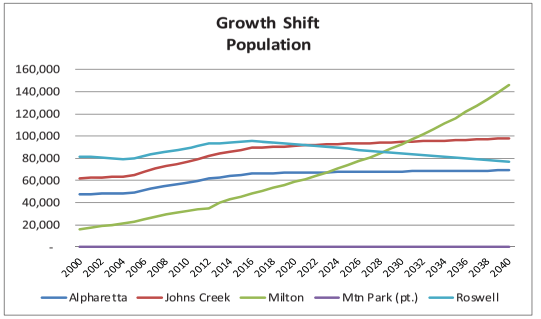


Table 7: Fulton County Share Approach

	Percentages Projected Using Linear Trend Regression				
	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000	5.79%	7.54%	1.96%	0.06%	9.97%
2001	5.84%	7.63%	2.14%	0.06%	9.93%
2002	5.89%	7.71%	2.32%	0.06%	9.88%
2003	5.92%	7.77%	2.48%	0.06%	9.81%
2004	5.96%	7.85%	2.65%	0.06%	9.77%
2005	6.03%	7.95%	2.82%	0.06%	9.75%
2006	6.08%	8.04%	2.98%	0.06%	9.72%
2007	6.12%	8.12%	3.13%	0.06%	9.68%
2008	6.17%	8.20%	3.29%	0.06%	9.65%
2009	6.22%	8.27%	3.44%	0.06%	9.62%
2010	6.24%	8.34%	3.55%	0.06%	9.59%
2011	6.25%	8.37%	3.57%	0.06%	9.60%
2012	6.34%	8.42%	3.58%	0.06%	9.58%
2013	6.38%	8.55%	3.92%	0.06%	9.50%
2014	6.43%	8.62%	4.07%	0.06%	9.47%
2015	6.47%	8.70%	4.21%	0.06%	9.44%
2016	6.52%	8.78%	4.36%	0.06%	9.41%
2017	6.56%	8.85%	4.50%	0.06%	9.37%
2018	6.61%	8.93%	4.65%	0.06%	9.34%
2019	6.65%	9.00%	4.79%	0.05%	9.31%
2020	6.70%	9.08%	4.93%	0.05%	9.27%
2021	6.74%	9.16%	5.08%	0.05%	9.24%
2022	6.79%	9.23%	5.22%	0.05%	9.21%
2023	6.83%	9.31%	5.37%	0.05%	9.17%
2024	6.88%	9.38%	5.51%	0.05%	9.14%
2025	6.92%	9.46%	5.65%	0.05%	9.11%
2026	6.97%	9.54%	5.80%	0.05%	9.08%
2027	7.01%	9.61%	5.94%	0.05%	9.04%
2028	7.06%	9.69%	6.09%	0.05%	9.01%
2029	7.10%	9.76%	6.23%	0.05%	8.98%
2030	7.15%	9.84%	6.37%	0.05%	8.94%
2031	7.19%	9.92%	6.52%	0.05%	8.91%
2032	7.24%	9.99%	6.66%	0.05%	8.88%
2033	7.28%	10.07%	6.81%	0.05%	8.84%
2034	7.33%	10.14%	6.95%	0.05%	8.81%
2035	7.37%	10.22%	7.09%	0.05%	8.78%
2036	7.42%	10.30%	7.24%	0.05%	8.75%
2037	7.46%	10.37%	7.38%	0.05%	8.71%
2038	7.51%	10.45%	7.53%	0.05%	8.68%
2039	7.55%	10.52%	7.67%	0.05%	8.65%
2040	7.60%	10.60%	7.81%	0.05%	8.61%

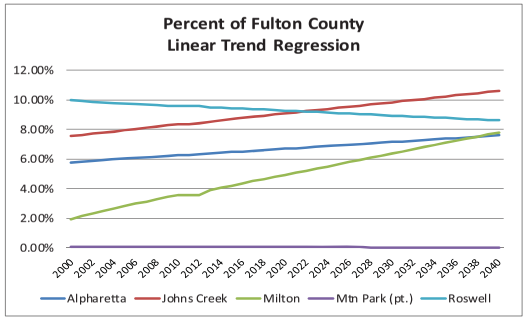


Table 7A: Percentage Share of ARC Plan 2040 Forecasts

	ARC 2040 Plan	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000		47,229	61,522	16,035	518	81,361
2001		47,895	62,566	17,592	514	81,411
2002		48,011	62,891	18,913	505	80,563
2003		48,096	63,163	20,170	497	79,739
2004		48,279	63,562	21,432	489	79,075
2005		49,339	65,116	23,064	490	79,826
2006		51,390	67,978	25,183	502	82,172
2007		53,239	70,580	27,246	510	84,183
2008		54,830	72,844	29,210	516	85,751
2009		56,286	74,929	31,119	521	87,089
2010	**965,593**	57,825	77,198	32,908	550	88,845
2011	988,624	59,387	79,473	33,893	563	91,142
2012	1,011,656	61,981	82,306	35,015	576	93,692
2013	1,034,687	66,025	88,450	40,611	593	98,338
2014	1,057,718	67,971	91,222	43,038	602	100,178
2015	1,080,750	69,939	94,030	45,532	611	102,003
2016	**1,103,781**	71,927	96,873	48,092	620	103,812
2017	1,114,980	73,159	98,703	50,185	622	104,498
2018	1,126,179	74,402	100,550	52,312	623	105,176
2019	1,137,377	75,654	102,414	54,470	625	105,847
2020	**1,148,576**	76,917	104,295	56,660	627	106,510
2021	1,158,489	78,103	106,076	58,818	628	107,047
2022	1,168,403	79,299	107,871	61,004	629	107,578
2023	1,178,316	80,503	109,682	63,219	629	108,102
2024	1,188,230	81,716	111,507	65,462	630	108,620
2025	**1,198,143**	82,938	113,348	67,734	630	109,131
2026	1,207,381	84,122	115,140	69,995	631	109,574
2027	1,216,619	85,314	116,945	72,283	631	110,011
2028	1,225,857	86,514	118,765	74,598	631	110,442
2029	1,235,095	87,723	120,598	76,939	631	110,867
2030	**1,244,333**	88,940	122,446	79,306	630	111,286
2031	1,253,789	90,181	124,329	81,715	630	111,718
2032	1,263,245	91,431	126,227	84,150	630	112,144
2033	1,272,700	92,689	128,138	86,613	630	112,563
2034	1,282,156	93,956	130,065	89,104	630	112,977
2035	1,291,612	95,231	132,005	91,621	629	113,384
2036	1,301,068	96,515	133,961	94,166	629	113,785
2037	1,310,524	97,808	135,930	96,738	628	114,180
2038	1,319,979	99,108	137,914	99,337	627	114,568
2039	1,329,435	100,418	139,912	101,963	627	114,951
2040	**1,338,891**	101,736	141,925	104,617	626	115,327

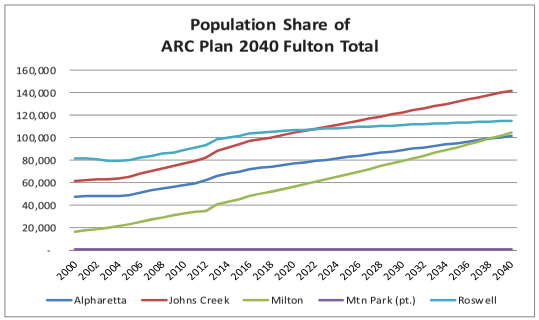


Table 7B: Percentage Share of Woods & Poole Forecasts

	Woods & Poole	Alpharetta	Johns Creek	Milton	Mtn Park (pt.)	Roswell
2000		47,229	61,522	16,035	518	81,361
2001		47,895	62,566	17,592	514	81,411
2002		48,011	62,891	18,913	505	80,563
2003		48,096	63,163	20,170	497	79,739
2004		48,279	63,562	21,432	489	79,075
2005		49,339	65,116	23,064	490	79,826
2006		51,390	67,978	25,183	502	82,172
2007		53,239	70,580	27,246	510	84,183
2008		54,830	72,844	29,210	516	85,751
2009		56,286	74,929	31,119	521	87,089
2010	925,920	57,825	77,198	32,908	550	88,845
2011	949,599	59,387	79,473	33,893	563	91,142
2012	960,237	61,981	82,306	35,015	576	93,692
2013	971,019	61,962	83,007	38,112	557	92,287
2014	981,910	63,100	84,684	39,953	559	92,998
2015	992,816	64,248	86,379	41,827	561	93,703
2016	1,003,725	65,407	88,091	43,732	564	94,402
2017	1,014,641	66,575	89,820	45,669	566	95,094
2018	1,025,565	67,755	91,567	47,638	568	95,779
2019	1,036,476	68,943	93,328	49,638	570	96,457
2020	1,047,328	70,137	95,101	51,666	572	97,121
2021	1,058,168	71,340	96,890	53,725	573	97,777
2022	1,068,934	72,548	98,688	55,811	575	98,419
2023	1,079,612	73,759	100,494	57,923	577	99,047
2024	1,090,242	74,977	102,312	60,064	578	99,662
2025	1,100,737	76,195	104,133	62,227	579	100,259
2026	1,111,158	77,417	105,964	64,417	580	100,841
2027	1,121,459	78,641	107,798	66,629	581	101,406
2028	1,131,640	79,865	109,637	68,864	582	101,954
2029	1,141,665	81,087	111,475	71,118	583	102,480
2030	1,151,556	82,309	113,316	73,393	583	102,988
2031	1,161,350	83,533	115,162	75,690	584	103,481
2032	1,170,998	84,755	117,009	78,005	584	103,955
2033	1,180,531	85,977	118,859	80,341	584	104,412
2034	1,189,938	87,198	120,710	82,695	584	104,851
2035	1,199,189	88,417	122,560	85,065	584	105,271
2036	1,208,329	89,636	124,412	87,454	584	105,675
2037	1,217,399	90,857	126,271	89,863	583	106,066
2038	1,226,370	92,080	128,133	92,292	583	106,443
2039	1,235,222	93,302	129,997	94,737	582	106,804
2040	1,243,925	94,520	131,858	97,196	582	107,147

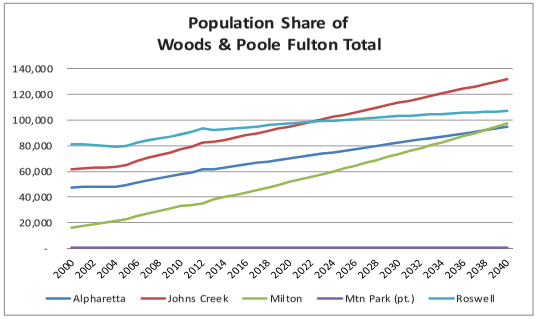
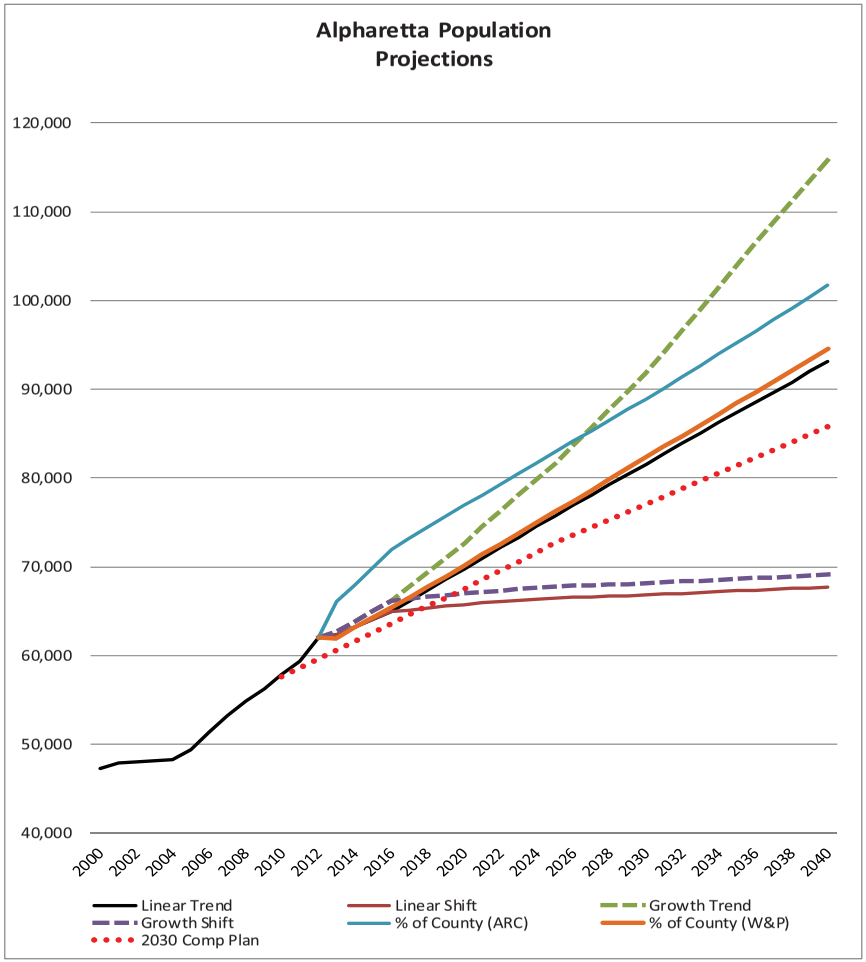


Table 8: Summary Comparison of Alpharetta Population Projections

	Linear Trend	Linear Shift	Growth Trend	Growth Shift	% of County (ARC)	% of County (W&P)	2030 Comp Plan
2000	47,229						
2001	47,895						
2002	48,011						
2003	48,096						
2004	48,279						
2005	49,339						
2006	51,390						
2007	53,239						
2008	54,830						
2009	56,286						
2010	57,825						**57,551**
2011	59,387						58,556
2012	61,981	61,981	61,981	61,981	61,981	61,981	59,561
2013	62,343	62,343	62,660	62,660	66,025	61,962	60,567
2014	63,201	63,201	63,833	63,833	67,971	63,100	61,572
2015	64,057	64,057	65,004	65,004	69,939	64,248	**62,577**
2016	64,911	64,911	66,171	66,171	71,927	65,407	63,560
2017	66,122	65,123	67,798	66,389	73,159	66,575	64,544
2018	67,330	65,335	69,420	66,606	74,402	67,755	65,527
2019	68,535	65,547	71,039	66,823	75,654	68,943	66,511
2020	69,736	65,757	72,653	67,039	76,917	70,137	**67,494**
2021	70,935	65,898	74,463	67,184	78,103	71,340	68,523
2022	72,130	66,038	76,268	67,328	79,299	72,548	69,552
2023	73,322	66,177	78,069	67,472	80,503	73,759	70,580
2024	74,511	66,316	79,865	67,616	81,716	74,977	71,609
2025	75,696	66,454	81,657	67,759	82,938	76,195	**72,638**
2026	76,879	66,528	83,691	67,836	84,122	77,417	73,517
2027	78,058	66,602	85,720	67,913	85,314	78,641	74,397
2028	79,234	66,674	87,744	67,990	86,514	79,865	75,276
2029	80,406	66,747	89,763	68,066	87,723	81,087	76,156
2030	81,576	66,819	91,776	68,142	88,940	82,309	**77,035**
2031	82,742	66,911	94,220	68,239	90,181	83,533	77,915
2032	83,905	67,003	96,656	68,335	91,431	84,755	78,794
2033	85,064	67,094	99,087	68,431	92,689	85,977	79,674
2034	86,221	67,185	101,512	68,526	93,956	87,198	80,553
2035	87,374	67,275	103,931	68,622	95,231	88,417	81,432
2036	88,524	67,365	106,343	68,716	96,515	89,636	82,312
2037	89,671	67,454	108,750	68,811	97,808	90,857	83,191
2038	90,815	67,543	111,150	68,905	99,108	92,080	84,071
2039	91,955	67,631	113,544	68,999	100,418	93,302	84,950
2040	93,092	67,719	115,933	69,092	101,736	94,520	85,830



Alpharetta Projections Refined

The "Comp Plan Extended" column on Table 9 shows the population projections from the Comprehensive Plan 2030 interpolated between the benchmark years (in bold), and extended to 2040 using a linear trend regression. This is the data stream used on Table 8.

In the "2010-2012" column, the actual Census estimates for those three years replace the Comp Plan figures, and 2013-2014 are interpolated to the Comp Plan 2015 figure; the extension to 2040 is retained.

The last column of the table incorporates the "uptick" in population for 2010-2012 by recognizing that this produces a "curve" to the projections, and therefore applies a growth trend regression to the data starting with the 2012 Census estimate. This results in a 1.2% increase over the 2015 Comp Plan projection, falling to a 0.3% increase in 2030 and again increasing to a 2.7% increase by 2040.

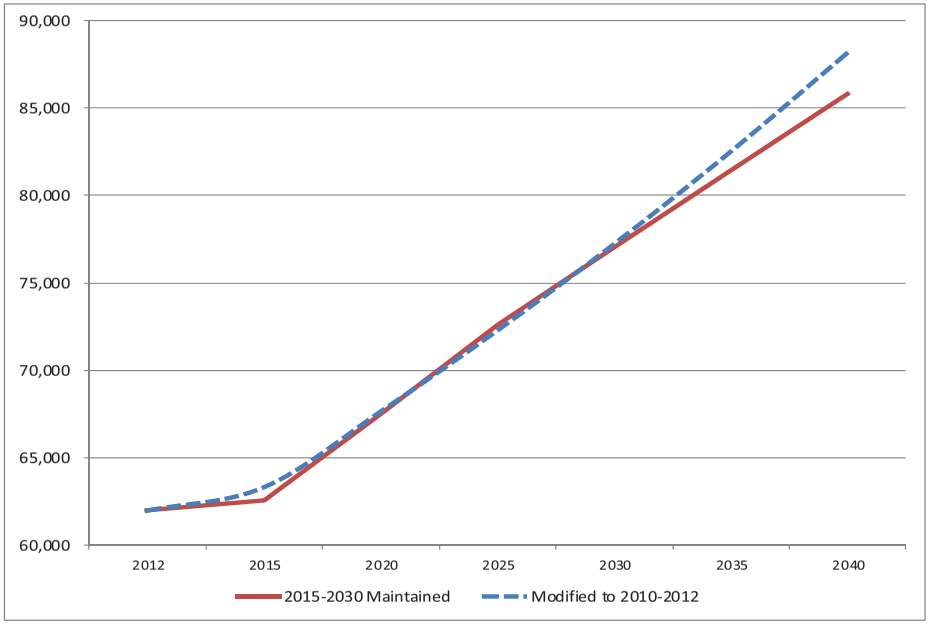
[It is important to keep in mind that recent population increases may reflect lessening vacancy rates as people move into existing housing as well as into new construction. The Census estimates do not discriminate between the two.]

The red line on the graph maintains consistency with the Comp Plan projections for 2015-2030 and reflects much slower growth to 2015, while the dashed blue line is more statistically reflective of gains from 2010 and recovery from the recent recession.

Table 9: Recommended Population Forecasts

	Comp Plan Extended	2010-2012 Census Inserted	Growth Trend from 2012
2010	57,551	57,825	57,825
2011	58,556	59,387	59,387
2012	59,561	**61,981**	**61,981**
2013	60,567	62,180	62,427
2014	61,572	62,378	62,874
2015	**62,577**	**62,577**	**63,320**
2016	63,560	63,560	64,164
2017	64,544	64,544	65,020
2018	65,527	65,527	65,886
2019	66,511	66,511	66,765
2020	**67,494**	**67,494**	**67,655**
2021	68,523	68,523	68,557
2022	69,552	69,552	69,470
2023	70,580	70,580	70,396
2024	71,609	71,609	71,335
2025	**72,638**	**72,638**	**72,286**
2026	73,517	73,517	73,249
2027	74,397	74,397	74,226
2028	75,276	75,276	75,215
2029	76,156	76,156	76,218
2030	**77,035**	**77,035**	**77,234**
2031	77,915	77,915	78,263
2032	78,794	78,794	79,307
2033	79,674	79,674	80,364
2034	80,553	80,553	81,435
2035	**81,432**	**81,432**	**82,520**
2036	82,312	82,312	83,620
2037	83,191	83,191	84,735
2038	84,071	84,071	85,865
2039	84,950	84,950	87,009
2040	**85,830**	**85,830**	**88,169**

	2012	2015	2020	2025	2030	2035	2040	2012-2040 Increase
Comprehensive Plan 2015-2030 Maintained	61,981	62,577	67,494	72,638	77,035	81,432	85,830	23,849
Comprehensive Plan Modified to 2010-2012 Actual	61,981	63,320	67,655	72,286	77,234	82,520	88,169	26,188



ROSS+associates
urban planning & plan implementation

Memorandum

TO: Kathi Cook
cc: Shawn Mitchell,
AMEC: Lee Walton, Paige Hatley

FROM: Bill Ross

DATE: June 12, 2014

RE: Housing and Employment Forecasts

Following up on the selection of the population forecasts we will use for the impact fee calculations, we have made estimates of the future number of housing units and employment in the City. Note that parks & recreation LOS standards will be based on the number of housing units, while fire and police will combine population and employment into a "day-night" population to reflect their 24-hour service demand.
Note also that the following tables go out to 2040 because we have to do some comparisons to the ARC projections, and they didn't do a 2035 estimate. In the final Methodology Report, we will only go out to 2035.

Housing Units

The table below shows how we figured the housing projections. The approach is to calculate the number of households (which equates to the number of occupied housing units) and then to expand that to the number of housing units by adding in vacant units.

The first section of the table shows the Woods & Poole forecasts for the entire county. As a general rule, these are the only folks who do a credible job at the macro (countywide) level, working closely with the US Bureau of Economic Analysis and other federal data sources.

Our assumption is that the average household sizes in Alpharetta will "track" the sociometric trend countywide. In 2010, the average household size in Alpharetta was (rounded) 2.65 people, compared to the countywide figure of 2.45. (This obviously reflects Alpharetta's higher proportion of single-family households.) The Alpharetta 2010 figure is a little over 108% of the countywide figure; this percentage is applied to the countywide average household sizes through 2040, and divided into the Alpharetta population every year to arrive at the household forecasts.

On a cautionary note, this approach basically assumed that the current ratio of single-family to multi-family units will remain fairly the same into the future.

Housing Units were calculated using the 2010 housing occupancy rate. The rate in 2010 was surprisingly consistent with the rate in 2000, which lends some confidence that the rate will remain relatively stable into the future. To arrive at the housing unit estimates each year, the number of households is divided by the occupancy rate.

Housing Unit Forecasts

	Fulton County (Woods & Poole)			Alpharetta				
	Population	Households	Average HH Size - County	Population	Avg HH Size - Alpharetta	Households	Occupancy Rate	Total Housing Units
2000	816,190	321,412	2.54	34,854	2.51	13,911	94.8%	14,670
2001	820,213	337,130	2.43					
2002	815,224	340,260	2.40					
2003	812,568	346,959	2.34					
2004	809,481	351,600	2.30					
2005	818,737	360,052	2.27					
2006	845,181	367,781	2.30					
2007	869,329	376,244	2.31					
2008	888,694	380,569	2.34	Multiplier:	108.23%			
2009	905,511	383,025	2.36					
2010	925,920	378,588	2.45	57,551	2.65	21,742	94.4%	23,029
2011	949,599	389,978	2.44	59,387	2.64	22,534	94.4%	23,868
2012	960,237	391,681	2.45	61,981	2.65	23,360	94.4%	24,743
2013	971,019	399,000	2.43	62,427	2.63	23,701	94.4%	25,104
2014	981,910	406,201	2.42	62,874	2.62	24,032	94.4%	25,455
2015	992,816	413,228	2.40	63,320	2.60	24,351	94.4%	25,792
2016	1,003,725	419,931	2.39	64,164	2.59	24,803	94.4%	26,271
2017	1,014,641	426,273	2.38	65,020	2.58	25,239	94.4%	26,733
2018	1,025,565	432,282	2.37	65,886	2.57	25,660	94.4%	27,179
2019	1,036,476	438,065	2.37	66,765	2.56	26,072	94.4%	27,615
2020	1,047,328	443,688	2.36	67,655	2.55	26,482	94.4%	28,050
2021	1,058,168	449,204	2.36	68,557	2.55	26,890	94.4%	28,482
2022	1,068,934	454,373	2.35	69,470	2.55	27,284	94.4%	28,899
2023	1,079,612	459,281	2.35	70,396	2.54	27,670	94.4%	29,308
2024	1,090,242	464,030	2.35	71,335	2.54	28,053	94.4%	29,714
2025	1,100,737	468,614	2.35	72,286	2.54	28,434	94.4%	30,117
2026	1,111,158	473,077	2.35	73,249	2.54	28,814	94.4%	30,520
2027	1,121,459	477,413	2.35	74,226	2.54	29,196	94.4%	30,924
2028	1,131,640	481,625	2.35	75,215	2.54	29,577	94.4%	31,328
2029	1,141,665	485,716	2.35	76,218	2.54	29,961	94.4%	31,735
2030	1,151,556	489,663	2.35	77,234	2.55	30,344	94.4%	32,140
2031	1,161,350	493,527	2.35	78,263	2.55	30,730	94.4%	32,549
2032	1,170,998	497,307	2.35	79,307	2.55	31,120	94.4%	32,962
2033	1,180,531	501,011	2.36	80,364	2.55	31,513	94.4%	33,378
2034	1,189,938	504,671	2.36	81,435	2.55	31,912	94.4%	33,801
2035	1,199,189	508,248	2.36	82,520	2.55	32,315	94.4%	34,228
2036	1,208,329	511,804	2.36	83,620	2.56	32,725	94.4%	34,662
2037	1,217,399	515,382	2.36	84,735	2.56	33,145	94.4%	35,107
2038	1,226,370	518,999	2.36	85,865	2.56	33,575	94.4%	35,562
2039	1,235,222	522,654	2.36	87,009	2.56	34,016	94.4%	36,030
2040	1,243,925	526,369	2.36	88,169	2.56	34,472	94.4%	36,513

Employment

For the employment projections, we begin with ARC's Plan 2040 forecasts which are, of course, only taken down to the Superdistrict level. The following table shows the data from the 2010 Census and for the ARC benchmark years.

(Note that 2010 is the first and only year that the Census Bureau has published actual employment figures at the city level. Since these are derived from the "employed persons" data and commuting patterns, second jobs are not counted nor are some sole proprietors, so the real figure would be a bit higher.)

Employment Forecasts: Benchmark Years

	2010*	2016	2020	2025	2030	2040	2010-2040 % Increase
Alpharetta	73,828						
John's Creek	27,947						
Milton	7,039						
N. Fulton Superdistrict**	108,814	110,954	117,165	123,005	130,106	144,783	33.1%
Roswell Superdistrict**	45,405	45,252	48,458	51,579	55,357	63,610	40.1%
North Fulton County	154,219	156,206	165,623	174,584	185,463	208,393	35.1%
Constant % of Superdistrict	67.85%						
Alphareta Employment	73,828	75,280	79,494	83,456	88,274	98,232	33.1%
Alpharetta Households	21,742	24,803	26,482	28,434	30,344	34,472	
Emp:Household Ratio	3.40						
Alphareta Employment	73,828	84,222	89,923	96,552	103,037	117,054	58.5%

* Source: 2010 Decennial Census, US Bureau of the Census.
** Source: 2006-2040, Atlanta Regional Commission, Plan 2040 Forecasts.

Two ratios are derived from the 2010 Census data: the percentage of Alpharetta employment in the Superdistrict, and the employment-to-households ratio. These ratios are held as constants and applied to the ARC forecasts for the Superdistrict in each of their benchmark years.

The last table, below, takes the projections for the benchmark years and expands then to cover all years from 2010 to 2040. For the "percentage share" approach, the intervening years between the benchmarks are interpolated. For the employment-to-households ratio approach, the annual household figures are taken from the first table, above.

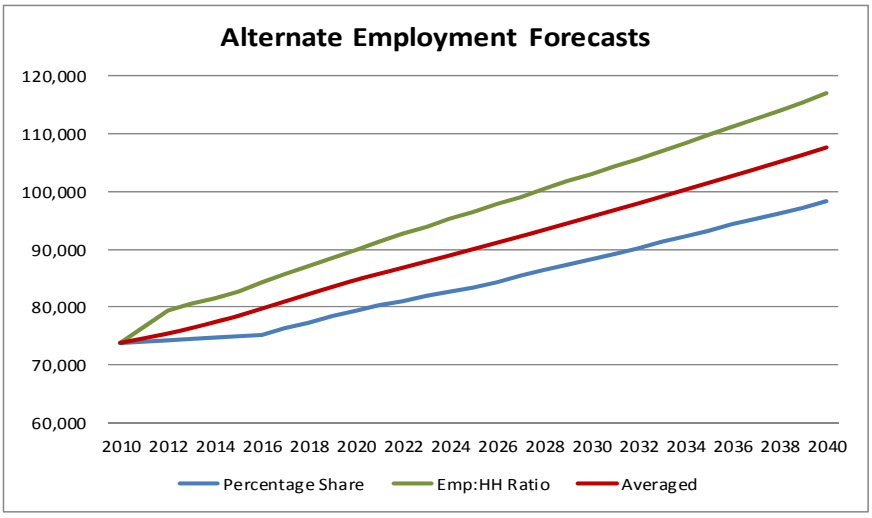
In our view, the percentage share approach understates the City's potential, mainly because ARC anticipates a 40% employment increase by 2040 over 2010 in the Roswell Superdistrict, but only a 33% increase in the N Fulton Superdistrict (which also includes John's Creek and Milton). Given Alpharetta's decidedly superior position in the Superdistrict for commuters (in 2010 85% of the people who worked in the city commuted in from elsewhere), a much higher percentage would be appropriate. On the other hand, the emp:HH ratio approach seems a bit high since it assumes the current ratio will remain the same.

For the last column on the table below, we averaged the two approaches (with some smoothing of the line during the first few years) to arrive at a "medium" forecast. The result equates to a 46% increase over the coming 27 years, and an emp:HH ratio in 2040 of 3.12.

The "averaged" projection is the one we recommend.

Alternate Employment Forecasts: Annual

	Percentage Share		Emp:HH Ratio		
	N Fulton Superdist	Alpharetta Employment	Alpharetta Households	Alpharetta Employment	Averaged
	At: 67.85%		At: 3.40		
2010	**108,814**	73,828	21,742	73,828	73,828
2011	109,171	74,070	22,534	76,517	74,616
2012	109,527	74,312	23,360	79,322	75,434
2013	109,884	74,554	23,701	80,480	76,354
2014	110,241	74,796	24,032	81,604	77,418
2015	110,597	75,038	24,351	82,687	78,469
2016	**110,954**	75,280	24,803	84,222	79,751
2017	112,507	76,334	25,239	85,703	81,019
2018	114,060	77,387	25,660	87,132	82,260
2019	115,612	78,440	26,072	88,531	83,486
2020	**117,165**	79,494	26,482	89,923	84,709
2021	118,333	80,286	26,890	91,309	85,798
2022	119,501	81,079	27,284	92,647	86,863
2023	120,669	81,871	27,670	93,957	87,914
2024	121,837	82,664	28,053	95,258	88,961
2025	**123,005**	83,456	28,434	96,552	90,004
2026	124,425	84,420	28,814	97,842	91,131
2027	125,845	85,383	29,196	99,139	92,261
2028	127,266	86,347	29,577	100,433	93,390
2029	128,686	87,311	29,961	101,737	94,524
2030	**130,106**	88,274	30,344	103,037	95,656
2031	131,574	89,270	30,730	104,348	96,809
2032	133,041	90,266	31,120	105,672	97,969
2033	134,509	91,262	31,513	107,007	99,135
2034	135,977	92,258	31,912	108,362	100,310
2035	137,445	93,254	32,315	109,730	101,492
2036	138,912	94,249	32,725	111,122	102,686
2037	140,380	95,245	33,145	112,548	103,897
2038	141,848	96,241	33,575	114,009	105,125
2039	143,315	97,236	34,016	115,506	106,371
2040	**144,783**	98,232	34,472	117,054	107,643



Methodology: Trip Generation

In order to calculate new growth and development's fair share of the cost of road improvements, it is necessary to establish how much of the future traffic on Alpharetta's roads will be generated by new growth, over and above the traffic generated by the city's residents and businesses today. This Methodology describes the process through which this determination is made.

Summary

A Level of Service must be established for road improvements in order to assure that, ultimately, existing development and new growth are served equally. This Section also presents the process through which new growth and development's 'fair share' of road improvement costs is calculated, and tables summarizing the technical portions of this Methodology are included.

Level of Service

The City has set its Level of Service for road improvements at LOS "D", a level to which it will strive ultimately. However, interim road improvement projects that do not result in a LOS of "D" will still provide traffic relief to current and future traffic alike, and are thus eligible for impact fee funding.

All road improvement projects benefit existing and future traffic proportionally to the extent that relief from over-capacity conditions eases traffic problems for everyone. For example, since new growth by 2035 will represent a certain portion of all 2035 traffic, new growth would be responsible for that portions' cost of the road improvements.

It is noted that the cost-impact of non-Alpharetta generated traffic on the roads traversing the city (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Alpharetta reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Alpharetta residents and businesses.

The basis for the road impact fee would therefore be Alpharetta's cost for the improvements divided by all traffic in 2035 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, when a building permit is issued, the cost per trip (above) would be applied to the number of trips that will be generated by the new development, assuring that new growth would only pay its 'fair share' of the road improvements that serve it.

Approach

This Methodology proceeds along the following lines:

- Total traffic currently generated by Alpharetta residents and businesses on the road system within the city is calculated from trip generation and commuting data for 2010, and extended to 2014.
- Future Alpharetta-generated traffic from new growth in the city is calculated from housing unit and employment forecasts to 2035.
- The portion of total 2035 traffic that is generated by new housing units and employment in the city establishes the percentage of Alpharetta's cost of the future road improvements that can be included in an impact fee.

- Lastly, 'primary' trip ends are calculated as the appropriate connection to actual impact on the city's road network by its existing and future land uses.

Summary Tables

The first table below shows how the portion of total 2035 traffic generated by new growth (i.e., total trip ends) is calculated.

Average Daily Trip Ends Generated by New Growth

	2014	2035	Increase	Percent New Growth Trip Ends
Residential Trips	218,117	294,243	76,126	
Nonresidential Trips	1,903,422	2,495,307	591,885	
Less: Internal Commutes*	(24,074)	(31,561)	(7,487)	
	2,097,465	2,757,989	660,524	23.9%

* Residents who work in Alpharetta. These trips to and from work are included in the residential trips, above.

The next table, below, calculates the Primary Trip Ends generated by existing and future traffic by deleting pass-by and diverted trips, as discussed below.

Primary Daily Trip Ends Generated by New Growth

	Percent Primary Trip Ends*	Primary Trip Ends			Percent New Growth Primary Trip Ends
		2014	2035	Increase	
Residential Trips	82%	179,406	242,021	62,615	
Commercial	51%	949,237	1,244,408	295,172	
Industrial+Utility	92%	34,840	45,677	10,837	
Less: Internal Commutes	100%	(24,074)	(31,561)	(7,487)	
		1,139,409	1,500,545	361,136	24.1%

* Derived from'Trip Generation Handbook' chapter, *Trip Generation* , 9th Edition, Institute of Transportation Engineers.

Overall, new residents and businesses located within Alpharetta will generate 24.1% of all Alpharetta traffic on its roads. Thus, new growth's 'fair share' of the cost to the City to provide road improvements to the existing road network cannot exceed 24.1%. For entirely new road projects,

which are occasioned primarily by new growth in developing areas, the maximum 'fair share' is the converse percentage—75.9%.

Pass-by and Diverted Trips

The impact of new growth and development on Alpharetta's road network is the increased number of vehicles added to the system, expressed by transportation engineers as 'trips'. Every 'trip' has two ends—a beginning at its origin and an end at its destination (known as 'trip ends'). There are three types of trips, defined as:

> A Primary Trip (and its trip ends)—a vehicle travelling from its original beginning to its intended final destination. Driving from ones home to ones place of work is an example of a primary trip.
>
> A Pass-by Trip—a vehicle travelling along its usual route from its origin to its final destination, that stops off at an intermediate location for any reason. A trip from home to work that stops along the way for gas, dropping off a child at daycare, picking up coffee or dinner, or for any other reason, represents a 'pass-by' trip at the intermediate location.
>
> A Diverted Trip (previously called a diverted 'link' trip)—a vehicle that diverts from its normal primary trip route between its origin to its final destination, and takes a different route to stop off at an intermediate location for any reason. While a pass-by trip remains on its normal route, a diverted trip changes its route to other streets to arrive at the intermediate stop.

New primary trips add vehicles to the road network. Pass-by and diverted trips involve the same vehicles stopping off between their original beginnings and their final destinations, and therefore do not add new vehicles to the road network—the vehicles were already there on their way to their destinations.

These different types of trips result in different types of 'trip ends'. On a home-to-daycare-to-work trip, for instance, there are two primary trip ends (home and work) and two pass-by or diverted trip ends: arriving at the daycare center and leaving from there to drive to work. The net impact on the road network, however, is created by the one vehicle and its two primary trip ends.

Impact fee calculations take note of these pass-by and diverted trip ends as not adding to the overall traffic on the road network, and deletes them from the total trip ends reported in ITE's *Trip Generation* manual. While the table above uses overall average percentages of primary trip ends derived from ITE for broad land use categories, the actual percentage for each land use listed on the impact fee schedule for roads is applied to the total trip ends to determine the primary trip ends attributed to that land use.

Although both summary tables above reflect about the same percentage of 2035 traffic that will be generated by new growth, the increase in primary trip ends from the second table will play an important role in calculating the per-trip road impact fee.

Residential Trip Generation

Average trip generation rates published by the Institute of Transportation Engineers (ITE) differentiate between 'single-family detached housing' and 'apartments'. The closest correlations with the US Census definitions are 'single-family units' and 'multi-family units', which are shown on the following table.

Residential Units by Type: 2014 and 2035

	2010	Additional Units*	2014	Percent**	Increase 2014-2035	Total in 2035
Single-Family Units	16,051	967	17,018	70.6%	6,197	23,215
Multi-Family Units	6,978	1,459	8,437	29.4%	2,576	11,013
Total	23,029	2,426	25,455	100.0%	8,773	34,228

* Based on building permits issued 2010-2013, adjusted to 2014 total.
** Percent authorized by building permits: 2000-2013

The 2010 breakdown of housing units by type on the table to the left are taken from the 2010 Census. These numbers are extended to the number of housing units projected in 2014 (in a previous paper), combining the number of housing units authorized by building permits between 2010 and 2013 with adjustments to reach the 2014 projected total. The next column shows the percent of building permits by housing type historically issued by the City from 2000 to 2013. It is assumed that these percentages will persist into the future, producing a breakdown of the projected 8,773 new housing units forecast for the 2014-2035 period.

The next table, below, calculates the amount of traffic that is generated by the city's housing stock today, and the amount that will be generated in 2035.

Residential Trip Generation: 2014-2035 New Growth Increase

	ADT* Trip Ends	2014 Units	2014 ADT Trip Ends	2035 Units	2035 ADT Trip Ends	Increase 2014-2035	Percent New Growth Trip Ends
Single-Family Units	9.52	17,018	162,011	23,215	221,007	58,996	
Multi-Family Units	6.65	8,437	56,106	11,013	73,236	17,130	
Total		25,455	218,117	34,228	294,243	76,126	25.9%

* Average Daily Traffic (trip ends) on a weekday; Institute of Transportation Engineers *Trip Generation* , 9th Edition. Total includes trips to/from work.

The calculations are made on the basis of 'average daily traffic' on a normal weekday, using average trip generation rates derived through multiple traffic studies (350 for single-family and 86 for apartments) and published by ITE. The rates are expressed for 'trip ends'—that is, traffic both leaving and coming to a housing unit.

Comparing traffic in 2014 to 2035, the future increase in trip ends can be calculated, which will represent 25.9% of all residential trip ends generated in the city.

It should be noted that the traffic generated includes trips to and from work and, more particularly, residents who work at a business within the city.

Nonresidential Trip Generation

Calculating traffic generated by businesses located in Alpharetta is more problematical than residential trips because there is no breakdown of types of businesses in the city that is readily available. In addition, while employment forecasts have been made in terms of the number of jobs, there is no data available for floor areas, much less by detailed type of use.

The alternate is to view nonresidential traffic generation on a broad 'average' basis. For this, there is data available from ITE for a number of individual uses relating to the total number of trips generated per employee. These trips, of course, include not only trips taken by the employee (to/from work, lunch, etc.) but also customers and others that are attracted to the use or serve it in some way.

The following table shows the 'trips per employee' for those uses for which impact fees are commonly collected and for which the data is available.

ITE Trips-per-Employee Data

	ITE CODE	LAND USE	ADT Trip Ends per Employee	Average by Category	Average All Commercial
Port and Terminal (000-099)	30	Intermodal Truck Terminal	6.99		
Industrial/Agricultural (100-199)	110	General Light Industrial	3.02		
	120	General Heavy Industrial	0.82		
	140	Manufacturing	2.13	10.21	
	150	Warehousing	3.89		
	151	Mini-Warehouse	32.47		
	152	High-Cube Warehouse	22.13		
Lodging (300-399)	310	Hotel or Conference Motel	14.34		
	320	Motel	12.81	13.58	
Recreational (400-499)	430	Golf Course	20.52		
	443	Movie Theater	53.12		
	460	Arena	10.00		
	480	Amusement Park	8.33		
	490	Tennis Courts	66.67	34.79	
	491	Racquet/Tennis Club	45.71		
	492	Health/Fitness Center	46.71		
	495	Recreational Community Center	27.25		
Institutional (500-599)	520	Private Elementary School	15.71		
	530	Private High School	19.74		
	560	Church/Place of Worship	26.24	29.58	
	565	Day Care Center	28.13		
	566	Cemetery	58.09		
Medical (600-699)	610	Hospital	4.50		
	620	Nursing Home	3.26	5.26	
	630	Clinic	8.01		
Office (700-799)	710	General Office Building	3.32		25.31
	714	Corporate Headquarters Building	2.33		
	715	Single-Tenant Office Building	3.70		
	720	Medical-Dental Office Building	8.91	4.18	
	760	Research and Development Center	2.77		
	770	Business Park	4.04		
Retail (800-899)	812	Building Materials and Lumber Store	32.12		
	814	Variety Store	66.70		
	815	Free-Standing Discount Store	28.84		
	816	Hardware/Paint Store	53.21		
	817	Nursery (Garden Center)	21.83		
	818	Nursery (Wholesale)	23.40		
	826	Specialty Retail Center	22.36		
	841	Automobile Sales	21.14	32.86	
	850	Supermarket	87.82		
	854	Discount Supermarket	40.36		
	860	Wholesale Market	8.21		
	861	Discount Club	32.21		
	875	Department Store	11.56		
	890	Furniture Store	12.19		
Services (900-999)	912	Drive-in Bank	30.94		
		OVERALL AVERAGE	23.01		

Source: *Trip Generation* , 9th Edition, Institute of Transportation Engineers, where survey results given for key land uses.

Overall, the average trip generation rate of all uses listed is 23.01 trip ends per employee. The table also shows average rates by category (truck terminals are included with 'industrial' and drive-in banks are included with 'retail' uses). The last column shows the average rate for all 'commercial' uses listed, as opposed to the 'industrial' uses shown in the column on its left.

We know from the 2010 Census how many people work in Alpharetta based on commuting patterns. The next table provides a breakdown between commercial and industrial employment in the city and calculates trip ends generated by each.

Nonresidential Trip Generation: 2010 Census

	Tax Base		Percent of Total	2010 Employees	Avgerage ADT	Total Nonres Trip Ends
Commercial	$ 6,013,869,850	$ 6,013,869,850	95.2%	70,290	25.31	1,779,042
Industrial	$ 147,472,775	$ 302,706,903	4.8%	3,538	10.21	36,114
Utility	$ 155,234,128					
Total Nonresidential	$ 6,316,576,753	$ 6,316,576,753		73,828		1,815,156
		Internal Commutes*		11,479	times 2 =	22,958
					Net Nonres Trips	**1,792,198**
		Alternate Using Overall Average				
				73,828	23.01	1,698,916
		Internal Commutes*		11,479	times 2 =	22,958
					Alternate Net Nonres Trips	**1,675,958**

* Residents who work in Alpharetta. Trips are included in residential trip generation rate.

Tax base valuations give us some clue as to the breakdown. When the City's 'industrial' and 'utility' tax valuations are combined, the figures suggest that a little over 95% of all uses are 'commercial' in nature, while a little less than 5% is industrial. These percentages, applied to total employment in Alpharetta, give us the number of employees in 2010 in each category.

The upper portion of the table calculates the total number of trips using the average rates for commercial and industrial from the previous table. From the total of all nonresidential trips is deducted the number of trips to/from work generated by city residents, since these trips have already been calculated as part of the residential trip generation rates.

For comparison, the lower part of the table calculates all trips using the overall average for all uses, regardless of type.

Lastly, the following table calculates the total number of trip ends that will be generated by new nonresidential growth in future traffic on Alpharetta's roads.

Nonresidential Trip Generation: 2014-2035 New Growth Increase

	2014 Employees	2014 Trip Ends	2035 Employees	2035 Trip Ends	2014-2035 Increase	Percent New Growth Trip Ends
Commercial	73,708	1,865,552	96,628	2,445,658	580,106	
Industrial+Utility	3,710	37,870	4,864	49,649	11,779	
Total	77,418	1,903,422	101,492	2,495,307	591,885	
Internal Commutes at	1.26%	24,074		31,561	7,487	
Net Nonres Trip Ends		1,879,348		2,463,746	584,398	23.7%

The table shows the number of trip ends currently generated by Alpharetta businesses based on 2014 employment. The trip ends by use are distributed using the same percentages calculated on the previous table. The same calculations are made for the year 2035 based on projected employment in the city, and the difference between 2014 and 2035 represents trip ends generated by future growth and development. This totals 23.7% of all nonresidential 2035 trip ends.

The results of the residential and nonresidential trip generation analyses are combined on the Summary table at the beginning of this Methodology for an overall calculation of new growth's share of future traffic generated by Alpharetta residents and businesses. From these figures, pass-by and diverted trip ends will be deleted to determine primary trip ends, which more closely relates to vehicles on the road and thus contribute to traffic congestion.

Terminology

This Methodology uses the term 'average daily traffic' (ADT) for a weekday, which is defined by ITE as the 'average weekday vehicle trip ends', which are "the average 24-hour total of all vehicle trips counted from a study site from Monday through Friday."

Additionally, ITE defines a 'trip or trip end' as "a single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site. For trip generation purposes, the total trip ends for a land use over a given period of time are the total of all trips entering plus all trips exiting a site during a designated time period".

Lastly, ITE defines 'average trip rate' as "the weighted average of the number of vehicle trips or trip ends per unit of independent variable (for example, trip ends per occupied dwelling unit or employee) using a site's driveway(s). The weighted average rate is calculated by dividing the sum of all independent variable units where paired data is available. The weighted average rate is used rather than the average of the individual rates because of the variance within each data set or generating unit. Data sets with a large variance will over-influence the average rate if they are not weighted".

Appendix: Walkway Project Listing

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
				Total:	**234,238**	**$49,063,845**	
001	Academy Street	North	West PL of The Preserve at Academy Pk	East PL of Alpharetta Presbyterian Church	1,012	$203,120	$200.71
002	Academy Street	North	Fire Station #1 Entrance	East PL of The Preserve at Academy Park	1,523	$311,095	$204.26
003	Academy Street	South	Entrance to Webb Bridge Crossing Apts	East PL of Webb Bridge Crossing Apartments	431	$58,185	$135.00
004	Alderman Drive	East/South	South PL of 1005 Alderman Drive	West PL of 1375 Alderman Drive	2,136	$278,700	$130.48
005	Alderman Drive	East/South	Nobel Court	West PL of 1200 Windward Concourse	488	$36,225	$74.23
006	Alderman Drive	West/North	Windward Concourse	North PL of 1050 Alderman Drive	1,960	$153,325	$78.23
009	Bates Road	North	Providence Road	West PL of The Oaks at Harrington Falls	953	$128,655	$135.00
011	Bethany Road	West	South PL of Danbury Park	North PL of Bethany Commons	955	$138,925	$145.47
012	Bethany Road	East	Chantilly Drive	Mayfield Road	1,071	$227,085	$212.03
013	Brady Place	North	Maxwell Road	State Route 9	728	$258,210	$354.68
014	Brady Place	South	State Route 9	Maxwell Road	803	$259,920	$323.69
015	Broadwell Road	East	Rucker Road	North PL of 12295 Broadwell Road	1,020	$137,700	$135.00
016	Brookside Parkway	North	Frontage of parcel behind Arbys	Frontage of parcel behind Brusters	610	$30,500	$50.00
017	Canton Street	East	Church Street	Trailer Street	313	$152,675	$487.78
018	Canton Street	West	Shady Grove Lane	Mayfield Road	1,342	$760,620	$566.78
019	Canton Street	East	North PL 381 Canton Street	North PL of 410 Main Street	376	$68,260	$181.54
020	Canton Street	West	City Limits	Driveway of 12790 Hopewell Road	45	$8,740	$194.22
021	Charlotte Drive	East	Rucker Road	Mid Broadwell	4,342	$553,300	$127.43
022	Charlotte Drive	West	North PL of 12490 Charlotte Drive	North PL of 12370 Charlotte Drive	1,348	$205,605	$152.53
023	Church Street	North	Canton Street	East PL of 89 Canton Street	160	$35,445	$221.53
024	Cingular Way	East	End of Public ROW	Windward Parkway	704	$103,200	$146.59
025	Clubhouse Drive	West/South	Lake Shore Overlook	Douglas Road	6,611	$335,550	$50.76
026	Cogburn Road	East	North PL of Cogburn Road Park	North PL of 12895 Cogburn Road	635	$116,600	$183.62

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
027	Cogburn Road	East	South PL of 12975 Cogburn Road	City Limits	216	$52,000	$240.74
028	Cotton Creek Entry	East	Cotton Mill Place	Cul-de-sac	554	$27,700	$50.00
029	Cotton Creek Entry	West	Cul-de-sac	Old Milton Parkway	1,101	$125,925	$114.37
030	Cotton Mill Path	East	Old Milton Parkway	Cotton Mill Place	317	$15,850	$50.00
031	Cotton Mill Place	North	Cotton Mill Path	Cotton Creek Entry	425	$21,250	$50.00
032	Crabapple Road	East/South	Silos Park frontage	Silos Park frontage	229	$75,010	$327.55
033	Crabapple Road	East/South	East PL of 12389 Crabapple Road	City Limits	1,287	$284,620	$221.15
034	Crabapple Road	West/North	Frontage of parcel 22 386011670467	Frontage of parcel 22 386011670467	425	$91,750	$215.88
035	Cumming Street	South	West PL of Parcel 22-498112530605	West PL of 12365 Clairmonte Avenue	2,655	$783,850	$295.24
036	Cumming Street	South	East PL of Manning Oaks Elementary	Westside Parkway	640	$114,500	$178.91
037	Devore Road	North	West PL of QT	State Route 9	1,763	$390,305	$221.39
038	Douglas Road	East	Frontage of 12375 Douglas Road	Frontage of 12375 Douglas Road	241	$47,535	$197.24
039	Douglas Road	East	South PL of 12383 Douglas Road	North PL of 12387 Douglas Road	208	$28,080	$135.00
040	Douglas Road	East	North PL of 110 Gate Dancer Way	City Limits	406	$100,285	$247.01
041	Dryden Road	East	Morris Road	North Point Parkway	2,312	$120,600	$52.16
042	Duke Drive	East	Cul-de-sac	Mansell Road	1,200	$80,000	$66.67
043	Edison Drive	West	Windward Parkway	North PL of 5815 Windward Parkway	902	$244,925	$271.54
044	Edison Drive	West	South of driveway to 5815 Windward Pky	Cul-de-sac	1,370	$71,000	$51.82
045	Edison Drive	East	Cul-de-sac	South PL of 12655 Edison Drive	1,769	$90,950	$51.41
046	Encore Parkway	North	West end of bridge over Georgia 400	Western ROW of Georgia 400	66	$21,350	$323.48
047	Encore Parkway	North	North Point Parkway	East end of bridge over Georgia 400	1,451	$131,325	$90.51
048	Encore Parkway	South	East end of bridge over Georgia 400	West PL of Wells Fargo Bank	1,151	$478,125	$415.40
049	Founders Parkway	South	Frontage of 1755 Founders Parkway	Frontage of 1755 Founders Parkway	322	$16,100	$50.00
050	Harris Road	East	Upper Hembree Road	North PL of 1200 Upper Hembree Road	350	$62,250	$177.86
051	Harris Road	East	Harris Commons Place	Rucker Road	1,410	$229,900	$163.05
052	Harris Road	West	Rucker Road	North PL of 505 Kingsport Drive	271	$36,585	$135.00
053	Haynes Bridge Road	East	North end of bridge over Georgia 400	Southbound Georgia 400 off ramp	330	$48,250	$146.21
054	Haynes Bridge Road	East	Northbound Georgia 400 on ramp	South end of bridge over Georgia 400	93	$51,425	$552.96
055	Haynes Bridge Road	West	Mansell Road	Blackwatch Lane	1,154	$427,290	$370.27

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
056	Haynes Bridge Road	West	West PL of 10590 Haynes Bridge Road	City Limits	2,440	$1,009,800	$413.85
057	Hembree Road	North	Westside Parkway / Morrison Parkway	North Fulton Industrial Boulevard	2,130	$574,465	$269.70
058	Hembree Road	South	North Fulton Industrial Boulevard	East PL of 1805 North Fulton Ind Blvd	258	$12,900	$50.00
059	Hembree Road	South	East PL of 2055 Hembree Road	Westside Parkway / Morrison Parkway	557	$69,075	$124.01
060	Henderson Parkway	East	Cumming Street	Henderson Place	1,713	$203,300	$118.68
061	Henderson Parkway	East	West PL of 1300 Millstone Drive	North PL of 5175 North Somerset Lane	1,573	$83,650	$53.18
062	Kimball Bridge Road	North	Parkway 400 driveway	Westside Parkway	202	$28,275	$139.98
063	Kimball Bridge Road	North	Northwinds Parkway / Bailey Johnson Road	Northern property line of FCBOE parcel	1,933	$453,730	$234.73
064	Kimball Bridge Road	North	West end of bridge over Georgia 400	Northwinds Parkway / Bailey Johnson Road	725	$253,200	$349.24
065	Kimball Bridge Road	South	Teasley Place	Northwinds Parkway	1,171	$196,085	$167.45
066	Kimball Bridge Road	South	Western ROW of Georgia 400	West end of bridge over Georgia 400	303	$100,980	$333.27
067	Kimball Bridge Road	North	Approx. 108' north of 4905 North Point Pkwy	East end of bridge over 400	450	$192,050	$426.78
068	Kimball Bridge Road	South	East end of bridge over 400	Approx. 75' north of Ga Power facility drive	966	$271,310	$280.86
069	Lake Windward Drive	West	Approx. 100' south of Signal Pointe	Willow Tree Way	1,809	$185,400	$102.49
070	Lake Windward Drive	West	Clubhouse Drive	Signal Pointe	3,250	$167,500	$51.54
071	Little Pine Trail	North	Union Hill Road	Union Hill Park Entrance	208	$12,900	$62.02
072	Little Pine Trail	North	Union Hill Park Entrance	Cul-de-sac	215	$13,250	$61.63
073	Little Pine Trail	South	Cul-de-sac	Union Hill Road	490	$48,215	$98.40
074	Mansell Court	North	Warsaw Road	Cul-de-sac	374	$87,075	$232.82
075	Mansell Court	South	Cul-de-sac	Warsaw Road	353	$37,650	$106.66
078	Marconi Drive	East/North	Driveway for 2050 Marconi Dr	Windward Parkway	1,215	$158,250	$130.25
079	Marconi Drive	West/South	Southern PL of 3755 Marconi Dr	Cul-de-sac	723	$46,150	$63.83
080	Marietta Street	South	Roswell Street	State Route 9	617	$223,845	$362.80
081	Marietta Street	North	Roswell Street	Cotton Alley	33	$18,900	$572.73
083	Market Place	West	Opposite Fire Station #2	Cul-de-sac	846	$99,225	$117.29
084	Market Place	East	Cul-de-sac	South side of Fire Station #2 Driveway	781	$50,125	$64.18
085	Marstrow Drive	West	Crabapple Road	City Limits	361	$121,760	$337.29
086	Marstrow Drive	East	City Parking Lot	Crabapple Road	340	$34,500	$101.47
087	Maxwell Road	West	State Route 9	65' north of driveway to 375 Maxwell	1,150	$484,500	$421.30

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
091	Mayfield Road	North	193 Mayfield Road Driveway	West PL of 285 Mayfield Road	1,691	$541,860	$320.44
092	Mayfield Road	North	Approx. 135' west of1788 Mayfield Road	West PL of 1760 Mayfield Road	930	$317,800	$341.72
093	Mayfield Road	South	West PL of 1001 Colony Drive	Mayfield Manor Drive	1,077	$317,320	$294.63
096	Mayfield Road	North	Bates Road	West PL of 1630 Mayfield Road	522	$70,470	$135.00
097	Mayfield Road	South	Bethany Road	East PL of 1645 Mayfield Road	4,036	$746,260	$184.90
098	Mayfield Road	North	East PL of 1580 Mayfield Road	Approx. 90' east of Harrington Drive	323	$64,105	$198.47
099	Mayfield Road	North	West PL of 12950 Harrington Drive	East PL of 1110 Mayfield Road	3,776	$522,260	$138.31
100	Mayfield Road	North	West PL of 1110 Mayfield Road	Freemanville Road	297	$54,095	$182.14
102	McGinnis Ferry Road	South	City Limits	Windward Concourse	988	$424,390	$429.54
103	McGinnis Ferry Road	South	Approx. 500' east of Windward Concourse	Approx. 1150' east of Windward Concourse	660	$170,600	$258.48
104	McGinnis Ferry Road	South	Approx. 160' south of 4225 McGinnis Ferry Rd	West PL of 13053 Dartmore Avenue	7,887	$3,184,695	$403.79
105	McGinnis Ferry Road	South	East PL of 13005 Dartmore Avenue	Windward Parkway	350	$140,250	$400.71
106	McGinnis Ferry Road	South	Approx. 225' east of Windward Parkway	West PL of 340 Fieldstone Walk	1,015	$322,750	$317.98
107	Mid Broadwell Road	South	East PL of Lexington Farm Apartments	Wills Road	973	$519,530	$533.95
108	Mid Broadwell Road	South	Approx. 75' west of Lex. Farm. Apart.	Approx. 80' east of Lex. Farm Apart.	162	$52,520	$324.20
109	Mid Broadwell Road	South	West PL of 1501 Mid Broadwell Road	Approx. 45' east of 1501 Mid Broadwell Rd	976	$337,570	$345.87
110	Mid Broadwell Road	South	West PL of 1395 Mid Broadwell Road	West PL of Fire Station #5	334	$47,590	$142.49
112	Mid Broadwell Road	South	Charlotte Drive	West PL of 12490 Pindell Circle	1,639	$481,250	$293.62
113	Mid Broadwell Road	North	West PL of 1000 St. Michelle Drive	City Limits	60	$21,600	$360.00
114	Mill Creek Avenue	East	Pallisades at Milton Park entrance	Driveway to 29000 Mill Creek Avenue	1,228	$110,350	$89.86
115	Morris Road	West	Webb Bridge Road	Country Place Court	1,589	$404,420	$254.51
116	Morris Road	East	North PL of 3330 Preston Ridge Rd	Webb Bridge Road	715	$81,500	$113.99
117	Morris Road	West	Tradewinds Parkway	Webb Bridge Road	2,045	$107,250	$52.44
118	Morris Road	East	North PL of 22 546012591380 (Data Center)	Tradewinds Parkway	687	$63,600	$92.58
119	Morris Road	North	North Point Parkway	Morris Road	661	$304,235	$460.26
120	Morris Road	South	Cul-de-sac	East PL of 12410 Morris Road	871	$158,460	$181.93
121	Morris Road	North	Dryden Rd	Cul-de-sac	239	$64,890	$271.51
122	Morrison Parkway	North	Fed Ex Driveway	Hembree Road	1,477	$511,520	$346.32
123	Morrison Parkway	South	Hembree Rd	Approx. 170' west of Lakeview Parkway	1,943	$422,430	$217.41

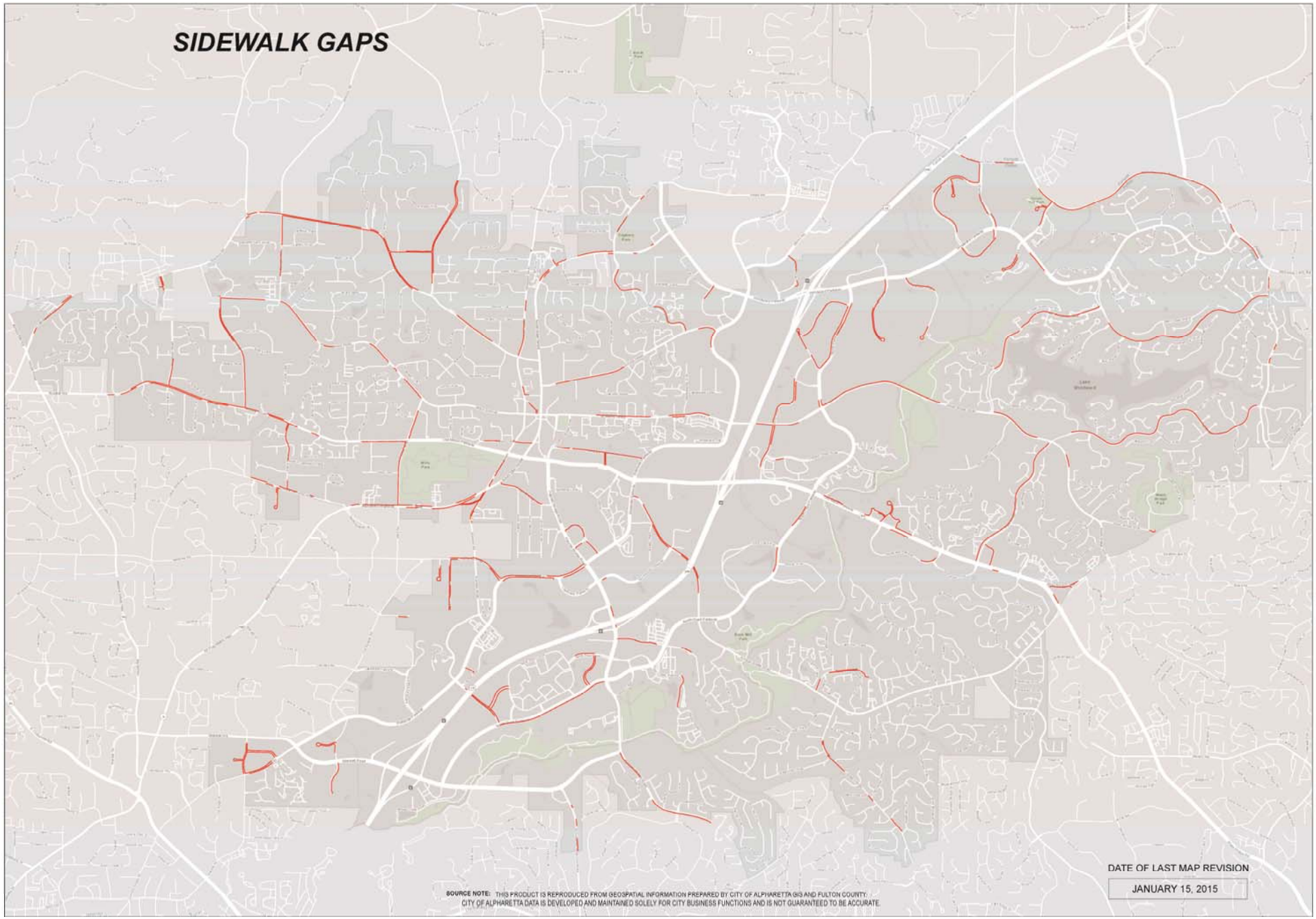
	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
124	Morrison Parkway	North	Haynes Bridge Road	East PL of Fed Ex property	1,458	$356,325	$244.39
125	Morrison Parkway	South	Approx. 100' east of Lakeview Parkway	Haynes Bridge Road	857	$114,275	$133.34
126	Nobel Court	West	South PL of 1375 Alderman	Cul-de-sac	483	$50,350	$104.24
127	Nobel Court	East	Cul-de-sac	Alderman Drive	726	$147,550	$203.24
128	North Fulton Ind Blvd	West	South PL of 1775 Hembree Road	Amphitheatre	1,642	$416,920	$253.91
129	North Fulton Ind Blvd	East	South PL of 11445 North Fulton Ind Blvd	Hembree Road	849	$152,290	$179.38
130	North Fulton Ind Blvd	East	Driveway of 11395 North Fulton Ind Blvd	South PL of 11435 North Fulton Ind Blvd	293	$39,555	$135.00
131	North Fulton Ind Blvd	East	Verizon Wireless Amphitheatre	North PL of 11361 North Fulton Ind Blvd	126	$17,010	$135.00
132	North Point Center East	West	Mall Loop Road	Encore Parkway	1,159	$115,450	$99.61
133	North Point Center East	East	Encore Parkway	Mall Loop Road	1,059	$102,950	$97.21
134	North Point Court	East	North Point Parkway	North Point Drive	1,248	$139,900	$112.10
135	North Point Court	West	North Point Drive	North Point Parkway	1,289	$116,950	$90.73
136	North Point Drive	North	North Point Court	East PL of Residence Inn	684	$61,700	$90.20
137	North Point Parkway	East	Encore Parkway	Haynes Bridge Road	4,222	$935,400	$221.55
138	North Point Parkway	West	Great Oaks Way (north)	North PL of 4501 North Point Parkway	928	$135,700	$146.23
139	North Point Parkway	West	South PL of 4125 North Point Parkway	South PL of 3333 Old Milton Parkway	878	$68,350	$77.85
140	North Point Parkway	West	South PL of 925 North Point Parkway	Webb Bridge Road	278	$80,850	$290.83
141	North Point Parkway	East	Webb Bridge Road	North PL of 960 North Point Parkway	229	$71,675	$312.99
142	North Point Parkway	West	Dryden Road	Morris Road	2,515	$228,625	$90.90
143	North Point Parkway	East	Southern driveway of 300 Windward Pky	South PL of 5815 Windward Parkway	1,315	$210,575	$160.13
144	Northwinds Parkway	South	Haynes Bridge Road	165' North of Hayne Bridge Road	165	$35,625	$215.91
145	Old Alabama Connector	East	Frontage of 10525 Mansell Road	Frontage of 10525 Mansell Road	94	$4,700	$50.00
146	Old Alabama Connector	East	Approx 80' south of 10455 Old Alabama Conn	Approx. 145' north of 10455 Old Alabama Conn	233	$11,650	$50.00
147	Old Alabama Connector	East	City Limits	Approx. 90' south of 10425 Old Al. Conn	494	$24,700	$50.00
149	Old Canton Street	West/South	Driveway of 44 Old Canton Street	Milton Avenue	507	$198,445	$391.41
150	Old Milton Parkway	North	West PL of 3548 Old Milton Parkway	West of Big Creek	809	$859,090	$1,061.92
151	Old Milton Parkway	North	Waters Ferry Drive	East PL of 3548 Old Milton Parkway	181	$38,470	$212.54
152	Old Milton Parkway	North	Camden Way	Cotton Mill Path	646	$113,130	$175.12
153	Old Milton Parkway	South	East PL of 3665 Old Milton Parkway	West PL of 3750 Brookside Parkway	700	$111,065	$158.66

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
154	Old Milton Parkway	South	Frontage of 4155 Old Milton Parkway	Frontage of 4155 Old Milton Parkway	202	$51,845	$256.66
155	Old Milton Parkway	North	Kimball Bridge Road	Driveway to 11378 State Bridge Road	363	$112,785	$310.70
156	Old Morris Road	East	North PL of 16875 Old Morris Road	Morris Road / Morris Road Extension	689	$64,450	$93.54
157	Old Morris Road	East	East PL of 5580 Windward Parkway	South PL of 16875 Old Morris Road	274	$31,200	$113.87
158	Old Roswell Road	West	Approx. 150' south of 1020 Old Roswell Rd	Warsaw Road	1,101	$103,025	$93.57
159	Old Roswell Road	East	East PL of 1085 Warsaw Road	Approx. 200' of Manchester at Mansell Apt.	918	$244,630	$266.48
160	Park Street	West	Thompson Street	Old Milton Parkway	432	$95,820	$221.81
161	Park Street	East	Old Milton Parkway	Thompson Street	433	$60,955	$140.77
162	Park Woods Circle	West/South	Parkbridge Parkway	Old Milton Parkway	960	$73,525	$76.59
163	Parkbridge Parkway	West	Webb Bridge Road	Old Milton Parkway	5,397	$334,750	$62.03
164	Pointe Place	West	Upper Hembree Road	North PL of 11775 Pointe Pl	213	$10,650	$50.00
165	Pointe Place	West	South PL of 11735 Pointe Pl	Cul-de-sac	150	$7,500	$50.00
166	Pointe Place	East	Cul-de-sac	Upper Hembree Road	842	$52,100	$61.88
167	Preston Ridge Road	South	East PL of 11975 Morris Road	Western-most drive to Northside Hospital	289	$15,625	$54.07
168	Providence Road	West	North PL of 12650 Providence Road	Middle of frontage of 12610 Providence Road	508	$122,480	$241.10
170	Providence Road	West	South PL of 12760 Providence Road	Bates Road	546	$102,360	$187.47
171	Providence Road	West	City Limits	South PL of 12760 Providence Road	2,316	$358,910	$154.97
172	Providence Road	East	Weatherstone Way	City Limits	3,692	$843,320	$228.42
173	Rainwater Boulevard	South	Haynes Bridge Road	Driveway	1,071	$278,050	$259.62
174	Rainwater Drive	West/South	Haynes Bridge Road	Roundabout	306	$124,750	$407.68
175	Rainwater Drive	West/South	Roundabout	Westside Parkway	619	$158,425	$255.94
176	Rock Mill Road	South	Haynes Bridge Road	Driveway of 5865 North Point Parkway	1,484	$226,700	$152.76
177	Rock Mill Road	North	Atlantis Place Cul-de-Sac	West PL of New Prospect Elementary	461	$126,450	$274.30
178	Rockmill Way	North	Westside Way	Cul-de-sac	872	$303,050	$347.53
179	Rockmill Way	South	Cul-de-sac	Westside Way	680	$111,505	$163.98
180	Roswell Street	East	State Route 9	South PL of 241 South Main Street (Pizza Hut)	297	$74,805	$251.87
181	Roswell Street	East	North PL of 241 South Main Street	South PL of 158 Roswell Street (Zaxbys)	697	$268,270	$384.89
183	Rucker Road	South	West PL of 1535 Rucker Road	East PL of 1595 Rucker Road	915	$361,190	$394.74
184	Rucker Road	South	Driveway of 1295 Rucker Road	Dennis Drive	303	$50,980	$168.25

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
185	Rucker Road	South	Foe Killer Creek	West PL of 1255 Rucker Road	1,128	$402,130	$356.50
186	Rucker Road	North	East PL of 1220 Rucker Road	West PL of 1200 Rucker Road	645	$256,600	$397.83
187	Rucker Road	North	East PL of 1080 Rucker Road	Foe Killer Tributary	4,940	$1,530,500	$309.82
188	Rucker Road	South	Old Station Place	West PL of 973 Southerby Lane	744	$152,420	$204.87
189	Rucker Road	South	East PL of 100 Welford Trace	East PL of 11850 North Hickory Trace	1,998	$682,505	$341.59
190	Rucker Road	South	Driveway of St. Thomas Aquinas Church	West PL of 105 Welford Trace	624	$328,115	$525.83
191	Rucker Road	South	Barrow Downs / City Limits	West PL of St. Thomas Aquinas Church	235	$44,405	$188.96
192	Shirley Bridge / Southlake	North	Douglas Road	West PL of 21 563212500014	8,368	$737,000	$88.07
193	Sims Industrial Boulevard	West	Vehicle Drop off	Cul-de-sac	513	$200,755	$391.34
194	Sims Industrial Boulevard	East	Cul-de-sac	Performance Auto Collision driveway	567	$215,195	$379.53
195	Spruell Circle	West	North PL of 3400 Kimball Bridge Road	Kimball Bridge Road	445	$142,450	$320.11
196	Spruell Circle	South	East PL of 10997 Waters Road	End	1,624	$251,905	$155.11
197	Spruell Circle	North	East PL of 3550 Spruell Circle	West PL of 3500 Spruell Circle	790	$146,500	$185.44
198	State Route 9	West/North	East PL of 1495 Alpharetta Highway	City Limits	270	$136,550	$505.74
199	State Route 9	West/North	West PL of 571 State Highway 9	Haney Drive	1,812	$245,650	$135.57
200	State Route 9	East/South	East PL of 1675 South Main Street	West PL of 530 State Highway 9	461	$233,975	$507.54
201	State Route 9	West/North	West PL of 501 South Main Street	East PL of 571 State Highway 9	613	$60,975	$99.47
202	State Route 9	East/South	East PL of 520 State Highway 9	Driveway of 342 South Main Street	1,672	$706,700	$422.67
203	State Route 9	West/North	West PL of 305 South Main Street	East PL of 411 State Highway 9	798	$249,375	$312.50
204	State Route 9	West/North	West PL of 540 North Main Street	Opposite Winthrope Park Drive	544	$118,115	$217.12
206	State Route 9	West/North	City Limits	Vaughan Drive	452	$186,620	$412.88
207	State Route 9	East/South	Driveway of 551 State Highway 9	Approx. 90' east of 551 State Highway 9	97	$41,575	$428.61
208	State Route 9	West/North	Cogburn Road	City Limits	1,300	$165,000	$126.92
209	State Route 9	East/South	West PL of 711 State Highway 9	Henderson Parkway	154	$26,550	$172.40
210	State Route 9	East/South	Frontage of 789 North Main Street	Frontage of 789 North Main Street	112	$62,720	$560.00
211	State Route 9	West/North	Lowes Driveway	East PL of 830 North Main Street	107	$115,525	$1,079.67
212	State Bridge Way	North	City Limits	310' west of City Limits	310	$38,750	$125.00
213	State Bridge Way	South	Kimball Bridge Road	Old Milton Parkway	838	$310,150	$370.11
214	Tempo Lane	South	Westside Parkway	Fanfare Way	368	$18,400	$50.00

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
215	Thompson Street	North	West PL of 72 Thompson Street	Approx. 130' east of Haynes Bridge Road	430	$73,435	$170.78
216	Thompson Street	North	Westside Parkway	East PL of 72 Thompson Street	2,605	$838,725	$321.97
217	Union Hill Road	West	McGinnis Ferry Road	North PL of 1650 Union Hill Road	1,030	$79,000	$76.70
218	Upper Hembree Road	North	West PL of 1300 Upper Hembree Road	East PL of 1260 Upper Hembree Road	139	$120,890	$869.71
219	Upper Hembree Road	North	West PL of 1230 Upper Hembree Road	West PL of 1190 Upper Hembree Road	667	$100,045	$149.99
220	Upper Hembree Road	South	Pointe Place	West PL of 1180 Upper Hembree Road	63	$23,150	$367.46
221	Upper Hembree Road	South	East PL of 11725 Upper Hembree Road	Approx. 190' west of Pointe Place	283	$38,205	$135.00
222	Upper Hembree Road	North	West PL of 1130 Upper Hembree Road	City Limits	628	$67,460	$107.42
223	Vaughan Drive	East/North	State Route 9	North PL of 562 State Highway 9	203	$64,980	$320.10
224	Warsaw Road	East	Old Roswell Road	South PL of 1055 Mansell Road	1,134	$84,200	$74.25
225	Warsaw Road	West	South PL of 1035 Mansell Road	Old Roswell Road	1,146	$236,275	$206.17
226	Waters Road	East	South PL of 10715 Waters Road	North PL of 10795 Waters Road	650	$220,750	$339.62
227	Waters Road	West	Frontage of 10790 Waters Road	Frontage of 10790 Waters Road	125	$16,875	$135.00
228	Waters Road	West	South PL of 3400 Mainstay Place	Long Indian Creek	862	$184,400	$213.92
229	Waters Road	West	Frontage of 10480 Waters Road	Frontage of 10480 Waters Road	250	$50,050	$200.20
230	Waters Road	East	Waterview Drive	Milton Park Drive	629	$209,720	$333.42
231	Waters Ferry Drive	West	Cul-de-sac	Old Milton Parkway	314	$15,700	$50.00
232	Waters Ferry Way	North	Cotton Creek Entry	Cul-de-sac	604	$30,200	$50.00
233	Waters Ferry Way	South	Old QT frontage	Old QT frontage	290	$14,500	$50.00
234	Webb Bridge Road	South	East end of bridge over Georgia 400	East PL of 22 546012610826	1,600	$97,425	$60.89
235	Webb Bridge Road	North	Alpharetta High School Traffic Signal	North Point Parkway	1,419	$256,425	$180.71
237	Webb Bridge Road	North	West PL of 720 Westwind Lane	Webb Bridge Road at Eastgate SD entrance	1,836	$1,525,460	$830.86
238	Webb Bridge Road	North	East PL of 21 559012490422	Lake Windward Drive	1,895	$306,320	$161.65
239	Webb Bridge Road	North	North PL of 1430 Bittercress Court	Approx. 140' south of 4430 Webb Bridge Road	450	$146,000	$324.44
240	Webb Bridge Road	South	Webb Bridge Park Entrance	Johns Creek Trail / Cul-de-sac	238	$103,145	$433.38
241	Westside Parkway	West	Cumming Street	North PL of 2580 Westside Dr	626	$174,950	$279.47
242	Westside Way	West	Frontage of 10740 Westside Way	Frontage of 10740 Westside Way	342	$19,600	$57.31
243	Wills Road	West	Southern PL of Enclave at Wills SD	State Route 9	1,584	$323,580	$204.28
245	Wills Road	East	Rucker Road / Old Milton Parkway	Burnett Way	1,079	$202,925	$188.07

	Road Segment	Side	From	To	Length (feet)	Cost	Cost per Foot
246	Windward Concourse	East	Windward Parkway	Driveway of 1001 Windward Concourse	513	$82,150	$160.14
247	Windward Concourse	West	South PL of 1200 Windward Concourse	South driveway of 1000 Windward Concourse	869	$88,250	$101.55
248	Windward Concourse	West	McGinnis Ferry Road	Alderman Drive	693	$100,600	$145.17
249	Windward Parkway	South	Approx. 110' east of 6225 Windward Pky	Approx. 115' east of bridge over Big Creek	881	$817,780	$928.24
250	Windward Plaza	North	Windward Parkway	South PL of Wells Fargo	320	$21,000	$65.63
251	Windward Plaza	South	Windward Parkway	South PL of Gas Station	1,694	$159,175	$93.96


SIDEWALK GAPS
DATE OF LAST MAP REVISION
JANUARY 15, 2015
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