Impact Fee Study

prepared for

the City of Atlanta, Georgia

duncan associates

with

Civics Concepts Consultants, Dr. Arthur C. Nelson,
Dr. James C. Nicholas, Dr. Julian C. Juergensmeyer,
Kimley-Horn & Associates and StreetSmarts

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EXECUTIVE SUMMARY

Impact fees are charges assessed on new development to cover the costs of capital improvements needed to accommodate growth. The City of Atlanta imposes impact fees for transportation, parks, fire and police facilities. The impact fees were adopted by the City Council in 1993 based on the an impact fee study produced by this consultant team.[1]

The purpose of this study is to evaluate the City's impact fee system and calculate the updated impact fees that the City of Atlanta can charge based on the existing levels of service for transportation, park, fire and police facilities.

Current System Evaluation

The first part of this report consists of an evaluation of the City's current impact fee system. Policy areas addressed include service areas, levels of service, methodology, administration, exemptions and land use categories. The recommendations from the policy analysis serve as guidelines for the impact fee update. The major findings and recommendations are summarized as follows.

The major findings documented in this report are summarized as follows:

- The City is under a special legislative mandate to justify its expenditures of transportation impact fees in terms of proximity to fee-payers and effect on roadway level of service.
- Additional transportation service areas would help the City comply with statutory requirements for expending transportation impact fees in proximity to the fee-paying developments.
- State law does not clearly authorize the use of transportation impact fees for public transit facilities.
- Many of the City's planned transportation improvements are to the collector street system, which is not covered by the current transportation impact fees.
- Current level of service measures are overly simplistic and fail to capture the full extent of the City's infrastructure investment.
- Exemptions have accounted for about 40% of potential impact fee revenues.
- Most of the lost revenue is from blanket exemptions granted to any development occurring in designated areas of the city under the rubric of "economic development."
- The City temporarily halted the granting of impact fee exemptions in June 2009.
- Criteria for affordable housing exemptions do not guarantee the housing remains affordable.

[1] James Duncan and Associates, *Impact Fee Study*, March 18, 1993.

- The recoupment methodology for parks, fire and police impact fees was more appropriate in the early 1990s, when population was falling, parks were adequate and the City had a commendable fire insurance rating.

- In practice, the City has offset transportation exemptions with debt-funded capital expenditures, rather than funded them with impact fee recoupment revenue.

- Analysis of the 2010 budget suggests adequate programming of general funds to offset a scaled-back exemptions policy.

- Charging residential fees by the size of the dwelling unit could better align impact fees with the City's affordable housing goals.

- Reducing the number of nonresidential land use categories could simplify impact fee administration and avoid issues relating to change of use.

- Impact fee administration is split between several departments, with no central oversight of all facets of the system.

- Current and accurate reports of available impact fee balances and expenditures is hampered by the lack of established policies and procedures.

The major recommendations of the policy evaluation are summarized as follows:

- Replace the city-wide transportation impact fee service area with three service areas, using the same boundaries used for the park impact fee service areas.

- Spend transportation impact fees only on roads that need capacity and on projects that significantly expand the capacity of those roads.

- Work for changes to State law to explicitly authorize the use of transportation impact fees for transit.

- Extend the transportation impact fees to include collectors as well as arterials.

- Eliminate blanket exemptions for geographic areas.

- Pursue fact-based fee reductions where feasible, such as reduced transportation impact fees in proximity to transit facilities.

- Add criteria to affordable housing exemptions to ensure the housing remains affordable.

- Require that non-impact fee revenue be deposited directly into impact fee accounts to offset exemptions.

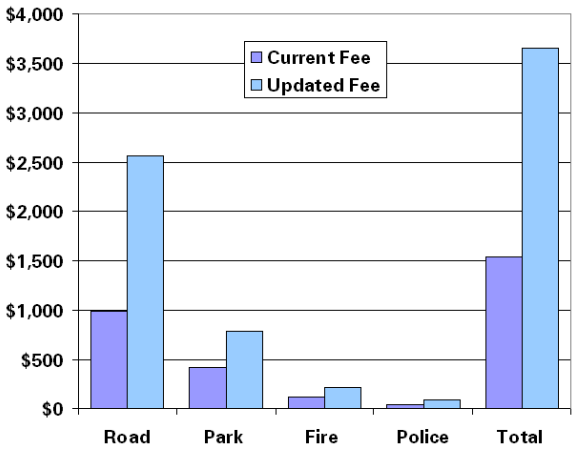
- Abandon the recoupment methodology for parks, fire and police impact fees.

- Replace the current level of service measures based on simple, physical ratios with ones that take into account the full range of the City's investments in land, buildings, equipment and other improvements.
- Charge residential uses based on the size of the dwelling unit.
- Reduce the number of nonresidential land use categories in the fee schedules.
- Create a multi-departmental Impact Fee Management Committee to oversee the administration of the impact fee program.
- Create a new position of Impact Fees Administrator to be responsible for day-to-day management of all aspects of the impact fee program.
- Develop procedures to ensure that the Finance Department is notified of ordinances appropriating impact fee funds, that interest is allocated to impact fee accounts on a regular basis, and that impact fee expenditures are tracked.
- Make the administrative fee in addition to, rather than taken out of, the impact fee, and segregate it in a single account, instead of multiple accounts corresponding to each fee type.

Potential Impact Fee Summary

Table 1 below compares the current and potential impact fees calculated in this report for the major land use types. The comparison is illustrated in Figure 1 for a single-family unit.

Figure 1. Single-Family Fees



The significant increase in the fees is primarily due to the fact that they have not been updated in 17 years. In light of the significant potential increases, the City may want to consider phasing in any increases over a period of time.

While transportation and park levels of service are calculated separately by service area, uniform city-wide fees are recommended based on the lowest fees of the three service areas. The updated transportation impact fees now include collectors, but do not include right-of-way or State road costs. Transportation fees would continue to be reduced by 50% when located in proximity to a MARTA station.

Table 1. Impact Fee Summary

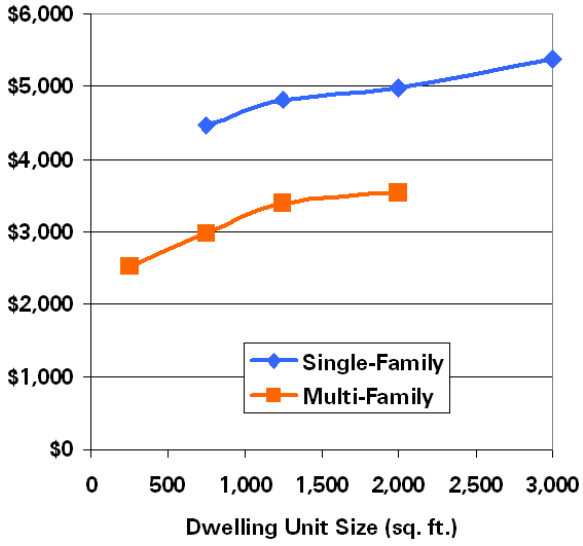
Land Use Type	Unit	Road*	Park	Fire	Police	Total
Potential Fee						
Single-Family	Dwelling	$2,571	$762	$213	$87	$3,633
Multi-Family	Dwelling	$1,485	$580	$162	$66	$2,293
Commercial	1000 sq ft	$2,914	$807	$226	$92	$4,039
Office	1000 sq ft	$2,171	$401	$112	$46	$2,730
Industrial	1000 sq ft	$1,885	$170	$48	$19	$2,122
Current Fee						
Single-Family	Dwelling	$987	$410	$114	$33	$1,544
Multi-Family	Dwelling	$470	$285	$79	$23	$857
Commercial	1000 sq ft	$1,304	$713	$199	$57	$2,273
Office	1000 sq ft	$1,977	$254	$71	$20	$2,322
Industrial	1000 sq ft	$1,025	$169	$47	$14	$1,255
Change						
Single-Family	Dwelling	$1,584	$352	$99	$54	$2,089
Multi-Family	Dwelling	$1,015	$295	$83	$43	$1,436
Commercial	1000 sq ft	$1,610	$94	$27	$35	$1,766
Office	1000 sq ft	$194	$147	$41	$26	$408
Industrial	1000 sq ft	$860	$1	$1	$5	$867

* fee reduced by 50% within 1,000 feet of a MARTA station

Source: Potential fees from Table 27, Table 42, Table 53 and Table 65; residential fees represent average (untiered) rates; current impact fees from City of Atlanta (park fee is for Northside).

The summary table above shows flat rate residential fees, but tiered fees that vary by the size of the dwelling unit are recommended. The recommended tiered fees are illustrated in Figure 2 by plotting the total fee by the midpoint of the size category.

Figure 2. Residential Fees by Unit Size



CURRENT SYSTEM EVALUATION

Impact fees are charges assessed on new development to cover the costs of capital improvements needed to accommodate growth. Impact fees provide a mechanism to fund public infrastructure necessary to serve new development.

The City of Atlanta assesses impact fees on new development to help pay for the expanded capital facilities that will be needed to serve the new residents and businesses that will occupy those developments. The City assesses impact fees for transportation, parks, police and fire facilities. The fees were originally adopted in March 1993, and the fee amounts have not been changed since that time.

This part of the report provides an analysis of the City's current impact fee system, and develops recommendations for improvement. It starts with an overview of the legal framework that governs impact fees nationally and within Georgia. Subsequent sections address the fee calculation methodology, land use categories, exemptions and administrative procedures. Facility-specific changes are discussed in more detail in later sections of this report for each facility type.

Legal Framework

The *Georgia Development Impact Fee Act*, chapter 36-71, Georgia Code Annotated, was passed by the legislature in 1990. An important provision of the *Act* was that all developer exactions for "system improvements" must comply with the requirements of the Act. System improvements are defined as "public facilities" that provide service to the community at large, as opposed to "project improvements," which are improvements that are designed primarily to serve a particular development project. Public facilities are defined to include water, wastewater, roads, stormwater, parks, public safety and library facilities. To be eligible to adopt impact fees, a local government must have adopted a capital improvements element that sets out a schedule of capital improvements needed over the planning horizon of the comprehensive plan, including anticipated funding sources.

The *Development Impact Fee Act* provides some general guidance on how impact fees are to be calculated. The *Act* mandates that the fees:

- "shall not exceed a proportionate share of the cost of system improvements;"
- "shall be calculated and imposed on the basis of service areas;"
- "shall be calculated on the basis of levels of service … that are applicable to existing development as well as the new growth and development;" and
- "shall be calculated on a basis that is net of credits for the present value of revenues that will be generated by new growth and development based on historical funding patterns and that are anticipated to be available to pay for system improvements, including taxes, assessments, user fees, and intergovernmental transfers."

Determining the "proportionate share" of the cost of planned improvements that is attributable to growth is at the heart of any impact fee methodology. The third bulleted phrase provides the most guidance, and captures one of the most fundamental principles of impact calculation, which is that impact fees should not charge new development for a higher level of service than is provided

existing development. While impact fees can be based on a higher level of service than is currently being provided to existing development, a source of funding other than impact fees must be identified and committed to remedy the deficiency.

The fourth bulleted phrase reflects another fundamental impact fee principle, which is that new development should not have to pay more than its proportionate share when multiple sources of payment are considered. As noted above, if impact fees are based on a higher-than-existing level of service, the fees should be reduced by a credit that accounts for the contribution of new development toward remedying the existing deficiencies. A similar situation arises when the existing level of service has not been fully paid for. Outstanding debt on existing facilities that are counted in the existing level of service will be retired, in part, by revenues generated from new development. Given that new development will pay impact fees to provide the existing level of service for itself, the fact that new development may also be paying for the facilities that provide that level of service for existing development could amount to paying for more than its proportionate share. Consequently, impact fees should be reduced to account for future payments that will retire outstanding debt on existing facilities.

In general, credits against impact fees are not necessarily required for other types of funding that have historically been used for, or that are committed to be used for growth-related, capacity-expanding improvements. While new development may contribute toward such funding, so does existing development, and both existing and new development benefit from the higher level of service that the additional funding makes possible. To insist that historical capacity funding patterns must be continued after the adoption of impact fees, and that new development is entitled to an offset for its contribution to those funding sources, would be to argue that local governments cannot require "growth to pay for growth" unless they have always done so. As long as the fees are based on new development paying to maintain existing levels of service that have been paid for in full by existing development, and additional funding can reasonably be used to raise the level of service for existing and new development alike, no additional revenue offsets are warranted.

The *Act* imposes a number of important requirements for the imposition and collection of impact fees.

- The fees may not be collected earlier than the issuance of a building permit.
- The ordinance must include an impact fee schedule for each service area.
- Credit must be given for system improvements provided by the developer.
- The ordinance must provide an option for individual assessment of impact fees for a particular project, as well as a procedure for certification of the impact fee for a particular project for a period of 180 days.
- The fees can be used to recoup previous expenditures made to construct system improvements in anticipation of growth.
- Exemptions may be granted for economic development or affordable housing projects, provided the exemption is funded through a revenue source other than impact fees.

- The impact fees collected can only be spent for the category of system improvements for which the fees were collected and in the same service area.

- Prior to the adoption of an impact fee ordinance, Development Impact Fee Advisory Committee, with at least 50% of the members representing the development, building or real estate industries, must be appointed to review the proposed ordinance.

- Impact fees must be refunded if they are not encumbered or spent within six years.

Several amendments to the state enabling act, some specifically targeting the City of Atlanta, were made in 2007 and became effective on July 1, 2007. The accounting requirements were amended to require the recording of the address of each property for which impact fees are paid, the amount of each category of fees and the data of payment. For each exemption granted, the record must include the address, the reason for the exemption, and the revenue source used to pay for the exemption. The other amendments concern how the City of Atlanta spends its transportation impact fees. The expenditure of transportation impact fees by the City must take into consideration the proximity to developments that have paid the fees, and the greatest effect on levels of service on roadways impacted by the developments that have paid the fees. The City is also required to submit the transportation portion of the annual impact fee report to the Development Impact Fee Advisory Committee, who may report any perceived inequities in the expenditure of transportation impact fees to the City Council.

The City's Development Impact Fee Ordinance (Sec. 19-001, et. seq.) contains the standards and procedures relating to the development impact fee program. Key provisions of the ordinance include the circumstances under which impact fees will be imposed; administration of impact fees; method for computation of fees; rules for the issuance of development credits and development agreements; and rules for issuance of impact fee waivers and exemptions.

Study Methodology

There are two basic methodologies used in impact fee analysis, which may be called "plan-based" and "standards-based." The original impact fee study used the standards-based approach for transportation, parks, fire and police impact fees. The two approaches are briefly described as follows.

The plan-based approach generally uses a more complex level of service (LOS) measure than the standards-based approach. The standards-based approach typically uses a simple, system-wide ratio of capacity to demand, such as "5 acres of park land per 1,000 residents." Because of the simplicity of this LOS standard, fees can be calculated without a long-range master plan. For example, if the cost of an acre and the number of people associated with a single-family home is known, a growth-related park impact fee cost can be calculated for a single-family home. In contrast, the plan-based approach typically uses a LOS standard that is locationally-specific, such as "every road facility shall function at LOS D or better." In order to calculate a fee with this type of LOS standard, it is necessary to project where new development will occur in order to determine what improvements will be needed to accommodate growth, which is the essence of a facility master plan. The plan-based approach essentially divides the cost of needed improvements over the planning horizon by the anticipated growth. Since the LOS standard in a plan-based approach focuses on individual facilities, there are generally some facilities that are not functioning at the desired level, and thus there are generally some existing deficiencies. With the standards-based approach, it is possible to set the LOS equal to the existing system-wide LOS, which avoids creating existing deficiencies. Another important difference between the two approaches relates to the flexibility of spending impact fee funds. With plan-based fees, the fees should only be spent on improvements identified in the master plan, and if growth does not occur as planned, the master plan and impact fees should be revised. With standards-based fees, the fees can be spent on any improvement in the service area that will expand system capacity. This update retains the standards-based approach.

With the standards-based approach, the level of service used in calculating the fee can be set below the existing level of service to create a recoupment fee. The current park and public safety fees were designed as recoupment fees. Setting the fees based on a lower level of service reduces the amount of the fees themselves and indicates the City's desire to maximize the use of existing facilities. Recoupment fees are intended to recover costs incurred in advance of development to create capacity for future growth. Because recoupment fees are reimbursements to the City for past expenditures, they are not subject to the earmarking and expenditure restrictions of non-recoupment fees. Collection of the fees can be waived for affordable housing or economic development projects, for example, without identifying replacement funds, and this has been the City's practice. In the early years of the program, some of the park and public safety fees were used to fund exemptions to the transportation impact fees, which were not recoupment fees, although this practice was discontinued about 1996. Since that time, the funds collected have been spent on capacity-expanding park and public safety capital improvements in the service area in which they were collected. This update abandons the recoupment approach, and instead bases the fees for most of the facilities on the existing level of service. However, a portion of the police impact fee related to central facilities is based on a future LOS that takes into consideration excess capacity in existing central facilities that have been funded with debt (in other words, the fees are based on a lower-than-existing level of service) in order to allow the police impact fees to be used to help repay the outstanding debt.

Level of Service

The Georgia *Development Impact Fee Act* defines level of service (LOS) as "a measure of the relationship between service capacity and service demand for public facilities in terms of demand to capacity ratios, the comfort and convenience of use or service of public facilities, or both." The *Act* requires that the levels of service on which the impact fees are based be adopted in the local government's comprehensive plan. The Georgia Department of Community Affairs, which certifies local governments as in or out of compliance with the *Development Impact Fee Act*, has released guidelines suggesting that LOS measures "be expressed in quantifiable terms or in a manner sufficient to allow future evaluation of progress in meeting capital improvements goals."[2]

One of the most fundamental principles of impact fees, rooted in case law and norms of equity, is that impact fees should not charge new development for a higher level of service than is provided existing development. This principle is reflected in the *Georgia Development Impact Fee Act*, which requires that "impact fees shall be calculated on the basis of levels of service … that are applicable to existing development as well as the new growth and development." While impact fees can be based on a higher level of service than that existing at the time of the enactment or update of the fees, another funding source must be identified to remedy the existing deficiencies. In addition, impact fees must be reduced to account for any revenue that new development will generate that is used to remedy the existing deficiencies, in order to avoid double-charging. In order to avoid these complications, typical practice with standards-based impact fee methodologies is to base the fees on a LOS that is equal to or less than the existing LOS.

Recommendation: Replace the current level of service measures based on simple, physical ratios with ones that take into account the full range of the City's investments in land, buildings, equipment and other improvements.

The issue of LOS is inextricably intertwined with impact fee methodology. In this update the transportation LOS is expressed in terms of equivalent lane-miles per VMT, which takes into account transportation-related improvements beyond through lanes. This approach recognizes that within an urban area, traditional improvements to expanding capacity are not as feasible as expanding capacity through other improvements, such as turn lanes, intersection improvements and signalization. The equivalency approach is also used for the park LOS, which is expressed as equivalent acres per 1,000 functional population. The equivalent acres approach captures improvements to the parks and amenities such as recreation centers, pools and other recreation facilities. The police and fire fees are based on equivalency factors that takes into account central facilities: the police LOS is expressed in terms of equivalent precinct square feet and the fire LOS is expressed in terms of equivalent fire station square feet.

As mentioned above, both the updated park and fire fee calculations are based on the existing LOS using the standards-based approach rather than the recoupment methodology used in the prior study. The police impact fee is based on a future LOS that takes into consideration excess capacity in existing facilities that have been funded with debt.

Service Areas

The *Development Impact Fee Act* defines "service area" as "a geographic area … in which a defined set of public facilities provide service to development within the area. Service areas shall be designated

[2] Georgia Department of Community Affairs, "How to Address Georgia's Impact Fee Requirements," updated April 2008

on the basis of sound planning or engineering principles or both." It further provides that "Development impact fees shall be calculated and imposed on the basis of service areas." Impact fee schedules must be developed that apply to each service area, and impact fees collected in a service area must be spent on improvements located within the same service area.

The City's current impact fees for transportation, fire and police are based on city-wide service areas. The parks and recreation impact fees have three service areas (see Figure 10 in the parks section). In this update the transportation impact fee is based on three service areas that correspond with the existing park service area boundaries. The intent of this change is to assist the City in complying with the State law requirement that transportation impact fees be spent in proximity to the developments paying the fees. Additional discussion of the transportation service areas can be found in the Transportation section of this report.

Recommendation: Replace the city-wide transportation impact fee service area with three service areas, using the same boundaries used for the park impact fees.

Service Units

To make a level of service standard, it is necessary to define a common unit of expression for service demand, known as a "service unit." This study maintains the use of peak hour trip rates for measuring transportation demand and functional population for parks, police and fire. The trip rates in this study are updated to reflect the most recent published data on peak hour trip generation rates published in the eight edition of the Institute of Transportation Engineers' (ITE) *Trip Generation* manual. Also, as in prior updates, the trip rates are adjusted to reflect the proportion of trips that are primary trips, as opposed to pass-by and diverted-link trips. The average length of a trip for each land use is updated in this study to reflect the most current national and local data available.

The functional population multipliers are derived from household size and employment data. The functional population factors are updated based on the most recent average household size data from the U.S. Census for residential land uses and published trip generation rates and employment data for nonresidential land uses.

Proposed Methodology Summary

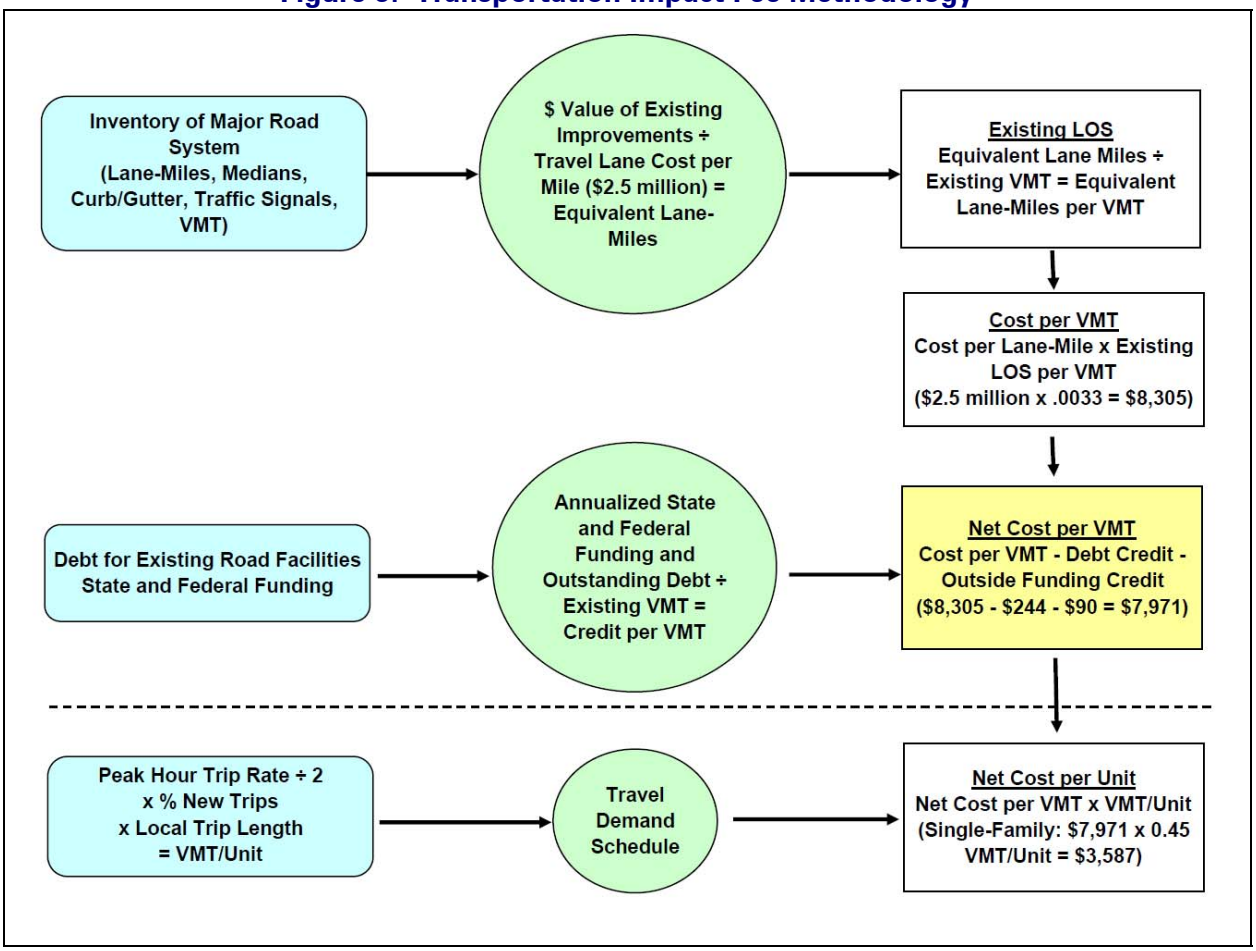
The methodology used in this study is the "standards-based" approach, where the fee is calculated based on the existing level of service (LOS). The existing LOS is calculated for each service area as the ratio of a common measure of existing facilities to a common measure of existing development. The common measures of existing facilities are equivalent lane-miles for transportation, equivalent park acres for parks, and equivalent station square feet for fire and police. The common measure of existing development is the "service unit." The service units are peak hour vehicle-miles of travel (VMT) for transportation and functional population for parks, fire and police. For each facility type, there is a demand schedule that determines the number of service units represented by a unit of development for various land use types. For example, a typical single-family home generates 0.450 peak hour VMT and 1.776 functional persons.

The general impact fee formula is:

Impact Fee per Development Unit = Service Units per Development Unit x Net Cost per Service Unit
Net Cost per Service Unit = Cost per Service Unit – Credit per Service Unit
Cost per Service Unit = Equivalent Facility Units per Service Unit x Cost per Facility Unit

The methodology is illustrated for the transportation impact fee calculation in Figure 3.

Figure 3. Transportation Impact Fee Methodology



Land Use Categories

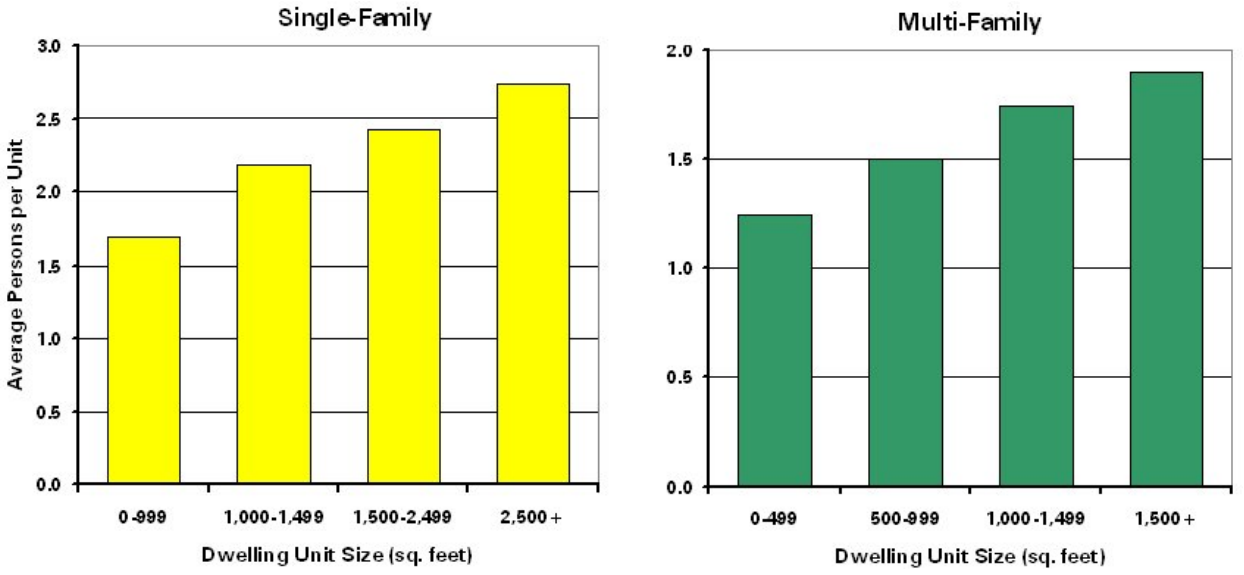
The City's current impact fee schedules have two residential categories (single-family detached and multi-family) and ten nonresidential categories (commercial, office, industry, warehousing, hotel/motel, elementary school, high school, church, hospital and nursing home). The commercial category is further broken down into eight size categories, ranging from less than 100,000 square feet to 1 million square feet or more, while the office category is broken down into five size categories. Counting the commercial and office size categories, Atlanta uses a total of 21 nonresidential land use categories. As impact fee schedules go, this is a fairly modest number of land use categories. Some communities go into far more detail, particularly for nonresidential. Highlands County, Florida, for example, has 45 nonresidential land use categories.

Residential Categories

Recommendation: Charge residential uses based on the size of the dwelling unit.

Currently, the City charges single-family detached and multi-family units based on a flat fee per dwelling unit. While this was standard impact fee practice for years, many communities today are switching to fees that vary by the size of the dwelling unit, whether measured in terms of bedrooms or square footage of living area. Charging residential fees based on unit size arguably provides a more accurate assessment of impacts, since the number of residents is a key indicator of the demand on public facilities, and unit size is strongly related to the number of person in the dwelling unit (see Figure 4, which displays nation-wide data from the U.S. Department of Housing and Urban Development's 2007 *American Housing Survey*). Varying the fees by dwelling size would also tend to support the City's goal of encouraging affordable housing, since smaller units tend to be less expensive.

Figure 4. Persons per Unit by Dwelling Size, U.S., 2007



As noted above, dwelling unit size can be quantified either in terms of the number of bedrooms or the square footage of living area. The advantage of using bedrooms is that data on residents by number of bedrooms specific to housing in Atlanta is available from the U.S. Census, whereas

information on the relationship between residents and square footage would need to rely to some extent on national data like that illustrated above, or else on indirect estimation techniques. The disadvantage of using bedrooms is that what constitutes a bedroom can be difficult to determine, especially when there is an incentive to disguise it as something else, whereas living area can easily be determined. Based on the greater ease of administration, the consultant's recommendation is to base the fees on square footage of living area, using categories similar to those shown in Figure 4 above.

Some communities charge all new units of the same square footage the same fee, regardless of the type of housing. However, as can be seen in the illustration, multi-family units tend to have significantly fewer residents than single-family units of the same size. The fact that multi-family units tend to be smaller than single-family units explains less than one-third of the gap between them in terms of average persons per unit. The bigger factor is likely the preference of larger households for a yard. While these observations are derived from national data, they are likely to hold for Atlanta as well.

An issue that arises when residential fees are charged based on size is whether to charge residential additions that result in the size of the unit crossing a threshold. A variety of approaches are taken to this. Some communities exempt all residential additions in order to avoid the additional administrative effort. Others exempt additions under a certain size, such as under 500 square feet. Still others make no such exemptions.

The recommended approach would expand the number of residential categories from the present two to eight (four size categories each for both single-family detached and multi-family). While this may add a small amount of complexity to the impact fee system, it would help to align the impact fees more closely with the City's affordable housing goals.

Nonresidential Categories

While the consultant is recommending that residential fees be assessed by dwelling size, the opposite approach is proposed for the commercial and office categories. Currently, fees for commercial uses vary based on the size of the shopping center, with eight categories ranging from less than 100,000 square feet to 1 million square feet or more. Similarly, fees for office uses are based on the size of the building, with five categories ranging from less than 50,000 square feet to 500,000 square feet or more. The differential fees are based on national data from the Institute of Transportation Engineers (ITE), showing that as shopping centers and office buildings increase in size, the number of trips generated per 1,000 square feet declines. ITE also publishes data on the percentage of trips to shopping centers that are primary trips, as opposed to trips that make a stop while en route to another destination (passby), or that make a short diversion while going to another destination (diverted-linked). However, there are no similar national data on passby and diverted-linked trips for office buildings, nor is there any data on the length of trips to shopping centers or office buildings of various sizes.

Variable rates for shopping centers by size of the center was virtually universal in early transportation impact fee systems. One reason for this unanimity is that ITE did not publish average daily trip generation rates for all sizes of shopping centers prior to the 6th edition of the *Trip Generation* manual in 1997 (before that, average rates were given for centers of less than 570,000 square feet and larger centers). Now that average rates are available, more communities are moving away from charging fees based on the size of the shopping center.

It is known that large, regional shopping centers have a lower percentage of passby trips than smaller, more neighborhood-oriented centers, and this relationship is also likely to hold for small, neighborhood-oriented offices versus large corporate office buildings. It is also known that large, regional shopping centers have a much larger market area than smaller centers, and thus attract trips from longer distances, and this factor undoubtedly also comes into play for office developments. Clearly, the lower trip generation rates of larger shopping centers and office buildings is partially and perhaps even completely offset by higher percentages of primary trips and longer trip lengths. Given this and the lack of data on all of the factors required to calculate variable rates by shopping center or office building size, the consultant recommends collapsing the size categories and charging commercial and office uses based on a flat rate per 1,000 square feet.

Recommendation: Reduce the number of nonresidential land use categories in the fee schedules.

Besides commercial and office, the other major types of land uses are hotel/motel, industrial and institutional. The hotel/motel land use, assessed on a per room basis, is appropriate. The City's fee schedules currently distinguish between industrial and warehousing uses, and this distinction is appropriate. However, the City might want to add a category for mini-warehousing, which is a typical stand-alone use that has significantly different (lower) impacts that other warehousing uses. In terms of institutional uses, the City currently has five categories: elementary school, high school, church, hospital and nursing home. This is not an exhaustive list, and many communities collapse such uses into a single public/quasi-public/institutional category that includes other uses such as libraries, fire and police stations, and public assembly uses. That is the approach recommended here.

The current land use categories are compared to the recommended categories in Table 2. The total number of categories would shrink from 23 to 15. With the new public/institutional category, City staff should be able to relatively easily classify most proposed land uses. Definitions of the land use categories will also be provided in the revised ordinance to assist in administering the new categories.

Table 2. Current and Proposed Land Use Categories

Current Land Uses	Proposed Land Uses
Single-Family	Single-Family Detached, <1,000 sf Single-Family Detached, 1,000-1,499 sf Single-Family Detached, 1,500-2,499 sf Single-Family Detached, 2,500 sf+
Multi-Family	Multi-Family, <500 sf Multi-Family, 500-999 sf Multi-Family, 1,000-1,499 sf Multi-Family, 1,500 sf+
Hotel/Motel	Hotel/Motel
Commercial, <100,000 sf Commercial, 100,000-199,999 sf Commercial, 200,000-299,999 sf Commercial, 300,000-399,999 sf Commercial, 400,000-499,999 sf Commercial, 500,000-599,999 sf Commercial, 600,000-999,999 sf Commercial, 1,000,000 sf+	Shopping Center/Commercial
Office, <50,000 sf Office, 50,000-99,999 sf Office, 100,000-199,999 sf Office, 200,000-499,999 sf Office, 500,000 sf+	Office
Industry	Industrial
Warehousing	Warehousing Mini-Warehousing
Elementary School High School Church Hospital Nursing Home	Public/Institutional

Exemptions

The *Development Impact Fee Act* specifically allows affordable housing and economic development projects to be wholly or partially exempted from paying impact fees, provided that the policy that supports the exemption is contained in the comprehensive plan and that the lost impact fee revenue is replaced with non-impact fee funds.

Current Exemption Policy

The City's *Development Impact Fee Ordinance* (Sec. 19-001, et. seq.) establishes criteria for exemptions, including the requirement that the City's chief financial officer must certify that funds are available to fund the exemptions. In June 2009, the City's CFO decided to halt the granting and funding of impact fee exemptions. Consequently, no impact fee exemptions are currently being granted.

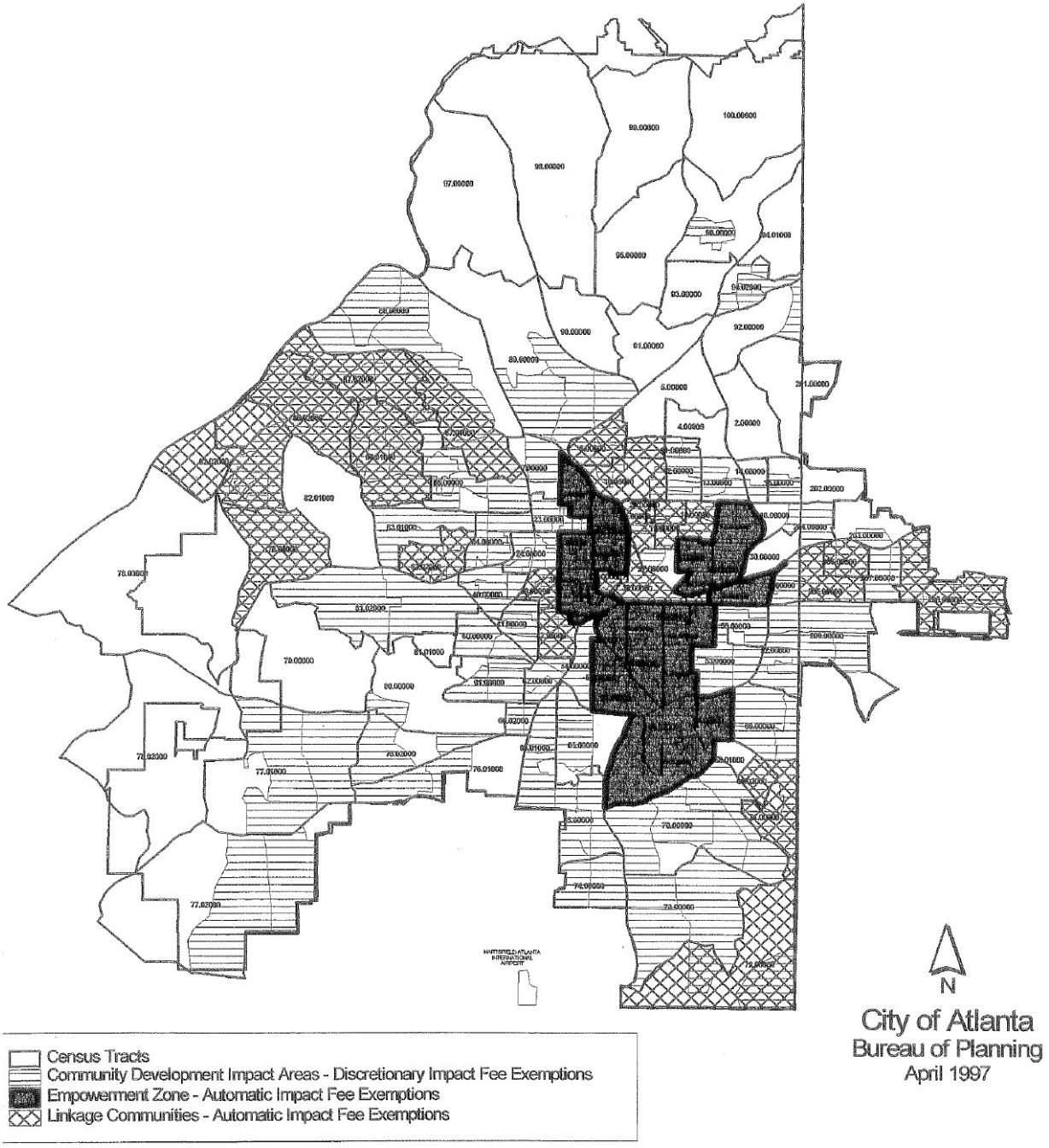
Affordable housing projects may receive 50% or 100% exemption from impact fees, depending on the extent to which they are affordable to lower-income households. The only criterion is the pro-forma sales price or monthly rental rate. There are no income requirements for the buyers or renters of such housing, nor are there any requirements that the units continue to be affordable after construction.

Economic development projects are eligible for a 100% exemption. The City's ordinance defines economic development project broadly. The most significant category includes any development located in the Atlanta Empowerment Zone or a Linkage Community. As can be seen in Figure 5, these two types of automatic exemption areas cover roughly 20% of the area of the city.

A much less significant category includes the narrow types of exemptions allowed in "community development impact areas," which cover an area of the city roughly equal to the automatic exemption areas. The ordinance exempts any commercial project in a this area that (1) has $0.5 million or more annual revenues (at least 75% of which is derived from sales to residents of Empowerment Zone or Linkage Community), or (2) would create 10 or more permanent jobs, of which 75% are filled through the first source jobs program by said residents. The ordinance also exempts the construction of any new non-profit day care, vocational training or educational facility in a community development impact area.

Also defined as economic development projects, and thus eligible for a 100% exemption, are the rehabilitation or conversion of any historic building, the construction of any non-profit recreational facility, or the construction of any non-profit homeless facility. These types of projects may be exempted regardless of where they are located.

Figure 5. Impact Fee Exemption Areas



Affordable Housing Exemptions

A review of the City's records of housing exemptions granted since 2005, summarized in Table 3, reveals that over the last four and one-half years the City has exempted 23 percent of all new housing units from impact fees. All but one of the single-family exemptions was justified based on affordability criteria, and all but two of the affordable single-family units were built by Habitat for Humanity. In contrast, 90 percent of the multi-family units exempted were based on being located in an exempt area, rather than meeting affordable housing criteria (although it is possible some of these projects could have met affordable housing criteria as well).

Table 3. Housing Exemptions, 2005-2009

Housing Type	Afford. Housing	Exempt Area	Total Exempted	Total Built	Percent Exempted
Single-family	161	1	162	5,234	3%
Multi-family	662	6,436	7,098	25,734	28%
Total	823	6,437	7,260	30,968	23%

Source: Exemptions from City of Atlanta, Impact Fee Waiver Reports, First Quarter 2005 through Second Quarter, 2009; total units built from U.S. Census Bureau, Monthly New Privately-Owned Residential Building Permits, January 2005 through June 2009.

Affordable housing exemptions for single-family units have been relatively insignificant, amounting to about 35 units annually and accounting for about half of one percent of all new units built in the city. In addition, virtually all of these units have been built by Habitat for Humanity, whose process ensures that these units will be occupied by lower-income households and will remain a source of affordable housing for years.

Exemptions for multi-family housing may be more problematic. Multi-family housing accounts for 98% of all of the housing units exempted. While multi-family tends to be the most affordable housing type, the vast majority of these exemptions have been based on location rather than on affordability criteria.

Recommendation: Add criteria to affordable housing exemptions to ensure the housing remains affordable.

Even the 10% of exemptions granted on affordability criteria may not result in units that continue to be affordable over the long term. If affordable housing exemptions are to be retained, they should be restricted to projects that can guarantee continued affordability. For example, applicants could be required to provide evidence that the units will be occupied by qualifying low income or moderate-income persons for an extended period of time (e.g., 20 years). The restrictions could either be contained within the deed for the residential construction; within the terms, restrictions and conditions of a direct government grant or subsidy that will fund the project; or within the terms of a development agreement between the City and the owner. Imposing these kinds of reasonable restrictions would likely significantly reduce the use of affordable housing exemptions for multi-family projects.

Economic Development Exemptions

Recommendation: Eliminate blanket exemptions for geographic areas.

As has been seen, only about 10% of exemptions for new housing are granted under affordable housing criteria. All of the other of exemptions are granted under the rubric of "economic development." The most significant of the economic development exemptions is the blanket 100% exemption for any development occurring in the enterprise zones, Atlanta Empowerment Zone and Linkage Communities areas. These areas comprise about 20% of the total land area of the city. About 21% of all of the new housing units built in the city in the last four years have been built in these areas, and have been exempted from impact fees because of their location. Less detail is currently available on nonresidential exemptions, particularly the justification for the exemptions, but it is safe to say that the blanket area exemption accounts for most of them. In dollar amounts, nonresidential exemptions have been more than double the amount of residential exemptions in recent years, as shown in Table 4

Table 4. Total Fees Exempted, 1/1/2007 – 9/30/2009

Residential Exemptions, 1/1/2007 - 9/30/09	$2,694,203
Nonresidential Exemptions, 1/1/2007 - 9/30/09	$6,236,371
Total Fees Exempted, 1/1/2007 - 9/30/09	$8,930,574

Source: Residential exemptions from City of Atlanta, Impact Fee Waiver Reports, First Quarter 2007 through Second Quarter 2009 (no exemptions since); total fee exemption amount from City of Atlanta Information Technology Department, "Impact Fees Exempt" spreadsheet, January 11, 2010; nonresidential exemption amount is the difference.

Funding Exemptions

One way to evaluate the scale of exemptions is to compare exempt fees to total revenues that would have been received in the absence of the exemptions. While this comparison excludes in-kind developer contributions that were used to offset fees that would otherwise have been paid, it does give some sense of the order of magnitude involved. Since January 2007, exemptions have amounted to about 40% of the potential revenue that would have been collected in the absence of the exemptions, as shown in Table 5. The higher percentage of waivers for transportation impact fees is likely due to the fact that impact fee revenue is understated because it does not include the value of developer improvements made in lieu of impact fee payment. Nevertheless, it is clear that exemptions have been granted on a substantial scale.

Table 5. Impact Fee Exemptions and Collections, 1/1/2007 – 9/30/2009

	Roads	Parks	Fire	Police	Total
Fees Exempted, 1/1/07 - 9/30/09	$6,403,344	$1,639,570	$687,886	$199,774	$8,930,574
Actual Revenue, 1/1/07 - 9/30/09	$7,596,042	$3,749,978	$1,245,957	$363,174	$12,955,151
Total Potential Revenue	$13,999,386	$5,389,548	$1,933,843	$562,948	$21,885,725
Exemptions % of Potential Revenue	**45.7%**	**30.4%**	**35.6%**	**35.5%**	**40.8%**

Source: Actual revenue from City of Atlanta, December 29, 2009; fees exempted from City of Atlanta Information Technology Department, "Impact Fees Exempt" spreadsheet, January 11, 2010.

The *Development Impact Fee Act* allows impact fees to be waived for affordable housing or economic development projects, but requires that the resulting shortfall in the impact fee fund be made up with non-impact fee revenue. The need to come up with a funding source for exemptions was a consideration in designing the recoupment fee methodology for parks, fire and police impact fees in the original 1993 study. The recoupment fee approach avoided the need to fund waivers of parks,

fire and police fees, since by their nature recoupment fees do not have to be earmarked to fund capital improvements (they are recovering the cost of existing capital improvements that have already been paid for).

Since about 1996, the City has used bond funding of capacity-expanding transportation improvements to offset transportation impact fee exemptions. Rather than funneling some of this money through the transportation impact fee account as an explicit payment for exemptions, the City recorded that it was spending more non-impact fee money on impact fee-eligible transportation projects than it was granting in exemptions. This seems a reasonable approach to meeting the Act's requirement that "the exempt development project's proportionate share of the system improvement is funded through a revenue source other than development impact fees."

Analysis of capital expenditures programmed in the City's 2010 fiscal year budget reveals a large number of projects that could be eligible to offset exemptions in each impact fee facility, as summarized in Table 6. Additional analysis would be required to determine which projects identified in the table are actually capacity-expanding in nature. In the event that the expenditures on capacity-expanding improvements in a given year exceed the amount needed to offset exemptions in that year, it would seem to be reasonable to "bank" the expenditures to offset exemptions in the next year. In addition, grant-funded projects would also be a source of non-impact fee expenditures that could be used to offset exemptions.

The best types of expenditures to offset impact fee exemptions are those funded with current general fund revenues, accumulated general fund revenues or grants. These types of revenues have been generated by or are attributable to existing development. Funds identified in the FY 2010 capital budget that represent these kinds of revenues include Tax Allocation District (TAD) funds, General Government Capital Outlay Funds and grants (grant funding was not included in the table). However, General Government Capital Outlay funds include impact fees, so any use of this fund to offset impact fee exemptions must be carefully restricted to non-impact fee revenue.

Less desirable are expenditures funded by debt, since debt will need to be repaid by both existing and new development. To the extent that debt-funded expenditures are used to offset impact fee exemptions, a credit would need to be calculated, since new development that is not exempt will be paying impact fees, as well as paying taxes to help retire debt used to offset exempt development's impacts. In order to calculate such a credit, the extent of the use of debt-funded expenditures to offset exemptions would need to be estimated. While this could be done, it would appear that non-debt funded improvements should be sufficient to offset at least a modest exemptions program.

Despite the likely defensibility of this approach, there is the potential danger that the analysis necessary to implement it could be done incorrectly or not documented properly, putting the City's exemption program and perhaps the entire impact fee program at risk. Consequently, it is recommended that non-impact fee revenues be deposited directly into the impact fee account before any exemptions are approved.

Recommendation: Deposit non-impact fee revenue directly into the impact fee account before any exemptions are approved.

Table 6. Potentially Capacity-Expanding Expenditures in FY 2010 Budget

Facility	Source	Description	Amount
Transportation	3101 Annual Bond	F0105 Campbellton Road Segment	$146,420
Transportation	3109-1994 Referendum BO Bond Fund	F0129 Roxboro Road Widening	$40,371
Transportation	3504 General Government Capital Outlay	F0129 Roxboro Road Widening	$4,405
Transportation	3109-1994 Referendum BO Bond Fund	F0131 Campbellton Road Wodening	$118,184
Transportation	3116-1997 GO Public Imp Bond	F0131 Howell Mill Road Widening	$248,693
Transportation	3109-1994 Referendum BO Bond Fund	F0139 Howell Mill Rd Widening	$369,581
Transportation	3114-1996 GO Public Imp Bond B	F0139 Howell Mill Rd Widening	$162,862
Transportation	3503 General Government Capital Outlay	F0174 Citywide Traffic Signal	$2,500,000
Transportation	3127-2004 Quality of Life Fund	F0557 Intersection Improvement	$9,795
Transportation	3122-2001 Bond Project Fund	F0558 Intersection Improvement	$136,400
Transportation	3127-2004 Quality of Life Fund	F0558 Intersection Improvement	$5,059
Transportation	3138-2008A Quality of Life Imp Bond	F0559 Intersection Improvement	$663,806
Transportation	3127-2004 Quality of Life Fund	F0560 Intersection Improvement	$6,013
Transportation	3127-2004 Quality of Life Fund	F0574 Intersection Improvement	$9,160
Transportation	3127-2004 Quality of Life Fund	F0577 Intersection Improvement	$11,997
Transportation	3127-2004 Quality of Life Fund	F0578 Intersection Improvement	$19,895
Transportation	3127-2004 Quality of Life Fund	F0580 Intersection Improvement	$79,528
Transportation	3112-1995 Bond Project Fund	G0101 Traffic Signal Modernization	$48,895
Transportation	3101 Annual Bond	G0102 Computer traffic Control	$3,065
Transportation	3127-2004 Quality of Life Fund	G0172 Traffic Signals	$13,114
Transportation	3123-2001 Quality of Life Fund	G0190 Traffic Signals	$4,684
Transportation	3505 General Government Capital Outlay	G0197 Citywide Intersection	$300,000
Total, Transportation			$4,901,927
Parks	3126-2004 Bond Project Fund	D0974 Chester Avenue Facility	$365,253
Parks	3125-2003 GO Bond Project Fund	D0997 Civic Center	$463
Parks	3126-2004 Bond Project Fund	D0997 Civic Center	$88,832
Parks	3128-2005 GO Bond Project Fund	D1701 Civic Center	$80,980
Parks	3123-2001 Quality of Life Fund	F0603 Citywide Greenway Trail	$38,640
Parks	3138-2008A Quality of Life Imp Bond	F0631 Lionel Hampton Park	$102,205
Parks	3138-2008A Quality of Life Imp Bond	F0635 Greenway Trail Projects	$248,774
Parks	3129-2005A Park Imp Bond fund	Lighting, Bldg, Swimming, Furniture	$17,112,469
Parks	3506 General Government Capital Outlay	Misc. Parks, Trails, Greenspace	$2,983,463
Parks	30501 Park Improvements Fund	Parks, Lighting, Fencing	$4,432,969
Total, Parks			$25,454,048
Fire	2701 Atlantic Station TAD Fund	C0211 Fire Station 11	$87,114
Fire	3122-2001 Bond Project Fund	C0213 Fire Station 13	$209,615
Fire	3128-2005 GO Bond Project Fund	C0213 Fire Station 13	$336,875
Fire	3507 General Government Capital Outlay	C0213 Fire Station 13	$1,016
Fire	3124-2002 Bond Project Fund	C0213 Fire Station 13	$355
Fire	3122-2001 Bond Project Fund	C0214 Fire Station 14	$123,667
Fire	3126-2004 Bond Project Fund	C0240 Fire Station 18	$528,844
Fire	3128-2005 GO Bond Project Fund	C0240 Fire Station 18	$415,157
Fire	3510 General Government Capital Outlay	C0240 Fire Station 18	$288,385
Fire	3122-2001 Bond Project Fund	C0222 Fire Station 22 Construction	$123,667
Fire	3136-2007A Bond Project Fund	C0222 Fire Station 22 Construction	$724,321
Fire	3508 General Government Capital Outlay	C0222 Fire Station 22 Construction	$907,407
Fire	3509 General Government Capital Outlay	C0228 Fire Station 28 Construction	$387,254
Total, Fire			$4,133,677
Police	3502 General Government Capital Outlay	C0105 New Pre-Trial Detention	$106,265
Police	3511 General Government Capital Outlay	C0311 Police Academy Expansion	$256,399
Police	3512 General Government Capital Outlay	C0312 Workspace-Police Special	$176,424
Police	3126-2004 Bond Project Fund	C0314 Various Police Facility Improvements	$20,172
Police	3128-2005 GO Bond Project Fund	C0314 Various Police Facility Improvements	$253,343
Police	3136-2007A Bond Project Fund	C0314 Various Police Facility Improvements	$749,979
Total, Police			$1,562,582

Source: City of Atlanta, FY 2010 Adopted Budget.

Fact-Based Fee Reductions

An alternative to granting exemptions that must be funded from some other source is to reduce fees for types of development that further community goals based on documentation that they will put less demand on infrastructure. One example of this in the City's current impact system is the 50% reduction in transportation impact fees for projects located with 1,000 feet of a MARTA station, based on greater use of transit and less reliance on automobile travel. Recent research presented in this study provides additional support for such a reduction.

A similar fact-based reduction that would align with the City's affordable housing goals would be to base fees for housing on the size of the dwelling unit, based on the differences in number of residents and demand for facilities between smaller and larger units. Since smaller units tend to be less expensive and also have smaller impacts, the lower fees for smaller units could help promote affordable housing. This approach is discussed in greater detail in the "Land Use Categories" section of this report.

Another of the City's goals is to encourage development in the corridors that will be served by the planned BeltLine light rail line and the planned Peachtree streetcar route. Data on increased usage of transit along such transit corridors could be used to justify lower transportation impact fees in these corridors once the transit improvements are in place.

Exemptions Summary

The City has an extensive system of exemptions from impact fee payment that has resulted in about a 40% reduction in revenue from what would otherwise have been received. The City's park, fire and police impact fees were designed as recoupment fees partially to avoid the need to fund park, fire and police fee exemptions. Transportation impact fee exemptions have been offset with capacity-expanding transportation projects paid for with general obligation bonds. In light of current budget constraints, impact fee exemptions have been suspended since June 2009.

The analysis of the adopted FY 2010 budget suggests that non-impact fee revenues programmed for capacity-expanding improvements should be sufficient to offset lost impact fee revenue from a scaled-back exemptions program, although it is recommended that this funding be routed through the impact fee accounts. The City may want to retain exemptions that promote affordable housing, with additional requirements that ensure the housing remains affordable for some period of time. The City may also desire to provide other targeted exemptions that promote community objectives. But it would appear to be time to reconsider blanket impact fee exemptions for all development in large parts of the city.

Recommendation: Abandon the recoupment methodology for parks, fire and police impact fees.

The original design of parks and public safety impact fees as recoupment fees was driven in part by the concern that the City would have difficulty coming up with general fund moneys to offset the exemptions. The concept of recoupment for parks and public safety fees was arguably more appropriate when the fees were first instituted in the early 1990s than it is today. At that time, the population of the city was shrinking, the City seemed to have plenty of parkland, and its Insurance Services Office (ISO) rating of 2 for fire protection was very good. Today, the population is growing again, the City recently completed a public process that identified significant needs for new parks and recreational facilities, and the City's fire ISO rating has fallen to 3. The recoupment approach is inherently a temporary solution,

which requires periodic monitoring to ensure that the City has not fallen below the adopted level of service standards, at which time the fees should cease being considered recoupment fees.

Our recommendations with respect to impact fee exemptions are summarized as follows:

- Discontinue the recoupment approach as a method for funding impact fee exemptions;
- Rescind blanket exemptions for geographic areas of the city;
- Modify affordable housing exemption criteria to ensure that the housing remains affordable;
- Deposit general fund and grant fund appropriations directly into impact fee accounts to offset future exemptions;
- Tailor residential impact fees to the size of the dwelling unit; and
- Pursue fact-based fee reductions that will promote City objectives.

Administrative Procedures

There is no one person or department that is responsible for overseeing and coordinating the administration of the City's impact fee program. The Planning and Community Development Department oversees the collection of impact fees at the building permit stage, processes developer credit and exemption applications, and programs impact fee revenues for expenditure in the Capital Improvements Program; the Finance Department accounts for the funds in segregated accounts and prepares periodic reports; the City Council adopts ordinances appropriating impact fee funds for specific projects; the Public Works, Parks, Recreation and Cultural Affairs, Police and Fire Departments oversee the expenditure of funds on capital improvement projects; and the Law Department provides legal support. A flow chart of the impact fee process illustrates the complexity of the system (see Figure 6).

The City's ordinance calls for the Finance Department to be responsible for the administration of the City's impact fee ordinance, but the Finance Department has little control over the other departments involved in the process. Compounding the problem, there has been significant staff turnover within the departments administrating the impact fee program, which has eroded the institutional knowledge base relative to the program.

At the time of this review there were no written procedures relating to the current administration of the City's impact fee program. A proposed procedure memorandum was provided by the Finance Department, although to the consultants' knowledge it has not been implemented.

The City of Atlanta should address the lack of central administration of the development impact fees program. The program needs a central administrative body that can make policy decisions that affect several City departments, and staff that are specifically assigned and accountable for impact fee program administration from collection to use of funds.

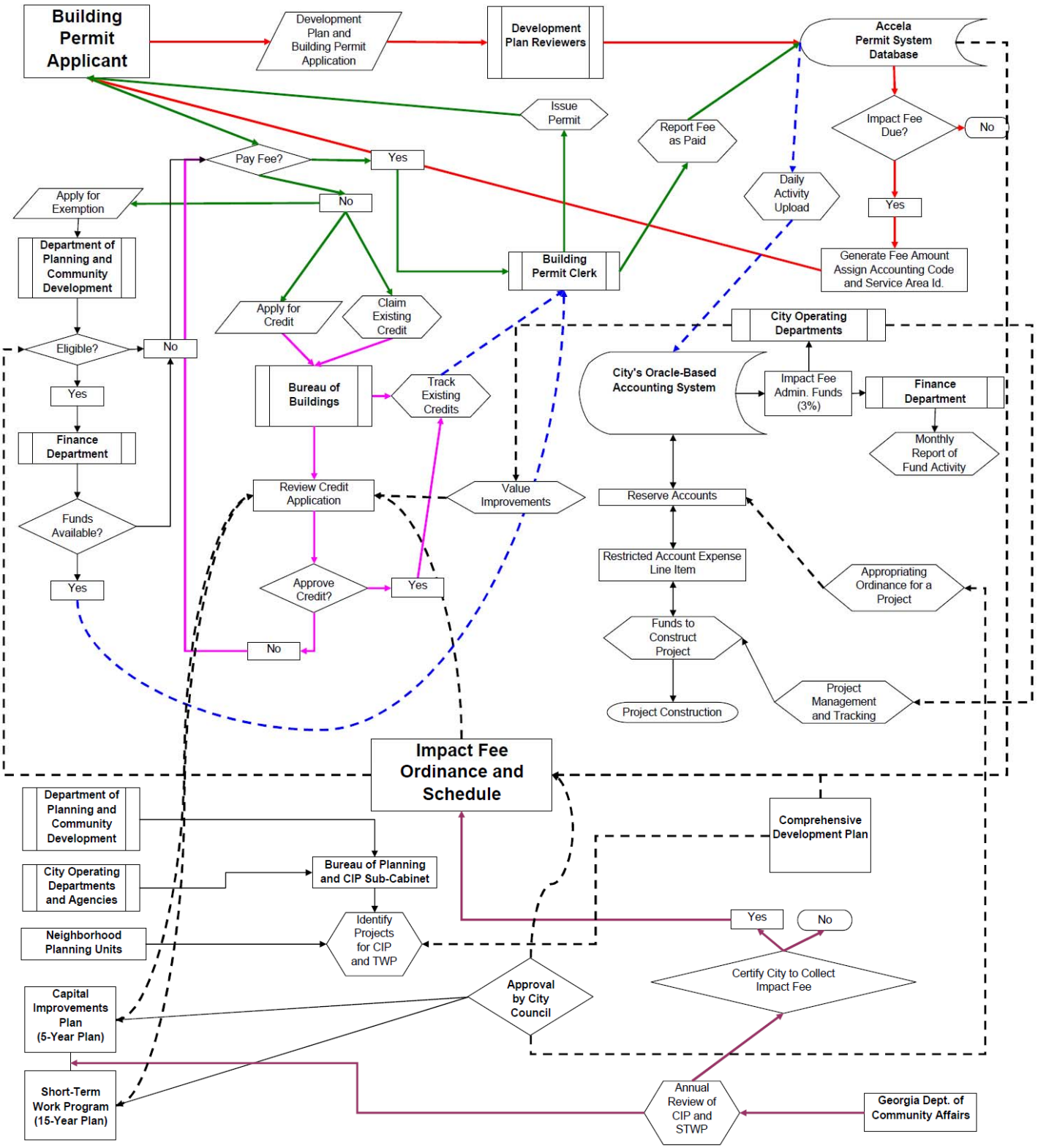
Recommendation: Create a multi-departmental Impact Fee Management Committee to oversee the administration of the impact fee program.

It is recommended that the City create an Impact Fee Management Committee, consisting of representatives from Finance, Planning and Community Development, Public Works, Parks, Recreation and Cultural Affairs and Law, to oversee the impact fee program. The committee should meet monthly or at least quarterly. Agenda items for these meetings could include the establishment of procedures for inter-departmental coordination of impact fee administration, as well as review of the monthly financial reports, active project status summaries, and proposed future appropriations.

It is further recommended that a full-time Impact Fee Administrator position be created, to be located in the Planning and Community Development Department. The Administrator would be responsible for day-to-day oversight of all aspects of the impact program, and could act as secretary to the Impact Fee Management Committee. The Administrator could, among other things:

- Be responsible for all internal and external reporting and monitoring of the program;
- Review monthly impact fee financial reports;

Figure 6. Impact Fee Process Flow Chart



- Prepare the annual compliance report for the Georgia Department of Community Affairs;
- Determine exemptions for waivers from a requirement to pay an impact fee, and identify the alternative funding source;
- Determine the availability of and the amount of any refund;
- Calculate and track credits for contributions, dedications or improvements that may be used to offset any impact fee otherwise due;
- Gather information on projects where no activity has occurred, or where projects came in lower than budgeted, so that unspent impact fee funds can be redirected to other capital projects;
- Draft ordinances appropriating impact fees, monitor their approval and ensure they are properly recorded in the accounting system; and
- Monitor the City's annual Capital Improvements element for capital project eligibility.

Impact Fee Collection Process

Impact fee payments are made at the same time that building permit fees are due. The impact fee rates for transportation, parks, police and fire facilities are unchanged since the adoption of the original ordinance in March 1993. The fees are based on the number of dwelling units, hotel rooms and nonresidential building square footage. These development characteristics are taken from architectural plans for the development. The Accella permitting software system generates the impact fees that are due, along with all other applicable fees, and assigns each fee the appropriate accounting code. The permitting system uses the physical address for the permit to assign a code identifier for the appropriate parks service area (all the other fees are city-wide). Applicants show the walking distance to the nearest MARTA on submitted plans to qualify for the reduced transportation impact fee. The applicant goes to the fee payment window at City Hall with a permit number and makes the appropriate payment. The clerk marks the permit as paid in the Accela system and prints out the building permit, which serves as the receipt for the fees paid. At the end of the day, all payment information, including fee amounts and accounting codes, is uploaded into the revenue module of the City's Oracle-based accounting system. Impact fee funds appear to be properly segregated at time of collection and assigned proper account codes. Funds are immediately deposited into proper reserve accounts. These procedures appear to be working well.

The City recently converted from its previous KIVA permit software to the new Accela system in November 2009. The new system is made by the same company, and the impact fee collection process was not changed by the new implementation. The new Accela system includes a module, currently inactive, that is capable of interfacing with the Bureau of Planning's GIS system. An activation of this module may be warranted if the collection process is driven by multiple service area designations.

Recommendation: Consider activating the GIS module of the Accela permitting system to accommodate multiple service areas.

Appropriations and Expenditures

After being received by the Finance Department's Revenue Division, impact fees are placed into designated reserve accounts in the General Government Capital Outlay Fund. This fund is a reserve

that holds impact fee and non-impact fee moneys for capital improvement projects. The impact fees are placed in "available for use" accounts (segregated by fee type and service area) until a City Council ordinance authorizes their use for specific projects, at which time the amount and type of impact fee funds designated in the ordinance is transferred to a "restricted" account.

For each impact fee service area account (transportation, parks-Northside, parks-Southside, parks-Westside, police and fire), there is also a corresponding account for the 3% administrative charge. This seems unnecessarily cumbersome, since most administrative activities related to impact fees, other than the review of developer credit applications, are not specific as to the type of fee. It is recommended that these administrative accounts be combined into a single account that would be available to fund all aspects of impact fee administration. In addition, the administrative charge should be added to the impact fee amounts due as an additional charge, rather than be taken out of the impact fee amount, since the impact fee is intended to pay for capital improvements.

Recommendation: Make the administrative fee in addition to, rather than taken out of, the impact fee, and segregate it in a single account, instead of multiple accounts corresponding to each fee type.

The Finance Department maintains a summary of journal entries of all impact fee appropriations. Dating back to 1994, it is a chart of impact fee reserves spanning all the fee types and service areas. The information displayed by column includes an assigned journal entry number, authorizing City Council ordinance(s), fee type, service area(s), and reserve amount.

At the time of the January 2008 conversion from the old MARS(G) (Management Accounting and Requisition System) to the new ORACLE-based accounting system, 144 expense and reserve accounts were in place, and activity was reported upon on a monthly basis. The summary represented an active chart of accounts.

Each appropriation is assigned a number that corresponds to a journal entry. The entry transfers the funds to a line item that enables user departments to encumber the funds for expense purposes. A purchase order or contract number is committed against the line item funds allowing for invoices to be received and processed against project scopes of work and contracts authorized by City Council ordinance. For example, Bakers Ferry Sidewalks was assigned the number 94-O-9156. The" 94" represents the year the ordinance was approved by the City Council, "O" represents ordinance, while "9156" is the legislative tracking number. In 1994, $70,906 was transferred from reserves status in the General Government Capital Outlay Fund Budget to an expense line item designation for Bakers Ferry sidewalk construction.

A large number of transportation projects acted as payouts to match other sources of funds designated for system improvements. The funds would be paid to the Georgia Department of Transportation in some instances, since they would hold the match sources of funds via State Grant matching line items that served to combine the sources of funds in order to complete the design and construction elements. In all cases the agreements were detailed legislatively, and approved by the City Council.

The park, police and fire funds are technically recoupment fees, meaning that they represent a reimbursement to the City of prior capital investments, and therefore can be used for any public purpose. The fees were originally so designed in order to provide a source of revenue that could be used to pay transportation impact fees for projects that qualified for an exemption or waiver.

However, few of these funds were ever used for this purpose. Most of the parks expenditures were for park capacity expansions, trail development and green space acquisitions. The fire fund expenses were utilized to support the funding of five fire stations, and a comprehensive study for future station sites associated with new patterns of development. Approximately $4.2 million has been spent on these projects. The Police Department has utilized funds for the Academy Expansion, Zone 4 Precinct construction, and a study for new facility locations driven primarily by new development.

In some cases, ordinances appropriating impact fee funds to specific projects have not been immediately recorded in the City's accounting system, resulting in an overstatement of available fund balances until the appropriations are entered into the system. For example, in August 2009, with the assistance of Department of Parks, Recreation and Cultural Affairs and the Atlanta Development Authority, the City's consultant forensic accountant identified six ordinances appropriating park impact fee funds adopted by the City Council from October 2007 through 2008 totaling $5.035 million that had not been recorded. Procedures need to be designed and established so that General Accounting is notified in a timely manner of ordinances passed that have an effect on the impact fee accounts.

Recommendation: Develop procedures to track the expenditure of impact fee funds and close out defunct projects.

No written policies govern how impact fee project expenditures are tracked by the Parks and Recreation Department, the Public Works Department or the Atlanta Development Authority (which is responsible for the real estate acquisition and closing process for open spaces and green space acquisitions). It appears that no comprehensive expenditure tracking system exists and the ability to track funds expended on these projects is on an ad hoc basis. The acceptance of completed projects is done via inspections performed by field engineers, with no established procedures for getting this information back to the impact fee accounting system. Procedures should be developed to track the expenditure of impact fee funds and the completion of impact fee-funded projects. This would allow the identification of projects where no activity has occurred, or where projects came in lower than budgeted, so that any unspent impact fee funds could be redirected to other capital projects.

Developer Credits

Developer credits represent the value of system improvements constructed by developers, most often for transportation facilities. The credits can be used to reduce the impact fees owed for the same types of facilities. Developer credits pose challenges to impact fee administration because (1) the improvements are often made at the time of subdivision or site plan approval, before there is any building permit application to which to tie them, and (2) the extended period of time required for review, approval, construction and acceptance by the City sometimes results in the credits being effective after the impact fees have already been paid. Staff interviews indicate that developers may pay impact fees, which are due at time of building permit issuance, under protest if a credit application is pending, or if the fee assessment was not correctly determined and applied during staff reviews in the Bureau of Buildings. Staff could not recall any instances where credits were not properly applied, and none have occurred since the new Accela permit issuance system was implemented.

Once the amount of the credit has been determined and approved, developers receive an identifier and credit holder identification numbers. A letter is received from the Bureau of Buildings stating the date the credit became active, designation as a pre- or post-ordinance credit, type by service area,

and the dollar value of the credit. The Bureau maintains notations reflecting when a credit is granted, and if the actual use was transferred to another development. Each use of a credit is shown as a debit subtracted from the credit balance until the balance is $0.

Pre-ordinance credits are those that were granted for developer improvements made before the 1993 effective date of the original impact fee ordinance. All pre-ordinance credits have expired. Post-ordinance credits must be used within 10 years of the date they were approved. As of February 2009, the Bureau of Buildings was holding on file a total of $1,464,293 in post-ordinance credits still to be claimed for future use.

While the City tracks outstanding credits, the responsibility for claiming a credit lies with the building permit applicant. If the building permit applicant claims a credit, and the claim is verified, the amount of credit available is applied against the amount of the fee otherwise due for the building permit, up to the full amount. The credit amount applied against the permit is subtracted from the applicable credit balance. These procedures appear to be working well.

Accounting for the Fund

Prior to the conversion to the new Oracle accounting software in January 2008, the Finance Department prepared a monthly financial report documenting all impact fee activity. The impact fee report includes summaries of monthly, yearly, and life-to-date history, reflecting appropriations, collections, fund balances, expenses, encumbered or restricted funds, and interest earned. The report summarizes data by the authorized impact fee funds for transportation, parks (broken down by Northside, Southside and Westside service areas), police, fire and administration (3% of the fees collected are earmarked for the costs of administering the impact fee program).

As a reporting tool, the format in use is adequate in terms of information needed to serve the user departments and to provide input for the compliance report submitted annually to the State of Georgia Department of Community Affairs. However, the Finance Department has been unable to provide a consistent report of financial activity since converting from the old MARS(G) accounting system to the current ORACLE-based system. The last formal impact fee report was prepared as of November 30, 2007. From interviews and reports provided, it was learned that fund balances closed in the old financial system were not properly detailed or mapped for use in the new ORACLE system. Closing journal entries were lumped together into a general reserve, resulting in a loss of accurate balances by impact fee fund.

Late in 2008, the Finance Department engaged the services of a Certified Public Accountant, who provided a forensic accounting analysis in order to reconstruct current available fund balances. Starting from the November 30, 2007 general ledger balances from the old MARS(G) accounting system, the consultant identified fees collected, interest earned, administrative costs (3%) deducted, and new appropriations for the 2008 and 2009 fiscal years. The results of his analysis are the following available fund balances, as of June 30, 2009.

Table 7. Available Fund Balances, 6/30/2009

Transportation	$4,157,156
Police	$1,423,784
Fire/EMS	$2,262,951
Parks - Northside	$984,934
Parks - Southside	$712,849
Parks - Westside	$1,198,506
Total	$10,740,180

Source: Harry Wishnow, "Impact Fees Total Available Usage Reconciliation as of 6-30-09," and "Park's Ordinances not included in Life-To-Date Ordinance Schedule," August 24, 2009.

Clearly, accounting procedures need to be put into place to ensure that accurate and up-to-date fund balances can be maintained without the need to resort to forensic accounting exercises. These procedures should ensure that interest earned on the General Government Capital Outlay Fund are proportionately allocated to the impact fee accounts on a regular basis, that the 3% administrative charge is segregated into a separate account, and that appropriation ordinances are promptly recorded.

Recommendation:
Develop procedures to ensure that the Finance Department is notified of ordinances appropriating impact fee funds, that interest is allocated to impact fee accounts on a regular basis, and that administrative fees are properly segregated.

Short-Term Work Program

The City utilizes the Capital Improvements Program (CIP) and the Short-Term Work Program (STWP) to implement construction, maintenance, and renovation of public facilities and infrastructure projects spanning a twenty-year period. The CIP represents planned public improvements within a 5-year time frame, while the STWP includes both funded and unfunded capital initiatives planned over the following 15-year period.

The City of Atlanta is required to adopt both documents annually in order to maintain eligibility for all State and regional funding. The State of Georgia Department of Community Affairs and the Atlanta Regional Commission review each document by October 31st. The Department of Community Affairs then issues correspondence to the City's Bureau of Planning allowing the City to collect development impact fees.

Functioning under the Department of Planning and Community Development, the Bureau of Planning is responsible for the preparation of the CIP and the STWP. It also oversees a sub-cabinet of representatives from each operating department and agency. These representatives assist the Bureau in compiling data and project information summaries making up the CIP and STWP.

The City of Atlanta utilizes the CIP as the funding mechanism for capital initiatives adopted from the Comprehensive Development Plan. The document includes project cost estimates, narrative or project scope, programming over 5 years, departmental responsibility and sources of funding The document "identifies major improvements and capital purchases needed to provide services to the community." In order for a project to be included in the CIP, planned infrastructure and facility improvement should have a "useful life of longer than 5 years, with monetary value of at least $25,000." The CIP includes any project that is currently funded in an existing capital improvement or bond program that will not be completed by July 1st of the current year. In order to be included

in the CIP, a project must be included in both the Comprehensive Development Plan and the STWP.

Both documents are prepared annually by the Bureau of Planning and the CIP sub-cabinet. Work begins in February. The process allows for input from the Neighborhood Planning Units (NPU) by April 30. Draft documents are prepared by June 1, and public hearings are held in June and September. The process concludes with adoption by the City Council in October.

A check with the State of Georgia Department of Community Affairs indicates the City's schedule for adoption of the CIP and the STWP is adequate for the State to issue the annual designation of the City of Atlanta as a Qualified Local Government to continue the collection of impact fees.

Exemptions

The issue of exemptions is addressed in greater detail in a previous section of this report. The accounting for granted exemptions consists of a list with the name of the development receiving the exemption and the amount exempted. Since June 2009, no exemptions have been granted, based on the directive from the Chief Financial Officer. In the event that the granting of exemptions is resumed, exemption reports should indicate the offsetting source being used for fund the exemption. In addition, the Department of Planning and Community Development should investigate whether an application in the new Accela permitting system can accomplish a better means of tracking exemptions and customizing periodic queries. An Impact Fee Administrator could be the keeper of a revised data file for exemptions.

Recommendation: Indicate the source of offsetting funding in the record for each exemption.

Conclusions and Recommendations

Significant improvements are necessary in order to strengthen the management of the development impact fee program. From documents supplied during our review, serious issues were noted. The loss of experienced staff with institutional memory, the lack of formal procedures for some processes and the lack of a single department or individual with overall responsibility for the management of the program, combined with a badly-managed transition to the new accounting program, necessitated the employment of a forensic accountant to reconstruct the impact fee account balances. Following the transition to the new accounting system two years ago, interest earnings were not routinely allocated to the impact fee accounts, Council ordinance appropriating impact fee funds were not always entered into the system, and the 3% administrative charge was not segregated from the project funds. While these problems were caught and corrected through forensic analysis after the fact, the consequences in terms of not having an accurate fund balance could have lasting and damaging effects on several programs that rely heavily upon timely and accurate reporting of fund balances.

In addition, improvements need to be made in the process of tracking expenditures of funds once they have been appropriated and moved to restricted accounts. In the event that projects for which impact fees were appropriated have been cancelled or have come in under budget, there may be restricted funds that could be moved back to available fund balances.

In summary, the following process improvements would assist the City in developing an effective and efficient process for administering the impact fee program:

- The City should create an Impact Fee Management Committee, consisting of representatives from Finance, Planning and Community Development, Public Works, Parks, Recreation and Cultural Resources and Law, to oversee the impact fee program.

- A new position of Impact Fees Administrator should be created within the Planning and Community Development Department. The Administrator would be responsible for day-to-day management of all aspects of the impact fee program.

- The six administrative fee accounts should be merged into a single account that can be used to fund any administrative cost related to the impact fee system.

- The City should consider activating the GIS module of the Accela permitting system so that permit addresses can be used to identify impact fee service areas and proximity to MARTA stations with accuracy.

- In the event that the granting of exemptions is resumed, the Department of Planning and Community Development should investigate whether an application in the new Accela permitting system can accomplish a better means of tracking exemptions.

- Procedures should be designed and established so that General Accounting is notified in a timely manner of ordinances passed that have an effect on the impact fee accounts.

- Procedures should be designed and established so that the impact fee share of interest earned on General Government Capital Outlay Funds is allocated to the impact fee accounts on a regular, periodic basis.

- Procedures should be designed and established so that the expenditures of impact fee funds on projects can be tracked and any remaining funds transferred back to the available fund balance as projects are finished (or remain inactive).

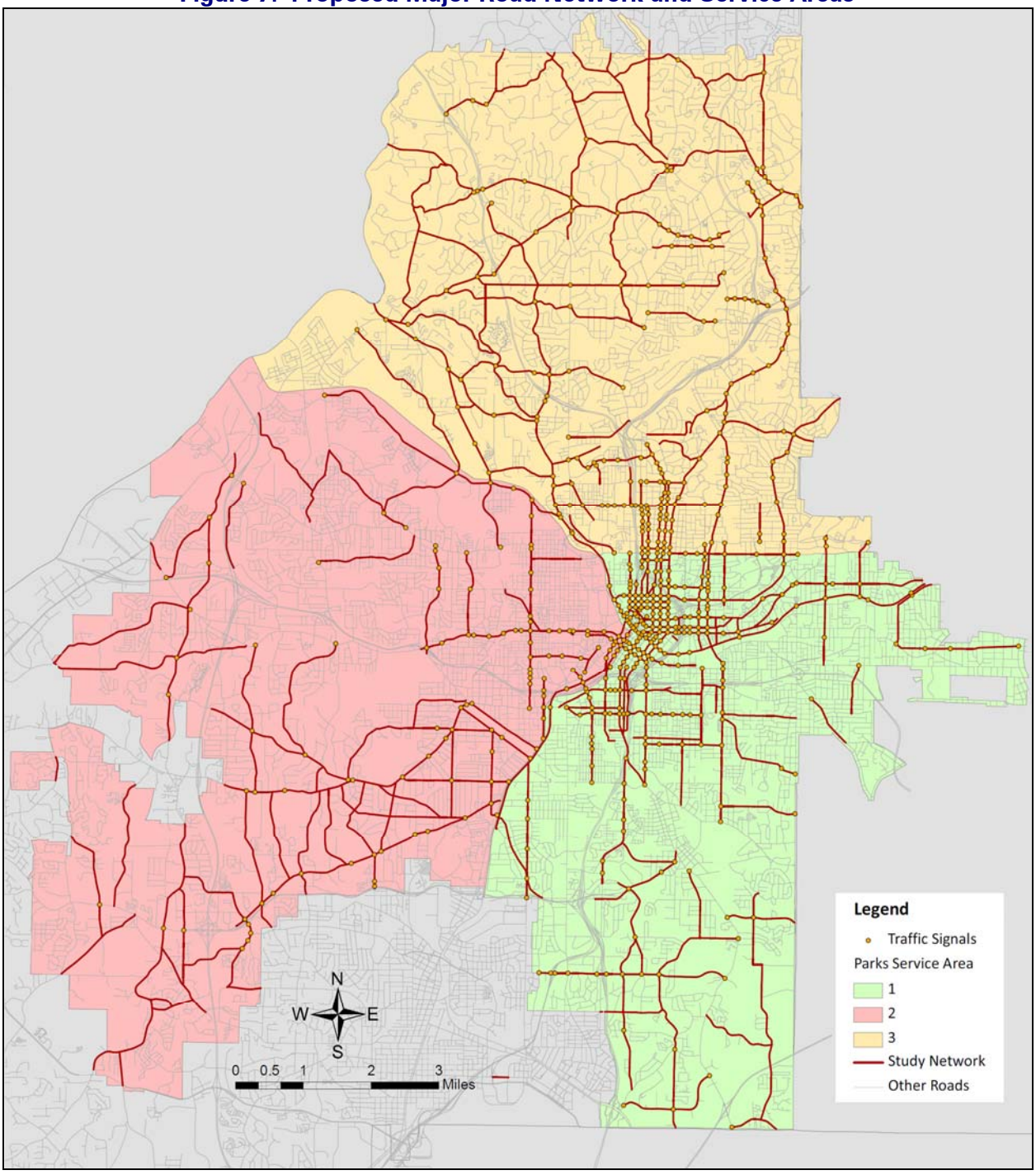
TRANSPORTATION

This section provides an update to the City's transportation impact fee. The City's authority to adopt its transportation impact fee comes from the *Development Impact Fee Act*, which authorizes impact fees for "roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways." The current fees are based on non-interstate arterial roads (plus three major collectors that function as arterials). The updated fees are expanded to include all collector roads, but are contracted to exclude State and Federal highways. The major road network included in the impact fee is illustrated in Figure 7. The figure also shows the three park service areas, which are proposed to be used for the transportation impact fees as well.

A relatively expansive definition of "public road" is provided in Section 32-1-3(24) of the Georgia Code: "a highway, road, street, avenue, toll road, tollway, drive, detour, or other way open to the public and intended or used for its enjoyment and for the passage of vehicles in any county or municipality of Georgia, including but not limited to the following public rights, structures, sidewalks, facilities, and appurtenances incidental to the construction, maintenance, and enjoyment of such rights of way:…" The subsequent list includes wayside parks, rest areas and scenic and access easements.

While neither definition includes any specific reference to public transit, buses, trolleys, streetcars and trains are certainly vehicles, and lanes or other improvements within roadways to accommodate them could fall under the purview of this authorization. A bill to explicitly authorize impact fees for public transit facilities failed in the Georgia legislature in 2007. Given the lack of clarity on this matter in Georgia statutes, it is recommended that the City not attempt to expand the transportation impact fee to include public transit improvements at this time, but rather seek to amend the *Act* to secure explicit authorization.

Figure 7. Proposed Major Road Network and Service Areas



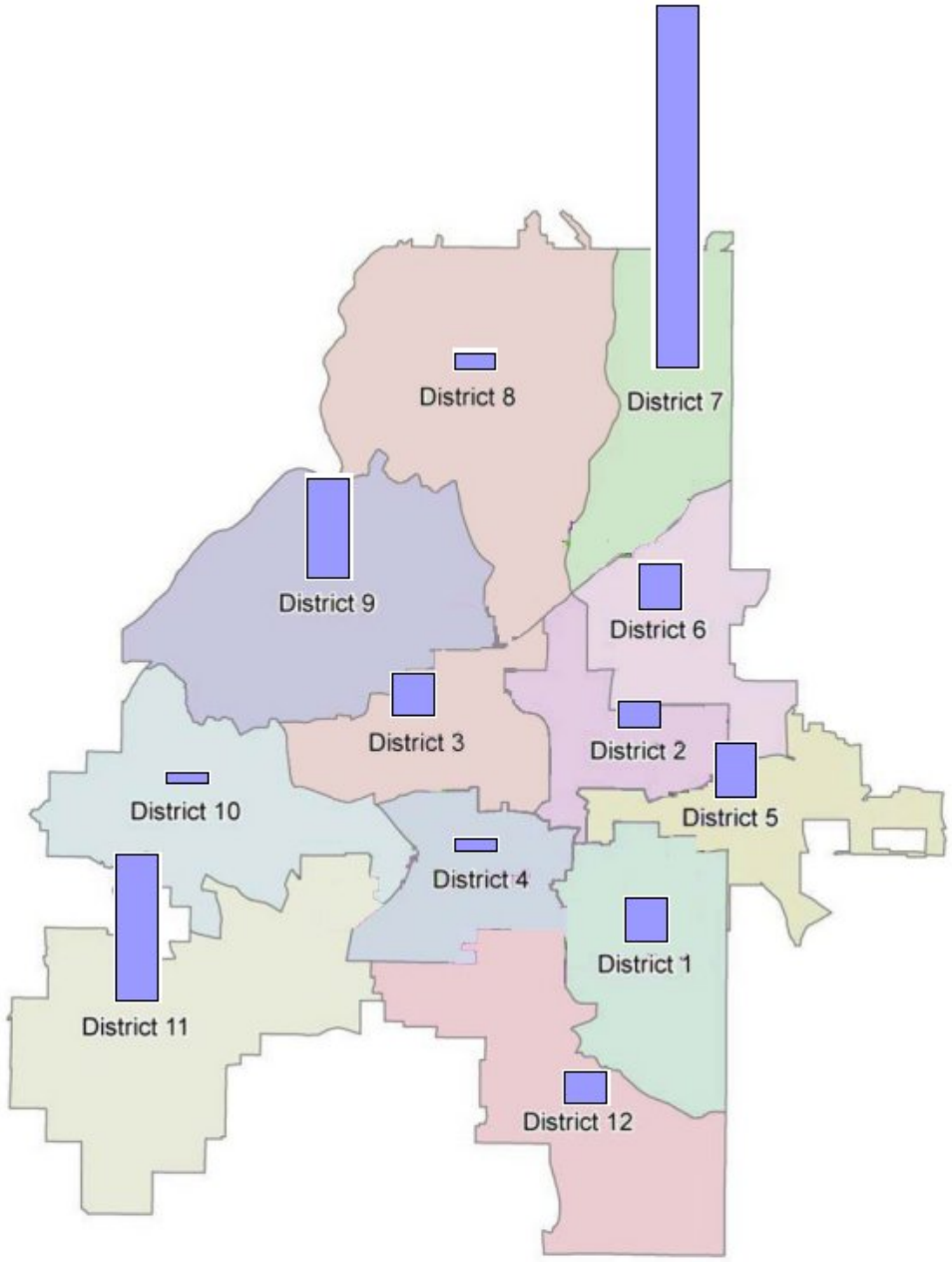
Service Areas

Currently, the City has a single, city-wide service area for transportation impact fees. This is arguably reasonable for a fee based on arterial street improvements, since the function of the arterial system is to move traffic throughout the community. However, the city-wide service area, combined with little clarity in the City's ordinance about what constitutes an eligible capacity-expanding improvement, generated controversy, with developers alleging that most of the fees were paid by new development in the Buckhead area, while the funds were spent mostly on sidewalk improvements in south Atlanta. However, it should be noted that in many cases, transportation fees assessed were reduced or eliminated to credit developers for installing road improvements in the vicinity of their projects. Nevertheless, this discontent resulted in the Legislature amending the *Development Impact Fee Act* in 2007 to put additional restrictions on Atlanta's use of transportation impact fee revenues, effective on July 1, 2007. These Atlanta-specific provisions require that the funds be spent only for projects identified in the City's Capital Improvements Element, and that they take into consideration: (1) the proximity of the improvements to developments that have generated the fees and (2) the greatest effect on levels of service for roads impacted by the developments that have paid the fees.

It has been suggested that the City's geographic information system (GIS) database (or transportation model, although the GIS system would seem a more reasonable option) could be used to ensure that the funds collected from each fee payment would be spent within a certain radius of the location of the development for which the fee was paid. Let's assume that a radius of three miles is chosen. To implement this, it would first be necessary to plot the location of all fee payments (deducting the 3% administrative charge and adding interest earned) that have not yet been spent or encumbered at the time the project funding is to be determined. Second, a 3-mile radius would need to be drawn around each of the projects proposed for impact fee funding. Third, the GIS system would be used to determine the total available funding within the 3-mile radius for each project. In the event that a particular project costs less then the available funding, a decision would need to be made as to which fee payers' money would be used to fund the project (this could be done by shrinking the radius until the available funds matches the project cost). Each payment record within the radius would then be coded with the identification number of the project for which funds were appropriated. However, suppose that the project comes in 10% under budget, and the unused impact fee funds are returned to the fund balance. Would each fee payment record then need to be amended to indicate the portion of the fees paid that had been spent, and the amount available? This thought exercise reveals some of the complexity that would be involved in attempting to track the use of each fee payment. While it may not be impossible to do, it would be extremely burdensome and would appear to go far beyond the legislative requirement that proximity be taken into consideration. In sum, the analysis required to comply with the proximity provision would be impractical to undertake for each fee payer. Instead, it must take the form of a generalized analysis.

One approach would be to prepare a geographic depiction of where the impact fee revenues have been generated and where they are proposed to be spent. Figure 8 displays the distribution of transportation impact fee revenue that has been collected since July 1, 2007 by City Council district. The height of the column is proportional to the impact fees collected in that district. The figure shows that new development has not been evenly distributed, but has been more concentrated in some areas. Three Council districts – 7 in the north, 9 in the northwest and 11 in the southwest – accounted for 68% of all transportation impact fee revenues collected.

Figure 8. Transportation Impact Fee Collections, 7/1/2007-9/30/2009



One way to conduct the proximity analysis would be to show, on a map like the one above (or perhaps using census tracts or neighborhood planning units), an additional bar indicating the funds that are programmed to be spent in each geographic subarea. One should not expect the revenue and expenditure bars to be exactly the same height for each area. For example, a major project serving development in both District 9 and District 11 might be located in District 10, which generated very little revenue – this would not be indicative of a geographic disparity between revenues and expenditures. On the other hand, if half the expenditures are in Districts 2 and 4, which together generated less than 8% of the revenue and which are located a considerable distance from the areas generating the majority of the revenue, the proximity test would clearly not be met.

Such a revenue and expenditure mapping exercise, however, would not always produce obvious results that could be agreed upon by all reasonably-minded observers, and would be difficult to do for only one or two planned projects. If several planned projects are used, and subsequently one or more ends up not getting built, the results of the exercise could be called into question.

It would appear that the GIS approach is too complex and the revenue and expenditure mapping approach is too qualitative to satisfactorily address the proximity issue. Our recommendation is to use the tried-and-tested method of dividing the city into multiple service areas, within which fees collected would be spent. This is the approach that is used by most jurisdictions to show reasonable benefit to fee-paying developments. It would guarantee that funds would be spent within a certain radius of the fee-paying development (determined by the maximum width of the service area), while eliminating the possibility of the most serious types of geographic disparities.

An obvious candidate for transportation impact fee service areas are the three parks and recreation service areas (illustrated in Figure 7). Aside from the administrative advantages of having to deal with only one set of service areas, the parks service areas turn out to make a great deal of sense for transportation as well. The service area boundaries tend to be major transportation routes, and each service area includes some of the downtown core, which is a natural destination for many trips. The areas are also large enough that each one could generate enough money to make an improvement. The distribution of where transportation impact fee money was collected since July 1, 2007, when the Atlanta-specific requirements were imposed, is shown in Table 8 by park service areas.

Table 8. Transportation Fee Revenue by Park Service Area, 7/2007-9/2009

Service Area	Revenue	Percent
Northside	$3,364,898	55%
Southside	$1,141,990	19%
Westside	$1,587,835	26%
Total	$6,094,723	100%

Source: Transportation impact fees collected from July 1, 2007 through September 30, 2009 from City of Atlanta, December 29, 2009.

In addition to the proximity test, there is what might be called the "LOS test." Not only should the funds be spent in reasonable proximity to where they were collected, they should also be spent on projects that will have the greatest effect of improving the level of service of roads impacted by the development. Since developments will tend to have the most impact on roads located in their proximity, this test essentially adds the additional factor of LOS improvement. This test was presumably added in response to the City's past practice of spending transportation impact fees primarily to add sidewalks to roads that were far from where most of the new development was occurring.[3] The bottom line is that this test would seem to require that the improvements being funded can be shown to have a significant effect on expanding the vehicular capacity of roads that are in need of additional capacity and are in proximity to where development is occurring.

[3] Since the inception of the impact fee program in 1993, the City has spent about 61% of transportation impact fee funds on sidewalks, streetscapes, pedestrian trails and bridges, and traffic calming, and 30% on street improvements, intersection improvements and signal installation (the remainder was for administration, software and planning), per City of Atlanta, "Impact Fee Appropriations Summary," July 2007 and ordinance 08-O-1759, which programmed $9.6 million in transportation impact fee funds in 2008.

Methodology

The original impact fee study used a standards-based methodology for the transportation impact fees. This approach is commonly referred to as a "consumption-based" methodology. The concept is that new development should pay for the cost of replacing the capacity that the additional traffic consumes in the major roadway system. It is based on the existing system-wide level of service, expressed as a ratio of vehicle-miles of travel (VMT) to vehicle-miles of capacity (VMC). Existing VMC was quantified based on an inventory off all of the existing arterial road segments within the city limits. Generalized peak hour capacity estimates were used that took into consideration the number of lanes, presence of a median, number of signalized intersections per mile and percentage of intersections with left turn lanes. The estimated capacity of each road segment was multiplied by the length of the segment in miles to determine segment VMC, and the VMC for all segments was summed to determine system-wide VMC. At the time of the 1993 study, the existing system-wide ratio was 0.70 VMT/VMT, and the fees were based on the slightly worse level of service of 0.75 VMT/VMC.

A limitation of the standards-based approach is the difficulty of quantifying the VMC added by improvements other than new roads or widening projects. The capacity added by intersection improvements, for example, is difficult to quantify. In Atlanta's as in most standards-based systems, the cost per VMC is determined based on a list of road segment improvements, while the ordinance allows the fees to be spent on any capacity-expanding improvement. In Georgia, the Department of Community Affairs, which certifies local governments as in or out of compliance with the *Development Impact Fee Act*, has released guidelines suggesting that level of service measures "be expressed in quantifiable terms or in a manner sufficient to allow future evaluation of progress in meeting capital improvements goals."[4] The City's current approach can only quantify the capacity added by new through lanes or new left turn lanes (while it does take into consideration traffic signals, installing new signals may actually reduce the capacity of the arterial while increasing the capacity of the crossing street). Consequently, if the current approach is retained, the impact fee funds could possibly be restricted to expenditures on these types of improvements that add quantifiable VMC to the system.

Such a restriction might not be a major problem for growing communities with pressing needs for new lane-miles, but Atlanta is a relatively mature city with greater needs for other types of improvements. The City transportation master plan, the *Connect Atlanta Plan*, focuses on adding road-related connections (completing the sidewalk system, extending roads across barriers like train tracks, adding transit lanes) in order to accommodate and encourage redevelopment. While the road extensions across barriers add lane-miles and thus quantifiable capacity, most of them are likely to be local and collector roads, rather than arterials, which is the roadway class addressed by the current impact fee. As a result, this update expands the scope of the fees to cover collector roads. In addition, as discussed in the level of service analysis, the level of service in this update is measured in terms of equivalent lane-miles rather than vehicle-miles of capacity in order to capture transportation components allowable under Georgia's current Impact Fee Act.

[4] Georgia Department of Community Affairs, "How to Address Georgia's Impact Fee Requirements," updated April 2008

Travel Demand

A service unit is a common unit of demand generated by different land uses. An appropriate service unit basis for traffic impact fees is vehicle-miles of travel (VMT). Vehicle-miles is a combination of the number of vehicles traveling during a given time period and the distance (in miles) that these vehicles travel.

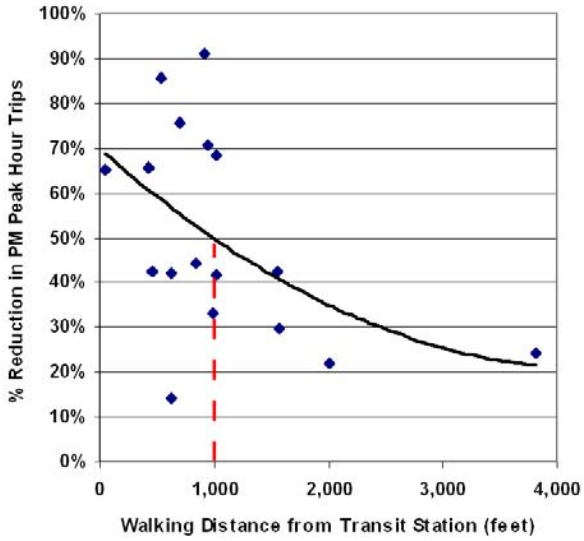
The two time periods most often used in traffic analysis are the 24-hour weekday (average daily trips or ADT) and the single hour of the weekday with the highest traffic volume (peak hour trips or PHT). This update maintains the use of the PM peak hour trip rates, because evening rush hour traffic is generally the most critical period of roadway use in urban areas like Atlanta.

The travel demand generated by specific land use types is a product of three factors: 1) trip generation; 2) percent new trips; and 3) trip length. The result is the vehicle-miles of travel (VMT) placed on the major roadway system during the peak hour by a land use.

Trip Generation

Trip generation rates are based on information published in the most recent edition of the Institute of Transportation Engineers' (ITE) *Trip Generation* manual. Trip generation rates represent trip ends, or driveway crossings at the site of a land use. Thus, a single one-way trip from home to work counts as one trip end for the residence and one trip end for the work place, for a total of two trip ends. To avoid over counting, all trip rates have been divided by two. This allocates the burden of travel equally between the origin and destination of the trip and eliminates double-charging for any particular trip.

Figure 9. Trip Reduction Near Transit



The City's current transportation impact fees are reduced by 50% for development within 1,000 feet of a MARTA station. Such a reduction is supported by research. A 2008 study published by the Transportation Research Board studied 17 transit-oriented housing developments in four metropolitan areas (Philadelphia, PA; Washington, DC; Portland, OR and San Francisco, CA). The projects were all apartment buildings with the exception of one condominium project. The average walking distance to the nearest transit stop was 1,060 feet. The number of units ranged from 90 to 854, four of the projects were high-rises (10-21 stories), and the number of parking spaces ranged from 1.0-2.5 per unit. The study found that PM peak hour trip rates for these developments were, on average, 50.6% lower than the published ITE rates. Most of the projects were located within 1,000 feet of a transit station (see Figure 9).[5] City transportation staff propose that the ordinance language for the reduction be modified to require that distance be measure in terms of walkable distance, and that developments provide reduced parking (i.e., no more than the minimum requirement and no more than 80% of the maximum requirement).

[5] G.B. Arrington and Robert Cervero, *Effects of TOD on Housing, Parking, and Travel*, Transit Cooperative Research Program, TCRP Report 128, Washington, DC: Transportation Research Board, 2008

This study gives the City the option of charging single-family and multi-family residential units based on the size of the dwelling unit. Data from the National Cooperative Highway Research Program reveal that the number of trips generated by a dwelling unit is strongly related to the number of persons residing in the unit. While the national data are for average daily trips, the relationships between the various household sizes in terms of daily trips can be used to estimate peak hour trip generation by dwelling unit size. As part of this study, average household sizes have been determined for four single-family and four multi-family square footage categories (see Appendix A). Based on these average household sizes, average daily trip generation rates were estimated for each size category using the NCHRP data. The daily trip generation rates were then used to estimate peak hour trip rates by dwelling size. The resulting tiered residential trip rates are summarized in Table 9.

Table 9. Tiered Residential Trip Rates

Housing Type	Average Household Size	Modeled Daily Trip Ends	Tiered Pk Hr Trip Ends
Single-Family, Detached (All)	2.65	7.07	1.01
Less than 1,000 sf	2.28	6.40	**0.91**
1,000 to 1,499 sf	2.48	6.76	**0.97**
1,500 to 2,499 sf	2.64	7.05	**1.01**
2,500 sf or greater	2.93	7.57	**1.08**
Multi-Family (All)	2.02	5.94	0.62
Less than 500 sf	1.61	4.81	**0.50**
500 to 999 sf	1.87	5.54	**0.58**
1,000 to 1,499 sf	2.20	6.26	**0.65**
1,500 sf or greater	2.34	6.51	**0.68**

Source: Average household sizes from Table 71; daily trips derived from Transportation Research Board, NCHRP Report 365, "Travel Estimation Techniques for Urban Planning," Washington, D.C.: National Academy Press, Table 9 (for areas with populations of more than 1 million), 1998 based on household sizes; peak hour trip rates for all single-family and multi-family units from Table 14; tiered peak hour trip rates based on the ratio of daily trips for the size category to daily trips for all single-family or multi-family units times the peak hour trip rate for all single-family or multi-family units.

New Trip Factor

Trip rates also need to be adjusted by a "new trip factor" to exclude pass-by and diverted-linked trips. This adjustment is intended to reduce the possibility of over-counting by only including primary trips generated by the development. Pass-by trips are those trips that are already on a particular route for a different purpose and simply stop at a particular development on that route. For example, a stop at a convenience store on the way home from the office is a pass-by trip for the convenience store. A pass-by trip does not create an additional burden on the street system and therefore should not be counted in the assessment of impact fees. A diverted-linked trip is similar to a pass-by trip, but a diversion is made from the regular route to make an interim stop. The reduction for pass-by and diverted-linked trips is drawn from ITE and other published information.

Average Trip Length

In the context of a transportation impact fee based on a consumption-based methodology, it is important to determine the average length of a trip on the City's major road system. The point of departure in developing local trip lengths is to utilize national data. The U.S. Department of Transportation's *2001 National Household Travel Survey* identifies average trip lengths for specific land uses and trip purposes. These trip lengths are unlikely to be representative of travel on the City-owned major road system, given that they include travel on Federal and State roads, local streets and

arterial and collector roads outside the City's jurisdiction. Nevertheless, the relative lengths of trips for different land uses derived from the national data should be reasonably representative of trips in Atlanta as well. An adjustment factor can be derived by dividing the VMT that is actually observed on the major road system by the VMT that would be expected using national average trip lengths and trip generation rates.

The first step is to estimate the total VMT expected to be generated by existing development in Atlanta based on national travel demand characteristics. This can be accomplished by taking existing city-wide land uses and multiplying existing development in each land use category by the appropriate national trip generation rates, new trip factors and trip lengths. Estimates on the total number of dwelling units and nonresidential square feet are presented in Appendix A. Total City-wide peak hour VMT is estimated by multiplying existing development units for each land use category by national data on average daily trip generation rates, new trip factors, and average trip lengths, and then summing for all land uses. As shown in Table 10, existing City-wide land uses, using national trip generation rates, would be expected to generate approximately 2.34 million peak-hour vehicle-miles of travel.

Table 10. Expected Vehicle-Miles of Travel

Land Use Type	Unit	Existing Units	Trip Ends	1/2 Trip Rate	New Trips	Trip Length	Peak Hr. VMT
Single-Family Detached	Dwelling	111,990	1.01	0.51	100%	9.22	526,599
Multi-Family	Dwelling	128,118	0.62	0.31	100%	8.68	344,740
Retail/Commercial	1,000 sq. ft.	167,120	3.73	1.87	42%	6.79	891,229
Office	1,000 sq. ft.	33,688	1.49	0.75	75%	7.12	134,920
Public/Institutional	1,000 sq. ft.	88,895	0.74	0.37	75%	7.12	175,639
Industrial	1,000 sq. ft.	45,263	0.73	0.37	95%	9.65	153,531
Warehouse	1,000 sq. ft.	76,216	0.32	0.16	95%	9.65	111,794
Total Expected City-Wide Vehicle-Miles of Travel on Major Roads							**2,338,452**

Source: Existing dwelling units from Table 68, Appendix A; existing nonresidential square footage (in thousands) from Table 72, Appendix A; trip rates and new trip factors from Table 14; average trip length in miles from U.S. Department of Transportation, *National Household Travel Survey*, 2001 (retail/commercial based on "shopping," office and public/institutional based on "family/personal," industrial and warehousing based on average); peak hour VMT is product of existing units, ½ trip rate, new trips and trip length.

The next step in developing the trip length adjustment factor is to estimate current VMT on the major roadway system. The Georgia Department of Transportation maintains a database of existing traffic counts for major roads, and the data were compiled by Kimley-Horn and Associates as part of the inventory of major roads presented in Appendix C. Recent traffic counts are available for approximately half of the road segment miles included in the inventory. Volumes on road segments without recent traffic counts were estimated to average 75% of the average volume on roads with counts, in order to take into account that roads with higher volumes are more likely to be monitored. The estimated VMT by service area and for the city as a whole is shown in Table 11.

Table 11. Actual VMT on Major Road System

	Service Area			City
	Northside	Southside	Westside	Total
Collectors				
VMT on Roads with Counts	34,245	19,523	20,844	74,612
÷ Lane-Miles on Roads with Counts	86.82	91.40	106.30	284.52
Average Volume per Lane with Counts	394	214	196	na
x Est. Ratio of Vol./Lane without to with Counts	0.75	0.75	0.75	na
Est. Volume per Lane without Counts	296	161	147	na
x Lane-Miles on Roads without Counts	78.60	64.15	72.00	214.75
Estimated VMT on Roads without Counts	23,266	10,328	10,584	44,178
VMT on Roads with Counts	34,245	19,523	20,844	74,612
Total VMT, Collectors	57,511	29,851	31,428	118,790
Arterials				
VMT on Roads with Counts	36,821	21,874	10,365	69,060
÷ Lane-Miles on Roads with Counts	69.82	60.34	29.60	159.76
Average Volume per Lane	527	363	350	na
x Est. Ratio of Vol./Lane without to with Counts	0.75	0.75	0.75	na
Est. Volume per Lane without Counts	395	272	263	na
x Lane-Miles on Roads without Counts	27.80	64.10	29.30	121.20
Estimated VMT on Roads without Counts	10,981	17,435	7,706	36,122
VMT on Roads with Counts	36,821	21,874	10,365	69,060
Total VMT, Arterials	47,802	39,309	18,071	105,182
Total VMT, All Major Roads	**105,313**	**69,160**	**49,499**	**223,972**

Source: Table 78, Appendix C.

As shown in Table 12, current travel on the major roadway system is only 10% of total travel that would be expected based on national travel demand factors. This is reasonable in light of the fact that travel on the major roadway system only includes travel on City-owned arterial and collector roads, and excludes travel on interstates, State roads, local streets and any roads outside Atlanta's city limits.

Table 12. Ratio of Actual to Expected Vehicle-Miles of Travel

Actual City-Wide VMT on Major Roads	223,972
Expected City-Wide VMT on Major Roads	2,338,452
Ratio of Actual Daily VMT to Expected VMT	**0.096**

Source: Actual peak/hour VMT on major roadway system from Table 11; expected VMT on all roadways from Table 10.

National average trip lengths are derived from the U.S. Department of Transportation's 2001 *National Household Travel Survey* for a variety of land uses and trip purposes, including single-family detached and multi-family units, shopping, family/personal and average trips. These national averages for travel on all roads have been adjusted by the local adjustment factor to estimate average trip lengths in the major roadway system in the City of Atlanta, as shown in Table 13 below.

Table 13. Average Trip Length by Trip Purpose

Land Use/Trip Purpose	National Trip Length (miles)	Local Adjustment Factor	Local Trip Length (miles)
Single-Family, Detached	9.22	0.096	**0.89**
Multi-Family	8.84	0.096	**0.85**
Shopping	6.79	0.096	**0.65**
Family/Personal	7.12	0.096	**0.68**
Average	9.65	0.096	**0.93**

Source: National trip lengths from U.S. Department of Transportation, *National Household Travel Survey*, 2001; local adjustment factor from Table 12.

The result of combining trip generation rates, new trip factors and localized average trip lengths is a travel demand schedule that establishes the peak hour VMT during the average weekday on Atlanta's major roadway system generated by various land use types per unit of development. The recommended travel demand schedule is presented in Table 14.

Table 14. Travel Demand Schedule

Land Use Type	Unit	Trip Ends	1/2 Trip Rate	New Trips	Trip Length	Pk Hr VMT
Single-Family Detached (All)	Dwelling	1.01	0.51	100%	0.89	**0.45**
Less than 1,000 sf	Dwelling	0.91	0.46	100%	0.89	**0.41**
1,000 to 1,499 sf	Dwelling	0.97	0.49	100%	0.89	**0.44**
1,500 to 2,499 sf	Dwelling	1.01	0.51	100%	0.89	**0.45**
2,500 sf or greater	Dwelling	1.08	0.54	100%	0.89	**0.48**
Multi-Family (All)	Dwelling	0.62	0.31	100%	0.85	**0.26**
Less than 500 sf	Dwelling	0.50	0.25	100%	0.85	**0.21**
500 to 999 sf	Dwelling	0.58	0.29	100%	0.85	**0.25**
1,000 to 1,499 sf	Dwelling	0.65	0.33	100%	0.85	**0.28**
1,500 sf or greater	Dwelling	0.68	0.34	100%	0.85	**0.29**
Hotel/Motel	Room	0.53	0.27	80%	0.68	**0.15**
Shopping Ctr/Commercial	1,000 sq. ft.	3.73	1.87	42%	0.65	**0.51**
Office	1,000 sq. ft.	1.49	0.75	75%	0.68	**0.38**
Public/Institutional	1,000 sq. ft.	0.74	0.37	75%	0.68	**0.19**
Manufacturing/Industrial	1,000 sq. ft.	0.73	0.37	95%	0.93	**0.33**
Warehouse	1,000 sq. ft.	0.32	0.16	95%	0.93	**0.14**
Mini-Warehouse	1,000 sq. ft.	0.26	0.13	95%	0.93	**0.11**

Source: PM peak hour trip rates from Institute of Transportation engineers (ITE), *Trip Generation*, 8th ed., 2008 (retail-commercial based on shopping center, hotel/motel average of hotel and motel, public/institutional based on nursing home, manufacturing/industrial based on manufacturing); new trip percentages from ITE, *Trip Generation Handbook*, 2004 for shopping centers (others assumed); tiered residential trip ends from Table 9; average trip lengths from Table 13.

The travel demand factors currently used by the City in determining impact fees are compared to the updated travel demand factors used in this study in Table 15. The travel demand factors fall for almost all land use categories when compared to those used in the prior study. Two factors contributed to this. Perhaps most important was the substitution of collectors for State roads. In addition, as discussed in the introduction, some of the land uses within the existing travel demand schedule have been eliminated or merged with other land use categories, some of which had somewhat higher trip generation characteristics. For example, the City's current travel demand schedule includes eight commercial land use size categories and five office size categories. While evidence suggests that trip rates decrease with size, the pass-by rates and trip lengths generally increase and tend to balance out the lower trip rate. On the other hand, thus study expands the number of residential land uses to include size categories; the variable rates reflect different

household sizes, which have a direct relation to a unit's travel demand. As currently provided in the City's Ordinance, developers who feel their development will generate less traffic have the option of conducting an independent impact analysis.

Table 15. Transportation Travel Demand Factor Comparison

Land Use Type	Unit	Current VMT	Updated VMT	% Change
Single-Family Detached (All)	Dwelling	1.02		
Less than 1,000 sf	Dwelling		0.41	-60%
1,000 to 1,499 sf	Dwelling		0.44	-57%
1,500 to 2,499 sf	Dwelling		0.45	-56%
2,500 sf or greater	Dwelling		0.48	-53%
Multi-Family (All)	Dwelling	0.50		
Less than 500 sf	Dwelling		0.21	-58%
500 to 999 sf	Dwelling		0.25	-50%
1,000 to 1,499 sf	Dwelling		0.28	-44%
1,500 sf or greater	Dwelling		0.29	-42%
Hotel/Motel	Room	0.78	0.15	-81%
Shopping Ctr/Commercial	1,000 sq. ft.		0.51	
Less than 100,000 sf	1,000 sq. ft.	1.26		-60%
100,000-199,999 sf	1,000 sq. ft.	1.16		-56%
200,000-299,999 sf	1,000 sq. ft.	1.21		-58%
300,000-399,999 sf	1,000 sq. ft.	1.28		-60%
400,000-499,999 sf	1,000 sq. ft.	1.35		-62%
500,000-599,999 sf	1,000 sq. ft.	1.30		-61%
600,000-999,999 sf	1,000 sq. ft.	1.40		-64%
1,000,000 sf +	1,000 sq. ft.	1.53		-67%
Office	1,000 sq. ft.		0.38	
Less than 50,000 sf	1,000 sq. ft.	2.24		-83%
50,000-99,999 sf	1,000 sq. ft.	1.86		-80%
100,000-199,999 sf	1,000 sq. ft.	1.54		-75%
200,000-499,999 sf	1,000 sq. ft.	1.22		-69%
500,000 sf +	1,000 sq. ft.	1.02		-63%
Public/Institutional	1,000 sq. ft.		0.19	
Elementary School	1,000 sq. ft.	0.11		73%
High School	1,000 sq. ft.	0.67		-72%
Church	1,000 sq. ft.	0.58		-67%
Hospital	1,000 sq. ft.	1.38		-86%
Nursing Home	1,000 sq. ft.	0.20		-5%
Manufacturing/Industrial	1,000 sq. ft.	0.98	0.33	-66%
Warehouse	1,000 sq. ft.	0.74	0.14	-81%
Mini-Warehouse	1,000 sq. ft.	0.74	0.11	-85%

Source: Current travel demand factors from Duncan Associates, City of Atlanta Impact Fee Study, March 18, 1993, Table 2-13; updated travel demand factors from Table 14.

Future Travel Demand

Future VMT is estimated based on residential and nonresidential development growth forecasts presented in Appendix A. As shown in Table 16, the total travel on the City's arterial and collector streets is estimated to grow by 70,281 VMT over the next 20 years.

Table 16. New Travel Demand, 2010-2030

Land Use Type	Unit	VMT/ Unit	New Units	New VMT
Single-Family Detached (All)	Dwelling	0.45	12,573	5,658
Multi-Family (All)	Dwelling	0.26	21,382	5,559
Shopping Center/Commercial	1,000 sq. ft.	0.51	29,486	15,038
Office	1,000 sq. ft.	0.38	4,656	1,769
Institutional/Public	1,000 sq. ft.	0.19	185	35
Industrial	1,000 sq. ft.	0.33	4,180	1,379
Warehouse	1,000 sq. ft.	0.14	9,319	1,305
Subtotal, Northside				**30,743**
Single-Family Detached (All)	Dwelling	0.45	13,411	6,035
Multi-Family (All)	Dwelling	0.26	13,130	3,414
Shopping Center/Commercial	1,000 sq. ft.	0.51	22,776	11,616
Office	1,000 sq. ft.	0.38	3,560	1,353
Institutional/Public	1,000 sq. ft.	0.19	5,135	976
Industrial	1,000 sq. ft.	0.33	2,469	815
Warehouse	1,000 sq. ft.	0.14	8,093	1,133
Subtotal, Southside				**25,342**
Single-Family Detached (All)	Dwelling	0.45	13,205	5,942
Multi-Family (All)	Dwelling	0.26	9,714	2,526
Shopping Center/Commercial	1,000 sq. ft.	0.51	9,774	4,985
Office	1,000 sq. ft.	0.38	1,424	541
Institutional/Public	1,000 sq. ft.	0.19	1,163	221
Industrial	1,000 sq. ft.	0.33	-457	-151
Warehouse	1,000 sq. ft.	0.14	944	132
Subtotal, Westside				**14,196**
Total, City-Wide				**70,281**

Source: VMT per unit from Table 14; new residential units from Table 68; new nonresidential units from Table 72.

Capital Costs

The per-mile costs of through travel lanes, turn lanes, and two-way left turn lane (TWLTL), concrete and landscaped median are summarized in Table 17. The costs were developed for this study by Kimley-Horn and Associates, based on an analysis of the Atlanta Regional Commission's costing tool for road widening. In addition to the per-mile costs for road construction shown in the table, a traffic signal cost of $180,000 per signal was used based on recent cost estimates. Curb and gutter are excluded from travel lane-mile costs, since the amount of curb and gutter is a function of miles of road, not lane-miles.

Table 17. Transportation Component Costs per Mile

Item	Travel Lane	Turn Lane	TWLTL Median	Concrete Median	Landscaped Median
Pavement	$590,125	$590,125	$590,125	$0	$0
Curb and Gutter	$0	$0	$0	$178,294	$356,588
Concrete Median	$0	$0	$0	$188,085	$175,995
Earthwork	$1,025,278	$1,025,278	$670,210	$0	$0
Drainage	$246,067	$246,067	$0	$65,948	$95,865
Signs	$13,671	$13,671	$0	$3,664	$5,326
Pavement Marking	$54,682	$54,682	$35,745	$0	$0
Utility	$41,011	$41,011	$0	$0	$0
Total	$1,970,833	$1,970,833	$1,296,080	$435,991	$633,774

Source: Kimley-Horn and Associates, Inc., July 1, 2010 based on analysis of Atlanta Regional Commission "Costing Tool for Road Widening" (excludes mill and overlay, erosion control and traffic control).

Level of Service

The current transportation level of service (LOS) is expressed in terms of the system-wide ratio of vehicle-miles of travel to vehicle-miles of capacity (VMT/VMC). As discussed in the previous section, it is difficult to quantify the VMC added by a roadway improvement other than a new road or a road widening project. Given the Georgia Department of Community Affairs' recommendation that LOS measures should be capable of being evaluated to show progress over time, retaining this LOS measure would seem to restrict eligible improvements to those that add quantifiable VMC. Since capacity improvements to Atlanta's relatively mature roadway system tend to be dominated by intersection improvements, the current LOS measure may be ill-suited to the City's current needs.

This study uses an alternative measure of LOS in order to capture road improvement components aside from road widening projects. The measure of LOS used in this study is "equivalent lane-miles per VMT." Under this approach, the total actual lane-miles in the major road system, which include City-owned collector and arterial roads, along with the equivalent lane-miles provided by other types of improvements (traffic signals, sidewalks, medians, turn lanes) are derived by dividing the total replacement value of these improvements by the average cost of adding a lane-mile. The main advantage of this approach over the current standards-based approach is that the added capacity can be quantified in terms of value and equivalent lane-miles, rather than in terms of VMC.

An inventory of the major road system for each proposed service area is provided in Table 78, Appendix C. Along with each road section, the inventory includes the section length, number of through-lanes, and the presence of road-related components included in this study. The first step in calculating the LOS for each service area is to determine the existing lane-miles in each service area, as well as the replacement cost for the other improvements, such as medians, curb and gutter and traffic signals that are not included in the lane-mile cost. These are derived from the major road system inventory and average unit costs presented in the previous table, and are shown in Table 18.

Table 18. Transportation System Replacement Cost

Category	Component Cost/Unit	Northside Units	Northside Value	Southside Units	Southside Value	Westside Units	Westside Value
Turn Lane (mi.)	$1,970,833	4.08	$8,040,997	3.39	$6,681,122	1.67	$3,291,290
TWLTL Median (mi.)	$1,296,080	1.10	$1,425,687	3.20	$4,147,454	2.20	$2,851,375
Concrete Median (mi.)	$435,991	1.60	$697,586	1.70	$741,185	0.20	$87,198
Landscape Median (mi.)	$633,774	1.80	$1,140,793	0.10	$63,377	0.00	$0
Curb and Gutter (mi.)	$356,588	202.84	$72,330,310	206.06	$73,478,523	195.80	$69,819,930
Traffic Signals (ea.)	$180,000	198	$35,640,000	280	$50,400,000	128	$23,040,000
Total, Other Imp.			**$119,275,373**		**$135,511,661**		**$99,089,793**
Travel Lane (mi.)	$1,970,833	**263.04**	$518,407,781	**279.99**	$551,813,392	**237.20**	$467,481,469
Total Replacement Cost			$637,683,154		$687,325,053		$566,571,262

Source: Unit cost from Table 17; total units derived from inventory in Table 78, Appendix C (2 miles of curb and gutter for every mile of road; turn lanes assumed to average 200'); traffic signals based on analysis of signals located on City-owned arterial and collector roads from Kimley-Horne and Associates, July 1, 2010, as illustrated in Figure 7.

As shown in Table 19, the replacement cost of the other (non-lane-mile) transportation components are divided by the average cost of $1.97 million per lane-mile to determine the equivalent lane-miles of other improvements in each service area. These are added to actual lane-miles to determine total equivalent lane-miles. The current level of service for each service area is based on the total equivalent lane-miles and current VMT on the major road network; the level of service is 3.07 equivalent lane-miles per 1,000 VMT in the Northside service area, 5.04 in the Southside service area, and 5.81 in the Westside service area.

Table 19. Equivalent Lane-Miles per VMT

	Northside	Southside	Westside
Other Improvement Replacement Value	$119,275,373	$135,511,661	$99,089,793
÷ Travel Lane Cost per Mile	$1,970,833	$1,970,833	$1,970,833
Equivalent Lane-Miles, Other Improvements	60.52	68.76	50.28
Travel Lane Lane-Miles	263.04	279.99	237.20
Total Equivalent Lane-Miles	323.56	348.75	287.48
÷ Vehicle Miles Traveled (1,000s)	105.31	69.16	49.50
Equivalent Lane-Miles per 1,000 VMT	**3.07**	**5.04**	**5.81**

Source: Transportation replacement value from Table 18; travel lane cost per mile from Table 17; VMT from Table 11.

While the City may charge a different transportation impact fee rate in each service area based on the level of service analysis for each area, we recommend that the City adopt a uniform LOS based on the level of service calculated for the Northside service area. This area has the lowest existing level of service of the three service areas, and using that LOS standard as the basis for the fees in the other two service areas would not result in charging developers in any area of the City for a higher LOS than provided by the existing transportation infrastructure in any one area of the City. As shown in Table 20, the recommended City-wide LOS of 3.07 equivalent lane-miles per 1,000 VMT is 61% of the existing LOS in the Southside service area and 53% of the existing LOS in the Westside service area.

Table 20. Level of Service Standard Recommendation

	Northside	Southside	Westside
Recommended LOS (Equiv. Lane-Miles per 1,000 VMT)	**3.07**	**3.07**	**3.07**
÷ Existing Equivalent Lane-Miles per 1000 VMT	3.07	5.04	5.81
Percent of Actual Existing LOS	100%	61%	53%

Source: Table 19.

Based on the recommended level of service standard, future transportation improvement needs can be quantified by multiplying the projected growth in VMT for each service area from 2010-2030 by the existing equivalent lane-miles per 1,000 VMT in the Northside service area. As shown in Table 21, the future transportation needs over the next 20 years at the recommended LOS range from an additional 44 equivalent lane-miles in the Westside service area to 94 equivalent lane-miles in the Northside service area.

Table 21. Future Transportation Demand, 2010-2030

	Northside	Southside	Westside
Growth in VMT (1,000s), 2010-2030	30.74	25.34	14.20
x Recommended LOS (Equivalent Lane-Miles per 1,000 VMT)	3.07	3.07	3.07
Equivalent Lane-Miles Needed, 2010-2030	**94.37**	**77.79**	**43.59**

Source: Growth in VMT from Table 16, equivalent lane-miles per 1,000 VMT from Table 19.

Cost per Service Unit

The cost per service unit is determined by multiplying the cost of a mile of travel lane of $1.97 million by the recommended LOS of 3.07 equivalent lane-miles per 1,000 VMT. As shown in Table 30, the cost to maintain the recommended LOS is $6,050 per peak hour VMT.

Table 22. Transportation Facilities Cost per Service Unit

Cost per Lane-Mile	$1,970,833
x Equivalent Lane-Miles per 1,000 VMT	3.07
Transportation Cost per VMT	**$6,050**

Source: Cost per lane-mile from Table 17; equivalent lane-miles per 1,000 VMT from Table 20.

Net Cost per Service Unit

The net cost per service unit is based on the cost per service unit less credits to account for revenue generated by new development that will be used to pay for capacity-related capital improvements through motor fuel taxes and property taxes. This section provides an update of the transportation credits based on a review of the City of Atlanta's debt funding for road-related capacity expenditures and future funding programmed in the current 2010 to 2014 Capital Improvement Plan for transportation projects that expand the capacity of the road system. The City has primarily utilized general obligation debt and impact fees for funding major road projects. A debt credit is calculated to account for future property tax funding that will be utilized to pay for past road improvements. An analysis of future Federal and State funding for capacity improvements to the City-owned major road network was undertaken in order to identify State and Federal gas tax funding eligible for credit in this update.

Debt Credit

Transportation impact fees must give credit for future property tax revenues that will be used to pay outstanding debt incurred to expand the capacity of the City's road system. An analysis of the City's outstanding General Obligation (GO bonds) is presented in Appendix D. Based on the analysis of debt-funded expenditures, 21% of the outstanding GO bonds are attributed to road capacity projects. A simple method that ensures that new development is not required to pay for existing facilities, through funds used for debt retirement, as well as new facilities through impact fees, is to calculate the credit by dividing the outstanding debt by existing VMT on the City's major road network. This puts new development on the same footing as existing development in terms of the share of capital costs funded through debt. As shown in Table 23, the transportation debt credit is $244 per VMT.

Table 23. Transportation Debt Credit

Outstanding General Obligation Bond Balance	$260,490,000
x Share of GO Debt Issues for Road Capacity	21.0%
Road-Related Outstanding Balance	$54,702,900
÷ City-Wide VMT on Major Roads	223,972
Debt Credit per VMT	**$244**

Source: GO bond balance and share of GO debt for road capacity from Table 79, Appendix D; city-wide VMT from Table 11.

State/Federal Funding

The City of Atlanta does not have a local fuel tax. While the City has a local sales tax, the revenue from the penny sales tax is dedicated toward wastewater infrastructure improvements. While a local fuel tax or sales tax credit is not necessary for transportation, a credit for Sate and Federal funding recognizes the Georgia Department of Transportation (GDOT) expenditures on City-owned roads in Atlanta.

The amount of Federal and State motor fuel tax revenue applied toward funding capacity-expanding capital improvements on City roads could not be determined. To be conservative, the credit is based on all planned improvements that add capacity to the City-owned major road network in the current five-year CIP. As shown in Table 24, $7 million in capacity improvements to the City-owned major road network are programmed in the CIP.

Table 24. Transportation Funding, 2010-2014

Project Name	Description	Amount
Barge Road @ Campbellton Road	Intersection Improvement	$288,800
Bohler Rd. @ DeFoors Ferry Rd.	Intersection Improvement	$12,000
Bolton Rd @ Paul Ave	Intersection/Turn Lane	$53,700
Cleveland Ave Traffic Signals	Install and Upgrade Signals	$248,050
Linden St/Ponce De Leon	Intersection Improvement	$3,125,000
Midtown Signal/Intersections	New Signals/Intersect. Improv.	$2,000,000
Campbellton Rd.	Traffic Signals	$248,050
Intersection Timing	Timing and Loop Detectors	$1,000,000
Total Capacity Funding, 2010-2014		**$6,975,600**

Source: City of Atlanta, 2010-2014 Capital Improvements-Short Term Work Program, 2009.

As shown in Table 25, the credit is based on the annual planned funding for roads and the existing VMT. Assuming that the City continues to receive a similar amount of outside funding for capacity-expanding projects, new development will generate the present value equivalent of approximately $93 in capacity funding per VMT over the next 25 years.

Table 25. Outside Funding Credit

Total Planned Capacity Funding 2010-2014	$6,975,600
÷ Years	5
Annual Capacity Funding	$1,395,120
÷ Daily Peak Hour Vehicle-Miles of Travel (VMT)	223,972
Average Annual Funding per VMT	$6
x Net Present Value Factor (25 years @ 4.1%)	15.46
Outside Funding Credit per VMT	**$93**

Source: Planned annual Federal/State capacity funding from Table 24; existing City-wide VMT from Table 11; present value factor based on 25 years at 4.4% discount rate based on three-month average interest rate on state and local bonds (July through September 2010) from the Federal Reserve at http://www.federalreserve.gov/releases/h15/data/monthly.

As shown in Table 26, reducing the transportation cost per service unit by the debt credit and outside funding credit leaves a net cost of $5,713 per VMT.

Table 26. Transportation Net Cost per Service Unit

Transportation Cost per VMT	$6,050
– Debt Credit per VMT	-$244
– Outside Funding Credit per VMT	-$93
Transportation Net Cost per VMT	**$5,713**

Source: Cost per VMT from Table 22; debt credit from Table 23; outside funding credit from Table 25.

Potential Fee Schedule

The maximum fees that can be adopted by the City based on this study are derived by multiplying the travel demand factor for each land use by the net cost per service unit. The potential fee schedule is shown in Table 27. It provides the option of charging residential uses either on a flat rate or on a tiered rate that varies by the size of the dwelling unit.

Table 27. Potential Transportation Impact Fee

Land Use	Unit	VMT/ Unit	Net Cost/ VMT	Net Cost/ Unit*
Single-Family Detached (All)	Dwelling	0.45	$5,713	$2,571
Less than 1,000 sf	Dwelling	0.41	$5,713	$2,342
1,000 to 1,499 sf	Dwelling	0.44	$5,713	$2,514
1,500 to 2,499 sf	Dwelling	0.45	$5,713	$2,571
2,500 sf or greater	Dwelling	0.48	$5,713	$2,742
Multi-Family (All)	Dwelling	0.26	$5,713	$1,485
Less than 500 sf	Dwelling	0.21	$5,713	$1,200
500 to 999 sf	Dwelling	0.25	$5,713	$1,428
1,000 to 1,499 sf	Dwelling	0.28	$5,713	$1,600
1,500 sf or greater	Dwelling	0.29	$5,713	$1,657
Hotel/Motel	Room	0.15	$5,713	$857
Shopping Center/Commercial	1,000 sq. ft.	0.51	$5,713	$2,914
Office	1,000 sq. ft.	0.38	$5,713	$2,171
Institutional/Public	1,000 sq. ft.	0.19	$5,713	$1,085
Industrial	1,000 sq. ft.	0.33	$5,713	$1,885
Warehouse	1,000 sq. ft.	0.14	$5,713	$800
Mini-Warehouse	1,000 sq. ft.	0.11	$5,713	$628

* Impact fees reduced by 50% within 1,000 feet of a MARTA station

Source: VMT per unit from Table 14; net cost per VMT from Table 26.

Comparative Fees

The potential park fees calculated in this report are compared with the current fees in Table 28. The potential fee would double for most land use categories. The rate of increase should not be unexpected given that the City's impact fees have not been updated since they were implemented in 1993. In order to mitigate the potential impact fee increase, the City could adopt the fees with a phasing schedule that implements the potential impact fees over several years.

Table 28. Comparative Transportation Impact Fees

Land Use Type		Current Fee	Potential Fee	Change
Single-Family Detached (All)	Dwelling	$987	$2,571	$1,584
Less than 1,000 sf	Dwelling	$987	$2,342	$1,355
1,000 to 1,499 sf	Dwelling	$987	$2,514	$1,527
1,500 to 2,499 sf	Dwelling	$987	$2,571	$1,584
2,500 sf or greater	Dwelling	$987	$2,742	$1,755
Multi-Family (All)	Dwelling	$470	$1,485	$1,015
Less than 500 sf	Dwelling	$470	$1,200	$730
500 to 999 sf	Dwelling	$470	$1,428	$958
1,000 to 1,499 sf	Dwelling	$470	$1,600	$1,130
1,500 sf or greater	Dwelling	$470	$1,657	$1,187
Hotel/Motel	Room	$793	$857	$64
Shopping Center/Commercial				
Less than 100,000 sf	1,000 sq. ft.	$1,304	$2,914	$1,610
100,000-199,999 sf	1,000 sq. ft.	$1,189	$2,914	$1,725
200,000-299,999 sf	1,000 sq. ft.	$1,246	$2,914	$1,668
300,000-399,999 sf	1,000 sq. ft.	$1,327	$2,914	$1,587
400,000-499,999 sf	1,000 sq. ft.	$1,408	$2,914	$1,506
500,000-599,999 sf	1,000 sq. ft.	$1,350	$2,914	$1,564
600,000-999,999 sf	1,000 sq. ft.	$1,466	$2,914	$1,448
1,000,000 sf +	1,000 sq. ft.	$1,616	$2,914	$1,298
Office				
Less than 50,000 sf	1,000 sq. ft.	$2,416	$2,171	-$245
50,000-99,999 sf	1,000 sq. ft.	$1,977	$2,171	$194
100,000-199,999 sf	1,000 sq. ft.	$1,608	$2,171	$563
200,000-499,999 sf	1,000 sq. ft.	$1,239	$2,171	$932
500,000 sf +	1,000 sq. ft.	$1,008	$2,171	$1,163
Public/Institutional				
Elementary School	1,000 sq. ft.	$0	$1,085	$1,085
High School	1,000 sq. ft.	$623	$1,085	$462
Church	1,000 sq. ft.	$519	$1,085	$566
Hospital	1,000 sq. ft.	$1,424	$1,085	-$339
Nursing Home	1,000 sq. ft.	$124	$1,085	$961
Manufacturing/Industrial	1,000 sq. ft.	$1,025	$1,885	$860
Warehouse	1,000 sq. ft.	$748	$800	$52
Mini-Warehouse	1,000 sq. ft.	$748	$628	-$120

Note: Impact fees reduced by 50% within 1,000 feet of a MARTA station
Source: Current fee from City of Atlanta; potential impact fee from Table 27.

PARKS AND RECREATION

The City of Atlanta charges a parks and recreation impact fee on new residential and commercial development. As with all of the City's existing fees, the park impact fees have not been updated since they were adopted in 1993. The current fees cover only land acquisition and development (grading, landscaping, utilities, parking) costs, and were adopted at 50% of the net cost in the Northside service area and at 50% in the Southside and Westside service areas.

This report calculates the potential impact fees that could be charged to new development based on updated cost data and the park level of service provided by the City's existing parks and recreation facilities.

The Department of Parks, Recreation and Cultural Affairs (DPRCA) has responsibility for the City's parks and recreation facilities. The City's park system consists of almost 3,700 acres of land, and includes block, neighborhood and community parks; conservation parks and nature preserves; and golf courses and other special recreational facilities. An inventory of existing parks and major park amenities is provided in Table 80, Appendix E.

Service Areas

The city is divided into three service areas (see Figure 10), and parks and recreation impact fees collected in a service area are earmarked to be spent in the same service area. Park impact fees collected by service area from July 1, 2007 through September 30, 2009 are summarized in Table 29. While the bulk of residential development has occurred in the Northside service area, it should be noted that collections in the Westside and Southside service areas would have been significantly higher were it not for the blanket exemptions granted in portions of these service areas.

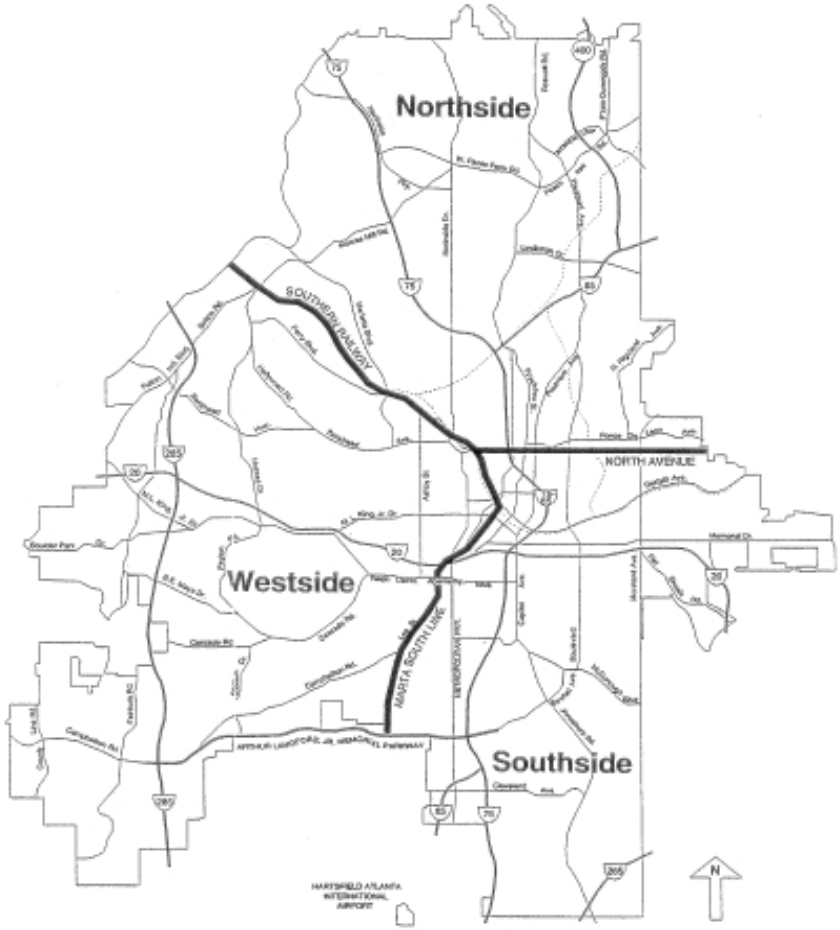
Table 29. Park Fee Collections by Service Area, 7/2007-9/2009

Service Area	Revenue	Percent
Northside	$1,865,580	66%
Southside	$422,622	15%
Westside	$525,528	19%
Total	$2,813,730	100%

Source: Park impact fees collected from July 1, 2007 through September 30, 2009 from City of Atlanta, December 29, 2009.

No problems have been noted with the current park service area structure. Each service area is able to generate enough revenue to finance improvements. The service areas ensure that improvements are located in the same general proximity as the developments that pay the fees. Consequently, no changes are recommended to the current park impact fee service areas.

Figure 10. Park Impact Fee Service Areas



Methodology

The 1993 park impact fee study used a standards-based methodology. The fees were based on a level of service (LOS) of 5.75 acres per 1,000 functional population, which was lower than the existing LOS in each of the three service areas in 1993. A policy decision was made to exclude the cost of recreational improvements, so that the fees covered only the cost of acquiring land and making site improvements (i.e., grading, utilities, road access, parking, landscaping). Because the impact fee LOS was set below the existing levels of service in all three service areas, there was excess capacity relative to the adopted LOS. The 1993 study estimated there was sufficient excess acreage in the Northside and Westside service areas to accommodate growth for 7-8 years, while the Southside had sufficient acreage to accommodate projected growth for over 60 years. Until the excess capacity was consumed, the fees were designed to function as recoupment fees. The City has not performed any subsequent LOS studies, and continues to treat the park impact fees in all three service areas as recoupment fees.

Recoupment fees are intended to recover costs incurred in advance of development to create capacity for future growth. However, since the original costs were not known for many of the existing park improvements, the fees excluded all improvement costs. Because recoupment fees are

reimbursements to the City for past expenditures, they are not subject to the earmarking and expenditure restrictions of non-recoupment fees. Collection of the fees can be waived for affordable housing or economic development projects, for example, without identifying replacement funds, and this has been the City's practice. In the early years of the program, some of the funds were used to fund exemptions to the transportation impact fees, which were not recoupment fees, although this practice was discontinued about 1996. Since that time, the funds collected have been spent on capacity-expanding park capital improvements in the service area in which they were collected.

Given Atlanta's renewed population growth, and in the aftermath of a recent city-wide process to identify outstanding park needs, this update will utilize the existing LOS in calculating the impact fee. However, in this update, the LOS will include both the acres of land and a measure of equivalent acres attributed to amenities such as recreation centers and pools in each service area.

Service Units

As with the original impact fee study, this update retains the use of the functional population approach in the calculation of the park impact fee. The functional population represents the number of "full-time equivalent" people present at the site of a land use, and it is used for the purpose of determining the impact of a particular development on the need for park facilities. For residential development, functional population is simply average household size times the percent of time people are assumed to spend at home. For nonresidential development, functional population is based on a formula that factors trip generation rates, average vehicle occupancy and average number of hours spent by employees and visitors at a land use. The functional population multipliers for the various land use types and a detailed discussion of the methodology used in developing the multipliers are presented in Appendix B.

The approach of charging park impact fees on both residential and nonresidential development was partially a response to the fact that the city was losing population at the time the original study was done in 1993. Now that the city is again adding residents, this is no longer an issue. However, it is still true that the City's parks serve a swollen daytime population of workers as well as residents. As shown in Table 30, more than 90 percent of the reservations made for ballfields and pavilions were made by business or related nonresidential land uses. While it is normally assumed that only residents use parks, the reservation data, as in the last study, continue to show the extent to which nonresidential development uses City parks.

Table 30. Reservation History, 2008 and 2009

	2008 Reservations			2009 Reservations		
Facility	Corporate	Individual	Total	Corporate	Individual	Total
Pavilion	250	200	450	288	166	454
Ballfield	1,806	3	1,809	2,525	1	2,526
Total Reservations	2,056	203	2,259	2,813	167	2,980
Share of Total	91%	9%	100%	94%	6%	100%

Source: Department of Parks, Recreation and Cultural Affairs, Office of Parks, November 11, 2009.

Capital Costs

In order to determine the existing level of service for parks in this update, it is necessary to determine the value of existing park land and amenities. Utilizing a simple ratio of acres to

functional population in the level of service analysis does not capture the value of amenities such as pools, recreation centers, gyms, ballfields, trails and playgrounds. In developing the current impact fee, the value of amenities was not reflected in the LOS since the fee was designed as a recoupment fee.

Land Cost

Over the past few years the City has acquired land for parks in each of the three service areas. These land purchases can be used to provide an estimate of the cost to replace existing park land. The park land purchases used to determine the average cost per acre in each service area are based on the purchase of park land by the City from 2006 through 2009. The land values range from $181,367 per acre in the Westside service area to $672,782 $672,782 in the Northside service area. The land values in the Northside service area reflects the high cost of land in that area; according to City staff, the value of vacant land in this area can exceed $5 million per acre for usable commercial land. The land values used in this study reflects the type of land purchased for recent parks, which often include environmentally sensitive land, steep terrain and other features that make the net cost per acre lower than typical improved land costs for these areas.

Table 31. Park Land Value per Acre

Project Name	Year	Appraised Value	Acres	Cost/Acre
Frankie Allen	2006	$762,500	0.33	$2,310,606
Little Nancy Creek	2007	$2,980,000	4.96	$600,806
4055 Roswell Rd.	2007	$3,800,000	4.86	$781,893
Howard	2007	$3,000,000	5.52	$543,478
Subtotal, Northside		$10,542,500	15.67	**$672,782**
Harold Ave.	2006	$395,000	0.51	$774,510
Emma Millican	2007	$80,000	0.61	$131,148
Lake Claire	2008	$325,000	0.68	$477,941
Chosewood	2009	$1,027,500	6.20	$165,726
Subtotal, Southside		$1,827,500	8.00	**$228,438**
Ben Hill – APS	2006	$780,000	4.72	$165,254
Vine City	2007	$200,000	0.33	$606,061
3392 Delmar Ln.	2008	$55,000	0.31	$177,419
Vine City–156 Walnut	2008	$30,000	0.09	$333,333
Ben Hill – Campbell	2009	$580,000	3.62	$160,221
Subtotal, Westside		$1,645,000	9.07	**$181,367**

Source: City of Atlanta Department of Parks, Recreation and Cultural Affairs (DPRCA), September 16, 2009.

Facility Costs

In addition to the cost to acquire land, parks include amenities, such as trails, picnic facilities, playgrounds and playing fields and some parks have aquatic and community center facilities. For this analysis, the replacement cost of the City's park amenities is based on standardized unit costs for major amenities common to many parks. The cost data are based on recent construction costs estimates developed by the City of Atlanta and the inventory of standard amenities provided in Appendix E. The total replacement cost of amenities for each service area are summarized in Table 32.

Table 32. Park Amenities

Improvement Type	Unit	Cost/Unit	Units	Replacement Cost
Pavilion/Gazebo	Sq. Ft.	$75	5,468	$410,100
Playground	Playground	$150,000	24	$3,600,000
Basketball Court	Court	$60,000	4	$240,000
Tennis Court	Court	$40,000	61	$2,440,000
Baseball Field (lighted)	Field	$750,000	13	$9,750,000
Baseball Field (Unlit)	Field	$550,000	20	$11,000,000
Soccer/Football Field	Field	$450,000	4	$1,800,000
Trails	Linear Ft.	$75	34,088	$2,556,600
Picnic Shelter	Shelter	$75,000	4	$300,000
Total, Northside				**$32,096,700**
Pavilion/Gazebo	Sq. Ft.	$75	25,301	$1,897,575
Playground	Playground	$150,000	50	$7,500,000
Basketball Court	Court	$60,000	39	$2,340,000
Tennis Court	Court	$40,000	67	$2,680,000
Baseball Field (lighted)	Field	$750,000	17	$12,750,000
Baseball Field (Unlit)	Field	$550,000	51	$28,050,000
Soccer/Football Field	Field	$450,000	11	$4,950,000
Trails	Linear Ft.	$75	31,985	$2,398,875
Picnic Shelter	Shelter	$75,000	44	$3,300,000
Total, Southside				**$65,866,450**
Pavilion/Gazebo	Sq. Ft.	$75	9,670	$725,250
Playground	Playground	$150,000	29	$4,350,000
Basketball Court	Court	$60,000	18	$1,080,000
Tennis Court	Court	$40,000	44	$1,760,000
Baseball Field (lighted)	Field	$750,000	15	$11,250,000
Baseball Field (Unlit)	Field	$550,000	38	$20,900,000
Soccer/Football Field	Field	$450,000	11	$4,950,000
Trails	Linear Ft.	$75	9,976	$748,200
Picnic Shelter	Shelter	$75,000	32	$2,400,000
Total, Westside				**$48,163,450**

Source: Improvement cost per unit from DPRCA, September 9, 2009 and October 14, 2010; units from Table 80, Appendix E.

The City of Atlanta maintains pools and aquatic facilities in numerous parks. The replacement value of these types of facilities is based on pool size and facility type and associated current construction cost. The existing facilities and estimated replacement costs for each service area are summarized in Table 33.

Table 33. Pools and Aquatic Facilities

Pool Facility	Replacement Cost
Garden Hills Park Pool	$2,000,000
Chastain Memorial Park Pool	$3,000,000
Piedmont Park Spraypad	$600,000
Piedmont Park Pool	$2,500,000
Total, Northside	**$8,100,000**
Arthur Langford Jr Park Pool	$2,000,000
Arthur Langford Jr Park Spraypad	$600,000
Candler Park Pool	$2,000,000
M.L.K. Natatorium	$10,000,000
Pittman Park Pool	$3,000,000
Rosa L. Burney Park Pool	$2,200,000
Rosel Fann Park Natatorium	$10,000,000
South Bend Park Pool	$2,500,000
Thomasville Park Pool	$2,000,000
Grant Park Pool	$3,000,000
John A. White Park Pool	$2,500,000
Total, Southside	**$39,800,000**
Anderson Park Pool	$2,000,000
Center Hill Park Spraypad	$800,000
Maddox Park Pool	$2,000,000
Mozley Park Pool	$2,000,000
Oakland City Park Pool	$2,500,000
Washington Park Natatorium	$10,000,000
Deerwood Park Pool	$2,000,000
Adams Park Pool	$2,000,000
Adamsville Rec Center Natatorium	$10,000,000
Total, Westside	**$33,300,000**

Source: Facility inventory provided by DPRCA, October 14, 2009; replacement value from DPRCA, September 9, 2009.

The City of Atlanta parks and recreation fee includes recreation and community centers located in City parks. Such facilities typically include gyms, community meeting rooms and fitness areas. The replacement value for these facilities used in the impact fee is based on an inventory of existing facilities and typical construction cost of $250 per square foot. The replacement cost of the City's existing recreation and community centers are summarized in Table 34.

Table 34. Recreation and Community Centers

Name	Class	Year Built	Sq. Ft.	Replacement Cost
Morningside	Rec		8,300	$2,075,000
Peachtree Hills	Rec/Gym	1948	7,356	$1,839,000
Rosel Fann	Rec	1995	75,000	$18,750,000
Garden Hills	Rec		28,880	$7,220,000
Chastain	Rec/Gym	1973	14,870	$3,717,500
Total, Northside				**$33,601,500**
Langford	Rec	1964	7,611	$1,902,750
Bessie Branham	Rec	1998	20,447	$5,111,750
Brownwood	Rec	1953	5,900	$1,475,000
Central	Rec	1973	15,577	$3,894,250
Coan	Rec	1975	14,194	$3,548,500
Zaban	Rec	1940	4,844	$1,211,000
J.D Simms	Rec	1984	5,766	$1,441,500
Lang Carson	Rec	1960	14,781	$3,695,250
ML King	Rec		44,700	$11,175,000
Perkerson	Rec	1940	4,038	$1,009,500
Pittman	Rec	1971	21,642	$5,410,500
Dunbar Rec Ctr	Rec		40,000	$10,000,000
Thomasville	Rec	1975	19,940	$4,985,000
D.L. Stanton	Rec		9,800	$2,450,000
Rick McDivitt	Youth	1978	3,352	$838,000
Grant	Rec	1973	18,747	$4,686,750
Bass	Com. Ctr.	1915	6,290	$1,572,500
Total, Southside				**$64,407,250**
A.D. Williams	Rec	1980	5,360	$1,340,000
Anderson Park	Rec	1980	15,338	$3,834,500
Ben Hill	Rec	1997	35,000	$8,750,000
Collier	Rec	1975	4,971	$1,242,750
Grove	Rec	1987	25,264	$6,316,000
J. F. Kennedy	Rec	1978	14,792	$3,698,000
C.A. Scott	Rec	1965	5,824	$1,456,000
Oakland City	Rec	1976	5,386	$1,346,500
Washington	Rec		27,730	$6,932,500
Anthony Flanagan	Rec	1965	2,300	$575,000
English	Rec	1940	4,697	$1,174,250
Adams Park	Rec/Gym	1976	17,723	$4,430,750
Adamsville	Rec/Gym	2003	110,000	$27,500,000
Total, Westside				**$68,596,250**

Source: Inventory from DPRCA, October 14, 2009; replacement cost based on construction cost of $250 per square foot provided by DPRCA, September 9, 2009.

Level of Service

The current park level of service (LOS) is expressed in terms of acres per 1,000 functional population. However, a parks and recreation system represents a capital investment in land, buildings and other improvements that provide service to residents and visitors. Reducing the LOS relationship to a simple ratio of acres of land to population does provide a concrete, measurable indicator, but it may unintentionally emphasize the acquisition of park land. The emphasis on park land in the traditional LOS comes at the expense of the provision of recreational facilities and improvements. The expansion of a park system may involve periods of extensive land acquisition, followed by periods that focus on the development of land with park improvements. This study utilizes an approach that takes account of recreational facilities and improvements in measuring the LOS.

The alternative approach used in this study for measuring the parks and recreation LOS is "equivalent acres per 1,000 functional population." Under this approach, the total replacement value of all improvements is divided by the average cost per acre in each service area to determine equivalent acres of improvements. Existing standard park amenities, aquatic facilities and recreation centers in each service area are converted to equivalent acres in Table 35.

Table 35. Park Amenity Equivalent Acres

	Service Area		
	Northside	Southside	Westside
Amenity Replacement Value	$32,096,700	$65,866,450	$48,163,450
Aquatic Facility Value	$8,100,000	$39,800,000	$33,300,000
Recreation Center Value	$33,601,500	$64,407,250	$68,596,250
Total Park and Rec Facility Value	$73,798,200	$170,073,700	$150,059,700
÷ Total Land Cost/Acre	$672,782	$228,438	$181,367
Equivalent Parks Acres	109.69	744.51	827.38

Source: Amenity replacement value from Table 32; aquatic facility value from Table 33; recreation center value from Table 34; and total land cost per acre from Table 31.

The equivalent acres of improvements are added to the number of physical acres to determine total equivalent acres. With this LOS measure, improvements that add recreational value to existing parks can be quantified and reflected in the updated LOS. As shown in Table 36, the existing park level of service is lowest in Northside, with 2.97 equivalent acres per 1,000 service units, and highest in Westside, with 13.26 equivalent acres per 1,000 service units. The Northside clearly has the lowest park LOS, whether measured in terms of acres of land or amenity value, as well as the lowest LOS in terms of equivalent acres as measured in this study.

Table 36. Park Land and Facility Level of Service

	Service Area		
	Northside	Southside	Westside
Total Park Acres	1,034.92	1,535.24	1,112.75
Amenity Equivalent Acres	109.69	744.51	827.38
Total Park Equivalent Acres	1,144.61	2,279.75	1,940.13
÷ Functional Population (1,000s)	385.40	266.88	146.28
Equivalent Parks Acres/1,000 Functional Pop.	**2.97**	**8.54**	**13.26**

Source: Park acres from Table 80, Appendix E; amenity equivalent acres from Table 35; functional population from Table 76, Appendix B.

While the impact fee may utilize a different LOS standard in each service area based on the level of service analysis, we recommend that the City adopt a uniform LOS based on the level of service calculated for the Northside service area. This area has the lowest existing level of service of the three service areas, and using that LOS standard as the basis for the fees in the other two service areas would not result in charging developers in any area of the City for a higher LOS than provided by the existing park and recreational facilities in any one area of the City. As shown in Table 37, the recommended city-wide LOS is about one-third of the existing LOS in the Southside and Westside service areas. The current impact fee is based on a City-wide LOS of 5.75 acres (land only) per 1,000 functional population; the proposed city-wide LOS is one-third lower than the LOS used in the current fee.

Table 37. Park Level of Service Standard Recommendation

	Northside	Southside	Westside
Existing Park LOS/(Equiv. Acres/1,000 Func. Pop.)	2.97	8.54	13.26
Recommended LOS (Equiv. Ac./1,000 Func. Pop.)	**2.97**	**2.97**	**2.97**
% of Existing LOS	100%	35%	22%

Source: Existing park LOS from Table 36.

Future park improvement needs are determined by multiplying the projected functional population for each service area in 2030 by the existing equivalent park acre LOS. As shown in Table 38, in order to maintain the recommended level of service the City would have to expand the park equivalent acres either through the acquisition of land or construction of amenities by 341 acres in Northside, 277 acres in Southside and 169 acres in Westside.

Table 38. Future Park Needs, 2010-2030

	Service Area		
	Northside	Southside	Westside
2030 Functional Population	500,185	360,003	203,212
– 2010 Functional Populaiton	-385,399	-266,884	-146,276
New Functional Population, 2010-2030	114,786	93,119	56,936
x Rec. Park LOS (Equiv. Acres/1,000 Func. Pop.)	2.97	2.97	2.97
Total Equivalent Acres Needed, 2010- 2030	**340.91**	**276.56**	**169.10**

Source: 2030 functional population from Table 77, Appendix B; 2010 functional population from Table 76, Appendix B; existing park LOS and equivalent acres from Table 36.

Cost per Service Unit

The cost per service unit is based on the existing level of service, which includes both actual park land and park amenity equivalent acres, and the park land cost per acre for each service area. Due to the variation in land costs, the cost per service unit is $678 in the Southside service area, $539 in the Westside service area and $1,998 in the Northside service area, where land costs are highest.

Table 39. Park Cost per Service Unit

	Service Area		
	Northside	Southside	Westside
Equivalent Park Acres/1,000 Func. Pop.	2.97	2.97	2.97
x Park Land Cost per Acre	$672,782	$228,438	$181,367
Total Park Cost per 1,000 Func. Pop.	$1,998,163	$678,461	$538,660
÷ 1,000	1,000	1,000	1,000
Park Cost per Functional Population	**$1,998**	**$678**	**$539**

Source: Existing park acres per 1,000 functional population from Table 36; land cost per acre from Table 31.

Net Cost per Service Unit

The City primarily funds capital projects for parks through Park Improvement (PI) property tax, General Obligation bonds and impact fees. Other facilities not included in this report, such as the Zoo, Omni, sports stadiums and Underground are financed in part from hybrid revenue bonds, dedicated sales tax revenue and some PI funds. In addition, golf courses and the Lakewood Amphitheater are leased by private operations.

In order to avoid requiring new development to pay more than its proportionate share of facility costs, impact fees should be reduced to account for future tax payments that will retire outstanding debt used to develop the existing parks. This section calculates the credit for the outstanding park-related Revenue Bonds and GO debt. Additional offsets are not necessary for grants, since grant funds are limited to available Federal or State funding, such as Community Development Block Grants, and the grant funding is not dedicated for growth-related improvements.

The Parks Improvement (PI) Fund is supported by a half-mill property tax. It is used exclusively for capital improvements to the City's parks, recreation and cultural facilities. Up to half of this fund's annual receipts can be used for constructing a stadium and related facilities or retiring debt on those facilities. The PI fund has been used as a pledge of revenue to fund park improvement revenue bonds issued by the City of Atlanta and Fulton County Recreation Authority. The City's share of revenue bond funds have been used to finance the acquisition, construction and equipping of new recreation areas, and replacing, renovating, upgrading and restoring existing recreation facilities and amenities. This update includes a credit for all of the outstanding park improvement revenue bond principal.

An analysis of the City's outstanding GO bonds is presented in Appendix D. Based on the analysis of debt-funded expenditures, 5.6% of the outstanding GO bonds are attributed to park and recreation projects. A simple method that ensures that new development is not required to pay for existing facilities, through funds used for debt retirement, as well as new facilities through impact fees, is to calculate the credit by dividing the outstanding debt by existing City-wide functional population. This puts new development on the same footing as existing development in terms of the share of capital costs funded through debt. As shown in Table 40, the debt credit for outstanding PI Revenue Bonds and GO Bonds is $110 per service unit

Table 40. Park Debt Credit

Debt Issue/Loan	Original Balance	Park Share	Current Balance	Park Debt
2000 Park Improvement Rev. Bond	$21,400,000	100.0%	$2,040,000	$2,040,000
2005A Park Improvement Rev. Bond	$75,510,000	100.0%	$70,970,492	$70,970,492
General Obligation Bonds	$388,648,425	5.6%	$260,490,000	$14,587,440
Total Outstanding Debt				$87,597,932
÷ City-Wide Functional Population				798,559
Debt Credit per Functional Pop.				**$110**

Source: GO bond balance and share of GO debt for park facilities from Table 79, Appendix D; city-wide functional population from Table 76.

The net cost per service unit for parks and recreation is derived by reducing the cost per service unit by the debt credit. As shown in Table 41, the net cost per service unit is $1,888 in Northside, $568 in Southside and $429 in Westside.

Table 41. Park Net Cost per Service Unit

	Service Area		
	Northside	Southside	Westside
Cost per Functional Population	$1,998	$678	$539
– Debt Credit per Functional Pop.	-$110	-$110	-$110
Net Cost per Functional Pop.	**$1,888**	**$568**	**$429**

Source: Cost per functional population from Table 39; debt credit from Table 40.

Potential Fee Schedule

The maximum fees that can be adopted by the City based on this study are derived by multiplying the functional population for each land use by the net cost per functional population for each service area. As shown in Table 42, the typical single family fee would range from $762 in the Westside to $3,353 in the Northside.

The recommended alternative is to adopt a uniform fee for all three service areas based on the lowest fee, which is $762 for the average (untiered) single-family fee in the Westside service area. Another alternative would be to adopt residential fees that vary by the size of the dwelling unit.

Table 42. Potential Parks and Recreation Impact Fee Schedule

Land Use	Unit	Functional Pop./Unit	Service Area		
			Northside	Southside	Westside
Net Cost per Functional Pop.			*$1,888*	*$568*	*$429*
Single-Family, Detached (All)	Dwelling	1.776	**$3,353**	**$1,009**	**$762**
Less than 1,000 sf	Dwelling	1.528	**$2,885**	**$868**	**$656**
1,000 to 1,499 sf	Dwelling	1.662	**$3,138**	**$944**	**$713**
1,500 to 2,499 sf	Dwelling	1.769	**$3,340**	**$1,005**	**$759**
2,500 sf or greater	Dwelling	1.963	**$3,706**	**$1,115**	**$842**
Multi-Family (All)	Dwelling	1.353	**$2,554**	**$769**	**$580**
Less than 500 sf	Dwelling	1.079	**$2,037**	**$613**	**$463**
500 to 999 sf	Dwelling	1.253	**$2,366**	**$712**	**$538**
1,000 to 1,499 sf	Dwelling	1.474	**$2,783**	**$837**	**$632**
1,500 sf or greater	Dwelling	1.568	**$2,960**	**$891**	**$673**
Hotel/Motel	Room	0.670	**$1,265**	**$381**	**$287**
Shopping Center/Commercial	1,000 sq. ft.	1.881	**$3,551**	**$1,068**	**$807**
Office	1,000 sq. ft.	0.935	**$1,765**	**$531**	**$401**
Institutional/Public	1,000 sq. ft.	0.523	**$987**	**$297**	**$224**
Industrial	1,000 sq. ft.	0.397	**$750**	**$225**	**$170**
Warehouse	1,000 sq. ft.	0.210	**$396**	**$119**	**$90**
Mini-Warehouse	1,000 sq. ft.	0.149	**$281**	**$85**	**$64**

Source: Functional population per unit from Table 75, Appendix B; net cost per functional population from Table 41.

Comparative Fees

As noted above, the maximum potential park fees that could be adopted as a uniform fee schedule for all three service areas are those calculated for the Southside service area, since those fees are the lowest of the three service areas. Assuming that the City Council decides to pursue that option, the updated fees are compared with the current fees in Table 43. The large potential increases in the fees for most land uses reflect (1) the change in land cost since the last study was conducted in 1993; (2) the inclusion of facility costs; and (3) the adoption of the 1993 fees at only 50% of the full net cost (land only). At the time of the 1993 study, the land cost estimates for the Northside were approximately $46,000 per acre, and land costs in Southside and Westside were estimated to be $10,442 per acre; these land costs are less than one-tenth the most current land cost estimates for each area.

Table 43. Comparative Parks and Recreation Impact Fees

	Northside			Southside & Westside		
Land Use Type	Current Fee	Potential Fee	Change	Current Fee	Potential Fee	Change
Single-Family Det. (All)	$410	$762	$352	$245	$762	$517
Less than 1,000 sf	$410	$656	$246	$245	$656	$411
1,000 to 1,499 sf	$410	$713	$303	$245	$713	$468
1,500 to 2,499 sf	$410	$759	$349	$245	$759	$514
2,500 sf or greater	$410	$842	$432	$245	$842	$597
Multi-Family (All)	$285	$580	$295	$171	$580	$409
Less than 500 sf	$285	$463	$178	$171	$463	$292
500 to 999 sf	$285	$538	$253	$171	$538	$367
1,000 to 1,499 sf	$285	$632	$347	$171	$632	$461
1,500 sf or greater	$285	$673	$388	$171	$673	$502
Hotel/Motel	$183	$287	$104	$110	$287	$177
Shopping Ctr/Commercial						
Less than 100,000 sf	$713	$807	$94	$428	$807	$379
100,000-199,999 sf	$584	$807	$223	$350	$807	$457
200,000-299,999 sf	$535	$807	$272	$321	$807	$486
300,000-399,999 sf	$486	$807	$321	$292	$807	$515
400,000-499,999 sf	$463	$807	$344	$278	$807	$529
500,000-599,999 sf	$441	$807	$366	$265	$807	$542
600,000-999,999 sf	$401	$807	$406	$241	$807	$566
1,000,000 sf +	$370	$807	$437	$222	$807	$585
Office						
Less than 50,000 sf	$267	$401	$134	$161	$401	$240
50,000-99,999 sf	$254	$401	$147	$153	$401	$248
100,000-199,999 sf	$241	$401	$160	$145	$401	$256
200,000-499,999 sf	$232	$401	$169	$139	$401	$262
500,000 sf +	$223	$401	$178	$134	$401	$267
Public/Institutional						
Elementary School	$437	$224	-$213	$262	$224	-$38
High School	$445	$224	-$221	$267	$224	-$43
Church	$192	$224	$32	$115	$224	$109
Hospital	$477	$224	-$253	$286	$224	-$62
Nursing Home	$348	$224	-$124	$209	$224	$15
Manufacturing/Industrial	$169	$170	$1	$102	$170	$68
Warehouse	$94	$90	-$4	$56	$90	$34
Mini-Warehouse	$94	$64	-$30	$56	$64	$8

Source: Existing fee from City of Atlanta; potential fee is maximum uniform city-wide fee (Westside) from Table 42.

FIRE

The Atlanta Fire Rescue Department provides fire protection and rescue services throughout the City of Atlanta, operating from 31 active fire stations. Over the past ten years, the City has closed one fire station (Station 7) and opened Station 36. There are an additional four fire stations under development that will open in the next few years. This section updates the fire impact fee and impact fee level of service standards to reflect current facilities and updated costs.

Service Area

The fire impact fee is structured as city-wide service area. This is appropriate, since public safety services are provided on a system-wide basis. Fire-fighting apparatus located in a particular fire station will respond to calls some distance from the station if the equipment located closer is out on another call. Consequently, no change to the fire service area is recommended in this update.

Methodology

The methodology used for the current fire impact fee is a standards-based approach, with an adopted level of service (LOS) of 470 square feet of fire station per 1,000 functional population. Since the adopted LOS was less than the 502 square feet per 1,000 functional population being provided at the time the 1993 study was performed, the fees were designed as recoupment fees. Consistent with that approach, the value of equipment was based on original, depreciated costs rather than replacement costs.

The recoupment approach was taken despite the fact that the need for three new stations had been identified for the 1993-2007 period. However, growth projections indicated that, even with the new stations, the LOS would fall from 502 to 477 square feet per 1,000 functional population by 2010. The decision was made to have the fees function as recoupment until the LOS fell to the adopted level, which was estimated to be about 1998. After that time, the fees would no long function as recoupment fees. The City has not performed any subsequent LOS analysis, and continues to treat the fire impact fees as recoupment fees. As with parks, the recoupment approach since 1996 has been used only to avoid having to replace fire impact fees that were waived due to affordable housing or economic development exemptions. In all other respects, the fees function like non-recoupment impact fees, with the funds earmarked for capacity-expanding improvements.

Recently, the City's ISO fire protection rating, which affects fire insurance premiums paid by property owners, fell from 2 to 3 (a rating of 1 is best). The Fire Department has identified the need for three new stations and expanded training facilities based on the ISO certification results. In light of these urgent capital needs, it may be difficult to maintain that the existing fire system has excess capacity. As a result, this update is based on the existing LOS and current replacement values of existing facilities rather than the recoupment approach used in the prior update.

Service Units

The demand for fire services is quantified for different land use types using the "functional population" approach, which is consistent with approach used in the prior study for developing public safety service units. This is a generally-accepted methodology for these facility types and is based on the observation that demand for public safety is generally proportional to the presence of people. The functional population concept is analogous to the concept of "full-time equivalent" employees. It represents the number of "full-time equivalent" people present at the site of a land use. Functional population is the equivalent number of people occupying a building or land use site on a 24-hours-per-day, 7-days-per-week basis.

For residential development, functional population is simply average household size times the percent of time people are assumed to spend at home. For nonresidential development, functional population is based on a formula that factors trip generation rates, average vehicle occupancy and average number of hours spent by employees and visitors at a land use. The functional population multipliers for the various land use types and a detailed discussion of the methodology used in developing the multipliers are presented in Table 75, Appendix B.

Capital Costs

The cost associated with each fire station includes land acquisition, facility construction and the purchase of necessary equipment and fire protection and rescue vehicles. The existing level of service for fire rescue facilities in this study is based on the existing facilities. An inventory of the existing City-owned fire stations is shown in Table 44. The City currently operates from 31 active fire stations, excluding stations at the airport. The fire station inventory used in the impact fee analysis excludes facilities in leased space. Based on the construction cost of recent projects, a typical fire station costs $220 per square foot.

Table 44. Fire Station Inventory

Station No.	Address	Year	Acres	Sq. Ft.
Station 1	71 Elliot St., SW	1961	0.55	16,000
Station 2	1568 Jonesboro Rd., SE	1977	0.46	7,500
Station 3	721 Phipps Blvd., NE	1993	1.00	9,162
Station 4	309 Edgewood Ave., SE	2001	0.25	8,000
Station 5	2825 Campbellton Rd., SW	1990	2.22	12,000
Station 8	1711 Marietta Blvd., NW	1969	0.92	8,000
Station 9	3501 Martin L. King Jr. Dr., NW	1967	0.46	8,500
Station 10	447 Boulevard, SE	1958	0.57	6,817
Station 12	1288 DeKalb Ave., NE	1958	0.41	7,247
Station 13	447 Flat Shoals Ave., SE	1921	0.50	1,950
Station 14	1203 Lee St., SW	2001	0.11	8,000
Station 15	170 10th St., NE	1986	0.69	9,900
Station 16	1048 Simpson Rd., NW	1963	0.46	7,744
Station 17	1489 Ralph D. Abernathy Blvd., SW	1987	0.55	6,100
Station 18	2007 Oakview Rd., SE	1940	0.34	2,570
Station 19	1063 N. Highland Ave., NE	1924	0.08	5,424
Station 20	590 Manford Rd., SW	1926	0.23	4,000
Station 21	3201 RoswellRd., NE	1984	2.21	16,000
Station 22	817 Hollywood Rd., NW	1938	1.61	2,653
Station 23	1545 Howell Mill Rd., NW	1948	0.28	5,265
Station 25	2349 Benjamin E. Mays Dr., SW	1948	0.57	5,549
Station 26	2970 Howell Mill Rd., NW	1958	0.37	4,974
Station 27	4260 Northside Dr., NW	1953	0.16	3,862
Station 28	2040 Main St., NW	1953	2.81	4,280
Station 29	2167 Monroe Dr., NE	1958	0.51	6,845
Station 30	10 Cleveland Ave., SW	1956	1.16	4,048
Station 31	2406 Fairburn Rd., SW	1957	0.55	4,703
Station 34	3671 Southside Industrial Pkwy., SE	1988	0.47	10,000
Station 36	1335 Kimberly Rd., SW	N/A	N/A**	N/A**
Station 38	2911 Donald L. Hollowell Pkwy., NW	1972	0.69	8,000
Station 39	4697 Wieuca Rd., NW*	1979	0.92	20,000
Total			**22.11**	**225,093**

*Facility owned by City of Atlanta, but operated by Fulton County.
**Station 36 operates from leased space.
Source: Facility inventory and square feet from Atlanta Office of Program Management, "State of the City's Infrastructure," December 2008; facility acres derived from data provided by the Atlanta Fire Rescue, September 10, 2009.

Over the past five years, the City of Atlanta has acquired two additional fire station sites adjacent to existing facilities in order to allow for expansion. As shown in Table 45, the average land acquisition cost for these two parcels was $575,748 per acre; given the existing land inventory, the value of the fire station parcels is $12.7 million.

Table 45. Fire Station Land Cost

Station	Address	Year	Cost	Acres	Cost/Acre
Fire Station 13	431 Flat Shoals Rd	2005	$513,000	0.43	$1,193,023
Fire Station 28	1929 & 1937 Hollywood Rd	2005	$1,220,000	2.58	$472,868
Average Cost per Acre			$1,733,000	3.01	$575,748
x Fire Station Land (Acres)					22.11
Fire Station Land Replacement Cost					**$12,729,788**

Source: Land acquisition data provided by the Atlanta Fire Rescue, September 10, 2009; fire station land from Table 44.

This study includes fire rescue apparatus that have a capital life greater than five years as allowed under current State law. The replacement cost of fire-fighting apparatus is based on the current unit cost and the inventory of existing equipment located at stations. The existing equipment inventory includes both the standard equipment, such as ladder trucks and pumpers, as well as equipment types that are specific to a certain location, such as air trucks or the command trailer. As shown in Table 46, the replacement cost of existing fire rescue apparatus is $33.9 million.

Table 46. Fire Rescue Department Apparatus

Apparatus	Units	Cost/Unit	Replacement Cost
Ladder Trucks	23	$700,000	$16,100,000
Pumper	40	$350,000	$14,000,000
Decon Truck	3	$350,000	$1,050,000
Air Trailer	1	$100,000	$100,000
Light Truck	1	$350,000	$350,000
Air Truck	2	$350,000	$700,000
Heavy Duty Rescue	1	$550,000	$550,000
GSAR Rescue Truck	1	$80,000	$80,000
Command Trailer	1	$1,000,000	$1,000,000
Total Apparatus			**$33,930,000**

Source: Atlanta Fire Rescue Department, *Apparatus and Vehicle Replacement Plans*, "Fleet Outlook 2009-2010."

In addition to the stations and related fire equipment, this study includes central facilities that serve the entire city. Centralized facilities include the Atlanta Fire Rescue headquarters and the training academy. The training academy is operated on land owned by Atlanta Public Schools and leased to Atlanta Fire Rescue and is not included in this update. The Atlanta Fire Rescue headquarters occupies one floor of the City's new five-story Public Safety facility in downtown Atlanta. Based on the recent construction cost and the share of the facility occupied by the Fire Rescue Department, the replacement cost is $18.0 million, as shown in Table 47.

Table 47. Fire Rescue Department Headquarters

Public Safety Headquarters Construction Cost (2009)	$90,000,000
Fire Department Share of Facility	20%
Atlanta Fire Rescue Share of Public Safety Building	**$18,000,000**

Source: Fire Rescue share of facility derived from assumption that one floor of structure equals 20% of total space and parking ramp; construction cost based on City of Atlanta project summary, July 2008.

Level of Service

The current fire level of service (LOS) is expressed in terms of building square feet per 1,000 functional population. The problem with this metric is that only the construction of additional buildings will result in an improved LOS. An alternative is "equivalent square feet per 1,000 functional population." Under this approach, the total replacement value of land, vehicles and other capital equipment are divided by the average fire station construction cost per square foot to determine equivalent square feet of eligible non-station capital assets. The equivalent square feet of non-station assets are added to the number of physical square feet of the City's stations to determine total equivalent square feet. With this LOS measure, non-building improvements that add service capacity are quantified and reflected in the updated LOS.

As noted above, the first step in determining the LOS related to non-station assets is to divide the total value of those assets by the replacement cost per square foot of fire station facilities. In planning new fire stations, Atlanta Fire Rescue utilizes an average cost of $220 per square foot. Based on the average cost to build a fire station and the replacement cost of land, fire apparatus and the Fire Rescue share of the public safety building, the non-station facilities are equivalent to 293,908 fire station square feet, as shown in Table 48.

Table 48. Fire Non-Station Equivalent Square Feet

Fire Station Land Value	$12,729,788
Equipment Replacement Value	$33,930,000
Headquarters (Public Safety Building)	$18,000,000
Total Non-Station Facility and Equipment Value	$64,659,788
÷ Fire Station Cost per Square Foot	$220
Non-Station Equivalent Square Feet	293,908

Source: Fire station land value from Table 45; equipment replacement value from Table 46; headquarters cost from Table 47; fire station cost per square foot from Atlanta Fire Rescue Department, September 10, 2009.

The fire fee in this update is based on the existing fire level of service. As shown in Table 49, the fire level of service is developed based on the total square feet of the existing fire stations and the fire station equivalent square feet associated with non-station assets. The City of Atlanta currently has 519,001 of fire station equivalent square feet. Based on the existing city-wide functional population, the fire station equivalent level of service is 650 square feet per 1,000 functional population. It is recommended that the City of Atlanta adopt this LOS standard for the updated fire impact fees.

Table 49. Fire Level of Service

Fire Station Square Feet	225,093
Non-Station Equivalent Square Feet	293,908
Fire Station Equivalent Square Feet	519,001
÷ City-wide Functional Population	798,559
Equivalent Square Feet/1,000 Functional Pop.	**650**

Source: Fire station square feet from Table 44; non-station equivalent square feet from Table 48; functional population from Table 76, Appendix B.

Cost per Service Unit

The cost per service unit is based on the existing level of service, which includes stations, fire apparatus and the Fire Rescue Department's share of the public safety building. As shown in Table 50, maintaining the existing fire level of service for new development will cost $143 per functional population.

Table 50. Fire Cost per Service Unit

Equivalent Square Feet/1,000 Functional Pop.	650
x Fire Station Cost per Square Foot	$220
Cost per Functional Population	**$143**

Source: Equivalent square foot per 1,000 functional population from Table 49; fire station cost per square foot from Atlanta Fire Rescue Department, September 10, 2009.

Net Cost per Service Unit

The City has traditionally funded fire facilities through a mix of general fund revenue, long-term and short-term debt, capital leases and grant funds. Additional offsets are not necessary for grants, since grant funds are limited to available Federal or State funding, such as Community Development Block Grants, and the grant funding is not dedicated for growth-related improvements.

An analysis of the City's outstanding GO bonds is presented in Appendix D. Based on the analysis of debt-funded expenditures, 3.3% of the outstanding GO bonds are attributed to fire projects. In addition, the Atlanta Public Safety Authority issued bonds for the new public safety facility, and the City utilized a lease/purchase arrangement for the facility's furniture and fixtures. The amount of debt and capital lease balance attributed to fire is based on the Fire Rescue Department's 20% share of the facility.

A simple method that ensures that new development is not required to pay for existing facilities, through funds used for debt retirement, as well as new facilities through impact fees, is to calculate the credit by dividing the outstanding debt by existing city-wide functional population. This puts new development on the same footing as existing development in terms of the share of capital costs funded through debt. As shown in Table 51, the debt credit for outstanding lease/purchases, Public Safety Authority Bonds and GO Bonds is $23 per service unit

Table 51. Fire Debt Credit

Debt Issue/Loan	Original Balance	Fire Share	Current Balance	Fire Debt
FFE Lease/Purchase Public Safety HQ	$7,000,000	20.0%	$5,048,382	$1,009,676
2007 Atlanta Public Safety Authority	$50,000,000	20.0%	$44,950,000	$8,990,000
General Obligation Bonds	$388,648,425	3.3%	$260,490,000	$8,596,170
Total Outstanding Debt				$18,595,846
÷ City-Wide Functional Population				798,559
Debt Credit per Functional Population				**$23**

Source: GO bond balance and share of GO debt for fire from Table 79, Appendix D; lease/purchase and public safety bond balance from City of Atlanta Office of Debt and Investment, June 14, 2010; fire share of public safety HQ based on share of facility's space; city-wide functional population from Table 76.

The net cost per service unit is derived by reducing the cost per service unit by the debt credit. As shown in Table 52, the updated net cost of fire facilities is $120 per functional population.

Table 52. Fire Net Cost per Service Unit

Cost per Functional Population	$143
– Debt Credit per Functional Population	-$23
Net Cost per Functional Population	**$120**

Source: Cost per functional population from Table 50; debt credit from Table 51.

Potential Fee Schedule

The maximum fire impact fees that can be adopted by the City based on this study are derived by multiplying the functional population estimates for each land use by the net cost per functional population. The potential fire impact fee schedule is shown in Table 53.

Table 53. Potential Fire Impact Fee Schedule

Land Use	Unit	Functional Pop./Unit	Net Cost/ Func. Pop.	Net Cost/ Unit
Single-Family, Detached (All)	Dwelling	1.776	$120	**$213**
Less than 1,000 sf	Dwelling	1.528	$120	**$183**
1,000 to 1,499 sf	Dwelling	1.662	$120	**$199**
1,500 to 2,499 sf	Dwelling	1.769	$120	**$212**
2,500 sf or greater	Dwelling	1.963	$120	**$236**
Multi-Family (All)	Dwelling	1.353	$120	**$162**
Less than 500 sf	Dwelling	1.079	$120	**$129**
500 to 999 sf	Dwelling	1.253	$120	**$150**
1,000 to 1,499 sf	Dwelling	1.474	$120	**$177**
1,500 sf or greater	Dwelling	1.568	$120	**$188**
Hotel/Motel	Room	0.670	$120	**$80**
Shopping Center/Commercial	1,000 sq. ft.	1.881	$120	**$226**
Office	1,000 sq. ft.	0.935	$120	**$112**
Institutional/Public	1,000 sq. ft.	0.523	$120	**$63**
Industrial	1,000 sq. ft.	0.397	$120	**$48**
Warehouse	1,000 sq. ft.	0.210	$120	**$25**
Mini-Warehouse	1,000 sq. ft.	0.149	$120	**$18**

Source: Functional population per unit from Table 75, Appendix B; net cost per functional population from Table 52.

Comparative Fees

The fire impact fees calculated in this report are compared with the current fees in Table 54. For most land uses, the potential fee would almost double from the current fee. The potential increase in the fees primarily reflects the change in component costs since the last study was conducted in 1993.

Table 54. Comparative Fire Impact Fees

Land Use Type	Unit	Current Fee	Potential Fee	Change
Single-Family, Detached (All)	Dwelling	$114	$213	$99
Less than 1,000 sf	Dwelling	$114	$183	$69
1,000 to 1,499 sf	Dwelling	$114	$199	$85
1,500 to 2,499 sf	Dwelling	$114	$212	$98
2,500 sf or greater	Dwelling	$114	$236	$122
Multi-Family (All)	Dwelling	$79	$162	$83
Less than 500 sf	Dwelling	$79	$129	$50
500 to 999 sf	Dwelling	$79	$150	$71
1,000 to 1,499 sf	Dwelling	$79	$177	$98
1,500 sf or greater	Dwelling	$79	$188	$109
Hotel/Motel	Room	$51	$80	$29
Shopping Ctr/Commercial				
Less than 100,000 sf	1,000 sq. ft.	$199	$226	$27
100,000-199,999 sf	1,000 sq. ft.	$163	$226	$63
200,000-299,999 sf	1,000 sq. ft.	$146	$226	$80
300,000-399,999 sf	1,000 sq. ft.	$136	$226	$90
400,000-499,999 sf	1,000 sq. ft.	$129	$226	$97
500,000-599,999 sf	1,000 sq. ft.	$124	$226	$102
600,000-999,999 sf	1,000 sq. ft.	$112	$226	$114
1,000,000 sf +	1,000 sq. ft.	$104	$226	$122
Office				
Less than 50,000 sf	1,000 sq. ft.	$74	$112	$38
50,000-99,999 sf	1,000 sq. ft.	$71	$112	$41
100,000-199,999 sf	1,000 sq. ft.	$67	$112	$45
200,000-499,999 sf	1,000 sq. ft.	$64	$112	$48
500,000 sf +	1,000 sq. ft.	$62	$112	$50
Public/Institutional				
Elementary School	1,000 sq. ft.	$122	$63	-$59
High School	1,000 sq. ft.	$124	$63	-$61
Church	1,000 sq. ft.	$53	$63	$10
Hospital	1,000 sq. ft.	$133	$63	-$70
Nursing Home	1,000 sq. ft.	$97	$63	-$34
Manufacturing/Industrial	1,000 sq. ft.	$47	$48	$1
Warehouse	1,000 sq. ft.	$26	$25	-$1
Mini-Warehouse	1,000 sq. ft.	$26	$18	-$8

Source: Current fee from City of Atlanta; potential fee from Table 53.

POLICE

The Atlanta Police Department provides uniform law enforcement patrol, investigations, communications and 911 communications. Law enforcement services to City residents and businesses are supported by central facilities, six patrol precincts, training, mini-precincts, airport and other facilities. Each precinct station serves as a base for the City's six police patrol zones. The City's 911 calls are handled by the Police Department through the 911 Communications Center, which handles approximately 1.1 million calls annually for the Police Department and Atlanta Fire Rescue Department.

This report calculates the potential police impact fees that could be charged to new development based on updated cost data and the current facilities. This update also includes the City's correctional facilities housed in the City Detention Center. As with the other impact fees, the current police fee was implemented in 1993.

Service Area

Like the fire impact fee, the police impact fee is structured as city-wide service area. This is appropriate, since public safety services are provided on a system-wide basis. Police services are provided by officers on patrol, regardless of the location of the police headquarters or police substations. Consequently, no change to the police impact fee service area is recommended in this update.

Methodology

The methodology used for the current police impact fees is a standards-based approach, with an adopted level of service (LOS) of 660 square feet per 1,000 functional population. At the time of the 1993 study, the City was planning to use CDBG funds to construct three planned precinct headquarters, and had no concrete plans for any other police capital improvements. Consequently, the police fees were designed to recoup existing excess capacity. The adopted LOS was the projected LOS for 2010, based on existing station square footage and growth projections. Consistent with the recoupment approach, the value of equipment was based on original, depreciated costs rather than replacement costs.

Since the fees were adopted, the City has built a new police headquarters, a new jail, which houses some inmates from other jurisdictions, and a new radio system. While these new facilities likely have excess capacity to serve future development, they were funded with debt and have not been fully paid for. While the updated police fees could be structured as recoupment fees, this approach is not necessary because impact fee funds could be used to retire outstanding debt on facilities with excess capacity to accommodate growth. While this approach removes impact fee funding from the mix of available funds used for exemptions, there may be sufficient general fund capital expenditures on police improvements to provide offsets for a scaled-back exemptions policy. This update bases the fees, in part, on a future LOS for central facilities that takes into consideration excess capacity in existing facilities that have been funded with debt and the existing LOS for precinct stations.

Service Units

As with fire, the police fees are based on the functional population approach. The functional population multipliers for the various land use types and a detailed discussion of the methodology used in developing the multipliers are presented in Appendix B. The proposed functional population multipliers for developing the updated impact fee calculations are summarized in Table 75, Appendix B.

Capital Costs

The City's patrol functions operate from six zone precincts. Some precincts include mini-precinct locations and the entire Police Department is served by central facilities. The central facilities include the public safety building, central record and evidence storage, Police Academy, SWAT/firing range, jail and smaller offices and support buildings.

The existing level of service for precinct stations is based on the City-owned facilities. The City currently owns three precinct facilities (Zone 1, Zone 3 and Zone 4) and the Zone 5 mini-precinct station. Zone 2, 5 and 6 precincts are currently leased facilities and do not count toward the existing level of service used in the impact fee update. An inventory of the existing City-owned precinct stations is shown in Table 44. Each precinct houses approximately 120 officers and detectives. According to the *State of the City's Infrastructure*, industry standards recommend 15,000 to 20,000 square feet for every 100-125 officers. As shown in the following table, the existing facilities are less than the recommended size. Despite the lack of adequate City-owned facilities, the existing level of service for precincts is based on the current City-owned square feet. Based on the construction cost estimates prepared for the City's infrastructure study, a typical precinct facility costs $267 per square foot.

Table 55. Police Precinct Inventory

Facility	Sq. Ft.	Cost/ Sq. Ft.	Replacement Cost
Zone 1 Precinct	9,486	$267	$2,532,762
Zone 2 Precinct*	NA	NA	NA
Zone 3 Precinct	3,724	$267	$994,308
Zone 4 Precinct	2,850	$267	$760,950
Zone 5 Precinct*	NA	NA	NA
Zone 5 Underground Station	1,000	$267	$267,000
Zone 6 Precinct*	NA	NA	NA
Total	**17,060**		**$4,555,020**

* leased facility

Source: Facility inventory, square feet and cost per square foot from Atlanta Office of Program Management, *State of the City's Infrastructure*, December 2008.

Centralized facilities include the Police Department headquarters in the Public Safety Building and the training academy. The training academy is operated on land owned by Atlanta Public Schools and leased to Atlanta Police Department and is not included in this update. The Atlanta Police Department headquarters occupies four floors of the City's new five-story Public Safety facility in downtown Atlanta. Based on the recent construction cost and the share of the facility occupied by the Police Department, the Police Department share of the cost is $72.0 million, as shown in Table 56.

Table 56. Police Department Headquarters

Public Safety Headquarters Construction Cost (2009)	$90,000,000
Police Department Share of Facility	80%
Police Department Share of Public Safety Building	**$72,000,000**

Source: Police share of facility based on police occupancy of four of five floors; construction cost based on City of Atlanta project summary, July 2008.

In addition to the headquarters, the Police Department maintains support facilities throughout the City that house specialized services along with the City's radio system. Support facilities include administrative offices, storage, mounted patrol, airport police, the pistol range and radio system. As shown in Table 57, the replacement value of ancillary facilities is $75.5 million.

Table 57. Police Ancillary Facilities

Facility	Sq. Ft.	Cost/ Sq. Ft.	Replacement Cost
Police Annex Office	84,764	$267	$22,631,988
Police Annex Storage	100,000	$100	$10,000,000
Mounted Patrol/Canine	1,872	$100	$187,200
Airport Police	1,800	$267	$480,600
SWAT/Pistol Range	1,000	$100	$100,000
Executive Protection	400	$267	$106,800
Public Safety Radio System	na	na	$42,000,000
Total, Ancillary Police Facilities			**$75,506,588**

Source: Atlanta Police Department, September 14, 2009; replacement cost per square foot based on City of Atlanta, *State of the City's Infrastructure*, December 2008; public safety radio system replacement cost based on original debt issue amount for system; Detention Facility replacement cost based on Engineering News-Record (ENR), *Square Foot Costbook*, 2010, for a 1,250-bed detention center, p. 13.

Level of Service

The current police level of service are expressed in terms of building square feet per 1,000 functional population. The level of service (LOS) used in the 1993 study was based on the projected LOS for 2010, because it was determined at the time of the study that police capital facilities were already in place to serve projected community needs to the year 2010. As a result, the prior study used an LOS of 660 square feet per 1,000 functional population, even though the LOS in 1992 was 787 square feet per 1,000 functional population.

This update continues to use square feet as the LOS measure. However, this update utilizes precinct equivalent square footage rather than total square footage, since the City has identified the need to construct additional precinct stations in the coming decades to achieve industry standards and optimize operational efficiencies. The LOS related to the existing precinct stations is simply the number of total precinct-related square feet divided by the existing city-wide functional population, as shown in Table 58.

Table 58. Existing Police Precinct Level of Service

City-Owned Precinct Square Feet	17,060
÷ City-wide Functional Population, 2010	798,559
Precinct Square Feet/1,000 Functional Population	**21**

Source: Precinct square feet from Table 55; city-wide functional population from Table 76, Appendix B.

As noted above, the first step in determining the LOS related to non-precinct facilities and major equipment is to divide the total value of those assets by the replacement cost per square foot of a precinct station. Based on the estimated cost per square foot to build a precinct station and the central and ancillary facility costs, the non-precinct facilities are equivalent to 552,459 precinct square feet, as shown in Table 59.

Table 59. Police Central Facility Equivalent Square Feet

Headquarters (Public Safety Building)	$72,000,000
Ancillary Facilities	$75,506,588
Total Central Facility Value	$147,506,588
÷ Police Precinct Facility Cost per Square Foot	$267
Central Facility Precinct Equivalent Square Feet	**552,459**

Source: Headquarters cost from Table 56; ancillary facilities from Table 57; precinct cost per square foot from Table 55.

As shown in Table 60, the existing LOS for central facilities is 692 square feet per 1,000 functional population and will be a projected 520 square feet per 1,000 functional population in 2030. Because police central capital facilities are already in place to serve projected community needs to the year 2030, it is recommended that the LOS for central facilities, including the headquarters and ancillary facilities, be based on the projected 2030 LOS. This will allow the City to utilize the impact fee revenue to partially fund the outstanding debt related to these facilities.

Table 60. Existing and Future Police Central Facility Level of Service

	2010	2030
Central Facility Precinct Equivalent Square Feet	552,459	552,459
÷ City-wide Functional Population	798,559	1,063,400
Precinct Equivalent Square Feet/1,000 Functional Pop.	**692**	**520**

Source: Central facility equivalent square feet from Table 59; functional population for 2010 from Table 76, appendix B; 2030 city-wide functional population from Table 77, Appendix B.

As shown in Table 61, the police impact fee LOS is based on the existing LOS of precincts facilities and the future LOS of the central facilities. Based on this analysis, the recommended police LOS in this update is 541 precinct equivalent square feet per 1,000 functional population. It should be noted that the recommended LOS standard cannot be directly compared to the current standard of 661 square feet per 1,000 functional population used as the basis of the current fee, since the current standard is based on total square footage, which included leased as well as City-owned buildings (although the leased buildings were not used in computing the dollar amount of the fee).

Table 61. Police Level of Service

Precinct Square Feet per 1,000 Functional Pop., 2010	21
Precinct Equiv. Central Facility Sq. Ft. per 1,000 Functional Pop., 2030	520
Total Precinct Equivalent Square Feet per 1,000 Functional Population	**541**

Source: Precinct LOS from Table 58; central facility LOS from Table 60.

Cost per Service Unit

The cost per service unit is based on the impact fee LOS, which includes the current LOS for precincts and the future precinct equivalent LOS for other facilities. As shown in Table 50, the police impact fee cost is per functional population.

Table 62. Police Cost per Service Unit

Equivalent Square Feet per 1,000 Functional Population	541
x Police Precinct Cost per Square Foot	$267
Cost per Functional Population	**$144**

Source: Equivalent square feet/1,000 functional population from Table 61; precinct cost per square foot from Table 55.

Net Cost per Service Unit

The City has traditionally funded police facilities through a mix of general fund revenue, long-term and short-term debt, capital leases and grant funds. More recently, the City has funded the construction and acquisition of police facilities through the Atlanta Public Safety Authority, which issues bonds that are repaid by the City through lease arrangements. Additional offsets are not necessary for grants, since grant funds are limited to available Federal or State funding, such as Community Development Block Grants, and the grant funding is not dedicated for growth-related improvements.

An analysis of the City's outstanding GO bonds is presented in Appendix D. Based on the analysis of debt-funded expenditures, only 0.3% of the outstanding GO bonds are attributed to Police Department projects. The City has also issued revenue bonds through the Atlanta Public Safety Authority to fund the new public safety facility, public safety radio upgrade and public safety annex, and the City utilized a lease/purchase arrangement for the facility's furniture and fixtures. The amount of debt and capital lease balance attributed to the Police Department is based on the Department's 80% share of the public safety facility's total space. However, as discussed in the "Level of Service" section, the police space in the public safety annex and public safety headquarters have capacity to accommodate anticipated growth until 2030. Since current functional population is 75.1% of the anticipated 2030 functional population, only this share of these facilities is serving existing residents and must be credited. The remaining $13.5 million of outstanding debt on these facilities is attributable to future growth and could be retired with police impact fee revenues. A 100% credit is provided for the radio system, since this technology-intensive investment is likely to need additional upgrades prior to 2030.

A simple method that ensures that new development is not required to pay for existing facilities, through funds used for debt retirement, as well as new facilities through impact fees, is to calculate the credit by dividing the outstanding debt by existing City-wide functional population. This puts

new development on the same footing as existing development in terms of the share of capital costs funded through debt. As shown in Table 63, the debt credit for the outstanding police-related debt is per service unit.

Table 63. Police Debt Credit

Debt Issue/Loan	Current Balance	Police Share	Outstanding Police Debt	Ex. Dev't Share	Creditable Debt
FFE Lease/Purchase Public Safety HQ	$5,048,382	80.0%	$4,038,706	75.1%	$3,033,068
2008 Public Safety Annex Loan	$14,090,562	100.0%	$14,090,562	75.1%	$10,582,012
2007 Atlanta Public Safety Authority	$44,950,000	80.0%	$35,960,000	75.1%	$27,005,960
Public Safety Radio Upgrade	$34,413,060	100.0%	$34,413,060	100.0%	$34,413,060
General Obligation Bonds	$260,490,000	0.3%	$781,470	100.0%	$781,470
Total Outstanding Debt					$75,815,570
÷ City-Wide Functional Population, 2010					798,559
Debt Credit per Functional Population					**$95**

Source: GO bond balance and share of GO debt for police from Table 79, Appendix D; lease/purchase and public safety bond balance from City of Atlanta Office of Debt and Investment, June 14, 2010; police share of public safety HQ based on share of facility's space; existing development's share of the debt related to the public safety headquarters and annex is the ratio of 2010 to 2030 city-wide functional population; 2010 city-wide functional population from Table 76, Appendix B; 2030 city-wide functional population from Table 77, Appendix B. .

The net cost per service unit for police is derived by reducing the cost per service unit by the debt credit. As shown in Table 64, the updated police net cost is $49 per functional population.

Table 64. Police Net Cost per Service Unit

Cost per Functional Population	$144
– Debt Credit per Functional Population	-$95
Police Net Cost per Functional Population	**$49**

Source: Cost per functional population from Table 62; debt credit from Table 63.

Potential Fee Schedule

The maximum police impact fees that can be adopted by the City based on this study are derived by multiplying the functional population estimates for each land use by the net cost per functional population. The potential impact fee schedule is shown in Table 65.

Table 65. Potential Police Impact Fee Schedule

Land Use	Unit	Functional Pop./Unit	Net Cost/ Func. Pop.	Net Cost/ Unit
Single-Family, Detached (All)	Dwelling	1.776	$49	**$87**
Less than 1,000 sf	Dwelling	1.528	$49	**$75**
1,000 to 1,499 sf	Dwelling	1.662	$49	**$81**
1,500 to 2,499 sf	Dwelling	1.769	$49	**$87**
2,500 sf or greater	Dwelling	1.963	$49	**$96**
Multi-Family (All)	Dwelling	1.353	$49	**$66**
Less than 500 sf	Dwelling	1.079	$49	**$53**
500 to 999 sf	Dwelling	1.253	$49	**$61**
1,000 to 1,499 sf	Dwelling	1.474	$49	**$72**
1,500 sf or greater	Dwelling	1.568	$49	**$77**
Hotel/Motel	Room	0.670	$49	**$33**
Shopping Center/Commercial	1,000 sq. ft.	1.881	$49	**$92**
Office	1,000 sq. ft.	0.935	$49	**$46**
Institutional/Public	1,000 sq. ft.	0.523	$49	**$26**
Industrial	1,000 sq. ft.	0.397	$49	**$19**
Warehouse	1,000 sq. ft.	0.210	$49	**$10**
Mini-Warehouse	1,000 sq. ft.	0.149	$49	**$7**

Source: Functional population per unit from Table 75, Appendix B; net cost per functional population from Table 64.

Comparative Fees

The police impact fees calculated in this report are compared with the current fees in Table 66. The potential increase in the fees primarily reflects the change in component costs since the last study was conducted in 1993.

Table 66. Comparative Police Impact Fees

Land Use Type	Unit	Current Fee	Potential Fee	Change
Single-Family Detached	Dwelling	$33	$87	$54
Less than 1,000 sf	Dwelling	$33	$75	$42
1,000 to 1,499 sf	Dwelling	$33	$81	$48
1,500 to 2,499 sf	Dwelling	$33	$87	$54
2,500 sf or greater	Dwelling	$33	$96	$63
Multi-Family	Dwelling	$23	$66	$43
Less than 500 sf	Dwelling	$23	$53	$30
500 to 999 sf	Dwelling	$23	$61	$38
1,000 to 1,499 sf	Dwelling	$23	$72	$49
1,500 sf or greater	Dwelling	$23	$77	$54
Hotel/Motel	Room	$15	$33	$18
Shopping Ctr/Commercial				
Less than 100,000 sf	1,000 sq. ft.	$57	$92	$35
100,000-199,999 sf	1,000 sq. ft.	$47	$92	$45
200,000-299,999 sf	1,000 sq. ft.	$42	$92	$50
300,000-399,999 sf	1,000 sq. ft.	$39	$92	$53
400,000-499,999 sf	1,000 sq. ft.	$37	$92	$55
500,000-599,999 sf	1,000 sq. ft.	$35	$92	$57
600,000-999,999 sf	1,000 sq. ft.	$32	$92	$60
1,000,000 sf +	1,000 sq. ft.	$30	$92	$62
Office				
Less than 50,000 sf	1,000 sq. ft.	$21	$46	$25
50,000-99,999 sf	1,000 sq. ft.	$20	$46	$26
100,000-199,999 sf	1,000 sq. ft.	$19	$46	$27
200,000-499,999 sf	1,000 sq. ft.	$18	$46	$28
500,000 sf +	1,000 sq. ft.	$18	$46	$28
Public/Institutional				
Elementary School	1,000 sq. ft.	$35	$26	-$9
High School	1,000 sq. ft.	$36	$26	-$10
Church	1,000 sq. ft.	$15	$26	$11
Hospital	1,000 sq. ft.	$38	$26	-$12
Nursing Home	1,000 sq. ft.	$28	$26	-$2
Manufacturing/Industrial	1,000 sq. ft.	$14	$19	$5
Warehouse	1,000 sq. ft.	$8	$10	$2
Mini-Warehouse	1,000 sq. ft.	$8	$7	-$1

Source: Current fee from City of Atlanta; potential fee from Table 65.

APPENDIX A: DEMOGRAPHIC DATA

For the impact fee analysis, it is important to know both the existing amount of residential development and the number of residents associated with each dwelling unit. For this study, data on housing units must be compiled for each of the three service areas. Data on single family and multi-family units is available for each Census Tract from 2007. The estimated number of residential units in this study for 2010, 2020 and 2030 are based on population growth forecasts provided by the City of Atlanta. The detailed population growth forecasts by Census tract for each decade are provided in Table 81, Appendix F, and are summarized in the following table.

Table 67. Population Growth, 2000-2030

	2000	2010	2020	2030
Northside Service Area	145,363	204,809	248,836	285,788
Southside Service Area	134,106	171,788	211,096	249,288
Westside Service Area	137,001	173,506	210,817	248,054
City-wide Population	416,470	550,104	670,749	783,130
Population Change				
Northside Service Area		59,446	44,026	36,952
Southside Service Area		37,682	39,308	38,192
Westside Service Area		36,505	37,311	37,237
City-wide Population Change		133,634	120,646	112,381
Total Percent Change				
Northside Service Area		29.0%	17.7%	12.9%
Southside Service Area		21.9%	18.6%	15.3%
Westside Service Area		21.0%	17.7%	15.0%
City-wide Population Change		24.3%	18.0%	14.4%
Annualized Change				
Northside Service Area		3.5%	2.0%	1.4%
Southside Service Area		2.5%	2.1%	1.7%
Westside Service Area		2.4%	2.0%	1.6%
City-wide Population Change		2.8%	2.0%	1.6%

Source: Population growth forecast for each service area from Table 81, Appendix F.

The total housing units for each service area for 2010 used in this study are derived from the existing units in 2007 multiplied by the annual growth rate for each service area from 2000 to 2010. Similarly, the growth rate projections for each decade were used to derive estimates of future units for each service area in 2020 and 2030. The estimates for each decade by service area are summarized in Table 68.

Table 68. Total Housing Units, 2010-2030

Service Area	Single Family	Multi-Family	Total
Northside Service Area	38,203	64,967	103,170
Southside Service Area	36,449	35,685	72,134
Westside Service Area	37,338	27,466	64,804
Total Housing Units, 2010	111,990	128,118	240,108
Northside Service Area	44,962	76,462	121,424
Southside Service Area	43,236	42,330	85,566
Westside Service Area	43,946	32,327	76,273
Total Housing Units, 2020	132,144	151,119	283,263
Northside Service Area	50,776	86,349	137,125
Southside Service Area	49,860	48,815	98,675
Westside Service Area	50,543	37,180	87,723
Total Housing Units, 2030	151,179	172,344	323,523

Source: Estimated housing units derived from 2007 units by type from Table 82, Appendix F and population growth rates from Table 67.

An important input into the impact fee calculations is the number of persons associated with the single family and multi-family housing types. The best and most complete available data source on average household size in Atlanta is the 2000 U.S. Census. As shown in Table 69, average household size is 2.65 persons per single-family unit and 2.02 persons per multi-family unit.

Table 69. Average Household Size by Housing Type, 2000

Housing Type	Total Units	Vacant Units	Occupied Units	Household Population	Avg. HH Size
Single-Family, Detached	80,613	4,990	75,623	200,640	**2.65**
Multi-Family	106,265	13,729	92,536	186,763	**2.02**

Source: U.S. Census Bureau, 2000 Census SF-3 (1-in-6 weighted sample data) for the City of Atlanta.

In addition, national data are available on average household size by square feet from the 2007 American Housing Survey. This data can be used to estimate the relative household size for the tiered single-family and multi-family impact fee categories used in this study. As can be seen in Table 70, average household sizes for single-family and multi-family units, respectively, are strongly related to the size of the unit.

Table 70. Tiered Average Household Size, U.S.

Housing Type	Household Population	Households	Average HH Size	Ratio to All Units
Single-Family, Detached (All)	153,315,131	56,432,092	2.72	1.000
Less than 1,000 sf	9,906,496	4,237,116	2.34	**0.860**
1,000 to 1,499 sf	33,360,254	13,113,594	2.54	**0.934**
1,500 to 2,499 sf	67,365,076	24,903,442	2.71	**0.996**
2,500 sf or greater	42,683,305	14,177,941	3.01	**1.107**
Multi-Family (All)	47,880,601	23,005,832	2.08	1.000
Less than 500 sf	3,430,723	2,064,387	1.66	**0.798**
500 to 999 sf	20,510,830	10,630,057	1.93	**0.928**
1,000 to 1,499 sf	14,482,255	6,386,900	2.27	**1.091**
1,500 sf or greater	9,456,793	3,924,488	2.41	**1.159**

Source: US Dept of Housing and Urban Development, 2007 American Housing Survey, weighted microdata (pure weight).

For Atlanta, the tiered average household size for both single-family and multi-family units can be estimated by multiplying the untiered average household size by the national ratio of average household size for each size category. The tiered average household size data used in this study are summarized in Table 71.

Table 71. Tiered Average Household Size, Atlanta

Housing Type	Untiered Avg. HH Size	Ratio to All Units	Tiered Avg. HH Size
Single-Family, Detached (All)	2.65		
Less than 1,000 sf		0.860	**2.28**
1,000 to 1,499 sf		0.934	**2.48**
1,500 to 2,499 sf		0.996	**2.64**
2,500 sf or greater		1.107	**2.93**
Multi-Family (All)	2.02		
Less than 500 sf		0.798	**1.61**
500 to 999 sf		0.928	**1.87**
1,000 to 1,499 sf		1.091	**2.20**
1,500 sf or greater		1.159	**2.34**

Source: Untiered household size data from Table 69; ratios from Table 70; tiered household size is product of untiered household size and ratio.

Estimates of nonresidential employment data by employment type and census tract have been compiled for the Atlanta metropolitan area by the Atlanta Regional Commission. The employment categories used in the ARC estimates include retail, services, wholesale, transportation/ communications/utilities, manufacturing, government, finance/insurance/real estate and construction. For this study, all of the employment categories used by ARC have been categorized and allocated among the five proposed nonresidential land use categories. The detailed employment data are presented by Census tract for 2010 and 2030 in Appendix F.

The employment estimates are used to derive the estimate of square feet of nonresidential land uses based on employee ratios utilized in developing the functional population in the following section. The estimated square feet for nonresidential land uses for each impact fee area and the forecast square feet are shown in Table 72.

Table 72. Nonresidential Square Feet, Atlanta, 2010 to 2030

	Northside	Southside	Westside
Retail/Commercial Employees, 2010	102,110	52,694	15,658
Office Employees, 2010	46,627	27,186	4,005
Industrial Employees, 2010	16,445	21,537	9,544
Warehouse Employees, 2010	16,829	10,733	5,211
Public/Institutional Employees, 2010	13,993	56,194	10,707
Total Employment, 2010	196,004	168,344	45,125
Retail/Commercial Employees, 2030	132,186	75,926	25,627
Office Employees, 2030	57,382	35,410	7,294
Industrial Employees, 2030	20,834	24,129	9,065
Warehouse Employees, 2030	20,836	14,213	5,617
Public/Institutional Employees, 2030	14,161	60,867	11,765
Total Employment, 2030	245,399	210,545	59,368
Retail/Commercial Employees/1,000 Sq. Ft.	1.02	1.02	1.02
Office Employees/1,000 Sq. Ft.	2.31	2.31	2.31
Industrial Employees/1,000 Sq. Ft.	1.05	1.05	1.05
Warehouse Employees/1,000 Sq. Ft.	0.43	0.43	0.43
Public/Institutional Employees/1,000 Sq. Ft.	0.91	0.91	0.91
Retail/Commercial Sq. Ft. (1,000s), 2010	**100,108**	**51,661**	**15,351**
Office Sq. Ft. (1,000s), 2010	**20,185**	**11,769**	**1,734**
Industrial Sq. Ft. (1,000s), 2010	**15,662**	**20,511**	**9,090**
Warehouse Sq. Ft. (1,000s), 2010	**39,137**	**24,960**	**12,119**
Public/Institutional Sq. Ft. (1,000s), 2010	**15,377**	**61,752**	**11,766**
Total Nonresidential Sq. Ft. (1,000s), 2010	190,469	170,653	50,060
Retail/Commercial Sq. Ft. (1,000s), 2030	**129,594**	**74,437**	**25,125**
Office Sq. Ft. (1,000s), 2030	**24,841**	**15,329**	**3,158**
Industrial Sq. Ft. (1,000s), 2030	**19,842**	**22,980**	**8,633**
Warehouse Sq. Ft. (1,000s), 2030	**48,456**	**33,053**	**13,063**
Public/Institutional Sq. Ft. (1,000s), 2030	**15,562**	**66,887**	**12,929**
Total Nonresidential Sq. Ft. (1,000s), 2030	238,295	212,686	62,908

Source: Employment by land use category and service area for 2010 and 2030 from Table 83 and Table 84, Appendix F; employees per 1000 sf from Table 74, Appendix B.

APPENDIX B: FUNCTIONAL POPULATION

The two most common methodologies used in calculating public safety service units and impact fees are the "calls-for-service" approach and the "functional population" approach. As in the 1993 study, this update utilizes the "functional population" approach to calculate and assess the fire, police and park and recreation impact fees. This approach is a generally-accepted methodology for these impact fee areas and is based on the observation that demand for public safety facilities tends to be proportional to the presence of people at a particular site.

Functional population is analogous to the concept of "full-time equivalent" employees. It represents the number of "full-time equivalent" people present at the site of a land use, and it is used for the purpose of determining the impact of a particular development on the need for facilities. For residential development, functional population is simply average household size times the percent of time people spend at home. For nonresidential development, functional population is based on a formula that factors trip generation rates, average vehicle occupancy and average number of hours spent by visitors at a land use.

Residential Functional Population

For residential land uses, the impact of a dwelling unit on the need for capital facilities is generally proportional to the number of persons residing in the dwelling unit. This can be measured for different housing types in terms of either average household size (average number of persons per occupied dwelling unit) or persons per unit (average number of persons per dwelling unit, including vacant as well as occupied units). In this analysis, average household size is used to develop the functional population multipliers, as it avoids the need to make assumptions about occupancy rates.

The housing types proposed in this update include separating both the single-family and multi-family land use categories into four tiered size categories. The average household size associated with each general housing category is shown in Appendix A. As mentioned above, the average household size is based on the occupied units and household population. These city-wide average multipliers will be used for all of the impact fee facility updates.

Determining residential functional population multipliers is considerably simpler than the nonresidential component. It is generally estimated that people spend one-half to two-thirds of their time at home and the rest of each 24-hour day away from their place of residence. In developing the residential component of 24-hour functional population, the 1993 study estimated that people, on average, spend 16 hours, or 67 percent, of each 24-hour day at their place of residence and the other 33 percent away from home. This estimate is also used in this update. A similar approach is used for the hotel/motel category. The functional population per unit for these uses is shown in Table 73.

Table 73. Functional Population per Unit for Residential Uses

Housing Type	Unit	Average HH Size	Occupancy	Func. Pop./Unit
Single-Family, Detached (All)	Dwelling	2.65	0.67	**1.776**
Less than 1,000 sf	Dwelling	2.28	0.67	**1.528**
1,000 to 1,499 sf	Dwelling	2.48	0.67	**1.662**
1,500 to 2,499 sf	Dwelling	2.64	0.67	**1.769**
2,500 sf or greater	Dwelling	2.93	0.67	**1.963**
Multi-Family (All)	Dwelling	2.02	0.67	**1.353**
Less than 1,000 sf	Dwelling	1.61	0.67	**1.079**
1,000 to 1,499 sf	Dwelling	1.87	0.67	**1.253**
1,500 to 2,499 sf	Dwelling	2.20	0.67	**1.474**
2,500 sf or greater	Dwelling	2.34	0.67	**1.568**
Hotel/Motel	Room	1.34	0.50	**0.670**

Source: Average household size from Table 71; residential occupancy factor assumed; hotel/motel room occupancy based on one-half of average vehicle occupancy on vacation trips from U.S. Department of Transportation, *National Household Travel Survey*, 2001; occupancy rate for hotel/motel assumed.

Nonresidential Functional Population

The functional population methodology for nonresidential land uses is based on trip generation data utilized in developing the transportation demand schedule prepared for the updated transportation impact fee update. Functional population per 1,000 square feet is derived by dividing the total number of hours spent by employees and visitors during a week by 168 hours (24 hours/day times 7 days/week). Employees are estimated to spend nine hours per day at their place of employment seven days a week for retail/commercial and public/institutional land uses and five days a week for industrial and warehouse employees; and visitors are estimated to spend 0.5 to 1.0 hour per visit depending on land use. The formula used to derive the nonresidential functional population estimates is summarized in Figure 11.

Figure 11. Nonresidential Functional Population Formula

Functional population/unit = (employee hours/1000 sf + visitor hours/1000 sf) ÷ 24 hours/day

Functional population/employee = functional population/unit ÷ employee/unit

Where:

Employee hours = employees x 8 hours/day

Visitor hours/1000 sf = visitors/1000 sf x 1 hour/visit

Visitors/1000 sf = weekday ADT/1000 sf x avg. vehicle occupancy – employees/1000 sf

Weekday ADT/1000 sf = one way average daily trips (total trip ends ÷ 2)

Using this formula and information on trip generation rates used in this study for the transportation impact fee update, vehicle occupancy rates from the *National Household Travel Survey* and other

sources and assumptions, nonresidential functional population estimates per 1,000 square feet of gross floor area and employee are calculated in Table 74.

Table 74. Functional Population per Unit for Nonresidential Uses

Land Use	Unit	Trip Rate	Persons/ Trip	Employee/ Unit	Visitors/ Unit	Functional Pop./Unit	Functional Pop./Emp.
Shopping Center/Commercial	1,000 sq. ft.	21.47	1.77	1.02	36.98	**1.881**	**1.844**
Office	1,000 sq. ft.	5.51	1.14	2.31	3.97	**0.935**	**0.405**
Public/Institutional	1,000 sq. ft.	3.79	1.63	0.91	5.27	**0.523**	**0.575**
Industrial	1,000 sq. ft.	1.91	1.14	1.05	1.13	**0.397**	**0.378**
Warehouse	1,000 sq. ft.	1.78	1.14	0.43	1.60	**0.210**	**0.488**
Mini-Warehouse	1,000 sq. ft.	1.25	1.63	0.22	1.82	**0.149**	**0.677**

Source: Trip rates based on one-half of average daily trip rate from ITE, *Trip Generation*, 8th ed., 2008 (retail/commercial based on shopping center, public/institutional based on nursing home, industrial based on manufacturing); persons/trip is average vehicle occupancy from Federal Highway Administration, *Nationwide Household Travel Survey*, 2001; employees/unit from U.S. Department of Energy, *Commercial Buildings Energy Consumption Survey*, 2003; visitors/unit is trips times persons/trip minus employees/unit; functional population/unit calculated based on formula from Figure 11.

Functional Population Summary

The City's current impact fee schedules have 23 different land use categories; as discussed in the introduction, this update would reduce the number of land use categories to 15. This update proposes consolidating the nonresidential fee categories into 6 broader categories that are consistent among all of the updated impact fees addressed in this report. The functional population multipliers for the recommended residential and nonresidential land use categories are summarized in Table 75.

Table 75. Functional Population Multipliers

Land Use	Unit	Functional Pop./Unit
Single-Family, Detached (All)	Dwelling	**1.776**
Less than 1,000 sf	Dwelling	**1.528**
1,000 to 1,499 sf	Dwelling	**1.662**
1,500 to 2,499 sf	Dwelling	**1.769**
2,500 sf or greater	Dwelling	**1.963**
Multi-Family (All)	Dwelling	**1.353**
Less than 1,000 sf	Dwelling	**1.079**
1,000 to 1,499 sf	Dwelling	**1.253**
1,500 to 2,499 sf	Dwelling	**1.474**
2,500 sf or greater	Dwelling	**1.568**
Hotel/Motel	Room	**0.670**
Shopping Center/Commercial	1,000 sq. ft.	**1.881**
Office	1,000 sq. ft.	**0.935**
Institutional/Public	1,000 sq. ft.	**0.523**
Industrial	1,000 sq. ft.	**0.397**
Warehouse	1,000 sq. ft.	**0.210**
Mini-Warehouse	1,000 sq. ft.	**0.149**

Source: Residential dwelling unit functional population per unit from Table 73; nonresidential functional population per unit from Table 74.

The current City-wide and service area functional population is based on the current housing and employment data from Appendix A. As shown in Table 76, the functional population is an estimated 798,559 City-wide.

Table 76. Functional Population Estimate, 2010

Land Use	Unit	Func. Pop./Unit	Units	Functional Population
Single-Family Detached (All)	Dwelling	1.776	38,203	67,849
Multi-Family (All)	Dwelling	1.353	64,967	87,900
Shopping Center/Commercial	Employees	1.844	102,110	188,291
Office	Employees	0.405	46,627	18,884
Institutional/Public	Employees	0.575	13,993	8,046
Industrial	Employees	0.378	16,445	6,216
Warehouse	Employees	0.488	16,829	8,213
Subtotal, Northside				**385,399**
Single-Family Detached (All)	Dwelling	1.776	36,449	64,733
Multi-Family (All)	Dwelling	1.353	35,685	48,282
Shopping Center/Commercial	Employees	1.844	52,694	97,168
Office	Employees	0.405	27,186	11,010
Institutional/Public	Employees	0.575	56,194	32,312
Industrial	Employees	0.378	21,537	8,141
Warehouse	Employees	0.488	10,733	5,238
Subtotal, Southside				**266,884**
Single-Family Detached (All)	Dwelling	1.776	37,338	66,312
Multi-Family (All)	Dwelling	1.353	27,466	37,161
Shopping Center/Commercial	Employees	1.844	15,658	28,873
Office	Employees	0.405	4,005	1,622
Institutional/Public	Employees	0.575	10,707	6,157
Industrial	Employees	0.378	9,544	3,608
Warehouse	Employees	0.488	5,211	2,543
Subtotal, Westside				**146,276**
Total City-wide Functional Population				**798,559**

Source: Functional population per unit from Table 75; existing dwelling units from Table 68, Appendix A; employment by land use and service area from Table 83 and Table 84, Appendix F.

Projections of the future functional population are based on regional population and employment forecasts from Appendix A. As shown in Table 77, the City-wide functional population is projected to grow to 1.06 million in 2030.

Table 77. Projected Functional Population, 2030

Land Use	Unit	Func. Pop./Unit	Units	Functional Population
Single-Family Detached (All)	Dwelling	1.776	50,776	90,178
Multi-Family (All)	Dwelling	1.353	86,349	116,830
Shopping Center/Commercial	Employees	1.844	132,186	243,751
Office	Employees	0.405	57,382	23,240
Institutional/Public	Employees	0.575	14,161	8,143
Industrial	Employees	0.378	20,834	7,875
Warehouse	Employees	0.488	20,836	10,168
Subtotal, Northside				**500,185**
Single-Family Detached (All)	Dwelling	1.776	49,860	88,551
Multi-Family (All)	Dwelling	1.353	48,815	66,047
Shopping Center/Commercial	Employees	1.844	75,926	140,008
Office	Employees	0.405	35,410	14,341
Institutional/Public	Employees	0.575	60,867	34,999
Industrial	Employees	0.378	24,129	9,121
Warehouse	Employees	0.488	14,213	6,936
Subtotal, Southside				**360,003**
Single-Family Detached (All)	Dwelling	1.776	50,543	89,764
Multi-Family (All)	Dwelling	1.353	37,180	50,305
Shopping Center/Commercial	Employees	1.844	25,627	47,256
Office	Employees	0.405	7,294	2,954
Institutional/Public	Employees	0.575	11,765	6,765
Industrial	Employees	0.378	9,065	3,427
Warehouse	Employees	0.488	5,617	2,741
Subtotal, Westside				**203,212**
Total City-wide Functional Population				**1,063,400**

Source: Functional population per unit from Table 75; projected dwelling units from Table 68, Appendix A; employment by land use and service area from Table 83 and Table 84, Appendix F.

APPENDIX C: MAJOR STREET INVENTORY

Table 78. Major Street Inventory

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
10th St	Howell Mill Rd to Fowler St	1.00	4		0	2	0	0	A	1,824	1,824
10th St	Fowler St to Techwood Dr	0.10	4		1	2	0	0	A		
10th St	Techwood Dr to Williams St	0.10	5		2	2	0	0	A		
10th St	Williams St to Spring St	0.10	6		1	2	0	0	A		
10th St	Spring St to Peachtree Street	0.30	4		0	2	0	1	A		
10th St	Peachtree Street to Monroe Dr	0.90	4		1	2	0	0	A	2,351	2,116
10th St	W Peachtree St to W of Cresent	0.10	4	A	1	2	0	0	U	1,755	176
10th St	W of Cresent Av to Peachtree St	0.10	3		1	2	0	0	U		
10th St	Peachtree Street to Juniper St	0.20	3		2	2	0	0	A		
10th St	Juniper St to Piedmont Ave	0.10	3		1	2	0	0	A	1,786	179
10th St	HowellMill Road to Northside Dr	0.30	4		0	2	0	0	A		
17th Street	Peachtree St to W. Peachtree St	0.10	2		1	2	0	0	A		
17th Street	W. Peachtree St to Market St	0.40	4		2	2	2	0	U	1,854	742
17th Street	Market st to State st	0.20	5	A	1	2	2	0	U		
17th Street	State St to Village St	0.30	6	B	2	2	2	0	U		
17th Street	Village St to Northside Dr	0.40	6	A	2	2	2	0	U		
17th Street	Northside Dr to Howell Mill Rd	0.20	2		0	0	0	0	A		
Barnett St	Ponce De Leon Ave to Virginia	0.60	2		0	2	0	0	A		
Beverly Rd	W Peachtree St to Mont. Ferry	0.60	2		0	2	0	1	A	526	316
Bishop St	17th St to Mecaslin St	0.30	2		0	1	0	0	A	371	111
Blackland Rd	Roswell Rd to Northside Dr	0.10	2		1	0	0	0	A		
Blackland Rd	Roswell Rd to Northside Dr	0.40	2		0	0	1	0	A	751	300
Bohler Rd	Defoors Ferry Rd to W Wesley	1.10	2		0	1	1	0	A	367	404
Bolton Rd	Marietta Blvd to Moores Mill Rd	0.30	2		0	2	0	0	A	873	262
Boulevard	Ponce De Leon to North Ave	0.20	4		1	2	0	0	A	1,819	364
Carroll Dr	Marietta Rd to Chattahoochee	0.70	2		0	1	0	0	A		
Chattahoochee Ave	Howell Mill Rd to Marietta Blve	1.70	4		0	1	0	0	A	1,402	2,383
Cheshire Bridge Rd	N of Sheriden to Lavista/Lindbrgh	0.30	4		0	2	0	0	A		
Cheshire Bridge Rd	Lavista/Lindbergh to Piedmont	1.50	4		1	2	0	0	A	2,032	3,048
Cheshire Bridge Rd	Lenox/Chantilly to N of Sheriden	0.20	5	D	1	2	0	0	A	3,290	658
Clifton Rd	DeKalb Ave to Ponce De Leon	0.80	2		0	2	0	2	A	438	350
Collier Rd	Chattahoochee Ave to Defoors	0.60	2		0	0	0	0	A	655	393
Collier Rd	Defoors to Woodland Hills Ave	0.50	2		0	1	0	0	A		
Collier Rd	Woodland Hills to midblock	0.10	2		0	2	0	0	A		
Collier Rd	midblock to Howell Mill Rd	0.20	2		0	2	0	0	A		
Collier Rd	Howell Mill Rd to Ardmore Rd	0.90	2		0	2	0	0	A	1,464	1,318
Collier Rd	Ardmore Rd to Peachtree Rd	0.30	3		0	2	0	0	A		
Deering Rd	Northside Drive to Mcaslin st	0.50	2		0	1	0	1	A		
Deering Rd	Mcaslin St to Peachtree Street	0.50	2		0	2	0	0	A	783	392
Defoor Ave	Collier Rd to Howell Mill Rd	1.10	2		0	1	0	0	A		
Defoors Ferry Rd	Bolton Rd to Collier Rd	1.90	2		0	1	0	0	A	497	944
E Morningside Dr	Piedmont Ave to E Rock Springs	0.40	2		0	2	0	2	A		
E Paces Ferry Rd	Park Circle to Piedmont Rd	0.10	2		0	1	0	0	A		
E Paces Ferry Rd	Piedmont Rd to Grand View RD	0.40	4		1	2	0	0	A	811	324
E Paces Ferry Rd	Grand View RD to Peachtree Rd	0.20	2		0	2	0	2	A		
E Paces Ferry Rd	Ga-400 to Roxboro Rd	0.60	2		0	2	0	0	A	695	417
E Rock Springs Rd	E Morningside Dr to W Sussex Rd	0.20	2		0	2	0	0	A		
E Rock Springs Rd	W Sussex Rd to Johnson Rd	0.30	2		0	1	0	0	A	920	276

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
E Rock Springs Rd	Johnson Rd to Beech Valley Way	0.30	2		2	1	0	0	A		
E Rock Springs Rd	Beech Valley to E Rock Springs	0.30	2		0	2	0	0	A		
E Rock Springs Rd	E Rock Springs Cir to Briarcliff	0.20	2		0	2	0	0	A		
E Wesley Rd	Peachtree Street to W Boiling Rd	0.20	2		0	2	0	0	A		
E Wesley Rd	W Boiling Rd to Acorn Ave	0.30	2		0	1	0	0	A		
E Wesley Rd	Acorn Ave to Ellwood Dr	0.10	2	B	0	1	0	0	A		
E Wesley Rd	Ellwood Dr to Piedmont Rd	0.60	2		0	1	0	0	A		
Garmon Rd	Mt Paran Rd to City Limit	0.60	2		0	0	0	0	A		
Habersham Rd	Pchtree Battle to W Paces Ferry	1.70	2		0	0	2	0	A		
Habersham Rd	W Paces Ferry Rd to Roswell Rd	1.00	2		0	1	2	0	A	941	941
Habersham Rd	Roswell Rd to Piedmont Rd	0.10	2		2	2	0	0	A		
Habersham Rd	Piedmont Rd to Old Ivy Rd	0.10	2		0	1	0	0	A		
Hemphill Ave	Ferst St to 10th St	0.30	2		0	2	0	2	A		
Hemphill Ave	10th to Ethel St	0.30	3		0	1	0	2	A		
Hemphill Ave	Ethel St to Northside Dr	0.10	4		0	1	0	2	A		
Hills Ave	Collier Rd to Chattahoochee Ave	0.40	2		0	1	0	0	A		
Hillside Dr	Powers Ferry Rd to Northside Dr	0.80	2		0	1	0	0	A		
Howell Mill Rd	Marietta St to 14th St	0.50	2		0	2	0	0	U		
Howell Mill Rd	14th St to Huff Rd	0.20	4		0	2	0	0	A		
Howell Mill Rd	Huff Rd to Trabert Ave	0.40	3		0	2	0	0	A	1,870	748
Howell Mill Rd	Trabert Ave to Forrest St/Morris	0.20	4		0	2	0	0	A		
Howell Mill Rd	Forrest St to Chattahoochee	0.20	3		1	2	0	0	A		
Howell Mill Rd	Chattahoochee Ave to Ridgeway	0.10	2		2	2	0	0	A		
Howell Mill Rd	Ridgeway to Shopping Ctr Ent.	0.20	4		0	2	0	0	A	2,133	427
Howell Mill Rd	Shopping Ctr Enter to I-75 ramps	0.10	4		1	2	0	0	A		
Howell Mill Rd	I-75 ramps to Beck St	0.10	4		2	2	0	0	A		
Howell Mill Rd	Beck St to Collier Rd	0.20	3		1	2	0	0	A		
Howell Mill Rd	Collier Rd to Norfleet Rd	0.20	2		1	2	0	0	A		
Howell Mill Rd	Norfleet Rd to Nawench Rd	1.60	2		0	1	2	0	A	2,066	3,306
Howell Mill Rd	Nawench Rd to Robert Dr	0.50	2		1	1	1	0	A	419	210
Howell Mill Rd	Robert Dr to Hwll Mill Plantation	0.10	2		0	1	0	0	A		
Howell Mill Rd	Hwll Mill Plant. to Northside Pwy	0.20	2		2	1	0	0	A	380	76
Huff Rd	Marietta Blvd to Howell Mill Rd	1.00	2		0	1	0	0	A	876	876
Jett Rd	Powers Ferry Rd to Jettridge Dr	1.80	2		0	1	0	0	A		
Johnson Rd Ne	E Rock Springs to Pasadena Ave	0.60	2		0	2	0	2	A		
Johnson Rd Ne	Pasadena Ave to Helen Dr	0.30	2		0	2	0	2	A	1,034	310
Johnson Rd Ne	Helen Dr to Briarcliff	0.10	3		2	2	0	0	A		
Juniper St	14th st to 10th st	0.30	4		1	2	0	0	A		
Juniper St	10th st to Peachtree Pl	0.10	4		1	2	0	1	A		
Juniper St	Peachtree Pl to Courtland St	0.60	4		1	2	0	0	A	1,796	1,078
Lake Forrest Dr	Powers Ferry Rd to Interlochen Dr	0.60	2		0	1	2	0	A		
Lake Forrest Dr	Interlochen Dr to Lake Forrest Ln	0.20	2		0	0	2	0	A		
Lake Forrest Dr	Lake Forrest Ln to City Limit	0.60	2		0	0	0	0	A		
Lenox Rd	Cheshire Bridge Rd to Lenox Pt	0.30	4		3	2	0	0	A	4,968	1,490
Lenox Rd	Lenox Pt to Canteberry	0.40	3		2	2	0	0	A		
Lenox Rd	Canteberry to Burke Rd	0.20	2	C	1	1	1	0	A		
Lenox Rd	Burke Rd to Center Rd	0.50	2		0	1	2	0	A	2,765	1,383
Lenox Rd	Center Rd to Peachtree Rd	0.60	4		2	0	0	0	A		
Lindbergh Dr	Peachtree Rd to Glenwood Dr	0.20	1		3	2	0	0	A		
Lindbergh Dr	Glenwood Dr to Peachtree Hills	0.70	2		0	2	0	0	A	1,329	930
Lindbergh Dr	Peachtree Hills to Garason Dr	0.10	3		2	2	0	0	A		
Loridans Dr	Wieuca to Peachtree Dunwoody	1.00	2		0	1	0	0	A	268	268
Marietta Blvd	Bolton Rd to Coronet Rd	0.40	6		0	1	0	0	A		
Marietta Blvd	Coronet Rd to Chattahoochee	0.80	4	D	0	1	0	0	A	1,744	1,395
Marietta Blvd	Chattahoochee to Thomas St	1.00	5	D	2	1	0	0	A		

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Marietta Blvd	Thomas St to Huff Rd	0.50	4	D	1	1	0	0	A	1,404	702
Marietta Rd	Thomas St to Bolton Rd	1.70	2		0	1	0	0	A		
Marietta St	Peachtree Street to Forsyth St	0.10	4	B	2	2	0	0	U	1,806	181
Mecaslin St	17th St to Richards St	0.10	2		0	2	0	1	A		
Mecaslin St	Richards St to 14th st	0.10	2		0	2	0	1	A		
Monroe Dr	Piedmont A ve to Monroe Cir NE	1.30	4		0	2	0	0	A	2,091	2,718
Monroe Dr	Monroe Cir NE to Boulevard	0.40	3		2	2	0	0	A		
Montgomery Ferry	Piedmont Ave to Polo Dr	0.60	2		0	1	0	0	A	571	343
Montgomery Ferry	Beverly Rd to The Prado	0.20	2		0	2	0	1	A		
Moores Mill Rd	Bolton Rd to W. Wesley	1.40	2		0	1	2	0	A	1,249	1,749
Moores Mill Rd	W. Wesley Rd to I-75	0.30	2		0	1	2	0	A		
Moores Mill Rd	I-75 to Howell Mill Rd	0.60	2		2	2	2	0	A	1,038	623
Moores Mill Rd	Howell Mill Rd to W Paces Ferry	1.10	2		1	1	2	0	A	1,072	1,179
Mt Paran Rd	I-75 Entrance to City Limit	2.10	2		0	0	0	0	A	491	1,031
N Highland Ave	E Rock Springs to Cumberland Rd	0.10	3		2	2	0	0	A		
N Highland Ave	Cumberland Rd to University Dr	0.20	2		0	2	0	0	A		
N Highland Ave	University Dr to Wessyngton Rd	0.10	2		0	2	0	2	A		
N Highland Ave	Wessyngton Rd to Virginia Ave	0.80	2		0	2	0	1	A	1,053	842
N Highland Ave	Virginia Ave to Highland View	0.20	2		1	2	0	0	A		
N Highland Ave	Highland View to St Augustine Pl	0.30	2		0	2	0	2	A	1,301	390
N Highland Ave	St Augustine to Ponce De Leon	0.10	3		0	2	0	0	A		
N Highland Ave	Ponce De Leon to Freedom Pkwy.	0.30	3		0	2	0	0	A		
North Ave	Piedmont to N Angier St	0.40	6		0	2	0	0	A	1,806	722
Northside Dr	Northside Pwy to W Paces Ferry	0.61	2		1	1	2	0	A	324	198
Northside Dr	W Paces Ferry Rd to Blackland	0.90	2		0	0	2	0	A		
Northside Dr	Blackland Rd to Highcourt Rd	1.50	2		0	0	0	0	A	749	1,124
Oakdale Rd	Ponce De Leon to Fairview Rd	0.20	2		0	0	0	0	A		
Oakdale Rd	Fairview Rd to North Ave	0.10	2		0	1	0	1	A		
Old Ivy Rd	Roswell Rd to Wieuca rd	1.20	2		0	1	1	0	A		
Paces Ferry Rd	W Paces Ferry rd to Northgate Dr	2.50	2		0	0	0	0	A	948	2,370
Peachtree Battle Ave	Peachtree Street to Dellwood Dr	0.60	2	B	0	0	2	2	A		
Peachtree Battle Ave	Dellwood Dr to Haven Ridge Dr	0.10	2		0	1	2	1	A		
Peachtree Battle Ave	Haven Ridge Dr to Northside Dr	0.50	2		0	1	1	1	A		
Peachtree Battle Ave	Northside Dr to Howell Mill Rd	0.60	2		0	1	1	0	A	734	440
Peachtree Battle Ave	Howell Mill Rd to Moores Mill Rd	1.40	2		0	1	0	0	A		
Peachtree Dunwoody	Peachtree Rd to Haven Rd	0.20	2		3	2	0	0	A		
Peachtree Dunwoody	Haven Rd to Brookhaven Springs	1.30	2		0	1	0	0	A	1,081	1,405
Peachtree St	Pine St to Ponce De Leon Ave	0.30	5		0	2	0	0	U		
Peachtree St	Ponce De Leon Ave to 11th st	0.80	4		0	2	0	1	U	1,995	1,596
Peachtree St	11th st to W Peachtree st	0.80	4		2	2	0	1	U	2,294	1,835
Pharr Rd	Slanton Dr to East of Pharr Ct	0.10	2		0	2	0	1	A		
Pharr Rd	East of Pharr Ct to Piedmont Rd	0.90	3		1	2	0	0	A		
Piedmont Avenue	PonceDeLeon to Cheshire Bridge	2.70	4		2	2	2	0	A	1,870	5,049
Polo Dr	Montgomery Ferry Dr to Beverly	0.10	2		0	1	0	0	A		
Ponce De Leon Ave	Juniper to Peachtree Street	0.10	3		0	2	0	1	A	1,867	187
Ponce De Leon Ave	Peachtree Street to Spring St	0.20	2		0	2	0	2	A		
Powers Ferry Rd	Roswell Rd to W Wieuca Rd	1.50	2		0	2	0	0	A	497	746
Powers Ferry Rd	W Wieuca Rd to Stella dr	0.30	3		0	1	0	0	A		
Powers Ferry Rd	Stella Dr to Whitemere Ln	0.30	2		0	1	0	0	A		
Powers Ferry Rd	Whitemere Ln to Mt Paran Rd	0.60	2		2	2	0	0	A		
Ridgewood Rd	Paces Ferry to Moores Mill Rd	2.60	2		0	0	0	0	A	54	140
Roxboro Rd	Peachtree Rd to Wieuca rd	0.10	4		2	0	0	0	A		
Roxboro Rd	Wieuca Rd to City Limit	1.00	4		1	2	1	0	A	1,566	1,566
S Atlanta Rd	Chattahoochee Bridge to Bolton	0.40	4		2	2	2	0	A	1,962	785
Sidney Marcus Blvd	Piedmont Rd to Buford Hwy	0.70	4	B	2	2	0	0	A	4,996	3,497

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Spring St	14th to 10th st	0.40	4		0	2	0	0	A	1,333	533
Tech Pky	North Avenue to Northside Dr	0.90	2	A	1	0	0	2	U	504	454
Techwood Dr	16th St to 14th	0.20	3		3	1	0	0	A		
Techwood Dr	14th to 10th St	0.40	3		2	1	0	0	A		
The Prado	Piedmont to Montgomery Ferry	0.40	2		0	2	0	1	A		
The Prado	Mont. Ferry to Peachtree Circle	0.30	2		0	2	0	1	A		
Virginia Ave	I-85 bridge to International Blvd	0.50	6	C	2	2	0	0	A		
W Paces Ferry Rd	Peachtree Rd to E Andrews	0.60	4		1	2	0	0	A		
W Paces Ferry Rd	E Andrews to Chatham Rd	0.20	2		1	1	0	0	A		
W Paces Ferry Rd	Chatham Rd to Northside Dr	1.00	2		0	1	1	0	A	1,527	1,527
W Paces Ferry Rd	Northside Dr to Randall Mill	1.00	2		0	1	1	0	A	1,989	1,989
W Paces Ferry Rd	Randall Mill to Northside Pkwy	0.40	2	C	2	1	1	0	A		
W Paces Ferry Rd	Northside Pkwy to I-75	0.10	4		2	1	1	0	A		
W Paces Ferry Rd	I-75 to Paces Ferry Rd	0.10	2		0	1	0	0	A		
W Paces Ferry Rd	Paces Ferry Rd to Ridgewood Rd	1.10	2		0	0	0	0	A	268	295
W Peachtree St	5th St to 10th St	0.40	4		1	2	0	0	A	1,818	727
W Wesley Rd	Ridgewood Rd to Sequoyah Dr	0.70	2		0	0	0	0	A		
W Wesley Rd	Sequoyah Dr to Northside Dr	2.20	2		0	1	0	0	A		
W Wesley Rd	Northside Dr to Peachtree Rd	2.31	2		0	1	1	0	A	510	1,178
W Wieuca Rd	Lk Forrest Dr to Powers Ferry Rd	0.60	2		0	1	0	2	A	739	443
W Wieuca Rd	Wieuca Rd to Lake Forrest Dr	0.90	2		0	2	0	0	A	839	755
Wieuca Rd	City Limit (Prichard Way/Roxboro) tc	0.20	2		1	1	0	0	A		
Wieuca Rd	Phipps Blvd to Statewood Rd	0.30	2		0	1	2	0	A		
Wieuca Rd	Statewood Rd to W Wieuca Rd	0.90	2		0	2	2	0	A	1,124	1,012
Subtotal, Northside		101.42									71,066
Atlanta Ave	Hank Aaron to Hill St	0.40	2		0	2	0	2	A	196	78
Atlanta Ave	Hill St to Cherokee Ave	0.30	2		0	2	0	2	A	337	101
Atlanta Ave	Cherokee Ave to Boulevard	0.30	2		0	2	0	0	A	337	101
Auburn Ave	Peachtree St to Piedmont Ave	0.40	3		0	2	1	1	U	732	293
Auburn Ave	Piedmont Ave to Randolph st	0.80	2		0	2	0	2	A	529	423
Auburn Ave	Randolph st to Lake Ave/Irwin st	0.20	2		0	2	0	1	A		
Austin Ave	Euclid Ave to Lake Ave	0.30	2		0	2	0	2	A		
Baker Highland Conn	Central Park Pl to Weldon Pl	0.10	4		2	2	0	0	A		
Baker Highland Conn	Weldon Pl to Piedmont Rd	0.20	4		2	2	0	0	A		
Baker St	Marietta St to Cent. Olymp. Pk Dr	0.20	4		0	2	0	0	U		
Baker St	Cent. Olympic Pk Dr to Piedmont	0.60	4		0	2	0	0	A		
Bell St	Irwin Street to Edgewood Ave	0.20	2		0	1	0	0	A		
Berne St	Boulevard to Moreland Avenue	1.10	2		0	2	0	1	A	99	109
Boulevard	North Ave to Wabash Ave	0.40	4		1	2	0	1	A	1,509	604
Boulevard	Wabash Ave to Freedom Pkwy.	0.30	4		1	2	0	0	A		
Boulevard	Freedom Pkwy. to Edgewood Ave	0.40	4		0	0	0	0	A	1,562	625
Boulevard	Edgewood Ave to Gartrell St	0.10	3		0	0	0	0	A		
Boulevard	Gartrell St to Private Dwy N of Reinh	0.30	2		1	0	0	0	A	1,824	547
Boulevard	Private Dwy N of Reinhardt St to Rei	0.10	2	B	1	2	0	0	A		
Boulevard	Reinhardt St to Carroll St	0.10	2		0	2	0	0	A	1,891	189
Boulevard	Carroll St to Memorial Dr	0.10	3		1	2	0	0	A		
Boulevard	Memorial Dr to Woodward Ave	0.10	4		0	2	0	0	A	1,584	158
Boulevard	Woodward Ave to I-20 EB Ramps	0.30	4		3	2	0	0	A		
Boulevard	I-20 EB Ramps to Mc Donough	2.00	4		0	2	0	0	A		
Boulevard	Gartrell St to Decatur St	0.10	2		0	0	0	0	A		
Browns Mill Rd	Jonesboro Road to Harper St	0.50	2		0	2	0	0	A		
Browns Mill Rd	Harper St to McWilliams St	0.60	2		0	0	0	0	A	279	167
Browns Mill Rd	McWilliams St to Cleveland Ave	0.80	2		0	0	0	0	A		
Browns Mill Rd	Cleveland Ave to midblock	0.20	2		1	0	0	0	A		

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Browns Mill Rd	midblock to Ruby Harper Blvd	1.00	2		0	0	0	0	A	443	443
Capitol Avenue	Fulton St to Clarke St	0.10	4	C	0	2	0	0	U		
Capitol Avenue	Clarke St to Memorial Dr	0.30	6	C	0	2	0	0	U	2,073	622
Capitol Avenue	Memorial Dr to M. L. King Jr Dr	0.20	4		2	2	0	0	U	1,837	367
Capitol Sq	Capitol Avenue to Washington St	0.10	6		0	0	0	0	A		
Cent. Olympic Pk Dr	North ave to Ivan Allen Blvd	0.40	4		0	2	0	0	U		
Cent. Olympic Pk Dr	Ivan Allen Blvd to Baker St	0.20	5		0	2	0	0	A		
Cent. Olympic Pk Dr	Baker St to Marietta St	0.40	4		0	2	0	0	A		
Central Ave One Way	Pryor St to Dodd Ave	0.10	3		0	2	0	0	A		
Central Ave One Way	Dodd Ave to Bass St	0.10	2		0	2	0	0	A		
Central Ave One Way	Bass St to Glenn St	0.20	3		0	2	0	0	A		
Central Ave One Way	Glenn St to Richardson St	0.20	2		0	1	0	0	A		
Central Ave One Way	Richardson St to Rawson St	0.20	3		0	2	0	0	A		
Central Ave One Way	Rawson St to Memorial Dr	0.20	4		0	1	0	0	A		
Cherokee Ave	Memorial Drive to Glenwood Ave	0.20	2		0	2	0	2	A		
Cherokee Ave	Glenwood Ave to Atlanta Ave	0.90	2		0	2	0	2	A	562	506
Claire Dr	Pryor Rd to Lakewood Ave	0.90	2		0	2	0	0	A	379	341
Cleveland Ave	City limit to I-85NB ramp	0.20	4	C	2	2	0	0	A	1,721	344
Cleveland Ave	I-85 NB Ramps to Steele Ave	0.90	4	C	1	2	0	0	A	2,250	2,025
Cleveland Ave	Steele Ave to Old Hapeville Rd	0.20	3		1	2	0	0	A		
Cleveland Ave	Old Hapeville Rd to Macon Dr	0.30	3		0	2	0	0	A		
Cleveland Ave	Macon Dr to Jonesboro Rd	1.30	2		1	2	0	0	A	809	1,052
Coca-Cola Plz	Jesse hill jr to Bell Street	0.10	2		0	0	0	0	A		
College Ave	Howard to Sisson	0.50	2		0	1	0	1	A	700	350
Confederate Ave	Boulevard to Underwood Ave	1.00	2		1	2	0	1	A	477	477
Conley Rd	Jonesboro Road to City Limit	0.70	2		0	1	0	0	A		
Constitution Rd	Jonesboro Rd to Forest Pk Rd	0.40	2		0	1	0	0	A		
Constitution Rd	Forest Park Rd to Moreland Ave	0.60	2		0	0	0	0	A	463	278
Courtland St	North Avenue to Edgewood Ave	1.10	5		2	2	0	0	A	2,232	2,455
Courtland St	Edgewood Ave to Decatur St	0.10	4		2	2	0	1	A		
Courtland St	Decatur St to MLK	0.20	4		2	2	0	0	A		
Custer Ave	Boulevard to Moreland Ave	1.00	2		0	1	2	0	A	662	662
Decatur St	Krog St to Jackson St	0.50	3		0	1	0	0	A	2,013	1,007
Decatur St	Jackson St to Hilliard St	0.20	4		1	2	0	0	A		
Decatur St	Hilliard St to Bell St	0.20	4		2	2	0	1	A		
Decatur St	Bell St to Jesse Hill Jr	0.30	4		0	2	0	0	A		
Decatur St	Jesse Hill Jr to Peachtree Street	0.50	2		1	2	0	0	U		
Dekalb Ave	City Limit to Arizona Ave	0.90	4		0	1	0	0	A	1,508	1,357
Dekalb Ave	Arizona ave to Oaldale Ave	0.64	3		0	1	0	0	A	2,538	1,624
Dekalb Ave	Oaldale Ave to Krog St/Decatur St	1.40	3		0	1	0	0	A		
Dodd Ave	Cooper Street to Central Ave	0.20	2		0	2	0	2	A		
E Confederate Ave	Underwood Ave to Moreland Ave	0.50	2		1	2	0	1	A		
Edgewood Ave	Hurt st to Delta Pl	0.20	2		0	2	2	2	A		
Edgewood Ave	Delta Pl to Boulevard	0.80	2		0	2	2	1	A		
Edgewood Ave	Boulevard to Jackson St	0.10	2		2	2	0	1	A		
Edgewood Ave	Jackson St to Fort St	0.20	3		0	2	0	2	A	846	169
Edgewood Ave	Fort St to Jesse Hill Jr Dr	0.20	4		2	2	0	2	A		
Edgewood Ave	Jesse Hill Jr Dr to Piedmont Ave	0.10	4		0	2	0	1	A		
Edgewood Ave	Piedmont to Peachtree Ctr Ave	0.20	4		1	2	0	0	U	1,645	329
Edgewood Ave	PeachtreeCtr Av to Peachtree St	0.20	4		0	2	0	0	U		
Empire Blvd	Browns Mill Rd to Mt Zion Rd	1.90	2		0	0	0	2	A	210	399
Euclid Ave	Edgewood Ave to Moreland Ave	0.90	2		0	2	0	2	A	448	403
Flat Shoals Ave	Glenwood Ave to May Ave	0.10	2		0	2	1	0	A		
Flat Shoals Ave	May Ave to Bouldercrest Rd	0.70	2		0	2	0	0	A	682	477
Forrest Park Rd	Thomasville to Constitution Rd	0.40	2		0	1	0	0	A		

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Forrest Park Rd	Constitution Rd to Midway St	0.20	2		0	1	2	0	A		
Forrest Park Rd	Midway St to S River Ind Blvd	0.40	2		0	0	2	0	A	313	125
Forrest Park Rd	S River Ind Blvd to Conley Rd	2.60	2		0	0	0	0	A	162	421
Forsyth St	Garnett St to Marietta St	0.50	4		0	2	0	0	A		
Forsyth St	Marietta St to Poplar St	0.10	3		0	2	0	1	A		
Forsyth St	Poplar St to Peachtree Street	0.10	3		1	2	0	0	A		
Fulton St	Humphries st to McDaniel St	0.20	2		0	2	0	2	A		
Fulton St	McDaniel St to Whitehall Terr	0.10	2		1	2	0	2	A		
Fulton St	Whitehall Terr to Pryor St	0.30	4		0	2	0	0	A	101	30
Fulton St	Pryor St to I-75/85 ramps	0.30	4		1	2	0	0	A		
Fulton St	I-75/85 ramps to Martin St	0.30	5		0	2	0	0	A		
Fulton St	Martin St to Glenwood Ave	0.10	4		0	2	0	0	A		
Georgia Ave	Hank Aaron to Martin St	0.20	3		0	2	0	0	U		
Georgia Ave	Martin St to Hills St	0.30	3		0	2	0	0	U	265	80
Georgia Ave	Hills St to Cherokee Avenue	0.30	3		0	2	0	1	U		
Gilbert Rd	Southside Ind to Conley Rd	0.80	2		0	0	0	0	A		
Glen Iris Dr	Freedom Pkwy to PonceDeLeon	0.90	2		0	2	0	1	A	747	672
Glenn Street	Metropolitan Pwy to McDaniel St	0.40	2		0	2	0	1	A	772	309
Glenn Street	McDaniel St to Central Avenue	0.50	2		0	2	0	0	A	772	386
Glenwood Ave	Boulevard to Cherokee Avenue	0.90	2		0	1	0	0	A		
Hank Aaron Dr	McDonough Blvd to Little St	0.80	4		0	2	0	0	A	618	494
Hank Aaron Dr	Little St to George St	0.20	5		0	2	0	0	A		
Hank Aaron Dr	George St to Fulton St	0.30	4	C	0	2	0	0	U	1,206	362
Hapeville Rd	Cleveland Ave to Mt Zion Rd	0.50	2		0	2	0	0	A	210	105
Harris St	Cent Olympic Prk Dr to Piedmont	0.60	3		0	2	0	1	A	450	270
Highland Ave	Central Park Pl to Boulevard	0.30	2		1	2	0	0	A		
Hill St	Milton S to Ormond st	1.20	2		0	2	0	1	A	335	402
Hosea L Williams Dr	Howard St to Candler Rd	3.40	2		0	2	0	2	A	540	1,836
Howard St	College St to Dunwoody St	0.60	2		0	2	0	1	A	453	272
Howard St	Dunwoody St to Hosea L Williams	0.10	2		0	2	0	0	A		
Howell St	Decatur Street to Auburn Ave	0.20	2		0	2	0	1	A		
Howell St	Auburn Ave to Irwin Sr	0.20	2		0	2	0	0	A		
Hutchens Rd	Jonesboro Rd to Forest Pk Rd	1.20	2		0	0	0	0	A	240	288
International Blvd	Piedmont to Peachtree Ctr Ave	0.20	4		0	2	0	0	A	672	134
International Blvd	Peachtree Ctr Ave to Williams St	0.20	3		0	2	0	0	A	672	134
International Blvd	Williams St to Cent. Olympic Pk Dr	0.10	2		0	2	0	0	U		
Irwin St	Auburn/Lake Ave to Fort St	0.50	4		0	2	0	0	A	364	182
Jackson St	Freedom Pwy. to Edgewood Ave	0.60	2	C	1	2	2	1	A	606	364
Jackson St	Edgewood Avenue to Decatur St	0.20	2		0	2	2	1	A		
J. W. Dobbs Ave	Fort St to Jesse Hill Jr Dr	0.30	4		0	2	0	0	A	364	109
J. W. Dobbs Ave	Jesse Hill Jr Dr to Piedmont Ave	0.10	4		2	2	0	0	A		
J. W. Dobbs Ave	Piedmont Ave to Peachtree St	0.30	4		0	2	0	0	A		
Krog St	Decatur Street to Irwin St	0.30	2		0	2	0	0	A		
Lake Ave	Irwin St to AustinAve/Elizabeth St	0.40	2		0	2	0	2	A	477	191
Lakewood Ave	Jonesboro Road to Pecan St	1.00	4		0	0	0	0	A	1,171	1,171
Lakewood Ave	Pecan St to Nelms St	0.30	2		0	0	0	0	A		
Langston Ave	Sylvan Rd to Murphy Ave	0.90	2		0	1	0	0	A	212	191
Lee St	W Whitehall St to RDA Blvd	0.40	5		0	2	0	0	A		
Linden Ave	Spring Street to Piedmont Ave	0.10	4		2	2	0	0	U		
Linden Ave	Spring Street to Piedmont Ave	0.20	2		2	2	0	1	U		
Luckie St	Peachtree to Cent Olympic Pk Dr	0.20	2		0	2	0	1	A	626	125
Macon Dr	Cleveland Ave to Peter Rock Rd	1.10	2		0	0	0	1	A	431	474
Macon Dr	Peter Rock Rd to Lakewood Way	0.90	2		0	0	0	0	A		
Marietta St	Forsyth St to Cent Olympic Pk Dr	0.20	4		1	2	0	0	U		
Marietta St	Cent Olympic Pk Dr to W Marietta	1.60	4		0	2	0	0	A	1,133	1,813

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
M. L. King, Jr. Dr.	Oakland Ave (cem.) to Hilliard St	0.10	3		0	2	0	0	A		
M. L. King, Jr. Dr.	Hilliard St to Bell St	0.10	4		1	2	0	0	A		
M. L. King, Jr. Dr.	Bell St to King St	0.10	5		1	2	0	0	A		
M. L. King, Jr. Dr.	King St to Jesse Hill Jr Dr	0.10	4		1	2	0	1	A		
M. L. King, Jr. Dr.	Jesse Hill Jr Dr to Washington St	0.30	3		1	2	0	1	A		
Maynard Ter	Van epps ave to Memorial Dr	0.70	2		0	0	0	1	A		
McDaniel St	Whitehall St to Fulton St	0.20	4		2	2	1	0	A		
McDaniel St	Fulton St to Glenn St	0.20	3		1	2	0	1	A	772	154
McDaniel St	Glenn St to University Ave	1.10	2		0	2	0	1	A	772	849
McLendon Ave	City Limit to Claire/Lakeshore Dr	0.50	2		0	2	0	0	A		
McLendon Ave	Claire/Lakeshore Dr to Candler Pk	0.80	2		0	2	0	1	A	672	538
McLendon Ave	Candler Park Dr to Moreland Ave	0.50	2	A	0	2	0	1	A		
McWilliams Rd	Browns Mill Rd to Jonesboro Rd	0.60	2		0	2	0	0	A		
Mitchell St	Washington St to Spring St	0.40	3		0	2	0	0	A		
Mt Zion Rd	Browns Mill Rd to Macon Dr	0.40	2		0	0	0	0	A		
Mt Zion Rd	Macon Dr to Waters RD	0.40	2		0	1	0	0	A	210	84
Mt Zion Rd	Waters RD to Commerce Way SE	0.20	4		0	1	0	0	A		
Mt Zion Rd	CommerceWay SE to Metro Pwy	0.50	2		0	1	0	0	A		
Murphy Ave	Whitehall St to Brookline Rd	1.00	2		1	1	0	1	A		
Murphy Ave	Brookline Rd to Sylvan Rd	0.20	2		1	1	0	0	A	414	83
Murphy Ave	Sylvan Rd to Dill Ave	0.70	2		0	2	0	0	A		
Murphy Ave	Dill Ave to Arden Ave	0.10	2		2	2	0	0	A		
Murphy Ave	Arden Ave to Dead End	0.30	2		0	1	0	0	A		
N Highland Ave	FreedomPwy to S of Cleburen Ave	0.10	3		2	2	0	0	A		
N Highland Ave	S of Cleburen to Washita Ave NE	0.10	2		0	2	0	1	A		
N Highland Ave	Washita Ave NE to Alaska Ave	0.60	2		0	2	0	1	A		
N Highland Ave	Alaska Ave to MacKenzie Dr	0.40	2		1	2	0	1	A	617	247
N Highland Ave	MacKenzie Dr to Parkway Dr	0.20	2		0	2	0	1	A		
N Highland Ave	Parkway Dr to Central Park Pl	0.20	2		0	2	0	0	A		
North Ave	N Angier St to Bonaventure Ave	0.90	4		0	2	0	0	A		
North Ave	BonaventureAve to Freedom Pwy	0.10	3		1	2	0	0	A	1,359	136
North Ave	Freedom Pkwy to Moreland Ave	0.60	2	C	0	2	0	0	A		
Oakdale Rd	North Ave to DeKalb Ave	0.60	2		0	2	0	0	A		
Old Hapeville Rd	Cleveland Ave to Macon Dr	0.60	2		0	2	0	0	A		
Ormond St	Washington Street to hill St	0.60	2		0	0	0	0	A	148	89
Ormond St	Hill st to Cherokee Avenue	0.30	2		0	2	0	1	A		
Park Ave	Glenwood Ave to Berne St	0.20	2		0	2	0	2	A		
Parkway Dr	Highland ave to Freedom Pkwy	0.40	2		0	2	0	1	A		
Parkway Dr	Freedom Pwy to PonceDeLeon	0.70	2		0	2	0	2	A	383	268
Peachtree Ctr Ave	Decatur Street to Baker Street	0.60	3		1	2	0	0	A		
Peachtree Ctr Ave	Baker Street to Peachtree Street	0.10	4		1	2	0	0	A		
Peachtree St	Baker St to Peachtree Center Ave	0.20	4		0	2	0	0	U		
Peachtree St	Peachtree Center Ave to Pine St	0.20	5	C	1	2	0	0	U	2,143	429
Perkerson Rd	Sylvan Rd to Lakewood Ave	1.80	2		0	1	0	0	A		
Piedmont Avenue	MLK to Edgewood Avenue	0.40	4		0	2	0	0	A	846	338
Piedmont Avenue	Edgewood Ave to Auburn Ave	0.10	3		1	2	0	0	A	1,877	188
Piedmont Avenue	Auburn Ave to A Yound Int'l Blvd	0.30	4		0	2	0	0	A		
Piedmont Avenue	Yound Int'l Bvd to PonceDeLeon	0.30	4		0	2	0	0	A	1,343	403
Pryor Rd	Lakewood Way to Fair Dr	0.20	2		0	1	0	0	A		
Pryor Rd	Fair Dr to Pryor Cir	0.20	4		0	2	0	0	A		
Pryor Rd	Pryor Cir to Claire Dr	0.60	2		0	2	0	0	A		
Pryor Rd	Claire Dr to University	0.90	4		0	2	0	0	A	1,073	966
Pryor Rd	University Ave to Hendrix Ave	0.70	4		2	2	0	0	A	604	423
Pryor St	Bass St to Decatur St	0.60	4		0	2	0	0	A	627	376
Pryor St	Memorial Drive to Bass St	0.80	4		0	1	0	0	A	608	486

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Pryor St	Bass St to Hendrix Ave	0.24	3		0	1	0	0	A	306	73
Pulliam St	Central Ave to I-75/85 S ramps	0.40	4			0	0	0	A		
Pulliam St	I-75/85 S ramps to Dodd Ave	0.20	2		0	0	0	0	A		
R. D. Abernathy Blvd	Capitol Avenue to I-75/85 ramps	0.20	4		1	2	0	0	A		
R. D. Abernathy Blvd	I-75/85 ramps to Pulliam St	0.10	4		2	2	0	2	U	817	82
R. D. Abernathy Blvd	Pulliam St to McDaniel St	0.50	4	A	2	2	0	2	U		
R. D. Abernathy Blvd	McDaniel to Metropolitan Pkwy	0.40	4	A	0	2	0	2	A	845	338
R. Mcgill Bvd	Courtland St to Ga Power Enter	0.20	4		0	2	0	0	U		
R. Mcgill Bvd	GA Power Ent. to Central Pk Pl	0.15	5		0	2	0	0	A		
R. Mcgill Bvd	Central Park Place to Boulevard	0.30	4		0	2	0	0	A	281	84
Ridge Ave	Capitol Avenue to Pryor St	0.50	2		0	1	0	0	A	264	132
Rogers St	Boulevard to Arizona Ave	0.60	2		0	0	0	0	A		
Ruby Harper Blvd	Browns Mill Rd to Conley Rd	1.10	2		0	0	0	0	A		
Southside Ind. Pky	Browns Mill Rd to Jonesboro Rd	0.90	4		0	2	0	0	A	476	428
Sydney St	Fulton St to Cherokee Avenue	0.10	2		0	2	0	1	A	88	9
Sylvan Rd	Langford Pkwy to Harte Dr	0.80	3		2	2	0	0	A	1,096	877
Sylvan Rd	Harte Dr to Dill Ave	0.70	2		1	2	0	0	A	566	396
Sylvan Rd	Dill Ave to Warner St	0.40	2		1	2	0	1	A		
Sylvan Rd	Warner St to Murphy Ave	0.15	2		1	2	0	1	A		
W Peachtree St	Baker St to Pine St	0.40	4		0	2	0	2	U		
W Peachtree St	Pine St to 5th St	0.60	4		1	2	1	2	U		
Washington St	MLK to Alice St	0.60	4		0	2	0	0	A	1,533	920
Wells St	RDA Blvd to Metropolitan Pkwy	0.10	2		0	2	0	0	A		
Wells St	Metropolitan Pwy to Humphries	0.20	2		0	2	0	2	A		
Whitefoord Ave	Memorial Drive to DeKalb Ave	1.00	2		0	2	0	1	A	396	396
Williams St	Spring St to A Young Intl Blvd	0.40	3		1	1	0	0	A		
Williams St	A Young Intl Blvd to Peachtree St	0.30	4		1	1	0	0	A		
Windsor St	Whitehall St to I-20 Ramps	0.05	4		0	2	0	2	A		
Windsor St	I-20 Ramps to Fulton St	0.30	4	A	2	2	0	0	A		
Windsor St	Fulton St to Doane St	0.70	2		0	2	0	0	A	2,261	1,583
Subtotal, Southside		103.03									41,397
Avon Ave	Lee st/SR 139 to Westmont Rd	0.80	2		0	2	0	2	U		
Avon Ave	Westmont Rd to Cascade Ave	0.80	2		0	2	0	1	U	189	151
Baker Rd	H E Holmes to Eliz. Pl/Madrona St	1.40	2		0	0	0	1	A	279	391
Bakers Ferry Rd	MLK to midblock	1.70	2		2	1	0	0	A		
Bakers Ferry Rd	midblock to MLK	1.00	2		0	0	0	0	A		
Barge Rd	Fairburn Rd to Campbelton Rd	0.60	2		0	0	0	1	A	339	203
Barge Rd	Campbelton Rd to Valeland Ave	0.20	2		2	2	0	0	A		
Barge Rd	Valeland Ave to Stone Rd	0.60	2		0	0	0	0	A	628	377
Beecher Rd	Cascade Rd to B E Mays Rd	0.05	2		1	2	0	0	A		
Beecher Rd	B E Mays Rd to Church Parking	0.10	2		1	2	0	1	A		
Beecher Rd	Church Parking to Shirley St W	1.05	2		0	0	0	0	A	342	359
Beecher St	Shirley (west) to S Gordon St	0.30	2		0	1	0	0	A		
Beecher St	S Gordon St to Waters St	0.20	2		0	0	0	0	A		
Beecher St	Waters St to Donnelly Ave	1.00	2		0	2	0	0	A		
Ben Hill Rd	Grass Valley Rd to City Limit	0.20	2		1	1	2	0	A		
Benjamin E Mays Dr	Cascade Rd to Lynfield Dr	2.40	2		0	1	0	2	A	288	691
Bolton Rd	MLK to Collier Rd	0.30	2		0	2	0	0	A		
Bolton Rd	Collier Rd to D Lee Hollowell	1.50	2		0	1	0	0	A	223	335
Bolton Rd	D Lee Hollowell to Fulton Ind Bvd	0.50	2		0	2	0	0	A	212	106
Boulder Park Dr	Bakers Ferry Rd to MLK	2.60	2		2	0	0	0	A	389	1,011
Butner Rd	Campbellton Rd to Tell Rd	1.40	2		0	0	0	0	A	221	309
Campbellton Rd	Williks Mill Rd to Wells Dr	0.30	2		2	2	0	0	A	1,288	386
Campbellton Rd	Oakland Dr to Venitian Dr	0.40	2		0	2	0	0	A	1,204	482

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Campbellton Rd	Wells Dr to Dodson Dr	0.50	2		0	0	0	0	A		
Campbellton Rd	Stanton Rd to Fort Valley Dr	1.00	2		1	2	0	0	A	1,131	1,131
Campbellton Rd	Venitian Dr to Stanton Rd	1.40	2		0	1	2	0	A		
Campbellton Rd	Greenbriar Pkwy to SR 154	0.10	2		1	1	0	0	A	1,350	135
Campbellton Rd	Star Mist to Greenbriar Pkwy	0.20	3	D	1	2	0	0	A		
Campbellton Rd	Lee Street to Oakland Dr	0.10	4	C	3	2	0	0	A		
Campbellton Rd	Fort Valley Dr to Willis Mill Rd	1.00	4	C	0	2	0	0	A		
Campbellton Rd	Dodson Dr to Star Mist	1.00	4	C	0	2	0	0	A	904	904
Cascade Ave	RDA to Cascade Rd/Fontaine	1.30	4		0	2	0	0	A	1,386	1,802
Cascade Rd	Fontaine Ave to Blvd Granada	0.10	2		2	1	0	0	A		
Cascade Rd	Lynhurst Rd to City Limit	0.30	2		0	0	2	0	A		
Cascade Rd	Blvd Granada to Willis Mill Rd	0.40	2		0	2	0	0	A	1,000	400
Cascade Rd	Willis Mill Rd to Lynhurst Rd	1.10	2		0	0	0	0	A	1,164	1,280
Centra Villa	Cascade Ave to Campbelton Rd	1.10	2		0	0	0	0	A	454	499
Chappell Rd	MLK to Donald Lee Hollowell	0.30	2		0	2	0	0	A	398	119
Childress Dr	Grass valley Dr to Campbelton Rd	0.20	2		0	0	0	0	A		
Childress Dr	Campbelton rd to Panther Trl	0.10	2		2	2	0	0	A		
Childress Dr	Panther Trl to Cascade Rd	1.60	2		0	1	0	0	A	448	717
Continental Colony	Hogan Rd to Greenbriar Pkwy	0.80	4		2	2	0	0	A	546	437
Delowe Dr	Cascade Rd to Campbelton Rd	1.30	2		0	1	1	0	A		
Delowe Dr	Campbelton Rd to SR 166	0.50	2		1	2	1	0	A	1,233	617
Dodson Dr	Cascade Rd to Langford Pkwy	1.60	2		0	0	0	0	A	109	174
Donnelly Ave	Cascade to Lee St	1.30	2		0	2	0	1	A	536	697
Elizabeth Place	Baker/Madrona to D L Hollowell	0.30	2		0	0	0	1	A		
Fair St	Jos E.Lowery Bvd. to Webster St	0.10	2		0	0	0	0	A		
Fair St	Webster St to Walker St	0.60	2		0	0	0	0	A	424	254
Fairburn Rd	Ginnis Rd to Boulder Park Rd	1.20	2		0	2	0	2	A	1,060	1,272
Fairburn Rd	Boulder Pk Rd to Bakers Ferry	0.20	2		0	1	0	2	A	899	180
Fairburn Rd	Bakers Ferry Rd to MLK	0.20	2		0	1	0	2	A		
Fairburn Rd	MLK to Collier Dr	0.70	2		2	2	0	2	A		
Fairburn Rd	Collier Dr to Midblock	0.20	2		0	2	0	2	A		
Fairburn Rd	midblock to Bolton Rd	0.50	2		1	1	0	2	A	334	167
Fairburn Rd	Sommerset Trl to Redwine Pkwy	0.80	2		0	0	0	0	A		
Fairburn Rd	Redwine Pkwy to N Camp Creek	0.50	2		0	1	0	0	A		
Fairburn Rd	N Camp Crk to Arlington Schl Dr	0.90	2		0	1	0	0	A	174	157
Fairburn Rd	Arlington School Dr to Stone Rd	0.20	2		0	0	0	0	A		
Fairburn Rd	Stone Rd to Campbelton Rd	0.30	2		2	2	0	0	A		
Fairburn Rd	Campbelton Rd to Hill Acres Rd	0.80	2		0	1	0	0	A		
Fairburn Rd	Hill Acres Rd to Garrison Dr	0.80	2		0	0	0	0	A	839	671
Forsyth St	Whitehall St to Brotherton St	0.10	3		0	2	0	1	A		
Forsyth St	Brotherton St to Garnett St	0.10	4		0	2	0	0	A		
Greenbriar Pky	Cont. Colony Pkwy to Barge Rd	1.00	4		0	0	0	0	A	463	463
Greenbriar Pky	Campbellton Rd to SR 154/166	0.50	6		0	2	0	0	A		
Greenbriar Pky	SR 154/166 to Cont. Colony Pkwy	0.70	6		0	1	0	0	A	2,046	1,432
Harbin Rd	Campbellton Rd to Cascade Rd	1.30	2		0	0	0	0	A		
Harwell Rd	D L Hollowell to Skipper Pl	1.00	2		1	2	1	0	A		
Harwell Rd	Skipper Pl to Collier Dr	0.30	2		0	1	1	0	A	222	67
Hightower Road	J Jackson Pwy to Hollywood	1.70	2		0	1	0	0	A	330	561
Hogan Rd	Cont Colony to City Limit	0.60	2		0	0	0	0	A	186	112
Hogan Rd	Fairburn Rd to N CampCreek Pwy	0.30	2		0	1	0	0	A		
Hogan Rd	N CampCreek Pwy E to Stone Rd	0.30	2		0	0	0	0	A	155	47
Hollywood Rd	D L Hollowell to Hightower Rd	1.60	4		2	0	0	0	A	374	598
Johnson Rd Nw	Marietta/Perry to Hollywood Rd	1.40	2		0	1	0	0	A	214	300
Jos. E Lowery Blvd	RDA Blvd to Oak St	0.20	4		0	2	0	0	A	1,716	343
Jos. E Lowery Blvd	Oak St to Washington St	0.30	3	D	0	2	0	0	A	2,116	635

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Jos. E Lowery Blvd	Washington St to MLK	0.20	4		2	2	0	0	A		
Jos. E Lowery Blvd	MLK to Donald Lee Hollowell	0.50	3		0	2	0	0	A	1,009	505
Jos. E Lowery Blvd	Donald Lee Hollowell to Railroad	0.70	2		1	2	0	0	A		
Jos. E Lowery Blvd	Railroad to W Marietta St	0.60	3		0	2	0	0	A	604	362
Kimberly Rd	Campbellton Rd to Kimberly Way	1.20	2		0	0	0	0	A		
Kimberly Rd	Kimberly Way to City Limit	1.10	2		0	1	0	0	A		
Lee St	RDA Blvd to Westview Dr	0.40	4		0	2	0	0	A		
Lynhurst Dr	Cascade Rd to mid block	0.80	2		0	1	0	0	A		
Lynhurst Dr	midblock to Benjamin E Mays	0.10	2		0	1	0	2	A		
Lynhurst Dr	Benjamin E Mays Dr to MLK	1.40	2		0	1	0	0	A	356	498
Marietta Blvd	Huff Rd to W Marietta St	0.10	4		0	0	0	0	A		
Marietta Blvd	W Marietta St to D L Hollowell	1.10	5		0	0	0	0	A		
Marietta Rd	W Marietta St to Shipping Yard Ent	0.20	2	D	0	2	0	0	A		
Marietta Rd	Ship Yard Ent. to Thomas St	0.80	2		0	0	0	0	A		
M. L. King, Jr. Dr.	Washington St to Spring St	0.40	4		1	2	0	2	A	633	253
M. L. King, Jr. Dr.	Spring St to Cent Olympic Park Dr	0.20	4		0	2	0	2	A	1,019	204
M. L. King, Jr. Dr.	Cent Olympic Park Dr to Northside	0.20	4		0	2	0	0	A		
M. L. King, Jr. Dr.	Northside to Walnut St	0.20	5	A	1	2	0	0	A		
M. L. King, Jr. Dr.	Walnut St to Joseph Lowery Blvd	0.60	2		0	2	0	2	A		
M. L. King, Jr. Dr.	Jos. Lowery Blvd to Booker St	0.20	3		0	2	0	1	A		
M. L. King, Jr. Dr.	Booker St to RDA Blvd	1.40	4		0	2	0	0	A		
M. L. King, Jr. Dr.	D L Hollowell to Bolton Road	0.10	2		2	2	0	0	A		
Mayson Turner Rd	MLK to Simpson Rd	0.80	2		0	2	0	0	A	176	141
McDaniel St	Northside Dr to Whitehall St	0.30	4		2	0	0	0	A		
Mitchell St	Spring St to Northside Dr	0.40	2		0	2	0	2	A		
Mt Gilead Rd	Fairburn Rd to Briar Glenn Ln	0.40	2		0	0	0	0	A		
Mt Gilead Rd	Briar Glenn Ln to Panther Trl	0.50	2		0	0	0	0	A	332	166
Mt Gilead Rd	Panther Trl to Campbellton Rd	0.40	2		0	0	0	0	A	328	131
N Camp Creek Pky	Fairburn Rd to Hogan Rd	0.20	4		0	1	0	0	A		
New Hope Rd	Danforth Rd to Heatherland Dr	0.50	2		0	1	0	0	A	559	280
Niskey Lake Rd	Butner Rd to Campbelton Rd	0.40	2		0	0	0	0	A		
Niskey Lake Rd	Campbelton Rd to Brooks Dr	0.50	2		0	1	0	0	A		
Niskey Lake Rd	Brooks Dr to Lyon Blvd	0.20	2		0	2	0	0	A		
Niskey Lake Rd	Lyon Blvd to County Line Rd	0.50	2		0	1	0	0	A		
North Ave	Jos.Lowery Blvd. to Northside Dr	0.50	2		0	1	0	0	A		
Northwest Dr	Hightower Rd to J. Jackson Pwy	0.30	2		0	0	0	0	A		
Northwest Dr	J. Jackson Pwy to Bolton Rd	1.20	2		0	1	0	0	A	140	168
Oakland Dr	Van Buren St to Donnelly Ave	1.10	2		0	2	0	1	A	257	283
Old Fairburn Rd	City Limit to Sommerset Trl	0.30	2		0	0	0	0	A		
Old Gordon Rd	M.L.K.Jr. Dr to N of Collier Dr	0.30	2		0	1	0	0	A		
Old Gordon Rd	N of Collier Dr to Fulton Ind. Blvd.	0.10	2	C	0	2	0	0	A	216	22
Perry Blvd	Hollywood to Marietta/Johnson	2.40	2		0	1	1	0	A	558	1,339
Peyton Rd	H.E. Holmes to MLK	0.10	2		0	2	0	0	A		
Peyton Rd	midblock to H.E. Holmes	0.80	2		0	1	0	0	A		
Peyton Rd	Benjamin E Mays to midblock	0.40	3		1	1	0	0	A		
S Gordon St	RDA Blvd to Beecher ST	1.10	2		0	2	1	2	A		
Sandtown Rd	Cascade Rd to Venetian Dr	1.00	2		0	0	0	0	A	198	198
Spring St	10th st to Windsor St	1.30	4		0	2	0	1	A	1,831	2,380
StoneHogan Rd Con.	Hogan Rd to Stone Rd	0.50	4		0	2	0	0	A		
Stone Rd	Fairburn Rd to N Camp Creek Pwy	1.20	2		0	0	0	0	A	115	138
Tatnal St	MLK to Mitchell St	0.10	2		0	2	0	0	A		
Van Buren St	Campbelton Rd to Lee St	0.20	2		0	2	0	1	A		
Venetian Dr	Cascade Rd to Fontaine Ave	0.30	2		0	1	0	1	A		
Venetian Dr	Fontaine Ave to Central Villa Dr	0.50	2		0	0	0	0	A		
Venetian Dr	Centra Villa to Willow Trl	0.80	2		0	0	0	0	A		

Table 78 Continued

Name	From/To	Mi.	Ln.	Med. Type	Turn Ln.	Side-Walk	Bike	Park	Util.	Pk Hr Count	VMT
Venetian Dr	Willow Trl to Campbellton Rd	0.40	2		0	2	0	0	A		
W Lake Ave	RDA Blvd to D L Hollowell	0.20	2		0	2	2	0	A	1,052	210
W Marietta St	Howell Mill Rd to Longley Ave	0.90	4		0	2	0	0	A	1,531	1,378
W Marietta St	Longley Ave to Marietta Blvd	0.20	4		0	0	0	0	A	781	156
Walker St	Nelson St to Peters St	0.40	2		0	2	0	1	A		
Welcome All Rd	Fairburn Rd to City Limit	0.50	2		0	0	0	0	A	162	81
Westmont Rd	Cascade Rd to Venetian Dr	1.30	2		0	0	0	1	A		
Westview Dr	RDA Blvd to Jos E Lowery Blvd	0.20	2		0	1	0	0	A		
Westview Dr	RDA Blvd to Jos E Lowery Blvd	0.40	3		0	1	0	0	A		
Westview Dr	RDA Blvd to Jos E Lowery Blvd	0.30	4		0	2	0	1	A		
Westview Dr	RDA Blvd to Agnes Pl	0.20	4		0	0	0	0	A		
White St	RDA/Langhorn to J Lowery Bvd	1.80	2		0	2	1	0	A	292	526
White St	Joseph Lowery Blvd to Lee St	0.20	4		0	2	0	0	A		
Whitehall St	Murphy/I-20/Tift St to Memorial	0.90	4		0	2	0	0	A	909	818
Willis Mill Rd	Campbellton Rd to Cascade Rd	1.10	2		0	0	0	0	A		
Willis Mill Rd	Cascade Rd to Benjamin E Mays	0.40	2		0	0	0	0	A		
Subtotal, Westside		97.90									31,209

Source: Analysis of City-owned arterial and collector street inventory from Kimley-Horn and Associates, Inc., July 8, 2010; miles is segment length; lanes is number of through travel lanes; peak hour counts based on 10% of most recent average daily counts from Georgia Department of Transportation; VMT is product of segment length and peak hour count.

APPENDIX D: GENERAL OBLIGATION BOND EXPENDITURES

General Obligation bonds are one of the primary sources of funding for City capital projects. The City can issue $8,000,000 of GO bonds annually without a referendum; these GO bond issues are referred to as the Annual Bond. The voters through bond referendum are responsible for approving any additional GO bonds beyond the statutory limits. Over the past two decades, voters have approved several GO bonds to finance the cost of various capital projects for the City. In July of 1994 voters approved $78.2 million in bonding for streets, bridges, viaducts and related improvements, $55.6 million for storm water facilities, and $16.1 million for erosion and flood control. In November, 2000, voters approved $150.0 million for the Quality of Life Improvement Bonds (QOL); this bond funded projects in four broad categories: sidewalk program, public plazas and green-spaces; public streets, bridges and viaducts; and public traffic control devices.

As part of this update, the Consultant worked with the City of Atlanta Office of Debt and Investment to identify outstanding GO bond issues and determine how the bond funds from each outstanding issue were distributed among the impact fee-related capital facilities. A summary of this analysis is presented in the following table.

Table 79. General Obligation Bond Expenditure Summary

Year	Trans	Parks	Fire	Police	Other	Total Bond Issue	Current Balance
1999			$1,000,000		$7,000,000	$8,000,000	$130,000
2000			$1,410,000		$6,590,000	$8,000,000	$355,000
2001A			$1,772,570		$6,384,681	$8,157,251	$2,065,000
2001B (QOL)	$6,100,000	$5,387,500			$51,746,194	$63,233,694	$12,295,000
2002			$3,925,437		$4,083,599	$8,009,036	$5,950,000
2003					$8,054,951	$8,054,951	$6,160,000
2004A		$779,207	$964,269	$519,146	$5,748,401	$8,011,023	$6,725,000
2004B (QOL)	$8,207,330	$5,128,008			$37,928,768	$51,264,106	$26,565,000
2005A (Refunding)	$14,702,580	$4,900,860	$2,837,340	$0	$63,539,220	$85,980,000	$74,775,000
2005B					$8,015,875	$8,015,875	$6,820,000
2007A		$241,440	$724,321	$833,452	$6,246,817	$8,046,030	$7,465,000
2008A (QOL)	$8,279,034	$5,224,096			$25,754,822	$39,257,952	$33,160,000
2009 (Refunding)	$44,137,379				$40,481,128	$84,618,507	$78,025,000
Total	$81,426,323	$21,661,111	$12,633,937	$1,352,598	$271,574,456	$388,648,425	$260,490,000
Share of Bonds	21.0%	5.6%	3.3%	0.3%	69.9%	100.1%	

Source: Duncan Associates, Inc. analysis of outstanding GO bond expenditures derived from data and authorizing ordinances provided by the City of Atlanta Office of Debt and Investment, June 2010.

APPENDIX E: PARK INVENTORY

Table 80. Park Inventory

Park Name	Type	Acres	Pavilion/Gazebo (sf)	Playground	Basketball Court	Tennis Court	Baseball Field (lighted)	Baseball Field (Unlit)	Soccer/Football Field	Trails (Ft.)	Picnic Shelter
Ardmore Park	Block	1.74		1							
Channing Valley Park	Block	0.58		1							
Ellsworth Park	Block	1.27		1							
Eubanks (The Prado) Park	Block	1.37									
Home Park	Block	1.80		1							
Loring Heights Park	Block	1.90									
Mantissa Road	Block	1.87									
Noble Park	Block	0.41		1							
Sara J. Gonzalez Park	Block	1.41		1							
Sunken Garden Park	Block	0.92		1							
Wildwood Gardens Park	Block	1.56									
Yonah Park	Block	1.90									
Frankie Allen Park	Comm	21.63		1		4	4	4			
Morningside Rec Center	Comm	2.93									
Peachtree Hills Park	Comm	7.20		1		3	1	2	1		1
Rosel Fann Park	Comm	20.08	80	1				1	1		
Shady Valley Park	Comm	11.08		1	1	3		1			
Alexander Park	Conserve	11.60									
Chattahoochee Trail	Conserve	49.19									
Emma Lane	Conserve	8.80									
Hampton Easement	Conserve	0.15									
Mayson Park	Conserve	3.10									
Mayson Ravine	Conserve	2.70									
Sibley Park	Conserve	1.60									
Spring Valley Park	Conserve	3.55									
Springlake Park	Conserve	5.20									
West Wesley Park	Conserve	1.13									
Whetstone Creek Park	Conserve	2.33									
Woodward Way Park	Conserve	1.67									
Blue Heron Nature Preserve	Nature	12.15									
Daniel Johnson Nat. Pres.	Nature	8.00									
Little Nancy Creek Park	Nature	4.96									
Morningside Nature Preserve	Nature	35.00									
Riverside	Nature	6.85									
Tanyard Creek Urban Forest	Nature	6.29									
17th Street Park	Nbrhd	2.30									
Ansley Park	Nbrhd	6.11									
Beaverbrook Park	Nbrhd	6.80		1							
Chattahoochee Park	Nbrhd	3.21			1						
Dellwood Park	Nbrhd	1.36								1,476	
Edwin Place Park	Nbrhd	4.29									

Table 80 Continued.

Park Name	Type	Acres	Pavilion/Gazebo (sf)	Playground	Basketball Court	Tennis Court	Baseball Field (lighted)	Baseball Field (Unlit)	Soccer/Football Field	Trails (Ft.)	Picnic Shelter
Garden Hills Park	Nbrhd	3.60		1				1			
Haynes Manor Park	Nbrhd	2.98								1,351	
Herbert Taylor Park	Nbrhd	26.00									
J. Allen Couch Park	Nbrhd	6.41									
Lenox-Wildwood Park	Nbrhd	8.47				2					
Lillian Cooper Shepherd Park	Nbrhd	2.30		1	1					982	
McClatchey Park	Nbrhd	5.00		1		3					
Oak Grove Park	Nbrhd	3.43								1,536	
Orme Park	Nbrhd	6.60		1							
Shadyside Park	Nbrhd	4.08								1,400	
Sidney Marcus Park	Nbrhd	2.69		1							
Sunnybrook Park	Nbrhd	2.40									
Underwood Hills Park	Nbrhd	10.70		1	1	2	0	1			
Vermont Road Park	Nbrhd	2.00									
Virgilee Park	Nbrhd	3.50								900	
Winn Park	Nbrhd	10.30		1							
Atlanta Memorial Park	Regional	199.00		1		23					
Chastain Memorial Park	Regional	268.00	3,288	1		9	4	6		14,394	3
Piedmont Park	Regional	185.00	2,100	2		12	4	4	2	12,049	
Tanyard Creek Park	Regional	14.50		1							
Subtotal, Northside		1,034.92	5,468	24	4	61	13	20	4	34,088	4
Bonnie Brae Park	Block	0.19		1							
Hurt Park	Block	1.87									
Kimpson Park	Block	0.38									
Morgan-Boulevard Park	Block	0.39		1	1						
Ormond-Grant Park	Block	1.30		1							
Parkway-Merritts Park	Block	0.68			1						
Parkway-Wabash Park	Block	0.60		1							
Pryor-Tucker Playlot	Block	0.19		1							
Rebel Valley Playlot	Block	1.37	80	1	1						
Sylvan Circle Playlot	Block	0.51		1							
Windsor Street Park	Block	1.09		1	1						
Benoit (Adair Park)	Block	1.09									
Esther Peachey Lefever	Block	0.70		1							
Findley Plaza	Block	0.11									
Jacci Fuller Woodland Garden	Block	0.64		1							
John Calhoun Park	Block	0.28									
Manigault Street Playlot	Block	0.22									
Parkway-Angier Park	Block	0.50			1						
Arthur Langford Jr Park	Comm	9.90		1	2	2		1			
Bessie Branham Park	Comm	6.58		1	1	2	1	1			

Table 80 Continued.

Park Name	Type	Acres	Pavilion/Gazebo (sf)	Playground	Basketball Court	Tennis Court	Baseball Field (lighted)	Baseball Field (Unlit)	Soccer/Football Field	Trails (Ft.)	Picnic Shelter
Brownwood Park	Comm	12.33	1,849	1	1	3					
Candler Park	Comm	55.30		1	1	4		2	1	1,024	
Central Park	Comm	17.37	378	1	2	4	1	3	2		
Coan Park	Comm	13.26		1	2	4	2	2	1	2,300	1
East Lake Park	Comm	10.30		1	1	2	1	1			4
J.D. Sims Recreation Center	Comm	0.85		1	1						
Lang-Carson Park	Comm	3.24		1	1			1			1
M.L.K. Natatorium/Rec Ctr	Comm	3.30									
Oakland Cemetery	Comm	47.70									
Perkerson Park	Comm	49.90	1,500	1	2	6	3	3			
Pittman Park	Comm	14.10	80	1	2	3	1	3			4
Robert W. Woodruff Park	Comm	3.30									
Rosa L. Burney Park	Comm	13.73		1		2		1	1		1
South Bend Park	Comm	76.60	2,714	1	2	2	1	4	1	2,100	7
Thomasville Park	Comm	44.09		1	1	1		2	1		1
Georgia Hill Center	Comm	3.09									
John C. Burdine Center	Comm	4.27									
Kirkwood Greenway	Conserve	6.50									
Swann Preserve	Nature	18.03									
Adair Park I	Nbrhd	6.39		1	1			1			
Adair Park II	Nbrhd	10.60		1	1	2	1	1			5
Benteen Park	Nbrhd	9.81		1				2	1		
Boulevard Crossing	Nbrhd	21.27									
Cabbagetown Park	Nbrhd	3.66		1							
Chosewood Park	Nbrhd	9.12		1	2	1		1			
Cleopas R. Johnson Park	Nbrhd	4.30		1	1	2					
Cleveland Avenue Park	Nbrhd	5.86		1	1	1		1			
Daniel Stanton Park	Nbrhd	7.90		1				1			
Emma Millican Park	Nbrhd	10.37		1							1
Empire Park	Nbrhd	11.80		1	1	2	1	1			1
Four Corners Park	Nbrhd	3.86		1				1			
Gilliam Park	Nbrhd	2.60								1,561	
Goldsboro Park	Nbrhd	2.50			1	2					
Harper Park	Nbrhd	13.57		1	2	2		1			2
Iverson Park	Nbrhd	2.01		1				1	1		2
Lake Claire Park	Nbrhd	4.70		1		1		1			1
Phoenix II Park	Nbrhd	7.30		1	2	2		1			3
Phoenix III Park	Nbrhd	4.00									
Rawson-Washington Park	Nbrhd	4.49		1	1	2		1			
Renaissance Park	Nbrhd	5.40									
South Atlanta Park	Nbrhd	11.05	1,700	1	1	3		1			

Table 80 Continued.

Park Name	Type	Acres	Pavilion/Gazebo (sf)	Playground	Basketball Court	Tennis Court	Baseball Field (lighted)	Baseball Field (Unlit)	Soccer/Football Field	Trails (Ft.)	Picnic Shelter
Springdale Park	Nbrhd	5.25		1							
Springvale Park	Nbrhd	4.60		1							
Tullwater Park	Nbrhd	5.37		1							1
Walker Park	Nbrhd	7.02		1				2	1		
Browns Mill Golf Course	Regional	160.13									
Freedom Park	Regional	188.59		2						25,000	
Grant Park	Regional	131.50	17,000	2	1	4		3	1		4
John A. White Park	Regional	106.65		1		8		2			5
Southside Park	Regional	211.44					5	5			
Avery Park-Gilbert House	Special	11.03									
Bass Recreation Center	Special	1.00									
Inman Park Trolley Barn	Special	0.74									
Lakewood Fairgrounds	Special	113.30									
Roseland Cemetery	Special	0.22									
Subtotal, Southside		1,535.24	25,301	50	39	67	17	51	11	31,985	44
Arlington Circle Playlot	Block	0.49		1							1
Ashby Circle Playlot	Block	0.87		1							
Enota Place Playlot	Block	0.31		1							
Tremont Playlot	Block	0.18		1							
Verbena Street Playlot	Block	0.69		1							
Vine City Park	Block	1.10									
A.D. Williams Park	Comm	11.00		1	1			2			
Anderson Park	Comm	56.70	2,688	1		3	2	2	2	2,637	3
Ben Hill Park	Comm	18.35		1	1	2	1	4	1		1
Center Hill Park	Comm	46.00		1	2	1	1	2	1		1
Collier Park	Comm	16.17		1	1	2	1	2	1		1
Grove Park	Comm	17.35		1		2	1	3	2		2
Harwell Heights Park	Comm	23.40		1	1	3	1	1			2
J.F. Kennedy Park	Comm	4.80		1				1			2
Maddox Park	Comm	51.50	500	1	2	1		1	1		2
Melvin Drive Park	Comm	48.90			1	2	1	1			1
Mozley Park	Comm	28.15	2,318	1	1	2	1	2		3,753	2
Oakland City Park	Comm	15.40	1,500	1		2		1			3
Washington Park	Comm	20.43	2,440			8		2			2
West Manor Park	Comm	11.20		1		2	1	1	1		
Wilson Mill Park	Comm	35.50		1	1	2	3	3	1		2
Beecher Park	Conserve	5.80									
Coventry Easement	Conserve	28.32									
Cumberlander	Conserve	8.67									
Dale Creek Park	Conserve	3.20									

Table 80 Continued.

Park Name	Type	Acres	Pavilion/Gazebo (sf)	Playground	Basketball Court	Tennis Court	Baseball Field (lighted)	Baseball Field (Unlit)	Soccer/Football Field	Trails (Ft.)	Picnic Shelter
Falling Water	Conserve	25.84									
Greenbriar	Conserve	7.05									
Gun Club Park	Conserve	28.93									
Cascade Springs Nat. Pres.	Nature	120.00									
Herbert Greene	Nature	56.44									
Lionel Hampton	Nature	48.44								2,511	
N. Camp Creek Pwy NP	Nature	40.30									
Outdoor Activity Center	Nature	21.76									
Rockdale Park	Nature	19.87									
Barbara A. McCoy Park	Nbrhd	8.50		1							
Dean Rusk Park	Nbrhd	6.00						1			
Deerwood Park	Nbrhd	17.40		1	1	2		1			2
English Park	Nbrhd	9.50		2	1	1	1	1	1		1
Howell Park	Nbrhd	2.10	144	1	1						
Isabel Gates Webster Park	Nbrhd	15.69		1		2		1		1	2
Knight Park	Nbrhd	2.69		1	1	1					
Rose Circle Park	Nbrhd	2.70		1	1					1,074	
Spink-Collins Park	Nbrhd	21.49									
Stone Hogan Park	Nbrhd	10.50	80	1	1						
Tucson Trail Park	Nbrhd	2.77		1				1			
Waterford Road Park	Nbrhd	2.91									
West End Park	Nbrhd	6.37		1	1	2		1			1
Adams Park	Regional	158.44				4	1	4			
Adamsville Rec Center	Regional	11.00									
Westside Park	Regional	10.48									
Adamsville Park (Old)	Special	1.10									1
Subtotal, Westside		1,112.75	9,670	29	18	44	15	38	11	9,976	32
Total, Citywide		**3,682.90**	**40,439**	**103**	**61**	**172**	**45**	**109**	**26**	**76,049**	**80**

Source: City of Atlanta Department of Parks, Recreation and Cultural Affairs, October 14, 2009.

APPENDIX F: POPULATION AND EMPLOYMENT DATA

Table 81. Population by Census Tract, 2000-2030

Census Tract	Atlanta Share	Population, City of Atlanta			
		2000	2010	2020	2030
1.00	100.00%	4,153	4,605	5,288	6,581
2.00	100.00%	5,448	5,725	6,071	6,775
4.00	100.00%	1,670	2,378	3,250	3,845
5.00	100.00%	3,705	9,155	11,909	13,520
6.00	100.00%	2,707	3,243	3,932	4,695
10.00	100.00%	9,223	20,181	29,554	37,261
11.00	100.00%	2,569	4,420	6,147	6,434
12.00	100.00%	4,195	7,983	8,844	9,806
13.00	100.00%	3,897	4,298	4,595	5,603
14.00	100.00%	2,130	2,425	2,796	2,860
15.00	100.00%	4,206	4,489	5,098	5,302
86.01	100.00%	5,811	7,292	8,010	8,923
86.02	100.00%	3,625	5,061	6,729	7,349
87.01	100.00%	326	1,559	1,930	2,279
87.02	100.00%	4,085	5,270	5,415	5,795
88.00	100.00%	2,972	6,868	8,419	9,298
89.01	100.00%	7,399	7,912	8,298	8,696
89.02	100.00%	4,859	7,019	7,457	7,630
90.00	100.00%	3,602	4,321	5,037	6,393
91.00	100.00%	7,235	8,876	10,586	12,293
92.00	100.00%	4,055	5,494	7,011	8,344
93.00	100.00%	4,751	6,166	6,808	7,464
94.01	100.00%	6,078	7,871	9,911	10,598
94.02	100.00%	4,172	6,235	6,966	7,358
95.00	100.00%	7,539	9,626	11,448	11,993
96.00	100.00%	8,564	13,475	15,371	16,908
97.00	100.00%	3,930	4,218	5,782	8,173
98.00	98.84%	7,624	8,410	10,027	12,417
99.00	100.00%	4,491	4,843	6,646	8,943
100.00	91.44%	7,674	12,561	16,003	18,386
101.01	0.99%	133	140	145	148
102.06	0.22%	11	11	14	16
102.07	10.40%	1,035	1,129	1,246	1,447
201.00	74.72%	1,489	1,551	2,090	2,255
Subtotal, Northside		145,363	204,809	248,836	285,788

Table 81 Continued.

Census Tract	Atlanta Share	Population, City of Atlanta			
		2000	2010	2020	2030
16.00	100.00%	1,390	1,788	2,521	2,738
17.00	100.00%	2,506	4,137	4,657	5,834
18.00	100.00%	3,553	4,052	4,742	5,080
19.00	100.00%	2,121	2,804	4,708	5,818
21.00	100.00%	1,573	2,568	5,905	8,110
27.00	100.00%	587	776	2,161	3,377
28.00	100.00%	2,859	3,488	4,613	6,096
29.00	100.00%	1,333	2,857	3,700	4,214
30.00	100.00%	1,968	4,382	4,619	4,813
31.00	100.00%	1,626	2,499	2,845	3,293
32.00	100.00%	1,498	2,312	2,858	3,293
33.00	100.00%	2,499	2,326	3,756	4,524
35.00	100.00%	3,710	3,580	4,491	5,688
44.00	100.00%	1,717	2,380	3,150	3,712
46.00	100.00%	1,156	1,536	1,885	2,164
48.00	100.00%	2,259	2,569	3,128	5,483
49.00	100.00%	2,041	2,513	4,049	5,183
50.00	100.00%	1,921	2,183	2,876	3,355
52.00	100.00%	3,475	4,766	5,873	6,540
53.00	100.00%	2,892	3,693	4,095	4,199
55.01	100.00%	2,368	3,451	4,274	5,313
55.02	100.00%	1,229	2,267	3,297	3,976
56.00	100.00%	1,674	2,372	2,555	2,850
57.00	100.00%	1,382	2,812	3,255	3,630
58.00	100.00%	2,230	2,666	3,221	3,844
63.00	100.00%	1,879	2,705	3,728	4,435
64.00	100.00%	2,972	3,366	3,924	5,024
65.00	100.00%	4,674	5,137	5,403	6,202
67.00	100.00%	3,893	6,240	7,229	8,271
68.01	100.00%	2,648	2,279	3,580	4,741
68.02	100.00%	1,896	2,010	2,455	3,257
69.00	100.00%	3,302	5,738	6,736	7,600
70.01	100.00%	4,971	5,650	6,729	7,932
70.02	100.00%	4,584	5,551	6,378	7,667
71.00	100.00%	3,923	4,830	6,025	7,847
72.00	100.00%	4,162	4,685	5,133	6,223
73.00	100.00%	7,396	10,388	11,923	13,706
74.00	100.00%	4,158	4,238	4,545	5,402
75.00	99.08%	3,799	4,769	5,021	5,354
108.00	0%	0	0	0	0
202.00	100.00%	2,198	2,175	2,686	2,904
203.00	100.00%	3,257	3,787	4,150	4,458
204.00	100.00%	2,124	2,537	2,664	2,883
205.00	100.00%	3,203	3,893	4,183	4,520
206.00	100.00%	2,167	3,190	3,515	3,742
207.00	100.00%	2,619	3,111	3,912	4,329
208.01	100.00%	2,714	3,233	4,121	4,739
208.02	100.00%	3,560	4,023	5,517	6,162
209.00	100.00%	6,440	7,477	8,308	8,760
Subtotal, Southside		134,106	171,788	211,096	249,288

Table 81 Continued.

Census Tract	Atlanta Share	Population, City of Atlanta			
		2000	2010	2020	2030
7.00	100.00%	3,551	3,433	4,464	4,992
8.00	100.00%	1,564	4,588	5,072	5,646
22.00	100.00%	1,105	1,212	2,345	2,925
23.00	100.00%	2,714	2,978	3,593	4,281
24.00	100.00%	2,467	2,889	3,226	3,967
25.00	100.00%	1,981	2,262	3,109	3,809
26.00	100.00%	1,378	1,494	1,862	2,472
36.00	100.00%	1,502	2,095	2,514	2,627
37.00	100.00%	1,432	1,550	1,870	2,313
38.00	100.00%	2,273	2,734	2,870	3,388
39.00	100.00%	2,426	2,580	3,150	3,921
40.00	100.00%	3,166	3,214	3,895	4,706
41.00	100.00%	2,565	3,134	3,400	4,143
42.00	100.00%	2,493	3,179	4,892	5,728
43.00	100.00%	2,770	4,517	6,717	6,992
60.00	100.00%	4,263	4,566	4,989	5,753
61.00	100.00%	4,326	4,644	5,104	6,045
62.00	100.00%	1,614	1,856	2,442	3,142
66.01	100.00%	2,425	2,684	3,240	4,136
66.02	100.00%	1,405	1,494	1,890	2,444
76.01	100.00%	6,973	7,679	7,966	8,353
76.02	100.00%	2,848	3,080	3,866	4,622
77.01	96.33%	8,328	11,002	14,843	17,619
77.02	91.75%	7,146	14,313	17,593	19,897
78.02	36.90%	2,460	5,708	7,037	8,189
78.05	62.41%	2,600	2,965	3,267	3,603
78.06	99.95%	5,241	6,402	7,329	8,507
78.07	100.00%	3,610	4,181	5,214	6,353
78.08	100.00%	4,016	4,583	5,190	6,077
79.00	97.34%	4,245	6,961	8,204	9,524
80.00	100.00%	5,728	6,092	6,718	7,720
81.01	100.00%	1,121	1,176	1,665	2,204
81.02	100.00%	6,579	8,901	11,214	13,203
82.01	100.00%	5,713	7,280	7,772	8,531
82.02	100.00%	4,344	4,691	5,892	7,222
83.01	100.00%	3,844	4,253	5,113	6,510
83.02	100.00%	2,813	3,143	4,019	5,076
84.00	100.00%	5,410	5,273	6,125	7,478
85.00	100.00%	4,798	5,723	6,834	8,219
103.03	29.25%	1,710	2,911	4,219	5,617
113.01	0.90%	54	88	92	101
Subtotal, Westside		137,001	173,506	210,817	248,054
Total, City-Wide		**416,470**	**550,104**	**670,749**	**783,130**

Source: Estimated annual population growth by Census tract derived from 2000 U.S. Census population by tract and 2010 population estimates from City of Atlanta, "Population and Employment Forecast Spreadsheet," provided to consultant October 14, 2009.

Table 82. Housing Units by Census Tracts, 2007

Census Tract	Atlanta Share	Units, 2007 SF	Units, 2007 MF
1.00	100.00%	1,926	258
2.00	100.00%	2,047	1,136
4.00	100.00%	287	1,120
5.00	100.00%	1,036	2,852
6.00	100.00%	439	789
10.00	100.00%	185	871
11.00	100.00%	119	2,599
12.00	100.00%	573	5,716
13.00	100.00%	828	1,783
14.00	100.00%	527	1,245
15.00	100.00%	983	1,997
86.01	100.00%	1,508	861
86.02	100.00%	446	886
87.01	100.00%	152	577
87.02	100.00%	859	773
88.00	100.00%	1,568	475
89.01	100.00%	1,455	2,561
89.02	100.00%	1,273	1,895
90.00	100.00%	1,342	574
91.00	100.00%	920	4,958
92.00	100.00%	1,181	1,934
93.00	100.00%	1,487	1,619
94.01	100.00%	946	4,290
94.02	100.00%	203	1,901
95.00	100.00%	1,659	3,528
96.00	100.00%	1,702	5,624
97.00	100.00%	1,338	552
98.00	98.84%	2,809	959
99.00	100.00%	1,500	904
100.00	91.44%	3,104	2,441
101.01	0.99%	2,581	4,382
102.06	0.22%	1,900	81
102.07	10.40%	1,776	2,066
201.00	74.72%	603	183
Subtotal, Norhside		41,262	64,390
16.00	100.00%	352	878
17.00	100.00%	575	1,163
18.00	100.00%	285	2,259
19.00	100.00%	68	2,021
21.00	100.00%	80	1,002
27.00	100.00%	38	1,080
28.00	100.00%	77	1,615
29.00	100.00%	385	1,483
30.00	100.00%	684	852
31.00	100.00%	682	285
32.00	100.00%	596	886
33.00	100.00%	131	682
35.00	100.00%	24	862
44.00	100.00%	212	507
46.00	100.00%	122	579
48.00	100.00%	95	429
49.00	100.00%	840	290
50.00	100.00%	639	426
52.00	100.00%	1,365	638
53.00	100.00%	1,279	467
55.01	100.00%	867	393
55.02	100.00%	435	744
56.00	100.00%	430	419
57.00	100.00%	514	83
58.00	100.00%	604	215
63.00	100.00%	1,003	219
64.00	100.00%	438	499
65.00	100.00%	1,740	46
67.00	100.00%	1,335	767
68.01	100.00%	14	0
68.02	100.00%	116	385
69.00	100.00%	1,153	517
70.01	100.00%	1,432	562
70.02	100.00%	1,027	502
71.00	100.00%	729	544
72.00	100.00%	703	546
73.00	100.00%	1,404	1,608
74.00	100.00%	486	710
75.00	99.08%	801	1,125
202.00	100.00%	581	812
203.00	100.00%	1,381	434
204.00	100.00%	704	659
205.00	100.00%	1,162	420
206.00	100.00%	544	512
207.00	100.00%	651	466
208.01	100.00%	1,157	7
208.02	100.00%	1,332	584
209.00	100.00%	2,331	509
Subtotal, Southside		33,603	32,691
7.00	100.00%	364	194
8.00	100.00%	396	753
22.00	100.00%	149	263
23.00	100.00%	925	609
24.00	100.00%	1,179	182
25.00	100.00%	546	661
26.00	100.00%	185	519
36.00	100.00%	36	764
37.00	100.00%	38	328
38.00	100.00%	198	612
39.00	100.00%	718	673
40.00	100.00%	1,105	43
41.00	100.00%	836	247
42.00	100.00%	366	847
43.00	100.00%	28	297
60.00	100.00%	1,288	435
61.00	100.00%	1,623	82
62.00	100.00%	639	31
66.01	100.00%	967	41
66.02	100.00%	453	148
76.01	100.00%	589	3,097
76.02	100.00%	769	310
77.01	96.33%	2,101	979
77.02	91.75%	1,873	1,958
78.02	36.90%	870	313
78.05	62.41%	502	685
78.06	99.95%	1,460	814
78.07	100.00%	839	488
78.08	100.00%	330	1,457
79.00	97.34%	1,787	472
80.00	100.00%	2,030	223
81.01	100.00%	414	8
81.02	100.00%	1,199	2,332
82.01	100.00%	1,991	567
82.02	100.00%	803	719
83.01	100.00%	925	709
83.02	100.00%	869	481
84.00	100.00%	1,042	1,358
85.00	100.00%	1,494	657
103.03	29.25%	919	140
113.01	0.90%	18	1
Subtotal, Westside		34,864	25,496
Total, City-wide		**103,533**	**116,259**

Source: 2007 housing by tract from Fulton County Department of Environment and Community Development, "Atlanta Revised Estimates and Forecasts," April 24, 2007. Atlanta share of housing by tract from City of Atlanta, "Population Forecast and Forecast by Census Tract" spreadsheet, October 14, 2009.

Table 83. Employment Estimates by Census Tract, 2010

Census Tract	Atlanta Share	Retail/ Comm.	Office	Indus- trial	Ware- House	Public/ Inst.	Total
1.00	100%	682	125	1	29	111	948
2.00	100%	1,893	337	36	25	68	2,359
4.00	100%	6,763	6,037	616	747	243	14,406
5.00	100%	3,336	1,687	773	519	100	6,415
6.00	100%	1,471	339	278	217	1,119	3,424
10.00	100%	8,291	2,959	140	259	5,950	17,599
11.00	100%	3,649	3,901	413	468	5	8,436
12.00	100%	4,462	2,645	1,885	2,158	337	11,487
13.00	100%	482	66	2,820	357	448	4,173
14.00	100%	677	108	116	123	1	1,025
15.00	100%	1,334	278	16	16	160	1,804
86.01	100%	377	92	2	58	71	600
86.02	100%	1,083	223	882	408	286	2,882
87.01	100%	127	43	5	1	92	268
87.02	99%	173	71	205	2	1,127	1,578
88.00	100%	1,123	324	1,778	1,492	52	4,769
89.01	100%	584	215	637	499	269	2,204
89.02	100%	3,725	973	2,384	2,051	531	9,664
90.00	100%	832	191	2	27	1	1,053
91.00	100%	10,485	3,181	491	597	470	15,224
92.00	100%	3,085	600	185	183	157	4,210
93.00	100%	1,110	192	9	255	1	1,567
94.01	100%	1,376	455	945	1,030	23	3,829
94.02	100%	1,719	52	818	939	1,033	4,561
95.00	100%	4,315	1,509	191	123	208	6,346
96.00	100%	19,541	8,730	394	689	564	29,918
97.00	100%	1,393	492	1	2	0	1,888
98.00	98%	4,942	2,082	3	2,731	206	9,964
99.00	100%	1,142	263	37	63	221	1,726
100.00	88%	10,945	7,966	216	678	128	19,933
101.01	2%	413	188	34	48	8	691
102.06	1%	24	33	2	1	0	60
102.07	24%	465	239	19	27	2	752
201.00	100%	91	31	111	7	1	241
Subtotal, Northside		102,110	46,627	16,445	16,829	13,993	196,004

Table 83 Continued.

Census Tract	Atlanta Share	Retail/ Comm.	Office	Indus- trial	Ware- House	Public/ Inst.	Total
16.00	100%	666	42	77	7	124	916
17.00	100%	2,682	885	436	241	167	4,411
18.00	100%	1,608	566	629	616	110	3,529
19.00	100%	19,720	11,905	410	1,683	3,608	37,326
21.00	100%	1,715	532	3,889	233	416	6,785
27.00	100%	7,754	7,091	9,449	3,504	13,461	41,259
28.00	100%	2,512	1,984	219	185	1,389	6,289
29.00	100%	440	175	65	33	18	731
30.00	100%	302	71	42	23	11	449
31.00	100%	44	12	66	0	1	123
32.00	100%	170	26	175	238	15	624
33.00	100%	966	305	1	73	5,410	6,755
35.00	100%	3,767	734	1,179	1,010	20,367	27,057
44.00	100%	22	71	90	70	145	398
46.00	100%	403	157	6	1	437	1,004
48.00	100%	8	3	2	2	2	17
49.00	100%	420	122	133	4	137	816
50.00	100%	442	174	289	39	225	1,169
52.00	100%	291	27	533	33	2	886
53.00	100%	428	123	119	69	226	965
55.01	100%	26	7	2	2	136	173
55.02	100%	162	40	43	54	321	620
56.00	100%	355	97	111	187	60	810
57.00	100%	23	37	190	32	20	302
58.00	100%	39	7	300	104	2	452
63.00	100%	75	31	126	112	62	406
64.00	100%	20	2	13	61	312	408
65.00	100%	74	20	97	102	1,398	1,691
67.00	100%	136	28	171	169	416	920
68.01	100%	3	42	2	2	707	756
68.02	100%	2	1	2	2	81	88
69.00	100%	198	18	16	70	608	910
70.01	100%	59	82	1	3	105	250
70.02	100%	170	72	500	427	235	1,404
71.00	100%	20	9	96	99	30	254
72.00	100%	726	441	1,284	573	2,936	5,960
73.00	100%	337	29	410	114	961	1,851
74.00	100%	673	55	3	44	486	1,261
75.00	99%	1,022	175	18	167	108	1,490
108.00	5%	246	138	326	328	34	1,072
202.00	100%	403	134	1	1	1	540
203.00	100%	459	116	1	1	5	582
204.00	100%	305	18	2	2	70	397
205.00	100%	968	32	2	2	49	1,053
206.00	100%	6	10	5	4	32	57
207.00	100%	65	13	2	1	77	158
208.01	100%	15	21	1	1	3	41
208.02	100%	954	315	2	1	404	1,676
209.00	100%	793	191	1	4	264	1,253
Subtotal, Southside		52,694	27,186	21,537	10,733	56,194	168,344

Table 83 Continued.

Census Tract	Atlanta Share	Retail/ Comm.	Office	Indus- trial	Ware- House	Public/ Inst.	Total
7.00	100%	665	171	514	87	867	2,304
8.00	100%	595	175	51	179	0	1,000
22.00	100%	167	61	1	7	10	246
23.00	100%	143	42	66	2	81	334
24.00	100%	86	27	6	55	22	196
25.00	100%	346	75	3	2	327	753
26.00	100%	427	9	93	108	3	640
36.00	100%	255	87	85	2	24	453
37.00	100%	2	1	1	1	2	7
38.00	100%	1,203	304	3	2	33	1,545
39.00	100%	69	13	2	2	148	234
40.00	100%	40	70	2	1	41	154
41.00	100%	94	55	53	60	59	321
42.00	100%	658	283	0	7	208	1,156
43.00	100%	2,177	737	12	10	9	2,945
60.00	100%	309	20	1	1	15	346
61.00	100%	44	20	1	1	80	146
62.00	100%	31	5	309	8	13	366
66.01	100%	317	72	1,146	203	38	1,776
66.02	100%	37	13	1	1	25	77
76.01	100%	387	144	4	6	4,885	5,426
76.02	100%	206	25	1	7	131	370
77.01	93%	403	97	17	21	236	774
77.02	81%	1,466	236	46	51	935	2,734
78.02	53%	294	52	1	7	44	398
78.05	100%	2,816	484	6,751	3,874	321	14,246
78.06	94%	197	45	81	67	13	403
78.07	100%	64	36	1	1	40	142
78.08	100%	122	53	1	1	2	179
79.00	85%	569	160	6	40	327	1,102
80.00	100%	226	40	2	1	240	509
81.01	100%	9	4	1	1	1	16
81.02	100%	468	126	44	8	149	795
82.01	100%	104	9	3	2	139	257
82.02	63%	125	34	76	147	412	794
83.01	100%	16	42	2	2	67	129
83.02	100%	213	118	1	1	201	534
84.00	100%	32	16	1	29	237	315
85.00	100%	131	28	3	2	296	460
103.03	4%	140	15	150	202	17	524
113.01	2%	5	1	2	2	9	19
Subtotal, Westside		15,658	4,005	9,544	5,211	10,707	45,125
Total, City-Wide		**170,462**	**77,818**	**47,526**	**32,773**	**80,894**	**409,473**

Source: Employment forecast by census tract and industry from Atlanta Regional Commission, "Employment Forecast by Tract and Industry" spreadsheet, provided to consultant October 14, 2009; "Retail/Commercial" is retail employment, 75% of services and 25% of wholesale employment; "Office" is FIRE and 25% of services employment; "Industrial" is manufacturing and 50% of Transportation/Communications/Utility (TCU) employment; "Warehouse" is 75% of wholesale and 50% of TCU employment; "Public/Institutional" is government employment.

Table 84. Employment Estimates by Census Tract, 2030

Census Tract	Atlanta Share	Retail/ Comm.	Office	Indus- trial	Ware- House	Public/ Inst.	Total
1.00	100%	794	179	1	19	118	1,111
2.00	100%	2,022	446	38	22	60	2,588
4.00	100%	8,408	6,714	583	747	264	16,716
5.00	100%	4,887	2,218	764	589	122	8,580
6.00	100%	3,579	810	247	171	1,198	6,005
10.00	100%	10,858	3,989	114	177	5,801	20,939
11.00	100%	7,025	5,283	321	374	7	13,010
12.00	100%	7,932	3,857	1,884	2,151	277	16,101
13.00	100%	686	98	2,749	657	492	4,682
14.00	100%	800	173	159	172	1	1,305
15.00	100%	1,470	402	13	13	160	2,058
86.01	100%	552	131	3	93	60	839
86.02	100%	1,224	322	785	353	228	2,912
87.01	100%	178	60	4	1	125	368
87.02	99%	247	86	197	4	1,196	1,730
88.00	100%	1,501	589	1,663	1,350	154	5,257
89.01	100%	582	316	550	447	216	2,111
89.02	100%	3,966	1,173	2,246	1,834	730	9,949
90.00	100%	1,479	409	3	35	1	1,927
91.00	100%	12,068	3,730	458	534	345	17,135
92.00	100%	3,558	652	72	160	127	4,569
93.00	100%	2,593	726	10	166	1	3,496
94.01	100%	2,201	683	2,964	3,023	40	8,911
94.02	100%	4,840	306	3,156	3,218	854	12,374
95.00	100%	4,876	1,908	307	89	176	7,356
96.00	100%	20,499	9,327	615	798	805	32,044
97.00	100%	1,798	643	1	2	1	2,445
98.00	98%	6,818	2,760	4	2,409	233	12,224
99.00	100%	1,563	317	43	70	205	2,198
100.00	88%	12,033	8,527	736	1,085	152	22,533
101.01	2%	472	203	35	49	8	767
102.06	1%	32	34	1	1	0	68
102.07	24%	504	262	28	19	3	816
201.00	100%	141	49	80	4	1	275
Subtotal, Northside		132,186	57,382	20,834	20,836	14,161	245,399

Table 84 Continued.

Census Tract	Atlanta Share	Retail/ Comm.	Office	Indus- trial	Ware- House	Public/ Inst.	Total
16.00	100%	887	93	67	13	126	1,186
17.00	100%	3,245	1,058	401	277	273	5,254
18.00	100%	2,048	599	605	596	123	3,971
19.00	100%	24,063	12,923	1,372	2,407	4,131	44,896
21.00	100%	6,280	1,983	4,001	612	825	13,701
27.00	100%	9,699	8,889	9,026	3,737	14,002	45,353
28.00	100%	3,790	2,447	258	251	1,393	8,139
29.00	100%	525	337	49	36	6	953
30.00	100%	295	87	20	15	16	433
31.00	100%	242	77	43	0	1	363
32.00	100%	253	72	172	223	22	742
33.00	100%	1,134	350	2	70	5,859	7,415
35.00	100%	7,378	1,943	3,857	2,544	21,349	37,071
44.00	100%	101	125	82	94	176	578
46.00	100%	528	180	7	2	470	1,187
48.00	100%	20	5	3	3	3	34
49.00	100%	1,330	359	100	10	175	1,974
50.00	100%	552	222	321	23	227	1,345
52.00	100%	336	57	479	25	3	900
53.00	100%	578	152	88	172	228	1,218
55.01	100%	66	25	3	3	114	211
55.02	100%	275	56	39	57	336	763
56.00	100%	389	117	129	114	91	840
57.00	100%	39	50	138	17	87	331
58.00	100%	26	24	203	62	3	318
63.00	100%	70	69	107	83	55	384
64.00	100%	13	2	16	41	337	409
65.00	100%	77	18	155	174	1,556	1,980
67.00	100%	289	42	96	516	384	1,327
68.01	100%	4	64	3	3	722	796
68.02	100%	2	1	3	2	105	113
69.00	100%	240	22	19	322	673	1,276
70.01	100%	64	120	3	5	135	327
70.02	100%	397	137	409	387	277	1,607
71.00	100%	15	7	168	169	50	409
72.00	100%	1,347	715	1,021	503	3,075	6,661
73.00	100%	616	103	278	123	1,053	2,173
74.00	100%	687	75	6	54	494	1,316
75.00	99%	1,471	317	15	106	95	2,004
108.00	5%	343	159	345	345	36	1,228
202.00	100%	415	139	1	1	1	557
203.00	100%	534	134	1	1	24	694
204.00	100%	439	47	2	1	98	587
205.00	100%	2,150	76	3	3	78	2,310
206.00	100%	18	17	6	6	35	82
207.00	100%	116	27	2	1	113	259
208.01	100%	21	68	1	1	4	95
208.02	100%	1,539	552	2	1	1,277	3,371
209.00	100%	980	269	2	2	151	1,404
Subtotal, Southside		75,926	35,410	24,129	14,213	60,867	210,545

Table 84 Continued.

Census Tract	Atlanta Share	Retail/ Comm.	Office	Indus- trial	Ware- House	Public/ Inst.	Total
7.00	100%	962	279	541	91	964	2,837
8.00	100%	957	305	119	191	1	1,573
22.00	100%	2,722	768	2	5	12	3,509
23.00	100%	2,039	690	52	2	68	2,851
24.00	100%	146	46	6	43	27	268
25.00	100%	592	124	4	3	313	1,036
26.00	100%	478	23	104	183	4	792
36.00	100%	356	166	131	3	25	681
37.00	100%	2	1	2	1	2	8
38.00	100%	1,317	286	5	2	30	1,640
39.00	100%	129	32	3	3	98	265
40.00	100%	137	121	3	3	44	308
41.00	100%	95	83	101	105	56	440
42.00	100%	839	325	0	4	163	1,331
43.00	100%	2,197	767	16	19	15	3,014
60.00	100%	321	26	2	1	23	373
61.00	100%	39	17	2	1	106	165
62.00	100%	29	4	263	5	126	427
66.01	100%	696	198	1,063	233	20	2,210
66.02	100%	131	53	2	1	55	242
76.01	100%	533	156	7	7	5,020	5,723
76.02	100%	321	56	2	14	170	563
77.01	93%	508	113	22	25	191	859
77.02	81%	1,978	408	43	50	1,060	3,539
78.02	53%	459	90	1	62	50	662
78.05	100%	3,215	625	6,185	3,558	357	13,940
78.06	94%	247	20	70	380	28	745
78.07	100%	67	48	2	1	26	144
78.08	100%	175	115	2	1	3	296
79.00	85%	1,074	346	9	190	321	1,940
80.00	100%	249	34	3	2	258	546
81.01	100%	97	33	2	1	2	135
81.02	100%	915	242	44	12	207	1,420
82.01	100%	192	22	4	3	395	616
82.02	63%	177	50	82	166	500	975
83.01	100%	49	66	3	3	110	231
83.02	100%	277	288	2	1	232	800
84.00	100%	523	202	1	20	276	1,022
85.00	100%	206	41	4	3	356	610
103.03	4%	175	24	154	217	30	600
113.01	2%	6	1	2	2	21	32
Subtotal, Westside		25,627	7,294	9,065	5,617	11,765	59,368
Total, City-Wide		**233,739**	**100,086**	**54,028**	**40,666**	**86,793**	**515,312**

Source: Employment forecast by census tract and industry from Atlanta Regional Commission, "Employment Forecast by Tract and Industry" spreadsheet, provided to consultant October 14, 2009; "Retail/Commercial" is retail employment, 75% of services and 25% of wholesale employment; "Office" is FIRE and 25% of services employment; "Industrial" is manufacturing and 50% of Transportation/Communications/Utility (TCU) employment; "Warehouse" is 75% of wholesale and 50% of TCU employment; "Public/Institutional" is government employment.