

CHAPTER 11 DEVELOPMENT IMPACT FEE METHODS REPORT

PURPOSES OF THIS CHAPTER

The purposes of this chapter include the following:

- To serve as a legal and methodological foundation for the continued assessment of development impact fees in Roswell.
- To critique the City's 1992 development impact fee program and to make improvements.
- To draw on the best available information, including a review of other impact fee programs and the professional literature, in modifying Roswell's impact fee methods.
- To make a complicated set of processes understandable to the reader; the methods should make practical sense, not just to planning or financial specialists, but also to the lay person.
- To fully document inherent assumptions and implications of the development impact fee methods.
- To address some of the issues associated with development impact fee programs.

HISTORY AND CONTEXT

Since the Development Impact Fees Methods Report (Nelson 1992) was prepared for the City of Roswell, and since the creation of the Road Facilities Impact Fee Study (Growth Management Consultants, Inc. 1994), the practice of capital improvement programming and impact fee program development has become more refined in the State of Georgia. These refinements are due in part to changes in the practice of impact fee assessments, the promulgation of standards for Capital Improvement Elements (CIE) by the Georgia Department of Community Affairs, and a growing recognition of the fiscal importance of capital improvement programming. All of these changes must be taken into account when completing any rigorous examination of the methodological foundation of the City of Roswell's development impact fees.

In 1992, when the City's development impact fee methodology was first written, there was no way to predict the changes that annexation and strong development would bring to the City. At that time, the projection of population in the year 2010 was 74,250 persons. The population estimate for the City in the year 2000 is 75,000. The discrepancy is due to substantial annexation of developed areas by the City in 1999, including the eastside annexation. Because of such annexations, impact fee calculations needed to be brought up to date with the existing and future population and employment figures of the 2020 Comprehensive Plan.

Given the Comprehensive Plan's projection that the City will be fully developed during the 20-year planning horizon, it is important to understand that new capital facilities are being planned on a "build-out" or "closed end" basis. That is, facilities being planned for now are the last improvements needed to serve the City, as it exists today. This chapter introduces the 2000 impact fee program, a product of the "build out" scenario for capital improvements programming.

The 1992 program was ended with adoption of the 2020 Comprehensive Plan and replaced with the adopted 2000 impact fee program. Collection of impact fees in Roswell is based on the 2000 impact fee program.¹

Previous Process of Impact Fee Adoption

The City followed all applicable statutory procedures in preparing and adopting its 1992 development impact fee program, including the establishment of a development impact fee advisory committee (O.C.G.A 36-71-5). The development impact fee statute does not specifically require that an advisory committee be reconvened when revising impact fee methodologies or revising an existing development impact fee ordinance based on new methods. The results of the 2000 program, however, are consistent with the concepts embodied in the 1992 program which reflected review and comment by the impact fee advisory committee.

OVERVIEW OF DEVELOPMENT IMPACT FEES

Table 11.1 provides definitions of selected terms used in this chapter.

**Table 11.1
 Glossary of Development Impact Fee Terms**

Term	Definition	Source
“Capital improvement”	An improvement with a useful life of ten years or more, by new construction or other action, which increases the service capacity of a public facility.	O.C.G.A. 36-71-2
“Development Impact Fee”	A payment of money imposed upon development as a condition of development approval to pay for a proportionate share of the cost of system improvements needed to serve new growth and development.	O.C.G.A. 36-71-2
“Encumber”	To legally obligate by contract or otherwise commit to use by appropriation or other official act of the City.	O.C.G.A. 36-71-2
“Functional Population”	The combination of residential population and employment.	2000 Impact Fee Program
“Impact Cost”	The amount of money required to be expended to provide service to a specific unit of measure.	2000 Impact Fee Program
“Level of service” (LOS)	A measure of the relationship between service capacity and service demand; levels of service quantify service capacities of public facilities or infrastructure by demand-to-capacity ratios or the comfort or convenience of use or both.	Nelson 1992
“Level of service standard”	The desired level of service, adopted by the local governing body as the future level of service to be applied to both existing development and future development occurring during the planning horizon.	

¹ This chapter is a reformatting of Chapter 16 of the adopted 2020 Comprehensive Plan. Reconsideration of impact fees was not a part of the 2025 Plan work scope. No revisions were made except to reformat it as Chapter 11 of the Comprehensive Plan 2025 and minor language changes to correct or omit obsolete language. Since the development impact fee program is not being updated concurrently with the 2025 Plan update (and such elements are considered under separate rules of the Georgia Department of Community Affairs), compliance review is not being requested for this chapter. It received approval by DCA as compliant with the administrative rules for Capital Improvement Elements (CIE) in the year 2000, and annual amendments to the CIE have been made over time.

Term	Definition	Source
“Project improvements”	Site improvements and facilities that are planned and designed to provide service for a particular development project and that are necessary for the use and convenience of the occupants or users of the project and are not system improvements. The character of the improvement shall control a determination of whether an improvement is a project improvement or system improvement and the physical location of the improvement on site or off site shall not be considered determinative of whether an improvement is a project improvement or a system improvement. If an improvement or facility provides or will provide more than incidental service or facilities capacity to persons other than users or occupants of a particular project, the improvement or facility is a system improvement and shall not be considered a project improvement. No improvement or facility included in a plan for public facilities approved by the governing body of the municipality or county shall be considered a project improvement.	
“Proportionate share”	That portion of the cost of system improvements which is reasonably related to the service demands and needs of the project.	O.C.G.A. 36-71-2
“Service area”	A geographic area defined by a municipality, county, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas shall be designated on the basis of sound planning or engineering principles or both.	O.C.G.A. 36-71-2
“System improvement costs”	Costs incurred to provide additional public facilities capacity needed to serve new growth and development for planning, design and construction, land acquisition, land improvement, design and engineering related thereto, including the cost of constructing or reconstructing system improvements or facility expansions, including but not limited to the construction contract price, surveying and engineering fees, related land acquisition costs (including land purchases, court awards and costs, attorneys’ fees, and expert witness fees), and expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the Capital Improvement Element, and administrative costs, provided that such administrative costs shall not exceed 3 percent of the total amount of the costs. Projected interest charges and other finance costs may be included if the impact fees are to be used for the payment of principal and interest on bonds, notes, or other financial obligations issued by or on behalf of the municipality or county to finance the Capital Improvement Element but such costs do not include routine and periodic maintenance expenditures, personnel training, or other operating costs.	O.C.G.A. 36-71-2
“System improvements”	Capital improvements that are public facilities and are designed to provide service to the community at large, in contrast to “project improvements.”	O.C.G.A. 36-71-2

Source: As noted in table.

Legal Principles

Local governments are authorized under certain conditions to charge development impact fees pursuant to the Georgia Development Impact Fee Act of 1990. Though not explicit, the enabling statute frames this authorization within the context of municipal police powers (i.e., necessary to protect health, safety, and general welfare) (see O.C.G.A. 36-71-1). Moreover, the Development Impact Fee Act is linked to Georgia’s Comprehensive Planning legislation (Georgia Department of Community Affairs, 1992a). Therefore, impact fees in Georgia are considered regulatory devices and not taxes. Indeed, most states have recognized impact fees as permissible exercises of the police power (Juergensmeyer and Roberts 1998, 395). Impact fees are imposed as a condition of development approval, thus they fall within the general

system of land development regulation as contrasted with revenue raising (taxation) programs. The primary objective of impact fees is not merely to raise money, but rather, to ensure adequate public facilities (Nicholas 1988).

The Georgia Development Impact Fee Act specifies certain principles that must be adhered to in determining methods for calculating proportionate share impact fees. These principles, as well as others that have been developed in the courts and literature, are summarized in Table 11.2.

Table 11.2
Summary of Legal Principles Applicable to Impact Fee Methods

Principle	Description	Source
Proportionate share	New growth and development is required to pay no more than its proportionate share (see def.) of the cost of public facilities needed to serve new growth and development. A development impact fee shall not exceed a proportionate share (see def.) of the cost of system improvements (see def)..	O.C.G.A. 36-71-1; O.C.G.A. 36-71-4
Service areas	Development impact fees shall be calculated on the basis of service areas.	O.C.G.A. 36-71-4
Level of service standards	Development impact fees shall be calculated on the basis of levels of service [standards] for public facilities that are adopted in the municipal or county Comprehensive Plan that are applicable to existing development as well as the new growth and development.	O.C.G.A. 36-71-4
System costs	Development impact fees shall be based on actual system improvement costs or reasonable estimates of such costs.	O.C.G.A. 36-71-4
Credits	Development impact fees shall be calculated on a basis which 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.	O.C.G.A. 36-71-4

Rational Nexus

Of the different “tests” used in judicial reviews of development impact fee systems, the “rational nexus” test is the mainstream judicial review for development impact fees. The crux of the rational nexus test is that development must pay only (i.e., fees must not exceed) its proportionate share of the costs of new facilities needed to serve the development. The test also includes the principles that development must create a need for new capital facilities, and that the development must benefit to some extent (not exclusively) from the fee collected (Nicholas 1988; Nicholas and Nelson 1988a; Stroud 1988; Ross and Thorpe 1992; Juergensmeyer and Roberts 1998, 398). As noted above, the proportionate share concept (i.e., rational nexus test) is specifically referenced in Georgia’s impact fee enabling statute and generally considered to be the preferred judicial test in Georgia (Georgia Department of Community Affairs 1992a, 17).

This Comprehensive Plan, which includes projections of future population, housing units, and employment, satisfies part of the rational nexus test—it shows that new development requires additional facilities. The impact fee methodologies in this chapter complete the rational nexus requirement by calculating the costs to provide service to new development, based on consistent LOS standards applied to existing and new development.

Beneficiaries of System Improvements

The types of development occupants that benefit from various facility system improvements are not always clearly evident. In the case of police and fire facilities, both individuals (households) and businesses (firms) require and benefit from them (Nicholas and Nelson 1988a). Thus, both residential and nonresidential developments receive benefits from public safety facilities, and they both need to pay development impact fees. Similarly, road impact fees can be assessed on all types of development because all of them use the road system.

On the other hand, impact fee systems typically charge park and recreation fees on residential development only (Auerhahn 1988). One notable exception is an impact fee system developed for Fulton County, Georgia in the late 1980s. Nelson, Poirier-Elliott, and Debo (1989) found that employees of commercial developments who commute into Fulton County use parks and recreational facilities during lunch hours and breaks, and that they may enjoy visual amenities of parks during travel to and from work. A survey in Fulton County revealed that two percent of all users of parks were nonresidents working in nearby buildings (Nelson, Poirier-Elliott, and Debo 1989). Although workers may receive some marginal benefits, and it is impossible to exclude their use of city parks, the impact is believed to be too small to serve as a substantial basis to charge recreation and parks impact fees on nonresidential developments.

Another important consideration with regard to benefits is the timing of improvements. If improvements are made in the distant future, the benefit accrued by the fee payer may be considered insufficient. The benefit from improvements declines exponentially with respect to time (Nicholas 1988). Georgia's impact fee enabling legislation addresses this issue by requiring that impact fee proceeds be "encumbered"—that is, committed to a specific project—within six years of the date they are collected.

Degrees of Benefits and Costs

The amount of development impact fees must vary according to how the impacts (and hence, the costs) differ among different types of development. For example, it would not be legitimate to charge a single-family residence and a 200-seat movie theatre the same impact fee for roads, as their impacts on the road system will be remarkably different. Roswell's impact fee system provides a rational nexus between the fee charged and actual system impacts by varying the fees according to different types of land uses and their differing demands for service.

Under most development impact fee systems, the same impact fee is assessed against all detached residential units, regardless of size. A case has been made that residential development types should be further differentiated on the basis of the size of the unit (or number of bedrooms or rooms) as opposed to making broad assumptions about household size. Many impact fee programs establish impact fee schedules that vary based on the number of bedrooms and on unit type (Nicholas and Nelson 1988b). Nelson (1995) finds that the "next generation" of impact fee programs will be more precise in relating proportionality to house size and, by implication, income. For example, Palm Beach County, Florida, has a fee that proportionally increases as the size (square footage) of the residential unit increases. Such a system, if implemented, works to reduce the regressive nature of impact fees (Nelson 1995). Additionally, Martin County, Florida's revised development impact fee system also varies fees based on the size of the dwelling unit (Growth Management Analysts 1998). In the City of Roswell, however, the detailed data required for this type of calculation are not readily available.

Instead, the 2000 impact fee program captures the largest range of possible dwelling unit impact, based on average household size per unit.

For nonresidential uses, the development impact fee methods rely on empirical data on the number of employees per 1,000 square feet, or other standardized measure, for individual land uses.

System Costs

Local governments that charge development impact fees must be able to back up the fees they set with realistic cost figures, formulas, and numbers (Georgia Department of Community Affairs 1992a). The actual expenditure history of the community is a viable basis on which to project system costs (Nicholas 1988). The development impact fee calculation methods used in this report are based on what is called the “capital projects” (i.e., system costs) methodology. System costs are based on data from the City’s past expenditures and on judgments of professionals in the areas of public safety, recreation and parks, and transportation. For instance, through several acquisitions and improvements, the City has sound estimates of the cost per acre of purchasing and improving parkland, as well as the cost of fire station construction.

Service Area Issues

Service areas for certain facilities may be drawn to include the entire jurisdiction (i.e., citywide), or different sub areas of the City can be established as separate service areas. There is local discretion in establishing service areas; however, they must be based on appropriate legal, planning, and engineering principles. Moreover, the choice regarding whether to use a single service area or more than one service area depends to a large extent on the type of facility.

Libraries, police facilities, fire facilities, and water systems are often designed to serve large areas. A library system may include a main building and several branches but residents may check out and use any item available anywhere in the system. Fire facilities are often managed by one large department serving a county or large city. The jurisdiction is given one “fire insurance rating” based on its entire fire protection system. When one fire company responds to a call, other fire companies provide backup. Police facilities and services are used in the same manner (Nelson 1992).

Single service areas pose certain advantages. One particular advantage of having only one service area (the city limits) for each facility is that the City has flexibility in spending collected impact fees on projects anywhere in the City since expenditures on the citywide system of facilities affect all users. Another advantage of using a single service area is that it allows the City to avoid complex issues and planning work associated with considering, drawing, reconsidering, and justifying different service areas. For instance, separate population, employment, and facility needs projections are needed for every service area that is established by the development impact fee program (Georgia Department of Community Affairs 1992b).

In the case of Roswell, the city limits are small enough that they can serve as an equitable and legitimate service area for the facilities included in this report. For instance, all residents have equal access to all of the City’s parks and recreation facilities. Nevertheless, it is worthy to mention the advantages of drawing more than one service area for a given facility. Within a given service area, the same level of service must apply. Having more than one service area for a particular type of system improvement, however, provides the advantage of being able to

establish different service levels for the service areas. For instance, by utilizing more than one service area (i.e., one for the existing built up area and one for the new growth area), a local government could achieve higher levels of service for new development than currently exist in developed areas. Establishing different service areas also enables local governments to influence the location of growth and therefore better manage urban development patterns (Georgia Department of Community Affairs 1992a).

Funding Deficiencies Based on Higher Level of Service Standards

An equally important consideration is that, to the extent that impact fees fund only a portion of the cost of new facilities, the funding shortfall must be made up from other revenue sources—most commonly, property taxes. The same conditions that suggest the creation of service areas apply equally to the generation of additional revenue—those benefiting must contribute to paying the costs. Thus, each service area would have to be established as a special tax district in order to associate the revenue needed for a specific facility with those being served.

Optional Provision for Recoupment

Local governments that have developed excess infrastructure capacity in anticipation of new growth may add an optional clause to their ordinances allowing them to recoup the cost of certain completed public works projects through impact fees. However, new development may only be charged a proportionate share of the system improvement costs related to excess capacity built in the past, based on the amount of excess capacity each project will use up or absorb. Recoupment will necessitate careful analysis of the project's financing structure to avoid double charging development for system improvement costs collected prior to adoption of an impact fee ordinance through means such as land dedications, exactions, user fees or property taxes (Nelson 1992).

Social Policy Implications of Impact Fees

The literature generally shows that impact fees raise the cost of housing. Impact fee systems are usually not designed to be responsive to the "ability to pay" principle, and waivers of impact fees for low- and moderate-income dwelling units have been advocated (Beatley 1988). Indeed, Georgia's statute allows for exemptions of low and moderate-income housing from the payment of impact fees, provided the money lost through such a waiver is made up through some other funding source. The City's Comprehensive Plan was amended to establish policy for waivers of impact fees for low and moderate-income households.

THE 2000 IMPACT FEE PROGRAM

This section presents the methodologies used to determine new development's fair share of the investment in public safety facilities, parks and recreation facilities, and transportation facilities. The library and water system facilities are discussed, but are not included in the City's impact fee program. For each service facility the 1992 adopted level of service standard is stated, and any current deficiency is determined. The service area is described. The future facility needs, based on the new (2000) adopted level of service standards, are determined. The cost to provide service in order to meet the forecasted facility needs is given. The impact cost is calculated for each service category. Finally, the impact fee is calculated, based on the impact cost and adjusted to reflect any relevant credit, or other refinements as specifically identified.

In calculating an impact fee, the cost may be increased to include financing costs of the facility and an administrative fee (not to exceed 3 percent). Conversely, the impact cost must be reduced to the extent that the new growth and development will pay future sales or property taxes toward financing the facility, to avoid double taxation.

The following table is a summary of the City’s facilities that are eligible for impact fee financing under Georgia law and that are discussed in this chapter.² The service area for each facility—that is, the geographical area served by the facility—is also shown, along with the LOS unit of measure adopted for each facility category.

Table 11.3
Summary of Impact Fee Facilities, City of Roswell

	Public Safety		Transportation	Parks
	Police Services*	Fire Protection Services		
Eligible Facilities	Precincts, training facilities, and jail	Stations, training facilities, fire engines, rescue units, and other trucks	Right-of-way, roads and intersections, bridges, sidewalks, and bike lanes	Park land, structures, and buildings, pedestrian and bike trails
Service Area	City limits	City limits	City limits	City limits
1992 Level of Service Standards	Based on square footage of facilities	Based on station bays	Based on vehicles per lane mile capacity	Based on acreage and facilities
2000 Level of Service Standards	Based on square footage of facilities and heavy vehicles		Based on road network volume to capacity ratio	Based on acreage and facilities

Source: 1992 LOS standards are drawn from the 1992 and 1994 impact fee program methodology reports; 2000 LOS standards are drawn from calculations in this chapter.

Terms used in Table 11.3:

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

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

² In the absence of an agreement between the City and county, library facilities are not eligible for impact fee collection by the City.

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

To a large extent, the level of service standards adopted in the 1992 report were based upon the then current level of service. This was done to avoid creating existing deficiencies and is true for most, but not all, categories. Table 11.4 presents a comparison between the 1992 adopted LOS standards and the year 2000 LOS for four of the service facilities included in this chapter. It is readily apparent that the existing LOS is very close to the desired LOS, as adopted in 1992. This indicates that Roswell has been able to maintain its adopted LOS standards in these categories between 1992 and 2000.

Table 11.4
Comparison of Adopted LOS Standard and Year 2000 LOS

Service Area	1992 LOS Standard	Year 2000 LOS	Difference
Transportation	LOS "D"	LOS "D"	none
Fire	1 bay/3,400 residents	1 bay/4,166 residents	766 residents per bay
Police	0.69 SF/resident	0.68 SF/resident	0.01 SF/resident

Source: 1992 LOS Standard is drawn from 1992 and 1994 impact fee methodology reports; existing LOS is calculated using the same methodology as the 1992 LOS, but with figures current for the year 2000.

In the individual service categories that follow, the LOS standard was updated in 2000 to reflect changes in the provision of those services. For parks and recreation facilities, impact costs and fees are calculated based on residential population, expressed in dwelling units. For public safety facilities the impact costs and fees are based on functional population (see discussion below). For transportation facilities, the impact cost and fee are calculated based on trip generation, derived from functional population.

Impact Costs and Impact Fees

This chapter distinguishes between impact costs and impact fees. An impact cost is the amount of money that must be expended, in terms of capital projects, to serve new development in the City, regardless of the source of the funding. It is the amount that it costs the City to provide the specific service facilities, at the adopted LOS standard, to keep up with the demands of new growth.

An impact fee, as calculated in this chapter, is the impact cost minus a credit for future tax payments toward bond issue debt service. The resulting figure is the amount of money that can be charged to new growth as a result of the services demanded by that growth. Credit is given for anticipated payments made by new growth toward the projects necessary to serve that new growth. Under the City of Roswell impact fee program, the amount of the impact cost not paid through property tax collected from new development is the impact fee.

Functional Population

The 2000 impact fee program uses two different population figures for impact fee calculations: residential population and functional population. As noted earlier, for certain services, such as libraries and parks, it is difficult to show a rational nexus between local employment and the services provided. For example, library resources are not regularly used by out-of-city employees. In these cases, it is proper to calculate and charge impact fees based upon residential population. Often, the residential population will be stated in terms of the number of dwelling units occupied by that population. Other services, however, are demanded by residents and non-residents alike. Fire protection is an example of a service that is demanded by both residents and employees. Further, this service must be provided regardless of whether or not the resident is at home or the employee is at work, since the protection of property is a major function of police and fire service. To determine the number of people making demands upon fire protection services, the residential and employment populations are combined; this is the functional population.³ Functional population is used in the impact fee calculations for public safety and transportation facilities. Table 11.5 presents the functional population forecast for Roswell over the next 20 years, based upon the employment and residential population forecasts made for the City.

**Table 11.5
 Functional Population, 2000-2020**

Year	Residential Population	Employment	Functional Population
2000	75,000	34,398	109,398
2001	75,905	35,400	111,305
2002	76,811	36,402	113,213
2003	77,717	37,404	115,121
2004	78,623	38,406	117,029
2005	79,529	39,408	118,937
2006	79,988	40,228	120,216
2007	80,447	41,048	121,495
2008	80,907	41,868	122,775
2009	81,366	42,688	124,054
2010	81,825	43,508	125,333
2011	82,312	44,120	126,432
2012	82,798	44,733	127,531
2013	83,285	45,345	128,630
2014	83,771	45,958	129,729
2015	84,258	46,570	130,828
2016	84,710	47,072	131,782
2017	85,162	47,574	132,736
2018	85,615	48,075	133,690
2019	86,067	48,577	134,644
2020	86,519	49,079	135,598

Source: City of Roswell, Comprehensive Plan 2020.

³ The 2025 Comprehensive Plan, population element, defines functional population slightly differently.

Credits and Exemptions

Credit must be given to impact fee payers in anticipation of future tax collections earmarked for capital improvements that will serve new growth. This is important in that it is an assurance that the local government does not create a situation of 'double taxation', and also to avoid total fee collections from exceeding proportional-share costs. Impact fees must be adjusted to reflect the expected financial contribution, through local tax collection, that new growth and development will make toward capital projects paid for (at least partially) by local tax revenues which are built to serve new growth. Three general obligation bonds have been issued by the City that have debt service periods between 2000 and 2020: a 1988 issue, a 1995 issue, and a 2000 issue. The specific amounts due for debt service, by relevant category, are shown in Tables 11.6 and 11.7.

**Table 11.6
 Semi-Annual Debt Service, 1995 Issue, 2001-2015
 Roswell General Obligation Bonds – Facilities for which Impact Fees are Charged**

Due Date	Total Debt Service	Transportation	Public Safety	Recreation
2/1/01	\$642,028.75	\$367,193.75	\$96,985.00	\$177,850.00
8/1/01	\$503,856.25	\$305,783.75	\$66,280.00	\$131,792.50
2/1/02	\$678,856.25	\$385,783.75	\$106,280.00	\$186,792.50
8/1/02	\$499,612.50	\$303,843.75	\$65,310.00	\$130,458.75
2/1/03	\$769,612.50	\$438,843.75	\$115,310.00	\$215,458.75
8/1/03	\$492,930.00	\$300,502.50	\$64,072.50	\$128,355.00
2/1/04	\$857,930.00	\$500,502.50	\$129,072.50	\$228,355.00
8/1/04	\$483,713.75	\$295,452.50	\$82,431.25	\$125,830.00
2/1/05	\$958,713.75	\$570,452.50	\$137,431.25	\$250,830.00
8/1/05	\$471,482.50	\$288,371.25	\$60,500.00	\$122,611.25
2/1/06	\$1,061,482.50	\$638,371.25	\$150,500.00	\$272,611.25
8/1/06	\$456,142.50	\$279,271.25	\$58,160.00	\$118,711.25
2/1/07	\$1,166,142.50	\$704,271.25	\$183,160.00	\$278,711.25
8/1/07	\$437,327.50	\$268,008.75	\$54,847.50	\$114,471.25
2/1/08	\$3,152,327.50	\$1,268,008.75	\$804,847.50	\$1,079,471.25
8/1/08	\$363,343.75	\$240,758.75	\$34,410.00	\$88,175.00
2/1/09	\$4,323,343.75	\$1,740,758.75	\$1,274,410.00	\$1,308,175.00
8/1/09	\$253,453.75	\$199,133.75		\$54,320.00
2/1/10	\$4,568,453.75	\$2,574,133.75		\$1,994,320.00
8/1/10	\$132,633.75	\$132,633.75		
2/1/11	\$4,827,633.75	\$4,827,633.75		
Totals	\$27,101,021.25	\$16,629,713.75	\$3,484,007.50	\$7,007,300.00

Source: City of Roswell, Finance Department.

Table 11.7
Semi-Annual Debt Service, 2000 Issue, 2001-2015
Roswell General Obligation Bonds –
Facilities for which Impact Fees are Charged

Due Date	Total Debt Service	Transportation	Public Safety	Recreation
2/1/01	\$1,501,580.63	\$61,238.75	\$110,461.25	\$1,329,880.63
8/1/01	\$886,580.63	\$30,488.75	\$64,336.25	\$791,755.63
2/1/02	\$1,511,580.63	\$60,488.75	\$109,336.25	\$1,341,755.63
8/1/02	\$872,361.88	\$29,806.25	\$63,312.50	\$779,243.13
2/1/03	\$1,522,361.88	\$84,806.25	\$113,312.50	\$1,344,243.13
8/1/03	\$857,249.38	\$28,992.50	\$62,350.00	\$766,106.88
2/1/04	\$1,537,249.38	\$73,992.50	\$117,350.00	\$1,346,106.88
8/1/04	\$841,269.38	\$27,935.00	\$60,857.50	\$752,476.88
2/1/05	\$1,546,269.38	\$72,935.00	\$120,857.50	\$1,352,476.88
8/1/05	\$824,525.63	\$26,866.25	\$59,432.50	\$138,226.88
2/1/06	\$1,554,525.63	\$76,866.25	\$124,432.50	\$1,353,226.88
8/1/06	\$807,005.63	\$25,666.25	\$57,872.50	\$723,466.88
2/1/07	\$1,542,005.63	\$80,666.25	\$127,872.50	\$1,333,466.88
8/1/07	\$789,181.88	\$24,332.50	\$56,175.00	\$708,674.38
2/1/08	\$1,724,181.88	\$84,332.50	\$156,175.00	\$1,473,674.38
8/1/08	\$765,806.88	\$22,832.50	\$53,675.00	\$689,299.38
2/1/09	\$1,775,806.88	\$87,832.50	\$153,675.00	\$1,534,299.38
8/1/09	\$740,556.88	\$21,207.50	\$51,175.00	\$668,174.38
2/1/10	\$1,675,556.88	\$91,207.50	\$151,175.00	\$1,433,174.38
8/1/10	\$717,415.63	\$19,475.00	\$48,700.00	\$649,240.63
2/1/11	\$1,577,415.63	\$94,475.00	\$148,700.00	\$1,334,240.63
8/1/11	\$695,915.63	\$17,600.00	\$48,200.00	\$632,115.63
2/1/12	\$6,565,915.63	\$332,600.00	\$878,200.00	\$5,357,115.63
8/1/12	\$534,490.63	\$8,937.50	\$23,375.00	\$502,178.13
2/1/13	\$6,734,490.63	\$333,937.50	\$873,375.00	\$5,527,178.13
8/1/13	\$363,990.63			\$363,990.63
2/1/14	\$6,923,990.63			\$6,923,990.63
8/1/14	\$183,590.63			\$183,590.63
2/1/15	\$7,128,590.63			\$7,128,590.63
Totals	\$54,701,463.27	\$1,819,518.75	\$3,834,383.75	\$48,461,960.77

Source: City of Roswell, Finance Department

Table 11.8 presents a breakdown of the debt service due, between February 2001 and February 2015⁴, for three categories that apply to the updated impact fee program. The service category debt service totals are taken from the preceding two tables. The final row of Table 11.8—the percent of total debt service—is the percentage of the tax funds raised to service this debt that goes toward projects in the specific categories listed.

⁴ Currently, no debt service payments are scheduled after February 2015.

Table 11.8
Debt Service, 2001-2015

Issue	Service Category Debt Service, 2001-2015			
	Total Debt Service, 2001-2015	Public Safety	Recreation	Transportation
1995	\$27,101,021.25	\$3,484,007.50	\$7,007,300.00	\$16,629,713.75
2000	\$54,701,463.27	\$3,834,383.75	\$48,461,960.77	\$1,819,518.75
Totals	\$81,802,484.52	\$7,318,391.25	\$55,469,260.77	\$18,449,232.50
	% of Total Debt Service:	8.95%	67.81%	22.55%

Source: Derived from Tables 11.6 and 11.7.

Giving new development a credit based upon its portion of debt service for all projects in these three categories, regardless of whether or not the projects are eligible for impact fee collection, would result in an over-estimation of the credit. Instead, the percentage of debt service payments going toward impact fee eligible projects is based on the cost of those projects, as shown in Table 11.9. Finally, the portion of property tax payments that goes toward debt service payments is calculated from historic data, and is shown in Table 11.10. In that the debt service portion of the millage rate is set each year, depending upon the amount to be raised, the City has determined that the rate of 2.50 mills will be used in the next set of calculations, rather than the ten-year average of 2.94 mills shown in the table⁵.

Table 11.9
Portion of Debt Service Attributable to Impact Fee Eligible Projects

Service Category	Total Category Debt Service	Cost of Impact Fee Eligible Projects	Impact Fee Projects as a Percentage of Category Debt Service
Public Safety	\$7,318,391.25	\$ 0	0.00%
Recreation	\$55,469,260.77	\$15,381,568.00	33.26%
Transportation	\$18,449,232.50	\$1,937,250.00	10.50%

Source: City of Roswell Finance Department.

⁵ Millage rate calculations are shown based on all outstanding bond issues for the period.

Table 11.10
Debt Service and Property Tax Rates, 1990-1999

FY	Real Property Assessed Value*	Series 1988 Bond Debt Service	Series 1995 Bond Debt Service	Total Bond Debt Service	Debt Service Millage Rate**	Mills per \$1,000 valuation
1990	\$816,545,000	\$2,637,325	-	\$2,637,325	0.00323	3.23
1991	\$968,458,000	\$2,713,532	-	\$2,713,532	0.00280	2.80
1992	\$972,722,000	\$2,843,038	-	\$2,843,038	0.00292	2.92
1993	\$988,521,000	\$2,891,063	-	\$2,891,063	0.00292	2.92
1994	\$1,169,453,000	\$2,921,400	-	\$2,921,400	0.00250	2.50
1995	\$1,230,445,000	\$2,919,410	\$854,410	\$3,773,820	0.00307	3.07
1996	\$1,284,815,000	\$2,927,050	\$1,055,293	\$3,982,343	0.00310	3.10
1997	\$1,382,393,000	\$2,928,170	\$1,074,003	\$4,002,173	0.00290	2.90
1998	\$1,448,196,000	\$3,017,610	\$1,096,803	\$4,114,413	0.00284	2.84
1999	\$1,414,855,000	\$3,293,560	\$1,113,428	\$4,406,988	0.00311	3.11
				Ten-year Average		2.94

Source: Fulton County Tax Assessor's Office and City of Roswell Finance Department.

*Property value data is from the Fulton County Tax Assessor's Office.

**"Real property assessed value" divided by "Total bond debt service".

Table 11.11
Future Property Tax Generation

Year	Cumulative Population Increase	Cumulative Increase in Dwelling Units*	Cumulative Employee Increase	2001-2015 Cumulative Non-Residential Square Feet**
2001	905	307	1,002	501,000
2002	1,811	614	2,004	1,002,000
2003	2,717	921	3,006	1,503,000
2004	3,623	1,228	4,008	2,004,000
2005	4,529	1,535	5,010	2,505,000
2006	4,988	1,691	5,830	2,915,000
2007	5,447	1,847	6,650	3,325,000
2008	5,907	2,002	7,470	3,735,000
2009	6,366	2,158	8,290	4,145,000
2010	6,825	2,314	9,110	4,555,000
2011	7,312	2,479	9,722	4,861,200
2012	7,798	2,643	10,335	5,167,400
2013	8,285	2,808	10,947	5,473,600
2014	8,771	2,973	11,560	5,779,800
2015	9,258	3,138	12,172	6,086,000

Source: Table is derived from Table 11.5.

*Based on average of 2.95 persons per dwelling unit.

**Based on average of 500 SF per employee.

The next step is to calculate the funds expected to be raised through property taxes to service these debts over the next fifteen years. Averages are used for some of the following figures; it is permissible to overestimate the credit to be applied. Between 2000 and 2015, 9,258 new residents and 12,172 new employees are expected in the City. At an average of 2.95 residents per dwelling unit⁶ and 500 square feet per employee, this yields a figure of 3,138 new dwelling units and 6,086,000 square feet in non-residential space. The annual totals for dwelling units and non-residential square feet are shown in Table 11.11.

The annual dwelling unit and square footage figures from Table 11.11 are used in Table 11.12 to calculate future property tax contributions from new development. An average appraised value of \$140,000 is used per new dwelling unit, and \$166.67 per square foot of new non-residential space. (The value of non-residential square footage is calculated at an average construction value of \$125 per square foot, with an additional 1/3 for equipment and fixed assets). Assessed value is calculated as 40 percent of the appraised value of property.

**Table 11.12
 Future Property Tax Contributions**

Year	Residential		Non-Residential	
	Dwelling Units	Total Assessed Value*	Square Feet	Total Assessed Value*
2001	307	\$17,179,661	501,000	\$33,400,668
2002	614	\$34,378,305	1,002,000	\$66,801,336
2003	921	\$51,576,949	1,503,000	\$100,202,004
2004	1,228	\$68,775,593	2,004,000	\$133,602,672
2005	1,535	\$85,974,237	2,505,000	\$167,003,340
2006	1,691	\$94,691,254	2,915,000	\$194,337,220
2007	1,847	\$103,408,271	3,325,000	\$221,671,100
2008	2,002	\$112,125,288	3,735,000	\$249,004,980
2009	2,158	\$120,842,305	4,145,000	\$276,338,860
2010	2,314	\$129,559,322	4,555,000	\$303,672,740
2011	2,479	\$138,796,475	4,861,200	\$324,086,482
2012	2,643	\$148,033,627	5,167,400	\$344,500,223
2013	2,808	\$157,270,780	5,473,600	\$364,913,965
2014	2,973	\$166,507,932	5,779,800	\$385,327,706
2015	3,138	\$175,745,085	6,086,000	\$405,741,448
	Totals	\$1,604,865,085		\$3,570,604,744

Source: Table is derived from Table 11.11.

*Total assessed value is based on the number of units or square feet times 40 percent of the average appraised value, per unit or square foot.

Based upon the estimate of an average debt service tax rate of 2.50 mills, \$12,938,675 will be raised toward debt service repayment through property tax levied on new growth. (This is calculated by multiplying the totals from Table 11.12 by the millage rate of 0.00250). This amount is applicable to all three outstanding bond issues (1988, 1995, 2000); debt service for the 1995 and 2000 bond issues represents 77.46% of the total debt service to be collected.

⁶ Average number of persons per dwelling unit is intentionally overestimated, and produces an overestimate of the applicable credit.

Therefore, 77.46% of \$12,938,675, or \$10,022,693, will be raised from future growth toward retirement of the 1995 and 2000 bonds. By applying the percentages calculated in Tables 11.8 and 11.9, a credit figure is produced for each of the three service categories. Table 11.13 shows the final credit figures for public safety, transportation, and parks and recreation facilities.

Table 11.13
Final Credit by Service Category

	Future Debt Service Contribution from New Development	Category as % of Total Debt Service	Debt Service Contribution by Category*	Category % of Impact Fee Eligible Projects	Service Category Credit**
Public Safety	\$10,022,693	8.95%	\$897,031	0.00%	\$0
Transportation	\$10,022,693	22.55%	\$2,260,117	33.26%	\$751,715
Parks and Recreation	\$10,022,693	67.81%	\$6,796,388	10.50%	\$713,621

Source: Derived from Previous Tables.

*(Future Debt Service Contribution from New Development) X (Category as % of Total Debt Service)

** (Debt Service Contribution by Category) X (Category % of Impact Fee Eligible Projects)

The service category credit is the funding expected from new development, paid through property taxes, which will be used to provide for capital improvements that serve the new development. As can be seen in Table 11.13, the applicable credit for transportation facilities is \$751,715; for parks and recreation facilities the credit is \$713,621. There is no applicable credit for public safety facilities, as no impact fee eligible projects in that category have been paid for with funds from either the 1995 or 2000 bond issues.

The 1992 impact fee program also calculated credits based upon the previous property tax contributions, paid on vacant land, toward impact fee eligible projects. Under that program, the total credit given to single-family dwellings was 74 cents, out of an impact fee charge of \$1,965.49. This figure represents 0.04 percent of the total impact fee charge. For multi-family dwellings, the percentage of the credit was also 0.04 percent; for non-residential land use categories this particular credit was never more than 0.00001 percent of the total impact fee charge. The administrative costs of collecting annual property tax data, calculating the tax contribution of vacant land toward specific capital projects, verifying the percentage of vacant parcels during the period in question, modifying the data to reflect changes in annual vacancy rates, and calculating the impact fee credit would seem to go well beyond any measure of fairness in the impact fee program, and is highly questionable. For this reason, it is not a part of the 2000 impact fee program and is easily covered by the forgoing overestimation in property tax credits.

Finally, the Georgia Development Impact Fee Act provides jurisdictions with the ability to exempt certain types of development projects at its discretion under O.C.G.A. 36-71-4(1). Two general types of exemptions are allowed:

1. Projects that are determined to create “extraordinary economic development and employment growth”, or,
2. Projects that create affordable housing.

The City of Roswell has not adopted any specific policy statements for exemptions in the 2000 impact fee program, but it has and will continue to consider exemptions on a case-by-case basis.

Impact Fee Schedule Categories

The 1992 impact fee program charged fees in six land use categories: single family, multi-family, hotel/motel, office, retail, and industry. Since this was a fairly general list, it did not capture the subtleties of development in the City. As the fee schedule list is expanded to include more land use categories, the differences between the impact, and thus the fee due, from specific types of development is more apparent. Utilizing a fee schedule with more specific land use categories goes toward establishing a stronger relationship between fees paid and services demanded, thus more firmly establishing the rational nexus between fee assessment and services provided. The 2000 impact fee program utilizes an expanded set of land use categories that further refine the categories offered in the 1994 Road Facilities Impact Fee Study.

Annual Review

The impact fee program is reviewed annually, and if changes are needed, they are made. A number of the factors that form the base-line assumptions in this report's impact cost calculations may change over time.

Some specific areas to consider in annual reviews are as follows:

- The 2000 impact fee program uses the existing city limits as the service area for public safety, parks and recreation, and transportation. The program should be updated to reflect changes in the service area and changes in service demands, based upon any changes to the geographic size of the City.
- Averages are used for construction costs for the calculations in this chapter. The calculations should be updated to reflect actual costs, when known.
- Costs should be maintained in present value terms. The land costs for public safety and parks and recreation facilities, as well as the square footage construction costs, should be updated annually. In addition, the cost of fire engines, ladder trucks, air and light trucks, and rescue units should also be updated to reflect current dollars.
- Projections in property tax base growth should be updated each year to reflect actual growth, and to update the average new dwelling unit values and value per non-residential square foot then current in future years.
- Any changes in the debt service schedule should be reflected in the impact fee program methodology. The refinancing of an existing bond, or issuance of a new bond, should be reflected in the impact fee credit calculations.
- Any source of funding used to build facilities that in whole or in part provide service to new development, other than the general obligation bonds already included in this

chapter, and that include contributions from new development, should be added to the impact fee credit calculations.

- The schedules of improvement are updated on an annual basis. Following a review, if necessary, the City should adopt a new LOS standard, based on the information presented in this chapter, as well as any additional necessary refinements. In particular, the average trips per functional population figure should be examined.

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

PUBLIC SAFETY

The Public Safety Element of the Roswell impact fee program is made up of two components: police facilities and fire protection facilities. Based upon the expertise and experience of those two departments, the desired LOS for fire protection is calculated on a ‘build out’ scenario, while the desired LOS for police services is based on a future level of service derived from the current facility inventory. The quantity of facilities needed to serve the City to the year 2020, under the current geographic size of the City, is established for each category. The resulting LOS—calculated for the year 2020—is adopted as the LOS standard for the City in 2000.

**Table 11.14
 Year 2000 Inventory, Public Safety Buildings**

Station/Facility	Bays	Square Footage	
		Fire Protection	Police Facilities
Station 1	6	12,000	
Station 2	2	3,000	
Station 3	2	3,000	
Station 4	3	4,295	
Station 5	3	7,257	
Station 6	3	8,000	
Burn Building		3,000	
Station 7	3	6,500	1,500
Law Enforcement Center			48,000
City Hall (Police Admin)			3,150
City Hall (Fire Admin)		5,100	
Totals	22	52,152	52,650

Source: City of Roswell Fire and Police Departments.

Impact fees may only be charged for capital expenditures that have a useful life of at least ten years; buildings and heavy vehicles can fall into this category. The buildings include fire stations, police precincts, and departmental administrative space in other public buildings.

'Heavy vehicles' includes fire engine pumpers, ladder trucks, oxygen trucks, and rescue units. Table 11.14 presents the year 2000 inventory of public safety building space, while Table 11.15 presents the year 2000 inventory of heavy vehicles. The year 2000 inventory totals 104,802 square feet and 25 heavy vehicles.

Table 11.15
Year 2000 Inventory, Heavy Vehicles

Vehicle Type	Quantity
Engine Pumpers	9
Ladder Truck	4
Rescue Truck	6
1,000 Gallon Tankers	4
Air and Light Truck	1
Haz Mat Truck	1
Total	25

Source: City of Roswell Fire Department.

Service Area

The City of Roswell is served by seven fire stations roughly evenly distributed throughout the City. The City presently has an insurance rating for fire of "4," which it has determined as its minimum. There is no distinction in Roswell between stations designed to serve residents or commercial land uses. For example, a ladder company responds to all structural fires whether commercial or residential. Stations physically located in residential areas may respond to commercial calls and vice versa. Since the fire insurance rating is applied to the entire city and not just particular parts that may have better or worse fire protection, future system improvements are geared toward assuring that the entire city maintains its fire insurance rating. Based on these considerations and the further consideration that all fire stations operate as a system, the City itself is the service area (Nelson 1992). Likewise, police units respond as back-up to calls outside of their established beats. The provision of public safety service in the City, then, is on a citywide basis. Thus the service area for public safety facilities is the city limits of the Roswell.

LOS and Future Demand

The 1992 adopted level of service for police facilities in Roswell was 0.6889 square feet per resident. This was based upon the assumption that facilities existing in 1992 would serve the population until the year 2010. A total of 61,600 square feet, including 49,500 square feet of finished, heated space is available as of 2004. In order to more accurately characterize the future service demands made by new growth, the 2000 impact fee program shifted from a LOS based on residential population to one based upon functional population.⁷ The LOS in the year 2000 was the current square footage of facilities, based on existing facility inventory, divided by the 2000 functional population.⁸ ($52,650 / 109,398 = 0.4813$ square feet per functional population). This LOS was used to calculate the square footage needed to maintain this LOS

⁷ See the section below entitled "Funding", and accompanying Table 11.22, for more on the rationale for using *functional*, rather than *residential*, population in these calculations.

⁸ The functional population figures are shown in Table 11.5.

standard in the year 2020. The functional population in 2020 was forecasted as 135,598. (135,598 * 0.4813 SF = 62,263 square feet total for the year 2020 (an increase of 12,613 square feet over the current total for police facilities)). This was added to the calculations of fire protection LOS for the year 2020 to produce the total square footage of public safety facilities required to serve the City in that year.

The 1992 adopted LOS standard for fire protection facilities was one station bay per 3,400 residents, with a total of 22 bays in 2000 there was no current deficiency. However, a unit of measure based on station bays does not accurately capture the available fire-fighting and life-saving equipment. Situations exist in which one vehicle may be parked behind another in the same bay, whereas some stations may have an empty bay. Fire protection depends upon personnel and equipment, more than parking capacity. The new LOS unit of measure and standard are based on a combination of current square footage and heavy vehicle inventory.

Level of Service and Facility Needs

The projected requirement for additional space to be acquired through 2020 includes a secured command and communications center and expansion of area available for storing and handling property and evidence related to criminal investigations.

Table 11.16 presents a breakdown of the total square footage of public safety facilities for the year 2020 (anticipated in 2000); Table 11.17 is a listing of the heavy vehicle inventory anticipated in 2000 to be needed for 2020.

**Table 11.16
 Public Safety Facility Needs, 2020**

Station/Facility	Bays	Total Square Footage	Existing Facility
Station 1	6	12,000	Yes
Station 2	3	4,250	Yes
Station 3	3	4,250	Yes
Station 4	3	4,295	Yes
Station 5	3	7,257	Yes
Station 6	3	8,000	Yes
Station 7*	3	8,000	Yes
Station 8	3	8,000	
Training Facility	1	10,002	
Burn Building	0	3,000	Yes
Law Enforcement Center	0	48,000	Yes
City Hall (Police Admin.)	0	3,150	Yes
City Hall (Fire Admin.)	0	5,100	Yes
<i>E911 Call Center</i>	<i>0</i>	<i>2,000</i>	Proposed in 2000
<i>Precinct Expansion(s)</i>	<i>0</i>	<i>8,000</i>	Proposed in 2000
<i>Law Enforcement Center Expansion</i>	<i>0</i>	<i>2,613</i>	Proposed in 2000
Totals	26	137,917	

Source: Existing facilities from Table 11.14, facility needs from City of Roswell Fire and Police Departments.
 *Considered a completion of the 1992 impact fee program.

Table 11.17
Heavy Vehicle Inventory and Needs

Vehicle Type	Existing 2000 Inventory	New Vehicles Needed	2020 Inventory
Engine Pumpers	9	4	13
Ladder Trucks	4	1	5
Rescue Trucks	6	1	7
1,000 Gallon Tankers	4	0	4
Air and Light Truck	1	0	1
Haz Mat Truck	1	0	1
Mobile Command	0	1	1
Total	25	7	32

Source: Existing inventory is from Table 11.15, new vehicles needed is based on recommendations of the City of Roswell Fire and Police Departments.

The totals from Tables 11.16 and 11.17 are used to calculate the LOS standard. The total square footage is divided by the year 2020 functional population to yield the square footage per unit. In order to produce a number that can be easily used in calculations, this is calculated on the basis of 1,000 persons. ($137,917/135.598 = 1,017.10$ SF per 1,000 functional population). In terms of heavy vehicles, the number of trucks is divided by the year 2020 functional population to produce a per unit figure; again, this is expressed in terms of units per 1,000 persons. ($32/135.598 = 0.236$ heavy vehicles per 1,000 functional population). The LOS standards are summarized in Table 11.18; Table 11.19 applies these LOS standards to future growth projections to determine the future demand in square feet and heavy vehicles.

Table 11.18
Adopted LOS Standards, Public Safety

	Unit of Measure	2000 LOS Standard
Facility Space	Square feet per 1,000 functional population	1,017.10 square feet per 1,000 functional population
Heavy Vehicles	Number of heavy vehicles per 1,000 functional population	0.236 heavy vehicles per 1,000 functional population

Source: Derived from Tables 11.16 and 11.17.

**Table 11.19
 Future Demand for Public Safety Facilities**

Year	Functional Population	Square Feet Demanded	Future Demand in SF*	Heavy Vehicles Demanded	Future Demand in Vehicles**
2000	109,398	111,269	6,467	26	1
2005	118,937	120,971	16,169	28	3
2010	125,333	127,476	22,674	30	5
2015	130,828	133,065	28,263	31	6
2020	135,598	137,917	33,115	32	7

Source: Functional population is from Table 11.5, calculations are based on LOS standards from Table 11.18.

*Based on an existing inventory of 104,802 square feet.

**Based on an existing inventory of 25 heavy vehicles.

As shown in Table 11.19, 33,115 square feet and seven heavy vehicles will be demanded by new growth. No excess capacity currently exists.

**Table 11.20
 Cost of Public Safety Capital Facilities Proposed in 2000**

Facility/Vehicle	Square Feet	Quantity	Cost per Unit*	Total Cost
Training Facility	10,002		n/a***	\$450,000
Station 8	8,000		\$225	\$1,800,000
Bay Addition, Station 2	1,250		\$225	\$281,250
Bay Addition, Station 3	1,250		\$225	\$281,250
E911 Call Center	2000		\$200	\$400,000
Precinct Expansion(s)**	8,000		\$225	\$1,125,000
Law Enforcement Center Expansion**	2,613		\$200	\$522,600
Engine Pumper		1	\$270,000	\$270,000
Engine Pumper		1	\$270,000	\$270,000
Ladder Truck		1	\$650,000	\$650,000
Rescue Truck		1	\$270,000	\$270,000
Engine Pumper		1	\$270,000	\$270,000
Engine Pumper		1	\$270,000	\$270,000
Mobile Command		1	\$150,000	\$150,000
Totals	33,115	7		\$7,010,100

Source: Future projects are from City of Roswell Fire and Police Departments. Construction costs are derived from known current costs in Roswell and other metropolitan area jurisdictions.

*Average cost per square foot includes land acquisition costs.

**Depending on future growth and annexation patterns, this could be an expansion of existing facilities or new construction.

***The total cost of the Training Facility is not known, and not estimated.

Table 11.20 presents a schedule of projects that would meet the future demands, including the cost of reimbursement for two heavy vehicles. The cost per square foot includes land acquisition costs. Station construction costs are based on the costs to construct Station 7, expected to be \$300,000 in land acquisition costs, and \$1.5 million in construction costs.

Impact Fee Calculation

Table 11.19 shows a current deficiency of 6,467 square feet in facility space for the year 2000. The first 6,467 square feet of the next facility construction project, therefore, is not eligible for funding through impact fees. At an average construction cost of \$225 per square foot, this represents \$1,455,075 in project costs. This amount must be subtracted from the total project costs shown in Table 11.20 to produce the total project costs eligible for impact fee collection (\$7,010,100 - \$1,455,075 = \$5,555,025). The impact cost for public safety facilities is calculated as the total project cost attributable to new growth, divided by the increase in functional population between the years 2000 and 2020 (\$5,555,025/26,200 = \$212.02). This is the cost, per resident or employee, to provide public safety services to new development in Roswell.

The 1992 impact fee program assigned future project costs to general land use categories based upon the number of alarm and emergency calls received from each type of land use. This methodology is not applied in the 2000 program in that alarm calls are difficult to translate into public safety demand. Socio-economic conditions play a role in a person's propensity to make a call for emergency assistance. Also, the nature of a particular land use, including location and operating hours of business, will affect the number of calls made. From Table 11.13, there is no debt service credit to be applied toward public safety facilities. However, the fire facility impact fee fund has a balance of \$506,032. The total cost of projects, minus the fund balance amount, is the net amount of funds that can be raised through impact fees. (\$5,555,025 - \$506,032= \$5,048,993). This figure, divided by the increase in functional population between the years 2000 and 2020, yields the impact fee charge (\$5,048,993/26,200 = \$192.71). This fee is a 'per functional population' figure; it is used to produce the final impact fee charges shown in Table 11.21.

**Table 11.21
 Public Safety Impact Fee Schedule (2000)**

Land Use Classification	Unit of Measure	Employees/ Residents per Unit of Measure	Public Safety Impact Fee
Residential Detached	dwelling	2.87	Note, see later table for updated fees
Residential Attached	dwelling	1.95	
Apparel Store	1000 sq. ft.	1.67	
Auto Parts Store	1000 sq. ft.	0.96	
Building Materials and Lumber Store	1000 sq. ft.	1.47	
Church	1000 sq. ft.	0.52	
Convenience Market (Open 15-16 Hours)	1000 sq. ft.	1.75	
Convenience Market (Open 24 Hours)	1000 sq. ft.	1.80	
Convenience Market with Gasoline Pumps	1000 sq. ft.	1.80	
Day Care Center	1000 sq. ft.	2.54	

Land Use Classification	Unit of Measure	Employees/ Residents per Unit of Measure	Public Safety Impact Fee
Discount Club	1000 sq. ft.	1.30	
Drive-in Bank	1000 sq. ft.	3.64	
Electronics Superstore	1000 sq. ft.	0.96	
Factory Outlet Center	1000 sq. ft.	1.67	
Fast-Food Restaurant	1000 sq. ft.	10.90	
Free-Standing Discount Store	1000 sq. ft.	1.96	
Free-Standing Discount Superstore	1000 sq. ft.	0.96	
Furniture Store	1000 sq. ft.	0.42	
General Office Building	1000 sq. ft.	3.32	
Hardware/Paint Store	1000 sq. ft.	0.96	
High Turnover Restaurant	1000 sq. ft.	7.46	
High-Turnover (Sit-Down) Restaurant	1000 sq. ft.	7.46	
Home Improvement Superstore	1000 sq. ft.	0.96	
Hospital	1000 sq. ft.	3.25	
Hotel/Motel	room	0.62	
Industrial	1000 sq. ft.	2.31	
Lodge/Fraternal Organization	employee	1.00	
Medical Office	1000 sq. ft.	4.05	Note, see later table for updated fees
Mini-Warehouse	1000 sq. ft.	0.04	
Movie Theater	1000 sq. ft.	1.50	
New Car Sales	1000 sq. ft.	1.77	
Nursery (Garden Center)	1000 sq. ft.	1.63	
Nursery (Wholesale)	1000 sq. ft.	1.67	
Nursing Home	bed	0.65	
Pharmacy/Drugstore	1000 sq. ft.	1.67	
Private School (K-12)	1000 sq. ft.	8.09	
Quality Restaurant	1000 sq. ft.	7.46	
Quick Lubrication Vehicle Shop	service bay	2.10	
Recreational Community Center	1000 sq. ft.	0.84	
Self-Service Car Wash	stall	0.20	
Shopping Center	1000 sq. ft.	1.67	
Specialty Retail Center	1000 sq. ft.	1.82	
Supermarket	1000 sq. ft.	1.27	
Tire Store	1000 sq. ft.	1.28	
Warehouse	1000 sq. ft.	1.28	
Wholesale Market	1000 sq. ft.	0.82	
Wholesale Tire Store	1000 sq. ft.	1.28	

Source: Residential figures are from Table 3.8, employment figures are derived from ITE Trip Generation Manual, 5th edition. Note: See Table 11.36 of this chapter for current (updated) fees.

Funding

In the 1992 impact fee program the LOS for police and fire protection facilities was based upon the residential population of the City; no employment figures were used. This presents a problem in that any forecast of the future demand for services would be based solely upon the residential population growth rate, while increases in employment also make demands upon city services. Table 11.22 calculates the percentage of population and employment growth in the City over the past eight years.

**Table 11.22
 Population and Employment Growth, 1992-2000**

	Population	Employment	Population & Employment Combined
1992	64,337	21,640	85,977
2000	75,000	34,398	109,398
Change	16.57%	58.96%	27.24%

Source: 1992 figures are drawn from the 1992 Development Impact Fee Report; 2000 figures from Table 11.5.

As Table 11.22 shows, the employment in Roswell increased at a much faster rate than the residential population. By basing the 1992 impact fee for fire protection on the increase in residential population, rather than on a combination of population and employment, the program did not capture the true increase in persons demanding public safety services in the City. The total cost of projects needed to serve the increase in residential population was assigned to both residential and non-residential land uses, resulting in an underestimation of the impact fee charge. Consequently, the impact fee for fire protection, as calculated in the 1992 report, was insufficient to raise the funds necessary for certain capital improvements demanded by new growth.

Through December 31, 1999, the City collected \$920,434.11 in fire facility impact fees. Of this amount, \$414,401.60 had been expended to construct Station Six, leaving \$506,032.51 in the City's fire facility impact fee trust fund. Revenues from fire impact fees have ranged from \$117,000 to \$156,000 annually, averaging \$136,000 per year. At this rate of collection, the City did not generate the funds needed this year for the construction of Station Seven. Therefore, the City decided to fund this new station through a general obligation bond. Any bonds or other financial obligations that are pledged toward the construction of projects that serve new growth must be considered in a credit calculation. However, the construction of Station Seven is being undertaken to address an existing deficiency (under the 1992 program), and would not be calculated as a credit against future impact fee charges.

By the year 2005, the City of Roswell will have a functional population of approximately 118,937, an increase of 9,539 residents and employees. Based on the adopted LOS standard, 16,169 SF will be required by the year 2005. The construction of the training facility will meet all but 6,167 square feet of this demand. Station Eight, as well as the training facility, will be added to the Capital Improvement Element. Based on the adopted LOS standard, three new heavy vehicles will be required between 2000-2005, and will also be added to the CIE.

RECREATION AND PARKS

In a continuing effort to produce the finest parks and recreation system for the citizens of Roswell, the Recreation and Parks Department has produced the 2005 Recreation and Parks Master Plan. This plan significantly increases the adopted level of service standards in the City. The LOS standards have been increased for many facility types on the facilities category list, and new facility categories have been added. Table 11.23 is a comparison between the LOS standards as adopted from the 1992 Development Impact Fees Report, and the LOS standards as presented in the 2005 Recreation and Parks Master Plan.

Using the updated LOS standards for parks facilities shown in Table 11.23, the current deficiency in parks and recreation facilities is calculated. The deficiency is calculated by applying each LOS standard to the current residential population. Table 11.24 presents the current parks and recreation system supply and deficiencies. Table 11.25 presents the cost of projects required to remedy the existing deficiency in parks and recreation facilities.

**Table 11.23
 Adopted LOS Standards for Recreation and Parks: 1992 & 2000**

	1992 Adopted LOS Standard	2000 Updated LOS Standard
Land Area		
Parks—Acreage	6.3 acres per 1,000 residents	9.0 acres per 1,000 residents
Facilities		
Ball Fields	1 each per 2,000 residents	1 each per 2,000 residents
Football Fields	1 each per 30,000 residents	1 each per 20,000 residents
Soccer Fields	1 each per 6,000 residents	1 each per 5,000 residents
Tennis Courts	1 each per 2,000 residents	1 each per 2,000 residents
Multi-Purpose Courts	1 each per 8,000 residents	1 each per 6,000 residents
Running Tracks	- each per – residents	1 each per 20,000 residents
50m Swimming Pools	- each per - residents	1 each per 50,000 residents
Play Fields	1 each per 8,000 residents	1 each per 8,000 residents
Playgrounds	1 each per 4,000 residents	1 each per 6,000 residents
Horseshoe Courts	- each per – residents	1 each per 15,000 residents
Shuffleboard Courts	- each per - residents	1 each per 15,000 residents
Picnic Areas/ Pavilions	1 each per 5,000 residents	1 each per 5,000 residents
Rec. Centers/ Indoor Facility	2,000 sq. ft. per 1,000 residents	2,500 sq. ft. per 1,000 residents
Concessions/ RR Buildings	1 per 6,000 residents	1 per 2.4 Athletic Fields
Maintenance Facilities	- per – District Park	1 per 1 District Park

Sources: Nelson 1992; Betz 2000.

Table 11.24
Current Deficiencies, Parks and Recreation Facilities
Based on Year 2000 LOS Standards in the Year 2000

	LOS Standard	Year 2000 Supply	Year 2000 Deficiency
Land Area			
Parks--Acreage	9.0 acres per 1,000 residents	411.5	254.5
Facilities			
Ball Fields*	1 each per 2,000 residents	26	11
Football Fields*	1 each per 20,000 residents	1	3
Soccer Fields*	1 each per 5,000 residents	11	4
Tennis Courts**	1 each per 2,000 residents	28	9
Multi-Purpose Courts	1 each per 6,000 residents	14	(2)
Running Tracks	1 each per 20,000 residents	2	2
50m Swimming Pools	1 each per 50,000 residents	1	0
Play Fields	1 each per 8,000 residents	5	4
Playgrounds	1 each per 6,000 residents	8	4
Horseshoe Courts	1 each per 15,000 residents	-	5
Shuffleboard Courts	1 each per 15,000 residents	-	5
Picnic Areas/Pavilions***	1 each per 5,000 residents	12	3
Rec. Centers/ Indoor Facility****	2,500 sq. ft. per 1,000 residents	146,600	38,400
Concessions/ RR Buildings	1 per 2.4 Athletic Fields	15	9
Maintenance Facilities	1 per District Park	4	3

Source: Table is derived from the 2005 Parks and Recreation Master Plan.

*Each athletic field includes 65 parking spaces.

**Each court includes 5 parking spaces.

***Each facility includes 1 pavilion and 8 picnic tables/grills.

****Includes 1 parking space per 250 sf of floor area. Note: category also includes activity/arts buildings.

Table 11.25
Cost of Projects to Remedy Year 2000 Deficiency
Parks and Recreation Facilities

	Current Supply	Year 2000 Deficiency	Cost per Unit*	Cost to Remedy Deficiency**
Land Area				
Parks--Acreage	411.5	254.5	\$176,837	\$45,005,032
Facilities				
Ball Fields	26	11	\$341,000	\$3,751,000
Football Fields	1	3	\$462,000	\$1,247,400
Soccer Fields	11	4	\$455,000	\$1,729,000
Tennis Courts	28	9	\$55,000	\$495,000
Multi-Purpose Courts	14	(2)	\$42,000	\$0
Running Tracks	2	2	\$230,000	\$391,000
50m Swimming Pools	1	0	\$5,000,000	\$2,400,000
Play Fields	5	4	\$91,000	\$386,750
Playgrounds	8	4	\$160,000	\$693,333
Horseshoe Courts	-	5	\$2,200	\$10,853
Shuffleboard Courts	-	5	\$2,500	\$12,333
Picnic Areas/Pavilions	12	3	\$41,200	\$115,360
Rec. Centers/ Indoor Facility	146,600	38,400	\$109.24	\$4,194,816
Concessions/ RR Buildings	15	9	\$283,000	\$2,547,000
Maintenance Facilities	4	3	\$130,000	\$390,000
Total 'Remediation' Project Costs				\$63,368,878

Source: Derived from Table 11.24

*Costs are taken from the 2005 Recreation and Parks Master Plan.

**Development impact fees cannot be used to remedy existing deficiencies.

Service Area

The service area for parks and recreation service is the city limits of Roswell. This is based in part on the relatively compact nature of the City's geographic extent, and on the internal linkages proposed between park facilities. Pedestrian and bike trails will increase the connectivity of the park system, and cannot be realistically divided into service sub-areas. Further, the park system provides a variety of facility types throughout the City, rather than concentrating certain services in certain areas. Also, organized recreation activities, such as softball leagues, use various facilities in the City, based on each team's schedule.

Future Demand

Future demand is calculated by applying the LOS standards from Table 11.23 to the new growth forecast for the City. Between the years 2000-2020, 11,519 new residents will be added to the

City. Table 11.26 is a summary of the cost of projects required to serve the demands of new growth to the year 2020.

**Table 11.26
 Cost of Capital Improvements to Serve New Growth, 2000-2020
 Parks and Recreation Facilities**

	Net New Growth Demand 2000-2020	Cost per Unit*	Cost for New Facilities to Meet LOS Standard in 2020
Land Area			
Parks—Acreage	112.7	\$176,837	\$19,924,408
Facilities			
Ball Fields	6	\$341,000	\$2,046,000
Football Fields	0	\$462,000	\$0
Soccer Fields	2	\$455,000	\$910,000
Tennis Courts	6	\$55,000	\$330,000
Multi-Purpose Courts	0	\$42,000	\$0
Running Tracks	0	\$230,000	\$0
50m Swimming Pools	0	\$5,000,000	\$0
Play Fields	2	\$91,000	\$182,000
Playgrounds	2	\$160,000	\$320,000
Horseshoe Courts	1	\$2,200	\$2,200
Shuffleboard Courts	1	\$2,500	\$2,500
Picnic Areas/Pavilions	2	\$41,200	\$82,400
Rec. Centers/ Indoor Facility	31,298	\$109.24	\$3,418,994
Concessions/RR Buildings	3	\$283,000	\$849,000
Maintenance Facilities	1	\$130,000	\$130,000
Total 'New Growth' Project Costs			\$28,197,502

Source: New growth demand is derived from Tables 11.5 and 11.24; *costs are taken from the 2005 Recreation and Parks Master Plan.

Impact Fee Calculation

Under the updated LOS standards, the City has excess capacity in one facility category: multi-purpose courts. This excess capacity is not required by the demands of new growth over the next 20 years. As such, the construction costs of these courts cannot be recouped from new development. The total impact cost that is recoverable from new growth is the sum of the projects from Table 11.26. The calculation of total impact cost per unit is the product of the total costs attributable to new growth, divided by the number of new dwelling units expected between 2000 and 2020 ($\$28,197,502/3,138 = \$8,985.82$ per dwelling). This is the cost per dwelling unit to provide parks and recreation services to new development in the City.

From Table 11.13, the credit applicable to parks and recreation facilities is \$713,621. In addition, the current balance of the parks impact fee fund is \$1,085,387. The total project costs,

from Table 11.26, minus the credit and fund balance amounts, yields the amount that can be raised through impact fees (\$28,197,502 - \$1,799,008 = \$26,398,494). This figure, divided by the net increase in dwelling units between 2000 and 2020, produces the impact fee charge (\$26,398,494/3,138 = \$8,412.52 per dwelling). This is the maximum allowable impact fee charge.

The City has determined that the future impact fee charges should be based upon the anticipated impact fee revenue projection under the 1992 program. Based on historic trends, the expectation is that the parks and recreation impact fees will provide \$2 million in funding over the next 5 years. The number of new housing units expected in the City over the next 5 years is 1,535 (\$2,000,000/1,535⁹ = \$1,302.93 per dwelling). This modified impact fee is used to produce the final impact fee charges shown in Table 11.27.

**Table 11.27
 Parks and Recreation Service Impact Fee Schedule**

Land Use Classification	Unit of Measure	Parks and Recreation Service Impact Fee
Residential Detached	dwelling	\$1,302.93
Residential Attached	dwelling	\$1,302.93

Funding

Through December 31, 1999, the City collected \$3,956,777.94 in parks and recreation facility impact fees. Of this amount, \$2,871,390.60 has been expended on projects, leaving \$1,085,387.34 in the City’s parks and recreation facility impact fee trust fund. Revenues from these impact fees have ranged from \$400,000 to \$800,000 annually, with an average of \$500,000 per year. The City has determined that the historic annual average impact fee collection shall be the basis for expected impact fee revenues, anticipating a total of \$2 million to be collected over the next 5 years.

TRANSPORTATION

Roadway LOS is expressed in a series of letter grades, “A” through “F”, that denote the congestion and speed of a given roadway segment¹⁰. The previous LOS standard for Roswell transportation facilities was based on vehicles per lane mile per peak hour demand, converted to an average daily demand, and was intended to maintain a system-wide roadway LOS of “D”, dependent upon an average of the LOS “letter grade” of the various road segments that make up the City’s road network. A list of projects was proposed that would maintain this LOS standard for the entire road network. Based on calculations carried out by the City’s transportation consultant, the road network LOS in 2000 is “D”; no current deficiency exists. In a pure sense, many factors in combination determine the level-of-service at highway intersections and on segments. These factors include mobility attributes like: amount of delay, average speed, fluctuation of speed, safety, convenience, and freedom to maneuver. In practice, however, transportation planners and engineers evaluating system performance over a large area typically compare the number of vehicles using a particular facility for a given time

⁹ The figure of 1,535 dwelling units is drawn from Table 11.11.

¹⁰ These letter grades are described in more detail in the 1995 *Florida Department of Transportation Level of Service Manual*, as well as the *Highway Capacity Manual*.

period with the design capacity of that facility. This statistic is referred to as the volume-to-capacity ratio. As such, the key determinants in computing level-of-service are volume and capacity.

In order to continue to use a system-wide LOS standard, the new level of service is based upon a ratio of volume to capacity (v/c). In 1994, the v/c ratio was 0.67 for the entire street network; in 2000, the v/c ratio is 0.77.¹¹ The calculations involved in computing lane capacity are described below; the generation of future traffic volume was made through a modeling process, while the current volume figures were derived from traffic counts.

Lane Capacity Calculations

The City of Roswell’s thoroughfare network is comprised of three different street types, which are distinguished from each other according to function. There are controlled access freeway facilities, like Georgia 400. There are arterial streets, which provide a means to get from one section of the City to another, like Woodstock/Crossville/Holcomb Bridge Road. Then there are collector roads, like Crabapple/Canton or Houze Way that bridge local subdivision streets and arterial streets.

The 1997 Highway Capacity Manual (NCHRP Special Report 209), published by the Transportation Research Board in 1998, provides standards for traffic engineering and transportation planning. Guidelines for capacity calculations on urban collector and arterial streets are found in Section 9, “Signalized Intersections - Urban Streets”. In planning studies such as this, the following formula for estimating lane capacity on collector and arterial streets is:

$$c = 1,800 \times N \times (g/C)$$

Where, c = Lane Capacity
 N = Number of Lanes
 g/C = Green Time to Cycle Length Ratio

Directional, per lane, per hour capacities for collectors and arterials are shown in the table below. The g/C ratio is a generalized average representing the percentage of green time allocated to through movements at intersections on each of the City’s major thoroughfares. Collector street g/C percentages are usually lower, in comparison with arterials. In this study, collector streets are assumed to get 45 percent of the green time while arterials are given 55 percent.

**Table 11.28
 Collector and Arterial Capacity**

Capacity Variables	Collector	Arterial
Saturation flow rate	1,800 passenger cars per hour per lane	1,800 passenger cars per hour per lane
Number of Lanes	1	1
g/C ratio	0.45	0.55
Capacity	810 vehicles per hour (vph)*	990 vehicles per hour(vph)*

* These values represent maximum saturation flow rate capacities, not LOS “D”.

¹¹ Both of which fall into the range of LOD “D”.

Since the level-of-service standards were set at LOS “D” in the 1994 Road Impact Fees Report, the capacity calculation shown in the preceding table needs to be adjusted to represent the maximum service volume at LOS “D”. The capacity (or maximum service volume) of one lane of an arterial at LOS “D” is estimated to be 891 vehicles per hour (vph). This is based on the guideline that the LOS “D” capacity is approximately 90 percent of the maximum saturation flow rate. Using the same logic, the per-lane LOS D capacity for a collector street is computed to be 729 vph.

One more adjustment to the hourly, per lane capacities is needed to compute levels-of-service on the City’s roadway network. Traffic volumes on the roads are calculated in terms of daily traffic. Therefore, hourly capacities are expanded by a peak hour volume to daily traffic volume factor that converts them to their equivalent daily per lane capacities. This is accomplished by dividing the hourly capacities by 0.09 or 9.0 percent. This factor is representative of peaking conditions on typical urban roadways in outlying areas (such as Roswell) of a major city similar in size to Atlanta.

Applying the peak-to-daily traffic conversion factor to each per hour LOS “D” capacity, results in the following equivalent daily capacities: 8,100 vehicles per day (vpd) for collector; and 9,900 vpd for arterials. These capacity figures were subsequently used in the transportation model used to calculate the current and future road network v/c ratios.

Changes from the 1992/1994 Methodology

The system-wide average daily level of service standard was set at the existing (1992) service level because it obviated the need for the City to address any existing system deficiencies. As noted in the 1994 report, a “system-average” standard is based on the overall operating condition of the entire roadway system, while a “link-specific” standard requires all roadway links to function at a minimum operational level (Growth Management Analysts, Inc. 1994). The major weaknesses inherent in using a link-specific standard is that many individual road segments are already operating at undesirable levels and any deficiencies must be remedied within a reasonable period of time using non-impact fee revenues. It was problematic then, and it still is now, to establish a link-based system that obligates the City to pay for existing deficiencies. Furthermore, existing deficiencies might not be able to be remedied, (e.g., the road is already six lanes with no additional widening possible). Yet another problem with the link-based system is that revenues received from the link-specific approach would be insufficient to maintain levels of service.

The 1994 report justifies the “average daily travel” level of service standard, as opposed to use of a “peak hour” standard, because of the following: an increasing number of land uses are operating on extended hours, with a growing number of 24-hour operations; employers are engaging in transportation demand strategies to shift traffic away from peak periods; and the peak period is becoming more attenuated over time (Growth Management Analysts, Inc. 1994).

The 1992 impact fee program calculations for road impact fees were based upon a dollar value per ‘trip mile’. The total cost of new projects was divided by the total number of lane-miles of new capacity being added to the road network system to produce a ‘cost per lane-mile’ figure. Data were gathered as to the number of miles traveled, based on trip purpose, for various land use categories. (This is the product of the average miles traveled per trip, and the average number of trips generated, by land use). For each land use category the impact fee was

calculated by multiplying the average number of miles traveled by the average cost per lane-mile for new construction.

The specific calculation of trip miles in the 1992 program is, however, also problematic. The average trip miles, by trip purpose, were derived from data on the trips internal to Roswell only. Data were drawn from 656 responses to a survey. (Of the 2,440 total survey responses, 1,854 persons provided information on their trips, but only 656 of these persons lived and worked in the City). This number of responses represents about 1.32 percent of the population at that time, and should not necessarily be taken as representative of the entire population. Trips originating in the City but ending elsewhere, or trips that enter and terminate in the City, were not a part of the calculations. Further, the trip miles were generated based upon the central point of each traffic analysis zone (TAZ). Actual trip distances could therefore vary by the width of an individual TAZ. With trip mile generation rates as low as 3.061 miles (retail land uses), this is an unacceptably large margin of error.

Trip mile calculations are, in the end, less reliable than trip generation calculations. Where the number of miles traveled will vary with changes in the location of destinations (work, school, store), the number of trips generated by specific land use categories will remain fairly constant. When a person changes jobs, for instance, the miles traveled to work may change, but one trip to work will still be generated. Likewise, traffic congestion produces changes in travel patterns. A heavily congested street may be avoided, changing the miles traveled but still representing one trip generated. For this reason, the 2000 impact fee program uses calculations based upon trip generation, rather than miles traveled.

The 1992 impact fee program adjusted trip generation rates to reflect net leaseable, as opposed to gross leaseable, square footage for non-residential land uses. This was based upon an unexplained "concern about how individual analysts actually calculate trip generation rates" (Growth Management Analysts 1994, 17). The ITE Trip Generation Manual 5th Edition, long regarded as an industry standard, is used to make trip generation calculations in the 2000 impact fee program. These trip generation figures are based on average trips generated, by land use category, for a specific unit of measure. The unit of measure, square feet for example, is based upon typical building use for the specific land use category, and needs no further adjustment.

Level of Service Standard

Due to the complexity and changing nature of transportation facility planning, as well as to changes that may follow federal approval of a regional transportation plan, annual review of the LOS standard for transportation facilities is more critical than it may be for other service categories. With this in mind, Roswell has adopted an average daily system-wide v/c ratio of 0.77 as the LOS standard for 2001, which applies to both existing and new development, for the entire major street network. Table 11.29 presents the suggested LOS standards to be adopted over the next 20 years. These standards should be revisited annually, to reflect any new information or changes in transportation plans.

**Table 11.29
 Proposed Future Transportation LOS Standards,
 2001-2020**

Year	Total Trips	LOS Standard (v/c ratio)
2001	245,074	0.77
2002	249,899	0.78
2003	254,758	0.80
2004	259,653	0.81
2005	264,583	0.82
2006	268,537	0.84
2007	272,518	0.85
2008	276,524	0.86
2009	280,555	0.88
2010	284,612	0.89
2011	288,757	0.90
2012	292,929	0.91
2013	297,127	0.93
2014	301,351	0.94
2015	305,601	0.95
2016	309,796	0.97
2017	314,016	0.98
2018	318,262	0.99
2019	322,533	1.01
2020	326,829	1.02

Source: Total trips are drawn from Table 11.30; v/c ratio is a straight-line calculation based on the year 2000 and 2020 outputs of the transportation model run by the City's transportation consultant.

Service Area

Roswell's 1992 roads impact fee system (Growth Management Analysts, Inc. 1994) was based on a single service area based on the following rationale:

"The major roadway network functions as an integrated system designed to move traffic efficiently from one part of the community to another. In Roswell, most new development is occurring in the relatively undeveloped areas to the north, northwest, and east, while major travel destinations are still toward the south to downtown and north Perimeter areas. Thus, trips that originate in Roswell may have destinations a considerable distance away outside the City. However, the rise of Northpoint Mall and the edge city emerging in Alpharetta may alter trip behavior over time. In addition, there do not appear to be major differences in travel characteristics within the City. According to 1990 U.S. Census data, for example, workers living in northeast Roswell had an average travel time to work that was only slightly more than ten percent greater than that of workers residing in the more developed areas of the community (31 versus 28 minutes, respectively). For these reasons, the entire jurisdiction may appropriately be designated as a single service area for the major roadway network" (Growth Management Analysts, Inc. 1994).

Drawing on this same rationale, the service area for the 2000 impact fee program is the city limits.

Future Demand

In order to determine the number of future trips attributable to new growth several calculations must be done. First, the average number of trips per person is calculated. This is based upon functional population. In Table 11.30, the average number of trips per person is calculated for the years 2000 to 2020. This figure is based on the number of trips forecast for each year, divided by the forecasted functional populations for that year.

The trip average is next applied to the current and projected populations to determine the number of new trips being served by the road network to the year 2020; this is shown in Table 11.31. By establishing the base-year functional population as 109,398 (year 2000 from Table 11.30), we can calculate the number of trips, per year, generated by existing development. The difference between the total trips generated and those generated by the base population, is the new trips generated. These are calculated on an annual basis since, as is shown in Table 11.30, the trip average figure changes over time.

**Table 11.30
 Average Trips per Functional Population, 2000-2020**

Year	Population	Employment	Functional Population	Total Trips*	Average Trip per Functional Population**
2000	75,000	34,398	109,398	240,287	2.1964
2001	75,905	35,400	111,305	245,074	2.2071
2002	76,811	36,402	113,213	249,899	2.2178
2003	77,717	37,404	115,121	254,758	2.2285
2004	78,623	38,406	117,029	259,653	2.2392
2005	79,529	39,408	118,937	264,583	2.2499
2006	79,988	40,228	120,216	268,537	2.2606
2007	80,447	41,048	121,495	272,518	2.2713
2008	80,907	41,868	122,775	276,524	2.2820
2009	81,366	42,688	124,054	280,555	2.2927
2010	81,825	43,508	125,333	284,612	2.3034
2011	82,312	44,120	126,432	288,757	2.3141
2012	82,798	44,733	127,531	292,929	2.3247
2013	83,285	45,345	128,630	297,127	2.3354
2014	83,771	45,958	129,729	301,351	2.3461
2015	84,258	46,570	130,828	305,601	2.3568
2016	84,710	47,072	131,782	309,796	2.3675
2017	85,162	47,574	132,736	314,016	2.3782
2018	85,615	48,075	133,690	318,262	2.3889
2019	86,067	48,577	134,644	322,533	2.3996
2020	86,519	49,079	135,598	326,829	2.4103

Source: Functional population is from Table 11.5; trip figures are derived from the City's transportation consultant traffic model.

*Total trips include all trips that originate in Roswell, those that terminate in Roswell, and those that both originate and terminate in the City.

**Trip average is the number of trips forecast for the specific year divided by the functional population forecast for that year.

**Table 11.31
 Trip Generation Forecast, 2001-2020**

Year	Trip Average	Base Functional Population	Base Trips Generation	New Functional Population	New Trips Generation
2000*	2.1964	109,398	240,287	-	-
2001	2.2071	109,398	241,457	1,639	3,618
2002	2.2178	109,398	242,626	1,640	7,255
2003	2.2285	109,398	243,796	1,640	10,910
2004	2.2392	109,398	244,966	1,640	14,582
2005	2.2499	109,398	246,135	1,640	18,272
2006	2.2606	109,398	247,305	1,193	20,970
2007	2.2713	109,398	248,474	1,193	23,680
2008	2.2820	109,398	249,644	1,193	26,403
2009	2.2927	109,398	250,814	1,193	29,139
2010	2.3034	109,398	251,983	1,193	31,887
2011	2.3141	109,398	253,153	1,221	34,712
2012	2.3247	109,398	254,323	1,221	37,549
2013	2.3354	109,398	255,492	1,221	40,400
2014	2.3461	109,398	256,662	1,221	43,264
2015	2.3568	109,398	257,832	1,221	46,141
2016	2.3675	109,398	259,001	1,186	48,949
2017	2.3782	109,398	260,171	1,186	51,770
2018	2.3889	109,398	261,340	1,186	54,604
2019	2.3996	109,398	262,510	1,186	57,451
2020	2.4103	109,398	263,680	1,186	60,310
TOTALS			5,051,363		661,866

Source: Functional population is from Table 11.5; trip generation is derived from the figures calculated in Table 11.30.
 *2000 is the base year. Totals do not include trips generated in the year 2000.

Impact Fee Calculation

From the trip-year totals calculated in Table 11.31 we can determine that 13.10 percent of all trips generated between the years 2000 and 2020 will be attributable to new growth (661,866/5,051,363 = 0.1310).

The costs of transportation projects on which the impact fee for transportation was originally based are summarized here in Table 11.32. These were drawn from the short, medium, and long-term work programs listed in the 2020 Comprehensive Plan and have been updated as necessary since the 2020 Plan was adopted.

**Table 11.32
 Transportation Project Costs**

Time Period	Type of Projects	Local Cost of Projects*
Short-Term (FY 2001-2005)	Signalization/ATMS	\$900,000
	Intersections	\$14,387,235
	Road Addition/Widening	\$3,930,000
	Subtotal:	\$19,217,235
Mid-Range (FY 2006-2010)	Signalization/ATMS	\$275,000
	Intersections	\$1,080,000
	Road Addition/Widening	\$10,800,000
	Subtotal:	\$12,155,000
Long-Range (FY 2011-2020)	Signalization/ATMS	\$550,000
	Road Addition/Widening	\$6,000,000
	Subtotal:	\$6,550,000
	Total	\$37,922,235

Source: Projects and costs are derived from Tables 12.1, 12.2, and 12.3. Only projects that are impact fee eligible are included.

*Excludes grant funds and GA DOT participation.

This figure is then multiplied by the percent of trips between 2000 and 2020 that are generated by new growth—and therefore the percentage of total project costs that provide new capacity—as derived from Table 11.30 (\$37,922,235 X 13.10 percent = \$4,967,813). From Table 11.13, the credit to be applied to transportation facilities is \$751,715. (Credit for gasoline tax contribution is already given in that non-local funding—state and federal funds—is not included in the project cost calculations.) In addition, the road impact fee fund has a current balance of \$3,577,988. The credit and fund balance are subtracted from the total cost of projects shown in Table 11.31 to calculate the amount to be funded through impact fee collection (\$4,967,813 - \$4,329,703 = \$638,110). This figure is then divided by the number of trips attributable to new growth forecast to be generated in the year 2020, to produce an average cost per trip. By 2020, 60,310 trips will be generated by new development (Table 11.31, last row). Thus, the net impact fee cost of \$638,110/60,310 = \$10.58 per trip.

Based upon an assessment made by the City's transportation consultant, the future trips attributable to residential land uses make up 40 percent of the total future trips, with non-residential land uses generating 60 percent of the total future trips. This allocation could be calculated for project costs or, as is done here, it can be calculated based on the per trip cost, itself calculated from project costs. The allocation is based upon the consultant's calculation of trip purpose, derived from the transportation model used to create the transportation improvements listed in Chapter 12. Using this information, the average per trip cost is refined to reflect an allocation based on general land use categories.¹² The resulting figures are \$8.46 per trip for residential land use, and \$12.70 per trip for non-residential land use. In Table 11.33, the allocated cost per trip is applied to the average trip generation by general land use

¹² The equation used for this calculation is: $1.5x + x = \$21.16$. Solving for x : $1.5x + x = \$21.16$
 $2.5x = \$21.16$ $x = \$8.46$ $1.5x = \$12.70$.

classification, as derived from the ITE's Trip Generation, 5th Edition, to produce an impact fee schedule for transportation facilities.

**Table 11.33
 Transportation Services Impact Fee Schedule (2000)**

Land Use Classification	Trips Generated	Unit of Measure	Cost per Trip	Impact Fee per Unit of Measure
Residential Detached	9.55	Dwelling	\$8.46	Note: see later table for updated fees
Residential Attached	6.47	Dwelling	\$8.46	
Apparel Store	66.40	1000 sq. ft.	\$12.70	
Auto Parts Store	61.91	1000 sq. ft.	\$12.70	
Building Materials and Lumber Store	39.71	1000 sq. ft.	\$12.70	
Church	9.11	1000 sq. ft.	\$12.70	
Convenience Market (Open 15-16 Hours)	634.20	1000 sq. ft.	\$12.70	
Convenience Market (Open 24 Hours)	737.99	1000 sq. ft.	\$12.70	
Convenience Market with Gasoline Pumps	845.60	1000 sq. ft.	\$12.70	
Day Care Center	79.26	1000 sq. ft.	\$12.70	
Discount Club	41.80	1000 sq. ft.	\$12.70	
Drive-in Bank	265.21	1000 sq. ft.	\$12.70	
Electronics Superstore	45.04	1000 sq. ft.	\$12.70	
Factory Outlet Center	26.59	1000 sq. ft.	\$12.70	
Fast-Food Restaurant	496.12	1000 sq. ft.	\$12.70	
Free-Standing Discount Store	56.63	1000 sq. ft.	\$12.70	
Free-Standing Discount Superstore	46.96	1000 sq. ft.	\$12.70	
Furniture Store	5.06	1000 sq. ft.	\$12.70	
General Office Building	11.01	1000 sq. ft.	\$12.70	
Hardware/Paint Store	51.29	1000 sq. ft.	\$12.70	
High Turnover Restaurant	130.34	1000 sq. ft.	\$12.70	
High-Turnover (Sit-Down) Restaurant	130.34	1000 sq. ft.	\$12.70	
Home Improvement Superstore	35.05	1000 sq. ft.	\$12.70	
Hospital	16.78	1000 sq. ft.	\$12.70	
Hotel/Motel	8.92	room	\$12.70	
Industrial	6.97	1000 sq. ft.	\$12.70	
Lodge/Fraternal Organization	46.90	employee	\$12.70	
Medical Office	36.13	1000 sq. ft.	\$12.70	

Table 11.33. Transportation Services Impact Fee Schedule (cont.)

Land Use Classification	Trips Generated	Unit of Measure	Cost per Trip	Impact Fee per Unit of Measure
Mini-Warehouse	2.50	1000 sq. ft.	\$12.70	Note: see later table for updated fees
Movie Theater	78.06	1000 sq. ft.	\$12.70	
New Car Sales	37.50	1000 sq. ft.	\$12.70	
Nursery (Garden Center)	36.08	1000 sq. ft.	\$12.70	
Nursery (Wholesale)	39.00	1000 sq. ft.	\$12.70	
Nursing Home	2.61	bed	\$12.70	
Pharmacy/Drugstore	88.16	1000 sq. ft.	\$12.70	
Private School (K-12)	5.50	1000 sq. ft.	\$12.70	
Quality Restaurant	89.95	1000 sq. ft.	\$12.70	
Quick Lubrication Vehicle Shop	40.00	service bay	\$12.70	
Recreational Community Center	22.88	1000 sq. ft.	\$12.70	
Self-Service Car Wash	108.00	stall	\$12.70	
Shopping Center	16.76	1000 sq. ft.	\$12.70	
Specialty Retail Center	40.67	1000 sq. ft.	\$12.70	
Supermarket	111.51	1000 sq. ft.	\$12.70	
Tire Store	24.87	1000 sq. ft.	\$12.70	
Warehouse	4.96	1000 sq. ft.	\$12.70	
Wholesale Market	6.73	1000 sq. ft.	\$12.70	
Wholesale Tire Store	20.36	1000 sq. ft.	\$12.70	

Source: Residential figures are from Table 3.8, employment figures are derived from ITE Trip Generation Manual, 5th Edition; trip generation is based on weekday trip ends, as derived from ITE's Trip Generation Manual, 5th Edition.

Funding

When the 1992 impact fee program was adopted, future transportation projects were to be funded through general fund expenditures. This was done in order to begin construction without waiting for impact fee revenues to build up. With this in mind, the 1992 program applied a credit based upon future property tax contributions to the general fund that would be used to fund impact fee eligible projects. This was unnecessary in that the general fund expenditures should have been reimbursed by impact fees for any transportation projects that provided new system capacity for new development. The list of transportation projects in the 1992 program were characterized as providing new capacity, not as addressing an existing deficiency, and were therefore 100 percent impact fee eligible. The credit was further adjusted to reflect the make-up of the tax digest. Residential property, representing a larger portion of the tax digest than non-residential property, was given a larger credit. This assumed that the proportionate mix of residential and non-residential development would remain constant over time. Instead, a future tax contribution figure should have been calculated based on tax base value added by new growth, and a credit should have been applied based upon that future contribution. As a result of the adjusted credit, the impact fee calculations in the 1992 report produced an impact fee too low to pay for the improvements demanded by new growth.

Additionally, the conversion of gross leaseable space into net leaseable space for non-residential land uses in the 1992 program underestimated the real impact of these land uses on the transportation network as established by the Institute of Transportation Engineers. This resulted in a reduction of the calculated trip generation for these land uses, and consequently an underestimation of the impact fee for non-residential land uses. Again, the resulting impact fee was too low to generate the total funds necessary to provide service to meet new growth demands.

Through December 31, 1999, the City collected \$6,474,331.52 in transportation impact fee revenues. Of the fees collected, approximately \$2,896,343.12 has been expended, leaving a balance of \$3,577,988.40. Transportation impact fee revenues have ranged from \$500,000 to more than \$1,000,000 annually, with an average of about \$700,000 per year.

OTHER SERVICE CATEGORIES

Two additional service categories were included in the 1992 Development Impact Fee Program Report and are re-evaluated below. Neither category is currently included in the impact fee program, for reasons discussed in each section below.

Libraries

The 1992 adopted level of service for library facilities in Roswell was 0.30 square feet per resident. This was based on the State of Georgia minimum standard. Table 11.34 shows the present and future demand for library facility space, based upon the adopted 1992 LOS.

**Table 11.34
 Library Facility Space Demand, 2000-2020**

Year	Residential Population	Square Feet Demanded	Future Demand In SF*
2000	75,000	22,500	800
2005	79,529	23,859	2,159
2010	81,825	24,548	2,848
2015	84,258	25,277	3,577
2020	86,519	25,956	4,256

*Based on an LOS of 0.30 SF per resident and a current inventory of 21,700 SF.

Under the adopted 1992 LOS, the deficiency in the year 2000 is 800 square feet. The library building was built and is maintained by Fulton County on approximately 1.5 acres of land provided by the City of Roswell. The future demand for facility square footage could be met by an expansion of the current facility, or through the construction of a new facility elsewhere in the City. There is sufficient room on the existing site to accommodate an expansion of the library. However, Roswell does not own or operate any library facilities. Impact fees are not being charged by the City for library services. To do so would require an intergovernmental agreement between the City and the Atlanta-Fulton County Library System.

Because all of Roswell is served by one branch library building, it is appropriate that a single library service area be drawn citywide. Typically, library impact fees are charged only to residential developments. In the case of the Atlanta-Fulton County Library System, only

residents are permitted to check out books. However, nonresidents employed in the City are admitted to library facilities, and it is reasonable to assume that such nonresidents will occasionally use the public library. Under the principle that development should be charged for the demands it creates, Beatley (1988) argues that “in most cases, in the absence of compelling arguments to the contrary, impact fees [including libraries] should be assessed broadly to all such [including commercial and industrial] uses.” As with other service categories, such as parks, the non-residential demand is too small to warrant inclusion in impact fee calculations.

Water

Since the 1992 report, water consumption in Roswell has risen from an average of 1.2 million gallons per day (MGD) in 1990 to an average of 7.8 MGD in 2000. 1.95 MGD of the current demand is supplied through the Cecil Wood treatment facility; the remaining water comes from Fulton County. The Cecil Wood facility needs to be upgraded in order to continue operation under the Safe Drinking Act. In this case, the upgrading of an existing facility addresses a current deficiency and cannot be charged to new growth. However, any excess capacity that exists now, or that is created through the upgrade construction, is chargeable to new growth. Also, improvements in the water system infrastructure to serve new growth are eligible for impact fee inclusion.

SUMMARY IMPACT FEE SCHEDULE

Table 11.35 is a summary of the new level of service standards, as adopted in 2000. Table 11.36 presents a summary of the impact fee charges, based on land use classification. The impact fee charge for each land use category is the total of the service category charges, plus a 3 percent charge for the administration of the program.

**Table 11.35
 Level of Service Standards, 2000 Impact Fee Program**

	Public Safety Facilities	Transportation Facilities	Parks and Recreation Facilities
Level of Service Standard	1,017.10 SF and 0.236 heavy vehicles per 1,000 functional population	Year 2001: Volume/capacity ratio of 0.77	Various, based on acreage and facilities (see Table 11.23)

Table 11.36
City of Roswell
Development Impact Fee Schedule, Revised 2003

Land Use Classification	Public Safety	Parks and Recreation	Transportation	Admin Fee*	Impact Fee
Residential Detached	\$533.02	\$1,302.93	\$161.68	\$59.93	\$2,057.56 per dwelling
Residential Attached	\$362.15	\$1,302.93	\$109.54	\$53.24	\$1,827.86 per dwelling
Apparel Store	\$310.15	-	\$1,685.90	\$59.88	\$2,055.93 per 1000 sq. ft.
Auto Parts Store	\$178.29	-	\$1,571.89	\$52.51	\$1,802.69 per 1000 sq. ft.
Building Materials and Lumber Store	\$273.01	-	\$1008.24	\$38.44	\$1,319.69 per 1000 sq. ft.
Church	\$96.57	-	\$231.30	\$9.84	\$337.71 per 1000 sq. ft.
Convenience Market\ (Open 15-16 Hours)	\$325.01	-	\$16,102.34	\$492.82	\$16,920.17 per 1000 sq. ft.
Convenience Market\ (Open 24 Hours)	\$334.30	-	\$18,737.57	\$572.16	\$19,644.03 per 1000 sq. ft.
Convenience Market with Gasoline Pumps	\$334.30	-	\$21,469.78	\$654.12	\$22,458.20 per 1000 sq. ft.
Day Care Center	\$471.73	-	\$2,012.41	\$74.52	\$2,558.66 per 1000 sq. ft.
Discount Club	\$241.44	-	\$1,061.30	\$39.08	\$1,341.82 per 1000 sq. ft.
Drive-in Bank	\$676.02	-	\$6,733.68	\$222.29	\$7,631.99 per 1000 sq. ft.
Electronics Superstore	\$178.29	-	\$1,143.57	\$39.66	\$1,361.52 per 1000 sq. ft.
Factory Outlet Center	\$310.15	-	\$675.12	\$29.56	\$1,014.83 per 1000 sq. ft.
Fast-Food Restaurant	\$2,204.35	-	\$12,596.49	\$438.63	\$15,059.47 per 1000 sq. ft.
Free-Standing Discount Store	\$364.01	-	\$1,437.84	\$54.06	\$1,855.91 per 1000 sq. ft.
Free-Standing Discount Superstore	\$178.29	-	\$1,192.31	\$41.12	\$1,411.72 per 1000 sq. ft.
Furniture Store	\$78.00	-	\$128.47	\$6.19	\$212.66 per 1000 sq. ft.
General Office Building	\$616.59	-	\$279.54	\$26.88	\$923.01 per 1000 sq. ft.

Land Use Classification	Public Safety	Parks and Recreation	Transportation	Admin Fee*	Impact Fee
Hardware/Paint Store	\$178.28	-	\$1,302.25	\$44.42	\$1,524.96 per 1000 sq. ft.
High Turnover Restaurant	\$1,385.47	-	\$3,309.33	\$140.84	\$4,835.64 per 1000 sq. ft.
High-Turnover (Sit-Down) Restaurant	\$1,385.47	-	\$3,309.33	\$140.84	\$4,835.64 per 1000 sq. ft.
Home Improvement Superstore	\$178.29	-	\$889.92	\$32.05	\$1,100.26 per 1000 sq. ft.
Hospital	\$603.59	-	\$426.04	\$30.89	\$1,060.52 per 1000 sq. ft.
Hotel/Motel	\$115.05	-	\$226.48	\$10.25	\$351.88 per Room
Industrial	\$429.01	-	\$176.97	\$18.18	\$624.16 per 1000 sq. ft.
Lodge/Fraternal Organization	\$185.72	-	\$1,190.79	\$41.30	\$1,417.81 per employee
Medical Office	\$752.17	-	\$917.34	\$50.09	\$1,719.60 per 1000 sq. ft.
Mini-Warehouse	\$7.43	-	\$63.48	\$2.13	\$73.04 per 1000 sq. ft.
Movie Theater	\$278.58	-	\$1,981.94	\$67.82	\$2,328.34 per 1000 sq. ft.
New Car Sales	\$328.72	-	\$952.13	\$38.43	\$1,319.28 per 1000 sq. ft.
Nursery (Garden Center)	\$302.72	-	\$916.07	\$36.56	\$1,255.35 per 1000 sq. ft.
Nursery (Wholesale)	\$310.15	-	\$990.21	\$39.01	\$1,339.37 per 1000 sq. ft.
Nursing Home	\$120.72	-	\$66.27	\$5.61	\$192.60 per bed
Pharmacy/Drugstore	\$310.15	-	\$2,238.38	76.46	\$2,624.99 per 1000 sq. ft.
Private School (K-12)	\$1,502.47	-	\$139.65	\$49.26	\$1,691.38 per 1000 sq. ft.
Quality Restaurant	\$1,385.47	-	\$2,283.83	\$110.08	\$3,779.38 per 1000 sq. ft.
Quick Lubrication Vehicle Shop	\$390.01	-	\$1,015.60	\$42.17	\$1,447.78 per service bay
Recreational Community Center	\$156.00	-	\$580.92	\$22.11	\$759.03 per 1000 sq. ft.
Self-Service Car Wash	\$37.14	-	\$2,742.12	\$83.38	\$2,862.64 per stall

Land Use Classification	Public Safety	Parks and Recreation	Transportation	Admin Fee*	Impact Fee
Shopping Center	\$310.15	-	\$425.54	\$22.07	\$757.76 per 1000 sq. ft.
Specialty Retail Center	\$338.01	-	\$1,032.61	\$41.12	\$1,411.74 per 1000 sq. ft.
Supermarket	\$235.86	-	\$2,831.24	\$92.01	\$3,159.11 per 1000 sq. ft.
Tire Store	\$237.72	-	\$631.45	\$26.08	\$895.25 per 1000 sq. ft.
Warehouse	\$237.72	-	\$125.93	\$10.91	\$374.56 per 1000 sq. ft.
Wholesale Market	\$152.29	-	\$170.87	\$9.69	\$332.85 per 1000 sq. ft.
Wholesale Tire Store	\$237.72	-	\$516.94	\$22.64	\$777.30 per 1000 sq. ft.

*The impact fee includes a charge of 3% added to the sub-total of the individual service categories for impact fee program administration.

AMENDED CAPITAL IMPROVEMENT ELEMENT

Since this chapter was originally written and adopted in 2000, the City has annually updated the list of capital projects eligible for impact fee funding, in whole or in part. Those amendments have been done as “stand alone” additions to the Comprehensive Plan. For the amended Capital Improvement Element, see Chapter 14, Table 14.2 of this comprehensive plan.

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