



Fire/EMS Impact Fee Study for Lee County, Florida

prepared by

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January 2012

Table of Contents

EXECUTIVE SUMMARY.....	1
Major Findings.....	1
Comparative Fees.....	2
LEGAL FRAMEWORK.....	4
The Need Test.....	4
The Benefit Test.....	6
Florida Statutes.....	7
FIRE RESCUE.....	8
Benefit Districts.....	8
Methodology.....	10
Service Unit.....	11
Capital Costs.....	14
Net Cost per Service Unit.....	16
Recommended Fee Schedules.....	17
EMERGENCY MEDICAL SERVICE.....	19
Benefit District.....	19
Methodology.....	20
Service Unit.....	20
Capital Costs.....	21
Net Cost per Service Unit.....	24
Recommended Fee Schedule.....	25
APPENDIX A: NET CAPITAL COST BY FIRE DISTRICT.....	26
APPENDIX B: FUNCTIONAL POPULATION.....	37
Residential Functional Population.....	37
Nonresidential Functional Population.....	38
Functional Population Summary.....	39
APPENDIX C: CALLS-FOR-SERVICE MULTIPLIERS.....	40

List of Tables

Table 1. Comparison of Current and Updated Fire and EMS Fees.....	3
Table 2. Population Growth, 1990-2010.....	5
Table 3. Fire Rescue and EMS Impact Fee Revenues, FY 2007 to FY 2011.....	10
Table 4. Call-Based vs. Functional Population-Based EDU Multipliers.....	12
Table 5. Existing Service Units by Fire District.....	13
Table 6. Fire Station Cost per Square Foot.....	14
Table 7. Average Land Cost by Fire District.....	15
Table 8. Fire Rescue Equipment Costs.....	15
Table 9. Fire Rescue Capital Cost per Service Unit.....	16
Table 10. Fire Rescue Maximum Fees per Service Unit.....	17
Table 11. Fire Rescue Maximum Impact Fees by Land Use.....	18
Table 12. Existing Land Use, County EMS Service Area.....	21

Table 13. Total EMS Service Units	21
Table 14. EMS Building Cost.....	22
Table 15. EMS Vehicle Cost	22
Table 16. EMS Equipment Cost.....	23
Table 17. EMS Cost per Service Unit.....	23
Table 18. EMS Grant Funding, 2006-2010.....	24
Table 19. EMS Grant Funding Credit	24
Table 20. EMS Net Cost per Service Unit.....	25
Table 21. Updated EMS Impact Fees.....	25
Table 22. Comparative EMS Impact Fees	25
Table 23. Fire Rescue Net Capital Cost, Alva	26
Table 24. Fire Rescue Net Capital Cost, Bayshore	27
Table 25. Fire Rescue Net Capital Cost, Boca Grande	27
Table 26. Fire Rescue Net Capital Cost, Bonita Springs.....	28
Table 27. Fire Rescue Net Capital Cost, Captiva	28
Table 28. Fire Rescue Net Capital Cost, Estero.....	29
Table 29. Fire Rescue Net Capital Cost, Fort Myers	30
Table 30. Fire Rescue Net Capital Cost, Fort Myers Beach	30
Table 31. Fire Rescue Net Capital Cost, Fort Myers Shores.....	31
Table 32. Fire Rescue Net Capital Cost, Iona-McGregor.....	31
Table 33. Fire Rescue Net Capital Cost, Lehigh Acres	32
Table 34. Fire Rescue Net Capital Cost, Lee County Airports	32
Table 35. Fire Rescue Net Capital Cost, Matlacha-Pine Island.....	33
Table 36. Fire Rescue Net Capital Cost, North Fort Myers.....	33
Table 37. Fire Rescue Net Capital Cost, San Carlos Park.....	34
Table 38. Fire Rescue Net Capital Cost, Sanibel.....	34
Table 39. Fire Rescue Net Capital Cost, South Trail.....	35
Table 40. Fire Rescue Net Capital Cost, Tice.....	35
Table 41. Fire Rescue Net Capital Cost, Upper Captiva.....	36
Table 42. Average Household Size by Housing Type	37
Table 43. Functional Population per Unit for Residential Uses	38
Table 44. Functional Population per Unit for Nonresidential Uses.....	39
Table 45. Functional Population Multipliers	39
Table 46. Allocation of Road-Related Calls	40
Table 47. Fire Rescue Calls by Land Use, 2006-2010.....	41
Table 48. Fire Rescue Calls-for-Service Multipliers by Land Use.....	42

EXECUTIVE SUMMARY

Fire, rescue and emergency medical services (EMS) in Lee County are provided by the County, independent fire districts and municipalities. The services provided can be grouped in three broad categories. The first is fire service, which includes fire suppression, fire safety, inspections and other activities related to fire prevention. The second is rescue service, which incorporates all responses of an emergency nature other than for fire or EMS. The third is EMS, which includes the provision of advanced life support and patient transportation.

Independent fire districts and municipal fire departments provide fire rescue service in most of the county. The County provides fire and rescue service to the airports. The fire districts and departments also provide advanced life support, but do not, with two exceptions, provide patient transportation.

The County provides EMS service to most of the geographic areas of the county, with the exceptions of Fort Myers and Lehigh. The Fort Myers Beach Fire Control District and the Lehigh Acres Fire Protection and Rescue District provide their own primary EMS service.

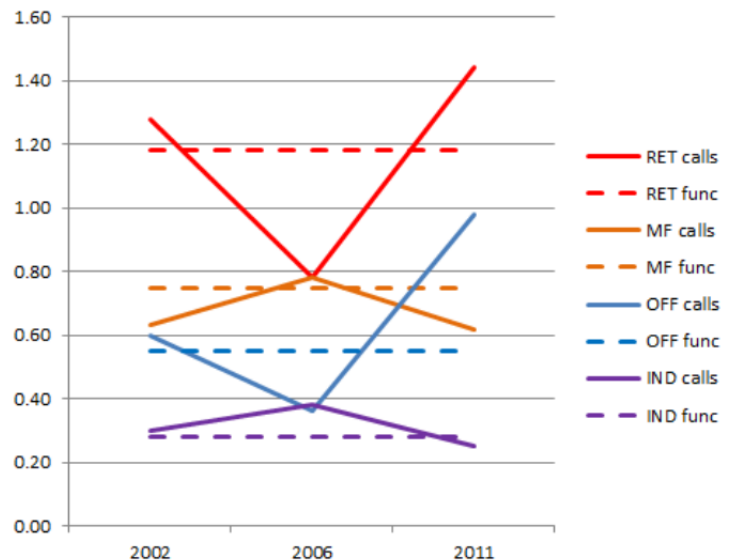
The Lee County Board of County Commissioners first adopted fire rescue and EMS impact fees in 1989. A comprehensive update of the fire rescue impact fees was completed in 1999, and the EMS fees were updated in 2001. Both fire rescue and EMS impact fees were most recently updated in 2003 and 2006.

Major Findings

Currently, the County's fire rescue and EMS impact fees are based on calls-for service. A major finding of this study is the volatility of calls-for-service data over time. Based on this observation, it is recommended that the updated fees be based on a more stable measure of demand known as "functional population."

Service unit multipliers are used to estimate the demand on fire and EMS facilities for different land uses compared to the demand from a single-family unit. These are called equivalent dwelling unit (EDU) multipliers. While the EDU multiplier for a single-family unit is always 1.00, the multipliers for other land uses have changed with each update when based on call data. Figure 1 illustrates how the fire rescue multipliers for several major land use categories have changed over the last three updates, based on data from Table 4 (the solid lines are EDU multipliers based on calls, while the dashed lines are EDU multipliers based on functional population, which is explained below; RET is retail, MF is multi-family, OFF is office and IND is

Figure 1. Call-Based and Functional Population Multipliers, 2002-2011



industrial). For example, in the 2002 study, 1,000 square feet of retail development was estimated to have the equivalent demand for fire rescue service of about 1.3 single-family units. This fell to about 0.8 in the 2006 study, only to increase to about 1.5 in this study. These changing multipliers result in fees falling or increasing drastically between updates.

The volatility of call-based multipliers suggests the need for a more stable measure of demand for fire rescue and EMS services. The most commonly-used alternative is based on a concept called “functional population.” It is based on the observation that the demand for public safety services is closely related to the number of people at a land use. Functional population is analogous to the concept of “full-time equivalent” employees. It represents the number of “full-time equivalent” people present at the site of a land use. For residential development, functional population is simply average household size times the percent of time people spend at home. For nonresidential development, functional population is based on a formula that includes trip generation rates, average vehicle occupancy, employee density and average number of hours spent by employees and visitors at a land use.

Unlike EDU multipliers based on call data, functional population-based EDUs are relatively stable over time (the functional population EDU multipliers calculated in this study are illustrated as dashed lines in Figure 1). Functional population-based multipliers are reasonably similar to average call-based multipliers. Because functional population is a reasonable and more stable measure of public safety demand, it is used in this study in place of the previous reliance on call data.

Comparative Fees

The updated fire and EMS impact fees are compared with the current fees in Table 1. Although fire rescue fees vary by district, the fees shown apply to the majority (13 of 19) of the participating fire districts. The updated combined fire rescue and EMS fee would decline for each land use category for the majority of the fire rescue districts.

While fire and EMS fees are generally going down, the updated fees are higher than current fees for some land uses in some areas. EMS impact fees would go up for hotel/motel, industrial and warehouse uses, although the increases are tiny in absolute terms (e.g., EMS fee for industrial would increase by one cent per square foot). Fire rescue impact fees would go up for retail and office uses in eight of the fire districts (see Table 11), although it should be noted that (1) these eight districts tend to have among the lowest fees currently, and (2) the retail and office fees are only going up because they decreased so much in the last update based on fluctuating call data. The fire rescue fees would also be new for the Boca Grande Fire Control District, which does not currently participate in the fire impact fees. Because fees would be new or increased in some instances, the updated fees should not go into effect until 90 days following ordinance adoption to comply with the statutory waiting period for any fee increases (see discussion at the end of the Legal Framework section).

Table 1. Comparison of Current and Updated Fire and EMS Fees

Land Use	Unit	Current Fee	Updated Fee	Percent Change
Fire Fees (maximums*)				
Single-Family Detached	Dwelling	\$760	\$474	-38%
Multi-Family	Dwelling	\$595	\$356	-40%
Mobile Home/RV Park	Space	\$554	\$327	-41%
Hotel/Motel	Room	\$625	\$289	-54%
Retail	1,000 sq. ft.	\$593	\$559	-6%
Office	1,000 sq. ft.	\$277	\$261	-6%
Public/Institutional	1,000 sq. ft.	\$593	\$171	-71%
Industrial	1,000 sq. ft.	\$286	\$133	-53%
Warehouse	1,000 sq. ft.	\$269	\$62	-77%
EMS Fees				
Single-Family Detached	Dwelling	\$94	\$85	-10%
Multi-Family	Dwelling	\$71	\$64	-10%
Mobile Home/RV Park	Space	\$69	\$59	-14%
Hotel/Motel	Room	\$32	\$52	63%
Retail	1,000 sq. ft.	\$138	\$100	-28%
Office	1,000 sq. ft.	\$66	\$47	-29%
Public/Institutional	1,000 sq. ft.	\$138	\$31	-78%
Industrial	1,000 sq. ft.	\$14	\$24	71%
Warehouse	1,000 sq. ft.	\$7	\$11	57%
Combined Fire/EMS Fees				
Single-Family Detached	Dwelling	\$854	\$559	-35%
Multi-Family	Dwelling	\$666	\$420	-37%
Mobile Home/RV Park	Space	\$623	\$386	-38%
Hotel/Motel	Room	\$657	\$341	-48%
Retail	1,000 sq. ft.	\$731	\$659	-10%
Office	1,000 sq. ft.	\$343	\$308	-10%
Public/Institutional	1,000 sq. ft.	\$731	\$202	-72%
Industrial	1,000 sq. ft.	\$300	\$157	-48%
Warehouse	1,000 sq. ft.	\$276	\$73	-74%

* current fees for 9 of 18 currently participating fire districts and updated fees for 13 of the 19 fire districts included in this update

Source: Current fees from Lee County Land Development Code Sec. 2-385; updated fees from Table 11 and Table 21.

LEGAL FRAMEWORK

Impact fees are a way for local governments to require new developments to pay a proportionate share of the infrastructure costs they impose on the community. In contrast to traditional “negotiated” developer exactions, impact fees are charges that are assessed on new development using a standard formula based on objective characteristics, such as the number and type of dwelling units constructed. The fees are one-time, up-front charges, with the payment usually made at the time of building permit issuance. Impact fees require each new development project to pay its pro-rata share of the cost of new capital facilities required to serve that development.

Since impact fees were pioneered in states like Florida that lacked specific enabling legislation, they have been defended as a legal exercise of local government’s broad “police power” to regulate land development in order to protect the health, safety and welfare of the community. The courts have developed guidelines for constitutionally valid impact fees, based on “rational nexus” standards.¹ The standards set by court cases generally require that an impact fee meet a two-part test:

- 1) The fees must be proportional to the need for new facilities created by new development, and
- 2) The expenditure of impact fee revenues must provide benefit to the fee-paying development.

A Florida district court of appeals described the dual rational nexus test in 1983 as follows, and this language was quoted and followed by the Florida Supreme Court in its 1991 St. Johns County decision:

In order to satisfy these requirements, the local government must demonstrate a reasonable connection, or rational nexus, between the need for additional capital facilities and the growth in population generated by the subdivision. In addition, the government must show a reasonable connection, or rational nexus, between the expenditures of the funds collected and the benefits accruing to the subdivision. In order to satisfy this latter requirement, the ordinance must specifically earmark the funds collected for use in acquiring capital facilities to benefit the new residents.²

The Need Test

To meet the first prong of the dual rational nexus test, it is necessary to demonstrate that new development creates the need for additional fire rescue and EMS facilities. The permanent, year-round population of the county grew 32 percent during the 1990s, and even more rapidly during the last decade, even with the housing crisis of the late 2000s (see Table 2). The population growth in the unincorporated area kept pace with the incorporated area.

¹ There are six major Florida cases that have guided the development of impact fees in the state: *Contractors and Builders Association of Pinellas County v. City of Dunedin*, 329 So.2d 314 (Fla. 1976); *Hollywood, Inc. v. Broward County*, 431 So.2d 606 (Fla. 1976); *Home Builders and Contractors Association of Palm Beach County, Inc. v. Board of County Commissioners of Palm Beach County*, 446 So.2d 140 (Fla. 4th DCA 1983); *Seminole County v. City of Casselberry*, 541 So.2d 666 (Fla. 5th DCA 1989); *City of Ormond Beach v. County of Volusia*, 535 So.2d 302 (Fla. 5th DCA 1988); and *St. Johns County v. Northeast Florida Builders Association*, 583 So. 2d 635, 637 (Fla. 1991).

² *Hollywood, Inc. v. Broward County*, 431 So. 2d 606, 611-12 (Fla. 4th DCA), review denied, 440 So. 2d 352 (Fla. 1983), quoted and followed in *St. Johns County v. Northeast Florida Builders Ass'n*, 583 So. 2d 635, 637 (Fla. 1991).

Table 2. Population Growth, 1990-2010

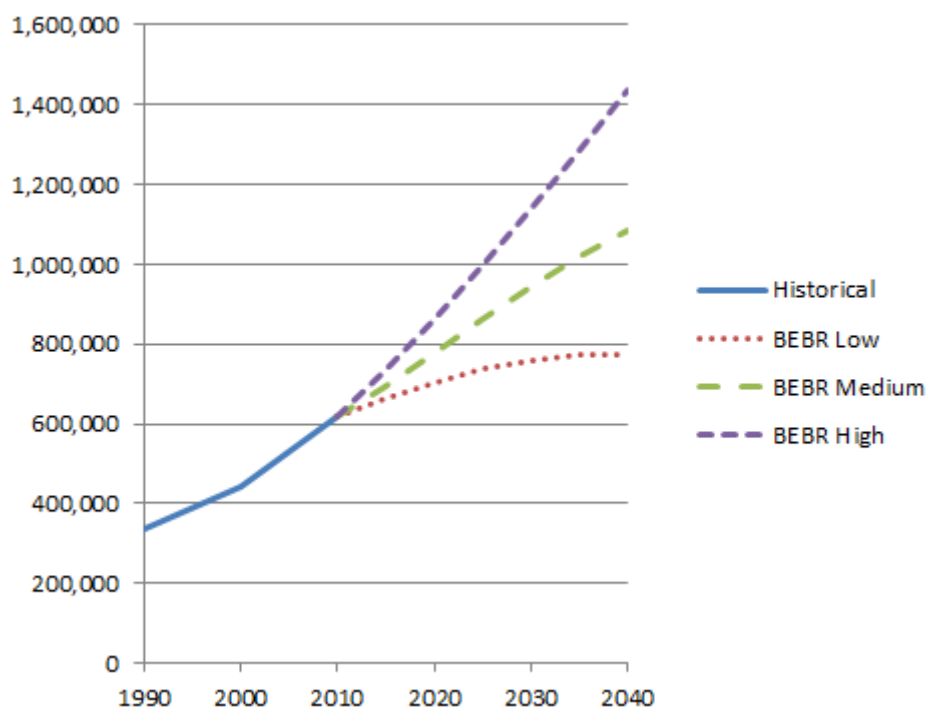
Jurisdiction	1990	2000	2010	Percent Growth	
				1990-00	2000-10
Fort Myers	45,206	48,208	62,298	6.6%	29.2%
Cape Coral	74,991	102,286	154,305	36.4%	50.9%
Sanibel	5,468	6,064	6,469	10.9%	6.7%
Fort Myers Beach	n/a	6,561	6,277	n/a	-4.3%
Bonita Springs	n/a	32,797	43,914	n/a	33.9%
Subtotal, Incorporated	125,665	195,916	273,263	55.9%	39.5%
Subtotal, Unincorporated*	209,448	244,972	345,491	17.0%	41.0%
Total, County-Wide	335,113	440,888	618,754	31.6%	40.3%

* 1990 figure includes area that is now Fort Myers Beach and Bonita Springs

Source: U.S. Census Bureau (Fort Myers Beach incorporated 12/31/95, Bonita Springs incorporated 12/31/99)

While the Bureau of Economic and Business Research (BEBR) of the University of Florida acknowledges that there is currently great uncertainty about future growth, as indicated by the range of its most recent projections, it believes that its medium growth projection is the most likely to occur. BEBR’s medium growth projection shows a slight tapering off of Lee County’s historical growth, illustrated in Figure 2. The projection indicates that the population of the county will exceed one million by 2040. Future growth, both residential and nonresidential, will create growing demands for fire rescue and EMS facilities and equipment.

Figure 2. County Population Growth, 1990-2040



Source: BEBR, *Projections of Florida Population by County, 2010-2040*, June 2011

The County's fire rescue and EMS impact fees are reasonably related to the demands for service arising from various land use types, based on an analysis of calls-for-service over the last several years as well as the functional population analysis. This methodology ensures that the fire rescue and EMS impact fees assessed are proportional to the impacts of the development. The fire rescue and EMS impact fee ordinance allows applicants who believes that their developments will have less impact than indicated by the fee schedules to submit an independent fee calculation study.³

The Benefit Test

To meet the second prong of the dual rational nexus test, it is necessary to demonstrate that new development subject to the fee will benefit from the expenditure of the impact fee funds. One requirement is that the fees actually be used to fill the need that serves as the justification for the fees under the first part of the test. The fire rescue and EMS impact fee ordinance requires that impact fee revenues be spent only on growth-related capital improvements for the type of facility for which the fee was collected, and within the benefit district in which the fees were collected:

Funds collected from fire and EMS impact fees must be used for the purpose of capital improvements to and expansion of fire protection and emergency medical services. Fire and EMS impact fee collections, including any interest earned thereon, less administrative costs retained pursuant to subsection (e) of this section, will be used exclusively for capital improvements or expansion within or for the benefit of the fire and EMS impact fee benefit district from which the funds were collected. These impact fee funds must be segregated from other kinds and expended in the order in which they are collected. Funds may be used or pledged in the course of bonding or other lawful financing techniques, so long as the proceeds raised thereby are used for the purpose of land acquisition and capital improvements to and expansion within or for the benefit of the fire and EMS impact fee benefit district from which the funds were used or pledged. If these funds or pledge of funds are combined with other revenue sources in a dual or multipurpose bond issue or other revenue-raising device, then the proceeds raised thereby must be divided and segregated in a manner that will cause the amount of the proceeds reserved for the benefit of the participating fire and EMS impact fee benefit district to bear the same ratio to the total funds collected as the amount of the participating fire and EMS impact fee benefit district funds used or pledged bears to the total funds used or pledged.⁴

The Land Development Code ensures that fire rescue and EMS impact fee revenues are spent on improvements and equipment that expand the capacity to accommodate new development, rather than on maintenance or rehabilitation of existing facilities or equipment or other purposes unrelated to the impacts of growth.

Another way to ensure that the fees be spent for their intended purpose is to require that the fees be refunded if they have not been used within a reasonable period of time. The Florida District Court of Appeals upheld Palm Beach County's road impact fee in 1983, in part because the ordinance included refund provisions for unused fees.⁵ Lee County's fire rescue and EMS impact fee

³ Lee County Land Development Code, Sec. 2-386(d)

⁴ Lee County Land Development Code, Sec. 2-390(a)

⁵ *Home Builders Ass'n v. Board of County Commissioners of Palm Beach County*, 446 So. 2d 140 (Fla. Dist. Ct. App. 1983)

ordinance contains provisions requiring that the fees be returned to the fee payer if they have not been spent or encumbered within a fixed period of time from the date of fee payment.⁶

In sum, the Land Development Code ensures that the fees are spent to benefit the fee-paying development by requiring the earmarking of funds, restricting impact fee revenues to be spent within the benefit districts collected and providing refunds of unexpended funds to fee payers.

Florida Statutes

Florida law requires that impact fees must “be based on the most recent and localized data.”⁷ The County’s impact fee ordinance requires that the fire and EMS fees be updated every three years to ensure consistency with this requirement.⁸ Recent, local data has been gathered for use in the impact fee calculations, including land use data, appraised land values, recent station construction costs and current equipment costs. This report complies with the substantive requirements of the Florida Impact Fee Act.

The Florida Impact Fee Act requires 90 days’ notice be provided before a new or increased impact fee may go into effect. However, no waiting period is required to decrease, suspend or eliminate an impact fee.⁹ The updated fees are generally lower than existing fees, but updated fire impact fees are higher for some land use categories in some fire districts, and EMS fees would also go up for some land uses. It would be possible for the County to enact the decreases immediately, with the increases effective in 90 days, but this would pose some administrative difficulties. It would probably be better to delay all of the changes for 90 days.

⁶ Lee County Land Development Code, Sec. 2-391(b)

⁷ Florida Impact Fee Act, Sec. 163.31801(3)(a), Florida Statutes

⁸ Lee County Land Development Code, Sec. 2-386(5)

⁹ Florida Impact Fee Act, Sec. 163.31801(3)(d), Florida Statutes

FIRE RESCUE

In Lee County, fire and rescue services and advanced life support services are provided by municipal fire departments and independent fire protection districts. The County does not directly provide fire and rescue services, but does collect the fees for the fire districts in the unincorporated area and for municipalities for which the County issues building permits on a contractual basis. The fees collected by the County are turned over to the districts to be spent on eligible capital expenditures in accordance with governing interlocal agreements.

Lee County originally adopted fire rescue impact fees in 1989, and updated the fees for two of the fire districts in 1995. The original 1989 fire rescue impact fee study and the 1995 update for the Estero and San Carlos Park districts were prepared by Dr. James C. Nicholas. A comprehensive update of the fire rescue fees was undertaken in 1999, based on a study by Duncan Associates. The 1999 fire rescue impact fee update changed in the methodology for calculating the fees. Subsequent updates were prepared using the same methodology in 2002 and 2006. This update retains the methodology used in the prior three studies, with the exception that the service unit multipliers are based on functional population rather than on calls-for-service.

Benefit Districts

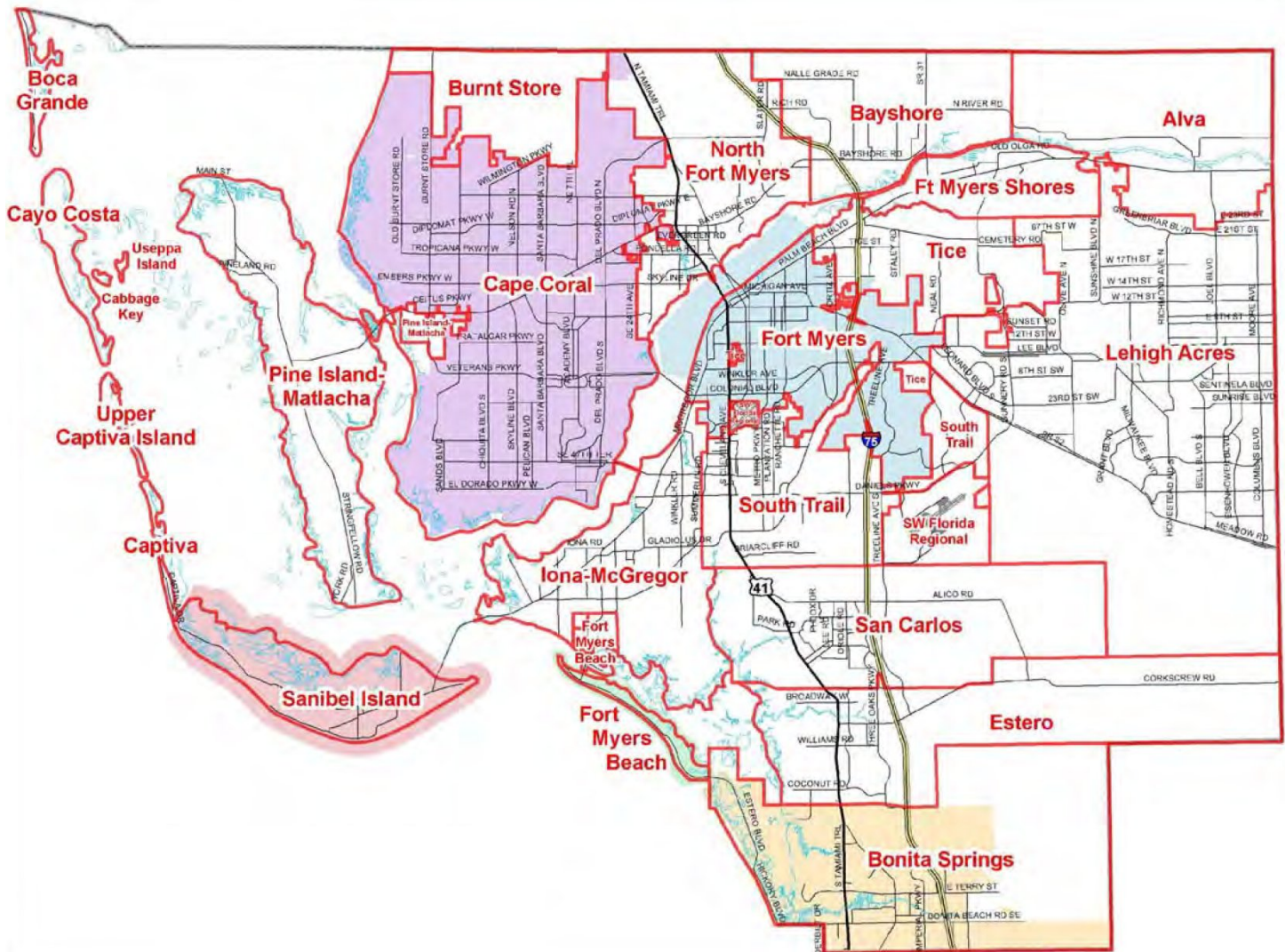
The current fire rescue impact fee ordinance includes fee schedules for 18 benefit districts. This study adds the Boca Grande fire district, for a total of 19. The benefit districts include 17 independent fire districts, the Fort Myers municipal fire department and the Lee County Airports Fire Department. The City of Cape Coral and the Burnt Store Fire Protection and Rescue District, which is served by contract by the City of Cape Coral, are not participating in this study. Fire rescue fees are calculated for the following 19 benefit districts.

- Alva Fire Control and Rescue Service District
- Bayshore Fire Protection and Rescue Service District
- Boca Grande Fire Control District
- Bonita Springs Fire Control and Rescue District
- Captiva Island Fire Control District
- Estero Fire Protection and Rescue Service District
- Fort Myers Fire Department
- Fort Myers Beach Fire Control District
- Fort Myers Shores Fire Protection and Rescue District
- Iona-McGregor Fire Protection and Rescue Service District
- Lehigh Acres Fire Control and Rescue Service District
- Lee County Airports Fire Department
- Matlacha-Pine Island Fire Control District
- North Fort Myers Fire Control and Rescue Service District
- San Carlos Park Fire Control and Rescue Service District
- Sanibel Fire Control District
- South Trail Fire Protection and Rescue Service District
- Tice Fire Protection and Rescue Service District

- Upper Captiva Fire Protection and Rescue Service District

The geographic boundaries of the fire rescue districts are illustrated in Figure 3. The Bonita Springs fire district serves both City of Bonita Springs and adjacent unincorporated area. Similarly, the Fort Myers Beach Fire Control District serves both the Town of Fort Myers Beach and the unincorporated area to the north.

Figure 3. Fire Rescue Benefit Districts



Fire rescue and EMS impact fee revenues collected since fiscal year 2007 in each benefit district are summarized in Table 3. Significant amounts of revenue were collected in each zone in FY 2007, but revenues have declined significantly since the housing market crisis began the following year.

Table 3. Fire Rescue and EMS Impact Fee Revenues, FY 2007 to FY 2011

Benefit District	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Alva	\$11,814	\$3,115	\$760	\$2,067	\$2,280
Bayshore	\$12,821	\$4,586	\$760	\$2,245	\$1,520
Bonita Springs*	\$0	\$3,162	\$0	\$198	\$0
Captiva	\$3,178	\$3,155	\$2,076	\$760	\$2,115
Estero	\$438,292	\$115,279	\$17,378	\$11,687	\$20,928
Fort Myers	**	**	**	**	**
Ft Myers Beach*	\$98	\$1,220	\$610	\$0	\$3,034
Ft Myers Shores	\$132,858	\$57,908	\$13,650	\$28,880	\$11,779
Iona-McGregor	\$299,694	\$163,221	\$60,935	\$27,906	\$64,079
Lehigh Acres	\$1,406,467	\$55,991	\$18,670	\$3,457	\$12,357
Lee Co Airports	\$19,382	-\$7,825	\$0	\$0	\$0
Matlacha-Pine Is.	\$37,530	\$13,374	\$4,810	\$5,781	\$11,476
North Fort Myers	\$101,950	\$28,983	\$16,510	\$26,401	\$27,807
San Carlos Park	\$841,985	\$67,308	\$92,166	\$63,001	\$82,983
Sanibel	**	**	**	**	**
South Trail	\$449,017	\$41,784	\$7,928	\$28,292	\$57,096
Tice	\$137,359	\$98,549	\$8,275	\$7,583	\$11,072
Upper Captiva	\$3,040	\$3,040	\$2,280	\$760	\$760
Total Fire	\$3,895,485	\$652,849	\$246,807	\$209,018	\$309,286
EMS	\$760,577	\$235,740	\$127,955	\$80,322	\$130,746
Total Fire/EMS	\$4,656,062	\$888,589	\$374,762	\$289,339	\$440,032

* Collections in unincorporated area only

** Not available (collected by municipality)

Source: Revenues by fiscal year (October through September) from Lee County Community Development Department, November 8, 2011.

Methodology

The calculation of fire rescue impact fees is based on the existing level of service in each district. That level of service is expressed as the ratio of the equity value of existing facilities and equipment to existing service units. Fire rescue service units, or “equivalent dwelling units” (EDUs), represent the demand for fire rescue service generated by a typical single-family dwelling.

To ensure that new development does not pay twice for the same level of service, outstanding debt on existing facilities is netted out of replacement value. Although a credit is not necessarily required for grant funding, equipment funded by grants during the last five years was netted out. It is recommended that the fees continue to be capped as they have been since the 1999 study, in order to avoid excessively high fees in fire districts with the least amount of development. The recommended formula for calculating the fire rescue fees is shown in Figure 4.

Figure 4. Fire Rescue Impact Fee Formula

IMPACT FEE	=	PROJECT EDUs x MAX FEE
MAX FEE	=	NET COST/EDU or CAP/EDU, whichever is less
CAP/EDU	=	\$474
NET COST/EDU	=	NET COST ÷ DISTRICT EDUs
NET COST	=	CAPITAL COST – CREDIT
CAPITAL COST	=	Replacement cost of existing capital facilities of the fire district
CREDIT	=	Outstanding debt on existing capital facilities + capital grants over last 5 years
EDU	=	Equivalent Dwelling Unit (demand generated by a single-family unit)
UNITS	=	Development units (dwelling units, hotel/motel rooms, or 1,000s of square feet)
EDUs/UNIT	=	The number of EDUs associated with a UNIT of a particular land use category
PROJECT EDUs	=	Total EDUs for a development project
DISTRICT EDUs	=	Total EDUs for a fire district (sum of UNITS x EDUs/UNIT for each land use)

Service Unit

Disparate types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for fire rescue service. This unit of measurement is called a “service unit.” A common service unit used in impact fee analysis is the “equivalent dwelling unit” or EDU, which represents the impact of a typical single-family dwelling.

In previous studies, EDU multipliers have been based on the annual number of fire rescue calls per development unit for various land use categories. The problem with relying on call data is that it is unstable over time. This means that fees go up or down significantly for individual land uses each time the fees are updated. Call multipliers are a ratio between two data sets: call records and land use inventory. The method of classifying calls by land use can change over time, and land use estimates can also change. The result can be rather extreme volatility over time. The consultants have observed this in the past in other communities, and now observe it in Lee County.

The most commonly-used alternative to call data in fire rescue and EMS impact fees is based on a concept called “functional population.” Similar to the concept of full-time equivalent employees, functional population represents the number of “full-time equivalent” people present at the site of a land use. Functional population represents the average number of equivalent persons present at the site of a land use for an entire 24-hour day. For residential development, functional population is simply average household size times the percent of time people spend at home. For nonresidential development, functional population is based on a formula that includes square foot per employee

ratios, trip generation rates, average vehicle occupancy and average number of hours spent by employees and visitors at a land use. These all tend to be stable characteristics that do not change significantly over short periods of time. Functional population multipliers by land use are calculated in Appendix B.

In order to demonstrate the volatility of EDU multipliers based on call data, updated call-based multipliers were prepared for this study for fire rescue (see Appendix C). These call-based multipliers are compared to call-based multipliers from the last two fire rescue impact fee studies and to the functional population multipliers recommended by this study in Table 4. The EDU multiplier for a single-family detached unit is always 1.00, by definition. However, EDU multipliers based on call data for other land uses have changed significantly between impact fee study updates. For example, in this update, the fire rescue EDU multiplier per 1,000 square feet of commercial development would have almost doubled from the 2006 study if it continued to be based on call data.

Table 4. Call-Based vs. Functional Population-Based EDU Multipliers

Land Use	Unit	Calls-for-Service EDUs				Func. Pop EDUs
		2002	2006	2011	Avg.	
Single-Family Detached	Dwelling	1.00	1.00	1.00	1.00	1.00
Multi-Family	Dwelling	0.63	0.78	0.62	0.68	0.75
Mobile Home/RV Park	Pad	0.63	0.73	0.69	0.68	0.69
Hotel/Motel	Room	1.02	0.82	0.69	0.84	0.61
Commercial	1,000 sq. ft.	1.28	0.78	1.44	1.17	1.18
Office	1,000 sq. ft.	0.60	0.36	0.98	0.65	0.55
Institutional	1,000 sq. ft.	1.25	0.78	1.44	1.16	0.36
Industrial	1,000 sq. ft.	0.30	0.38	0.25	0.31	0.28
Warehouse	1,000 sq. ft.	0.16	0.35	0.24	0.25	0.13

Source: 2002 multipliers from Duncan Associates, Fire/EMS Impact Fee Update, December 2002; 2006 multipliers from Duncan Associates, Fire/EMS Impact Fee Study, February 2006; 2011 multipliers from Table 48 in Appendix C; functional population multipliers from Table 45 in Appendix B.

The volatility of call-based multipliers is illustrated in Figure 1 in the Executive Summary. By comparison, functional population multipliers would have been virtually unchanged over this time frame. The functional population multipliers are also reasonably similar to the call-based multipliers. Given that functional population multipliers are more predictable and stable over time, and are also a reasonable methodology, this study bases the updated fire rescue impact fees, as well as the updated EMS fees, on functional population.

To determine the total number of service units for each fire district, existing land use data compiled by the Lee County Department of Community Development were applied to the functional population-based EDU multipliers shown in the previous table. The EDUs for all land uses in each district were summed to determine total service units. The results are displayed in Table 5.

Table 5. Existing Service Units by Fire District

Fire District	Single-Family (unit)	Multi-Family (unit)	Mobile Home (unit)	Hotel/Motel (room)	Retail (1000sf)	Office (1000sf)	Public/Instit. (1000sf)	Industrial (1000sf)	Warehouse (1000sf)	Total
Alva	1,254	27	199	10	32	19	216	6	7	n/a
Bayshore	1,844	167	861	117	48	33	223	64	63	n/a
Boca Grande	878	387	0	268	146	20	82	25	0	n/a
Bonita Springs	12,620	12,024	4,302	717	3,793	1,913	1,763	786	2,048	n/a
Captiva	512	687	0	554	98	8	9	0	0	n/a
Estero	8,850	9,877	2,104	939	3,389	767	1,018	0	229	n/a
Fort Myers	12,139	20,247	309	1,965	9,218	7,225	7,154	4,283	9,048	n/a
Ft Myers Beach	3,910	4,329	1,956	1,057	961	225	452	135	175	n/a
Ft Myers Shores	3,605	1,144	365	134	562	83	646	3	41	n/a
Iona-McGregor	12,911	22,574	5,501	1,982	4,331	2,016	2,126	135	937	n/a
Lehigh Acres	30,034	7,554	0	339	1,965	795	1,712	237	869	n/a
Lee Co Airports	0	0	0	0	25	86	3,089	0	119	n/a
Matlacha-Pine Is.	5,659	719	591	788	388	127	131	54	147	n/a
North Fort Myers	11,900	3,913	14,001	1,268	3,473	714	1,842	692	1,039	n/a
San Carlos Park	9,931	5,150	419	1,626	3,080	509	1,127	564	1,694	n/a
Sanibel	2,359	6,596	319	1,332	542	103	210	19	205	n/a
South Trail	11,151	15,094	1,636	2,011	8,404	5,825	2,938	2,112	4,148	n/a
Tice	5,042	361	875	577	807	292	1,388	598	852	n/a
Upper Captiva	298	43	0	0	9	0	2	0	0	n/a
Total Units	134,897	110,893	33,438	15,684	41,269	20,759	26,129	9,714	21,621	n/a
EDUs per Unit	1	0.75	0.69	0.61	1.18	0.55	0.36	0.28	0.13	n/a
Alva	1,254	20	137	6	38	10	78	2	1	1,546
Bayshore	1,844	125	594	71	57	18	80	18	8	2,815
Boca Grande	878	290	0	163	173	11	30	7	0	1,552
Bonita Springs	12,620	9,018	2,968	437	4,475	1,052	635	220	266	31,691
Captiva	512	515	0	338	115	5	3	0	0	1,488
Estero	8,850	7,408	1,452	573	3,999	422	367	0	30	23,101
Fort Myers	12,139	15,185	213	1,199	10,877	3,974	2,575	1,199	1,176	48,537
Ft Myers Beach	3,910	3,247	1,350	645	1,133	124	163	38	23	10,633
Ft Myers Shores	3,605	858	252	82	663	46	232	1	5	5,744
Iona-McGregor	12,911	16,931	3,796	1,209	5,111	1,109	765	38	122	41,992
Lehigh Acres	30,034	5,666	0	207	2,318	437	616	66	113	39,457
Lee Co Airports	0	0	0	0	30	47	1,112	0	15	1,204
Matlacha-Pine Is.	5,659	539	408	481	458	70	47	15	19	7,696
North Fort Myers	11,900	2,935	9,661	773	4,098	393	663	194	135	30,752
San Carlos Park	9,931	3,863	289	992	3,634	280	406	158	220	19,773
Sanibel	2,359	4,947	220	813	640	56	76	5	27	9,143
South Trail	11,151	11,321	1,129	1,227	9,916	3,204	1,058	591	539	40,136
Tice	5,042	271	604	352	953	161	500	167	111	8,161
Upper Captiva	298	32	0	0	10	0	1	0	0	341
Total EDUs	134,897	83,171	23,073	9,568	48,698	11,419	9,407	2,719	2,810	325,762

Source: Existing units from Lee County Department of Community Development, September 1, 2011; EDUs per unit are functional population multipliers from Table 4.

Capital Costs

Because of the large number of fire districts in Lee County, a standardized approach was developed to measure the replacement value of each fire district's capital facilities. An average fire station cost per square foot, which includes furniture, fixtures and equipment but does not include fire-fighting apparatus and associated fire rescue and medical equipment, was used to estimate the replacement cost of existing fire stations. As can be seen in Table 6, construction costs increased significantly in the middle of the last decade, but have come down in recent years to about the level they were at in the early part of the decade. Based on the cost of the last two most recently-built fire stations, an average cost of \$145 per square foot is used in this study. This cost is down 15% from the cost of \$170 per square foot used in the 2006 study.

Table 6. Fire Station Cost per Square Foot

Fire District	Station	Date	Amount	Sq. Feet	Cost/SF
Iona-McGregor	Station 4	8/2003	\$2,800,000	27,035	\$104
San Carlos Park	Station 3	11/2003	\$3,436,826	26,671	\$129
Bonita Springs	Station 4	1/2004	\$5,279,252	30,000	\$176
Tice	Main Station	11/2004	\$1,640,000	13,764	\$119
Fort Myers	Station 5	2/2005	\$2,800,000	11,200	\$250
Bonita Springs	Station 2	5/2005	\$1,611,700	9,265	\$174
Sanibel	Station 1	7/2005	\$2,750,000	14,000	\$196
Lehigh Acres	Station 104	4/2005	\$3,267,547	13,322	\$245
Lehigh Acres	Station 105	4/2005	\$3,006,090	13,977	\$215
Matlacha-Pine Is.	n/a	8/2006	\$2,485,987	9,965	\$249
Bonita Springs	Station 1 Rebuild	10/2006	\$2,442,369	10,461	\$233
Ft. Myers Beach	Station 32	8/2007	\$3,059,433	12,376	\$247
Ft. Myers Beach	Station 33	8/2007	\$1,982,028	6,808	\$291
Iona-McGregor	Station 75	7/2008	\$2,905,462	13,612	\$213
Bonita Springs	Station 5	3/2009	\$1,094,562	8,688	\$126
South Trail	n/a	1/2010	\$3,176,723	19,458	\$163
Average, 2003-2008 Cost per Square Foot					\$203
Average, 2009-2010 Cost per Square Foot					\$145

Source: Survey of Lee County fire districts, June 2005 (from the 2006 study) and August 29, 2011.

Land costs for 13 of the 19 fire districts were based on an analysis conducted by a local real estate appraisal firm (land costs were considered irrelevant in the other six districts, since the potential impact fees will far exceed the maximum fee recommended in this report). The appraiser identified sales throughout Lee County that were deemed comparables for fire station sites within the various fire districts. Comparable sales were generally defined as between one-half to three or four acres in size. In some of the more rural districts, sales of larger tracts were included due to the unavailability of smaller subdivided tracts. Comparable sales were located along major roadways, or at least just off major roads with relatively easy access. For the most part, the sales were commercial, although some industrial sales were considered but mostly not utilized. The appraiser interviewed the buyer, seller or agent involved in each transaction to verify the selling price, financing, motivation to purchase and sell and any lease and/or income expense information. The appraiser's opinion of average acquisition costs for fire station sites as of October 2011 is presented in Table 7.

Table 7. Average Land Cost by Fire District

Fire District	Cost/Acre
Alva	\$87,120
Bayshore	\$87,120
Boca Grande	na
Bonita Springs	\$304,920
Captiva	na
Estero	\$261,360
Fort Myers	\$217,800
Fort Myers Beach	na
Fort Myers Shores	\$130,680
Iona-McGregor	\$217,800
Lehigh Acres	\$174,240
Lee County Airports	na
Matlacha-Pine Island	na
North Fort Myers	\$130,680
San Carlos Park	\$217,800
Sanibel	\$653,400
South Trail	\$261,360
Tice	\$130,680
Upper Captiva	na

Source: Maxwell & Hendry Valuation Services, Inc., Lee County Fire District Land Cost Study, October 26, 2011.

The replacement costs of fire-fighting apparatus and other vehicles were based on current pricing for fully-equipped vehicles meeting Federal and State laws and National Fire Protection Association requirements, as shown in Table 8.

Table 8. Fire Rescue Equipment Costs

Equipment	Apparatus	Fire Equipment	Medical Equipment	Total Cost
Mini Pumper	\$185,000	\$45,519	\$40,400	\$270,919
Pumper	\$455,000	\$114,742	\$40,400	\$610,142
Tanker	\$250,000	\$23,801	\$0	\$273,801
Wildland Brush Truck-large	\$245,000	\$52,793	\$0	\$297,793
Wildland Brush Truck-small	\$152,000	\$45,000	\$0	\$197,000
Hazardous Materials Truck	\$310,000	\$205,707	\$8,400	\$524,107
Aerial Ladder 75'	\$750,000	\$158,926	\$40,400	\$949,326
Aerial Ladder 105'	\$822,000	\$158,926	\$40,400	\$1,021,326
Aerial Platform 65'	\$807,000	\$158,926	\$40,400	\$1,006,326
Aerial Platform 100'	\$990,000	\$240,000	\$40,400	\$1,270,400
Command Vehicle	\$90,000	\$31,893	\$8,400	\$130,293
Staff/Support Vehicle	\$56,000	\$0	\$4,800	\$60,800
Rescue Squad	\$130,000	\$0	\$40,400	\$170,400
Technical Rescue Trailer	\$105,000	\$0	\$0	\$105,000
Fire/Rescue Boat	\$140,000	\$18,000	\$4,800	\$162,800
Transport Capable Rescue	\$179,438	\$0	\$92,370	\$271,808
1500 Gallon ARFF Crash Trucks	\$577,978	\$114,742	\$8,400	\$701,120
3000 Gallon ARFF Crash Trucks	\$772,368	\$114,368	\$8,400	\$895,136

Source: Chief Elliot, Iona-McGregor Fire District, August 28, 2011.

Another issue to be considered is the possibility of extreme variations in existing levels of service. Because there is a minimum amount of capital equipment required to provide fire rescue service, the

cost is much higher per service unit in fire districts with relatively little development. Consequently, it is recommended that the Board of County Commissioners establish a uniform upper limit on the amount of fire rescue impact fees that it adopts for any district. While this is essentially a policy issue, rather than a technical matter, a generalized analysis has been performed to suggest a recommended cap. As shown in Table 9, the total capital cost among the districts that have four or more stations averages \$3.7 million per station, and each station serves an average of about 7,800 EDUs. These figures are used as a reasonable threshold to establish an upper limit for fire rescue impact fees assessed in Lee County of \$474 per service unit.

Table 9. Fire Rescue Capital Cost per Service Unit

Fire Rescue District	No. of Stations	Capital Cost	EDUs	Cost/Station	EDUs/Station	Cost/EDU
Fort Myers	6	\$15,641,065	48,537	\$2,606,844	8,090	\$322
Bonita Springs	5	\$23,244,987	31,691	\$4,648,997	6,338	\$733
Iona-McGregor	5	\$19,646,489	41,992	\$3,929,298	8,398	\$468
Lehigh Acres	5	\$18,108,068	39,457	\$3,621,614	7,891	\$459
South Trail	4	\$15,198,018	40,136	\$3,799,505	10,034	\$379
Estero	4	\$15,474,346	23,101	\$3,868,587	5,775	\$670
North Fort Myers	3	\$7,099,644	30,752	\$2,366,548	10,251	\$231
San Carlos Park	3	\$15,250,762	19,773	\$5,083,587	6,591	\$771
Fort Myers Beach	3	\$7,678,805	10,633	\$2,559,602	3,544	\$722
Matlacha-Pine Island	3	\$7,849,241	7,696	\$2,616,414	2,565	\$1,020
Sanibel	2	\$10,575,759	9,143	\$5,287,880	4,572	\$1,157
Tice	2	\$7,451,972	8,161	\$3,725,986	4,081	\$913
Lee County Airports	2	\$8,475,970	1,204	\$4,237,985	602	\$7,040
Fort Myers Shores	1	\$3,623,252	5,744	\$3,623,252	5,744	\$631
Bayshore	1	\$5,584,081	2,815	\$5,584,081	2,815	\$1,984
Alva	1	\$4,012,658	1,546	\$4,012,658	1,546	\$2,596
Captiva	1	\$2,027,496	1,488	\$2,027,496	1,488	\$1,363
Upper Captiva	1	\$2,208,536	341	\$2,208,536	341	\$6,477
Boca Grande	1	\$4,499,653	1,552	\$4,499,653	1,552	\$2,899
Recommended Cap*				\$3,700,000	7,800	\$474

*Average cost/station and EDUs/station for districts with 4 or more stations; recommended cost/EDU is ratio of average cost/station and EDUs/station.

Source: Number of stations and capital costs from Appendix A; EDUs from Table 5.

Net Cost per Service Unit

New development should not be required to pay for fire rescue facilities twice – once through impact fees and again through property taxes or other taxes or fees used to retire outstanding debt for existing capital facilities. To avoid double-charging, the amount of outstanding debt on existing capital facilities in each fire district has been deducted from the estimated replacement cost of existing facilities. Equipment funded by grants over the last five years has also been excluded from the net replacement value.

Based on standardized unit costs and an inventory of existing facilities and information on outstanding debt and recent grants provided by each fire district, the net cost of existing capital facilities was determined for each district. These calculations are presented in Appendix A.

The net cost per service unit is calculated by dividing the net cost of a fire district’s existing capital facilities (replacement cost less outstanding debt and capital grants received over the last five years) by the existing number of fire rescue service units (Equivalent Dwelling Units or EDUs) in the district. It is recommended that the fire rescue impact fees be capped so as not to exceed \$474 per service unit, to ensure that the fees are not based on extremely high levels of service that may currently be provided in some districts. The calculated net costs per service unit and recommended maximum fees per service unit for each fire district are shown in Table 10.

Table 10. Fire Rescue Maximum Fees per Service Unit

Fire Rescue District	Capital Cost	Debt & Grants	Net Cost	EDUs	Net Cost/ EDU	Max. Fee/ EDU
Alva	\$4,012,658	-\$154,313	\$3,858,345	1,546	\$2,496	\$474
Bayshore	\$5,584,081	-\$108,857	\$5,475,224	2,815	\$1,945	\$474
Boca Grande	\$4,499,653	-\$52,874	\$4,446,779	1,552	\$2,865	\$474
Bonita Springs	\$23,244,987	-\$4,359,665	\$18,885,322	31,691	\$596	\$474
Captiva	\$2,027,496	\$0	\$2,027,496	1,488	\$1,363	\$474
Estero	\$15,474,346	-\$5,550,651	\$9,923,695	23,101	\$430	\$430
Fort Myers	\$15,641,065	-\$65,800	\$15,575,265	48,537	\$321	\$321
Fort Myers Beach	\$7,678,805	-\$1,399,174	\$6,279,631	10,633	\$591	\$474
Fort Myers Shores	\$3,623,252	-\$20,425	\$3,602,827	5,744	\$627	\$474
Iona-McGregor	\$19,646,489	-\$3,805,610	\$15,840,879	41,992	\$377	\$377
Lehigh Acres	\$18,108,068	-\$185,865	\$17,922,203	39,457	\$454	\$454
Lee County Airports	\$8,475,970	-\$481,938	\$7,994,032	1,204	\$6,640	\$474
Matlacha-Pine Island	\$7,849,241	-\$661,967	\$7,187,274	7,696	\$934	\$474
North Fort Myers	\$7,099,644	\$0	\$7,099,644	30,752	\$231	\$231
San Carlos Park	\$15,250,762	-\$2,857,944	\$12,392,818	19,773	\$627	\$474
Sanibel	\$10,575,759	-\$2,450,000	\$8,125,759	9,143	\$889	\$474
South Trail	\$15,198,018	\$0	\$15,198,018	40,136	\$379	\$379
Tice	\$7,451,972	-\$68,000	\$7,383,972	8,161	\$905	\$474
Upper Captiva	\$2,208,536	\$0	\$2,208,536	341	\$6,477	\$474

Source: Capital cost, outstanding debt and grants from Appendix; Equivalent Dwelling Units (EDUs) from Table 5; maximum fee per EDU is net cost per EDU or recommended upper limit calculated in Table 9, whichever is less.

Recommended Fee Schedules

The maximum updated fees are calculated by multiplying the maximum fee per EDU (same as single-family fee) by the EDU multiplier for each land use type (see Table 11). The fees in 13 of the 19 districts are the same, based on the maximum fee per EDU determined in this study.

The following table also shows the percentage changes in fees by land use for each fire district. Residential, hotel/motel, public/institutional, industrial and warehouse fees decline in all districts. Retail and office fees increase in a minority of districts. It should be noted that the increases for retail and office uses would have been much larger and more widespread if this update had retained the call-based approach.

Table 11. Fire Rescue Maximum Impact Fees by Land Use

Fire District	Single-Family (unit)	Multi-Family (unit)	Mobile Home (unit)	Hotel/Motel (room)	Retail (1000sf)	Office (1000sf)	Public/Instit. (1000sf)	Industrial (1000sf)	Warehouse (1000sf)
EDUs per Unit->	1.00	0.75	0.69	0.61	1.18	0.55	0.36	0.28	0.13
Alva	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Bayshore	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Boca Grande	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Bonita Springs	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Captiva	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Estero	\$430	\$323	\$297	\$262	\$507	\$237	\$155	\$120	\$56
Fort Myers	\$321	\$241	\$221	\$196	\$379	\$177	\$116	\$90	\$42
Ft Myers Beach	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Ft Myers Shores	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Iona-McGregor	\$377	\$283	\$260	\$230	\$445	\$207	\$136	\$106	\$49
Lehigh Acres	\$454	\$341	\$313	\$277	\$536	\$250	\$163	\$127	\$59
Lee Co Airports	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Matlacha-Pine Is.	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
North Fort Myers	\$231	\$173	\$159	\$141	\$273	\$127	\$83	\$65	\$30
San Carlos Park	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Sanibel	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
South Trail	\$379	\$284	\$262	\$231	\$447	\$208	\$136	\$106	\$49
Tice	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Upper Captiva	\$474	\$356	\$327	\$289	\$559	\$261	\$171	\$133	\$62
Percent Change									
Alva	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Bayshore	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Boca Grande	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bonita Springs	-28%	-31%	-32%	-47%	9%	9%	-67%	-46%	-74%
Captiva	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Estero	-20%	-24%	-45%	-41%	20%	20%	-63%	-41%	-71%
Fort Myers	-34%	-37%	-38%	-51%	-1%	-1%	-70%	-51%	-76%
Ft Myers Beach	-22%	-26%	-27%	-42%	17%	18%	-64%	-42%	-71%
Ft Myers Shores	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Iona-McGregor	-23%	-26%	-27%	-43%	17%	16%	-64%	-42%	-72%
Lehigh Acres	-2%	-6%	-8%	-27%	48%	48%	-55%	-27%	-64%
Lee Co Airports	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Matlacha-Pine Is.	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
North Fort Myers	-25%	-28%	-29%	-44%	14%	13%	-65%	-43%	-72%
San Carlos Park	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Sanibel	-30%	-33%	-34%	-48%	6%	6%	-68%	-48%	-74%
South Trail	-8%	-12%	-12%	-31%	40%	40%	-58%	-31%	-66%
Tice	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%
Upper Captiva	-38%	-40%	-41%	-54%	-6%	-6%	-71%	-53%	-77%

Source: EDUs per unit from Table 4; single-family maximum fees from Table 10; updated fees for other land uses is single-family fee for the district multiplied by the EDUs per unit; percent change is change from current fees listed in Sec. 2-385, Lee County Land Development Code.

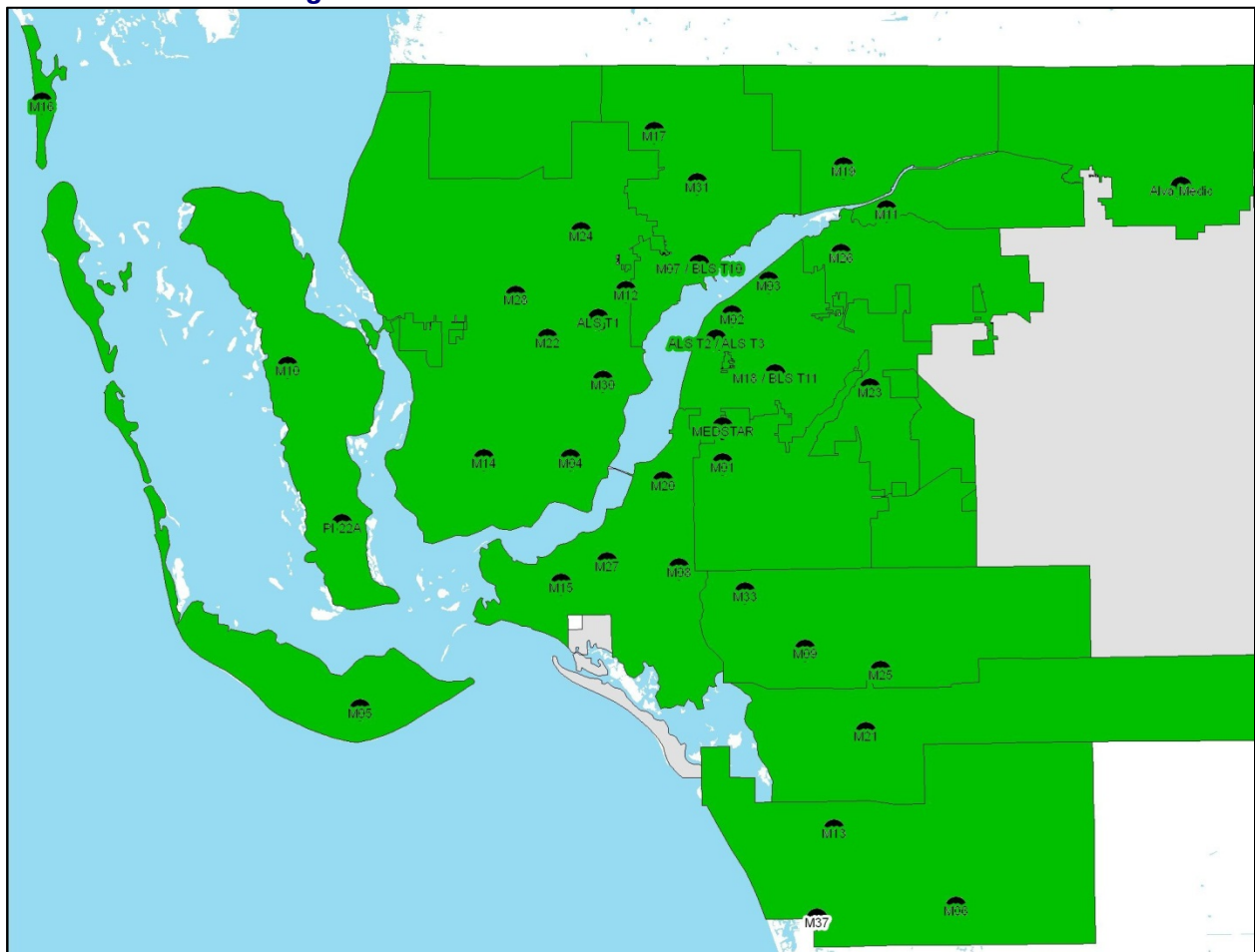
EMERGENCY MEDICAL SERVICE

Lee County provides emergency medical service (EMS), including advanced life support and patient transportation, throughout most of the county. Capital facilities supporting these services include portions of several fire stations, a fleet of ambulances and other vehicles, including two helicopters and communications and medical equipment. The County has charged an impact fee for EMS facilities since 1989. The EMS impact fees were updated in 2001, 2003 and 2006. This section calculates the updated maximum impact fees that can be charged by the County to recover the cost of EMS facilities necessary to serve new development at the existing level of service.

Benefit District

Lee County provides primary EMS service to all of the incorporated and unincorporated areas of the county, with the exception of the Fort Myers Beach Fire Control District and the Lehigh Acres Fire Protection and Rescue Service District. The shaded area of the county for which County EMS provides primary service is shown in Figure 5.

Figure 5. EMS Service Area and Station Locations



While each EMS unit has a designated primary response area, it will respond to calls in neighboring response areas if required. Specialized equipment that supports all units, such as communications and dispatch equipment and helicopters, are centralized. Consequently, the entire service area is appropriately designated as a single benefit district for the purpose of EMS impact fees.

Methodology

As with the previous studies, the updated EMS impact fees will be based on the current level of service. The methodology divides the replacement cost of the County’s existing EMS capital facilities and equipment by the number of existing EMS service units, and then deducts a revenue credit for outstanding debt. A credit has also been provided for grant funding, even though this source of funding is not assured in the future. Service units, or “equivalent dwelling units” (EDUs), represent the demand for EMS service generated by a single-family dwelling. The recommended formula for calculating the EMS impact fees is shown in Figure 6.

Figure 6. EMS Impact Fee Formula

IMPACT FEE	=	PROJECT EDUs x NET COST/EDU
NET COST/EDU	=	COST/EDU – CREDIT/EDU
COST/EDU	=	COST ÷ TOTAL EDUs
COST	=	Replacement cost of County's existing EMS capital facilities
CREDIT/EDU	=	Outstanding debt ÷ TOTAL EDUS + grant credit per EDU
EDU	=	Equivalent Dwelling Unit (demand generated by a single-family unit)
UNITS	=	Development units (dwelling units, hotel/motel rooms, or 1,000s of sq. feet)
EDUs/UNIT	=	The number of EDUs associated with a unit of a particular land use category
PROJECT EDUs	=	Total EDUs for a development project
TOTAL EDUs	=	Total EDUs for EMS service area (sum of UNITS x EDUs/UNIT by land use)

Service Unit

Different types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for EMS service. This unit of measurement is called a “service unit.” A common service unit used in impact fee analysis is the “equivalent dwelling unit” or EDU, which represents the impact of a typical single-family dwelling.

As with fire rescue, the updated EDU multipliers will be based on functional population rather than calls-for-service. The concept of functional population and the EDU multipliers based on

functional population are described in Appendix B. The rationale for switching to the functional population basis for EMS fees has been explained in the previous section for fire rescue. As noted above, the area served by Lee County Emergency Medical Services is the entire county, less the area served by the Fort Myers Beach and Lehigh Acres fire districts. The existing land use data are summarized in Table 12.

Table 12. Existing Land Use, County EMS Service Area

Land Use	Unit of Measure	County-Wide	Ft. Myers Beach	Lehigh Acres	Area Served
Single-Family Detached	Dwelling	199,710	-3,910	-30,034	165,766
Multi-Family	Dwelling	127,426	-4,329	-7,554	115,543
Mobile Home/RV Park	Pad	33,438	-1,956	0	31,482
Hotel/Motel	Room	16,413	-1,057	-339	15,017
Commercial	1,000 sq. ft.	52,490	-961	-1,965	49,564
Office	1,000 sq. ft.	24,389	-225	-795	23,369
Institutional	1,000 sq. ft.	32,323	-452	-1,712	30,159
Industrial	1,000 sq. ft.	11,217	-135	-237	10,845
Warehouse	1,000 sq. ft.	27,115	-175	-869	26,071

Source: Lee County Community Development Department, September 1, 2011 (area served is county-wide less Fort Myers Beach and Lehigh Acres fire districts).

The combination of existing land use and EDU multipliers yields the total number of EMS equivalent dwelling units in the EMS service area. As shown in Table 13, there are 371,928 EMS service units.

Table 13. Total EMS Service Units

Land Use	Unit of Measure	Existing Units	EDUs/Unit	Total EDUs
Single-Family Detached	Dwelling	165,766	1.00	165,766
Multi-Family	Dwelling	115,543	0.75	86,657
Mobile Home/RV Park	Pad	31,482	0.69	21,723
Hotel/Motel	Room	15,017	0.61	9,160
Commercial	1,000 sq. ft.	49,564	1.18	58,486
Office	1,000 sq. ft.	23,369	0.55	12,853
Institutional	1,000 sq. ft.	30,159	0.36	10,857
Industrial	1,000 sq. ft.	10,845	0.28	3,037
Warehouse	1,000 sq. ft.	26,071	0.13	3,389
Total EDUs				371,928

Source: Existing county-wide units, excluding Fort Myers Beach and Lehigh Acres, from Table 12; EDUs per unit from Table 45.

Capital Costs

Capital facilities used to support County EMS services include portions of fire stations used by EMS, ambulances and support vehicles, communications equipment, breathing systems and specialized extrication equipment.

Lee County EMS services are provided out of 32 stations. Many stations are leased space in facilities owned by fire districts. The County owns four EMS stations, and has paid the construction costs for the portion of three other fire stations that it occupies. The EMS helicopters are housed in a County-owned hangar. At current replacement costs, the buildings owned (or paid for) by the

County and housing EMS personnel and equipment represent an investment of about \$2.4 million, summarized in Table 14.

Table 14. EMS Building Cost

Station	EMS Sq. Ft.	Cost/ Sq. Ft.	EMS Bldg. Cost
Cape Coral EMS Station 12	1,460	\$145	\$211,700
Estero Fire Station #3*	662	\$145	\$95,990
Iona McGregor EMS Station 20	1,378	\$145	\$199,810
MedStar Air Ambulance Hangar	7,916	\$145	\$1,147,820
North Ft. Myers EMS Station 7	1,568	\$145	\$227,360
North Ft. Myers EMS Station 31	2,865	\$145	\$415,425
Pine Island Fire Station 1*	600	\$145	\$87,000
South Trail Fire Station*	n/a	\$145	n/a
Total EMS Buildings Owned or Paid For	16,449		\$2,385,105

* EMS portion of station construction cost paid for by Lee County

Source: Station square footage from Lee County Public Safety Division, August 31, 2011; cost per square foot based on average fire station construction cost from Table 6.

The County operates a fleet of EMS vehicles, including ambulances, two helicopters and other support vehicles. Based on current replacement costs, the existing fleet of EMS vehicles has a total cost of \$13.8 million, summarized in Table 15.

Table 15. EMS Vehicle Cost

Vehicle Type	Number	Unit Cost	Total Cost
Ambulance, Freightliner, Light Duty	15	\$148,025	\$2,220,375
Ambulance, Freightliner, Medium Duty	34	\$174,975	\$5,949,150
Ambulance, Freightliner Sprinter	2	\$59,646	\$119,292
Truck, Sport Utility, 1/2 Ton	6	\$27,298	\$163,788
Truck, Sport Utility, 1/4 Ton	4	\$22,873	\$91,492
Truck, Pickup, 1 Ton	1	\$35,133	\$35,133
Truck, Pickup, 1/2 Ton	2	\$19,520	\$39,040
Van, 1 Ton, High Cube Body	1	\$63,960	\$63,960
Van, 1 Ton, Utility Body	1	\$16,628	\$16,628
Van, 3/4 Ton, Utility Body	1	\$21,614	\$21,614
Auto, Full Size, 4-Door	3	\$25,980	\$77,940
Auto, Intermediate, 4-Door	2	\$21,258	\$42,516
Helicopter (Bolkow BO-105)	1	\$2,000,000	\$2,000,000
Helicopter (Bell 430)	1	\$3,000,000	\$3,000,000
Total Vehicle Cost			\$13,840,928

Source: Lee County Public Safety Division, fixed asset listings, August 31, 2011 (unit costs based on most recent acquisition).

In addition to buildings and vehicles, a significant amount of capital equipment is required to support EMS service, including communications equipment, computers, medical and rescue equipment, and office equipment. The cost of existing EMS equipment was estimated from original acquisition costs from the County's fixed asset listings for EMS functions. The total cost of EMS equipment is about \$18 million, summarized in Table 16.

Table 16. EMS Equipment Cost

	2006 Study	Since 2006	Total
Radios and Communication Equipment	\$6,918,716	\$943,667	\$7,862,383
Medical and Rescue Equipment	\$5,290,004	\$472,645	\$5,762,649
Computers and Office Equipment	\$2,206,819	\$1,161,477	\$3,368,296
Other Equipment	\$496,560	\$640,775	\$1,137,335
Total	\$14,912,099	\$3,218,564	\$18,130,663

Source: Lee County Public Safety Division, original costs from fixed asset listings for EMS, November 29, 2005 and August 31, 2011.

The total cost of EMS facilities, including buildings, vehicles and equipment, is approximately \$34.4 million. Dividing this total capital cost by total existing service units yields a cost of \$92 per EDU, as summarized in Table 17.

Table 17. EMS Cost per Service Unit

Station Replacement Cost	\$2,385,105
Vehicle Replacement Cost	\$13,840,928
Equipment Cost	\$18,130,663
Total Facility and Equipment Cost	\$34,356,696
÷ Total Existing Equivalent Dwelling Units (EDUs)	371,928
Cost per EDU	\$92

Source: Station cost from Table 14; vehicle cost from Table 15; equipment cost from Table 16; total EDUs from Table 13.

Net Cost per Service Unit

The County has no outstanding debt for EMS facilities. It has received grant funding in recent years. The grant funding for EMS equipment received by the County from 2006 through 2010 is summarized in Table 18.

Table 18. EMS Grant Funding, 2006-2010

(2) Ambulance Driving Simulators	\$319,620
Stay Alive Just Drive Program	\$56,921
Carbon Monoxide Detectors	\$25,875
Bicycle Safety Awareness	\$16,987
(11) Automatic External Defibrillators	\$9,949
(50) Whisper Flow Generators for Airway Management	\$30,250
(3) 15 KW Propane Gas Generators	\$19,285
(1) Powerflex Helicopter Stretcher	\$9,500
(1,500) Field Responder Medical Priority Dispatch Guides	\$12,040
(1) Medical Equipment / Stretcher Sanitizer	\$44,500
(7) Mobile Data Computers	\$50,900
(10) Single Axle 5x8 Trailers	\$17,700
(1) EMS Controlled Product Dispenser	\$10,200
(24) Gallet Helicopter Flight Helmets	\$43,320
Emergency Light Pre-emption Program	\$76,366
(259 sets) Protective Gear	\$230,560
Total Grant Funding, 2006-2010	\$973,973
÷ 5 Years	5
Average Annual Grant Funding	\$194,795

Source: Lee County Public Safety Division, August 31, 2011.

While this source of funding is uncertain, a credit for grant funding is given in this study. Assuming that the County continues to receive EMS grants proportional to the amount of development served, over the typical 20-year financing period for capital facilities the County will receive the equivalent of a current lump-sum contribution of \$7 per service unit.

Table 19. EMS Grant Funding Credit

Annual EMS Grant Funding	\$194,795
÷ Total Existing Equivalent Dwelling Units (EDUs)	371,928
Annual EMS Grant Funding per EDU	\$0.52
x Present Value Factor	13.65
EMS Grant Funding Credit per EDU	\$7

Source: Annual grant funding from Table 18; existing EDUs from Table 13; present value factor based on average rate on 20-year, present value factor based on 20 years at 3.95% discount rate, which is the average interest rate on state and local bonds in December 2011 from the U.S. Federal Reserve at <http://www.federalreserve.gov/datadownload/Build.aspx?rel=H15>.

Reducing the cost per service unit by the anticipated grant funding per service unit over the next 20 years yields a net cost per service unit of \$85 per equivalent dwelling unit, shown in Table 20.

Table 20. EMS Net Cost per Service Unit

EMS Cost per EDU	\$92
- EMS Grant Funding Credit per EDU	-\$7
EMS Net Cost per EDU	\$85

Source: Cost per EDU from Table 17; credit per EDU from Table 19.

Recommended Fee Schedule

The maximum EMS impact fees that may be adopted by the County can be calculated by multiplying the number of equivalent dwelling units (EDUs) per unit associated with various land uses by the net cost per EDU of maintaining the existing level of service. The EMS impact fee calculations are presented in Table 21.

Table 21. Updated EMS Impact Fees

Land Use	Unit	EDUs/ Unit	Net Cost/ EDU	Net Cost/ Unit
Single-Family Detached	Dwelling	1.00	\$85	\$85
Multi-Family	Dwelling	0.75	\$85	\$64
Mobile Home/RV Park	Space	0.69	\$85	\$59
Hotel/Motel	Room	0.61	\$85	\$52
Retail	1,000 sq. ft.	1.18	\$85	\$100
Office	1,000 sq. ft.	0.55	\$85	\$47
Public/Institutional	1,000 sq. ft.	0.36	\$85	\$31
Industrial	1,000 sq. ft.	0.28	\$85	\$24
Warehouse	1,000 sq. ft.	0.13	\$85	\$11

Source: EDUs per unit from Table 13; net cost per EDU from Table 20.

The updated EMS fees calculated above are compared with the County's current EMS fees in Table 22. The updated fees are lower for residential, retail, office and public/institutional uses, and are higher for hotel/motel, industrial and warehouse uses.

Table 22. Comparative EMS Impact Fees

Land Use	Unit	Current Fee	Updated Fee	Percent Change
Single-Family Detached	Dwelling	\$94	\$85	-10%
Multi-Family	Dwelling	\$71	\$64	-10%
Mobile Home/RV Park	Space	\$69	\$59	-14%
Hotel/Motel	Room	\$32	\$52	63%
Retail	1,000 sq. ft.	\$138	\$100	-28%
Office	1,000 sq. ft.	\$66	\$47	-29%
Public/Institutional	1,000 sq. ft.	\$138	\$31	-78%
Industrial	1,000 sq. ft.	\$14	\$24	71%
Warehouse	1,000 sq. ft.	\$7	\$11	57%

Source: Current fees from Section 2-385 of Lee County Land Development Code; updated fees from Table 21.

APPENDIX A: NET CAPITAL COST BY FIRE DISTRICT

Table 23. Fire Rescue Net Capital Cost, Alva

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	1	na	na
Fire Station Building Sq. Feet	8,001	\$145	\$1,160,145
Fire Station Acres	4.70	\$87,120	\$409,464
Mini-Pumper	1	\$270,919	\$270,919
Pumper	1	\$610,142	\$610,142
Tanker	2	\$273,801	\$547,602
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	3	\$297,793	\$591,000
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	2	\$130,293	\$260,586
Staff/Support Vehicle	0	\$60,800	\$0
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$4,012,658
- Outstanding Debt			-\$108,000
- Capital Grants, 2006-2011			-\$46,313
Net Capital Cost			\$3,858,345

Source: Inventory units, building square feet, land, outstanding debt and grants from Alva Fire Control and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 24. Fire Rescue Net Capital Cost, Bayshore

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	1	na	na
Fire Station Building Sq. Feet	18,898	\$145	\$2,740,210
Fire Station Acres	5.00	\$87,120	\$435,600
Mini-Pumper	0	\$270,919	\$0
Pumper	2	\$610,142	\$1,220,284
Tanker	1	\$273,801	\$273,801
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	2	\$297,793	\$595,586
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	0	\$130,293	\$0
Staff/Support Vehicle	2	\$60,800	\$121,600
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	0	\$162,800	\$0
Total Capital Cost			\$5,584,081
– Outstanding Debt			–\$108,857
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$5,475,224

Source: Inventory units, building square feet, land, outstanding debt and grants from Bayshore Fire Protection and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 25. Fire Rescue Net Capital Cost, Boca Grande

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	1	na	na
Fire Station Building Sq. Feet	12,270	\$145	\$1,779,150
Fire Station Acres	1.00	na	na
Mini-Pumper	0	\$270,919	\$0
Pumper	2	\$610,142	\$1,220,284
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	0	\$297,793	\$0
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	1	\$949,326	\$949,326
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	1	\$130,293	\$130,293
Staff/Support Vehicle	1	\$60,800	\$60,800
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$4,499,653
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			–\$52,874
Net Capital Cost			\$4,446,779

Source: Inventory units, building square feet, land, outstanding debt and grants from Boca Grande Fire Control District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 26. Fire Rescue Net Capital Cost, Bonita Springs

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	5	na	na
Fire Station Building Sq. Feet	65,629	\$145	\$9,516,205
Fire Station Acres	19.00	\$304,920	\$5,793,480
Mini-Pumper	3	\$270,919	\$812,757
Pumper	4	\$610,142	\$2,440,568
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	2	\$297,793	\$595,586
Hazardous Materials Truck	2	\$524,107	\$1,048,214
75' Aerial Ladder Truck	1	\$949,326	\$949,326
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	7	\$130,293	\$912,051
Staff/Support Vehicle	14	\$60,800	\$851,200
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	2	\$162,800	\$325,600
Total Capital Cost			\$23,244,987
– Outstanding Debt			–\$4,359,665
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$18,885,322

Source: Inventory units, building square feet, land, outstanding debt and grants from Bonita Springs Fire Control and Rescue District, August 29, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 27. Fire Rescue Net Capital Cost, Captiva

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	1	na	na
Fire Station Building Sq. Feet	2,800	\$145	\$406,000
Fire Station Acres	1.00	na	na
Mini-Pumper	1	\$270,919	\$270,919
Pumper	2	\$610,142	\$1,220,284
Tanker		\$273,801	\$0
Wildland Brush Trucks, Small		\$197,000	\$0
Wildland Brush Trucks, Large		\$297,793	\$0
Hazardous Materials Truck		\$524,107	\$0
75' Aerial Ladder Truck		\$949,326	\$0
105' Aerial Ladder Truck		\$1,021,326	\$0
65' Aerial Platform Truck		\$1,006,326	\$0
100' Aerial Platform Truck		\$1,270,400	\$0
Command Vehicle	1	\$130,293	\$130,293
Staff/Support Vehicle		\$60,800	\$0
Rescue Squad		\$170,400	\$0
Fire Rescue Boat		\$162,800	\$0
Total Capital Cost			\$2,027,496
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$2,027,496

Source: Inventory units, building square feet, land, outstanding debt and grants from Captiva Island Fire Control District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 28. Fire Rescue Net Capital Cost, Estero

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	4	na	na
Fire Station Building Sq. Feet	39,112	\$145	\$5,671,240
Fire Station Acres	8.09	\$261,360	\$2,114,402
Mini-Pumper	0	\$270,919	\$0
Dash Pumpers	2	\$610,142	\$1,220,284
Tankers	1	\$273,801	\$273,801
Wildland Brush Trucks, Small	2	\$197,000	\$394,000
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Hazardous Materials Trucks	0	\$524,107	\$0
75' Aerial Ladder Trucks	2	\$949,326	\$1,898,652
105' Aerial Ladder Trucks	0	\$1,021,326	\$0
65' Aerial Platform Trucks	0	\$1,006,326	\$0
100' Aerial Platform Trucks	1	\$1,270,400	\$1,270,400
Command Vehicles	6	\$130,293	\$781,758
Staff/Support Vehicles	7	\$60,800	\$425,600
Rescue Squad	0	\$170,400	\$0
Transport Capable Rescue	2	\$271,808	\$543,616
Technical Rescue Trailer	4	\$105,000	\$420,000
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$15,474,346
- Outstanding Debt			- \$5,480,902
- Capital Grants, 2006-2011			- \$69,749
Net Capital Cost			\$9,923,695

Source: Inventory units, building square feet, land, outstanding debt and grants from Estero Fire Protection and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 29. Fire Rescue Net Capital Cost, Fort Myers

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	6	na	na
Fire Station Building Sq. Feet	55,428	\$145	\$8,037,060
Fire Station Acres	10.00	\$217,800	\$2,178,000
Mini-Pumper	0	\$270,919	\$0
Pumper	0	\$610,142	\$0
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	0	\$297,793	\$0
Hazardous Materials Truck	2	\$524,107	\$1,048,214
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	1	\$1,021,326	\$1,021,326
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	1	\$1,270,400	\$1,270,400
Command Vehicle	5	\$130,293	\$651,465
Staff/Support Vehicle	15	\$60,800	\$912,000
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	2	\$162,800	\$325,600
Total Capital Cost			\$15,641,065
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			-\$65,800
Net Capital Cost			\$15,575,265

Source: Inventory units, building square feet, land, outstanding debt and grants from City of Fort Myers Fire Department, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 30. Fire Rescue Net Capital Cost, Fort Myers Beach

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	3	na	na
Fire Station Building Sq. Feet	26,008	\$145	\$3,771,160
Fire Station Acres	1.44	na	na
Mini-Pumper	0	\$270,919	\$0
Pumper	3	\$610,142	\$1,830,426
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	0	\$297,793	\$0
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	1	\$949,326	\$949,326
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	1	\$130,293	\$130,293
Staff/Support Vehicle	8	\$60,800	\$486,400
Rescue Squad	3	\$170,400	\$511,200
Fire Rescue Boat	0	\$162,800	\$0
Total Capital Cost			\$7,678,805
– Outstanding Debt			-\$1,399,174
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$6,279,631

Source: Inventory units, building square feet, land, outstanding debt and grants from Fort Myers Beach Fire Control District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 31. Fire Rescue Net Capital Cost, Fort Myers Shores

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	1	na	na
Fire Station Building Sq. Feet	7,000	\$145	\$1,015,000
Fire Station Acres	0.50	\$130,680	\$65,340
Mini-Pumper	0	\$270,919	\$0
Pumper	3	\$610,142	\$1,830,426
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	1	\$130,293	\$130,293
Staff/Support Vehicle	2	\$60,800	\$121,600
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$3,623,252
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			-\$20,425
Net Capital Cost			\$3,602,827

Source: Inventory units, building square feet, land, outstanding debt and grants from Fort Myers Shores Fire Protection and Rescue District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 32. Fire Rescue Net Capital Cost, Iona-McGregor

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	5	na	na
Fire Station Building Sq. Feet	55,601	\$145	\$8,062,145
Fire Station Acres	14.08	\$217,800	\$3,066,624
Mini-Pumper	0	\$270,919	\$0
Pumper	7	\$610,142	\$4,270,994
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	0	\$297,793	\$0
Hazardous Materials Truck	1	\$524,107	\$524,107
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	1	\$1,006,326	\$1,006,326
100' Aerial Platform Truck	1	\$1,270,400	\$1,270,400
Command Vehicle	1	\$130,293	\$130,293
Staff/Support Vehicle	8	\$60,800	\$486,400
Rescue Squad	2	\$170,400	\$340,800
Fire Rescue Boat	3	\$162,800	\$488,400
Total Capital Cost			\$19,646,489
– Outstanding Debt			-\$3,805,610
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$15,840,879

Source: Inventory units, building square feet, land, outstanding debt and grants from Iona-McGregor Fire Protection and Rescue Service District, August 29, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 33. Fire Rescue Net Capital Cost, Lehigh Acres

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	5	na	na
Fire Station Building Sq. Feet	50,667	\$145	\$7,346,715
Fire Station Acres	6.71	\$174,240	\$1,169,150
Mini-Pumper	0	\$270,919	\$0
Pumper	6	\$610,142	\$3,660,852
Tanker	2	\$273,801	\$547,602
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	6	\$297,793	\$1,786,758
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	1	\$1,006,326	\$1,006,326
100' Aerial Platform Truck	1	\$1,270,400	\$1,270,400
Command Vehicle	5	\$130,293	\$651,465
Staff/Support Vehicle	11	\$60,800	\$668,800
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	0	\$162,800	\$0
Total Capital Cost			\$18,108,068
- Outstanding Debt			\$0
- Capital Grants, 2006-2011			-\$185,865
Net Capital Cost			\$17,922,203

Source: Inventory units, building square feet, land, outstanding debt and grants from Lehigh Acres Fire Control and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 34. Fire Rescue Net Capital Cost, Lee County Airports

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	2	na	na
Fire Station Building Sq. Feet	21,000	\$145	\$3,045,000
Fire Station Acres	2.32	na	na
Mini-Pumper	0	\$270,919	\$0
Pumper	1	\$610,142	\$610,142
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	0	\$197,000	\$0
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Command Vehicle	3	\$130,293	\$390,879
Staff/Support Vehicle	3	\$60,800	\$182,400
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	0	\$162,800	\$0
1500 gal ARFF Trucks (crash Truck)	2	\$701,120	\$1,402,240
3000 gal ARFF Trucks (Crash Truck)	2	\$895,136	\$1,790,272
Multi-purpose ARFF Trucks (750gal)	2	\$378,622	\$757,244
Total Capital Cost			\$8,475,970
- Outstanding Debt			\$0
- Capital Grants, 2006-2011			-\$481,938
Net Capital Cost			\$7,994,032

Source: Inventory units, building square feet, land, outstanding debt and grants from Lee County Airports Fire Department, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 35. Fire Rescue Net Capital Cost, Matlacha-Pine Island

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	3	na	na
Fire Station Building Sq. Feet	26,474	\$145	\$3,838,730
Fire Station Acres	7.50	na	na
Mini-Pumper	1	\$270,919	\$270,919
Pumper	3	\$610,142	\$1,830,426
Tanker	1	\$273,801	\$273,801
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	3	\$297,793	\$893,379
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	2	\$130,293	\$260,586
Staff/Support Vehicle	2	\$60,800	\$121,600
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$7,849,241
– Outstanding Debt			-\$661,967
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$7,187,274

Source: Inventory units, building square feet, land, outstanding debt and grants from Matlacha-Pine Island Fire Control District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 36. Fire Rescue Net Capital Cost, North Fort Myers

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	3	na	na
Fire Station Building Sq. Feet	15,100	\$145	\$2,189,500
Fire Station Acres	4.04	\$130,680	\$527,947
Mini-Pumper	3	\$270,919	\$812,757
Pumper	4	\$610,142	\$2,440,568
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	3	\$130,293	\$390,879
Staff/Support Vehicle	4	\$60,800	\$243,200
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	0	\$162,800	\$0
Total Capital Cost			\$7,099,644
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$7,099,644

Source: Inventory units, building square feet, land, outstanding debt and grants from North Fort Myers Fire Control and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 37. Fire Rescue Net Capital Cost, San Carlos Park

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	3	na	na
Fire Station Building Sq. Feet	38,958	\$145	\$5,648,910
Fire Station Acres	14.50	\$217,800	\$3,158,100
Mini-Pumper	0	\$270,919	\$0
Pumper	4	\$610,142	\$2,440,568
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	3	\$197,000	\$591,000
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	1	\$949,326	\$949,326
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	1	\$1,270,400	\$1,270,400
Command Vehicle	5	\$130,293	\$651,465
Staff/Support Vehicle	4	\$60,800	\$243,200
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	0	\$162,800	\$0
Total Capital Cost			\$15,250,762
– Outstanding Debt			–\$2,857,944
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$12,392,818

Source: Inventory units, building square feet, land, outstanding debt and grants from San Carlos Park Fire Control and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 38. Fire Rescue Net Capital Cost, Sanibel

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	2	na	na
Fire Station Building Sq. Feet	18,000	\$145	\$2,610,000
Fire Station Acres	6.84	\$653,400	\$4,469,256
Mini-Pumper	0	\$270,919	\$0
Pumper	2	\$610,142	\$1,220,284
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	0	\$297,793	\$0
Hazardous Materials Truck	1	\$524,107	\$524,107
75' Aerial Ladder Truck	1	\$949,326	\$949,326
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	2	\$130,293	\$260,586
Staff/Support Vehicle	3	\$60,800	\$182,400
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$10,575,759
– Outstanding Debt			–\$2,450,000
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$8,125,759

Source: Inventory units, building square feet, land, outstanding debt and grants from Sanibel Fire Control District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 39. Fire Rescue Net Capital Cost, South Trail

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	4	na	na
Fire Station Building Sq. Feet	50,807	\$145	\$7,367,015
Fire Station Acres	3.57	\$261,360	\$933,055
Mini-Pumper	0	\$270,919	\$0
Pumper	5	\$610,142	\$3,050,710
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	2	\$197,000	\$394,000
Wildland Brush Trucks, Large	0	\$297,793	\$0
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	2	\$949,326	\$1,898,652
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	2	\$130,293	\$260,586
Staff/Support Vehicle	13	\$60,800	\$790,400
Rescue Squad	2	\$170,400	\$340,800
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$15,198,018
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			\$0
Net Capital Cost			\$15,198,018

Source: Inventory units, building square feet, land, outstanding debt and grants from South Trail Fire Protection and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 40. Fire Rescue Net Capital Cost, Tice

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	2	na	na
Fire Station Building Sq. Feet	19,313	\$145	\$2,800,385
Fire Station Acres	2.50	\$130,680	\$326,700
Mini-Pumper	0	\$270,919	\$0
Pumper	4	\$610,142	\$2,440,568
Tanker	0	\$273,801	\$0
Wildland Brush Trucks, Small	2	\$197,000	\$394,000
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	1	\$949,326	\$949,326
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	0	\$130,293	\$0
Staff/Support Vehicle	4	\$60,800	\$243,200
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	0	\$162,800	\$0
Total Capital Cost			\$7,451,972
– Outstanding Debt			\$0
– Capital Grants, 2006-2011			-\$68,000
Net Capital Cost			\$7,383,972

Source: Inventory units, building square feet, land, outstanding debt and grants from Tice Fire Protection and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

Table 41. Fire Rescue Net Capital Cost, Upper Captiva

Capital Facilities/Equipment	Units	Unit Cost	Total Cost
Number of Fire Stations	1	na	na
Fire Station Building Sq. Feet	4,600	\$145	\$667,000
Fire Station Acres	0.50	na	na
Mini-Pumper	0	\$270,919	\$0
Pumper	1	\$610,142	\$610,142
Tanker	1	\$273,801	\$273,801
Wildland Brush Trucks, Small	1	\$197,000	\$197,000
Wildland Brush Trucks, Large	1	\$297,793	\$297,793
Hazardous Materials Truck	0	\$524,107	\$0
75' Aerial Ladder Truck	0	\$949,326	\$0
105' Aerial Ladder Truck	0	\$1,021,326	\$0
65' Aerial Platform Truck	0	\$1,006,326	\$0
100' Aerial Platform Truck	0	\$1,270,400	\$0
Command Vehicle	0	\$130,293	\$0
Staff/Support Vehicle	0	\$60,800	\$0
Rescue Squad	0	\$170,400	\$0
Fire Rescue Boat	1	\$162,800	\$162,800
Total Capital Cost			\$2,208,536
- Outstanding Debt			\$0
- Capital Grants, 2006-2011			\$0
Net Capital Cost			\$2,208,536

Source: Inventory units, building square feet, land, outstanding debt and grants from Upper Captiva Fire Protection and Rescue Service District, August 28, 2011; unit cost per building square foot from Table 6; land costs per acre from Table 7; unit prices for vehicles from Table 8.

APPENDIX B: FUNCTIONAL POPULATION

The two most common methodologies used in calculating public safety service units and impact fees are the “calls-for-service” approach and the “functional population” approach. For the reasons discussed in the “service unit” section of the fire rescue portion of this report, this update utilizes the “functional population” approach to calculate and assess the fire rescue and EMS impact fees. This approach is a generally-accepted methodology for these impact fee types and is based on the observation that demand for public safety facilities tends to be proportional to the presence of people at a particular site.

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

Residential Functional Population

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

The most recent and reliable data on average household size in Lee County is the 5% sample set consisting of 1% samples for the five-year period 2006-2010 collected by the U.S. Census Bureau. The average household sizes associated with different housing types are shown in Table 42.

Table 42. Average Household Size by Housing Type

Housing Type	Household Population	Occupied Units	Avg. HH Size
Single-Family Detached	382,301	148,057	2.58
Multi-Family	140,176	73,007	1.92
Mobile Home	43,074	24,056	1.79

Source: Household population and occupied units in Lee County from 2006-2010 5% sample American Community Survey data from the U.S. Census.

Determining residential functional population multipliers is considerably simpler than the nonresidential component. It is estimated that people, on average, spend 16 hours, or 67 percent, of each 24-hour day at their place of residence and the other 33 percent away from home. A similar approach is used for the hotel/motel category. The functional population per unit for these uses is shown in Table 43.

Table 43. Functional Population per Unit for Residential Uses

Housing Type	Unit	Average HH Size	Occupancy	Func. Pop./Unit
Single-Family Detached	Dwelling	2.58	0.67	1.73
Multi-Family	Dwelling	1.92	0.67	1.29
Mobile Home	Dwelling	1.79	0.67	1.20
Hotel/Motel	Room	1.57	0.67	1.05

Source: Average household size from Table 42; residential occupancy factor assumed; hotel/motel room occupancy based on one-half of average vehicle occupancy on vacation trips from U.S. Department of Transportation, *National Household Travel Survey*, 2009.

Nonresidential Functional Population

The functional population methodology for nonresidential land uses is based on trip generation data utilized in developing the transportation demand schedule prepared for the updated transportation impact fee update. Functional population per 1,000 square feet is derived by dividing the total number of hours spent by employees and visitors during a week day by 24 hours. Employees are estimated to spend 8 hours per day at their place of employment, and visitors are estimated to spend one hour per visit. The formula used to derive the nonresidential functional population estimates is summarized in Figure 7.

Figure 7. Nonresidential Functional Population Formula

FUNCPOP/UNIT	=	(employee hours/1000 sf + visitor hours/1000 sf) ÷ 24 hours/day
<u>Where:</u>		
Employee hours/1000 sf	=	employees/1000 sf x 8 hours/day
Visitor hours/1000 sf	=	visitors/1000 sf x 1 hour/visit
Visitors/1000 sf	=	weekday ADT/1000 sf x avg. vehicle occupancy – employees/1000 sf
Weekday ADT/1000 sf	=	one-way avg. daily trips (total trip ends ÷ 2)

Using this formula and information on trip generation rates, vehicle occupancy rates from the *National Household Travel Survey* and other sources and assumptions, nonresidential functional population estimates per 1,000 square feet of gross floor area are calculated in Table 44.

Table 44. Functional Population per Unit for Nonresidential Uses

Land Use	Unit	Trip Rate	Persons/ Trip	Employee/ Unit	Visitors/ Unit	Functional Pop./Unit
Retail	1,000 sq. ft.	21.47	1.96	1.02	41.06	2.05
Office	1,000 sq. ft.	5.51	1.24	2.31	4.52	0.96
Institutional	1,000 sq. ft.	3.79	1.86	1.11	5.94	0.62
Industrial	1,000 sq. ft.	3.48	1.24	1.05	3.27	0.49
Warehouse	1,000 sq. ft.	1.78	1.24	0.43	1.78	0.22

Source: Trip rates based on one-half of average daily trip rate from ITE, *Trip Generation*, 8th ed., 2008 (retail/commercial based on shopping center, institutional based on nursing home, industrial based on manufacturing); persons/trip is average vehicle occupancy from Federal Highway Administration, *Nationwide Household Travel Survey*, 2009; employees/unit from U.S. Department of Energy, *Commercial Buildings Energy Consumption Survey*, 2003; visitors/unit is trips times persons/trip minus employees/unit; functional population/unit calculated based on formula from Figure 7.

Functional Population Summary

The functional population multipliers for the recommended residential and nonresidential land use categories are summarized in Table 45.

Table 45. Functional Population Multipliers

Land Use	Unit	Functional Pop./Unit	EDUs/ Unit
Single-Family, Detached	Dwelling	1.73	1.00
Multi-Family	Dwelling	1.29	0.75
Mobile Home/RV Park	Pad	1.20	0.69
Hotel/Motel	Room	1.05	0.61
Shopping Center/Commercial	1,000 sq. ft.	2.05	1.18
Office	1,000 sq. ft.	0.96	0.55
Institutional/Public	1,000 sq. ft.	0.62	0.36
Industrial	1,000 sq. ft.	0.49	0.28
Warehouse	1,000 sq. ft.	0.22	0.13

Source: Residential dwelling unit functional population per unit from Table 43; nonresidential functional population per unit from Table 44.

APPENDIX C: CALLS-FOR-SERVICE MULTIPLIERS

In previous studies, the relative demands for fire rescue and EMS facilities and services required to serve development units of various land use types were based on the number of calls-for-service. Detailed data on fire rescue calls by land use categories for the past five years were provided by all of the participating fire districts. This information is presented here. It is used in the Service Unit section of the Fire Rescue portion of this report to demonstrate the need for a more stable measure of fire rescue and EMS demand by land use.

Some calls are not directly related to existing land uses, but typically occur on streets or in parking lots (e.g., car accidents, car fires) and are related to movement between land uses. These incidents amount to about 16% percent of all fire rescue calls, and can be indirectly attributed to specific land uses by allocating them according to the percentage of daily vehicular trips generated by each land use category. A residual 5% of all calls cannot be directly or indirectly attributed to specific land uses. These calls were excluded in calculating EDUs per development unit. Existing land use data for the districts are weighted based on the relative vehicle-miles of travel (VMT) generated for each land use. The relative weight attached to each land use was determined by multiplying the total units in each land use by the daily VMT associated with each land use from the latest Lee County road impact fee study. The shares of VMT by land-use shown in Table 46 are used to allocate the road-related fire rescue calls.

Table 46. Allocation of Road-Related Calls

Land Use	Units	Existing Units	VMT/Unit	Total VMT	Share of VMT
Single-Family Detached	Dwelling	134,897	26.28	3,545,093	38.62%
Duplex	Dwelling	8,524	18.27	155,733	1.70%
Mobile Home/RV Park	Space	33,438	13.72	458,769	5.00%
Subtotal, Single-Family, Duplex and Mobile Home				4,159,595	45.32%
Multi-Family (excl. Duplex)	Dwelling	102,369	18.27	1,870,282	20.38%
Hotel/Motel	Room	15,684	15.14	237,456	2.59%
Retail	1,000 sq. ft	41,269	31.11	1,283,894	13.99%
Office	1,000 sq. ft	20,759	21.00	435,949	4.75%
Institutional	1,000 sq. ft	26,129	31.11	812,864	8.86%
Subtotal, Commercial/Institutional				2,532,707	27.60%
Industrial	1,000 sq. ft.	9,714	18.14	176,208	1.92%
Warehouse	1,000 sq. ft	21,621	9.28	200,645	2.19%
Subtotal, Industrial/Warehouse.				376,853	4.11%
Total				9,176,893	100.00%

Source: Existing unit data from Table 5 for all participating fire districts; duplex units based on fact that duplex units are 7.69% of all multi-family units in Lee County from U.S. Census, 2006-2010 American Community Survey 5% sample data; VMT/unit for each land use from Duncan Associates, *Road Impact Fee Update for Lee County*, April 2011.

In Table 47 below, aggregated fire rescue call data from the fire districts over the last five years is shown in the upper third of the table. In the middle third of the table, road-related calls are allocated to land use categories based on relative shares of VMT from Table 46 – the resulting calls

are referred to as “attributable” calls (unclassified calls are not allocated). The bottom third of the table shows the percent of attributable calls associated with each land use category. The distribution of calls by land use remained relatively consistent from 2006 through 2010, with residential uses accounting for about two-thirds of fire rescue calls.

Table 47. Fire Rescue Calls by Land Use, 2006-2010

Land Use	2006	2007	2008	2009	2010	Average
Single-Family/Duplex/MH	24,027	24,847	26,166	27,561	28,964	26,313
Multi-Family (excl. Duplex)	9,516	9,230	9,559	9,776	10,105	9,637
Hotel/Motel	1,802	1,371	1,821	1,763	2,046	1,761
Commercial/Institutional	18,497	19,769	19,204	19,299	19,605	19,275
Industrial	291	244	229	233	200	239
Warehouse	764	720	759	745	670	732
Subtotal, Direct	54,897	56,181	57,738	59,377	61,590	57,957
Road-Related	13,499	12,426	11,413	10,898	10,316	11,710
Unclassified	4,195	3,987	3,672	3,088	2,943	3,577
Total Calls	72,591	72,594	72,823	73,363	74,849	73,244
Single-Family/Duplex/MH	30,504	30,809	31,642	32,790	33,914	31,931
Multi-Family (excl. Duplex)	11,908	11,432	11,581	11,707	11,933	11,712
Hotel/Motel	2,152	1,693	2,117	2,045	2,313	2,064
Commercial/Institutional	22,223	23,199	22,354	22,307	22,452	22,507
Industrial	550	483	448	442	398	464
Warehouse	1060	992	1009	984	896	988
Total Attributable	68,397	68,608	69,151	70,275	71,906	69,666
Single-Family/Duplex/MH	44.61%	44.92%	45.77%	46.66%	47.17%	45.83%
Multi-Family (excl. Duplex)	17.41%	16.66%	16.75%	16.66%	16.60%	16.81%
Hotel/Motel	3.15%	2.47%	3.06%	2.91%	3.22%	2.96%
Commercial/Institutional	32.49%	33.81%	32.33%	31.74%	31.22%	32.31%
Industrial	0.80%	0.70%	0.65%	0.63%	0.55%	0.67%
Warehouse	1.55%	1.45%	1.46%	1.40%	1.25%	1.42%
Total Attributable	100.01%	100.01%	100.02%	100.00%	100.01%	100.00%

Source: Call data by calendar year provided by fire districts, August 28-29, 2011 (substituted average 2007-2010 calls for missing 2006 call data for Alva); attributable calls allocates road-related calls based on the share of VMT from Table 46 and excludes unclassified calls.

Existing land use data for the area of the county contained within the fire districts was derived from data provided by the Lee County Community Development Department. The combination of the existing land use and fire rescue call distribution data sets yields fire rescue calls per development unit for various land use categories. Calls per unit are then converted to EDUs, as shown in Table 48. While call data was combined for single-family detached, duplex and mobile home units, it is assumed that calls to duplex and mobile home/recreational vehicle park units are lower than for single-family units proportionally to average household size. Similarly, while call data was combined for retail/institutional and office uses, calls were allocated between them proportionally to vehicle-miles of travel generated.

Table 48. Fire Rescue Calls-for-Service Multipliers by Land Use

Land Use	Unit	Existing Units	Avg. Annual Calls	Annual Calls/Unit	EDUs/Unit
Single-Family Detached	Dwelling	134,897	25,938	0.192	1.00
Duplex	Dwelling	8,524	1,219	n/a	n/a
Mobile Home/RV Park	Space	33,438	4,462	0.133	0.69
Single-Family/Duplex/Mobile Home	Dwelling/Space	176,859	31,620	n/a	n/a
Duplex	Dwelling	8,524	1,219	n/a	n/a
Multi-Family (excl. Duplex)	Dwelling	102,369	12,023	n/a	n/a
Multi-Family (incl. Duplex)	Dwelling	110,893	13,242	0.119	0.62
Hotel/Motel	Room	15,684	2,064	0.132	0.69
Retail	1,000 sq. ft.	41,269	11,395	0.276	1.44
Office	1,000 sq. ft.	20,759	3,898	0.188	0.98
Institutional	1,000 sq. ft.	26,129	7,214	0.276	1.44
Commercial/Institutional	1,000 sq. ft.	88,158	22,507	n/a	n/a
Industrial	1,000 sq. ft.	9,714	464	0.048	0.25
Warehouse	1,000 sq. ft.	21,621	988	0.046	0.24

Source: Existing units for the fire districts from Table 46; average annual calls by land use from Table 47; calls allocated among single-family detached, duplex and mobile home/RV park units relative to average household size from 2006-2010 5% ACS sample data for Lee County from US Census Bureau; calls allocated among retail/institutional and office by allocating calls based on relative VMT from Table 46; annual calls per unit calculated by dividing annual average calls by existing units; EDUs/unit by land use is ratio of annual calls per unit to annual calls per single-family unit.