Collier County
Emergency Medical Services
Impact Fee Update Study

Final Report

Prepared for:

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October 10, 2016

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Emergency Medical Services Impact Fee Update Study
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Introduction

Emergency Medical Services (EMS) impact fees are used to fund capital expansion projects for emergency medical service related facilities, land, vehicles and equipment required to support the additional emergency response demand created by new growth. Collier County's EMS Impact Fee was last updated in 2010. To comply with the technical study update requirements of the impact fee ordinance and to ensure that the EMS impact fee is calculated based on the most recent and localized data, the County retained Tindale Oliver (TO) to conduct an update study. This report presents results of the Collier County EMS Impact Fee Update Study and will serve as the technical support document in updating the EMS impact fee ordinance.

There are several major elements associated with the update of the EMS impact fee. These include:

- Facility Inventory
- Population
- Service Area
- Level of Service
- Cost Component
- Credit Component
- Calculated EMS Impact Fee Schedule
- Impact Fee Schedule Comparison

These various elements are summarized in the remainder of this report, with the result being the calculated EMS impact fee schedule.

Facility Inventory

According to information provided by the Collier County Emergency Medical Services (CCEMS) Division, Collier County owns 12 stations used to provide emergency medical services. In addition, the County operates ten additional stations out of leased buildings. For impact fee calculation purposes, only the owned facilities are included in this study. In addition, Station 76 that opened recently is excluded from the calculations because the debt service on this station will be paid with future impact fee revenues. This adjustment is to ensure that new development is not overcharged.

Table 1 shows a summary of the CCEMS building inventory included in the impact fee calculations. As presented, the inventory used to calculate impact fees includes a total of 72,000 square feet of building space and 20 acres of land dedicated to EMS related services.

An important part of the impact fee calculations involves determining the current value of the capital assets. Station 76 was built in 2016 for $325 per square foot. The most recent construction prior to this was completed in 2006, which does not represent the current building construction costs.

To supplement this information, Tindale Oliver contacted several jurisdictions to obtain more recent cost information. The bids and estimates received since 2010 ranged from $200 per square foot to $325 per square foot. In addition to reviewing bids and estimates, discussions with architects who are active in Collier County suggested that building construction cost of $250 per square foot to $300 per square foot is a reasonable estimate. As such, an estimate of $300 per square foot is used for the building value.

Land value was determined based on a review of the following:

- The market (or just) value of parcels where current EMS stations are located based on information provided by the Collier County Property Appraiser;
- Vacant land sales and market/just values of all vacant land in areas where future EMS stations will be built; and
- Land use characteristics of the areas where current EMS stations are located.

It is important to note that in general, EMS facilities need to be located at or close to major intersections and primarily in commercial areas. The land value analysis considered land use characteristics as well as other information and resulted in an average land value of $160,000 per acre. Appendix A provides more detailed information on the land value analysis conducted.

Table 1
Building and Land Inventory [1]

Facility Description	Location	Year Acquired/ Built	Square Footage[2]	Total Square Footage on Site[3]	Total Acres[4]	Acres per 1,000 sf of Building Space[5]	Allocated Acres[6]	Building Value[7]
Station 3/Helicopter Operations[8]	2375 Tower Dr., Naples 34104	1994	4,962	N/A	617.44	N/A	2.00	$1,488,600
Station 44	776 Vanderbilt Beach Rd., Naples 34108	1994	3,260	16,477	3.63	0.220	0.72	$978,000
Station 70	4741 Golden Gate Pkwy, Naples 34116	1994	5,361	76,498	12.91	0.169	0.91	$1,608,300
Station 30	112 South 1st Street, Immokalee 34142	1993	3,500	21,156	7.42	0.351	1.23	$1,050,000
Station 21[9]	11121 East Tamiami Trail, Naples 34113	1991	1,195	11,490	1.07	0.093	0.09	$358,500
Station 42[10]	7010 Immokalee Road, Naples, 34119	1989	2,500	N/A	N/A	N/A	N/A	$750,000
Station 10[11]	14756 Immokalee Rd., Naples 34120	1996	3,571	19,113	85.96	N/A	1.50	$1,071,300
Station 71	95 13th St. SW, Naples 34117	2001	4,447	4,447	2.00	0.450	2.00	$1,334,100
Station 24[12]	2795 Airport Rd. North, Naples 34105	2004	3,177	9,531	1.50	0.157	0.50	$953,100
Station 22[13]	4375 Bayshore Dr., Naples 34113	2005	3,579	9,672	0.63	0.065	N/A	$1,073,700
Station 75	4590 Santa Barbara Blvd, Naples 34112	2006	4,985	4,985	1.89	0.379	1.89	$1,495,500 $0
Station 76[14]	790 Logan Blvd, Naples 34119	2016	5,321	5,321	2.41	0.453	2.41	N/A
Emergency Services Complex[15]	8075 Lely Cultural Pkwy, Naples 34113	2009	31,239	154,388	20.00	0.130	4.06	$9,371,700
Vacant Land for Station 49 [16]	Heritage Bay Property	2003	N/A	N/A	7.73	N/A	1.50	N/A
Vacant Land for Station 411	16140 & 16144 Performance Way, Naples, 34110	2007	N/A	N/A	0.99	N/A	0.99	N/A
Total[17]			**71,776**				**19.80**	**$21,532,800**
Total Land Value[18]								**$3,168,000**
Total Building and Land Value								**$24,700,800**
Building Cost per Square Foot[19]								**$300**
Land Cost per Acre[20]								**$160,000**

(1) Source: Collier County Emergency Medical Services Division
(2) Square footage of the indicated facility, includes total area under the roof for each station included in the inventory.
(3) Square footage of all buildings on a given parcel.
(4) Acreage of the parcel where the facility is located. In some cases, this acreage includes other buildings.
(5) Acres (Item 4) divided by the total square footage (Item 3) multiplied by 1,000.
(6) Acres per 1,000 square feet of building space (Item 5) is multiplied by square footage of the facility (Item 2) divided by 1,000.
(7) Total value of structure based on $300 cost per square foot.
(8) & (11) The acreage for the EMS station is provided by the County.
(9) Approximately 65% of this property is owned by Greater Naples Fire District. The portion owned by the County (35%) is used for EMS and law enforcement facilities.
(10) The land is owned by the North Collier Fire District and is not included in the inventory. The County is leasing the building from the North Collier Fire District and paid for the structure. Given the lease term will continue until 2024 with the option to renew for four additional 10-year terms, the building value is included in the inventory.
(12) This station is a joint facility shared by the North Collier and Greater Naples Fire Districts and Collier County EMS. The square footage, acreage, and value shown reflect Collier County EMS' share (1/3rd of the value)
(13) East Naples Fire District owns 63% of the building and the entire acreage. The County owns 37% of the building.
(14) The total square footage and building value are excluded from the summary as the debt service on this station will be paid with future impact fee revenues. Land for station 76 is paid for and is included in the total land value.
(15) Joint facility shared by County EMS, law enforcement, and emergency management services.
(16) Portion of acreage that will be used for EMS facilities is provided by Collier County
(17) Total square footage excludes Station 76
(18) Total allocated acres (Item 6) multiplied by the land cost per acre (Item 18)
(19) The unit cost of $300 per square foot is estimated based on recently built station in other counties, discussions with architects, and other information, explained in detail in Appendix A.
(20) Based on vacant land sales and other analyses, explained in detail in Appendix A.

In addition to the facilities included in Table 1, the County also leases 23,000 square feet of building space for ten additional stations. These leased facilities, which are not included in the impact fee calculations but provide services to County residents, are presented in **Table 2.**

Table 2
Leased EMS Stations [(1)]

Facility[(1)]	Address[(1)]	Total Square Feet[(1)]
Station 1	835 8th Ave. South, Naples 34102	2,580
Station 50	1280 San Marco Rd., Marco Island 34145	2,500
Station 40	1441 Pine Ridge Rd., Naples 34109	2,500
Station 60	201 Buckner Ave., Everglades City 34139	2,700
Station 23	6055 Collier Blvd., Naples, 34114	2,500
Station 2	977 26th Ave. North, 34103	1,500
Station 43	16325 Vanderbilt Dr., 34110	2,500
Station 90	175 Capri Blvd., Naples 34113	2,500
Station 46	3410 Pine Ridge Rd., 34109	2,500
Station 32	4819 Ave Maria Blvd., Ave Maria, 34142	1,380
Total		**23,160**

(1) Source: Collier County Emergency Medical Services Division

In addition to the land and buildings inventory and the leased stations, the CCEMS also has the necessary equipment and vehicles to perform its emergency medical services duties. **Table 3** summarizes the equipment and vehicle inventory. The CCEMS has a total of $13.2 million worth of equipment and response vehicles.

Table 3
Equipment Inventory

Description	Units [1]	Unit Cost [2]	Total Value [3]
EMS Equipment			
Portable Radios	73	$2,500	$182,500
Laptops	29	$3,500	$101,500
Mobile Radios	98	$4,500	$441,000
UHF Ambulance Radio	40	$2,800	$112,000
Cascade System	3	$2,623	$7,869
Zimek Decontamination Machine	1	$42,184	$42,184
EMS Share of BES Mobile Command Vehicle	1	$40,000	$40,000
Air Compressor	1	$5,886	$5,886
Sim Baby Training Mannequin	1	$40,403	$40,403
Opticom Emitters	49	$1,639	$80,315
Mini Lite Rescue System	4	$5,916	$23,663
Cardiac Science AEDs	8	$1,295	$10,360
Philips Healthcare AEDs	9	$1,259	$11,329
Satellite Phones	2	$5,550	$11,100
Security Cameras	2	$1,475	$2,950
Sim Man Patient Simulator	1	$37,165	$37,165
Treadmills	5	$4,000	$20,000
Ellipticals	5	$3,295	$16,475
Recumbent Bikes	6	$1,995	$11,970
Night Vision Goggles	1	$5,950	$5,950
Yale Forklift	1	$20,999	$20,999
Marine GPS Search and Rescue Combo	1	$2,379	$2,379
Mezzanine System and Stairway for Warehouse	1	$38,313	$38,313
Spineboard Decontamination Unit	1	$31,450	$31,450
Power Lift for Bariatric Unit	1	$10,395	$10,395
Total Equipment Cost			**$1,308,155**
Vehicles			
ALS Ambulance	33	$251,900	$8,312,700
Supervisory First Response Vehicle (Expedition)	1	$44,000	$44,000
Supervisory First Response Vehicle (Explorer)	5	$36,000	$180,000
Supervisory First Response Vehicle (Crown Victoria)	5	$30,000	$150,000
Econo Van	1	$23,600	$23,600
Hazmat Trailer	1	$29,534	$29,534
Boat and Boat Trailer	1	$84,000	$84,000
Supervisory First Response Vehicle (Chevrolet C4500)	1	$63,500	$63,500
Haulmark	1	$5,500	$5,500
Helicopter	1	$3,000,000	$3,000,000
Total Vehicle Cost			**$11,892,834**
Total Vehicle and Equipment Value			**$13,200,989**

(1), (2) Source: Collier County Emergency Medical Services Division
(3) Number of units (Item 1) multiplied by unit cost (Item 2)

Service Area and Population

Emergency medical services are provided by Collier County in all areas of the county. Therefore, the proper benefit district for the provision of emergency response services is the entire County.

The EMS impact fee program requires the use of population data in calculating current levels of service and to be consistent with the population utilized in the County's comprehensive planning and Annual Update and Inventory Report (AUIR) process, this impact fee study considers not only the resident or permanent population of the County, but also the number of seasonal residents and visitors as well. Therefore, for purposes of this technical analysis, the peak season population is used in all population estimates and projections. Peak season population projections were provided by Collier County's Comprehensive Planning Division. Appendix B provides further information regarding population figures.

Level of Service

For impact fee calculation purposes, the current level of service (LOS) is calculated based on stations per weighted and functional resident, as presented in **Table 4**.

It should be noted that two different calculations of the current LOS were provided in the table. One of these calculations includes only the stations owned by the County and is used in the calculation of the impact fee. The other includes stations that are owned, leased, and the recently constructed Station 76 which better reflects the service County residents are receiving. However, because impact fees need to be based on what the existing population already paid for, the LOS calculations are based on the 11 stations owned and paid for by the County.

Table 4
Current Level-of-Service

Calculation Step	Year 2015	
	Peak Population	Functional Population
Population[(1)]	418,048	390,674
Number of Stations[(2)]	11	11
Number of Stations incl. Station 76 and Leased Stations[(3)]	22	22
Population per Station[(4)]	19,002	17,758
Current LOS (All Stations per Resident)[(5)]	0.000053	0.000056
Current LOS (Owned Stations per Resident)[(6)]	**0.000026**	**0.000028**

(1) Source: Appendix B, Table B-1 for peak population and Table B-7 for functional population
(2) Table 1. Station 76 is excluded from the number of stations count as the facility will be repaid for with impact fee revenues.
(3) Number of stations (Item 2) plus Station 76 and the 10 leased stations from Table 2
(4) Population (Item 1) divided by number of stations including leased stations (Item 3)
(5) Number of stations including leased stations (Item 3) divided by population (Item 1)
(6) Number of stations (Item 2) divided by population (Item 1)

Cost Component

The cost component of the study evaluates the cost of all capital items, including buildings, land and equipment/vehicles. **Table 5** provides a summary of all capital costs, which amounts to approximately $2.9 million per station. It is important to note that the $2.9 million per station represents only the owned portion of the capital asset value. Given that some of the buildings and land were funded through bonds, the remaining principal associated with outstanding debt service that is being paid with impact fee revenues is subtracted from the total asset value. This is to ensure the new development will not be charged twice for the same facility. Table 5 also provides the distribution of asset value by asset type for future indexing calculations in accordance with the indexing methodology adopted by the County.

Table 5
Total Capital Cost per Station

Description	Capital Asset Value	Percent of Total[9]
Total Building Value[1]	$21,532,800	57%
Total Land Value[2]	$3,168,000	8%
Total Vehicle and Equipment Value[3]	$13,200,989	35%
Total EMS Related Capital Asset Value[4]	$37,901,789	100%
Less: Portion Not Owned[5]	$6,331,403	
Owned EMS Capital Asset Value[6]	$31,570,386	
Number of Stations[7]	11	
Owned EMS Capital Asset Value per Station[8]	**$2,870,035**	

(1) Source: Table 1
(2) Source: Table 1
(3) Source: Table 3
(4) Sum of building, land, vehicle and equipment values (Items 1, 2, and 3)
(5) Source: Office of Management and Budget
(6) Total EMS related capital asset value (Item 4) less the portion not owned (Item 5)
(7) Source: Table 1
(8) Owned EMS capital asset value (Item 6) divided by the number of stations (Item 7)
(9) Distribution of total EMS related capital asset value (Item 4)

Table 6 presents the unit cost for the impact fee analysis. This unit cost was calculated as the total capital cost of $2.9 million per station multiplied by the LOS standard of 0.000028 stations per functional resident, which results in a cost per functional resident of $81.

Table 6
Total Impact Cost per Functional Resident

Description	Cost
Total Cost per Station[(1)]	$2,870,035
LOS (Stations/Functional Resident)[(2)]	0.000028
Total Impact Cost per Functional Resident[(3)]	**$80.36**

(1) Source: Table 5
(2) Source: Table 4
(3) Total cost per station (Item 1) multiplied by LOS (Item 2)

Credit Component

To avoid overcharging new development for the EMS impact fee, a review of the capital financing program for emergency medical services was completed. The purpose of this review was to determine any non-impact fee revenue sources generated by new development that is being used for capital facility (buildings, land, vehicles, and equipment) expansion of the emergency medical services program. Revenue credits would then apply against the cost per resident so that new development is not charged twice for capital revenue contributions.

Capital Expansion Expenditures Credit

An analysis of the historical EMS expenditures for the five year period from 2011 through 2015 was completed. Based on the information provided by the CCEMS, main funding sources, other than impact fees, included grants and operating funds.

Table 7 summarizes capital expenditures for the last five fiscal years. The capital improvement credit per functional resident was calculated using the average capital expansion expenditures during the last five years. As presented in Table 7, the result is an annual average expansion cost of $0.12 per functional resident.

A review of the 2015 AUIR information on EMS facilities indicated that over the next five years the County will fund all additional EMS facilities with impact fees or through loans from the General Fund that would be paid back from future impact fee revenues. However, a credit is provided based on historical funding sources of capacity expansion projects.

Table 7
Historical Capital Expenditures (2011 – 2015)

Capital Investment	Source	Total (2011-2015)
County EMS Grants/EMS Operating [(1)]		
Night Vision Goggles	EMS Grant	$5,950
Yale Forklift	EMS Grant	$20,999
Marine GPS Search and Rescue Combo	EMS Grant	$2,379
Mezzanine System and Stairway for Warehouse	EMS Grant	$38,313
Spineboard Decontamination Unit	EMS Grant	$31,450
Philips Healthcare AEDs	EMS Operating	$11,329
Satellite Phones	EMS Operating	$11,100
Security Cameras	EMS Operating	$2,950
Sim Man Patient Simulator	Matching EMS Grant	$37,165
Treadmills	Matching EMS Grant	$20,000
Ellipticals	Matching EMS Grant	$16,475
Recumbent Bikes	Matching EMS Grant	$11,970
Power Lift for Bariatric Unit	Matching EMS Grant	$10,395
Total Capital Expansion Expenditures		$220,475
Annual Capital Expansion Expenditures [(2)]		$44,095
Average Functional Population (2011-2015) [(3)]		377,966
Annual Capital Expansion Expenditures per Person [(4)]		**$0.12**

(1) Source: Collier County Emergency Medical Services Division
(2) Annualized capital expansion expenditures over the 5-year period
(3) Source: Appendix B, Table B-7
(4) Annual capital expansion expenditures (Item 2) divided by the average functional population (Item 3)

Net EMS Impact Cost

Table 8 summarizes the calculation of the net EMS impact cost per functional resident which is the difference between the total impact cost and the total revenue credit. The resulting net impact cost is $78 per functional resident.

Table 8
EMS Net Impact Cost

Calculation Step	Functional Resident	
	Impact Cost	Revenue Credits
Impact Cost		
Total Impact Cost[1]	$80.36	
Impact Credit		
Average Annual Capital Improvement Credit [2]		$0.12
Capitalization Rate		4%
Capitalization Period (in years)		25
Capital Improvement Credit [3]		$1.87
Net Impact Cost		
Net Impact Cost [4]	**$78.49**	

(1) Source: Table 6
(2) Source: Table 7
(3) The present value of the average annual capital improvement credit per resident using an interest rate of 4 percent over a capitalization period of 25 years.
(4) Difference between the impact cost per resident (Item 1) and the capital improvement credit per resident (Item 3)

Calculated EMS Impact Fee Schedule

Based on the analysis presented in this report, an emergency medical services impact fee schedule was developed for residential and nonresidential land uses and is illustrated in **Table 9.** In addition, the table presents the current fee and the percent difference between the current and calculated fees. Changes in cost and credit components since the last study result in a fee increase of approximately 15 percent. The remaining increase/decrease in fees is due to changes in the demand component since 2010 and/or changes in fee categories/units.

Table 9
Calculated EMS Impact Fee Schedule

LUC	Land Use	Impact Unit	Functional Population Coefficient[1]	Net Impact Fee per Functional Resident[2]	Current Adopted Fee[3]	Percent Change[4]
Residential:						
210	Single Family Detached					
	- Less than 4,000 sf	du	1.81	**$142.07**	$94.37	51%
	- 4,000 sf or greater	du	2.03	**$159.33**	$104.41	53%
220/222/230/232	Multi-Family	du	0.86	**$67.50**	$94.37	-28%
240	Mobile Home	du	1.45	**$113.81**	$87.01	31%
251	Retirement Community/Age-Restricted Single Family	du	0.79	**$62.01**	$94.37	-34%
Transient, Assisted, Group:						
310/311	Hotel	room	0.81	**$63.58**	$49.52	28%
320	Motel	room	0.76	**$59.65**	$46.17	29%
253	Assisted Living Facility (ALF)	du	1.01	**$79.27**	$54.88	44%
620	Nursing Home	bed	1.05	**$82.41**	$48.18	71%
Recreational:						
416	RV Park	site	0.50	**$39.25**	$36.14	9%
420	Marina	berth	0.19	**$14.91**	$12.71	17%
430	Golf Course	18 holes	19.44	**$1,525.85**	$1,301.22	17%
n/a	Bundled Golf Course	18 holes	5.83	**$457.60**	$1,301.22	-65%
444	Movie Theater	screen	5.98	**$469.37**	$400.25	17%
n/a	Dance Studios/Gyms	1,000 sf	2.22	**$174.25**	$163.98	6%
Institutions:						
520	Elementary School (Private)	student	0.06	**$4.71**	$4.01	17%
522	Middle School (Private)	student	0.07	**$5.49**	$4.68	17%
530	High School (Private)	student	0.08	**$6.28**	$5.35	17%
540	University/Junior College with 7,500 or fewer students	student	0.10	**$7.85**	$6.69	17%
550	University/Junior College with more than 7,500 students	student	0.07	**$5.49**	$4.68	17%
560	Church	seat	0.03	**$2.35**	$38.14 per 1,000 sf	N/A
565	Day Care	student	0.05	**$3.92**	$3.34	17%
610	Hospital	1,000 sf	1.37	**$107.53**	$103.74	4%
Office:						
710	Office 6,000 sf or less	1,000 sf	1.00	**$78.49**	$95.04	-17%
	Office 6,001 - 100,000 sf	1,000 sf	1.19	**$93.40**	$88.01	6%
	Office 100,001 - 200,000 sf	1,000 sf	1.01	**$79.27**	$68.93	15%
	Office 200,001 - 400,000 sf	1,000 sf	0.85	**$66.72**	$58.90	13%
	Office greater than 400,000 sf	1,000 sf	0.77	**$60.44**	$53.54	13%
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	1.14	**$89.48**	$115.11	-22%
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	1.66	**$130.29**	$115.11	13%
770	Business Park (Flex Space)	1,000 sf	0.96	**$75.35**	$66.26	14%

Table 9 (continued)
Calculated EMS Impact Fee Schedule

LUC	Land Use	Impact Unit	Functional Population Coefficient[1]	Net Impact Fee per Functional Resident[2]	Current Adopted Fee[3]	Percent Change[4]
Retail:						
814	Specialty Retail	1,000 sf	1.69	**$132.65**	$113.11	17%
820	Retail 6,000 gsf or less	1,000 gsf	2.45	**$192.30**	$163.98	17%
	Retail 6,001 - 25,000 gsf	1,000 gsf	2.45	**$192.30**	$163.98	17%
	Retail 25,001 - 50,000 gsf	1,000 gsf	2.45	**$192.30**	$163.98	17%
	Retail 50,000 - 100,000 gsf	1,000 gsf	2.45	**$192.30**	$164.65	17%
	Retail 100,001 - 150,000 gsf	1,000 gsf	2.45	**$192.30**	$150.60	28%
	Retail 150,001 - 200,000 gsf	1,000 gsf	2.39	**$187.59**	$184.06	2%
	Retail 200,001 - 400,000 gsf	1,000 gsf	2.34	**$183.67**	$156.62	17%
	Retail 400,001 - 600,000 gsf	1,000 gsf	2.32	**$182.10**	$163.31	12%
	Retail 600,001 - 1,000,000 gsf	1,000 gsf	2.17	**$170.32**	$161.97	5%
	Retail greater than 1,000,000 gsf	1,000 gsf	2.09	**$164.04**	$139.88	17%
841	New/Used Auto Sales	1,000 sf	1.47	**$115.38**	$114.44	1%
849	Tire Superstore	bay	1.34	**$105.18**	$89.69	17%
850	Supermarket	1,000 sf	2.05	**$160.90**	$137.20	17%
851	Convenience Market (24 hour)	1,000 sf	5.47	**$429.34**	$366.11	17%
853	Convenience Store w/ Gas Pumps					
	4 or less fuel positions	fuel pos.	4.35	**$341.43**	$291.15	17%
	5-6 fuel positions	fuel pos.	3.70	**$290.41**	$291.15	0%
	7-8 fuel positions	fuel pos.	3.29	**$258.23**	$291.15	-11%
	9-10 fuel positions	fuel pos.	2.94	**$230.76**	$291.15	-21%
	11-12 fuel positions	fuel pos.	2.75	**$215.85**	$291.15	-26%
	13 or more fuel positions	fuel pos.	2.59	**$203.29**	$291.15	-30%
862	Home Improvement Superstore	1,000 sf	1.81	**$142.07**	$119.14	19%
881	Pharmacy/Drug Store with and wo/Drive-Thru	1,000 sf	1.96	**$153.84**	$129.17	19%
890	Furniture Store	1,000 sf	0.24	**$18.84**	$16.05	17%
911	Bank/Savings Walk-In	1,000 sf	2.23	**$175.03**	$172.01	2%
912	Bank/Savings Drive-In	1,000 sf	2.28	**$178.96**	$152.60	17%
931	Low-Turnover Restaurant	seat	0.22	**$17.27**	$14.72	17%
932	High-Turnover Restaurant	seat	0.27	**$21.19**	$18.07	17%
934	Fast Food Rest. w/Drive-Thru	1,000 sf	8.90	**$698.56**	$603.05	16%
941	Quick Lube	service bay	1.16	**$91.05**	$77.63	17%
944	Gasoline/Service Station	fuel pos.	1.91	**$149.92**	$132.52	13%
947	Self-Service Car Wash	service bay	0.87	**$68.29**	$40.82	67%
948	Automated Car Wash	1,000 sf	1.76	**$138.14**	$107.75	28%
n/a	Luxury Auto Sales	1,000 sf	1.03	**$80.84**	$74.29	9%
Industrial:						
110	Light Industrial	1,000 sf	0.69	**$54.16**	$46.17	17%
140	Manufacturing	1,000 sf	0.50	**$39.25**	$46.17	-15%
150	Warehousing	1,000 sf	0.28	**$21.98**	$46.17	-52%
151	Mini-Warehouse	1,000 sf	0.06	**$4.71**	$4.68	1%

(1) Source: Table B-8 for residential land uses and Table B-9 for non-residential land uses

(2) Source: Net impact cost per functional resident from Table 8 is multiplied by the functional population coefficient for each land use

(3) Source: Collier County Capital Project Planning, Impact Fees and Program Management Division. The current impact fee rate shown for the 6,001 to 100,000 office category is the average of the 6,001 to 50,000 sf and 50,001 sf to 100,000 sf groupings ($95.04 and $80.98)

(4) Percent change from the net impact fee per functional resident (Item 2) and the current adopted fee (Item 3) Note: N/A indicates a different unit

Impact Fee Schedule Comparison

As part of the work effort in updating Collier County's EMS impact fee program, a comparison of EMS impact fee schedules was completed for several other Florida counties as shown in **Table 10**. The purpose of this table is simply to provide a comparison of adopted rates in these jurisdictions. This information is limited in its ability to explain the differential in the rates since several factors affect the fee levels, including policy decisions as well as technical factors, such as inventory levels, types of facilities built, alternative funding availability, variations in demand, etc.

Table 10
EMS Impact Fee Schedule Comparison

Land Use	Unit[2]	Collier County		Charlotte County[5]	Lee County[6]	Manatee County[7]	Sarasota County[8]	St. Lucie County[9]	Polk County[10]
		Calculated[3]	Existing[4]						
Date of Last Update		2016	2010	2014	2012	2015	2007	2009	2015
Assessed Portion of Calculated[1]		100%	100%	40%	58%	80%	100%	100%	25%
Residential:									
Single Family (2,000 sf)	du	$142	$94	$37	$50	$257	$114	$565	$16
Non-Residential:									
Light Industrial	1,000 sf	$54	$46	$18	$14	$98	$36	$75	$2
Office (50,000 sq ft)	1,000 sf	$93	$95	$31	$27	$142	$60	$334	$17
Retail (100,000 sq ft)	1,000 sf	$192	$165	$56	$58	$119	$149	$524	$23
Bank w/Drive-Thru	1,000 sf	$179	$153	$60	$58	$119	$149	$524	$23
Fast Food w/Drive-Thru	1,000 sf	$699	$603	$235	$58	$119	$149	$524	$23

Land Use	Unit[2]	Collier County		Pasco County[11]	Indian River County[12]	Brevard County[13]	Monroe County[14]	Lake County[15]	Martin County[16]
		Calculated[3]	Existing[4]						
Date of Last Update		2016	2010	2003	2014	2000	1992	2003	2012
Assessed Portion of Calculated[1]		100%	100%	100%	100%	100%	100%	95%	100%
Residential:									
Single Family (2,000 sf)	du	$142	$94	$172	$314	$39	$105	$390	$599
Non-Residential:									
Light Industrial	1,000 sf	$54	$46	$224	$139	-	$64	$104	$12
Office (50,000 sq ft)	1,000 sf	$93	$95	$224	$201	$18	$64	$1,301	$80
Retail (100,000 sq ft)	1,000 sf	$192	$165	$224	$477	$86	$64	$1,301	$319
Bank w/Drive-Thru	1,000 sf	$179	$153	$224	$459	$44	$64	$1,301	$80
Fast Food w/Drive-Thru	1,000 sf	$699	$603	$224	$1,792	$230	$64	$1,301	$575

(1) Represents the portion of the maximum calculated fee for each respective county that is actually charged. Fee may have been lowered/increased through annual indexing or policy discounts. Does not account for moratorium/suspensions.
(2) du = dwelling unit
(3) Source: Table 9
(4) Source: Collier County Impact Fee Administration Department
(5) Source: Charlotte County Community Development Department
(6) Source: Lee County Community Development Department
(7) Source: Manatee County Financial Management Department. Fees shown are for the "Public Safety" impact fee.
(8) Source: Sarasota County Planning & Development Services
(9) Source: St. Lucie County Planning & Development Services Department. "Fire/EMS" fees were adopted at 100% and have since been indexed annually using the CPI.
(10) Source: Polk County Building & Construction Department
(11) Source: Pasco County Central Permitting Department
(12) Source: Indian River County Planning Division
(13) Source: Brevard County Planning & Development Department
(14) Source: Monroe County Planning & Environmental Resources Department. Fees shown are for the "Fire Protection/EMS Facilities" impact fee.
(15) Source: Lake County Growth Management Department. Fees shown are for the "Fire Rescue" impact fee.
(16) Source: Martin County Growth Management Department. Fees shown are for the "Fire Rescue" impact fee.

Appendix A
Building and Land Value Analysis
Supplemental Information

Appendix A

This appendix provides the additional data and information on building and land value estimates.

Building Values

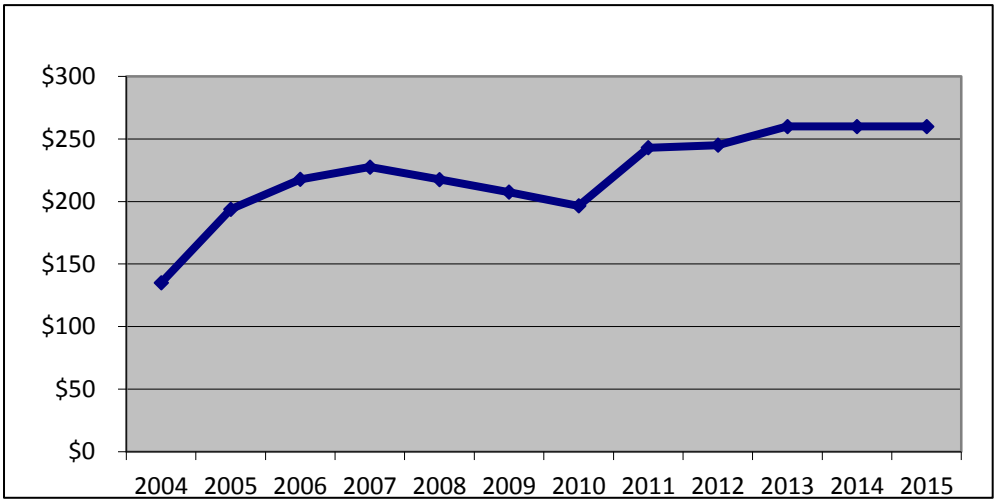
In determining the appropriate unit cost for building construction, the following analyses were conducted:

- A review of cost associated with recently built or bid EMS stations in Collier County;
- A review of cost associated with recently built or bid fire/EMS stations in other Florida jurisdictions;
- Collier County EMS station insurance values; and
- Discussions with architects regarding their estimate of EMS station construction costs.

Collier County recently completed the construction of EMS Station 76. The construction cost for this station was $1.73 million or $325 per square foot. The most recent construction prior to Station 76 was completed in 2006, and therefore, does not reflect the current building costs.

Tindale Oliver contacted several jurisdictions to obtain more recent cost information. The bids and estimates received since 2010 ranged from $200 per square foot to $325 per square foot. The following chart presents the building construction cost trends based on bids, estimates, and other information obtained during the previous impact fee studies completed by TO. As presented, the variation in station costs is relatively minor, especially since 2005.

Figure A-1
Average Fire/EMS Station Construction Cost per Square Foot



Source: Other Florida jurisdictions. It should be noted that although the figures in the chart represent the building construction cost in general, there may be situations where site preparation or other similar costs were included. The chart is included to provide a general understanding of construction cost trends for fire/EMS stations.

Discussion with architects who are active in Collier County suggested a building construction cost of $250 per square foot to $300 per square foot is a reasonable estimate.

The average insurance value of EMS stations in Collier County is $215 per square foot, excluding site preparation cost, permits, fees and other similar expenses. It should be noted that insurance values are considered to be a conservative estimate because the value of the foundation and other more permanent parts of the structure tends to be excluded since they would not have to be rebuilt if the structure was damaged or lost.

Given this information, an average building value of $300 per square foot is used for the current station value. This figure is consistent with value used in recent fire/EMS impact fee studies and provides a relatively conservative estimate given the recent construction cost of Station 76. Table A-1 provides a summary of information considered in determining this figure.

Table A-1
Total Building Cost per Square Foot (2016)

Source	Year	Cost per Square Foot
Station 76	2016	$325
Other Florida Jurisdictions	2011-2015	$200 - $300
Insurance Values	2015	$215
Estimates from Architects/Contractors	2015	$250 - $300
Used in the Study	**2016**	**$300**

Land Values

In order to determine land value for future EMS station land purchases, the following data/information was evaluated:

- The market (or just) value of parcels where current EMS stations are located based on information provided by the Collier County Property Appraiser;
- Vacant land sales and market/just values of all vacant land in areas where future EMS stations will be built; and
- Land use characteristics of the areas where current EMS stations are located.

It should be noted that EMS stations typically are located in commercial areas and it is our understanding that the future EMS station land purchases are likely to be in areas east of County Road 951. The following table provides vacant land sales over the past three years as well as the Property Appraiser's estimates of vacant land values in this area for parcels that are of similar size to parcels where current EMS stations are located. In addition, estimates are provided for residential versus commercial parcels.

Table A-2
Land Value Estimates
East of CR 951 (1 to 3 acre parcels)

Location	Year	Land Use	Cost per Acre	
			Average	Count
Vacant Land Sales:				
- East of CR 951	2012-2015	Residential	$27,151	569
		Commercial	$375,028	7
Vacant Land Values:				
- East of CR 951	2015	Residential	$14,641	3,981
		Commercial	$273,133	73
Used in the Study:				
- East of CR 951	**2015**	**Residential**	**$20,000**	**N/A**
		Commercial	**$300,000**	**N/A**

Source: Collier County Property Appraiser

Currently, approximately 33 percent of EMS stations are located in residential areas while the remaining 67 percent are located in commercial areas. For the purposes of impact fee calculations, a more conservative ratio of 50 percent is used for commercial location. As presented in Table A-3, applying these percentages to the estimated land values in residential versus commercial areas results in a combined land value of approximately $160,000 per acre, which is found to be a reasonable estimate for impact fee calculation purposes. This estimate is also within the range of value of properties where existing stations are located ($25,000 per acre to $653,000 per acre), based on the information provided in the Property Appraiser's database.

Table A-3
Weighted Land Value

Land Use	Distribution[(1)]	Land Value per Acre[(2)]	Weighted Land Value per Acre[(3)]
Residential	50%	$20,000	$10,000
Commercial	50%	$300,000	$150,000
Land Value Used in the Study			**$160,000**

(1) Reflects a conservative estimate of future land purchases by land use compared to the current distribution of 33% residential and 67% commercial
(2) Source: Table A-2
(3) Distribution (Item 1) multiplied by land value per acre (Item 2) for each land use and added

Appendix B
Population - Supplemental Information

The EMS impact fee program requires the use of population data in calculating current levels of service and to be consistent with the population utilized in the County's comprehensive planning and Annual Update and Inventory Report (AUIR) process. This impact fee study considers not only the resident or permanent population of the County, but also the number of seasonal residents and visitors as well. Therefore, for purposes of this technical analysis, the peak season population is used in all population estimates and projections. Peak season population projections were provided by Collier County's Comprehensive Planning Division.

Table B-1 presents the population trends for Collier County. The county population is estimated to increase by 34 percent between 2015 and 2034.

Table B-1
Collier County
Peak Season Population Estimates & Projections

Year	Peak Season Population	
	Countywide	Percent Change
2000	309,511	-
2001	325,159	5.06%
2002	341,954	5.17%
2003	359,191	5.04%
2004	374,384	4.23%
2005	386,668	3.28%
2006	396,310	2.49%
2007	400,027	0.94%
2008	399,532	-0.12%
2009	399,979	0.11%
2010	387,184	-3.20%
2011	392,180	1.29%
2012	398,107	1.51%
2013	403,435	1.34%
2014	410,297	1.70%
2015	**418,048**	**1.89%**
2016	425,979	1.90%
2017	434,060	1.90%
2018	442,295	1.90%
2019	450,685	1.90%
2020	458,670	1.77%
2021	466,233	1.65%
2022	473,920	1.65%
2023	481,734	1.65%
2024	489,677	1.65%
2025	497,236	1.54%
2026	504,399	1.44%
2027	511,666	1.44%
2028	519,037	1.44%
2029	526,514	1.44%
2030	533,638	1.35%
2031	540,396	1.27%
2032	547,239	1.27%
2033	554,170	1.27%
2034	561,188	1.27%

Source: Collier County Comprehensive Planning Division

Apportionment of Demand by Residential Unit Type and Size

The residential land uses to be used for the EMS impact fee calculations include the following:

- Single Family (Detached)
- Multi-Family
- Mobile Home

Table B-2 presents the number of residents per housing unit for the residential categories identified above in Collier County. This analysis includes all housing units, both occupied and vacant.

To address fairness and equity issues between land uses, the single family land use is tiered based on two categories of square footage: less than 4,000 square feet, 4,000 square feet and greater. To accommodate the tiering of impact fee assessments for the single family residential land use category, an analysis was completed based on housing unit size and persons per housing unit, comparing nationwide averages to those of Collier County. This analysis utilized national data from the 2011 American Housing Survey (AHS) and data from the 2013 American Community Survey (ACS) to examine this relationship.

Table B-2
Residents per Housing Unit

Housing Type	Population[(1)]	Housing Units[(2)]	Ratio to the Avg Population per Housing Unit[(3)]	Residents / Housing Units[(4)]
Single Family Detached	244,190	91,056		2.68
- Less than 4,000 sf			99%	2.65
- 4,000 sf or greater			111%	2.97
Multi Family	121,440	96,353		1.26
Mobile Home	22,868	10,725		2.13
Weighted Average	**388,498**	**198,134**		**1.96**

(1) Source: 2013 American Community Survey (ACS), Table B25033 (adjusted for peak season population)
(2) Source: 2013 American Community Survey (ACS), Table DP04
(3) Ratios developed based on persons per housing unit data derived from the 2011 American Housing Survey
(4) Population (Item 1) divided by housing units (Item 2)

Functional Population

For EMS infrastructure, this study uses functional population as the demand component, which distributes the cost associated with the availability of EMS infrastructure among various land uses based on the density of people at each land use throughout the day. Functional population, as used in the impact fee analysis, is a generally accepted methodology for several impact fee areas and is based on the assumption that demand for certain facilities is generally proportional to the presence of people at a land use, including residents, employees, and visitors. It is not enough to simply add resident population to the number of employees, since the service-demand characteristics can vary considerably by type of industry.

Functional population is the equivalent number of people occupying space within a community on a 24-hour-day, 7-days-a-week basis. A person living and working in the community would have the functional population coefficient of 1.0. A person living in the community but working elsewhere may spend only 16 hours per day in the community on weekdays and 24 hours per day on weekends for a functional population coefficient of 0.76 (128-hour presence divided by 168 hours in one week). A person commuting into the county to work five days per week would have a functional population coefficient of 0.30 (50-hour presence divided by 168 hours in one week). Similarly, a person traveling into the community to shop at stores, perhaps averaging 8 hours per week, would have a functional population coefficient of 0.05.

Functional population thus tries to capture the presence of all people within the community, whether residents, workers, or visitors, to arrive at a total estimate of effective population need to be served.

This form of adjusting population to help measure real facility needs replaces the population approach of merely weighting residents two-thirds and workers one-third (Nelson and Nicholas 1992). By estimating the functional and weighted population per unit of land use across all major land uses in a community, an estimate of the demand for certain facilities and services in the present and future year can be calculated. The following paragraphs explain how functional population is calculated for residential and non-residential land uses.

Residential Functional Population

Developing the residential component of functional population is simpler than developing the non-residential component. It is generally estimated that people spend one-half to three-fourths of their time at home and the rest of each 24-hour day away from their place of residence. In developing the residential component of Collier County functional population, an analysis of the County's population and employment characteristics was conducted. Based on this analysis, it was estimated that people, on average, spend 16.4 hours, or approximately 68 percent, of each 24-hour day at their place of residence and the other 32 percent away from home. This analysis is presented in **Tables B-3 and B-4**.

Table B-3
Collier County Population & Employment Characteristics

Item/Calculation Step	Figure
Workers who live and work in Collier County (2010) (1)	121,530
Workers who live in Collier County but work elsewhere (2010) (1)	10,293
Total workers living in Collier County (2)	131,823
Collier County Census Population (2010) (3)	321,520
Total workers as a percent of population (4)	41.0%
School age population (5-17 years) (2010) (5)	45,811
School age population as a percent of population (6)	14.2%
Population net of workers and school age population (7)	143,886
Other population as a percent of total population (8)	44.8%

(1) Source: Estimated based on data from the 2010 U.S. Census and the Bureau of Transportation Statistics, Census Transportation Planning Package (CTPP) Pt. 3
(2) Sum of workers who live/work in Collier County and workers who work elsewhere but live in Collier County
(3) Source: 2010 U.S. Census
(4) Total workers living in Collier County (Item 2) divided by population (Item 3)
(5) Source: 2010 U.S. Census
(6) School age population (Item 5) divided by population (Item 3)
(7) Population (Item 3) less total workers living in Collier County (Item 2) and school age population (Item 5)
(8) Population net of workers and school age population (Item 7) divided by Census population (Item 3)

Table B-4
Residential Coefficient for Functional Population

Pop. Group	Hours at Residence[(1)]	Percent of Population[(2)]	Effective Hours[(3)]
Workers	13	41.0%	5.3
Students	15	14.2%	2.1
Other	20	44.8%	9.0
Total Hours at Residence[(4)]			16.4
Residential Functional Population Coefficient[(5)]			**68.3%**

(1) Source: Estimated
(2) Source: Table B-3
(3) Hours at residence (Item 1) multiplied by percent of population (Item 2)
(4) Sum of effective hours (Item 3)
(5) Total hours at residence (Item 4) divided by 24

The resulting percentage from Table B-4 is used in the calculation of the residential coefficient for the 24-hour functional population. These actual calculations are presented in **Table B-6**.

Non-Residential Functional Population

Given the varying characteristics of non-residential land uses, developing the estimates of functional residents for non-residential land uses is more complicated than developing the estimates of functional residents for residential land uses. Nelson and Nicholas originally introduced a method for estimating functional resident population, now used internationally[1]. This method uses trip generation data from the Institute of Transportation Engineers' (ITE) Trip Generation Manual and Tindale Oliver's Trip Characteristics Database, information on passengers per vehicle, workers per vehicle, length of time spent at the land use, and other variables. Specific calculations include:

- Total one-way trips per employee (ITE trips multiplied by 50 percent to avoid double counting entering and exiting trips as two trips).
- Visitors per impact unit based on occupants per vehicle (trips multiplied by occupants per vehicle less employees).
- Worker hours per week per impact unit (such as nine worker-hours per day multiplied by five days in a work week).

[1] Arthur C. Nelson and James C. Nicholas, "Estimating Functional Population for Facility Planning," *Journal of Urban Planning and Development* 118(2): 45-58 (1992).

- Visitor hours per week per impact unit (visitors multiplied by number of hours per day times relevant days in a week, such as five for offices and seven for retail shopping).
- Functional population coefficients per employee developed by estimating time spent by employees and visitors at each land use.

Table B-5 shows the functional population coefficients for residential and non-residential uses in Collier County. The functional population coefficients in **Table B-5** were used to estimate the County's functional population in **Table B-6**.

Table B-5
General Functional Population Coefficients

Population/ Employment Category	ITE LUC	Employee Hours In-Place[1]	Trips per Employee[2]	One-Way Trips per Employee[3]	Journey-to-Work Occupants per Trip[4]	Daily Occupants per Trip[5]	Visitors per Employee[6]	Visitor Hours per Trip[1]	Days per Week[7]	Functional Population Coefficient[8]
Population									7.00	0.683
Natural Resources	N/A	9.00	3.02	1.51	1.32	1.38	0.09	1.00	7.00	0.379
Construction	110	9.00	3.02	1.51	1.32	1.38	0.09	1.00	5.00	0.271
Manufacturing	140	9.00	2.13	1.07	1.32	1.38	0.06	1.00	5.00	0.270
Transportation, Communication, Utilities	110	9.00	3.02	1.51	1.32	1.38	0.09	1.00	5.00	0.271
Wholesale Trade	150	9.00	3.89	1.95	1.32	1.38	0.12	1.00	5.00	0.271
Retail Trade	820	9.00	52.10	26.05	1.24	1.73	12.76	1.50	7.00	1.173
Finance, Insurance, Real Estate	710	9.00	3.32	1.66	1.24	1.73	0.81	1.00	5.00	0.292
Services[9]	N/A	9.00	28.17	14.09	1.24	1.73	6.90	1.00	6.00	0.568
Government[10]	730	9.00	11.95	5.98	1.24	1.73	2.93	1.00	7.00	0.497

(1) Assumed

(2) Trips per employee represents all trips divided by the number of employees and is based on Trip Generation 9th Edition (Institute of Transportation Engineers 2012) as follows:
ITE Code 110 at 3.02 weekday trips per employee, page 93.
ITE Code 140 at 2.13 weekday trips per employee, page 164.
ITE Code 150 at 3.89 weekday trips per employee, page 193.
ITE Code 710 at 3.32 weekday trips per employee, page 1252.
ITE Code 730 at 11.95 weekday trips per employee, page 1304.
ITE Code 820 based on blended average of trips by retail center size calculated below, adapted from page 1561.
Trips per retail employee from the following table:

Retail Scale	*Assumed Center Size*	*Trip Rate*	*Sq Ft per Employee[11]*	*Trips per Employee*	*Share*	*Weighted Trips*
Neighborhood <50k sq.ft.	50	86.56	802	69	40.0%	27.60
Community 50k - 250k sq.ft.	250	49.28	975	48	30.0%	14.40
Regional 250k - 500k sq.ft.	500	38.66	1,043	40	20.0%	8.00
Super Reg. 500k-1000k sq.ft.	1,000	30.33	676	21	10.0%	2.10
Sum of Weighted Trips/1k sq.ft.						52.10

(3) Trip per employee (Item 2) multiplied by 0.5.

(4) Journey-to-Work Occupants per Trip from 2001 Nationwide Household Travel Survey (FHWA 2001) as follows:
1.32 occupants per Construction, Manufacturing, TCU, and Wholesale trip
1.24 occupants per Retail Trade, FIRE, and Services trip

(5) Daily Occupants per Trip from 2001 Nationwide Household Travel Survey (FHWA 2001) as follows:
1.38 occupants per Construction, Manufacturing, TCU, and Wholesale trip
1.73 occupants per Retail Trade, FIRE, and Services trip

(6) [Daily occupants per trip (Item 5) multiplied by one-way trips per employee (Item 3)] - [(Journey-to-Work occupants per trip (Item 4) multiplied by one-way trips per employee (Item 3)]

(7) Typical number of days per week that indicated industries provide services and relevant government services are available.

(8) The equation to determine the Functional Population Coefficient per Employee for all land-use categories except residential includes the following:

$$\frac{(\text{Days per Week} \times \text{Employee Hours in Place}) + (\text{Visitors per Employee} \times \text{Visitor Hours per Trip} \times \text{Days per Week})}{(24 \text{ Hours per Day} \times 7 \text{ Days per Week})}$$

(9) Trips per employee for the services category is the average trips per employee for the following service related land use categories: quality restaurant, high-turnover restaurant, supermarket, hotel, motel, elementary school, middle school, high school, hospital, medical office, and church. Source for the trips per employee figure from ITE, 9th ed., when available, or else derived from the square feet per employee for the appropriate land use category from the Energy Information Administration from Table B-1 of the Commercial Energy Building Survey (2003).

(10) Includes Federal Civilian Government, Federal Military Government, and State and Local Government categories.

(11) Square feet per retail employee from the Energy Information Administration from Table B-1 of the Commercial Energy Building Survey, 2003

Table B-6
Functional Population – Year 2015

Population Category	Collier County Baseline Data[1]	Functional Resident Coefficient[2]	Functional Population[3]
2015 Peak Season Population	418,048	0.683	285,527
Employment Category			
Natural Resources	7,848	0.379	2,974
Construction	14,244	0.271	3,860
Manufacturing	3,579	0.270	966
Transportation, Communication, and Utilities	5,184	0.271	1,405
Wholesale Trade	4,305	0.271	1,167
Retail Trade	22,620	1.173	26,533
Finance, Insurance, and Real Estate	33,794	0.292	9,868
Services	90,723	0.568	51,531
Government Services	13,768	0.497	6,843
Total Employment by Category Population[4]			105,147
2015 Total Functional Population[5]			**390,674**

(1) Source: Table B-1 for population and 2015 Woods & Poole for employment data
(2) Source: Table B-5
(3) The functional population is Collier County baseline data (Item 1) multiplied by the functional resident coefficient (Item 2)
(4) The total employment population by category is the sum of the employment figures from the nine employment categories (e.g., natural resources, construction, etc.)
(5) The total functional population is the sum of the residential functional population (285,527) and employment functional population (105,147)

Table B-7 presents the County's annual functional population figures from 2000 through 2034, based on the 2015 functional population figure from Table B-6 and the annual population growth rates from the population figures previously presented in Table B-1.

Table B-7
Collier County Functional Population (2000-2034)

Year	Functional Population Projections
2000	289,313
2001	304,068
2002	319,880
2003	335,874
2004	349,981
2005	361,530
2006	370,568
2007	373,903
2008	373,529
2009	373,903
2010	361,938
2011	366,643
2012	372,143
2013	376,981
2014	383,390
2015	**390,674**
2016	398,097
2017	405,661
2018	413,369
2019	421,223
2020	428,805
2021	435,666
2022	442,637
2023	449,719
2024	456,915
2025	463,769
2026	470,262
2027	476,846
2028	483,522
2029	490,291
2030	497,155
2031	503,618
2032	510,165
2033	516,797
2034	523,515

Source: Table B-6 for 2015 functional population figure and Table B-1 for annual growth rates

Functional Residents by Specific Land Use Category

When a wide range of land uses impact services, an estimate of that impact is needed for each land use. This section presents functional population estimates by residential and non-residential land uses.

Residential and Transient Land Uses

As previously mentioned, the average number of persons per housing unit in Collier County was calculated for the single family, multi-family, and mobile home, based on information obtained from the American Community Survey (ACS). Besides the residential land uses, the table also includes transient land uses, such as hotels, motels, nursing homes, and adult living facilities (ALF). Secondary sources, such as the local Convention and Visitors Bureau (CVB) and the Florida Department of Elderly Affairs, are used to determine the occupancy rate for hotel, motel, and nursing home land uses. As mentioned before, different functional population coefficients must be developed for each of the impact fee areas to be analyzed. For residential and transient land uses, these coefficients are displayed in **Table B-8.**

Non-Residential Land Uses

A similar approach is used to estimate functional residents for non-residential land uses. **Table B-9** reports basic assumptions and calculations, such as trips per unit, trips per employee, employees per impact unit, one-way trips per impact unit, worker hours, occupants per vehicle trip, visitors (patrons, etc.) per impact unit, visitor hours per trip, and days per week for non-residential land uses. The final column in the tables shows the estimated functional resident coefficients by land use. These coefficients by land use create the demand component for the EMS impact fee program and are used in the calculation of the cost per unit for each land use category in the EMS impact fee schedule.

Table B-8
Functional Residents for Residential and Transient Land Uses

Residential Land Use	Impact Unit	ITE LUC[1]	Residents/ Visitors Per Unit[2]	Occupancy Rate[3]	Adjusted Residents Per Unit[4]	Peak Visitor Hours at Place[5]	Workers Per Unit[6]	Work Day Hours[7]	Days Per Week[8]	Work Week Residents Per Unit[9]
Residential										
Single Family Detached										
- Less than 4,000 sf	du	210	2.65							1.81
- 4,000 sf or greater	du	210	2.97							2.03
Multi Family	du	220, 222, 230, 232	1.26							0.86
Mobile Home	du	240	2.13							1.45
Retirement Community/Age-Restricted Single Family	du	251	1.15							0.79
Transient/Assisted, Group										
Hotel	room	310	1.68	71%	1.19	12	0.57	9	7	0.81
Motel	room	320	1.68	71%	1.19	12	0.44	9	7	0.76
Nursing Home	bed	620	1.00	88%	0.88	20	0.84	9	7	1.05
Assisted Living Facility (ALF)	du	253	1.15	88%	1.01	20	0.45	9	7	1.01

(1) Land use code from the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 9th Edition

(2) Estimates for the single family, multi-family, and mobile home land use from Table B-2; estimates for the hotel/motel land use assumes that there is one person per room for all business-related trips (32% of total hotel/motel occupancies in Collier County) and 2 people per room for leisure trips (68% of total hotel/motel occupancies in Collier County). Source for distribution of business and leisure trips is the Collier County Visitors and Convention Bureau 2011 November Report. One person per bed is assumed for nursing homes. Estimate for ALF and Retirement Community is based on people per household figures for single and multi-family homes, adjusted for the residents over 55 years of age based on information obtained from the 2001 National Household Travel Survey, prepared by the US Department of Transportation.

(3) Source for hotel/motel occupancy: Collier County Convention and Visitors Bureau 2012 and 2014 Annual Reports. Source for nursing home/ALF occupancy rate is the Florida Department of Elderly Affairs Collier County Profile. Average occupancy rate for 2011 through 2014.

(4) Residents per unit times occupancy rate

(5), (7), (8) Estimated

(6) Adapted from ITE Trip Generation Handbook, 9th Edition

(9) For residential this is Residents Per Unit times 0.683. For Transient, Assisted, and Group it is:

$$\frac{[(\text{Adjusted Residents per Unit} \times \text{Hours at Place} \times \text{Days per Week}) + (\text{Workers Per Unit} \times \text{Work Hours Per Day} \times \text{Days per Week})]}{(24 \text{ Hours per Day} \times 7 \text{ Days per Week})}$$

Table B-9
Functional Residents for Non-Residential Land Uses

Land Use	Impact Unit	ITE LUC[1]	Trips Per Unit[2]	Trips Per Employee[3]	Employees Per Unit[4]	One-Way Factor @ 50%[5]	Worker Hours[6]	Occupants Per Trip[7]	Visitors[8]	Visitor Hours Per Trip[9]	Days Per Week[10]	Functional Resident Coefficient[11]
Recreational												
RV Park	site	416	1.62	n/a	1.20	0.81	9	2.39	0.74	1.50	7	0.50
Marina	berth	420	2.96	20.52	0.14	1.48	9	2.39	3.40	1.00	7	0.19
Golf Course	18 holes	430	643.32	20.52	31.35	321.66	9	2.39	737.42	0.25	7	19.44
Bundled Golf Course	18 holes	n/a	193.00	20.52	9.41	96.50	9	2.39	221.23	0.25	7	5.83
Movie Theater w/Matinee	screen	444	106.63	53.12	2.01	53.32	9	2.39	125.42	1.00	7	5.98
Dance Studio/Gyms	1,000 sf	n/a	21.33	n/a	2.00	10.67	9	2.39	23.50	1.50	7	2.22
Institutions												
Elementary School (Private)	student	520	1.29	15.71	0.08	0.65	9	1.11	0.64	2.00	5	0.06
Middle School (Private)	student	522	1.62	16.39	0.10	0.81	9	1.11	0.80	2.00	5	0.07
High School (Private)	student	530	1.71	19.74	0.09	0.86	9	1.11	0.86	2.00	5	0.08
University/Junior College with 7,500 or fewer students	student	540 & 550	2.00	12.26	0.16	1.00	9	1.11	0.95	2.00	5	0.10
University/Junior College with more than 7,500 students	student	540 & 550	1.50	12.26	0.12	0.75	9	1.11	0.71	2.00	5	0.07
Church	seat	560	0.61	20.64	0.03	0.31	9	1.90	0.56	1.00	7	0.03
Day Care	student	565	4.38	26.73	0.16	2.19	9	1.11	2.27	0.15	5	0.05
Hospital	1,000 sf	610	13.22	4.50	2.94	6.61	9	1.42	6.45	1.00	7	1.37
Office												
Office 6,000 SF or less[12]	1,000 sf	710	11.02	3.32	3.32	5.51	9	1.28	3.73	1.00	5	1.00
Office 6,001 - 100,000 SF[13]	1,000 sf	710	13.13	3.32	3.95	6.57	9	1.28	4.46	1.00	5	1.19
Office 100,001 - 200,000 SF[14]	1,000 sf	710	11.12	3.32	3.35	5.56	9	1.28	3.77	1.00	5	1.01
Office 200,001 - 400,000 SF[15]	1,000 sf	710	9.41	3.32	2.83	4.71	9	1.28	3.20	1.00	5	0.85
Office greater than 400,000 SF[16]	1,000 sf	710	8.54	3.32	2.57	4.27	9	1.28	2.90	1.00	5	0.77
Medical Office/Clinic 10,000 sf or less	1,000 sf	720	23.83	8.91	2.67	11.92	9	1.42	14.26	1.00	5	1.14
Medical Office/Clinic greater than 10,000 sf	1,000 sf	720	34.72	8.91	3.90	17.36	9	1.42	20.75	1.00	5	1.66
Business Park (Flex Space)	1,000 sf	770	12.65	4.04	3.13	6.33	9	1.38	5.61	0.75	5	0.96

Table B-9 (continued)
Functional Residents for Non-Residential Land Uses

Land Use	Impact Unit	ITE LUC[1]	Trips Per Unit[2]	Trips Per Employee[3]	Employees Per Unit[4]	One-Way Factor @ 50%[5]	Worker Hours[6]	Occupants Per Trip[7]	Visitors[8]	Visitor Hours Per Trip[9]	Days Per Week[10]	Functional Resident Coefficient[11]
Retail, Gross Square Feet												
Specialty Retail	1,000 sf	826	49.99	22.36	2.24	25.00	9	1.73	41.01	0.50	7	1.69
Retail 6,000 sfgla or less[12]	1,000 sfgla	820	86.56	n/a	2.50	43.28	9	1.73	72.37	0.50	7	2.45
Retail 6,001 to 25,000 sfgla[12]	1,000 sfgla	820	86.56	n/a	2.50	43.28	9	1.73	72.37	0.50	7	2.45
Retail 25,001 to 50,000 sfgla[12]	1,000 sfgla	820	86.56	n/a	2.50	43.28	9	1.73	72.37	0.50	7	2.45
Retail 50,001 to 100,000 sfgla[13]	1,000 sfgla	820	67.91	n/a	2.50	33.96	9	1.73	56.25	0.65	7	2.45
Retail 100,001 to 150,000 sfgla[17]	1,000 sfgla	820	58.93	n/a	2.50	29.47	9	1.73	48.48	0.75	7	2.45
Retail 150,001 to 200,000 sfgla[18]	1,000 sfgla	820	53.28	n/a	2.50	26.64	9	1.73	43.59	0.80	7	2.39
Retail 200,001 to 400,000 sfgla[15]	1,000 sfgla	820	41.80	n/a	2.50	20.90	9	1.73	33.66	1.00	7	2.34
Retail 400,001 to 600,000 sfgla[19]	1,000 sfgla	820	36.27	n/a	2.50	18.14	9	1.73	28.88	1.15	7	2.32
Retail 600,001 to 1,000,000 sfgla[20]	1,000 sfgla	820	30.33	n/a	2.50	15.17	9	1.73	23.74	1.25	7	2.17
Retail greater than 1,000,000 sfgla[21]	1,000 sfgla	820	28.46	n/a	2.50	14.23	9	1.73	22.12	1.25	7	2.09
New/Used Auto Sales	1,000 sf	841	28.25	21.14	1.34	14.13	9	1.73	23.10	1.00	7	1.47
Tire Superstore	bay	849	30.55	43.02	0.71	15.28	9	1.73	25.72	1.00	7	1.34
Supermarket	1,000 sf	850	103.38	87.82	1.18	51.69	9	1.52	77.39	0.50	7	2.05
Convenience Market (24 hour)	1,000 sf	851	719.18	n/a	2.50	359.59	9	1.52	544.08	0.20	7	5.47
Convenience Store with Gas Pumps												
4 or less Fuel Positions	fuel pos.	853	542.60	n/a	2.50	271.30	9	1.52	409.88	0.20	7	4.35
5-6 Fuel Positions	fuel pos.	853	439.92	n/a	2.50	219.96	9	1.52	331.84	0.20	7	3.70
7-8 Fuel Positions	fuel pos.	853	375.12	n/a	2.50	187.56	9	1.52	282.59	0.20	7	3.29
9-10 Fuel Positions	fuel pos.	853	319.20	n/a	2.50	159.60	9	1.52	240.09	0.20	7	2.94
11-12 Fuel Positions	fuel pos.	853	289.92	n/a	2.50	144.96	9	1.52	217.84	0.20	7	2.75
13 or more Fuel Positions	fuel pos.	853	264.00	n/a	2.50	132.00	9	1.52	198.14	0.20	7	2.59
Home Improvement Superstore	1,000 sf	862	30.74	n/a	2.50	15.37	9	1.52	20.86	1.00	7	1.81
Pharmacy/Drug Store with and without Drive-Thru	1,000 sf	881	95.96	n/a	2.50	47.98	9	1.52	70.43	0.35	7	1.96
Furniture Store	1,000 sf	890	5.23	12.19	0.43	2.62	9	1.52	3.55	0.50	7	0.24
Bank/Savings Walk-In	1,000 sf	911	121.30	34.69	3.50	60.65	9	1.52	88.69	0.35	6	2.23
Bank/Savings Drive-In	1,000 sf	912	159.34	30.94	5.15	79.67	9	1.52	115.95	0.15	6	2.28
Low-Turnover Restaurant	seat	931	2.86	n/a	0.32	1.43	9	1.85	2.33	1.00	7	0.22
High-Turnover Restaurant	seat	932	4.83	n/a	0.38	2.42	9	1.85	4.10	0.75	7	0.27
Fast Food Rest w/ Drive-Thru	1,000 sf	934	511.00	n/a	10.90	255.50	9	1.85	461.78	0.25	7	8.90

Table B-9 (continued)
Functional Residents for Non-Residential Land Uses

Land Use	Impact Unit	ITE LUC[1]	Trips Per Unit[2]	Trips Per Employee[3]	Employees Per Unit[4]	One-Way Factor @ 50%[5]	Worker Hours[6]	Occupants Per Trip[7]	Visitors[8]	Visitor Hours Per Trip[9]	Days Per Week[10]	Functional Resident Coefficient[11]
Retail, Gross Square Feet												
Quick Lube	service bay	941	40.00	n/a	1.50	20.00	9	1.52	28.90	0.50	7	1.16
Gasoline/Service Station	fuel pos.	944/946	157.33	n/a	2.50	78.67	9	1.52	117.08	0.20	7	1.91
Self-Service Car Wash	service bay	947	43.94	n/a	0.50	21.97	9	1.52	32.89	0.50	7	0.87
Automated Car Wash	1,000 sf	948	141.20	n/a	1.75	70.60	9	1.52	105.56	0.25	7	1.76
Luxury Auto Sales	1,000 sf	n/a	16.30	n/a	1.34	8.15	9	1.73	12.76	1.00	7	1.03
Industrial												
Light Industrial	1,000 sf	110	6.97	3.02	2.31	3.49	9	1.38	2.51	1.00	5	0.69
Manufacturing	1,000 sf	140	3.82	2.13	1.79	1.91	9	1.38	0.85	1.00	5	0.50
Warehousing	1,000 sf	150	3.56	3.89	0.92	1.78	9	1.38	1.54	0.75	5	0.28
Mini-Warehouse	1,000 sf	151	2.15	61.90	0.03	1.08	9	1.38	1.46	0.75	7	0.06

Sources:
(1) Land use code found in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 9th Edition
(2) Land uses and trip generation rates consistent with those included in the 2013 Transportation Impact Fee Update Study
(3) Trips per employee from ITE Trip Generation Handbook, 9th Edition, when available
(4) Trips per impact unit divided by trips per person (usually employee). When trips per person are not available, the employees per unit is estimated.
(5) Trips per unit (Item 2) multiplied by 50 percent
(6), (9), (10) Estimated
(7) Nationwide Personal Transportation Survey
(8) [(One-way Trips/Unit X Occupants/Trip) - Employees].
(11) [(Workers X Hours/Day X Days/Week) + (Visitors X Hours/Visit X Days/Week)]/(24 Hours x 7 Days)
(12) Trip rate is for 50,000 sf
(13) Trip rate is for 100,000 sf
(14) Trip rate is for 200,000 sf
(15) Trip rate is for 400,000 sf
(16) Trip rate is for 600,000 sf
(17) Trip rate is for 150,000 sf
(18) Trip rate is for 200,000 sf
(19) Trip rate is for 600,000 sf
(20) Trip rate is for 1,000,000 sf
(21) Trip rate is for 1,200,000 sf