Brevard County
Impact Fee Update Study

FINAL REPORT
March 3, 2015

Prepared for:

Brevard County
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March 3, 2015

Mr. Stephen Swanke, Program Manager
Brevard County Planning & Development Department
2725 Judge Fran Jamieson Way
Viera, Florida 32940

Re: Brevard County Impact Fee Update Study

Dear Mr. Swanke:

Enclosed is the Final Technical Report of the Brevard County Impact Fee Update Study. If you should have any questions concerning this report, please do not hesitate to contact me or Nilgün Kamp.

It has been our pleasure to have worked with the County and School District staff on this important project.

Sincerely,

Steven A. Tindale, P.E., AICP
President

BREVARD COUNTY
IMPACT FEE UPDATE STUDY

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Executive Summary

Brevard County's impact fee program includes fees in the following seven service areas:

- Correctional Facilities
- Libraries
- Fire Rescue Facilities
- EMS Facilities
- Solid Waste Facilities
- Educational Facilities
- Transportation

With the exception of solid waste and educational facilities impact fees, all of the impact fees were last updated in 2000. The solid waste impact fee was last updated in 1991. The educational facilities impact fee was initially implemented in 2004, and has not been updated since then. In 2009, a moratorium on the collection of transportation impact fees was approved by the Board of County Commissioners (BOCC) and remains in effect through December 31, 2016. All other impact fees are currently being collected.

Brevard County has retained Tindale Oliver to prepare an update study to reflect changes to the cost, credit, and demand components since the last update studies. It should be noted that figures calculated in this study represent the technically defensible level of impact fees that the County could charge; however, the BOCC may choose to discount the fees as a policy decision.

An impact fee is a one-time capital charge levied against new development to fund infrastructure capacity consumed by new growth. Impact fee revenues can only be used for capacity expansion projects and not for expenses related to replacement, maintenance or operations. In Florida, legal requirements related to impact fees have primarily been established through case law since the 1980's. Generally speaking, impact fees must comply with the "dual rational nexus" test, which requires that they:

- Be supported by a study demonstrating that the fees are proportionate in amount to the need created by new development paying the fee; and
- Be spent in a manner that directs a proportionate benefit to new development, typically accomplished through a list of capacity-adding projects included in the

County's Capital Improvement Plan, Capital Improvement Element, or another planning document/Master Plan.

In addition, one of the requirements of the 2006 Florida Impact Fee Act is that the studies be based on most recent and localized data.

This technical report has been prepared to support legal compliance with existing case law and statutory requirements. The methodology used in this report is consistent with that used in the 2000 and 2004 technical reports, which is the basis of the current adopted fees.

Primary factors affected the County's impact fee levels include the following:

- Since the last update studies, the County built additional infrastructure and increased the capital asset inventory in some of the program areas. This results in an increased asset value, which in turn, increases the impact fee.
- In almost all service areas, the cost to build capital facilities increased since 2000.
- In some of infrastructure areas, the County experienced a reduction in capital funding levels, which resulted in a lower credit, which in turn increases the impact fee.
- Finally, the demand component was adjusted to reflect the most recent available data, which affects different land uses at different rates.

The following table provides a summary of calculated fees. A comparison of calculated fee schedule to the current adopted fee for six representative land uses is presented in Table ES-1. The complete schedules include approximately 40 land uses and are included in the remaining sections of this report.

At this time, Brevard County exempts industrial land uses. This study calculated a fee for these land uses in case this exemption is discontinued in the future.

Table ES-1

Summary of Brevard County Impact Fees - All Program Areas

ITE LUC	Land Use	Unit	Correctional Facilities[1]			Solid Waste[2]			Library Facilities[3]			Fire Rescue[4]		
			Adopted Rate	Full Calculated Rate	Percent Change	Adopted Rate	Full Calculated Rate	Percent Change	Adopted Rate	Full Calculated Rate	Percent Change	Adopted Rate	Full Calculated Rate	Percent Change
	RESIDENTIAL:													
210	Single Family (Detached)	du	$71.99	$233	224%	$160	$110	-31%	$63.84	$369	478%	$54.08	$326	503%
	NON-RESIDENTIAL:													
110	General Light Industrial	1,000 sf	N/A	$96	N/A	**	$45	N/A	N/A	N/A	N/A	N/A	$157	N/A
710	General Office 50,000 sf or less	1,000 sf	$34.17	$197	477%	**	$93	N/A	N/A	N/A	N/A	$25.67	$320	1147%
820	Retail 100,001-300,000 sfgla	1,000 sfgla	$100.18	$349	248%	**	$164	N/A	N/A	N/A	N/A	$75.26	$568	655%
912	Bank/Savings Drive-In	1,000 sf	$81.48	$318	290%	**	$150	N/A	N/A	N/A	N/A	$61.22	$518	746%
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	$428.40	$1,241	190%	**	$584	N/A	N/A	N/A	N/A	$321.84	$2,022	528%

ITE LUC	Land Use	Unit	Emergency Services[5]			Educational Facilities[6]			Transportation[7]			Total (All Fees)[8]		
			Adopted Rate	Full Calculated Rate	Percent Change	Adopted Rate	Full Calculated Rate	Percent Change	Adopted Rate	Full Calculated Rate	Percent Change	Adopted Rate	Full Calculated Rate	Percent Change
	RESIDENTIAL:													
210	Single Family (Detached)	du	$38.65	$66	71%	$4,445	$10,193	129%	$4,353	$7,238	66%	$9,186.56	$18,535	102%
	NON-RESIDENTIAL:													
110	General Light Industrial	1,000 sf	N/A	$31	N/A	N/A	N/A	N/A	N/A	$4,619	N/A	N/A	$4,948	N/A
710	General Office 50,000 sf or less	1,000 sf	$18.35	$63	243%	N/A	N/A	N/A	$5,058	$10,256	103%	$5,136.19	$10,929	113%
820	Retail 100,001-300,000 sfgla	1,000 sfgla	$53.78	$113	110%	N/A	N/A	N/A	$5,270	$11,416	117%	$5,499.22	$12,610	129%
912	Bank/Savings Drive-In	1,000 sf	$43.74	$103	136%	N/A	N/A	N/A	$23,331	$24,865	7%	$23,517.44	$25,954	10%
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	$229.99	$401	74%	N/A	N/A	N/A	$35,791	$83,355	133%	$36,771.23	$87,603	138%

(1) Source: Table II-9
(2) Source: Table III-5
(3) Source: Table IV-12
(4) Source: Table V-10
(5) Source: Table V-11
(6) Source: Table VI-11
(7) Source: Appendix G, Table G-1
(8) Sum of each program area's adopted rate and full calculated rate

I. Introduction

Brevard County's impact fee program includes fees in the following seven service areas:

- Correctional Facilities
- Libraries
- Fire Rescue Facilities
- EMS Facilities
- Solid Waste Facilities
- Educational Facilities
- Transportation

With the exception of solid waste and educational facilities impact fees, all of the impact fees were last updated in 2000. The solid waste impact fee was last updated in 1991. The educational facilities impact fee was initially implemented in 2004, and has not been updated since then. In 2009, a moratorium on the collection of transportation impact fees was approved by the Board of County Commissioners (BOCC) and remains in effect through December 31, 2016. All other impact fees are currently being collected.

Brevard County has retained Tindale Oliver to prepare an update study to reflect changes to the cost, credit, and demand components since the last update studies. It should be noted that figures calculated in this study represent the technically defensible level of impact fees that the County could charge; however, the BOCC may choose to discount the fees as a policy decision.

Methodology

The methodology used to update the Brevard County's impact fee program is a consumption-based impact fee methodology, which is used throughout Florida. This methodology was also used in preparing the current adopted impact fees. A consumption-based impact fee charges new development based upon the burden placed on services from each land use (demand). The demand component is measured in terms of population per unit in the case of all impact fee program areas with the exception of transportation and educational facilities. In the case of educational facilities, student generation rate is used and in the case of transportation, vehicle-miles of travel is used. A consumption-based impact fee charges new growth the proportionate share of the cost of providing additional

infrastructure available for use by new growth. In addition, per legal requirements, a credit is subtracted from the total cost to account for the value of future tax contributions of the new development toward any capacity expansion projects through other revenue sources. Contributions used to calculate the credit component include estimates of future non-impact fee revenues generated by the new development that will be used toward capacity expansion projects. In other words, case law requires that the new development should not be charged twice for the same service.

Legal Standard Overview

In Florida, legal requirements related to impact fees have primarily been established through case law since the 1980's. Generally speaking, impact fees must comply with the "dual rational nexus" test, which requires that they:

- Be supported by a study demonstrating that the fees are proportionate in amount to the need created by new development paying the fee; and
- Be spent in a manner that directs a proportionate benefit to new development, typically accomplished through establishment of benefit districts and a list of capacity-adding projects included in the County's Capital Improvement Plan, Capital Improvement Element, or another planning document/Master Plan.

In 2006, the Florida legislature passed the "Florida Impact Fee Act," which recognized impact fees as "an outgrowth of home rule power of a local government to provide certain services within its jurisdiction." § 163.31801(2), Fla. Stat. The statute – concerned with mostly procedural and methodological limitations – did not expressly allow or disallow any particular public facility type from being funded with impact fees. The Act did specify procedural and methodological prerequisites, such as the requirement of the fee being based on most recent and localized data, a 90-day requirement for fee changes, and other similar requirements, most of which were common to the practice already.

More recent legislation further affected the impact fee framework in Florida, including the following:

- **HB 227 in 2009:** The Florida legislation statutorily clarified that in any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the

requirements of state legal precedent or the Impact Fee Act and that the court may not use a deferential standard.

- **SB 360 in 2009:** Allowed fees to be decreased without the 90-day notice period required to increase the fees and purported to change the standard of legal review associated with impact fees. SB 360 also required the Florida Department of Community Affairs (now the Department of Economic Opportunity) and Florida Department of Transportation (FDOT) to conduct studies on "mobility fees," which were completed in 2010.
- **HB 7207 in 2011:** Required a dollar-for-dollar credit, for purposes of concurrency compliance, for impact fees paid and other concurrency mitigation required. The payment must be reduced by the percentage share the project's traffic represents of the added capacity of the selected improvement (up to a maximum of 20% or to an amount specified by ordinance, whichever results in a higher credit). The courts have not yet taken up the issue of whether a local government may still charge an impact/mobility fee in lieu of proportionate share if the impact/mobility fee is higher than the calculated proportionate share contribution.
- **HB 319 in 2013:** Applied mostly to concurrency management authorities, but also encouraged local governments to adopt alternative mobility systems using a series of tools identified in section 3180(5)(f), Florida Statutes, including:

    1. Adoption of long-term strategies to facilitate development patterns that support multimodal solutions, including urban design, and appropriate land use mixes, including intensity and density.
    2. Adoption of an area-wide level of service not dependent on any single road segment function.
    3. Exempting or discounting impacts of locally desired development, such as development in urban areas, redevelopment, job creation, and mixed use on the transportation system.
    4. Assigning secondary priority to vehicle mobility and primary priority to ensuring a safe, comfortable, and attractive pedestrian environment, with convenient interconnection to transit.
    5. Establishing multimodal level of service standards that rely primarily on non-vehicular modes of transportation where existing or planned community design will provide adequate level of mobility.
    6. Reducing impact fees or local access fees to promote development within urban areas, multimodal transportation districts, and a balance of mixed-use

development in certain areas or districts, or for affordable or workforce housing.

Also, under HB 319, a mobility fee funding system expressly must comply with the dual rational nexus test applicable to traditional impact fees. Furthermore, any mobility fee revenues collected must be used to implement the local government's plan, which served as the basis for the fee. Finally, under HB 319, an alternative mobility system, that is not mobility fee-based, must not impose upon new development any responsibility for funding an existing transportation deficiency.

The following paragraphs provide further detail on the generally applicable legal standards applicable here.

Impact Fee Definition

- An impact fee is a one-time capital charge levied against new development.
- An impact fee is designed to cover the portion of the capital costs of infrastructure capacity consumed by new development.
- The principle purpose of an impact fee is to assist in funding the implementation of projects identified in the Capital Improvements Element (CIE) and other capital improvement programs for the respective facility/service categories.

Impact Fee vs. Tax

- An impact fee is generally regarded as a regulatory function established as a condition for improving property and is not established for the primary purpose of generating revenue, as are taxes.
- Impact fee expenditures must convey a proportional benefit to the fee payer. This is accomplished through the establishment of benefit districts, where fees collected in a benefit district are spent in the same benefit district.
- An impact fee must be tied to a proportional need for new infrastructure capacity created by new development.

This technical report has been prepared to support legal compliance with existing case law and statutory requirements. The technical report also documents the methodology components for each of the impact fee areas in the following sections, including an evaluation of the inventory, service area, level-of-service (LOS), cost, credit, and demand components. Information supporting this analysis was obtained from the County and other sources, as indicated.

II. Correctional Facilities

Correctional facility impact fees are used to fund capital construction and expansion of services related to land, facilities, and capital equipment required to support the additional correctional facility demand created by new growth. This section presents the results of the correctional facility impact fee update study for Brevard County and will serve as the technical support document for the updated correctional facilities impact fee schedule.

There are several major elements associated with the development of the correctional facilities impact fee. These include:

- Facility Inventory
- Service Area and Population
- Level-of-Service
- Cost Component
- Credit Component
- Net Correctional Facilities Impact Cost
- Calculated Correctional Facilities Impact Fee Schedule
- Correctional Facilities Impact Fee Schedule Comparison

These various elements are summarized in the remainder of this section.

Facility Inventory

The correctional facilities inventory includes the County's jails and other related facilities that are primarily for the provision of corrections and does not include any of the buildings or portions thereof included in the calculation of other impact fees.

According to information provided by the County, Brevard County has almost 340,000 square feet of correctional facility-related space. This includes the square footage of all primary correctional facility buildings as well as other support buildings, such as garages, warehouses, trailers, and other similar facilities. Table II-1 presents a summary of the correctional facilities land and building inventory and their current estimated values.

The building value per square foot is estimated based on research on recently built correctional facilities in Brevard County and other Florida jurisdictions, insurance values of existing buildings, and discussions and information from architectural and construction companies. This value is estimated at $240 per square foot for correctional facilities and $75 per square foot for the support facilities included in the inventory. Appendix B provides further detail on the building cost estimates.

The land value for correctional facilities is estimated at $5,000 per acre based on an analysis of value of the parcel where existing facilities are located, vacant land values and parcels sold in the County over the last three years. Additional detail is provided in Appendix B.

Total building value of correctional facilities is estimated at $76.76 million and the land value at $0.65 million, for a total of $77.41 million.

Table II-1

Correctional Facilities Land and Building Inventory

Facility Description	Year Acquired/Built[1]	Number of Acres[1]	Square Feet[1]	Number of Beds[1]	Land Value[2]	Building Value[3]	Total Building and Land Value[4]
Primary Buildings:							
Support and Service Area	1986		42,114	N/A		$10,107,360	
BCDC, POD A Jail	1986		31,828	190		$7,638,720	
BCDC, POD B Jail	1986		31,677	186		$7,602,480	
BCDC, POD C Jail	1986		31,734	190		$7,616,160	
BCDC, POD D Jail	1986		32,031	192		$7,687,440	
Minimum Security Jail (Womens Annex)	1986		28,800	297		$6,912,000	
Visitation Building	1996		1,440	N/A		$345,600	
Central Feeding Building	1999		2,380	N/A		$571,200	
Sprung Structure - Tent 1	2006		10,273	300		$2,465,520	
Sprung Structure - Tent 2	2006		10,273			$2,465,520	
Sprung Structure - Tent 3	2006		10,273			$2,465,520	
Sprung Structure - Tent 4	2006		10,273			$2,465,520	
Laundry Building	2006		3,420	N/A		$820,800	
Mental Health/Medical Facility	2008	130.61	54,622	346	$653,050	$13,109,280	
Kitchen Building	2011		10,000	N/A		$2,400,000	
Subtotal -- Primary Buildings			***311,138***			***$74,673,120***	
Support Buildings :							
Central Logistics Building	2013		672	N/A		$50,400	
Sheriffs's Garage	1990		6,600	N/A		$495,000	
Auto Processing Garage	1995		5,720	N/A		$429,000	
Kennel	1996		800	N/A		$60,000	
Jail Warehouse	1986		7,550	N/A		$566,250	
Warehouse/ Office Facilities Management	1999		3,750	N/A		$281,250	
Detention Center Warehouse Expansion	2007		672	N/A		$50,400	
Modular Building - Detention Center Expansion	2007		672	N/A		$50,400	
Storage Trailer	1999		672	N/A		$50,400	
Office Trailer	1999		672	N/A		$50,400	
Subtotal -- Support Buildings			***27,780***			***$2,083,500***	
Total		**130.61**	**338,918**	**1,701**	**$653,050**	**$76,756,620**	**$77,409,670**
Building Value per Square Foot[5]						**$226**	
Land Value per Acre[6]					**$5,000**		

(1) Source: Brevard County
(2) Number of acres multiplied by the land value per acre (Item 6)
(3) Square feet multiplied by $240 for primary buildings and $75 in the case of support buildings
(4) Sum of land and building values
(5) Total building value (Item 3) divided by total square footage
(6) Estimated based primarily on the value of the current inventory as well as the vacant land values in the county and vacant land sales for parcels with similar acreage

In addition to land and building costs, the correctional facility services also require the use of necessary equipment and vehicles. As presented in Table II-2, the total vehicle and equipment value is estimated at $9.3 million based on information provided by the County.

Table II-2

Correctional Facilities Equipment and Vehicle Inventory

Facility Description	Units[1]	Unit Value[2]	Total Acquired Value[3]
Defibrilators	106	$1,468	$155,618
Respirators	12	$1,206	$14,471
Vehicles (exlcuding buses)	235	$19,107	$4,490,161
Buses	4	$122,531	$490,123
Trailers	16	$4,026	$64,423
Automotive (Miscellaneous)	24	$3,827	$91,857
Firearms	363	$347	$126,076
Firearm Scopes	2	$1,013	$2,025
Computers	56	$2,355	$131,898
Computer/Network Equipment	7	$2,711	$18,978
Exercise Equipment/Lockers	17	$3,443	$58,527
Dogs	15	$7,813	$117,200
Dogs (Miscellaneous)	5	$1,866	$9,332
Radios/Phones	687	$2,924	$2,008,520
Tasers	58	$837	$48,536
Radar	42	$2,984	$125,328
Lightbars	108	$1,046	$112,952
Sewing Machines	12	$2,519	$30,226
Food Prep Equipment	41	$2,427	$99,493
Cameras and Video Systems	81	$1,954	$158,251
Bulletproof Vests/Ballistic Shields/Body Suits	20	$1,833	$36,665
Forklifts	3	$10,633	$31,900
Generators	4	$6,487	$25,949
Lifts	4	$4,495	$17,980
Inmate Containment	21	$6,484	$136,171
Printers/Scanners	11	$3,398	$37,380
Network Adapters	23	$2,000	$46,000
Laundry Equipment	12	$5,529	$66,353
Servers	3	$5,079	$15,236
Terminals	43	$1,567	$67,381
Network Switches	9	$1,100	$9,896

Table II-2 (Continued)

Correctional Facilities Equipment and Vehicle Inventory

Facility Description	Units[1]	Unit Value[2]	Total Acquired Value[3]
Shredders	2	$1,386	$2,773
Containers	12	$2,480	$29,758
Shop Fans	2	$1,999	$3,998
Storage Tanks	3	$1,200	$3,601
Medical Equiment	7	$2,687	$18,811
Shop Equipment	15	$2,920	$43,805
Nightvision Goggles	4	$3,735	$14,938
Security Equipment	5	$17,008	$85,038
Office Equipment	7	$2,108	$14,759
Currency Counters	2	$2,890	$5,779
Hi-Speed Internet System	1	$12,372	$12,372
Baler	1	$1,800	$1,800
Enclosed Building	1	$8,640	$8,640
Dentist Chair	1	$5,879	$5,879
Modular Home	1	$129,601	$129,601
Fingerprint Machine	1	$38,431	$38,431
Total Vehicle/Equipment Cost			**$9,264,889**

(1) Source: Brevard County
(2) Total value (Item 3) divided by units (Item 1)
(3) Source: Brevard County

Service Area and Population

Correctional facility services are provided countywide. As such, it is appropriate that the benefit district for this impact fee to be countywide.

The correctional facilities impact fee program requires the use of population data in calculating current level of service. To reflect the total population served by County services, 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 weighted seasonal population will be used in all population estimates and projections. In addition, correctional facilities is one of the program areas where functional population is used 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. A more detailed explanation of weighted and functional population estimates is provided in Appendix A.

Level of Service

As presented in Table II-3, there is a relation between population growth and the need for correctional facilities. Table II-3 presents the average daily jail population over the last fourteen years, along with the corresponding population. The relation between the population and jail population is used to establish a general trend in the need for correctional facilities. To account for random fluctuations, the three-year average number of bookings and population also is shown.

Table II-3

Service Area Population and Jail Bookings

Year	Population[1]	Average Daily Population[2]	Annual Change		3-Year Average	
			Population	Daily Population	Population	Daily Population
2000	510,679	1,092				
2001	519,668	1,147	1.8%	5.0%		
2002	529,252	1,239	1.8%	8.0%		
2003	539,522	1,370	1.9%	10.6%	1.8%	7.9%
2004	552,573	1,348	2.4%	-1.6%	2.0%	5.7%
2005	564,583	1,444	2.2%	7.1%	2.2%	5.4%
2006	571,873	1,632	1.3%	13.0%	2.0%	6.2%
2007	577,145	1,802	0.9%	10.4%	1.5%	10.2%
2008	580,491	1,812	0.6%	0.6%	0.9%	8.0%
2009	581,465	1,481	0.2%	-18.3%	0.6%	-2.4%
2010	583,396	1,585	0.3%	7.0%	0.4%	-3.6%
2011	585,333	1,610	0.3%	1.6%	0.3%	-3.2%
2012	585,806	1,533	0.1%	-4.8%	0.2%	1.3%
2013	588,811	1,424	0.5%	-7.1%	0.3%	-3.4%
2014	594,202	1,456	0.9%	2.2%	0.5%	-3.2%

(1) Source: Appendix A, Table A-1
(2) Source: Brevard County Sheriff's Office

For planning purposes, the level-of-service (LOS) for correctional facility services is expressed in terms of jail facility beds per 1,000 residents. Using this method, Brevard County's current achieved LOS is 2.86 beds per 1,000 residents. The County's current adopted LOS standard for correctional facilities is 3.0 beds per 1,000 residents. Given that the achieved LOS is lower than the adopted standard, impact fee calculations for correctional facilities are based on the achieved LOS. As mentioned previously, for impact fee calculations, the LOS should be measured using functional population to capture workers, visitors, and residents to calculate the correctional facilities impact fee. In terms

of functional population, the current LOS is 3.09 beds per 1,000 functional residents. Table II-4 summarizes the calculation of the County's current LOS using both weighted seasonal population and functional population.

Table II-4

Current Level-of-Service

Component	Year 2014	
	Weighted Population	Functional Population
Population[(1)]	594,202	550,608
Number of Beds[(2)]	1,701	1,701
LOS (beds per 1,000 residents)[(3)]	**2.86**	**3.09**
Adopted LOS Standard (beds per 1,000 residents)[(4)]	**3.00**	**3.24**

(1) Appendix A, Table A-1 for weighted seasonal population and Table A-9 for functional population
(2) Source: Table II-1
(3) Number of beds (Item 2) divided by the population (Item 1), multiplied by 1,000
(4) Source: Brevard County Comprehensive Plan, Chapter 13. LOS standard for functional resident is calculated based on the ratio of actual LOS in terms of weighted population versus functional population

Table II-5 summarizes a LOS comparison between Brevard County and comparable Florida counties. The LOS is displayed in terms of permanent population for 2013 for all entities because functional population data analysis has not been completed for these entities, as it was for Brevard County. In addition, the number of beds for all jurisdictions presented in the following table is based on gross beds. As presented, Brevard County's LOS is within the range of these counties.

Table II-5

Level-of-Service Comparison

Jurisdiction	Gross Beds[1]	2013 Permanent Population[2]	LOS (Beds per 1,000 Residents)[3]
Orange County	1,053	1,202,978	0.88
Sarasota County	1,020	385,292	2.65
Volusia County	1,494	498,978	2.99
Pasco County	1,432	473,566	3.02
Brevard County (Existing)	**1,701**	**548,424**	**3.10**
Lee County	2,009	643,367	3.12
Manatee County	1,056	333,880	3.16
Seminole County	1,396	431,074	3.24
Collier County	1,304	333,663	3.91
Polk County	2,576	613,950	4.20
St. Lucie County	1,370	281,151	4.87
Indian River County	712	139,586	5.10
Marion County	1,924	335,008	5.74
Okeechobee County	232	39,762	5.83

(1) Source: Each jurisdiction's respective Sheriff's Office or Correctional Facilities Department

(2) Source: University of Florida, Bureau of Economic and Business Research

(3) Gross beds (Item 1) divided by the 2013 permanent population (Item 2) divided by 1,000 for each jurisdiction

Cost Component

Table II-6 provides the total asset value per resident. As shown, total asset value owned by the County amounts to $86.7 million or $51,000 per bed. The total impact cost per functional resident for correctional facilities in Brevard County is calculated by multiplying the total cost per bed by the LOS (beds per 1,000 functional residents) and dividing that figure by 1,000, which is approximately $157 per functional resident.

Table II-6

Total Impact Cost per Functional Resident

Description	Figure	Percent of Total Value[7]
Building Value[1]	$76,756,620	88.56%
Land Value[1]	$653,050	0.75%
Equipment Value[2]	$9,264,889	10.69%
Total Asset Value	**$86,674,559**	**100.00%**
Number of Beds[3]	1,701	
Net Asset Value per Bed[4]	**$50,955**	
Current LOS (Beds per 1,000 Functional Residents)[5]	3.09	
Total Impact Cost per Functional Resident[6]	**$157.45**	

(1) Source: Table II-1
(2) Source: Table II-2
(3) Source: Table II-4
(4) Total asset value divided by the number of beds (Item 3)
(5) Source: Table II-4
(6) Net asset value per bed (Item 4) multiplied by the current correctional facilities LOS (Item 5) divided by 1,000
(7) Percent of building value, land value, and equipment value of the total asset value

Credit Component

To avoid overcharging new development for the correctional facility impact fee, a review of the capital financing program for correctional services was completed. The purpose of this review was to determine any potential revenue credits generated by new development that are being used for expansion of capital facilities, land, and equipment included in the inventory.

A review of Brevard County's capacity expansions expenditures over the past five years and the next five years indicates that all planned correctional related capital expansion projects were/will be funded with impact fee revenues. Therefore, a credit for cash-funded capital expansion expenditures is not necessary.

Debt Service Credit

Any outstanding bond issues related to the expansion of the County's correctional facilities also will result in a credit to the impact fee. Brevard County currently is repaying debt service on sales tax refunding bonds issued to fund the construction and improvements at

the County jail, which will be paid off in FY 2025. The debt service is paid back with Court fees and other General Government Revenues.

To calculate the credit of the outstanding loan, the present value of the total remaining payments of the bond issue is calculated and then divided by the average annual functional population estimated over the remaining life of the bond issue. As presented in Table II-7, the resulting credit for the correctional facilities-related debt is $18 per functional resident.

Table II-7

Debt Service Credit [1]

Description	Total Number of Fiscal Years of Debt Issue[1]	Fiscal Years Remaining[2]	Total Remaining Correctional Debt Service[3]	Present Value of Payments Remaining[4]	Avg Annual Functional Population During Remaining Issue Period[5]	Credit per Resident[6]
Brevard County Jail Construction and Improvements (Sales Tax Refunding Revenue Bonds, Series 2013)	13	12	$11,794,547	$10,569,477	587,875	$17.98
Total Debt Service Credit per Resident						**$17.98**

(1) Source: Brevard County
(2) Source: Brevard County
(3) The total debt service remaining, including principal and interest payments
(4) The present value in 2014 dollars of the annual debt service payments
(5) Source: Appendix A, Table A-9
(6) The present value of payments remaining (Item 4) divided by the average annual functional population (Item 5) for each respective debt service issue

Net Correctional Facilities Impact Cost

The net correctional impact fee per resident is the difference between the cost component and the credit component. Table II-8 summarizes the calculation of the net correctional facility cost per resident. The first section of Table II-8 identifies the total impact cost as $157 per functional resident for correctional facilities. The second section of the table identifies the revenue credits for the impact fee. The debt service credit calculation includes a total of approximately $18 per functional resident. The net impact cost per resident is the different between the total impact cost and the total revenue credit per resident. This results in a net impact cost of $139 per functional resident, which also represents the LOS for impact fee purposes.

Table II-8

Net Impact Cost per Functional Resident

Calculation Step	Impact Cost	Revenue Credits
Impact Cost		
Total Impact Cost per Functional Resident[(1)]	**$157.45**	-
Debt Service Credit		
Debt Service Credit per Resident[(2)]		$17.98
Net Impact Cost		
Net Impact Cost per Functional Resident[(3)]	**$139.47**	

(1) Source: Table II-6
(2) Source: Table II-7
(3) Total impact cost per resident (Item 1) less the debt service credit per resident (Item 2)

Calculated Correctional Facilities Impact Fee Schedule

Table II-9 presents the calculated correctional facilities impact fee schedule for residential and non-residential land uses, based on the net impact fee cost per resident figures presented in Table II-8. The increase in impact fee levels is due to increased inventory, which resulted in increased level of service, higher costs, and reduced credit. In addition, changes in demand variables contributed to the fluctuations in fees.

Table II-9

Calculated Correctional Facilities Impact Fee Schedule

LUC	Land Use	Impact Unit	Functional Resident Coefficient[1]	Total Impact Fee[2]	Current Impact Fee[3]	Percent Change[4]
	RESIDENTIAL:					
210	Single Family (Detached)	du	1.67	**$233**	$71.99	224%
220	Multi-Family (Apartment); 1-2 Stories	du	0.88	**$123**	$62.73	96%
222/223	Multi-Family (Apartment); 3+ Stories	du	0.88	**$123**	$41.25	198%
231	Condo/Duplex/Townhouse; 1-2 Stories	du	0.88	**$123**	$65.61	88%
232	Condo/Duplex/Townhouse; 3+ Stories	du	0.88	**$123**	$43.13	185%
240	Mobile Home	du	1.09	**$152**	$56.65	168%
	TRANSIENT, ASSISTED, GROUP :					
310	Hotel	room	1.05	**$146**	$20.22	622%
320	Motel	room	1.01	**$141**	$20.22	597%
620	Nursing Home	bed	0.90	**$126**	$47.00	168%
253	Assisted Care Living Facility (ACLF)	du	0.93	**$130**	$60.52	115%
	RECREATION:					
416	RV Park	site	0.50	**$70**	$57.00	23%
420	Marina	boat berth	0.19	**$26**	$11.15	133%
430	Golf Course	hole	1.08	**$151**	$191.83	-21%
444	Movie Theater w/Matinee	screen	5.98	**$834**	$621.34	34%
491	Raquet/Tennis Club	court	3.16	**$441**	$106.95	312%
492	Health/Fitness Club	1,000 sf	3.09	**$431**	$60.20	616%
	INSTITUTIONS :					
520	Elementary School (Private)	student	0.06	**$8**	$5.20	54%
522	Middle School (Private)	student	0.07	**$10**	$7.33	36%
530	High School (Private)	student	0.08	**$11**	$9.05	22%
540	University/Junior College (7,500 or fewer students) (Private)	student	0.10	**$14**	$7.00	100%
550	University/Junior College (more than 7,500 students) (Private)	student	0.07	**$10**	$7.00	43%
560	Church	1,000 sf	0.51	**$71**	$16.42	332%
565	Day Care Center	1,000 sf	0.89	**$124**	$366.39	-66%
610	Hospital	1,000 sf	1.37	**$191**	$45.81	317%
640	Animal Hospital/Veterinary Clinic	1,000 sf	2.32	**$324**	$51.94	524%
	OFFICE :					
710	General Office 50,000 sf or less	1,000 sf	1.41	**$197**	$34.17	477%
	General Office 50,001 - 100,000 sf	1,000 sf	1.19	**$166**	$34.17	386%
	General Office 100,001 - 200,000 sf	1,000 sf	1.01	**$141**	$34.17	313%
	General Office 200,001 - 400,000 sf	1,000 sf	0.85	**$119**	$34.17	248%
	General Office greater than 400,000 sf	1,000 sf	0.77	**$107**	$34.17	213%
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	1.14	**$159**	$57.21	178%
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	1.66	**$232**	$57.21	306%
750	Office Park	1,000 sf	1.04	**$145**	$26.69	443%
	RETAIL :					
820	Retail 10,000 sfgla or less	1,000 sfgla	2.45	**$342**	$244.00	40%
	Retail 10,001-50,000 sfgla	1,000 sfgla	2.45	**$342**	$160.44	113%
	Retail 50,001-100,000 sfgla	1,000 sfgla	2.46	**$343**	$160.44	114%
	Retail 100,001-300,000 sfgla	1,000 sfgla	2.50	**$349**	$100.18	248%
	Retail 300,001-500,000 sfgla	1,000 sfgla	2.55	**$356**	$100.18	255%
	Retail 500,001-1,000,000 sfgla	1,000 sfgla	2.42	**$338**	$100.18	237%
	Retail greater than 1,000,000 sfgla	1,000 sfgla	2.32	**$324**	$84.78	282%
841	New/ Used Auto Sales	1,000 sf	1.47	**$205**	$85.41	140%
850	Supermarket	1,000 sf	2.05	**$286**	$219.85	30%
851	Convenience Market (24 hour)	1000 sf	5.47	**$763**	$468.17	63%
853	Convenience Market w/Gasoline	1,000 sf	5.83	**$813**	$468.17	74%
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	1.96	**$273**	N/A	N/A
890	Furniture Store	1,000 sf	0.23	**$32**	$13.41	139%
911	Bank/Savings Walk-In	1,000 sf	2.23	**$311**	$90.38	244%
912	Bank/Savings Drive-In	1,000 sf	2.28	**$318**	$81.48	290%
931	Quality Restaurant	1,000 sf	6.82	**$951**	$350.75	171%
932	High-Turnover Restaurant	1,000 sf	6.78	**$946**	$432.22	119%
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	8.90	**$1,241**	$428.40	190%
942	Automobile Care Center	1,000 sf	1.50	**$209**	$66.24	216%
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	1.91	**$266**	$105.67	152%
947	Self Service Car Wash	service bay	0.87	**$121**	$389.23	-69%
	INDUSTRIAL :					
110	General Light Industrial	1,000 sf	0.69	**$96**	N/A	N/A
120	General Heavy Industrial	1,000 sf	0.49	**$68**	N/A	N/A
150	Warehousing	1,000 sf	0.28	**$39**	N/A	N/A
151	Mini-Warehouse	1,000 sf	0.06	**$8**	N/A	N/A

(1) Functional resident coefficients from Appendix A, Table A-10 for residential and lodging land uses and Table A-12 for non-residential uses

(2) Proposed impact fee determined by multiplying the net impact cost per functional resident (Table II-8) by the functional resident coefficient (Item 1) for each land use

(3) Source: Brevard County Planning and Development Department

(4) Percent change from the current impact fee rates (Item 3) to the total impact fee (Item 2)

Correctional Facilities Impact Fee Schedule Comparison

As part of the work effort in updating Brevard County's correctional facilities impact fee program, a comparison of correctional facilities impact fee schedules was completed for other Florida counties. Table II-10 presents this comparison. As presented, Brevard County's calculated fee is within the range of fees adopted by other Counties.

Table II-10

Correctional Facilities Impact Fee Schedule Comparison

Land Use	Unit[2]	Brevard County		Indian River County[5]	Okeechobee County[6]	Polk County[7]	Collier County[8]	Sarasota County[9]
		Calculated[3]	Existing[4]					
Date of Last Update		2014	2000	2014	2012	2009	2010	2007
Assessed Portion of Calculated[1]		100%	100%	100%	100%	50%	100%	100%
Residential:								
Single Family (2,000 sf)	du	$233	$72	$287	$533	$109	$488	$796
Non-Residential:								
Light Industrial	1,000 sf	$96	-	$129	$110	$28	$176	$250
Office (50,000 sq ft)	1,000 sf	$197	$34	$186	$258	$192	$362	$416
Retail (125,000 sq ft)	1,000 sf	$349	$100	$441	$551	$214	$597	$1,037
Bank w/Drive-Thru	1,000 sf	$318	$81	$425	$551	$214	$604	$1,037
Fast Food w/Drive-Thru	1,000 sf	$1,241	$428	$1,658	$551	$214	$2,297	$1,037

(1) Represents the portion of the maximum calculated fee for each respective county that is actually charged. Fees may have been lowered /increased through annual indexing or policy discounts. Does not account for moratoriums/suspensions.
(2) du = dwelling unit
(3) Source: Table II-9
(4) Source: Brevard County Planning & Development Department
(5) Source: Indian River County Planning Division. Fees are currently suspended.
(6) Source: Okeechobee County Planning & Development Department
(7) Source: Polk County Impact Fee Administration Department. Fees are currently under moratorium through July 2015.
(8) Source: Collier County Impact Fee Administration Department
(9) Source: Sarasota County Planning & Development Services

III. Solid Waste Facilities

This section provides the results of the solid waste facilities impact fee analysis. There are several major elements associated with the development of the solid waste facilities impact fee:

- Facility Inventory
- Service Area and Population
- Cost Component
- Credit Component
- Net Solid Waste Impact Cost
- Calculated Solid Waste Impact Fee Schedule

These various elements are summarized in this section. It should be noted that solid waste impact fees are not very common and there is limited literature. Solid waste operations are typically an Enterprise Fund and tend to be funded through assessments, tipping fees, and other similar charges. In addition, the landfill component is used by both existing and new growth on a continuous basis, and as such, it is difficult to identify the portion that is directly tied to new growth. In this study, the impact fee calculations are based on the transfer stations, recycling and mulching facilities, hazardous waste storage facilities, and other similar structures as well as the vehicles and equipment, which tend to be added/expanded with additional growth. The County's current solid waste impact fee was last updated in 1991, through a study that addressed both the solid waste rate structure and impact fees. As such, the 1991 study included a portion of the landfill assets in the impact fee calculations, which was balanced with the calculated rate levels. Because this update study addresses only the impact fee component, the inventory includes only those facilities that are directly related to growth and creates a more conservative impact fee. If the County decides to adopt this update study, it is recommended that a separate rate study is conducted to calculate the necessary solid waste rates to incorporate the entire capital cost associated with the landfills.

Facility Inventory

Brevard County Solid Waste Management Department has two landfill sites and also operates transfer stations, recycling and mulching facilities, household hazardous waste collection facilities, among others, throughout the County. The inventory that is directly related to the new growth is summarized in Table III-1. The facility and land values are based on the recently built facilities, estimates provided by the Brevard County Solid Waste Management Department, insurance values, land value of existing properties, vacant land values, and recent vacant land sales. A more detailed explanation is provided in Appendix B.

Table III-1
Summary of Solid Waste Capital Facilities Inventory

Facility Description	Address	Acres[1]	Facility Value[2]	Land Value[3]	Total Facility & Land Value[4]
Transfer Stations:					
Titusville Transfer Station	4366 SR 405, Titusville	11.86	$1,900,000	$237,200	
Scale House	4366 SR 405, Titusville		$450,000		
Mockingbird Recycling and Mulching Facilities	3600 South Street, Titusville	53.27	$1,500,000	$1,065,400	
Storage Facility	3600 South Street, Titusville		$202,000		
Sarno Road Transfer Station	3379 Sarno Road, Melbourne	23.20	$12,025,000	$464,000	
Sarno Hazardous Facility Waste Facility	3379 Sarno Road, Melbourne		$494,000		
Scale House	2500 Adamson Road, Cocoa	N/A	$2,100,000	N/A	
Hazardous Waste Storage	2250 Adamson Road, Cocoa	3.00	$226,000	$60,000	
CDF Vehicle Maintenance Building	2500 Adamson Road, Cocoa	N/A	$538,000	N/A	
CDF Fuel Storage and Pump Station	2500 Adamson Road, Cocoa	N/A	$102,000	N/A	
CDF Fuel Island	2500 Adamson Road, Cocoa	N/A	$47,000		
CDF Operations Office	2250 Adamson Road, Cocoa	N/A	$450,000	N/A	
CDF Yard Waste Mulching	2500 Adamson Road, Cocoa	15.00	$1,330,000	$300,000	
Hazardous Materials Building Storage	2500 Adamson Road, Cocoa	N/A	$42,000	N/A	
Total		**106.33**	**$21,406,000**	**$2,126,600**	**$23,532,600**
Land Value per Acre[5]				$20,000	-

(1) Source: Brevard County
(2) Source: Brevard County Solid Waste Management Department, insurance values, and Solid Waste Management Plan Update, Five-Year Capital Improvement Plan FY 2011-FY 2015. Acres (Item 1) multiplied by the land value per acre (Item 6)
(3) Acres (Item 1) multiplied by land value per acre (Item 5)
(4) Sum of building (Item 2) and land value (Item 3)
(5) Based on a review of values of land where existing facilities are located and vacant land sales and values

Service Area and Population

Solid waste facilities are provided on a countywide basis, and as such, a countywide benefit district is appropriate. Because facilities included in the inventory serve both the residential and commercial customers, functional population is used in this analysis. The County's current weighted seasonal and functional population estimate and future population projections are provided in Appendix A.

Cost Component

Table III-2 presents a summary of asset value related to the solid waste impact fee and resulting value per resident ($77 per person).

Table III-2
Total Impact Cost per Resident

Capital Asset Component	Figure	Percent of Total Value[7]
Total Building Value[1]	$21,406,000	50%
Total Land Value[2]	$2,126,600	5%
Total Vehicle/Equipment Value[3]	$18,916,038	45%
Total Asset Value[4]	**$42,448,638**	100%
2014 Functional Population[5]	550,608	
Total Solid Waste Asset Value per Resident[6]	**$77.09**	

(1) Source: Table III-1
(2) Source: Table III-1
(3) Source: Brevard County Solid Waste Management Department
(4) Sum of the total building value (Item 1), total land value (Item 2), and total vehicle/equipment value (Item 3)
(5) Source: Appendix A, Table A-9; Countywide
(6) Total asset value (Item 3) divided by population (Item 4)
(7) Each component divided by total asset value

Credit Component

To avoid overcharging new development for the solid waste facility impact fee, a review of the capital expenditures for the past five years and next five years was reviewed. The purpose of this review was to determine any potential revenue credits generated by new development that are being used for expansion of capital facilities and land included in the inventory.

As presented in Table III-3, the County uses an average annual amount of approximately $364,500 of the assessment revenues toward the expansion of solid waste facilities. This amount results in an annual expenditure of approximately $0.66 per resident, which is used in the calculated the net solid waste impact fee cost.

Table III-3

Historical and Planned Capital Expansion Expenditures

Expenditure[1]	FY 2010 - 2014	FY 2015 - 2019	Total
Solid Waste Capacity Expansion Projects:			
Assessments			
Sarno Household Hazardous Waste Facility	$806,232	$0	$806,232
CDF New Scale House	$0	$1,400,000	$1,400,000
Titusville Transfer Station Land Acquisition	$0	$1,438,500	$1,438,500
Total Capital Expansion Expenditures	**$806,232**	**$2,838,500**	**$3,644,732**
Average Annual Capital Expansion Expenditures[2]			**$364,473**
Average Annual Population[3]			**556,076**
Capital Expansion Expenditures per Functional Resident[4]			**$0.66**

(1) Source: Brevard County Solid Waste Management Department
(2) Total expenditures divided by 10 years
(3) Source: Appendix A, Table A-9; Countywide
(4) Average annual capital expenditures (Item 2) divided by the average annual functional population (Item 3)

Net Solid Waste Impact Cost

The net impact fee per resident is the difference between the cost component and the credit component. Table III-4 summarizes the calculation of the net solid waste impact cost per resident, which is also the relevant LOS for impact fee purposes and should be included in the Comprehensive Plan as such.

Table III-4
Net Impact Cost per Functional Resident

Calculation Step	Impact Cost	Revenue Credits
Impact Cost		
Total Impact Cost per Functional Resident[1]	**$77.09**	
Revenue Credit		
Avg Annual Capital Expansion Credit per Functional Resident[2]		$0.66
Capitalization Rate		3.0%
Capitalization Period (in years)		25
Capital Expansion Credit per Functional Resident[3]		$11.49
Net Impact Cost		
Net Impact Cost per Functional Resident[4]	**$65.60**	

(1) Source: Table III-2
(2) Source: Table III-3
(3) The present value of the capital improvement credit per functional resident (Item 2) at a discount rate of 3% with a capitalization period of 25 years. The capitalization rate estimate is based on interest rate paid for debt service on recent bond issues.
(4) Total impact cost per resident (Item 1) less the capital expansion credit per resident (Item 3)

Calculated Solid Waste Impact Fee Schedule

The calculated solid waste impact fee for each residential land use is presented in Table III-5. The net impact cost per resident calculated in Table III-4 is multiplied by the functional resident coefficient for each land use. As mentioned previously, the current adopted fee includes a portion of capital costs associated with landfills while the calculated fee is based only on facilities that are directly related to new growth. At this time, Brevard County calculates the solid waste impact fee for non-residential land uses on a case-by-case basis, based on similar facilities. As such, a comparison for these fees was not available. In addition, because solid waste impact fees are not commonly implemented, a comparison of fees to other Florida jurisdiction is not included in this report.

Table III-5
Calculated Solid Waste Impact Fee Schedule

LUC	Land Use	Impact Unit	Functional Resident Coefficient[(1)]	Total Impact Fee[(2)]	Current Impact Fee[(3)]	Percent Change[(4)]
	RESIDENTIAL:					
210	Single Family (Detached)	du	1.67	**$109.55**	$160	-32%
220	Multi-Family (Apartment); 1-2 Stories	du	0.88	**$57.73**	$120	-52%
222/223	Multi-Family (Apartment); 3+ Stories	du	0.88	**$57.73**	$120	-52%
231	Duplex/Townhouse; 1-2 Stories	du	0.88	**$57.73**	$160	-64%
231	Condo; 1-2 Stories	du	0.88	**$57.73**	$120	-52%
232	Townhouse; 3+ Stories	du	0.88	**$57.73**	$160	-64%
232	Condo; 3+ Stories	du	0.88	**$57.73**	$120	-52%
240	Mobile Home, on Deeded Lot	du	1.09	**$71.50**	$160	-55%
240	Mobile Home, on Rental Lot	du	1.09	**$71.50**	$120	-40%
	TRANSIENT, ASSISTED, GROUP :					
310	Hotel	room	1.05	**$68.88**	**	N/A
320	Motel	room	1.01	**$66.26**	**	N/A
620	Nursing Home	bed	0.90	**$59.04**	**	N/A
253	Assisted Care Living Facility (ACLF)	du	0.93	**$61.01**	**	N/A
	RECREATION:					
416	RV Park	site	0.50	**$32.80**	**	N/A
420	Marina	boat berth	0.19	**$12.46**	**	N/A
430	Golf Course	hole	1.08	**$70.85**	**	N/A
444	Movie Theater w/Matinee	screen	5.98	**$392.29**	**	N/A
491	Raquet/Tennis Club	court	3.16	**$207.30**	**	N/A
492	Health/Fitness Club	1,000 sf	3.09	**$202.70**	**	N/A
	INSTITUTIONS :					
520	Elementary School (Private)	student	0.06	**$3.94**	**	N/A
522	Middle School (Private)	student	0.07	**$4.59**	**	N/A
530	High School (Private)	student	0.08	**$5.25**	**	N/A
540	University/Junior College (7,500 or fewer students) (Private)	student	0.10	**$6.56**	**	N/A
550	University/Junior College (more than 7,500 students) (Private)	student	0.07	**$4.59**	**	N/A
560	Church	1,000 sf	0.51	**$33.46**	**	N/A
565	Day Care Center	1,000 sf	0.89	**$58.38**	**	N/A
610	Hospital	1,000 sf	1.37	**$89.87**	**	N/A
640	Animal Hospital/Veterinary Clinic	1,000 sf	2.32	**$152.19**	**	N/A
	OFFICE :					
710	General Office 50,000 sf or less	1,000 sf	1.41	**$92.50**	**	N/A
	General Office 50,001 - 100,000 sf	1,000 sf	1.19	**$78.06**	**	N/A
	General Office 100,001 - 200,000 sf	1,000 sf	1.01	**$66.26**	**	N/A
	General Office 200,001 - 400,000 sf	1,000 sf	0.85	**$55.76**	**	N/A
	General Office greater than 400,000 sf	1,000 sf	0.77	**$50.51**	**	N/A
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	1.14	**$74.78**	**	N/A
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	1.66	**$108.90**	**	N/A
750	Office Park	1,000 sf	1.04	**$68.22**	**	N/A
	RETAIL :					
820	Retail 10,000 sfgla or less	1,000 sfgla	2.45	**$160.72**	**	N/A
	Retail 10,001-50,000 sfgla	1,000 sfgla	2.45	**$160.72**	**	N/A
	Retail 50,001-100,000 sfgla	1,000 sfgla	2.46	**$161.38**	**	N/A
	Retail 100,001-300,000 sfgla	1,000 sfgla	2.50	**$164.00**	**	N/A
	Retail 300,001-500,000 sfgla	1,000 sfgla	2.55	**$167.28**	**	N/A
	Retail 500,001-1,000,000 sfgla	1,000 sfgla	2.42	**$158.75**	**	N/A
	Retail greater than 1,000,000 sfgla	1,000 sfgla	2.32	**$152.19**	**	N/A
841	New/ Used Auto Sales	1,000 sf	1.47	**$96.43**	**	N/A
850	Supermarket	1,000 sf	2.05	**$134.48**	**	N/A
851	Convenience Market (24 hour)	1000 sf	5.47	**$358.83**	**	N/A
853	Convenience Market w/Gasoline	1,000 sf	5.83	**$382.45**	**	N/A
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	1.96	**$128.58**	**	N/A
890	Furniture Store	1,000 sf	0.23	**$15.09**	**	N/A
911	Bank/Savings Walk-In	1,000 sf	2.23	**$146.29**	**	N/A
912	Bank/Savings Drive-In	1,000 sf	2.28	**$149.57**	**	N/A
931	Quality Restaurant	1,000 sf	6.82	**$447.39**	**	N/A
932	High-Turnover Restaurant	1,000 sf	6.78	**$444.77**	**	N/A
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	8.90	**$583.84**	**	N/A
942	Automobile Care Center	1,000 sf	1.50	**$98.40**	**	N/A
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	1.91	**$125.30**	**	N/A
947	Self Service Car Wash	service bay	0.87	**$57.07**	**	N/A
	INDUSTRIAL :					
110	General Light Industrial	1,000 sf	0.69	**$45.26**	**	N/A
120	General Heavy Industrial	1,000 sf	0.49	**$32.14**	**	N/A
150	Warehousing	1,000 sf	0.28	**$18.37**	**	N/A
151	Mini-Warehouse	1,000 sf	0.06	**$3.94**	**	N/A

(1) Functional resident coefficients from Appendix A, Table A-10 for residential and lodging land uses and Table A-12 for non-residential uses
(2) Proposed impact fee determined by multiplying the net impact cost per functional resident (Table III-4) by the functional resident coefficient (Item 1) for each land use
(3) Source: Brevard County Planning and Development Department
(4) Percent change from the current impact fee rates (Item 3) to the total impact fee (Item 2)
** Individually calculated on a project-by-project basis.

IV. Library Facilities

Library impact fees are used to fund the capital construction and expansion of library services related buildings, land, and materials/equipment required to support the additional library facilities demand created by new growth. This section provides the results of the library impact fee analysis. There are several major elements associated with the development of the library facilities impact fee:

- Facility Inventory
- Service Area and Population
- Level-of-Service
- Cost Component
- Credit Component
- Net Library Facilities Impact Cost
- Calculated Library Facilities Impact Fee Schedule
- Library Facilities Impact Fee Schedule Comparison

These various elements are summarized in this section. It should be noted that library impact fees are charged to residential land uses only.

Facility Inventory

The Brevard County Library Service owns and operates 14 libraries with approximately 337,000 square feet. There are three additional libraries that are part of the Brevard County Library System and are operated by the County, but because the buildings and land are not owned by the County, they are not included in the inventory for impact fee calculation purposes.

The following table presents the inventory of library facilities that are owned by the County. The building value is estimated at $230 per square foot based on recent library construction in Brevard County and other Florida jurisdictions, and insurance values of existing libraries. Land value for library buildings is estimated at $50,000 per acre based on value of current parcels and an analysis of vacant land values and recent vacant land sales in Brevard County. Appendix B provides additional information on building and land value estimates.

Table IV-1
Brevard County Library Building Inventory

Facility Description	Address	Year Built[1]	Acres[2]	Square Footage[3]	Land Value[4]	Building Value[5]	Total Building and Land Value[6]
Owned Facilities:							
Central Reference Library	308 Forrest Avenue, Cocoa, FL 32922	1989	5.84	97,362	$292,000	$22,393,260	$22,685,260
Cocoa Beach Library	550 North Brevard Avenue, Cocoa Beach, FL 32931	1998	3.59	23,124	$179,500	$5,318,520	$5,498,020
Martin Luther King Library	955 E. University Blvd, Melbourne, FL 32901	1999	1.05	10,728	$52,500	$2,467,440	$2,519,940
Franklin T. DeGroodt Memorial Library	6475 Minton Road, S.W., Palm Bay, FL 32908	1992	4.46	23,700	$223,000	$5,451,000	$5,674,000
Melbourne Beach Library	324 Ocean Avenue, Melbourne Beach, FL 32951	2002	0.45	15,120	$22,500	$3,477,600	$3,500,100
Melbourne Library[7]	540 E. Fee Avenue, Melbourne, FL 32901	1989	4.00	26,641	$200,000	$6,127,430	$6,327,430
Mims/Scottmoor Library[8]	3615 Lionel Road, Mims, FL 32754	1988	N/A	9,100	N/A	$2,093,000	$2,093,000
Palm Bay Library	1520 Port Malabar Blvd NE, Palm Bay, FL 32905	1986	3.02	8,820	$151,000	$2,028,600	$2,179,600
Port St. John Library	6500 Carole Avenue, Port St. John, FL 32927	1988/2003	3.11	26,070	$155,500	$5,996,100	$6,151,600
Satellite Beach Library	751 Jamaica Blvd, Satellite Beach, FL 32937	1991	5.00	20,244	$250,000	$4,656,120	$4,906,120
South Mainland/Micco Library	7921 Ron Beatty Blvd, Micco, FL 32976	1987	2.33	12,851	$116,500	$2,955,730	$3,072,230
Suntree Library	902 Jordan Blass Blvd. Suntree, Melbourne, FL 32940	2003	12.77	15,680	$638,500	$3,606,400	$4,244,900
North Brevard Library	2121 S. Hopkins Avenue, Titusville, FL 32780	1971	4.07	29,082	$203,500	$6,688,860	$6,892,360
West Melbourne Library	2755 Wingate Blvd, West Melbourne, FL 32904	1998	5.00	18,432	$250,000	$4,239,360	$4,489,360
Total			**54.69**	**336,954**	**$2,734,500**	**$77,499,420**	**$80,233,920**
Land Value per Acre[9]					$50,000		
Building Value per Square Foot[10]						$230	

(1) Source: Brevard County Library Services
(2) Source: Brevard County Library Services
(3) Source: Brevard County Library Services
(4) Acres (Item 2) multiplied by land value per acre (Item 9)
(5) Square footage (Item 3) multiplied by building value per square foot (Item 10)
(6) Sum of land value and building values (Items 4 and 5)
(7) The land is owned by the City, but dedicated to the County. The building was built by the County and is under the control of the County as long as it provides library services.
(8) Land is owned by the School District and 5,420 additional square footage that is owned by the County is operated by the School District as a Community Education Center, and therefore, is not included.
(9) Based on a review of vacant land sales and values. See Appendix B for further detail.
(10) Based on recent construction, insurance values and other available information. See Appendix B for further detail.

In addition to buildings and land, the Brevard County Library System houses a wide variety of materials that are owned by the County and are available to the public. Table IV-2 presents the inventory of library materials.

Table IV-2
Brevard County Library Material Inventory

Description	Units[1]	Unit Cost[1]	Total Value[2]
Books:			
All Books	1,043,393	$8.55	$8,922,073
Periodical Subscriptions	34,355	$9.46	$325,096
Microforms Subscriptions	149	$3,627	$540,485
Audio Books	27,872	$15.21	$423,931
eBooks	9,992	$35.06	$350,320
Total - Books	**1,115,761**		**$10,561,905**
Other Library Items:			
Music CDs	48,805	$4.54	$221,677
Movies/Documentaries	101,713	$11.17	$1,136,384
Other A-V	56	$22.98	$1,287
Equipment	48	$81.00	$3,888
Total - Other Library Items	**150,622**		**$1,363,236**
Total - All Library Materials	**1,266,383**		**$11,925,141**
Total Value per Item[3]			**$9**

(1) Source: Brevard County Library Services
(2) Number of units multiplied by the cost
(3) Total value for all library materials divided by the total units for all library materials

In addition to the available material, the Brevard County Library System owns a variety of equipment, both for public use and for its own operations. Table IV-3 presents the inventory of library equipment.

Table IV-3
Library Equipment Inventory

Library Inventory	Count	Unit Value	Total Insured Value
Barcode Scanner	4	$2,005	$8,020
Book Receiving Cart	3	$1,241	$3,722
Book Return	1	$1,190	$1,190
Camcorder	1	$1,738	$1,738
Carpet Cleaner/ Vacuum	5	$1,561	$7,804
Cisco Firewall	2	$9,622	$19,243
Coin/ Bill Acceptor	19	$4,997	$94,943
Computer	797	$948	$755,942
Computer Learning Station	1	$3,200	$3,200
Computer Module	1	$1,234	$1,234
Computer Networking	3	$8,702	$26,105
Data Storage	4	$9,548	$38,193
Equipment Rack	15	$1,155	$17,328
External Auto Loader	1	$2,099	$2,099
Fax Machine	5	$1,214	$6,071
Folder Inserter	1	$6,458	$6,458
Gazebo	1	$4,581	$4,581
Generator	1	$44,252	$44,252
Laminator	2	$1,357	$2,713
Large Print Reader	14	$5,137	$71,914
Mailing Card Printer	1	$1,799	$1,799
Memotech	1	$1,485	$1,485
Microfilm Scanner	4	$8,335	$33,341
Minolta Reader/ Printer	6	$6,031	$36,187
Monitor, Low Vision	7	$2,395	$16,765
Network Switch	24	$2,592	$62,197
Phonic Ear Easy Listener	3	$2,090	$6,269
Playground	1	$17,608	$17,608
Printer	33	$1,258	$41,519
Projector	22	$2,092	$46,022
Roller Die Cutting Machine	1	$1,195	$1,195
Router	26	$3,022	$78,581
RTI Tape Chek	1	$3,950	$3,950
Satellite Dish	1	$13,043	$13,043
Scooter	1	$1,995	$1,995
Security Camera	1	$6,192	$6,192
Checkpoint Security System	18	$9,749	$175,488

Table IV-3 (Continued)
Library Equipment Inventory

Library Inventory	Count	Unit Value	Total Insured Value
Server	47	$3,900	$183,305
Shed	1	$1,020	$1,020
Shredder	1	$1,360	$1,360
Software	7	$5,313	$37,193
Software (Values > $400,000)	2	$429,330	$858,661
Stereo Duplicator	1	$1,616	$1,616
Uninterruptible Power Supply	5	$2,914	$14,572
Van	2	$54,104	$108,207
Web Filter	1	$8,422	$8,422
Whiteboard	1	$2,922	$2,922
Total	**1,100**	**$2,616**	**$2,877,663**
Total - Excluding Computers	**303**	**$7,002**	**$2,121,721**

Source: Brevard County Library Services

Service Area and Population

Library services are provided on a countywide basis and the impact fee is charged only to residential land uses. The County does not collect library impact fees in the City of Cape Canaveral because the City implemented its own library impact fee. As such, the appropriate benefit district for library impact fees is countywide, excluding Cape Canaveral. Because library impact fees are charged only to residential development, countywide weighted seasonal population is used in the calculation. The County's current population estimates and future population projections are provided in Appendix A, Table A-1.

Level of Service

The following table provides a summary of the current LOS as well as the adopted LOS standard for library buildings, books, other library materials, and computers in Brevard County.

As presented in the table, the County's current LOS is slightly below the adopted LOS standard for both the library building and material elements. For impact fee calculations, the achieved LOS standard is used in order to ensure new development is not overcharged.

Table IV-4
Level-of-Service (2014)

Item	Sq. Footage/ Count[1]	Population[2]	LOS (per 1,000 Residents)[3]	Adopted LOS Standard (per 1,000 Residents)[4]
Library Buildings (sf)	336,954	594,202	567	600
Library Materials (items)	1,266,383	594,202	2,131	2,160
Computers[5]	797	594,202	1.3	N/A
Other Library Equipment (items)[5]	303	594,202	0.5	N/A

(1) Source: Table IV-1 for buildings and Table IV-2 for materials
(2) Source: Appendix A, Table A-1
(3) Square footage/count (Item 1) divided by population (Item 2) multiplied by 1,000
(4) Source: Brevard County Comprehensive Plan, the County also has a standard of 1,500 titles per 1,000 residents
(5) Source: Table IV-3, only computers and equipment available for public use are included

A comparison of the current Brevard County LOS, the adopted LOS standard, LOS of the other Florida counties, and the suggested State standards are presented in Tables IV-5.

Table IV-5
Comparison of Brevard County Current LOS to FL Standards – Library Materials and Computers

Item	Achieved LOS (per 1,000 Residents)[1]	Adopted LOS Standard (per 1,000 Residents)[1]	FL Public Library Standards[2]		
			Essential	Enhanced	Exemplary
Library Buildings (sq. ft.)	567	600	600	700	1,000
Library Materials[3]	2,131	2,160	2,000	3,000	4,000
Computers	1.3	N/A	0.30	0.50	1.00

(1) Source: Table IV-4
(2) Source: *Standards for Florida Public Libraries*, 2004; 2006 Revision
(3) Library materials include books, online resources, subscriptions, and other library items

Brevard County's achieved LOS for buildings is slightly below the Florida Library Association's (FLA) essential standard. However, the County's LOS for library materials and computers meet and exceed the standards established by the State, with library materials falling between essential and enhanced while computers is considered exemplary.

The following table provides a comparison of the current Brevard County LOS to those of surrounding counties as well as other Florida counties with similar population levels. The

comparison is based on the information obtained from the *Library Directory with Statistics*, published by the Department of State, Division of Library and Information Services. It should be noted that the LOS figures included in Table IV-6 for Brevard County represent figures provided by the Division of Library and Information Services and reflect FY 2013 data with the use of permanent population. To be able to provide an "apples-to-apples" comparison, 2013 data is used for Brevard County and its peer group. Brevard County's LOS ranks second in buildings and library materials, and third in computers.

Table IV-6
Comparison of LOS (per 1,000 residents)
Brevard County and Other Florida Counties

Jurisdiction	LOS Per 1,000 Residents		
	Library Buildings (square feet)	Library Materials[(1)]	Computers[(2)]
Seminole County	234	1,342	0.19
Pasco County	240	1,234	0.42
St. Lucie County	211	985	0.44
Manatee County	331	1,432	0.37
Polk County	336	1,194	0.48
Marion County	348	1,767	0.63
Orange County	389	1,497	0.54
Okeechobee County	390	2,245	0.52
Lee County	418	2,376	0.91
Volusia County	500	1,882	0.57
Collier County	543	2,059	0.57
Sarasota County	600	2,343	0.56
Brevard County (Existing)	**694**	**2,699**	**0.82**
Indian River County	767	3,961	0.92
Peer Group (Excl. Brevard County)	**411**	**1,743**	**0.72**
State of Florida (Excl. Brevard County)	**491**	**1,924**	**0.83**

(1) Library materials for Brevard include books, CDs, DVDs, videos, print and online resource subscriptions. Library materials for other counties include books, serial subscriptions, audio and video volumes.

(2) Source: Department of State - Division of Library & Information Services, 2012/13 Library Directory with Statistics; Includes public computers only.

Cost Component

Costs are calculated separately for facilities and items/equipment. Facility costs are based on the estimated cost to add the next library building, and the cost of library items and equipment is based on the estimated current value per unit.

Buildings and Land

Table IV-7 summarizes the calculation of library facility and land values. The total impact cost or total value per resident for library buildings and land in Brevard County is $135.

Table IV-7
Summary of Building and Land Cost per Resident

Element	Figure
Total Building Value [(1)]	$77,499,420
Total Land Value [(2)]	$2,734,500
Total Building and Land Value [(3)]	**$80,233,920**
Building Square Footage [(4)]	336,954
Total Building and Land Cost per Square Foot [(5)]	**$238.12**
Achieved LOS Standard (sf per 1,000 residents) [(6)]	567
Total Building and Land Cost per Resident [(7)]	**$135.01**

(1) Source: Table IV-1
(2) Source: Table IV-1
(3) Sum of building value (Item 1) and land value (item 2)
(4) Source: Table IV-1
(5) Building and land value (Item 3) divided by building square footage (Item 4)
(6) Source: Table IV-4
(7) Total building and land cost per square foot (Item 5) multiplied by the adopted LOSS (Item 6) divided by 1,000

Library Materials and Equipment

The following table provides a summary of library materials and equipment costs per resident, which amounts to $24.

Table IV-8
Library Materials and Equipment Cost per Resident

Element	Figure
Library Materials Value per Item[(1)]	$9
Achieved LOS for Materials per Resident[(2)]	2.13
Library Materials Value per Resident[(3)]	**$19.17**
Computers - Unit Value[(4)]	$948
Achieved LOS for Computers per Resident[(5)]	0.0013
Computer Value per Resident[(6)]	**$1.23**
Other Library Equipment Value per Item[(7)]	$7,002
Achieved LOS Standard for Other Library Equipment per Resident[(8)]	0.0005
Other Library Equipment Value per Resident[(9)]	**$3.50**
Total Materials and Equipment Cost per Resident[(10)]	**$23.90**

(1) Source: Table IV-2
(2) Source: Table IV-4
(3) Library materials value per item (Item 1) multiplied by the achieved LOS standard for materials per resident (Item 2)
(4) Source: Table IV-3; Total value divided by the number of items available for public use
(5) Source: Table IV-4
(6) Unit value of computers (Item 4) multiplied by the achieved LOS standard for computers per resident
(7) Source: Table IV-3; Total value divided by the number of items available for public use
(8) Source: Table IV-4
(9) Other library equipment cost (Item 7) multiplied by the achieved LOS standard for other library equipment per resident (Item 8)
(10) Sum of library materials, computer, and other library equipment costs per resident (Items 3, 6, and 9)

Credit Component

To avoid overcharging new development, a review of funding for library capital expansion projects over the past five years and those programmed for the next five years was completed. The purpose of this review was to determine any potential revenues generated by new development, other than impact fees, that are being used or will be used to fund the expansion of capital facilities, land, and materials for the County's libraries program.

Brevard County did not have any capacity expansion expenditures funded with non-impact fee revenues over the past five years, and there is none scheduled. However, the County is paying off debt service for bond issues used to fund capacity projects. Therefore, a debt service credit is calculated.

Debt Service Credit

Table IV-9 summarizes the outstanding debt service related to library capital expansion projects, which will be paid off in FY 2023. The County is currently paying the library debt service with ad-valorem tax revenues. To calculate the credit of the current debt obligation, the present value of the total remaining payments is calculated and then divided by the average annual population estimated over the remaining life of the bond issue. As shown in Table IV-9, the resulting credit for library facilities-related debt is $5 per capita.

Table IV-9
Brevard County Library Debt Service Credit

Description	Total Number of Fiscal Years of Debt Issue[1]	Fiscal Years Remaining[2]	Total Remaining Library Debt Service[3]	Present Value of Payments Remaining[4]	Avg Annual Population During Remaining Bond Issue Period[5]	Credit per Resident[6]
Library Debt Service	16	9	$3,242,137	$3,069,760	625,419	$4.91
Total Debt Service Credit per Resident						**$4.91**

(1) Source: Brevard County
(2) Source: Brevard County
(3) Total debt service remaining, including principal and interest payments
(4) Present value in 2014 dollars of the annual debt service payments
(5) Source: Appendix A, Table A-1
(6) The present value of payments remaining (Item 4) divided by the average annual population (Item 5)

Adjusted Debt Service Credit

Because the library debt service is being retired using ad valorem tax revenues, an adjustment of the credit per resident is necessary to account for the higher taxable values of new homes compared to older homes. This adjustment factor was estimated based on a comparison of the average taxable value of homes built over the past five years to that of all homes. Table IV-10 shows the credit adjustment factors and the adjusted debt service credit per resident for each of the residential land uses.

Table IV-10
Adjusted Debt Service Credit

Land Use	Ad Valorem Funded Portion[1]	Credit Adjustment Factor[2]	Adjusted Debt Service Credit per Resident[3]
Single Family (Detached)	$4.91	2.08	$10.21
Multi Family (Apartment, Condo, Duplex, Townhouse)	$4.91	1.46	$7.17
Mobile Home	$4.91	1.70	$8.35

(1) Source: Table IV-9
(2) Brevard County Property Appraiser Database
(3) Ad valorem funded portion (Item 1) multiplied by the credit adjustment factor (Item 2)

Net Library Facilities Impact Cost

The net impact fee per residence is the difference between the cost component and the credit component. Table IV-11 summarizes the calculation of the net library impact cost per resident by residential land use, which reflects the relevant LOS for impact fee calculation purposes.

Table IV-11
Net Library Facilities Impact Cost

Calculation Step	Impact Cost	Revenue Credits
Impact Cost		
Building and Land Value per Resident [1]	$135.01	
Library Materials Value per Resident [2]	$19.17	
Library Computer & Equipment Value per Resident [3]	$4.73	
Total Impact Cost [4]	**$158.91**	
Revenue Credit		
Debt Service Credit per Resident[5]:		
- Single Family Detached		$10.21
- Multi Family (Apartment, Condo, Duplex, Townhouse)		$7.17
- Mobile Home		$8.35
Net Impact Cost		
Net Impact Cost per Resident [6]		
- Single Family Detached	**$148.70**	
- Multi Family (Apartment, Condo, Duplex, Townhouse)	**$151.74**	
- Mobile Home	**$150.56**	

(1) Source: Table IV-7
(2) Source: Table IV-8
(3) Source: Table IV-8
(4) The sum of building, land, materials, and equipment costs (Items 1, 2, and 3)
(5) Source: Table IV-10
(6) Total impact cost per resident (Item 4) less total credit per resident (Item 5)

Calculated Library Facilities Impact Fee Schedule

The calculated library impact fee for each residential land use is presented in Table IV-12. The net impact cost per resident calculated in the previous section is applied to the average persons per unit by land use. The resulting total impact fees per dwelling unit range from $197 for the multi-family/condo/duplex/townhouse residential land uses to $369 for single family land use. The increase in the fees is primarily due to an increase in the inventory (especially books) and cost, and a decrease in credit. In addition, the current adopted rates were approximately 30 percent of the calculated rates in the previous update study. In other words, the fees were discounted by approximately 70 percent in 2000, which results in a higher difference compared to the updated rates.

Table IV-12
Calculated Library Facilities Impact Fee Schedule

Residential Land Use	Residents per Unit [1]	Net Cost per Resident [2]	Impact Fee [3]	Current Impact Fee [4]	Percent Change [5]
Residential					
Single Family (Detached)	2.48	$148.70	**$369**	$63.84	478%
Multi-Family (Apartment); 1-2 Stories	1.30	$151.74	**$197**	$37.91	420%
Multi-Family (Apartment); 3+ Stories	1.30	$151.74	**$197**	$31.91	517%
Condo/Duplex/Townhouse; 1-2 Stories	1.30	$151.74	**$197**	$55.59	254%
Condo/Duplex/Townhouse; 3+ Stories	1.30	$151.74	**$197**	$55.59	254%
Mobile Home	1.62	$150.56	**$244**	$46.45	425%

(1) Source: Appendix A, Table A-2
(2) Source: Table IV-11
(3) Residents per unit (Item 1) multiplied by net cost per resident (Item 2)
(4) Source: Brevard County Planning and Development Department
(5) Percent change from the current adopted rates (Item 6) to the total impact fee (Item 5)

Library Facilities Impact Fee Schedule Comparison

As part of the work effort in updating Brevard County's library impact fee program, a comparison of library facilities impact fee schedules was completed for other Florida counties. Table IV-13 presents this comparison. As presented, Brevard County's calculated fee is within the range of fees assessed by other Counties

Table IV-13
Library Facilities Impact Fee Schedule Comparison

Land Use	Unit[2]	Brevard County		Seminole County[5]	Indian River County[6]	St. Lucie County[7]	Polk County[8]	Pasco County[9]	Collier County[10]	Sarasota County[11]
		Calculated[3]	Existing[4]							
Date of Last Update		2015	2000	n/a	2014	2009	2009	2002	2009	2006
Assessed Portion of Calculated[1]		100%	29%	n/a	100%	100%	50%	100%	100%	100%
Residential:										
Single Family (2,000 sf)	du	$369	$64	$54	$672	$220	$84	$145	$315	$380
Multi-Family	du	$197	$38	$54	$381	$143	$61	$97	$160	$380
Mobile Home/RV Park (tied down)	du	$244	$46	$54	$428	$173	$54	$97	$237	$253

(1) Represents the portion of the maximum calculated fee for each respective county that is actually charged. Fees may have been lowered/increased through annual indexing of policy discounts. Does not account for moratoriums/suspensions
(2) du = dwelling unit
(3) Source: Table 12
(4) Source: Brevard County Planning & Development Department
(5) Source: Seminole County Planning & Development Services
(6) Source: Indian River County Planning Division. Fees are suspended until the next technical update.
(7) Source: St. Lucie County Planning & Development Services Department. Fees were adopted at 100% and have since been indexed annually using the CPI.
(8) Source: Polk County Building & Construction Department. Fees are currently under moratorium through July 2015
(9) Source: Pasco County Central Permitting Department
(10) Source: Collier County Impact Fee Administration Department
(11) Source: Sarasota County Planning & Development Services Department. Multi-family land use is charged the same as single family.

V. Fire Rescue and Emergency Medical Services Facilities

This section provides the results of the fire rescue and emergency medical services (EMS) impact fee analysis. Although fire rescue and EMS impact fees are two separate fees with different service areas, because many of stations and some of the equipment are shared, the calculations are shown in the same section of this report. There are several major elements associated with the development of the fire rescue and EMS impact fees:

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

These various elements are summarized in the remainder of this section.

Facility Inventory

Brevard County Fire Rescue provides fire rescue and EMS services from 29 stations that are owned by the County. These stations include 17 dual stations, 5 fire (only) stations, 2 volunteer fire stations, and 5 EMS (only) stations. In addition, Brevard County owns land for the next fire/EMS station and has three administrative/ancillary facilities associated with fire rescue services and EMS.

Table V-1 presents the fire rescue and EMS building and land inventory owned by Brevard County. The value of buildings are based on primarily on recent construction in Brevard County and other Florida jurisdictions and insurance values of existing buildings. The land value estimates are based on land values of the existing facilities, recent land purchases, vacant land sales and values of parcels with similar characteristics. A more detailed explanation of building and land value estimates is included in Appendix B.

Table V-1

Land & Buildings Inventory

Facility Description	Location[1]	Year Acquired/ Built[1]	Number of Bays[1]	Acres[1]	Square Feet[1]	Adjusted Square Feet[2]	Adjusted Acres[2]	Building Value[3]	Land Value[4]	Total Building and Land Value[5]
Fire Rescue:										
Station 21	4940 U.S. Highway 1, Mims	2007	2	4.80	9,177	9,177	3.02	$2,386,020	$226,500	$2,612,520
Station 22	2475 Taylor Ave. Mims	1993	3	0.61	6,372	3,747	0.36	$974,220	$27,000	$1,001,220
Station 22 - Volunteer	2476 Taylor Ave. Mims	1958	0	0.27	3,274	3,274	0.27	$851,240	$20,250	$871,490
Station 24	2280 Columbia Blvd. Titusville	2007	2	0.86	4,861	2,858	0.51	$743,080	$38,250	$781,330
Station 26	6655 Carole Ave. Port St. John	1987	2	1.45	3,722	2,189	0.85	$569,140	$63,750	$632,890
Station 28 - Volunteer	4870 N. U.S. #1, Frontenac	1955	N/A	1.71	3,823	3,823	1.71	$993,980	$128,250	$1,122,230
Station 29	3950 Canaveral Groves Blvd. Cocoa	1994	3	1.04	6,185	3,637	0.61	$945,620	$45,750	$991,370
Station 40	6400 N. Tropical Trail, Merritt Island	1984	3	0.39	3,852	3,852	0.39	$1,001,520	$29,250	$1,030,770
Station 41	300 Alma Blvd. Merritt Island	1974	3	4.00	9,550	5,615	2.35	$1,459,900	$176,250	$1,636,150
Station 42	840 N Banana River Dr., Merritt Island	1967	2	0.76	3,400	3,400	0.76	$884,000	$57,000	$941,000
Station 43	902 Airport Rd., Merritt Island	1989	3	N/A[10]	11,250	6,615	N/A[10]	$1,719,900	N/A[10]	$1,719,900
Station 44/46	3780 W. King Street, Cocoa	1968	3	8.64	7,176	4,219	5.08	$1,096,940	$381,000	$1,477,940
Station 47	7225 Murrell Road, Viera, Florida 32940	1999	3	1.64	5,508	3,239	0.96	$842,140	$72,000	$914,140
Station 48	5550 Porada Drive, Viera	2011	3	1.80	8,507	5,002	1.06	$1,300,520	$79,500	$1,380,020
Station 62	299 Sea Park Blvd., Satellite Beach	1985	2	3.00	4,680	2,752	1.76	$715,520	$132,000	$847,520
Station 63	2602 N. A1A, Indialantic	1984	4	0.30	5,850	3,440	0.18	$894,400	$13,500	$907,900
Station 64	2550 S. A1A, Melbourne Beach	1962	4	3.00	4,500	2,646	1.76	$687,960	$132,000	$819,960
Station 65	7400 S. A1A, Melbourne Beach	1991	2	0.59	4,477	4,477	0.59	$1,164,020	$44,250	$1,208,270
Station 80	400 Pineda Court, Melbourne	2012	3	1.88	8,571	5,040	1.11	$1,310,400	$83,250	$1,393,650
Station 81	4630 Lake Washington Rd., Melbourne	2005	4	2.80	5,400	3,175	1.65	$825,500	$123,750	$949,250
Station 82	109 N.W. Pine St. W. Melbourne	1985	2	0.52	3,900	2,293	0.31	$596,180	$23,250	$619,430
Station 83	5148 Minton Road, Palm Bay	2008	2	0.60	4,008	2,357	0.35	$612,820	$26,250	$639,070
Station 86	301 Barefoot Bay Blvd. Micco	1975	6	1.28	7,200	4,234	0.75	$1,100,840	$56,250	$1,157,090
Station 87	2855 Valkaria Rd. Grant/Valkaria	2009	2	10.62	7,400	7,400	10.62	$1,924,000	$796,500	$2,720,500
Land for Future Fire /EMS Station	6300 Fay Blvd.	2009	N/A	4.00	N/A	N/A	2.35	N/A	$176,250	$176,250
Supply Facility Fire Rescue	300 Ansin Road, Rockledge	2005	6	1.99	16,296	9,582	1.17	$1,676,850	$87,750	$1,764,600
Fleet Maintenance Shop	351 Wenner Way, Cocoa	1973	8	1.00	10,000	5,880	0.59	$352,800	$44,250	$397,050
TJ Mills Fire Rescue Center/ Fire Prevention - Administrative	1040 S. Florida Avenue, Rockledge	1959	N/A	1.19	14,386	8,459	0.70	$1,268,850	$52,500	$1,321,350
Subtotal - Fire				**60.74**	**183,325**	**122,382**	**41.82**	**$28,898,360**	**$3,136,500**	**$32,034,860**

Table V-1 (Continued)

Land & Buildings Inventory

Facility Description	Location[1]	Year Acquired/ Built[1]	Number of Bays[1]	Acres[1]	Square Feet[1]	Adjusted Square Feet[2]	Adjusted Acres[2]	Building Value[3]	Land Value[4]	Total Building and Land Value[5]
EMS:										
Station 22	2475 Taylor Ave. Mims	1993	3	0.61	6,372	2,625	0.25	$682,500	$18,750	$701,250
Station 23	700 Park Ave, Titusville	2005	0	0.25	1,960	1,960	0.25	$294,000	$18,750	$312,750
Station 24	2280 Columbia Blvd. Titusville	2007	2	0.86	4,861	2,003	0.35	$520,780	$26,250	$547,030
Station 26	6655 Carole Ave. Port St. John	1987	2	1.45	3,722	1,533	0.60	$398,580	$45,000	$443,580
Station 29	3950 Canaveral Groves Blvd. Cocoa	1994	3	1.04	6,185	2,548	0.43	$662,480	$32,250	$694,730
Station 41	300 Alma Blvd. Merritt Island	1974	3	4.00	9,550	3,935	1.65	$1,023,100	$123,750	$1,146,850
Station 43	902 Airport Rd., Merritt Island	1989	3	N/A[10]	11,250	4,635	N/A[10]	$1,205,100	N/A[10]	$1,205,100
Station 44/46	3780 W. King Street, Cocoa	1968	3	8.64	7,176	2,957	3.56	$768,820	$267,000	$1,035,820
Station 47	7225 Murrell Road, Viera, Florida 32940	1999	3	1.64	5,508	2,269	0.68	$589,940	$51,000	$640,940
Station 48	5550 Porada Drive, Viera	2011	3	1.80	8,507	3,505	0.74	$911,300	$55,500	$966,800
Station 62	299 Sea Park Blvd., Satellite Beach	1985	2	3.00	4,680	1,928	1.24	$501,280	$93,000	$594,280
Station 63	2602 N. A1A, Indialantic	1984	4	0.30	5,850	2,410	0.12	$626,600	$9,000	$635,600
Station 64	2550 S. A1A, Melbourne Beach	1962	4	3.00	4,500	1,854	1.24	$482,040	$93,000	$575,040
Station 66	1695 Aurora Road, Melbourne	2009	0	N/A[6]	1,600	1,600	N/A[6]	$240,000	N/A[6]	$240,000
Station 67/68	11 N. Nieman Avenue, Melbourne	2008	0	N/A[6]	4,500	4,500	N/A[6]	$675,000	N/A[6]	$675,000
Station 80	400 Pineda Court, Melbourne	2012	3	1.88	8,571	3,531	0.77	$918,060	$57,750	$975,810
Station 81	4630 Lake Washington Rd., Melbourne	2005	4	2.80	5,400	2,225	1.15	$578,500	$86,250	$664,750
Station 82	109 N.W. Pine St. W. Melbourne	1985	2	0.52	3,900	1,607	0.21	$417,820	$15,750	$433,570
Station 83	5148 Minton Road, Palm Bay	2008	2	0.60	4,008	1,651	0.25	$429,260	$18,750	$448,010
Station 86	301 Barefoot Bay Blvd. Micco	1975	6	1.28	7,200	2,966	0.53	$771,160	$39,750	$810,910
Station 88	175 Medplex Pkwy, Palm Bay	2010	0	N/A[7]	1,512	1,512	N/A[7]	$226,800	N/A[7]	$226,800
Station 89	2051 DeGroodt Ave. SW, Palm Bay	2008	0	N/A[6]	1,600	1,600	N/A[6]	$240,000	N/A[6]	$240,000
Land for Future Fire /EMS Station	6300 Fay Blvd.	2009	N/A	4.00	N/A	N/A	1.65	N/A	$123,750	$123,750
Supply Facility Fire Rescue	300 Ansin Road, Rockledge	2005	6	1.99	16,296	6,714	0.82	$1,174,950	$61,500	$1,236,450
Fleet Maintenance Shop	351 Wenner Way, Cocoa	1973	8	1.00	10,000	4,120	0.41	$247,200	$30,750	$277,950
TJ Mills Fire Rescue Center/ Fire Prevention - Administrative	1040 S. Florida Avenue, Rockledge	1959	N/A	1.19	14,386	5,927	0.49	$889,050	$36,750	$925,800
Subtotal - EMS				**41.85**	**159,094**	**72,115**	**17.39**	**$15,474,320**	**$1,304,250**	**$16,778,570**
Total Value - Fire Rescue/EMS				**102.59**	**342,419**	**194,497**	**59.21**	**$44,372,680**	**$4,440,750**	**$48,813,430**
Building Value per Square Foot[8]								**$130**		
Land Value per Acre[9]									**$75,000**	

(1) Source: Brevard County Fire Rescue
(2) Represents the portion of square footage dedicated to Fire Rescue services vs. EMS. Based on information provided by the Brevard County Fire Rescue, in the case of dual stations and other shared facilities, 58.8% is allocated to fire rescue services and remaining amount to EMS.
(3) Estimated based on recent construction, insurance values, information from other jurisdictions, and discussion with architects/contractors. Appendix B provides further detail.
(4) Adjusted acres multiplied by land value per acre (Item 10).
(5) Sum of building and land value
(6) Land is owned by Brevard County School District.
(7) Land is owned by Palm Bay Hospital.
(8) Total building value (Item 2) divided by total square footage.
(9) Estimated based on recent land purchases, value of land where the current stations are located, vacant land values, and vacant land sales over the past four years. Appendix B provides further detail.
(10) Land owned by Merritt Island Airport.

In addition to land and buildings, the Brevard County fire rescue and EMS inventories include the necessary vehicles and equipment required to perform its services. As presented in Table V-2, the total vehicle cost is approximately $19 million for fire rescue services and $8 million for EMS, for a total of $27 million.

Table V-2
Vehicle Inventory and Values

Description	Units[1]	Acquired Value[1]	Total Value[2]
Fire Rescue Vehicle Inventory			
Brush Truck	5	$60,000	$300,000
Fire/Pumper Truck, American La France	21	$354,804	$7,450,884
Fire Engine Truck, 2008 Quint Aerial 75' Sutphen	1	$650,722	$650,722
Fire Truck	11	$387,678	$4,264,458
Fire Truck, 2 1/2T 6X6	2	$2,000	$4,000
Fire Truck, 75 Ft Ladder Pierce	3	$555,691	$1,667,073
Fire Truck, Aerial Pierce	2	$753,201	$1,506,402
Tank/Pumper Truck	2	$206,391	$412,782
Tanker, 3000 Gallon American Lafrance	2	$280,281	$560,562
Shared Fire/ Ems Vehicles	68	$30,746	$2,090,700
Subtotal - Fire	**117**		**$18,907,583**
EMS Vehicle Inventory			
Ambulance	42	$156,000	$6,552,000
Shared Fire/ EMS Vehicles	48	$30,519	$1,464,913
Subtotal - EMS	**90**		**$8,016,913**
Total	**207**		**$26,924,496**

(1) Source: Brevard County Fire Rescue
(2) Units multiplied by unit cost

Table V-3 presents the equipment inventory and related asset value for fire rescue and EMS facilities in Brevard County. As shown, the value of fire rescue equipment is estimated at $8.7 million and $5 million for EMS equipment, for an overall total of approximately $13.7 million.

Table V-3
Equipment Inventory and Values

Description	Total Units[1]	Total Value[2]
Fire Rescue Equipment		
Fire Equipment	1,380	$4,887,690
Radios	461	$1,330,254
Office Equipment	265	$1,316,469
Other Shared Equipment	166	$1,137,100
Subtotal - Fire	**2,272**	**$8,671,513**
EMS Equipment		
EMS Equipment	313	$2,377,301
Radios	323	$932,082
Office Equipment	185	$922,424
Other Shared Equipment	117	$796,743
Subtotal - EMS	**938**	**$5,028,550**
Total	**3,210**	**$13,700,063**

(1) Source: Brevard County Fire Rescue

Service Area and Population

Brevard County provides emergency medical services countywide. In terms of fire rescue services, the County provides services in the unincorporated county, Grant-Valkaria Town, Melbourne Village Town, Palm Shores Town, and West Melbourne City. Therefore, given that stations and equipment in one section of the service area can support other sections as needed, the proper benefit district for EMS services is countywide and for fire rescue services is the unincorporated county plus Grant-Valkaria Town, Melbourne Village Town, Palm Shores Town, and West Melbourne City. For impact fee calculations, the current 2014 weighted and functional population estimates for each service area were used, which are provided in Appendix A.

Level of Service

For impact fee purposes, level of service for fire rescue/EMS is expressed in terms of stations per 1,000 residents. Using this method, Brevard County's current LOS is 1 station per 10,506 residents or 0.095 stations per 1,000 residents for fire rescue services. In the case of EMS, the LOS is 1 station per 27,009 residents or 0.037 stations per 1,000 residents.

As mentioned in the previous sections, the LOS needs to be measured using functional population to capture all residents, workers, and visitors that benefit from fire rescue and EMS services. In terms of functional population, the LOS is calculated at 0.108 stations per 1,000 functional residents for fire services. For EMS, the LOS is calculated at 0.040 stations per 1,000 functional residents. Table V-4 summarizes the calculation of the LOS using the 2014 weighted population and functional population.

Table V-4
Fire Rescue/EMS Level-of-Service (2014)

Calculation Step	Year 2014	
	Weighted Population	Functional Population
Fire Rescue:		
Population[(1)]	252,151	222,407
Number of Stations[(2)]	24	24
Population per Station[(3)]	10,506	9,267
LOS (Stations per 1,000 Residents)[(4)]	**0.095**	**0.108**
Adopted LOS (Stations per 1,000 Residents)[(5)]	**N/A**	**N/A**
EMS:		
Population[(1)]	594,202	550,608
Number of Stations[(2)]	22	22
Population per Station[(3)]	27,009	25,028
LOS (Stations per 1,000 Residents)[(4)]	**0.037**	**0.040**
Adopted LOS (Stations per 1,000 Residents)[(5)]	**N/A**	**N/A**

(1) Source: Appendix A, Table A-1 for weighted population and Table A-9 for functional population
(2) Source: Table V-1
(3) Population (Item 1) divided by the number of stations (Item 2)
(4) Number of stations (Item 2) divided by the population (Item 1) divided by 1,000
(5) The County's adopted LOS standard for fire rescue/EMS services is measured in terms of response time.

Table V-5 compares the levels of service for other Florida counties as well as the statewide average. The LOS is displayed in terms of permanent population for 2013 for the service area of all entities. Information in Table V-5 represents either fire rescue services or combined fire/EMS services, when these services are provided for the same service area.

Table V-5
Level-of-Service Comparison

Jurisdiction	Service Area Population (2013)[1]	Number of Stations[2]	Residents per Station[3]	LOS (Stations) per 1,000 Residents)[4]
Orange County	772,657	41	18,845	0.053
Seminole County	286,783	17	16,870	0.059
St. Lucie County	281,151	17	16,538	0.060
Pasco County	441,810	28	15,779	0.063
Manatee County	333,880	25	13,355	0.075
Indian River County	135,646	12	11,304	0.088
Collier County	297,103	27	11,004	0.091
Sarasota County	304,944	28	10,891	0.092
Brevard County (Existing)	**231,286**	**24**	**9,637**	**0.104**
Lee County	415,217	46	9,026	0.111
Marion County	275,867	31	8,899	0.112
Okeechobee County	34,212	4	8,553	0.117
Polk County	385,868	45	8,575	0.117
Volusia County	121,446	21	5,783	0.173

(1) Source: BEBR: April 1, 2013 Final Population Estimates
(2) Source: County websites and the U.S. Fire Administration; National Fire Department Census
(3) Service area population (Item 1) divided by the number of stations (Item 2)
(4) Number of stations (Item 2) divided by the service area population (Item 1) divided by 1,000

Cost Component

Table V-6 summarizes the total current asset value of land, buildings, and equipment for fire rescue and emergency medical services, including:

- Fire rescue capital assets, including $29 million for buildings, $3 million for land, and $28 million for vehicles and equipment, for a total asset value of $60 million.
- EMS capital assets, including $15 million for buildings, $1 million for land, and $13 million for vehicles and equipment, for a total asset value of $30 million.

Table V-6 presents the total impact cost per functional resident for fire rescue and EMS facilities in Brevard County, which is calculated by multiplying the total cost per station by the LOS (stations per 1,000 functional residents) and dividing that figure by 1,000.

Table V-6
Total Impact Cost per Resident

Description	Figure	Percent of Total Value[9]
Fire Rescue:		
Building Value[1]	$28,898,360	48.47%
Land Value[2]	$3,136,500	5.26%
Vehicle Value[3]	$18,907,583	31.72%
Equipment Value[4]	$8,671,513	14.55%
Total Asset Value	**$59,613,956**	**100.00%**
Number of Stations[5]	24	
Cost per Station[6]	**$2,483,915**	
LOS[7]	0.108	
Total Impact Cost per Resident[8]	**$268.26**	
EMS:		
Building Value[1]	$15,474,320	51.89%
Land Value[2]	$1,304,250	4.37%
Vehicle Value[3]	$8,016,913	26.88%
Equipment Value[4]	$5,028,550	16.86%
Total Asset Value	**$29,824,033**	**100.00%**
Number of Stations[5]	22	
Cost per Station[6]	**$1,355,638**	
LOS[7]	0.040	
Total Impact Cost per Resident[8]	**$54.23**	

(1) Source: Table V-1
(2) Source: Table V-1
(3) Source: Table V-2
(4) Source: Table V-3
(5) Source: Table V-4
(6) Total asset value divided by the number of stations (Item 5)
(7) Source: Table V-4
(8) Cost per station (Item 6) multiplied by the LOS (Item 7) divided by 1,000
(9) Distribution of building, land, vehicle, and equipment values

Credit Component

To avoid overcharging new development for the fire rescue and EMS impact fees, a review of the capital financing program for these services was completed. The purpose of this review was to determine any potential revenue credits generated by new development that are being used for expansion of capital facilities, land, vehicles, and equipment included in the inventory. It should be noted that the credit component does not include any capital renovation, maintenance, or operations expenses, as these types of expenditures cannot be funded with impact fee revenue.

Capital Expansion Expenditure Credit

To calculate the capital expansion expenditure credit per functional resident, the historical capital expansion projects and those programmed in the CIP are reviewed. During the time period from 2009 through 2018, the County allocated an average annual non-impact fee funding of $527,000 toward fire rescue capital facilities and $290,000 toward EMS capital facilities. The annual capital expansion expenditures for both fire rescue and EMS were divided by the average functional residents in respective service areas for the same period in order to calculate the average capital expansion cost per functional resident. As presented in Table V-7, the result is an average annual expansion cost of $2.36 per functional resident for fire rescue and $0.53 per functional resident for EMS.

Table V-7
Capacity Expansion Projects

Expenditure[1]	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014 - 2018	Total
Fire Rescue Capacity Expansion Projects:							
Ad Valorem/MSTU:							
Station 83 - Dual Station	$794,432	-	-	-	-	-	$794,432
Station 87 - Fire Station	$3,801,874	-	-	-	-	-	$3,801,874
Station 80 - Dual Station	-	$15,876	$646,800	$6,518	-	-	$669,194
Total Capital Expansion Expenditures	**$4,596,306**	**$15,876**	**$646,800**	**$6,518**	**$0**	**$0**	**$5,265,500**
Average Annual Capital Expansion Expenditures[2]							**$526,550**
Average Functional Population[3]							**222,851**
Capital Expansion Expenditures per Functional Resident[4]							**$2.36**
EMS Capacity Expansion Projects:							
Ad Valorem/MSTU:							
Station 83 - Dual Station	$556,642	-	-	-	-	-	$556,642
Station 80 - Dual Station	-	$11,124	$453,200	$4,568	-	-	$468,892
Station 84 - EMS Station	-	$133,650	-	-	$39,801	-	$173,451
Station 89 - EMS Station	$445,854	-	-	-	-	-	$445,854
Ambulance/Transport Fees:							
Station 89 - EMS Station	$905,220	-	-	-	-	-	$905,220
Station 84 - EMS Station	-	$271,350	-	-	$80,809	-	$352,159
Total Capital Expansion Expenditures	**$1,907,716**	**$416,124**	**$453,200**	**$4,568**	**$120,610**	**$0**	**$2,902,218**
Average Annual Capital Expansion Expenditures[2]							**$290,222**
Average Functional Population[3]							**551,957**
Capital Expansion Expenditures per Functional Resident[4]							**$0.53**
Percent of EMS Projects Funded with Ad Valorem Tax Revenues[5]							**57%**
EMS Portion Funded with Ad Valorem[6]							**$0.30**
EMS Portion Funded with Other Revenue Sources[7]							**$0.23**

(1) Source: Brevard County Fire Rescue
(2) Total expenditures divided by 10 to calculate the average annual expenditures
(3) Source: Appendix A, Table A-9, average functional population during the same time period
(4) Average annual capital expansion expenditures (Item 2) divided by the average functional population (Item 3)
(5) Portion of total capital expansion expenditures funded by ad valorem tax revenue
(6) Capital expansion expenditures per functional resident (Item 4) multiplied by the portion of EMS projects funded with ad valorem tax revenues (Item 5)
(7) EMS Capital expansion expenditures per functional resident (Item 4) less portion funded with ad valorem (Item 6)

For each land use category, the portion of the capital expansion expenditure credit per functional resident funded with ad valorem revenues is adjusted to account for the fact that new homes tend to pay higher taxes per dwelling unit. This adjustment factor was estimated based on a comparison of the average taxable value of homes built over the past five years to that of all homes.

As presented in Table V-8, the adjusted capital expansion expenditure for fire rescue facilities ranged from $3.85 per functional resident for mobile homes to $4.25 per resident for single family homes. Similarly, the adjusted capital expansion credit for EMS facilities ranged from $0.67 for multi family homes to $0.85 for single family homes.

Table V-8
Adjusted Capital Expansion Credit per Functional Resident

Land Use	Ad Valorem Funded Portion[(1)]	Credit Adjustment Factor[(2)]	Adjusted Capital Expansion Credit per Functional Resident[(3)]	Total Credit per Functional Resident[(4)]
Fire Rescue				
Single Family (Detached)	$2.36	1.80	$4.25	$4.25
Multi Family/Condo/Duplex/Townhouse	$2.36	1.71	$4.04	$4.04
Mobile Home	$2.36	1.63	$3.85	$3.85
EMS				
Single Family (Detached)	$0.30	2.08	$0.62	$0.85
Multi Family/Condo/Duplex/Townhouse	$0.30	1.46	$0.44	$0.67
Mobile Home	$0.30	1.70	$0.51	$0.74

(1) Source: Table V-7
(2) Source: Brevard County Property Appraiser
(3) Ad valorem funded portion (Item 1) multiplied by credit adjustment factor (Item 2)
(4) Sum of adjusted credit per student (Item 3) and credit per student for the portion funded with other revenue sources from Table 7 (Item 7)

Net Fire/Emergency Medical Services Impact Cost

The net impact fee per functional resident is the difference between the cost component and the credit component. Table V-9 summarizes the calculation of the net fire rescue and EMS impact costs per functional resident.

The first section of this table identifies the total impact cost as $268 per functional resident for fire rescue facilities and $54 per functional resident for EMS facilities. The second section of the table identifies the revenue credits for the fire rescue and EMS based on the adjusted capital expansion credit from Table V-8. The net impact cost per functional resident is the difference between the total impact cost and the total revenue credit.

Table V-9
Net Impact Cost per Functional Resident

Impact Cost / Credit Element	Fire Rescue		EMS	
	Impact Cost	Revenue Credits	Impact Cost	Revenue Credits
Impact Cost				
Total Impact Cost per Functional Resident[1]	**$268.26**		**$54.23**	
Revenue Credit				
Capitalization Rate		3.0%		3.0%
Capitalization Period (in years)		25		25
Avg Annual Capital Improvement Credit per Functional Resident[2]:				
- Single Family Detached		$4.25		$0.85
- Multi Family/Condo/Duplex/Townhouse		$4.04		$0.67
- Mobile Home		$3.85		$0.74
- Non-residential Land Uses		$2.36		$0.53
Capital Improvement Credit per Resident[3]:				
- Single Family Detached		$74.01		$14.80
- Multi Family/Condo/Duplex/Townhouse		$70.35		$11.67
- Mobile Home		$67.04		$12.89
- Non-residential Land Uses		$41.10		$9.23
Net Impact Cost				
Net Impact Cost per Functional Resident[4]:				
- Single Family Detached	**$194.25**		**$39.43**	
- Multi Family/Condo/Duplex/Townhouse	**$197.91**		**$42.56**	
- Mobile Home	**$201.22**		**$41.34**	
- Non-residential Land Uses	**$227.16**		**$45.00**	

(1) Source: Table V-6

(2) Source: Table V-8 for residential land uses and Table V-7 for non-residential land uses

(3) Average annual capital improvement credit per functional resident (Item 2) over a capitalization rate of 3.0% for 25 years. The capitalization rate estimate is based on interest rate paid for debt service on recent bond issues.

(4) Total impact cost per functional resident (Item 1) less total revenue credit per functional resident (Item 3).

Calculated Fire/Emergency Medical Services Impact Fee Schedule

Table V-10 presents the calculated fire rescue impact fee schedule developed for Brevard County for both residential and non-residential land uses, based on the net impact cost per functional resident for fire rescue services previously presented in Table V-9. These fees will only apply to development in the unincorporated county, Grant-Valkaria Town, Melbourne Village Town, Palm Shores Town, and West Melbourne City.

Table V-11 presents the calculated EMS impact fee schedule for Brevard County for both residential and non-residential and uses, based on the net impact cost per functional resident for EMS previously presented in Table V-9. These fees will apply to development countywide.

Table V-12 presents the combined fire rescue and EMS fee rates that will be charged to development within the unincorporated county, Grant-Valkaria Town, Melbourne Village Town, Palm Shores Town, and West Melbourne City.

The increase in fees is primarily due to cost increases, which reflect both increasing costs since 2000 and the change in station design characteristics.

Fire Rescue and EMS Impact Fee Schedule Comparison

As part of the work effort in updating Brevard County's fire rescue and EMS impact fee programs, a comparison to impact fee schedules of other Florida counties was completed. Table V-13 presents this comparison. The fees shown for Brevard County are combined fire rescue/EMS fees that are applicable to development in the unincorporated county, Grant-Valkaria Town, Melbourne Village Town, Palm Shores Town, and West Melbourne City.

Table V-10
Calculated Fire Rescue Impact Fee Schedule

ITE LUC	Land Use	Impact Unit	Functional Resident Coefficient[1]	Total Impact Fee [2]	Current Impact Fee[3]	Percent Change[4]
	RESIDENTIAL:					
210	Single Family (Detached)	du	1.68	**$326**	$54.08	503%
220	Multi-Family (Apartment); 1-2 Stories	du	0.90	**$178**	$47.13	278%
222/223	Multi-Family (Apartment); 3+ Stories	du	0.90	**$178**	$30.99	474%
231	Condo/Duplex/Townhouse; 1-2 Stories	du	0.90	**$178**	$49.29	261%
232	Condo/Duplex/Townhouse; 3+ Stories	du	0.90	**$178**	$32.41	449%
240	Mobile Home	du	1.11	**$223**	$42.56	424%
	TRANSIENT, ASSISTED, GROUP :					
310	Hotel	room	1.05	**$239**	$15.19	1473%
320	Motel	room	1.01	**$229**	$15.19	1408%
620	Nursing Home	bed	0.90	**$204**	$35.51	475%
253	Assisted Care Living Facility (ACLF)	du	0.97	**$220**	$45.46	384%
	RECREATION:					
416	RV Park	site	0.50	**$114**	$42.56	168%
420	Marina	boat berth	0.19	**$43**	$8.37	414%
430	Golf Course	hole	1.08	**$245**	$144.12	70%
444	Movie Theater	screen	5.98	**$1,358**	$466.79	191%
491	Raquet/Tennis Club	court	3.16	**$718**	$80.36	794%
492	Health/Fitness Club	1,000 sf	3.09	**$702**	$45.23	1452%
	INSTITUTIONS:					
520	Elementary School (Private)	student	0.06	**$14**	$3.91	258%
522	Middle School (Private)	student	0.07	**$16**	$5.51	190%
530	High School (Private)	student	0.08	**$18**	$6.80	165%
540	University/Junior College (7,500 or fewer students) (Private)	student	0.10	**$23**	$3.07	649%
550	University/Junior College (more than 7,500 students) (Private)	student	0.07	**$16**	$5.26	204%
560	Church	1,000 sf	0.51	**$116**	$12.34	840%
565	Day Care Center	1,000 sf	0.89	**$202**	$275.25	-27%
610	Hospital	1,000 sf	1.37	**$311**	$34.42	804%
640	Animal Hospital/Veterinary Clinic	1,000 sf	2.32	**$527**	$39.03	1250%
	OFFICE:					
710	General Office 50,000 sf or less	1,000 sf	1.41	**$320**	$25.67	1147%
	General Office 50,001 - 100,000 sf	1,000 sf	1.19	**$270**	$25.67	952%
	General Office 100,001 - 200,000 sf	1,000 sf	1.01	**$229**	$25.67	792%
	General Office 200,001 - 400,000 sf	1,000 sf	0.85	**$193**	$25.67	652%
	General Office greater than 400,000 sf	1,000 sf	0.77	**$175**	$25.67	582%
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	1.14	**$259**	$42.98	503%
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	1.66	**$377**	$42.98	777%
750	Office Park	1,000 sf	1.04	**$236**	$20.06	1077%
	RETAIL:					
820	Retail 10,000 sfgla or less	1,000 sfgla	2.45	**$557**	$183.31	204%
	Retail 10,001-50,000 sfgla	1,000 sfgla	2.45	**$557**	$120.54	362%
	Retail 50,001-100,000 sfgla	1,000 sfgla	2.46	**$559**	$120.54	364%
	Retail 100,001-300,000 sfgla	1,000 sfgla	2.50	**$568**	$75.26	655%
	Retail 300,001-500,000 sfgla	1,000 sfgla	2.55	**$579**	$75.26	669%
	Retail 500,001-1,000,000 sfgla	1,000 sfgla	2.42	**$550**	$75.26	631%
	Retail greater than 1,000,000 sfgla	1,000 sfgla	2.32	**$527**	$63.69	727%
841	New/ Used Auto Sales	1,000 sf	1.47	**$334**	$64.16	421%
850	Supermarket	1,000 sf	2.05	**$466**	$165.16	182%
851	Convenience Market (24 hour)	1000 sf	5.47	**$1,243**	$351.72	253%
853	Convenience Market w/Gasoline	1,000 sf	5.83	**$1,324**	$351.72	276%
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	1.96	**$445**	N/A	N/A
890	Furniture Store	1,000 sf	0.23	**$52**	$10.07	416%
911	Bank/Savings Walk-In	1,000 sf	2.23	**$507**	$67.90	647%
912	Bank/Savings Drive-In	1,000 sf	2.28	**$518**	$61.22	746%
931	Quality Restaurant	1,000 sf	6.82	**$1,549**	$263.51	488%
932	High-Turnover Restaurant	1,000 sf	6.78	**$1,540**	$324.72	374%
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	8.90	**$2,022**	$321.84	528%
942	Automobile Care Center	1,000 sf	1.50	**$341**	$49.77	585%
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	1.91	**$434**	$79.38	447%
947	Self Service Car Wash	service bay	0.87	**$198**	$292.42	-32%
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	0.69	**$157**	N/A	N/A
120	General Heavy Industrial	1,000 sf	0.49	**$111**	N/A	N/A
150	Warehousing	1,000 sf	0.28	**$64**	N/A	N/A
151	Mini-Warehouse	1,000 sf	0.06	**$14**	N/A	N/A

(1) Source: Appendix A, Table A-11 for residential land uses and A-12 for non-residential land uses
(2) Source: Net impact cost per resident from Table V-9 multiplied by the functional resident coefficient (Item 1)
(3) Source: Brevard County Planning and Development Department
(4) Percent change from the current impact fee rates (Item 3) to the total impact fee (Item 2)

Table V-11
Calculated EMS Impact Fee Schedule

ITE LUC	Land Use	Impact Unit	Functional Resident Coefficient[1]	Total Impact Fee [2]	Current Impact Fee[3]	Percent Change[4]
	RESIDENTIAL:					
210	Single Family (Detached)	du	1.67	**$66**	$38.65	71%
220	Multi-Family (Apartment); 1-2 Stories	du	0.88	**$37**	$33.68	10%
222/223	Multi-Family (Apartment); 3+ Stories	du	0.88	**$37**	$22.15	67%
231	Condo/Duplex/Townhouse; 1-2 Stories	du	0.88	**$37**	$35.22	5%
232	Condo/Duplex/Townhouse; 3+ Stories	du	0.88	**$37**	$23.16	60%
240	Mobile Home	du	1.09	**$45**	$30.41	48%
	TRANSIENT, ASSISTED, GROUP :					
310	Hotel	room	1.05	**$47**	$10.86	333%
320	Motel	room	1.01	**$45**	$10.86	314%
620	Nursing Home	bed	0.90	**$41**	$25.23	63%
253	Assisted Care Living Facility (ACLF)	du	0.93	**$42**	$32.49	29%
	RECREATION:					
416	RV Park	site	0.50	**$23**	$30.41	-24%
420	Marina	boat berth	0.19	**$9**	$5.98	51%
430	Golf Course	hole	1.08	**$49**	$102.99	-52%
444	Movie Theater	screen	5.98	**$269**	$333.57	-19%
491	Raquet/Tennis Club	court	3.16	**$142**	$57.42	147%
492	Health/Fitness Club	1,000 sf	3.09	**$139**	$32.32	330%
	INSTITUTIONS:					
520	Elementary School (Private)	student	0.06	**$3**	$2.79	8%
522	Middle School (Private)	student	0.07	**$3**	$3.93	-24%
530	High School (Private)	student	0.08	**$4**	$4.86	-18%
540	University/Junior College (7,500 or fewer students) (Private)	student	0.10	**$5**	$2.20	127%
550	University/Junior College (more than 7,500 students) (Private)	student	0.07	**$3**	$3.76	-20%
560	Church	1,000 sf	0.51	**$23**	$8.81	161%
565	Day Care Center	1,000 sf	0.89	**$40**	$196.74	-80%
610	Hospital	1,000 sf	1.37	**$62**	$24.60	152%
640	Animal Hospital/Veterinary Clinic	1,000 sf	2.32	**$104**	$27.88	273%
	OFFICE:					
710	General Office 50,000 sf or less	1,000 sf	1.41	**$63**	$18.35	243%
	General Office 50,001 - 100,000 sf	1,000 sf	1.19	**$54**	$18.35	194%
	General Office 100,001 - 200,000 sf	1,000 sf	1.01	**$45**	$18.35	145%
	General Office 200,001 - 400,000 sf	1,000 sf	0.85	**$38**	$18.35	107%
	General Office greater than 400,000 sf	1,000 sf	0.77	**$35**	$18.35	91%
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	1.14	**$51**	$30.72	66%
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	1.66	**$75**	$30.72	144%
750	Office Park	1,000 sf	1.04	**$47**	$14.33	228%
	RETAIL:					
820	Retail 10,000 sfgla or less	1,000 sfgla	2.45	**$110**	$130.99	-16%
	Retail 10,001-50,000 sfgla	1,000 sfgla	2.45	**$110**	$86.13	28%
	Retail 50,001-100,000 sfgla	1,000 sfgla	2.46	**$111**	$86.13	29%
	Retail 100,001-300,000 sfgla	1,000 sfgla	2.50	**$113**	$53.78	110%
	Retail 300,001-500,000 sfgla	1,000 sfgla	2.55	**$115**	$53.78	114%
	Retail 500,001-1,000,000 sfgla	1,000 sfgla	2.42	**$109**	$53.78	103%
	Retail greater than 1,000,000 sfgla	1,000 sfgla	2.32	**$104**	$45.51	129%
841	New/ Used Auto Sales	1,000 sf	1.47	**$66**	$45.85	44%
850	Supermarket	1,000 sf	2.05	**$92**	$118.03	-22%
851	Convenience Market (24 hour)	1000 sf	5.47	**$246**	$251.34	-2%
853	Convenience Market w/Gasoline	1,000 sf	5.83	**$262**	$251.34	4%
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	1.96	**$88**	N/A	N/A
890	Furniture Store	1,000 sf	0.23	**$10**	$7.20	39%
911	Bank/Savings Walk-In	1,000 sf	2.23	**$100**	$48.52	106%
912	Bank/Savings Drive-In	1,000 sf	2.28	**$103**	$43.74	136%
931	Quality Restaurant	1,000 sf	6.82	**$307**	$188.30	63%
932	High-Turnover Restaurant	1,000 sf	6.78	**$305**	$232.04	31%
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	8.90	**$401**	$229.99	74%
942	Automobile Care Center	1,000 sf	1.50	**$68**	$35.56	91%
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	1.91	**$86**	$56.73	52%
947	Self Service Car Wash	service bay	0.87	**$39**	$208.96	-81%
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	0.69	**$31**	N/A	N/A
120	General Heavy Industrial	1,000 sf	0.49	**$22**	N/A	N/A
150	Warehousing	1,000 sf	0.28	**$13**	N/A	N/A
151	Mini-Warehouse	1,000 sf	0.06	**$3**	N/A	N/A

(1) Source: Appendix A, Table A-10 for residential land uses and A-12 for non-residential land uses
(2) Source: Net impact cost per resident from Table V-9 multiplied by the functional resident coefficient (Item 1)
(3) Source: Brevard County Planning and Development Department
(4) Percent change from the current impact fee rates (Item 3) to the total impact fee (Item 2)

Table V-12
Calculated Fire Rescue/EMS Impact Fee Schedule

ITE LUC	Land Use	Impact Unit	Fire Rescue Impact Fee[1]	EMS Impact Fee[2]	Total Impact Fee[3]	Total Current Impact Fee[4]	Percent Change[5]
	RESIDENTIAL:						
210	Single Family (Detached)	du	$326	$66	**$392**	$92.73	323%
220	Multi-Family (Apartment); 1-2 Stories	du	$178	$37	**$215**	$80.81	166%
222/223	Multi-Family (Apartment); 3+ Stories	du	$178	$37	**$215**	$53.14	305%
231	Condo/Duplex/Townhouse; 1-2 Stories	du	$178	$37	**$215**	$84.51	154%
232	Condo/Duplex/Townhouse; 3+ Stories	du	$178	$37	**$215**	$55.57	287%
240	Mobile Home	du	$223	$45	**$268**	$72.97	267%
	TRANSIENT, ASSISTED, GROUP :						
310	Hotel	room	$239	$47	**$286**	$26.05	998%
320	Motel	room	$229	$45	**$274**	$26.05	952%
620	Nursing Home	bed	$204	$41	**$245**	$60.74	303%
253	Assisted Care Living Facility (ACLF)	bed	$220	$42	**$262**	$77.95	236%
	RECREATION:						
416	RV Park	site	$114	$23	**$137**	$72.97	88%
420	Marina	boat berth	$43	$9	**$52**	$14.35	262%
430	Golf Course	hole	$245	$49	**$294**	$247.11	19%
444	Movie Theater	screen	$1,358	$269	**$1,627**	$800.36	103%
491	Raquet/Tennis Club	court	$718	$142	**$860**	$137.78	524%
492	Health/Fitness Club	1,000 sf	$702	$139	**$841**	$77.55	985%
	INSTITUTIONS:						
520	Elementary School (Private)	student	$14	$3	**$17**	$6.70	154%
522	Middle School (Private)	student	$16	$3	**$19**	$9.44	101%
530	High School (Private)	student	$18	$4	**$22**	$11.66	89%
540	University/Junior College (7,500 or fewer students) (Private)	student	$23	$5	**$28**	$5.27	431%
550	University/Junior College (more than 7,500 students) (Private)	student	$16	$3	**$19**	$9.02	111%
560	Church	1,000 sf	$116	$23	**$139**	$21.15	557%
565	Day Care Center	1,000 sf	$202	$40	**$242**	$471.99	-49%
610	Hospital	1,000 sf	$311	$62	**$373**	$59.02	532%
640	Animal Hospital/Veterinary Clinic	1,000 sf	$527	$104	**$631**	$66.91	843%
	OFFICE:						
710	General Office 50,000 sf or less	1,000 sf	$320	$63	**$383**	$44.02	770%
	General Office 50,001 - 100,000 sf	1,000 sf	$270	$54	**$324**	$44.02	636%
	General Office 100,001 - 200,000 sf	1,000 sf	$229	$45	**$274**	$44.02	522%
	General Office 200,001 - 400,000 sf	1,000 sf	$193	$38	**$231**	$44.02	425%
	General Office greater than 400,000 sf	1,000 sf	$175	$35	**$210**	$44.02	377%
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	$259	$51	**$310**	$73.70	321%
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	$377	$75	**$452**	$73.70	513%
750	Office Park	1,000 sf	$236	$47	**$283**	$34.39	723%
	RETAIL:						
820	Retail 10,000 sfgla or less	1,000 sfgla	$557	$110	**$667**	$314.30	112%
	Retail 10,001-50,000 sfgla	1,000 sfgla	$557	$110	**$667**	$206.67	223%
	Retail 50,001-100,000 sfgla	1,000 sfgla	$559	$111	**$670**	$206.67	224%
	Retail 100,001-300,000 sfgla	1,000 sfgla	$568	$113	**$681**	$129.04	428%
	Retail 300,001-500,000 sfgla	1,000 sfgla	$579	$115	**$694**	$129.04	438%
	Retail 500,001-1,000,000 sfgla	1,000 sfgla	$550	$109	**$659**	$129.04	411%
	Retail greater than 1,000,000 sfgla	1,000 sfgla	$527	$104	**$631**	$109.20	478%
841	New/ Used Auto Sales	1,000 sf	$334	$66	**$400**	$110.01	264%
850	Supermarket	1,000 sf	$466	$92	**$558**	$283.19	97%
851	Convenience Market (24 hour)	1000 sf	$1,243	$246	**$1,489**	$603.06	147%
853	Convenience Market w/Gasoline	1,000 sf	$1,324	$262	**$1,586**	$603.06	163%
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	$445	$88	**$533**	N/A	N/A
890	Furniture Store	1,000 sf	$52	$10	**$62**	$17.27	259%
911	Bank/Savings Walk-In	1,000 sf	$507	$100	**$607**	$116.42	421%
912	Bank/Savings Drive-In	1,000 sf	$518	$103	**$621**	$104.96	492%
931	Quality Restaurant	1,000 sf	$1,549	$307	**$1,856**	$451.81	311%
932	High-Turnover Restaurant	1,000 sf	$1,540	$305	**$1,845**	$556.76	231%
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	$2,022	$401	**$2,423**	$551.83	339%
942	Automobile Care Center	1,000 sf	$341	$68	**$409**	$85.33	379%
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	$434	$86	**$520**	$136.11	282%
947	Self Service Car Wash	service bay	$198	$39	**$237**	$501.38	-53%
	INDUSTRIAL:						
110	General Light Industrial	1,000 sf	$157	$31	**$188**	N/A	N/A
120	General Heavy Industrial	1,000 sf	$111	$22	**$133**	N/A	N/A
150	Warehousing	1,000 sf	$64	$13	**$77**	N/A	N/A
151	Mini-Warehouse	1,000 sf	$14	$3	**$17**	N/A	N/A

(1) Source: Table V-10, Item 2
(2) Source: Table V-11, Item 2
(3) Sum of fire rescue impact fee (Item 1) and EMS impact fee (Item 2)
(4) Source: Brevard County Planning and Development Department
(5) Percent change from the current adopted fee (Item 5) to the total impact fee (Item 4)

Table V-13
Fire Rescue/Emergency Medical Services Impact Fee Schedule Comparison

Land Use	Unit[1]	Brevard County		Volusia County[4]	Seminole County[5]	Indian River County[6]	Orange County[7]	Okeechobee County[8]	St. Lucie County[9]	Polk County[10]	Pasco County[11]	Lee County[12]	Collier County[13]	Manatee County[14]	Marion County[15]	Sarasota County[16]
		Calculated[2]	Existing[3]													
Date of Last Update		2014	2000	n/a	n/a	2014	2011	2012	2009	2009	2003	2012	2010	2011	2005	2007
Adoption Percentage		100%	100%	n/a	n/a	100%	n/a	100%	100%	50%	100%	92%/ 58%	100%	100%	100%	100%
Residential:																
Single Family (2,000 sf)	du	$392	$93	$300	$172	$314	$270	$574	$566	$126	$420	$461	$1,065	$319	$287	$339
Non-Residential:																
Light Industrial	1,000 sf	$188	-	$150	$13	$139	$50	$119	$75	$20	$549	$129	$676	$76	$119	$106
Office (50,000 sq ft)	1,000 sf	$383	$44	$150	$72	$201	$117	$278	$334	$125	$549	$253	$725	$133	$209	$178
Retail (125,000 sq ft)	1,000 sf	$681	$129	$150	$160	$477	$297	$595	$525	$149	$549	$542	$781	$128	$505	$442
Bank w/Drive-Thru	1,000 sf	$621	$105	$150	$72	$459	$297	$595	$525	$149	$549	$542	$783	$128	$372	$442
Fast Food w/Drive-Thru	1,000 sf	$2,423	$552	$150	$320	$1,792	$297	$595	$525	$149	$549	$542	$1,233	$128	$2,081	$442

(1) du = dwelling unit
(2) Source: Table V-12
(3) Source: Brevard County Planning & Development Department. Fire Rescue and EMS rates combined.
(4) Source: Volusia County Growth and Resource Management Department.
(5) Source: Seminole County Planning & Development Services.
(6) Source: Indian River County Planning Division.
(7) Source: Orange County Planning & Development Department.
(8) Source: Okeechobee County Planning & Development Department. Fire and EMS rates combined.
(9) Source: St. Lucie County Planning & Development Department. Fire/EMS fees reflect indexing applied since adoption.
(10) Source: Polk County Building & Construction Department. Fees are currently under moratorium through July 2015. Fire Rescue and EMS rates combined.
(11) Source: Pasco County Central Permitting Department. Fire Combat and Rescue rates combined.
(12) Source: Lee County Community Development Department. Fire Rescue impact fees are an average of the 16 Fire Districts as is the adoption percentage. EMS fees were adopted as 58%. Fire Rescue and EMS rates combined.
(13) Source: Collier County Planning & Development Department. Fees shown include the EMS fee and an average fire fee across all districts. Fire and EMS rates combined.
(14) Source: Manatee County Financial Management Department. "Public Safety" fee; average of all bedroom options used for residential.
(15) Source: Marion County Planning Department. Fire/EMS fees are currently suspended.
(16) Source: Sarasota County Planning & Development Department. Fire and EMS rates combined.

VI. Educational Facilities

As mentioned previously, the Brevard County's School Impact Fee was implemented in 2004 and the technical study has not been updated since that time. The study methodology is documented in the following 10 sections of this technical report:

- Methodology
- Inventory
- Service Area and Enrollment
- Facility Service Delivery
- Cost Component
- Credit Component
- Net Impact Cost per Student
- Student Generation Rates
- Calculated School Impact Fee Schedule
- School Impact Fee Schedule Comparison

Information supporting this analysis was obtained from the Brevard County School District and other sources, as indicated.

Inventory

The Brevard Public Schools (the District) provides public education facilities that are available to all school-age residents of Brevard County. As such, this analysis will consider all public elementary, middle, and high school level facilities and the students attending these facilities located throughout and living within Brevard County.

The District currently operates 82 traditional public schools that serve the students of Brevard County and its municipalities, including 55 elementary schools, 11 middle schools, 5 Junior/Senior high schools, and 11 high schools. The District also operates a number of other programs, such as alternative learning programs and adult learning centers throughout the county. The District's current school inventory is provided in Appendix C, Table C-1. Junior/Senior high schools are combined with high schools in the following tables in terms of the permanent student station and permanent capacity figures.

Service Area and Enrollment

The Brevard Public Schools provides public education facilities that are available to all Kindergarten thru 12th grade (K-12) students throughout the entire county. Currently, Brevard County has four school impact fee benefit districts, which require that impact fee revenues collected in one district be spent in the same benefit district. Benefit districts are typically created to ensure the fee payer receives the benefit in cases when the capital projects built with impact fee revenues benefit a limited geographic area. In the case of public schools, attendance boundaries can be redrawn to balance school enrollment with available school capacity and therefore can serve different geographic areas over time. In addition, the State Department of Education (DOE) has been increasing its support of Choice programs where students can attend schools outside of their designated districts. Brevard County Public Schools provides extensive opportunities for a student to attend schools other than their zoned school, with five Schools of Choice and numerous Choice programs resulting in 9,700 students (15 percent) attending out-of-area schools. As such, the appropriate impact fee benefit district for public schools is countywide.

Table VI-1 presents the historical student enrollment since 2000, and projected enrollment through 2019. In order to be consistent with the inventory used in the impact fee analysis, the figures presented in this table only include those students attending (or projected to attend) the schools listed in Appendix C, Table C-1. The annual percent change is presented, as well as a three-year average to account for any random fluctuations.

Table VI-1
Brevard County Enrollment Trends

School Year	Enrollment[(1)]	Annual % Change[(2)]	Three-Year Average[(3)]
2000-01	68,736	-	-
2001-02	69,271	0.8%	-
2002-03	70,047	1.1%	-
2003-04	70,946	1.3%	1.1%
2004-05	71,750	1.1%	1.2%
2005-06	71,692	-0.1%	0.8%
2006-07	70,717	-1.4%	-0.1%
2007-08	70,479	-0.3%	-0.6%
2008-09	69,034	-2.1%	-1.3%
2009-10	68,003	-1.5%	-1.3%
2010-11	67,219	-1.2%	-1.6%
2011-12	68,037	1.2%	-0.5%
2012-13	67,555	-0.7%	-0.2%
2013-14	66,403	-1.7%	-0.4%
2014-15	66,985	0.9%	-0.5%
2015-16	66,907	-0.1%	-0.3%
2016-17	66,822	-0.1%	0.2%
2017-18	66,676	-0.2%	-0.1%
2018-19	66,383	-0.4%	-0.2%

(1) Source: Brevard Public Schools
(2) Percent change from one year to the next
(3) Average change over the past three years

Facility Service Delivery

Based on information provided by the School District, "prototype" school characteristics in terms of the number of student stations and permanent square footage were identified and used in the impact fee calculations. Using the prototype square footage and student stations for each school type, the facility service delivery has been identified (FISH net square feet per permanent student station) for the impact fee calculations.

Table VI-2 illustrates the facility service delivery prototype specifications for Brevard Public Schools, which is 141.2 FISH net square feet per permanent student station for elementary schools, 157.4 FISH net square feet per permanent student station for middle schools, and 148.4 FISH net square feet per permanent student station for high schools. The weighted

average facility service delivery based on all three school types is 149.1 FISH net square feet per permanent student station.

Table VI-2
Facility Service Delivery – Prototype Specifications for Brevard Schools

Description	School Type			Total / Weighted Avg
	Elementary	Middle	High	
Permanent Net Square Footage[(1)]	137,000	179,000	403,000	719,000
Permanent Student Stations[(2)]	970	1,137	2,716	4,823
Net Square Feet per Student Station[(3)]	141.2	157.4	148.4	149.1

(1) Source: Brevard Public Schools
(2) Source: Brevard Public Schools; Indicates permanent capacity after FISH Adjustment
(3) Permanent net square footage (Item 1) divided by permanent student stations (Item 2)

Cost Component

The capital costs of providing educational facilities includes several components, such as the school facility cost, transportation cost, and ancillary facility costs. This section addresses each of these components.

Facility Cost per Student Station

The first step in determining the cost of providing public schools to Brevard County residents is to calculate the facility cost per student station. Several cost components must be considered when calculating the total cost of constructing a school, including architect/site improvement costs; construction costs; furniture, fixtures, and equipment (FF&E) costs; and the cost to purchase the land. Each component of the school facility cost is described in more detail in the following subsections.

Architect/Site Improvement, Construction and FF&E Costs

To determine the administration, architect/site improvement, construction, and FF&E costs associated with building a new school in Brevard County, several variables were considered, including:

- Cost associated with new schools or additions to existing schools based on most recently built schools;
- Insurance values of existing schools;
- Estimates for planned schools;
- Information obtained from other jurisdictions regarding recently built schools; and
- Discussions with the District's Facilities Management Services Division.

Based on this information and analysis, construction costs were estimated at $150 per net square foot for elementary schools, $160 per net square foot for middle schools, $190 per net square foot for high schools. In addition, based on a review of historical projects in Brevard County as well as in other jurisdictions, architectural, design and site improvement costs are estimated at 15 percent of construction cost and cost associated with furniture, fixtures, and equipment is estimated at 8 percent of the construction cost. Appendix C provides additional detail on cost estimates.

Table VI-3 presents the cost per square foot figures for the architect/site improvement, construction, and FF&E cost components for each school type. For illustration purposes, Table VI-3 also presents the weighted average figure for each cost component, based on all three school types.

Land Cost

For each school type, the land cost per square foot is based on a value of $50,000 per acre. This value per acre is based on a review of the following:

- Recent purchases or appraisals by the School District;
- Values of land where current schools are located, as reported by the Brevard County Property Appraiser;
- Vacant land sales of similarly sized parcels;
- Value of all vacant land of similarly sized parcels; and
- Discussions with the District's Facilities Management Services Division and the appraisers retained by the School District.

Appendix C documents the results of the land value analysis in further detail. The land cost per square foot by school type was developed based on the acres per 1,000 permanent net square feet for the future prototype schools. The resulting land cost figures for each type of school also are presented in Table VI-3.

Net Interest Cost

When a School District incurs debt to fund additional capacity, interest costs incurred during the construction period need to be added to the school facility construction costs. Over the past ten years, Brevard Public Schools obtained 65 percent of the funding for new schools by issuing Certificates of Participation (COPs). As such, interest cost incurred during the construction period is also included in Table VI-3. The figure includes a downward adjustment of 35 percent to account for the expansion projects funded with cash.

Table VI-3
School Facility Cost per Student Station

Cost Component	Elementary School	Middle School	High School	Weighted Average
Net Square Feet per Student Station[1]	141.2	157.4	148.4	149.1
Existing Permanent Capacity[1]	39,545	9,814	28,246	77,605
School Facility Cost Components:				
Architectural/Civil Design/Site Improvement Cost per Net Sq Ft[2]	$22.50	$24.00	$28.50	$25.09
Construction Cost per Net Sq Ft[3]	$150.00	$160.00	$190.00	$167.27
FF&E Cost per Net Sq Ft[4]	$12.00	$12.80	$15.20	$13.38
Land Cost per Net Sq Ft[5]	$10.70	$10.95	$10.90	$10.75
Net Interest Cost per Net Sq Ft[6]	$5.41	$8.61	$10.22	$7.57
Total Facility Cost per Net Sq Ft[7]	$200.61	$216.36	$254.82	$224.06
Total Facility Cost per Student Station[8]	**$28,326**	**$34,055**	**$37,815**	**$33,407**

(1) Source: Table VI-2

(2) Estimated at 15% of construction cost based on estimates obtained from Brevard Public Schools and recent costs obtained from other Florida School Districts. See Appendix C for further detail.

(3) Construction cost is estimated to range from $150 per net square foot to $190 per net square foot, based on information obtained from Brevard Public Schools and recently constructed schools in other Florida Jurisdictions. Detailed information on cost estimates is included in Appendix C.

(4) Estimated at 8% of the construction cost bases on estimates obtained from Brevard Public Schools and recent cost obtained from other Florida School Districts. Detailed information on cost estimates is included in Appendix C.

(5) The land cost per square foot for each school type is based on the acreage per 1,000 permanent square feet for future schools at a cost of $50,000 per acre. This cost per acre figure is based on the land value estimate for future schools sites within the county and recent vacant land sales. Further information is included in Appendix C.

(6) Net interest carrying cost represents the interest the District has to pay during the construction period for borrowing the necessary funds to build new schools. The cost is adjusted downward by 35% to reflect that the District funded approximately 35% of the capacity expansion projects with cash, and borrowed for the remainder.

(7) Sum of the school facility cost per net square foot (Item 2 thru 6).

(8) The net square feet per permanent student station (Item 1) multiplied by the total school facility cost per net square foot (Item 7) for each school type. Weighted average is based on the distribution of existing stations for each school type (Item 1).

Total Facility Cost per Student by school type

The total facility impact cost per student for each school type is based on the facility cost per student station figures derived in Table VI-3, and is typically calculated by multiplying the cost per student station by the number of total permanent stations and dividing by current student enrollment. This adjustment of dividing the cost per student station by the ratio of current student enrollment to available capacity converts the cost per student station to a cost per student. In addition, this calculation accounts for the current surplus or shortage in permanent capacity and adjusts the costs accordingly. If there is available capacity (e.g., currently more permanent student stations than expected students), then the total facility cost per student increases because the cost of building excess capacity is being recouped. Similarly, if there are currently more students enrolled than available capacity, the cost per student is adjusted downward.

As presented in Table VI-4, in the case of Brevard County, there is approximately 16 percent available capacity. Prior to including these figures in the calculations, an adjustment was made to account for impact fee revenues used to pay off debt service on the Certificates of Participation (COPs) that funded a portion of the existing capacity. Over the past five years, the School District used an average of $6.3 million of impact fee revenues per year toward Certificates of Participation (COPs) debt service payments. Given that impact fees are paid only by the new development (as opposed to both existing and new development as in the case of taxes), an adjustment was made to reduce the number of stations at some of the expanded elementary schools as well as the Heritage High School that are funded with COPs, and impact fee revenues are being used to pay a portion of the associated debt service. As a result of this calculation, the available capacity is reduced to 10 percent countywide, which represents the capacity that is either fully paid for or will be paid for with taxes.

In the case of Brevard County, although there is available capacity countywide, because the District's adopted LOS standard per the Interlocal Agreement for Public School Facility Planning and School Concurrency is 100 percent, the cost per student station calculated in Table VI-3 also represents the facility cost per student. This is also appropriate because part of the available capacity is used for the space needed for students with special needs (ESE) and their aides, conversion of classrooms to computer testing labs, and dual enrollment. Given these factors and due to the unique programs offered by Brevard Public Schools, the schools are effectively full.

Table VI-4
Total Impact Cost per Student – FISH Net Square Feet

Calculation Step	Elementary School	Middle School	High School	Weighted Average / Total
Facility Impact Cost per Student				
Facility Cost per Student Station[(1)]	$28,326	$34,055	$37,815	$33,407
Existing (2014) Permanent Capacity[(2)]	39,545	9,814	28,246	77,605
Existing (2014) Permanent Capacity Adjusted for Debt Service Paid with Impact Fees[(3)]	38,055	9,814	26,025	73,894
Existing (2014) Student Enrollment[(4)]	35,203	7,952	23,830	66,985
Ratio of Existing Adjusted Permanent Capacity to Existing Enrollment[(5)]	108%	123%	109%	110%
Adopted LOS Standard [(6)]	100%	100%	100%	100%
Final Ratio of Permanent Capacity to Enrollment Used for Impact Fee Calculations[(7)]	100%	100%	100%	100%
Total Facility Impact Cost per Student[(8)]	**$28,326**	**$34,055**	**$37,815**	**$33,407**

(1) Source: Table VI-3
(2) Source: Appendix C, Table C-1
(3) Accounts for the stations funded with Certificates of Occupancy (COPs) where the debt service will be paid with future impact fee revenues.
(4) Source: Brevard Public Schools
(5) Ratio of permanent capacity to student enrollment (Item 3/Item 4).
(6) Source: Brevard Public Schools
(7) Ratio used in the impact fee calculations, which is the adopted LOS standard
(8) For the elementary, middle, and high schools, the facility impact cost per student (Item 1) is multiplied by the final ratio of permanent capacity to enrollment used for impact fee calculations (Item 7).

Total Cost per Student

In addition to the facility cost per student calculated in Table VI-4, the total facility cost per student includes two additional cost components: the capital costs associated with providing transportation services and ancillary facilities. Both of these cost components are calculated on a per-student basis and are not dependent on school type. Each of these additional cost components is discussed in further detail below.

Transportation Costs

The first additional capital cost component is the cost of providing transportation services to students. The District currently owns 496 buses used for student transportation at a value of approximately $92,000 per bus, which reflects the estimates obtained from the Florida Department of Education. In addition to its bus fleet, the District has 506 support vehicles, which include vehicles such as cars, vans, and trucks. The current value of the support vehicles varies depending on the type of vehicle, with an average value of approximately $21,000 per vehicle, based on the information provided by the District. The result is a total value of $56.3 million for transportation services, including $45.6 million for buses and $10.7 million for support vehicles. The total value of the transportation fleet is divided by the District's enrollment for schools included in Appendix C, Table C-1 (presented in Table 1), as this is the total student population benefiting from services provided by the District's transportation fleet. The result is a cost of $841 per student for transportation services, as presented in Table VI-5.

Ancillary Facilities Costs

The other additional capital cost component is for the ancillary facilities that are necessary for the District to provide support services for students, schools, transportation services, and administrative personnel. The District currently has approximately 687,000 FISH net square feet of permanent ancillary facilities for maintenance, warehouse, and administrative functions. Current costs for each existing ancillary facility depend on the type of facility and were provided by District staff, with the weighted average cost equaling $125 per square foot. It should be noted that the cost estimates for ancillary facilities are consistent with costs of similar buildings observed in other jurisdictions throughout Florida.

The cost of land for ancillary facilities also is included in the ancillary facility values. The land value for ancillary facilities is estimated same as what was used for schools ($50,000 per acre) since many of these facilities are on the same parcels as schools.

The ancillary facility cost per student is based on the existing inventory, which is valued at $96.0 million, including $85.9 million for buildings and $10.2 million for land. Based on the current enrollment, the result is a cost of $1,434 per student for ancillary facilities, as presented in Table VI-5.

Table VI-5
Transportation and
Ancillary Facility Cost per Student

Description	Figure
Transportation Services Cost per Student	
Total Current Value of Transportation Services[(1)]	$56,319,190
Current Enrollment[(2)]	66,985
Total Transportation Services Cost per Student[(3)]	**$841**
Ancillary Facility Cost per Student	
Building Value for Ancillary Facilities[(4)]	$85,894,125
Land Value for Ancillary Facilities[(5)]	$10,150,000
Total Current Value for Ancillary Facilities[(6)]	$96,044,125
Total Ancillary Facility Cost per Student[(7)]	**$1,434**

(1) Source: Brevard Public Schools
(2) Source: Table VI-1
(3) Total value of transportation services (Item 1) divided by the current enrollment (Item 2)
(4) Source: Brevard Public Schools
(5) Land value of acreage in addition to school acreage.
(6) Sum of the building value (Item 4) and land value (Item 5) of the District's current inventory of ancillary facilities
(7) Total value for ancillary facilities (Item 6) divided by the current enrollment (Item 2)

Credit Component

To ensure that new development is not being overcharged for construction of future student stations, any non-impact fee revenue that will be generated by new development and that will be used towards the capital expansion of school facilities must be included as a credit to reduce the total cost per student. It is important to note that a credit for school impact fees is not given for revenue generated by new development that is used for capital renovation of existing educational facilities or for maintenance or operational costs.

Based on a review of the District's capacity addition expenditures over the past five years and planned expenditures over the next five years, it has been determined that revenue credits will be calculated for cash expenditures as well as debt service funding.

Capital Improvement Credit

The Florida Statutes authorize several sources of revenue for school districts, such as Public Education Capital Outlay (PECO) and Capital Outlay & Debt Service (CO & DS) that can be used for the construction of capital facilities. With regard to state revenue, over the past five years, the District has used only Classroom for Kids revenue in 2009 for the construction. This was supplemented with a portion of the local capital ad valorem tax revenue, which was also used toward the same project. Since then, there were no capacity projects funded with cash and there are none programmed to be funded with cash in the District's Five-Year Plan. However, to provide the District with the flexibility to fund projects with cash in the future and to recognize the funding methods used in 2009, a capital improvement credit is calculated.

The capital improvement revenue credit per student is calculated by dividing the total amount of capital revenue by the average enrollment during this ten-year period. As presented in Table VI-6**,** the resulting capital improvement revenue available for the capital expansion of public schools in Brevard County $11 per student per year or $172 per student over the next 25 years, for non-impact fee cash funding.

Table VI-6
Revenue Credit per Student

Project	2009/10 thru 2018/19
1.5-Mil Local Capital Tax [(1)] ***:***	
Heritage High School	$350,000
Subtotal -1.5-Mil Local	**$350,000**
Classroom for Kids/Other [(1)] ***:***	
Heritage High School	$7,062,431
Subtotal - Classroom for Kids/Other	**$7,062,431**
Total Expenditures	**$7,412,431**
Average Annual Expenditures[(2)]	$741,243
Average Enrollment[(3)]	67,364
Revenue Credit per Student[(4)]	**$11.00**
Capitalization Rate[(5)]	4.0%
Capitalization Period, Years[(6)]	25
Present Value of Capital Improvement Revenue Credit per Student[(7)]	**$172**

(1) Source: Brevard Public Schools
(2) Total expenditures divided by 10 to calculate the average annual expenditures.
(3) Source: Table VI-1, average enrollment during the same time period
(4) Average annual expenditures (Item 2) divided by the average enrollment (Item 3).
(5) Interest rate the District is likely to pay for future bonds, provided by Brevard Public Schools
(6) Time period after which major repairs are needed.
(7) Present value of revenue credit per student (Item 4) at 4.0% interest rate (Item 5) over a 25-year capitalization period (Item 6).

Debt Service Credit per Student

The District has been using COPs and other types of bonds to pay for a portion of the capacity expansion projects. Given that there is still an outstanding debt service on COPs, a credit is calculated for future debt service payments related to capacity expansion projects. The District uses primarily local capital outlay millage and impact fee revenues to pay the debt service.

A revenue credit is calculated for the remaining portion of each outstanding COP/bond issue used to fund capacity expansion projects that will be paid back with non-impact fee revenue sources. The remaining payments were brought back to present value, based on the remaining number of years and average annual interest rate.

As presented in Table VI-7, the debt service credit is $1,281 per student. Of this amount, 82 percent is funded with local capital millage.

Table VI-7
Debt Service Credit per Student

Description	Number of Years of Remaining Payments[1]	Remaining Payments Due for Expansion[2]	Present Value of Total Remaining Payments[3]	Average Annual Enrollment[4]	Debt Service Credit per Student[5]
Certificates of Participation					
Multiple COPS Issues[6]	22	$134,168,538	$86,137,440	67,254	**$1,281**
Portion Funded with Ad Valorem[7]				82%	$1,050
Portion Funded with Other Revenue Sources[8]					$231

(1), (2) Source: Brevard Public Schools
(3) Present value of the total remaining payments due, based on the average annual interest rate and the number of years of remaining payments.
(4) Source: Table VI-1, enrollment estimates for years 2020 through 2036 are based on growth rate projections obtained from the Florida Department of Education for Brevard County.
(5) Present value of total remaining payments (Item 3) divided by the average annual enrollment over the life of the remaining payments (Item 4).
(6) Includes COP series 2004B, 2006A, 2007A, 2007B, 2007C, 2008A, 2013A, and 2013B
(7) Source: Brevard Public Schools
(8) Total debt service credit per student ($1,281) less portion funded with ad valorem tax revenue (Item 7) ($1,050)

Once the debt service credit per student is calculated, separate credit figures are calculated for each land use. For each land use category, the portion of the debt service credit per student funded with ad valorem revenues is adjusted to account for the fact that new homes tend to pay higher taxes per dwelling unit. This adjustment factor was estimated based on a comparison of the average taxable value of homes built over the past five years to that of all homes.

As presented in Table VI-8, the debt service credit ranges by land use category from $1,764 per student for multi-family homes to $2,415 per student for the single family land use.

Table VI-8
Adjusted Debt Service Credit per Student

Land Use	Ad Valorem Funded Portion[(1)]	Credit Adjustment Factor[(2)]	Adjusted Credit per Student[(3)]	Total Credit per Student[(4)]
Land Use				
Single Family Detached	$1,050	2.08	$2,184	$2,415
Multi-family/Condo/Townhouse	$1,050	1.46	$1,533	$1,764
Mobile Homes	$1,050	1.70	$1,785	$2,016

(1) Source: Table VI-7
(2) Source: Brevard County Property Appraiser database
(3) Ad Valorem funded portion (Item 1) multiplied by credit adjustment (Item 2)
(4) Sum of adjusted credit per student (Item 3) and credit per student for the portion funded with other revenue sources (Item 8) from Table 7

Net Impact Cost per Student

The net impact fee per student is the difference between the cost component and the credit component. Table VI-9 summarizes the three-step process used to calculate the net impact cost per student for public schools in Brevard County by residential land use for each fee schedule option.

First, the total impact cost per student is determined, which does not vary by land use. This is the sum of the weighted average facility impact cost per student from Table VI-4 and the transportation and ancillary facility cost components per student from Table VI-5. As previously mentioned, the transportation and ancillary cost components are calculated on a per-student basis and do not differ by type of school or by type of residential land use.

Second, for each land use, the total revenue credit is calculated, which is shown in Tables VI-6 and VI-8.

Third, the net impact cost per student is determined, which is the difference between the total impact cost per student and total revenue credit per student.

Table VI-9
Net Impact Cost per Student

Total Impact Cost	Per Student
Facility Impact Cost[1]	$33,407
Transportation Impact Cost[2]	$841
Ancillary Facility Cost[3]	$1,434
Total Impact Cost per Student[4]	$35,682
Revenue Credit	**Per Student**
Capital Improvement Credit[5]	$172
Debt Service Credit[6]:	
- Single Family Detached	$2,415
- Multi Family/Condo/Townhouse	$1,764
- Mobile Home	$2,006
Net Impact Cost	**Per Student**
Net Impact Cost per Student[7]:	
- Single Family Detached	**$33,095**
- Multi Family/Condo/Townhouse	**$33,746**
- Mobile Home	**$33,504**

(1) Source: Table VI-4
(2) Source: Table VI-5
(3) Source: Table VI-5
(4) Sum of the total facility impact cost per student (Item 1), transportation service cost per student (Item 2), and the ancillary facility cost per student (Item 3)
(5) Source: Table VI-6
(6) Source: Table VI-8
(7) The net impact cost per student is the total impact cost per student (Item 4) less the capital improvement credit (Item 5) and the debt service credit (Item 6)

Student Generation Rates

The number of students living in a household typically varies depending on the type of residential housing. Therefore, school impact fees are typically assessed based on the specific student generation rates for different types of residential land uses. Brevard County's current school impact fee schedule includes three land uses: single family detached, single family attached/multi-family, and mobile homes.

Brevard County's current school impact fee developed the student generation rates using Public Use Microdata Sample (PUMS) and Census 2000 data. This impact fee study employs a new methodology using Geographic Information Systems (GIS) to develop the student generation rate for Brevard County. Specifically, GIS was used to link student addresses to parcels in the Brevard County Property Appraiser's database in order to generate the number of students per unit by school type and land use based on the latest tax roll. This process is described in more detail below.

DETERMINATION OF TOTAL HOUSING UNITS BY TYPE OF LAND USE

Depending on the purpose, there are multiple ways a dwelling unit can be classified in terms of the type of residential land use. For the purposes of this analysis, the number of building units for each land use obtained from the Brevard County Property Appraiser's database was supplemented by additional analysis and counts provided by the Property Appraiser's Office to ensure all relevant units were included.

DETERMINATION OF STUDENTS BY SCHOOL TYPE AND LAND USE

The determination of the number of students per land use by type of school (e.g., elementary, middle, and high school) was completed using the following process.

First, Brevard Public Schools provided a GIS shapefile containing geocoded student addresses. Then, the student addresses were linked to its respective parcel in the Property Appraiser database using address point data.

The student generation rates used as the demand component for the impact fee only includes those students for which the impact fee is based, or students attending those schools listed in Appendix C, Table C-1. Therefore, the school code associated with each

student record was used to exclude students attending schools or other facilities not included in the impact fee inventory, such as charter schools, private schools, etc. In addition, the grade level field for each student record was used to calculate the student generation rates by school type (e.g., elementary, middle, high).

As previously mentioned, once the GIS shapefile with the geocoded student addresses was provided, the second step in the analysis was to link each student address to data from the parcel database. This allows for determining which type of land use is assigned to a given parcel (or address) where a student lives. This was accomplished by spatially joining the student address to the respective parcel in the database using GIS. Based on this analysis, over 98 percent of the student addresses were able to be matched to the properties in the Brevard County Property Appraiser's database and 96 percent were linked to a residential land use. The Parcel ID's associated with the remaining student addresses were either not found or suggested a non-residential land use. The result of this analysis is presented in Table VI-10.

Table VI-10
Student Generation Rates

Residential Land Use	Total Housing Units[(1)]	Number of Students[(2)]	Students per Unit[(3)]
Traditional Schools			
Single Family Detached	170,227	52,499	0.308
Multi-Family/Condo/Townhouse	79,055	9,114	0.115
Mobile Home	30,775	2,302	0.075
Total/Weighted Average	**280,057**	**63,915**	**0.228**

(1) Source: Brevard County Property Appraiser
(2) Source: Brevard Public Schools and Brevard County Property Appraiser
(3) Number of students (Item 2) divided by the number of units (Item 1) for each residential land use type.

Calculated School Impact Fee Schedule

To determine the calculated school impact fee for each residential land use under each fee schedule scenario, the net impact cost per student is multiplied by the student generation rate. The resulting calculated impact fees are presented in Table VI-11. The change in impact fees is due primarily an increase in costs and a reduction in credit. In addition, changes in the student generation rates results in fluctuations in the calculated impact fee.

Table VI-11
Calculated School Impact Fee Schedule

Land Use	Unit	Students per Unit[(1)]	Net Impact Cost per Student[(2)]	Total Impact Fee[(3)]	Current Adopted Fee[(4)]	Percent Change[(5)]
Residential:						
Single Family Detached	du	0.308	$33,095	**$10,193**	$4,445	129%
Multi-Family/Condo/Townhouse	du	0.115	$33,746	**$3,881**	$2,794	39%
Mobile Home	du	0.075	$33,504	**$2,513**	$2,667	-6%

(1) Source: Table VI-10
(2) Source: Table VI-9
(3) Students per unit (Item 1) multiplied by the net impact cost per student (Item 2).
(4) Source: Brevard County
(5) Percent change from the current adopted fee (Item 4) to the total impact fee (Item 3).

School Impact Fee Schedule Comparison

As part of the work effort in updating Brevard County's school impact fee program, a comparison of the calculated single family school impact fees for Brevard County is made to the single family school impact fees adopted by other counties throughout Florida has been prepared**.** Table VI-12 presents this comparison. For those where the information was available, the percentage that the impact fee was adopted at is shown.

Table VI-12
School Impact Fee Schedule Comparison

County[1]	Date of Last Update	Adoption Percentage	Adopted Single Family Impact Fee[2]	Single Family Impact Fee @100%[3]
Palm Beach County	2012	95%	$1,866	$1,964
Citrus County	2010	50%	$1,936	$3,871
Sarasota County*	2004	100%	$2,032	$2,032
Lake County	2011	25%	$2,573	$10,292
Volusia County	2013	67%	$3,000	$4,483
Flagler County	2004	76%	$3,600	$4,756
Marion County*	2006	54%	$3,967	$7,375
Hillsborough County	2006	100%	$4,000	$4,000
Polk County	2010	44%	$4,160	$9,456
Brevard County Current Adopted	**2004**	**100%**	**$4,445**	**$4,445**
Pasco County	2005	100%	$4,876	$4,313
Seminole County	2007	99%	$5,000	$5,068
Collier County	2011	50%	$5,378	$10,755
Martin County	2006	100%	$5,567	$4,555
Highlands County*	2006	100%	$5,801	$5,801
St. Johns County	2011	100%	$6,072	$6,072
St. Lucie County	2009	100%	$6,188	$5,447
Manatee County*	2004	100%	$6,350	$5,886
Orange County	2007	55%	$6,525	$11,829
Clay County	2009	77%	$7,034	$9,096
Hernando County*	2013	100%	$7,103	$7,103
Broward County	2007	80%	$7,804	$9,755
Osceola County	2010	90%	$8,742	$9,669
Brevard County Calculated	**2014**	**100%**	**N/A**	**$10,193**

* County fees are currently suspended

(1) Represents percent assessed compared to the full calculated fee. The difference indicates adjustments due to policy decisions or indexing.

(2) Source: County Impact Fee Schedules. Fees presented are for a 3-bedroom or a 2,000-square foot single family home.

(3) Represents maximum calculated rate at the time of technical study.

VII. Transportation

This section of the impact fee report provides the results of the transportation impact fee analysis and consists of the following sub-sections:

- Demand Component
- Cost Component
- Credit Component
- Calculated Transportation Impact Fee Schedule
- Transportation Impact Fee Schedule Comparison
- Transportation Benefit Districts Analysis

As in the case of other impact fee program areas, the methodology used for the transportation impact fee follows a consumption-based impact fee approach, in which new development is charged based upon the proportion of vehicles-miles of travel (VMT) that each unit of new development is expected to consume of a new lane of roadway network.

Included in this section is the necessary support material used in the calculation of the transportation impact fee. The general equation used to compute the impact fee for a given land use is:

[Demand x Cost] – Credit = Fee

The demand for travel placed on the transportation system is expressed in units of VMT (daily vehicle-trip generation rate times the trip length times the percent new trips [of total trips]) for each residential and non-residential land use contained in the impact fee schedule. The trip generation is expressed in average daily rates since new development consumes trips on a daily basis. The demand component is based on trip characteristics studies conducted at different land uses, measuring the impact of each land use on roadway capacity.

The cost of building new capacity is typically expressed in units of dollars per vehicle mile or lane mile of roadway capacity. The credit is an estimate of the current value of future non-impact fee revenues generated by new development that are allocated to transportation capacity expansion construction projects. Thus, the impact fee is an "up front" payment for a portion of the cost of building a lane mile of capacity directly related to the amount of

capacity consumed by each unit of land use contained in the impact fee schedule that is not paid for by future tax revenues generated by new development.

It should be noted that the information used to develop the impact fee schedule was based on the most recent, reliable, and localized data available. The following input variables were used in the fee equation:

Demand Variables:

- Trip generation rate
- Trip length
- Percent new trips
- Interstate and toll facility discount factor

Cost Variables:

- Cost per lane mile
- Capacity added per lane mile

Credit Variables:

- Equivalent gas tax credit (pennies)
- Present worth
- Fuel efficiency
- Effective days per year

A review of impact fee variables and corresponding recommendations are presented in the following subsections.

Demand Component

Travel Demand

The amount of transportation system consumed by a unit of new land development is calculated using the following variables and is measured in terms of the vehicle miles of new travel a unit of development consumes on the existing road system.

- Number of daily trips generated;
- Average length of those trips; and
- Proportion of travel that is new travel, rather than travel that is already traveling on the road system and is captured by new development.

As part of this update, the trip characteristics variables were obtained primarily from two sources: (1) trip characteristics studies previously conducted throughout Florida by Tindale Oliver (Florida Studies Database), and (2) the Institute of Transportation Engineers' (ITE) *Trip Generation* report (9th edition).

The Florida Studies Database is included in Appendix D. This database was used to determine VMT, which is developed from trip length, percent new trips, and trip rate for most land uses in the fee schedule. The data in the trip characteristics database is based on actual land use studies and was collected throughout Florida using machine traffic counts and site specific land use origin-destination surveys. In addition, trip generation data from the *ITE 9th Edition Trip Generation* report was used. In instances where trip generation was available from the *ITE Trip Generation* report and the Florida Studies Database, a blended average calculation was used to increase the sample size.

Interstate & Toll Facility Discount Factor

This variable is used to recognize that improvements to Interstate highways are funded by the State using earmarked and Federal funds, while toll facility improvements are funded with toll revenues. Typically, impact fees are not used to pay for these improvements, and the portion of new development's travel occurring on the interstate/toll facility system usually is eliminated from the total travel for each land use.

To calculate the interstate and toll (I/T) facility discount factor, the loaded highway network file was generated for the Central Florida Regional Planning Model v5.01 (CFRPMv51). A select link analysis was run for all traffic analysis zones located within Brevard County in

order to differentiate trips with an origin and/or destination within the county versus trips with no origin or destination within the county.

Currently, the only interstate/toll facility in Brevard County is Interstate 95. The limited access vehicle-miles of travel (Limited Access VMT) for trips with an origin and/or destination within Brevard County was calculated for Interstate 95. The total Brevard County VMT was calculated for all trips with an origin and/or destination within Brevard County for all roads, including limited access roads, located within Brevard County.

The I/T discount factor of 17.3 percent was determined by dividing the total Limited Access VMT by the total Brevard County VMT. By applying this factor, the total VMT for each land use is reduced. This adjusted VMT is representative of travel on the roadways that are eligible to be funded with impact fee revenues. Appendix D, Table D-1 provides further detail on this calculation.

Trip Length Adjustment Factor

This variable is used to adjust the average trip length obtained from the Florida Studies Database when the trip lengths in a jurisdiction appear significantly different than the average trip length observed in other jurisdiction. Using the Central Florida Regional Planning Model, the average trip lengths for Brevard County were compared to other jurisdictions throughout Florida and it was determined that Brevard County trip lengths are above average. The long shape of the County is believed to be a major contributing factor to this variation. However, new growth in Brevard County is expected to develop in a more concentrated manner and in more efficient develop patterns and are unlikely to travel from one end of the county to the other. For this reason, the average trip length from the Florida database is used for impact fee calculations.

Cost Component

Construction costs increased significantly in Florida between 2005 and 2007 due to additional construction demand caused by hurricanes, the housing market growth, and other factors. Appreciation in land values also resulted in higher right-of-way (ROW) costs during the same period. In early 2008, costs started to stabilize, and between 2008 and 2011, communities have experienced a decrease in construction costs, returning to levels seen before 2005. In 2013/2014, roadway costs started to increase again. Cost information from Brevard County, other Florida Counties, and the Florida Department of Transportation

(FDOT) was reviewed to develop a unit cost for all phases involved in the construction of one lane-mile of roadway capacity. The findings were also discussed with the County staff to obtain additional input. The following subsections summarize the methodology and findings of the total unit cost analysis for county and state roads. Appendix E provides the data and other support information utilized in these analyses.

County Roadway Costs

This section examines the right-of-way (ROW), construction, and other cost components associated with county roads with respect to transportation capacity improvements in Brevard County. For this purpose, recent bid data for ongoing projects provided by the County and recent construction bid data from county roadway projects throughout Florida were used to identify and provide supporting cost data for county improvements. The cost for each roadway capacity project was separated into four phases: design, construction/engineering inspection (CEI), ROW and construction.

Design and CEI

Design costs for county roads were estimated at 12 percent of construction phase costs based on a review of recent local improvements and cost data collected throughout Florida. Additional detail is provided in Appendix E, Tables E-10 and E-11.

CEI costs for county roads were estimated at 17 percent of construction phase costs based on a discussion with County staff. This percentage represents local conditions and is higher than the figures that have been seen in recent impact fee studies for other jurisdictions in Florida, which ranges from four (4) percent to 14 percent. Additional detail is provided in Appendix E, Table E-16.

Right-of-Way

The ROW cost reflects the total cost of the acquisitions along a corridor that were necessary to have sufficient cross-section width to widen an existing road or, in the case of new construction, to build a new road. A review of recent ROW cost data for Brevard County identified two recent improvements with acquisition data. Using the construction costs for these improvements, a ROW-to-construction factor was calculated for each improvement, ranging from 32 to 39 percent, with a weighted average of approximately 35 percent. This calculated local factor was slightly lower than county road ROW factors observed in recent impact fee studies throughout Florida, but reflects the local costs and was used as the basis for ROW costs in Brevard County. As seen in Table VII-1, this amount is equal to

approximately $0.71 million per lane mile for county roads. Additional detail is provided in Appendix E, Table E-12.

Construction

The construction cost for county roads was based on a review of local and statewide projects. A review of recent construction cost data for Brevard County identified three recent capacity expansion improvements (along Pineda Causeway, Babcock Street, and the St. Johns Heritage Parkway) averaging $2.28 million per lane mile. To increase the sample size of projects, recent bids from multiple communities throughout the state were also reviewed. This review included approximately 400 lane miles of urban design roadway improvements from 16 counties and calculated an average cost of $2.10 million per lane mile. Appendix E, Table E-14 provides a detailed description of the projects reviewed.

Based on this review, a county roadway cost of $2.11 million was used in the transportation impact fee calculation for county roads with urban design characteristics. To determine the cost per lane mile for county roads with rural design characteristics, the relationship between urban and rural roadway costs from the FDOT District 7 Long Range Estimates (LRE)[1] was reviewed. Based on these cost estimates, the costs for roadways with rural design characteristics were estimated at approximately 81 percent of the costs for roadways with urban design characteristics. Additional detail is provided in Appendix B, Table E-1.

To determine the weighted average cost for county roadways, the costs for urban design and rural design roadways were weighted based on the distribution of urban design and rural design roadways included in the County's 2035 Long Range Transportation Plan's Cost Feasible Plan (Appendix E, Table E-17). As show in Table VII-1, the weighted average county roadway construction cost was calculated at approximately $2.02 million per lane mile.

[1] This data was not available for FDOT District 5; http://www.dot.state.fl.us/planning/policy/costs/

Table VII-1
Estimated Total Cost per Lane Mile for County Roads

Cost Phase	Cost per Lane Mile		
	Urban Design	Rural Design	Weighted Average[6]
Design[1]	$253,000	$205,000	$242,000
Right-of-Way[2]	$739,000	$599,000	$708,000
Construction[3]	$2,112,000	$1,711,000	$2,023,000
CEI[4]	$359,000	$291,000	$344,000
Total Cost	**$3,463,000**	**$2,806,000**	**$3,317,000**
Lane Mile Distribution[5]	78%	22%	100%

(1) Source: Appendix E, Table E-2
(2) Source: Appendix E, Table E-4
(3) Source: Appendix E, Table E-6
(4) Source: Appendix E, Table E-8
(5) Source: Appendix E, Table E-17, Items (c) and (d)
(6) Lane mile distribution (Item 5) multiplied by the design, ROW, construction, and CEI phase costs by section design to develop a weighted average cost per lane mile
All figures rounded to nearest $1,000

State Roadway Costs

This section examines the ROW, construction, and other cost components associated with state roads with respect to transportation capacity improvements in Brevard County. For this purpose, recent bid data from state roadway projects throughout Florida and the FDOT's Long Range Estimates (LRE) were used to identify and provide supporting cost data for state improvements. The cost for each roadway capacity project was separated into four phases: design, CEI, ROW and construction.

Design and CEI

Design costs for state roads were estimated at 11 percent construction phase costs based on a review of cost data collected for recent transportation impact fee studies throughout Florida. Additional detail is provided in Appendix E, Table E-11.

CEI costs for state roads were also estimated at 11 percent of construction phase costs based on a review of cost data collected for recent transportation impact fee studies throughout Florida. Additional detail is provided in Appendix E, Table E-16.

Right-of-Way

Given the limited data on ROW costs for state roads in Brevard County and based on experience in other jurisdictions, the ROW cost ratio calculation for county roads was also applied to state roads. Using this ROW-to-construction ratio of 35 percent, the ROW cost for state roads with urban design characteristics is approximately $1.05 million per lane mile.

Construction

A review of recent state road capacity improvements in Brevard County identified two improvements (along SR 5 and SR 507), averaging approximately $3.93 million per lane mile for construction. To increase the sample size of projects, recent bids from multiple communities throughout the state were also reviewed. This review included approximately 318 lane miles of urban design roadway improvements from 30 counties and calculated an average cost of $2.68 million per lane mile. Appendix E, Table E-15 provides a detailed description of the projects reviewed.

Based on this review, a state roadway cost of $3.0 million was used in the transportation impact fee calculation for state roads with urban design characteristics. While higher than the state average, this estimate reflects the local characteristics which indicate higher state roadway costs in District 5 and in Brevard County, specifically.

To determine the cost per lane mile for state roads with rural design characteristics, the relationship between urban and rural roadway costs from the FDOT District 7 LRE was reviewed. Based on these cost estimates, the costs for roadways with rural design characteristics were estimated at approximately 81 percent of the costs for roadways with urban design characteristics. Additional detail is provided in Appendix E, Table E-1.

To determine the weighted average cost for state roadways, the costs for urban design and rural design roadways were weighted based on the distribution of urban design and rural design roadways included in the County's 2035 Long Range Transportation Plan's Cost Feasible Plan (Appendix E, Table E-17). As show in Table VII-2, the weighted average state roadway construction cost was calculated at approximately $2.86 million per lane mile.

Table VII-2
Estimated Total Cost per Lane Mile for State Roads

Cost Phase	Cost per Lane Mile		
	Urban Design	Rural Design	Weighted Average[6]
Design[1]	$330,000	$267,000	$316,000
Right-of-Way[2]	$1,050,000	$851,000	$1,006,000
Construction[3]	$3,000,000	$2,430,000	$2,875,000
CEI[4]	$330,000	$267,000	$316,000
Total Cost	**$4,710,000**	**$3,815,000**	**$4,513,000**
Lane Mile Distribution[5]	78%	22%	100%

(1) Source: Appendix E, Table E-3
(2) Source: Appendix E, Table E-5
(3) Source: Appendix E, Table E-7
(4) Source: Appendix E, Table E-9
(5) Source: Appendix E, Table E-17, Items (c) and (d)
(6) Lane mile distribution (Item 5) multiplied by the design, ROW, construction, and CEI phase costs by section design to develop a weighted average cost per lane mile

All figures rounded to nearest $1,000

Summary of Costs (Blended Cost Analysis)

The weighted average cost per lane mile for county and state roads is presented in Table VII-3. The resulting weighted average cost of approximately $3.74 million per lane mile was utilized as the roadway cost input in the calculation of the transportation impact fee schedule. The weighted average cost per lane mile includes county and state roads and is based on weighting the lane miles of roadway improvements in the Long Range Transportation Plan's (LRTP) Cost Feasible Plan.

Table VII-3
Estimated Cost per Lane Mile
for County and State Roadway Projects in Brevard County

Cost Type	County Roads[1]	State Roads[2]	County and State Roads[3]
Design	$242,000	$316,000	$268,000
Right-of-Way	$708,000	$1,006,000	$812,000
Construction	$2,023,000	$2,875,000	$2,321,000
CEI	$344,000	$316,000	$334,000
Total	**$3,317,000**	**$4,513,000**	**$3,735,000**
Lane Mile Distribution[4]	65%	35%	100%

(1) Source: Table VII-1
(2) Source: Table VII-2
(3) Lane mile distribution (Item 4) multiplied by the design, ROW, construction, and CEI phase costs by jurisdiction to develop a weighted average cost per lane mile
(4) Source: Appendix E, Table E-17, Items (a) and (b)
All figures rounded to nearest $1,000

Capacity Added per Lane Mile

An additional component of the transportation impact fee equation is the capacity added per lane mile (also known as the maximum service volume added per mile) of roadway constructed. To calculate the vehicle miles of capacity (VMC) per lane mile of constructed future roadway, an analysis of the 2035 LRTP cost feasible projects (see Appendix E, Table E-17) was conducted, as well as discussions with staff, to reflect the mix of county and state road improvement that will be built in the future. As shown in Table VII-4, the resulting average capacity per lane mile calculated based on these projects is 9,722.

Table VII-4
Weighted Average Vehicle-Miles of Capacity per Lane Mile

Source	Lane Mile Added[1]	Vehicle Miles of Capacity Added[2]	VMC Added per Lane Mile[3]
County Roads	85.73	812,992	9,483
State Roads	47.04	477,768	10,157
Total	**132.77**	**1,290,760**	
Weighted Average VMC Added per Lane Mile[4]			**9,722**

(1) Source: Appendix E, Table E-17
(2) Source: Appendix E, Table E-17
(3) Vehicle miles of capacity added (Item 2) divided by lane miles added (Item 1)
(4) Total vehicle miles of capacity added for county and state roads (Item 2) divided by the total lane miles added (Item 1)

Cost per Vehicle-Mile of Capacity Added

The impact fee cost per unit of development is assessed based on the cost per vehicle-mile of capacity. As shown in Tables VII-3 and VII-4, the cost and capacity for county roads have been calculated based on typical roadway improvements. As shown in Table VII-5, the cost per VMC for travel within Brevard County is approximately $384. This average cost per VMC figure is used in the impact fee calculation to determine the total impact cost per unit of development based on the vehicle-miles of travel consumed. For each vehicle-mile of travel that is added to the road system, approximately $384 of roadway capacity is consumed.

Table VII-5
Weighted Average Cost per Vehicle-Mile of Capacity Added

Source	Cost per Lane Mile[(1)]	Average VMC Added per Lane Mile[(2)]	Cost per VMC[(3)]
County Roads	$3,317,000	9,483	$349.78
State Roads	$4,513,000	10,157	$444.32
Weighted Average	**$3,735,000**	**9,722**	**$384.18**

(1) Source: Table VII-3
(2) Source: Table VII-4
(3) Cost per lane mile (Item 1) divided by average capacity added per lane mile (Item 2)

It is important to note that capacity projects eligible for impact fee funding include not only new construction and lane additions, but also associated intersection improvements, traffic signalization, and other amenities and technology improvements that allow for additional vehicle capacity.

Credit Component

Gasoline Tax Equivalent Credit

The present value of the portion of future non-impact fee revenues (converted to equivalent gasoline taxes) generated by a new development over a 25-year period that is projected to be expended on capacity expansion projects is credited against the cost of the system consumed by travel associated with new development.

County

A review of the County's historical roadway financing program and the FY 2014-2018 Capital Improvement Plan (CIP) shows that roadway projects are primarily being funded by a

combination of transportation impact fees, fuel tax bonds, fuel taxes, and grants. As shown in Table VII-6, a total gas tax equivalent revenue credit of 1.5 pennies was calculated for gas tax equivalent expenditures on roadway capacity expansion projects.

In addition, Brevard County is currently using gas tax revenues to retire debt on the Series 2007 and Series 2014 local option fuel tax revenue bonds, for which a large portion of the bonds contributed to roadway capacity expansion improvements. As show in Table VII-6, a gas tax equivalent revenue credit of 1.8 pennies was calculated for county debt service expenditures.

State

State expenditures on state roads were reviewed, and a credit for the capacity expansion portion attributable to state projects was estimated. The equivalent number of pennies allocated to fund state projects was determined from projects spanning an 18-year period (FY 2003 to FY 2020). This period represents past expenditures (from FY 2003 to FY 2014) and projected expenditures (from FY 2015 to 2020) from the FDOT Work Programs. A list of capacity-adding roadway projects was developed, including lane additions, new road construction, intersection improvements, interchanges, traffic signal projects, and other capacity-addition projects. This review (summarized in Appendix F, Table F-4) indicates that FDOT spending generates an equivalent gas tax credit of 6.8 pennies of gas tax revenue annually.

In summary, Brevard County contributes approximately 3.3 pennies toward roadway capacity expansion projects, while the State spends an average of 6.8 pennies for state roadway projects in Brevard County. Therefore, a total of 10.1 pennies of revenue credit are included in the impact fee calculation to recognize the future capital revenue that is expected to be generated by new development from all non-impact fee revenues, as shown in Table VII-6.

Table VII-6
Equivalent Pennies of Gas Tax Revenue

Credit	Equivalent Pennies per Gallon
County Revenues[1]	$0.015
County Debt Service[2]	$0.018
State Revenues[3]	$0.068
Total	**$0.101**

(1) Source: Appendix F, Table F-2
(2) Source: Appendix F, Table F-3
(3) Source: Appendix F, Table F-4

Present Worth Variables

Facility Life

The roadway facility life used in the impact fee analysis is 25 years, which represents the reasonable life of a roadway.

Interest Rate

This is the discount rate at which gasoline tax revenues might be bonded. It is used to compute the present value of the gasoline taxes generated by new development. The discount rate of 3.0 percent was used in the transportation impact fee calculation based on recent bonding rates observed in Brevard County.

Fuel Efficiency

The fuel efficiency (i.e., the average miles traveled per gallon of fuel consumed) of the fleet of motor vehicles was estimated using the quantity of gasoline consumed by travel associated with a particular land use.

Appendix F, Table F-9 documents the calculation of fuel efficiency value based on the following equation, where "VMT" is vehicle miles of travel and "MPG" is fuel efficiency in terms of miles per gallon.

$$Fuel\ Efficiency = \sum VMT_{RoadwayType} \div \sum \left(\frac{VMT_{VehicleType}}{MPG_{VehicleType}} \right)_{RoadwayType}$$

The methodology uses non-interstate VMT and average fuel efficiency data for passenger vehicles (i.e., passenger cars and other 2-axle, 4-tire vehicles, such as vans, pickups, and SUVs) and large trucks (i.e., single-unit, 2-axle, 6-tire or more trucks and combination trucks) to calculate the total gallons of fuel used by each of these vehicle types.

The combined total VMT for the vehicle types is then divided by the combined total gallons of fuel consumed to calculate, in effect, a "weighted" fuel efficiency value that reflects the existing fleet mix of traffic on non-interstate roadways. The VMT and average fuel efficiency data were obtained from the most recent Federal Highway Administration's *Highway Statistics 2012*. Based on the calculation completed in Appendix F, Table F-9, the fuel efficiency rate to be used in the updated impact fee equation is 18.43 miles per gallon.

Effective Days per Year

An effective 365 days per year of operation was assumed for all land uses in the proposed fee. However, this will not be the case for all land uses since some uses operate only on weekdays (e.g., office buildings) and/or only seasonally (e.g., schools). The use of 365 days per year, therefore, provides a conservative estimate, ensuring that gasoline taxes are adequately credited against the fee.

Calculated Transportation Impact Fee Schedule

The impact fee calculations for each land use are included in Appendix G, which includes the major land use categories and the impact fees for the individual land uses contained in each of the major categories. For each land use, Appendix G illustrates the following:

- Demand component variables (trip rate, trip length, and percent of new trips);
- Total impact fee cost;
- Annual gas tax credit;
- Present value of the gas tax credit;
- Net transportation impact fee;
- Current Brevard County impact fee; and
- Percent difference between the calculated impact fee and the 2000 adopted impact fee.

It should be noted that the net impact fee illustrated in Appendix G is not necessarily a recommended fee, but instead represents the technically defensible impact fee per unit of land use that could be charged in Brevard County.

For clarification purposes, the calculation of an impact fee for one land use category is presented. In the following example, the net impact fee is calculated for the single-family residential detached land use category (ITE LUC 210) using information from the impact fee schedule included in Appendix G, Table G-1. For each land use category, the following equations are utilized to calculate the net impact fee:

Net Impact Fee = Total Impact Cost – Gas Tax Credit

Where:

Total Impact Cost = ([Trip Rate × Assessable Trip Length × % New Trips] / 2) × (1 – Interstate & Toll Facility Disc. Factor) × (Cost per Vehicle-Mile of Capacity)

Gas Tax Credit = Present Value (Annual Gas Tax), given 3.0% interest rate & 25-year facility life

Annual Gas/Sales Tax = ([Trip Rate × Total Trip Length × % New Trips] / 2) × (Effective Days per Year × $/Gallon to Capital) / Fuel Efficiency

Each of the inputs has been discussed previously in this document; however, for purposes of this example, brief definitions for each input are provided in the following paragraphs, along with the actual inputs used in the calculation of the fee for the single-family detached residential land use category:

- *Trip Rate* = the average daily trip generation rate, in vehicle-trips/day (7.81).
- *Assessable Trip Length* = the actual average trip length for the category, in vehicle-miles (6.62).
- *Total Trip Length* = the assessable trip length plus an adjustment factor of half a mile, which is added to the trip length to account for the fact that gas taxes are collected for travel on all roads including local roads (6.62 + 0.50 = 7.12).
- *% New Trips* = adjustment factor to account for trips that are already on the roadway (100%).
- *Divide by 2* = the total daily miles of travel generated by a particular category (i.e., rate*length*% new trips) is divided by two to prevent the double-counting of travel generated between two land use codes since every trip has an origin and a destination.

- *Interstate & Toll Facility Discount Factor* = discount factor to account for the travel demand occurring on interstate highways and/or toll facilities (17.3%).
- *Cost per Lane Mile* = unit cost to construct one lane mile of roadway, in $/lane-mile ($3,735,000).
- *Average Capacity Added per Lane Mile* = represents the average daily traffic on one travel lane at capacity for one lane mile of roadway, in vehicles/lane-mile/day (9,722).
- *Cost per Vehicle-Mile of Capacity* = unit of vehicle-miles of capacity consumed per unit of development. Cost per lane mile divided by average capacity added per lane mile ($3,735,000 / 9,722 = $384.18).
- *Present Value* = calculation of the present value of a uniform series of cash flows, gas tax payments in this case, given an interest rate, "i," and a number of periods, "n;" for 3.0% interest and a 25-year facility life, the uniform series present worth factor is 17.4131.
- *Effective Days per Year* = 365 days.
- *$/Gallon to Capital* = the amount of gas tax revenue per gallon of fuel that is used for capital improvements, in $/gallon ($0.101).
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (18.43).

Transportation Impact Fee Calculation

Using these inputs, a net impact fee can be calculated for the single-family residential detached land use category as follows:

Total Impact Cost = ([7.81 * 6.62 * 1.0] /2) * (1 - 0.173) * ($3,735,000/9,722) = $8,213

Annual Credit for Gas Tax and Other Sources = ([7.81 * 7.12 * 1.0] /2) * 365 * ($0.101 /18.43) = $56

Gas Tax Credit = $56 * 17.4131 = $975

Net Impact Fee = $8,213 – $975 = $7,238

Transportation Impact Fee Comparison

A comparison of calculated fee schedule to the current adopted fee by land use is presented in Table VII-7. The detailed fee schedule that includes the calculations shown above for all land uses is presented in Appendix G, Table G-1. The change in fees is primarily due to an increase in costs since the last study.

Prior to the transportation impact fee moratorium, Brevard County exempted industrial land uses. This study calculated a fee for these land uses in case this exemption is discontinued after the moratorium.

Table VII-7
Transportation Impact Fee Comparison

Land Use	Unit[2]	Brevard County		Volusia County[5]	Seminole County[6]	Indian River County[7]	Orange County[8]	Okeechobee County[9]	St. Lucie County[10]	Polk County[11]	Pasco County[12]	Lee County[13]	Collier County[14]
		Calculated[3]	Existing[4]										
Date of Last Update		**2014**	2000	2003	1995	2014	2012	2012	2009	2009	2011	2011	2010
Assessed Portion of Calculated[1]		**100%**	100%	82%	100%	100%/45%	42%	100%	100%	100%	100%	20%	94%
Residential:													
Single Family Detached (2,000 sq ft)	du	**$7,238**	$4,353	$2,174	$1,025	$4,248	$2,873	$963	$4,303	$4,895	$8,068	$1,340	$5,753
Non-Residential:													
Light Industrial	1,000 sf	**$4,619**	n/a	$1,220	$762	$1,206	$1,594	$473	$396	$675	$1,000	$925	$4,333
Office (50,000 sq ft)	1,000 sf	**$10,256**	$5,058	$2,310	$2,247	$1,916	$4,105	$1,091	$1,307	$5,310	$1,174	$1,071	$9,291
Retail (125,000 sq ft)	1,000 sf	**$11,416**	$5,270	$3,080	$2,741	$2,862	$4,022	$1,194	$2,543	$6,754	$7,168	$1,587	$10,247
Bank w/Drive-In	1,000 sf	**$24,865**	$23,331	$10,960	$8,372	$6,219	$8,466	$1,194	$2,511	$14,377	$14,232	$3,437	$21,954
Fast Food w/Drive-Thru	1,000 sf	**$83,355**	$35,791	$23,010	$13,710	$20,459	$28,227	$2,829	$2,511	$65,096	$46,213	$6,406	$74,793

(1) Represents the portion of the maximum calculated fee for each respective county that is actually charged. Fees may have been lowered/increased through annual indexing or policy discounts. Does not account for moratoriums/suspensions
(2) du = dwelling unit
(3) Source: Appendix G, Table G-1
(4) Source: Brevard County Planning & Development Department. Moratorium in effect through December 31, 2016.
(5) Source: Volusia County Growth & Management Department. Fees reflect indexing applied since adoption.
(6) Source: Seminole County Development Services Department. Fees shown are an average of the four transportation districts.
(7) Source: Indian River County Planning Division. Residential fees were adopted at 100% and non-residential fees were adopted at 45% of the full calculated impact fee rates.
(8) Source: Orange County Planning & Development Department. Fees shown are an average of the AMA and Non-AMA districts.
(9) Source: Okeechobee County Planning & Development Department
(10) Source: St. Lucie Planning & Development Department. Fees reflect indexing applied since adoption. Fees shown are an average of the four transportation districts.
(11) Source: Polk County Building & Construction Department. Moratorium in effect through July 2015.
(12) Source: Pasco County Planning & Development Department. Fees shown are an average of the three transportation districts.
(13) Source: Lee County Community Development Department. Transportation impact fees were recently reduced by 80%, effective through March 15, 2015.
(14) Source: Collier County Impact Fee Administration Department. Fees shown reflect indexing applied since adoption.

Transportation Impact Fee Benefit Districts

Currently, Brevard County has six transportation impact fee benefit districts, as outlined in Section 62-817 of the County's Ordinance.

- North Mainland
- Central Mainland
- South Mainland
- South Beaches
- Merritt Island & North Beaches
- Kennedy Space & Cape Canaveral Air Force Station

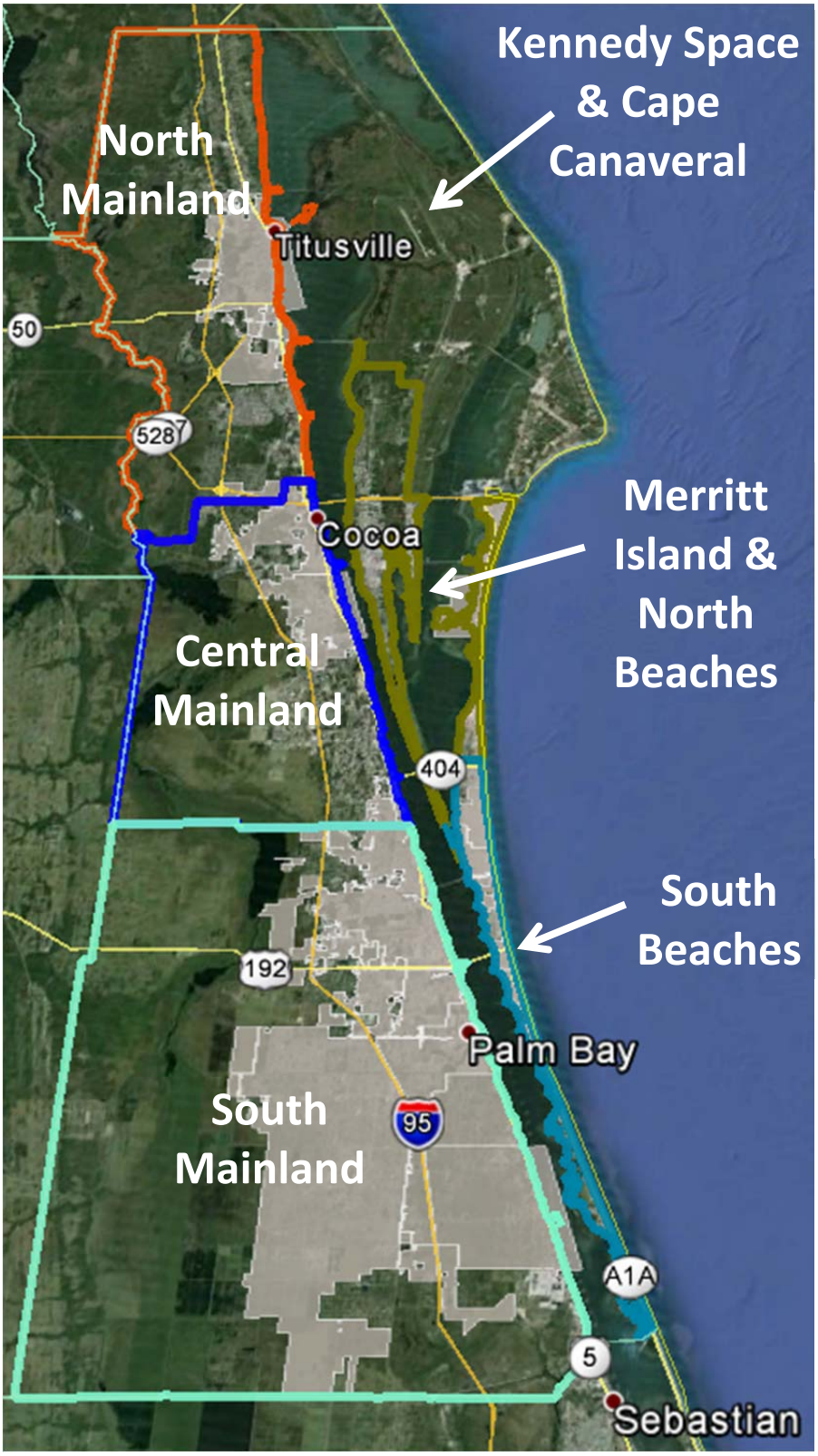
Benefit districts dictate where impact fee revenues can be spent to ensure that fee payers receive the associated benefit. Typically, these boundaries are based on land uses, growth rates, major roadway boundaries, and major geographical/environmental boundaries.

As part of this update study, Tindale Oliver conducted a review of the existing fee district boundaries. In addition to looking at geographical boundaries and City limits, the impact fee revenue and expenditure monies were reviewed to determine the effectiveness of the existing boundaries. In addition, a discussion with County Staff revealed that the current benefit district format has been working well, with strong communication and cooperation between the city and county governments.

With no major issues arising from the current district alignments, Tindale Oliver recommends that the County does not change any benefit district boundaries at this time (see Map VII-1). However, as development pushes westward toward the borders with Orange and Osceola Counties, Brevard County should continue review the mainland boundaries to ensure that they follow city limits, major roads, or other factors that may affect development patterns.

Map VII-1

Transportation Impact Fee Benefit Districts



Appendix A
Population
Supplemental Information

Population

All impact fee programs included in this report require the use of population data in calculating current levels-of-service, performance standards, and credit calculations. With this in mind, a consistent approach to developing population estimates and projections is an important component of the data compilation process. To accurately determine demand for services, not only the residents, or permanent population of the County, but also the seasonal residents and visitors were considered. Seasonal residents include visitors to hotel and motel facilities, visitors to RV parks, visitors that stay with relatives and friends, and part-time residents, which are defined as living in Brevard County for less than six months each year. Therefore, for purposes of calculating future demand for capital facilities for each impact fee program area, the weighted average seasonal population will be used in all population estimates and projections. References to population contained in this report pertain to the weighted average seasonal population, unless otherwise noted.

Brevard County provides all of the services included in the impact fee program countywide, with the exception of the fire rescue program area. The fire rescue service area includes the unincorporated county, Grant-Valkaria Town, Melbourne Village Town, Palm Shores Town, and West Melbourne City.

Given the differences in services areas, population estimates are provided separately for both areas.

Table A-1 presents the population trend for Brevard County. The projections indicate that the population of Brevard County is estimated to increase by 22 percent between 2014 and 2040 countywide.

Table A-1

Weighted Population Trends and Projections

Year	Weighted Seasonal Population	
	Brevard Countywide[(1)]	Service Area for Fire Rescue[(2)]
2000	510,679	215,014
2001	519,668	220,178
2002	529,252	226,036
2003	539,522	232,175
2004	552,573	237,435
2005	564,583	241,215
2006	571,873	243,699
2007	577,145	243,181
2008	580,491	245,456
2009	581,465	246,260
2010	583,396	247,823
2011	585,333	248,815
2012	585,806	247,973
2013	588,811	249,106
2014	594,202	252,151
2015	599,629	254,448
2016	606,105	257,195
2017	612,651	259,972
2018	619,268	262,781
2019	625,956	265,618
2020	632,697	268,479
2021	638,392	270,895
2022	644,137	273,333
2023	649,935	275,793
2024	655,783	278,276
2025	661,793	280,826
2026	666,756	282,932
2027	671,758	285,053
2028	676,796	287,192
2029	681,872	289,346
2030	686,916	291,485
2031	691,175	293,294
2032	695,460	295,113
2033	699,772	296,941
2034	704,111	298,783
2035	708,604	300,689
2036	712,289	302,253
2037	715,993	303,825
2038	719,716	305,404
2039	723,459	306,993
2040	727,393	308,662

(1) Source: Appendix A, Table A-13

(2) Source: Appendix A, Table A-14

Apportionment of Demand by Residential Unit Type and Size

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

- Single Family Detached
- Multi-Family/Accessory Unit
- Mobile Home

Tables A-2 (for Countywide) and A-3 (for the fire rescue service area) present the number of persons per housing type for the residential categories identified above in Brevard County. This analysis includes all housing units, both occupied and vacant.

Table A-2

Persons per Housing Unit (Countywide)

Housing Type	Population[(1)]	Housing Units[(2)]	Residents / Housing Units[(3)]
Single Family Detached	460,787	185,671	2.48
Multi-Family/Condo/Townhouse	81,324	62,440	1.30
Mobile Home	34,860	21,453	1.62
Weighted Average	**576,971**	**269,564**	**2.14**

(1) Source: 2013 American Community Survey (ACS), Table B25033 (adjusted for peak seasonal population)
(2) Source: 2013 American Community Survey (ACS), Table DP04
(3) Population (Item 1) divided by housing units (Item 2)

Table A-3

Persons per Housing Unit (Fire Rescue Service Area)

Housing Type	Population[(1)]	Housing Units[(2)]	Residents / Housing Units[(3)]
Single Family Detached	200,176	80,851	2.48
Multi-Family/Condo/Townhouse	19,469	14,756	1.32
Mobile Home	24,008	14,651	1.64
Weighted Average	**243,653**	**110,258**	**2.21**

(1) Source: 2013 American Community Survey (ACS), Table B25033 (adjusted for peak seasonal population)
(2) Source: 2013 American Community Survey, Table DP04
(3) Population (Item 1) divided by housing units (Item 2)

Functional Population

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 will 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)[2]. 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 years can be calculated. The following paragraphs explain how functional population is calculated for residential and non-residential land uses.

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

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 the Brevard County functional population, an analysis of the County's population and employment characteristics was conducted. Tables A-4 and A-5 presents this analysis for both the countywide and fire rescue service areas respectively. Based on this analysis, people in the countywide service area, on average, spend 16.2 hours each day at their place of residence while people in the first rescue service area spend 16.3 hours. This corresponds to approximately 68 percent of each 24-hour day at their place of residence and the other 32 percent away from home.

Table A-4

Brevard County Population & Employment Characteristics

Item/Calculation Step	Countywide	Fire Rescue Service Area
Total workers living in Brevard County[(1)]	234,035	96,490
Brevard County Census Population (2010)[(2)]	543,376	230,099
Total workers as a percent of population[(3)]	43.1%	41.9%
School age population (5-17 years) (2010)[(4)]	80,877	33,950
School age population as a percent of population[(5)]	14.9%	14.8%
Population net of workers and school age population[(6)]	228,464	99,659
Other population as a percent of total population[(7)]	42.0%	43.3%

(1) Source: Census Transportation Planning Package (CTPP) 2010
(2) Source: 2010 U.S. Census
(3) Total workers (Item 1) divided by the census population (Item 2)
(4) Source: 2010 U.S. Census
(5) School age population (Item 4) divided by the census population (Item 2)
(6) Census population (Item 2) less total workers (Item 1) and school age population (Item 4)
(7) Population net of workers and school age population (Item 6) divided by the census population (Item 2)

Table A-5

Residential Coefficient for Functional Population

Pop. Group	Hours at Residence[1]	Countywide		Fire Rescue Service Area	
		Percent of Population[2]	Effective Hours[3]	Percent of Population[2]	Effective Hours[3]
Workers	13	43.1%	5.6	41.9%	5.4
Students	15	14.9%	2.2	14.8%	2.2
Other	20	42.0%	8.4	43.3%	8.7
Total Hours at Residence[4]			16.2		16.3
Residential Functional Population Coefficient[5]			**67.5%**		**67.9%**

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

The resulting percentages from Table A-5 are used in the calculation of the residential coefficient for the 24-hour functional population. These actual calculations are presented in Table A-7 and A-8.

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 estimated functional residents for residential land uses. Nelson and Nicholas originally introduced a method for estimating functional resident population, now used internationally. This method uses trip generation data from the Institute of Transportation Engineers' (ITE) Trip Generation Manual and Tindale Oliver's Trip Characteristics Database, information of 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).

- 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 A-6 also shows the functional population coefficients for non-residential uses in Brevard County. The functional population coefficients in Table A-6 were used to estimate the County's functional population in Table A-7 (for Countywide) and Table A-8 (for the fire rescue service area).

Table A-6

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]	
										Countywide	Fire Rescue Service Area
Population									7.00	0.675	0.679
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) Table A-5 for residential and the equation below to determine the Functional Population Coefficient per Employee for all land-use categories except residential includes the following:

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

(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 A-7

Countywide Functional Population – Year 2014

Population Category	Brevard County Baseline Data[1]	Functional Resident Coefficient[2]	Functional Population[3]
2014 Weighted Population	594,202	0.675	401,086
Employment Category			
Natural Resources	1,533	0.379	581
Construction	12,535	0.271	3,397
Manufacturing	21,644	0.270	5,844
Transportation, Communication, and Utilities	8,958	0.271	2,428
Wholesale Trade	6,475	0.271	1,755
Retail Trade	31,084	1.173	36,462
Finance, Insurance, and Real Estate	24,608	0.292	7,186
Services	133,510	0.568	75,834
Government Services	32,264	0.497	16,035
Total Employment by Category Population[4]			149,522
2014 Total Functional Population[5]			**550,608**

(1) Source: Table A-1 for population and 2014 Woods & Poole for employment data (2014 data was interpolated)

(2) Source: Table A-6

(3) The functional population is Brevard 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 and the employment functional population

Table A-8

Fire Rescue Service Area Functional Population – Year 2014

Population Category	Brevard County Baseline Data[1]	Functional Resident Coefficient[2]	Functional Population[3]
2014 Weighted Population	252,151	0.679	171,211
Employment Category			
Natural Resources	740	0.379	280
Construction	4,939	0.271	1,338
Manufacturing	6,017	0.270	1,625
Transportation, Communication, and Utilities	3,144	0.271	852
Wholesale Trade	2,668	0.271	723
Retail Trade	10,040	1.173	11,777
Finance, Insurance, and Real Estate	7,604	0.292	2,220
Services	42,723	0.568	24,267
Government Services	16,326	0.497	8,114
Total Employment by Category Population[4]			51,196
2014 Total Functional Population[5]			**222,407**

(1) Source: Table A-1 for population and 2014 Woods & Poole for employment data (2014 data was interpolated)

(2) Source: Table A-6

(3) The functional population is Brevard 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 and the employment functional population

Table A-9 presents the County's annual functional population figures from 2000 through 2040, based on the 2014 functional population figures from Tables A-7 and A-8 and the annual population growth rates from the population figures previously presented in Table A-1.

Table A-9

Brevard County Functional Population (2000-2040)

Year	Functional Population	
	Brevard Countywide[(1)]	Service Area for Fire Rescue[(3)]
2000	473,268	189,637
2001	481,598	194,188
2002	490,459	199,353
2003	499,974	204,775
2004	512,073	209,423
2005	523,185	212,753
2006	529,934	214,944
2007	534,809	214,493
2008	537,911	216,509
2009	538,825	217,223
2010	540,603	218,592
2011	542,387	219,466
2012	542,821	218,720
2013	545,589	219,726
2014	**550,608**	**222,407**
2015	555,619	224,431
2016	561,620	226,855
2017	567,685	229,305
2018	573,816	231,781
2019	580,013	234,284
2020	586,277	236,814
2021	591,553	238,945
2022	596,877	241,096
2023	602,249	243,266
2024	607,669	245,455
2025	613,260	247,713
2026	617,859	249,571
2027	622,493	251,443
2028	627,162	253,329
2029	631,866	255,229
2030	636,542	257,118
2031	640,489	258,712
2032	644,460	260,316
2033	648,456	261,930
2034	652,476	263,554
2035	656,652	265,241
2036	660,067	266,620
2037	663,499	268,006
2038	666,949	269,400
2039	670,417	270,801
2040	674,037	272,263

(1) Source: Table A-7 for 2014. Other years are based on growth rates for Brevard County weighted seasonal population; Table A-1 (Item 1)

(2) Source: Table A-8 for 2014. Other years are based on growth rates for Brevard County weighted seasonal population; Table A-1 (Item 2)

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 mentioned previously, different functional population coefficients need to be developed for each impact fee service area to be analyzed. For residential and transient land uses, these coefficients are displayed in Tables A-10 (for countywide) and A-11 (for the fire rescue service area). The average number of persons per housing unit in Brevard County was calculated for the single family detached, multi-family, and mobile home land uses, based on information obtained from the 2013 American Community Survey. Besides the residential land uses, Tables A-10 and A-11 also include transient land uses, such as hotels, motels, nursing homes, and assisted care living facilities (ACLF). Secondary sources, such as the Space Coast Office of Tourism and the Florida Department of Elderly Affairs, are used to determine the occupancy rate for hotels, motels, nursing homes, and ACLF land uses.

Non-Residential Land Uses

A similar approach is used to estimate functional residents for non-residential land uses. Table A-12 presents 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 certain impact fee programs and will be used in the calculation of the cost per unit for each land use category in the select impact fee schedules.

Table A-10

Functional Residents for Residential and Transient Land Uses - Countywide

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	du	210	2.48	-	-	-	-	-	-	1.67
Multi-Family (Apartment); 1-2 Stories	du	220	1.30	-	-	-	-	-	-	0.88
Multi-Family (Apartment); 3+ Stories	du	222/223	1.30	-	-	-	-	-	-	0.88
Condo/Duplex/Townhouse; 1-2 Stories	du	231	1.30	-	-	-	-	-	-	0.88
Condo/Duplex/Townhouse; 3+ Stories	du	232	1.30	-	-	-	-	-	-	0.88
Mobile Home	du	240	1.62	-	-	-	-	-	-	1.09
Transient, Assisted, Group										
Hotel	room	310	2.80	60%	1.68	12	0.57	9	7	1.05
Motel	room	320	2.80	60%	1.68	12	0.44	9	7	1.01
Nursing Home	bed	620	1.00	88%	0.88	16	0.84	9	7	0.90
Assisted Care Living Facility (ACLF)	du	253	1.29	88%	1.14	16	0.45	9	7	0.93

(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 A-2; estimates for the hotel/motel land use is based on data obtained from the Space Coast Office of Tourism. One person per bed is assumed for nursing homes. Estimate for ALF 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: Space Coast Office of Tourism. Average hotel/motel occupancy rate for 2009 through 2013. Source for nursing home/ACLF occupancy rate is the Florida Department of Elderly Affairs, Brevard County Profile. Average occupancy rate for 2010 and 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 0.675. 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 A-11

Functional Residents for Residential and Transient Land Uses – Fire Rescue Service Area

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	du	210	2.48	-	-	-	-	-	-	1.68
Multi-Family (Apartment); 1-2 Stories	du	220	1.32	-	-	-	-	-	-	0.90
Multi-Family (Apartment); 3+ Stories	du	222/223	1.32	-	-	-	-	-	-	0.90
Condo/Duplex/Townhouse; 1-2 Stories	du	231	1.32	-	-	-	-	-	-	0.90
Condo/Duplex/Townhouse; 3+ Stories	du	232	1.32	-	-	-	-	-	-	0.90
Mobile Home	du	240	1.64	-	-	-	-	-	-	1.11
Transient, Assisted, Group										
Hotel	room	310	2.80	60%	1.68	12	0.57	9	7	1.05
Motel	room	320	2.80	60%	1.68	12	0.44	9	7	1.01
Nursing Home	bed	620	1.00	88%	0.88	16	0.84	9	7	0.90
Assisted Care Living Facility (ACLF)	du	253	1.36	88%	1.20	16	0.45	9	7	0.97

(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 A-2; estimates for the hotel/motel land use is based on data obtained from the Space Coast Office of Tourism. One person per bed is assumed for nursing homes. Estimate for ALF 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: Space Coast Office of Tourism. Average hotel/motel occupancy rate for 2009 through 2013. Source for nursing home/ACLF occupancy rate is the Florida Department of Elderly Affairs, Brevard County Profile. Average occupancy rate for 2010 and 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 0.679. 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 A-12

Functional Residents for Non-Residential Land Uses

ITE LUC[1]	Land Use	Impact Unit	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]
	RECREATION:											
416	RV Park	site	1.62	n/a	1.20	0.81	9	2.39	0.74	1.50	7	0.50
420	Marina	boat berth	2.96	20.52	0.14	1.48	9	2.39	3.40	1.00	7	0.19
430	Golf Course	hole	35.74	20.52	1.74	17.87	9	2.39	40.97	0.25	7	1.08
444	Movie Theater w/Matinee	screen	106.63	53.12	2.01	53.32	9	2.39	125.42	1.00	7	5.98
491	Raquet/Tennis Club	court	38.70	45.71	0.85	19.35	9	2.39	45.40	1.50	7	3.16
492	Health/Fitness Club	1,000 sf	32.93	n/a	2.00	16.47	9	2.39	37.36	1.50	7	3.09
	INSTITUTIONS:											
520	Elementary School (Private)	student	1.29	15.71	0.08	0.65	9	1.11	0.64	2.00	5	0.06
522	Middle School (Private)	student	1.62	16.39	0.10	0.81	9	1.11	0.80	2.00	5	0.07
530	High School (Private)	student	1.71	19.74	0.09	0.86	9	1.11	0.86	2.00	5	0.08
540	University/Junior College (7,500 or fewer students) (Private)	student	2.00	12.26	0.16	1.00	9	1.11	0.95	2.00	5	0.10
550	University/Junior College (more than 7,500 students) (Private)	student	1.50	12.26	0.12	0.75	9	1.11	0.71	2.00	5	0.07
560	Church	1,000 sf	9.11	20.64	0.44	4.56	9	1.90	8.22	1.00	7	0.51
565	Day Care Center	1,000 sf	71.88	26.73	2.69	35.94	9	1.11	37.20	0.15	5	0.89
610	Hospital	1,000 sf	13.22	4.50	2.94	6.61	9	1.42	6.45	1.00	7	1.37
640	Animal Hospital/Veterinary Clinic	1,000 sf	32.80	n/a	4.05	16.40	9	1.42	19.24	1.00	7	2.32
	OFFICE:											
710	General Office 50,000 sf or less	1,000 sf	15.50	3.32	4.67	7.75	9	1.28	5.25	1.00	5	1.41
	General Office 50,001 - 100,000 sf	1,000 sf	13.13	3.32	3.95	6.57	9	1.28	4.46	1.00	5	1.19
	General Office 100,001 - 200,000 sf	1,000 sf	11.12	3.32	3.35	5.56	9	1.28	3.77	1.00	5	1.01
	General Office 200,001 - 400,000 sf	1,000 sf	9.41	3.32	2.83	4.71	9	1.28	3.20	1.00	5	0.85
	General Office greater than 400,000 sf	1,000 sf	8.54	3.32	2.57	4.27	9	1.28	2.90	1.00	5	0.77
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	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	34.72	8.91	3.90	17.36	9	1.42	20.75	1.00	5	1.66
750	Office Park	1,000 sf	11.70	3.50	3.34	5.85	9	1.42	4.97	1.00	5	1.04

Table A-12 (continued)

Functional Residents for Non-Residential Land Uses

ITE LUC[1]	Land Use	Impact Unit	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:											
820	Retail 10,000 sfgla or less	1,000 sfgla	86.56	n/a	2.50	43.28	9	1.73	72.37	0.50	7	2.45
	Retail 10,001-50,000 sfgla	1,000 sfgla	86.56	n/a	2.50	43.28	9	1.73	72.37	0.50	7	2.45
	Retail 50,001-100,000 sfgla	1,000 sfgla	67.91	n/a	2.50	33.96	9	1.73	56.25	0.65	7	2.46
	Retail 100,001-300,000 sfgla	1,000 sfgla	46.23	n/a	2.50	23.12	9	1.73	37.50	1.00	7	2.50
	Retail 300,001-500,000 sfgla	1,000 sfgla	38.66	n/a	2.50	19.33	9	1.73	30.94	1.25	7	2.55
	Retail 500,001-1,000,000 sfgla	1,000 sfgla	30.33	n/a	2.50	15.17	9	1.73	23.74	1.50	7	2.42
	Retail greater than 1,000,000 sfgla	1,000 sfgla	28.46	n/a	2.50	14.23	9	1.73	22.12	1.50	7	2.32
841	New/ Used Auto Sales	1,000 sf	28.25	21.14	1.34	14.13	9	1.73	23.10	1.00	7	1.47
850	Supermarket	1,000 sf	103.38	87.82	1.18	51.69	9	1.52	77.39	0.50	7	2.05
851	Convenience Market (24 hour)	1000 sf	719.18	n/a	2.50	359.59	9	1.52	544.08	0.20	7	5.47
853	Convenience Market w/Gasoline	1,000 sf	775.14	n/a	2.50	387.57	9	1.52	586.61	0.20	7	5.83
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	95.96	n/a	2.50	47.98	9	1.52	70.43	0.35	7	1.96
890	Furniture Store	1,000 sf	5.06	12.19	0.42	2.53	9	1.52	3.43	0.50	7	0.23
911	Bank/Savings Walk-In	1,000 sf	121.30	34.69	3.50	60.65	9	1.52	88.69	0.35	6	2.23
912	Bank/Savings Drive-In	1,000 sf	159.34	30.94	5.15	79.67	9	1.52	115.95	0.15	6	2.28
931	Quality Restaurant	1,000 sf	91.10	n/a	9.92	45.55	9	1.85	74.35	1.00	7	6.82
932	High-Turnover Restaurant	1,000 sf	116.60	n/a	9.92	58.30	9	1.85	97.94	0.75	7	6.78
934	Fast Food Rest. w/ Drive-Thru	1,000 sf	511.00	n/a	10.90	255.50	9	1.85	461.78	0.25	7	8.90
942	Automobile Care Center	1,000 sf	31.43	n/a	1.50	15.72	9	1.52	22.39	1.00	7	1.50
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	157.33	n/a	2.50	78.67	9	1.52	117.08	0.20	7	1.91
947	Self Service Car Wash	service bay	43.94	n/a	0.50	21.97	9	1.52	32.89	0.50	7	0.87
	INDUSTRIAL:											
110	General Light Industrial	1,000 sf	6.97	3.02	2.31	3.49	9	1.38	2.51	1.00	5	0.69
120	General Heavy Industrial	1,000 sf	1.50	0.82	1.83	0.75	9	1.38	0.00	1.00	5	0.49
150	Warehousing	1,000 sf	3.56	3.89	0.92	1.78	9	1.38	1.54	0.75	5	0.28
151	Mini-Warehouse	1,000 sf	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)

Total Weighted Seasonal Population Projections (Countywide):

Table A-13

Weighted Seasonal Population Projections (Countywide)

Year	Permanent Population[(1)]	Seasonal, Occasional, Recreational[(2)]	Hotel/Motel[(3)]	Weighted Seasonal Population[(4)]	Total Weighted Seasonal Population[(5)]
2000	476,230	9,399	25,050	34,449	510,679
2001	484,611	9,566	25,491	35,057	519,668
2002	493,548	9,743	25,961	35,704	529,252
2003	503,126	9,932	26,464	36,396	539,522
2004	515,296	10,172	27,105	37,277	552,573
2005	526,496	10,393	27,694	38,087	564,583
2006	533,295	10,527	28,051	38,578	571,873
2007	538,211	10,624	28,310	38,934	577,145
2008	541,331	10,686	28,474	39,160	580,491
2009	542,239	10,704	28,522	39,226	581,465
2010	543,376	11,438	28,582	40,020	583,396
2011	545,184	11,472	28,677	40,149	585,333
2012	545,625	11,481	28,700	40,181	585,806
2013	548,424	11,540	28,847	40,387	588,811
2014	553,462	11,646	29,094	40,740	594,202
2015	558,500	11,752	29,377	41,129	599,629
2016	564,532	11,879	29,694	41,573	606,105
2017	570,629	12,007	30,015	42,022	612,651
2018	576,792	12,137	30,339	42,476	619,268
2019	583,021	12,268	30,667	42,935	625,956
2020	589,300	12,400	30,997	43,397	632,697
2021	594,604	12,512	31,276	43,788	638,392
2022	599,955	12,624	31,558	44,182	644,137
2023	605,355	12,738	31,842	44,580	649,935
2024	610,803	12,852	32,128	44,980	655,783
2025	616,400	12,970	32,423	45,393	661,793
2026	621,023	13,067	32,666	45,733	666,756
2027	625,681	13,166	32,911	46,077	671,758
2028	630,374	13,264	33,158	46,422	676,796
2029	635,102	13,364	33,406	46,770	681,872
2030	639,800	13,463	33,653	47,116	686,916
2031	643,767	13,546	33,862	47,408	691,175
2032	647,758	13,630	34,072	47,702	695,460
2033	651,774	13,715	34,283	47,998	699,772
2034	655,815	13,800	34,496	48,296	704,111
2035	660,000	13,888	34,716	48,604	708,604
2036	663,432	13,960	34,897	48,857	712,289
2037	666,882	14,033	35,078	49,111	715,993
2038	670,350	14,106	35,260	49,366	719,716
2039	673,836	14,179	35,444	49,623	723,459
2040	677,500	14,256	35,637	49,893	727,393

(1) BEBR-Medium projection for 2040. Interim years were interpolated to smooth out annual population growth rates

(2) Seasonal, occasional, and recreational population is estimated by multiplying permanent population (Item 1) by the ratio of seasonal to permanent population from the 2000 U.S Census for years 2001-2009 and the 2010 U.S Census for 2011-2040. The figures are weighed by 0.42 to account for seasonal residents only residing in Brevard County for a portion of the year (assume 5 months; 5 months divided by 12 months = 0.42).

(3) Source: Estimated based on the information provided by the Space Coast Office of Tourism

(4) Sum of seasonal, occasional, and recreation population (Item 2) and hotel/motel population (Item 3)

(5) Sum of permanent population (Item 1) and weighted seasonal population (Item 4)

Total Weighted Seasonal Population Projections (Fire Service Area):

Table A-13

Weighted Seasonal Population Projections (Fire Rescue Service Area)

Year	Permanent Population[(1)]	Seasonal, Occasional, Recreational[(2)]	Hotel/Motel[(3)]	Weighted Seasonal Population[(4)]	Total Weighted Seasonal Population[(5)]
2000	200,242	4,239	10,533	14,772	215,014
2001	205,051	4,341	10,786	15,127	220,178
2002	210,507	4,456	11,073	15,529	226,036
2003	216,225	4,577	11,373	15,950	232,175
2004	221,123	4,681	11,631	16,312	237,435
2005	224,644	4,755	11,816	16,571	241,215
2006	226,957	4,804	11,938	16,742	243,699
2007	226,474	4,794	11,913	16,707	243,181
2008	228,593	4,839	12,024	16,863	245,456
2009	229,342	4,855	12,063	16,918	246,260
2010	230,099	5,621	12,103	17,724	247,823
2011	231,017	5,647	12,151	17,798	248,815
2012	230,235	5,628	12,110	17,738	247,973
2013	231,286	5,654	12,166	17,820	249,106
2014	234,114	5,723	12,314	18,037	252,151
2015	236,246	5,775	12,427	18,202	254,448
2016	238,797	5,837	12,561	18,398	257,195
2017	241,376	5,900	12,696	18,596	259,972
2018	243,983	5,964	12,834	18,798	262,781
2019	246,618	6,028	12,972	19,000	265,618
2020	249,274	6,093	13,112	19,205	268,479
2021	251,517	6,148	13,230	19,378	270,895
2022	253,781	6,203	13,349	19,552	273,333
2023	256,065	6,259	13,469	19,728	275,793
2024	258,370	6,316	13,590	19,906	278,276
2025	260,737	6,374	13,715	20,089	280,826
2026	262,693	6,421	13,818	20,239	282,932
2027	264,663	6,469	13,921	20,390	285,053
2028	266,648	6,518	14,026	20,544	287,192
2029	268,648	6,567	14,131	20,698	289,346
2030	270,635	6,615	14,235	20,850	291,485
2031	272,313	6,657	14,324	20,981	293,294
2032	274,002	6,698	14,413	21,111	295,113
2033	275,700	6,739	14,502	21,241	296,941
2034	277,410	6,781	14,592	21,373	298,783
2035	279,180	6,824	14,685	21,509	300,689
2036	280,632	6,860	14,761	21,621	302,253
2037	282,091	6,896	14,838	21,734	303,825
2038	283,558	6,931	14,915	21,846	305,404
2039	285,033	6,967	14,993	21,960	306,993
2040	286,583	7,005	15,074	22,079	308,662

(1) BEBR-Medium projection for 2040. Interim years were interpolated to smooth out annual population growth rates

(2) Seasonal, occasional, and recreational population is estimated by multiplying permanent population (Item 1) by the ratio of seasonal to permanent population from the 2000 U.S Census for years 2001-2009 and the 2010 U.S Census for 2011-2040. The figures are weighed by 0.42 to account for seasonal residents only residing in Brevard County for a portion of the year (assume 5 months; 5 months divided by 12 months = 0.42).

(3) Source: Estimated based on the information provided by the Space Coast Office of Tourism

(4) Sum of seasonal, occasional, and recreation population (Item 2) and hotel/motel population (Item 3)

(5) Sum of permanent population (Item 1) and weighted seasonal population (Item 4)

Appendix B
Building and Land Values Supplemental Information

This Appendix provides a summary of building and land value estimates for all impact fee program areas with the exception of transportation and educational facilities. Information related to cost estimates for educational facilities is included in Appendix C and transportation cost estimates are included in Appendix E.

Building Values

For all of the program areas, the following information was reviewed to estimate building values:

- Recent construction completed by Brevard County (if any);
- Estimates for any planned facilities;
- Insurance values of existing facilities;
- Data from other jurisdictions for recently completed facilities; and
- Discussions with architects/contractors.

The following paragraphs provide a summary for each program area.

Correctional Facilities

As presented in Table B-1, the construction cost associated with the County's most recent addition to the Detention Center took place between 2005 and 2014, for an average cost of $240 per square foot. There are no estimates available for future jail additions, and the insurance values of the existing jail buildings ranged from $120 per square foot to $380 per square foot, with an average of $200 per square foot. It is important to note insurance values are considered to provide estimates below the full cost since they typically do not take into consideration certain building components, such as foundation, architectural/design cost, furniture/fixture/equipment, security features, etc.

Recent jail construction in other Florida counties and estimates obtained from construction companies and architects suggested a range of $225 to $445 per square foot. Given all this information, a unit cost of $240 per square foot for jail buildings is used in the study, which is also consistent with the most recent jail construction in Brevard County.

To determine the value of support facilities, such as warehouse, storage trailer, etc., the ratio of insurance values of support facilities to primary buildings was calculated. Applying

this figure (approximately 30%) to the unit cost of $240 per square foot for primary buildings resulted in a cost of $75 per square foot for support buildings.

Table B-1

Correctional Facilities Building Value

Source	Year	Building Cost per Square Foot
Construction of Detention Center Expansion[1]	2005-2014	$239
Estimates for a Future Jail	N/A	N/A
Insurance Values of Existing Jail Buildings[2]	2014	$120 - $380
Recent Jail Construction in Other Florida Counties[3]	2009, 2013	$225
Estimates from National Construction Companies[4]	2014	$270-$300
Estimates from Florida Architects[5]	2014	$285-$445
Used in the Study	**2014**	**$240**

(1) Source: Brevard County
(2) Source: Brevard County, figures rounded
(3) Source: AJAX Engineering and Florida Department of Correctional Facilities, figures rounded
(4) Source: Reed Construction Company
(5) Based on discussions with architects for a range of a typical jail in Florida based on their experience

Fire/EMS Stations and Facilities

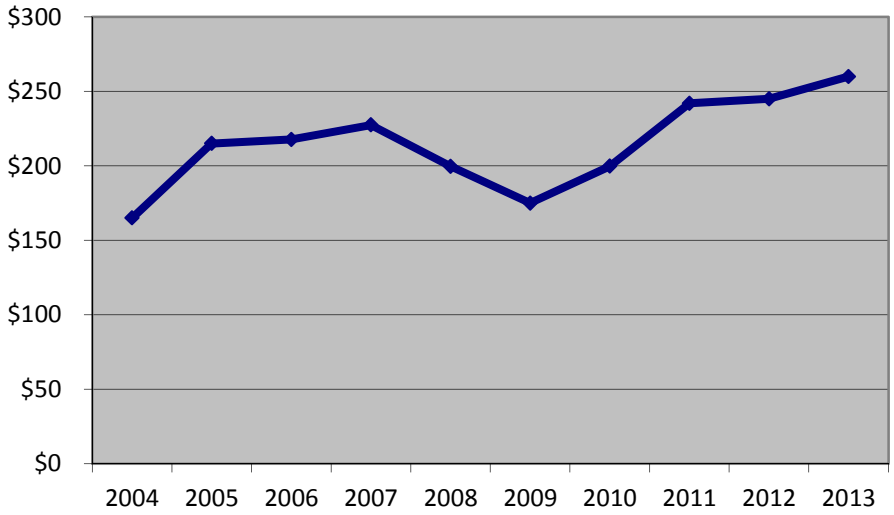
Brevard County Fire Department provides services from three types of facilities:

- Fire Station Only
- Fire/EMS Dual Stations
- EMS Station Only

Of these, fire stations and dual stations tend to have similar costs to build while EMS station costs are lower.

As part of this analysis, Tindale Oliver contacted several Florida jurisdictions to obtain more recent fire station construction cost information. The bids and estimates for facilities built in 2010 or 2012 range from $190 to $300 per square foot (excluding furniture/fixture/equipment, site preparation cost, permits, fees and other similar expenses). The following chart presents the station construction cost trends based on bids, estimates, and other information obtained during the previous impact fee studies completed by Tindale Oliver. As presented, the variation in station costs is relatively minor over the past few years.

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



Source: Fire station construction cost data collected from Florida jurisdictions

In determining the appropriate unit cost for station construction in Brevard County, in addition to these trends, the following data was evaluated:

- The most recent fire station expansion and renovation project cost was approximately $135 per square foot (Stations 48 and 80 in 2011 and 2012). Discussions with the County representatives suggested that this relatively low cost was due to the simplistic design of these fire stations. Further, discussions with the Fire Department indicated that future fire stations are likely to have a different design characteristics to be more appealing to the community.
- The Fire Department's current estimate is approximately $320 per square foot for a prototype fire station.
- The insurance value of existing fire/EMS stations is $260 per square foot, which is considered to be a conservative value. The County representatives explained that an outside party visited the buildings and provided this valuation.

Based on the information summarized in Table B-2, a unit cost of $260 per square foot is used for fire-only and dual station building value. This figure is based primarily on insurance values of the stations in Brevard County and is also consistent with statewide trends. In

terms of the EMS station costs, the ratio of insurance value of EMS stations to that of fire and dual stations was applied to the unit cost of $260 per square foot, resulting in an EMS cost of $150 per square foot. Finally, the value of support facilities were also based on insurance values.

Table B-2

Fire/EMS Station Value

Source	Year	Building Cost per Square Foot
Construction of Stations 48 and 80[(1)]	2011-2012	$135
Estimate for Future Fire Stations[(2)]	N/A	$320
Insurance Values of Existing Fire Stations[(3)]	2014	$260
Recent Fire Station Construction in Other Florida Counties[(4)]	2010-2012	$190 - $300
Estimates from Florida Architects[(5)]	2013	$230 - $280
Used in the Study	**2014**	**$260**

(1) Source: Brevard County
(2) Source: Brevard County Fire Department
(3) Source: Brevard County
(4) Source: Local jurisdictions
(5) Based on discussions with architects for a range of a typical fire station in Florida based on their experience (includes adjustment for ff&e, site preparation, permits, etc.)

Libraries

The most recent library construction in Brevard County was completed in 2010 for a building cost of $330 per square foot. The current average insurance value of existing libraries is $125 per square foot, which tends to represent a conservative estimate. The mid-point of these two values is approximately $230 per square foot. Finally, recent library construction in other Florida jurisdictions provided an average building cost of $240 per square foot. Given this information, a building value of $230 per square foot is used in the library impact fee calculations.

Table B-3
Library Building Value

Source	Year	Building Cost per Square Foot
Construction of Merritt Island Library Expansion[(1)]	2010	$330
Insurance Values of Existing Libraries[(2)]	2014	$125
- Average of Recent Expansion and Insurance Values[(3)]		***$228***
Recent Library Construction in Other Florida Counties[(4)]	2010-2014	$240
Used in the Study	**2014**	**$230**

(1) Source: Brevard County
(2) Source: Brevard County
(3) Average of Item 1 and Item 2
(4) Previous impact fee studies over the past five years

Solid Waste Facilities

The solid waste impact fee inventory includes several transfer stations, recycling and mulching facilities, hazardous waste facilities, among others. Due to the limited information on these facilities from other jurisdictions, the value is based on the recent reconstruction, insurance values, and estimates obtained from the Brevard County Solid Waste Management Department.

Land Values

For each impact fee program area, land values were determined based on the following analysis, as data available:

- Recent land purchases for the related infrastructure (if any);
- Value of current parcels as reported by the Brevard County Property Appraiser;
- Value of vacant land by size and by land use; and
- Vacant land sales over the past three years by size and by land use.

It should be noted that the land value and sales analysis suggested that there is a large variation in land values throughout the county, and the sales data indicated higher values possibly due to the location of parcels sold as well as a lag in the update of the values in the Property Appraiser database. The analysis and estimates used for impact fee calculation purposes needed to balance the cost of next parcel the County is likely to purchase, which in many cases is likely to be in more expensive areas due to the development activity and the value of land included in impact fee calculations as part of the current inventory.

Correctional Facilities

The County has not purchased any land for correctional facilities recently and does not have any plans to buy additional land in the near future. The value of parcels where the current facilities are located is approximately $5,000 per acre. To supplement this figure, TOA conducted an analysis of vacant land sales and values based on the data included in the Brevard County Property Appraiser database.

Vacant land sales and values were evaluated by land use (residential vs. all land uses) and by size. As mentioned previously, this analysis suggested that sales data indicates higher values than estimates included in the Property Appraiser's database.

Because correctional facilities do not have to be located in centralized areas, it is thought to be appropriate to evaluate values of residential properties, which tend to be lower than those for commercial properties.

Given that the land of current facilities is valued at $5,000 per acre, land value of large parcels range from $6,000 to $11,000, correctional facilities are not likely to be located in centralized areas and that the County does not have any immediate plans for additional land purchase, land value of existing parcel ($5,000 per acre) for impact fee calculation purposes is found to be a reasonable estimate.

Table B-4
Land Value Analysis – Correctional Facilities

Variable	Year	Average Land Value per Acre[(1)]
Value of Current Parcels	2014	$5,000
Value of Vacant Land:		
Countywide - Residential		
- 15 to 25 acres	2014	$11,200
- 25.01 to 50 acres	2014	$8,100
- 50.01 to 100 acres	2014	$6,100
Vacant Land Sales:		
Countywide - Residential		
- 15 to 25 acres	2011-2014	$53,600
- 25.01 to 50 acres	2011-2014	$34,500
- 50.01 to 100 acres	2011-2014	$20,500
Used in the Study	**2014**	**$5,000**

(1) Source: Brevard County Property Appraiser Database
* Figures are rounded to the nearest $100.

Fire/EMS

Typically, fire stations need to be located at or near major intersections and not in residential areas, for better access and minimum disturbance. As such, land value of these facilities tends to be higher. As presented in Table B-5, both the recent land sales and the value of all vacant parcels for commercial properties versus all properties suggest the value of commercial properties is higher. This analysis is conducted using the Brevard County Property Appraiser for parcels with similar size to those included in the current fire/EMS facilities inventory. Given that the service area for EMS is countywide and Fire Rescue is unincorporated county and some of the cities, the analysis was conducted for both service areas. Results suggested that the value of commercial land being similar in both cases.

The County's most recent land acquisition related to Fire/EMS facilities took place in 2011 for Station 48. This parcel was donated by the Viera Corporation for impact fee credits and was valued at approximately $403,000 per acre. Discussions with the Fire Department suggested that based on the development patterns and the Fire Department's needs, the next purchases could be in Micco or Viera. The Department estimated the cost to range from $100,000 per acre to $200,000 per acre in Micco to $500,000 per acre in Viera.

The large variation in land values discussed previously is observed in the value of parcels where the current fire/EMS stations are located. The average value of these parcels is $36,000 per acre with a range of $8,000 per acre to $479,000 per acre.

Given this information, an average value of $75,000 per acre is found to be a reasonable estimate for impact fee calculation estimates. This estimate takes into account both the high value of upcoming parcels and the lower value of some of the parcels that are in the inventory.

Table B-5
Land Value Analysis – Fire/EMS Facilities

Variable	Year	Average Land Value per Acre[(1)]
Value of Current Parcels	2014	$36,400
Cost of Recent Land Purchases	2011	$402,800
Value of Vacant Land:		
Countywide - Commercial		
- 0.5 to 1 acres	2014	$93,600
- 1.01 to 6 acres	2014	$72,900
- 6.01 to 15 acres	2014	$42,100
Countywide - All Land Uses		
- 0.5 to 1 acres	2014	$58,500
- 1.01 to 6 acres	2014	$29,800
- 6.01 to 15 acres	2014	$20,600
Vacant Land Sales:		
Countywide - Commercial		
- 0.5 to 1 acres	2011-2014	$141,100
- 1.01 to 6 acres	2011-2014	$157,600
- 6.01 to 15 acres	2011-2014	$108,900
Countywide - All Land Uses		
- 0.5 to 1 acres	2011-2014	$120,900
- 1.01 to 6 acres	2011-2014	$51,000
- 6.01 to 15 acres	2011-2014	$48,800
Used in the Study	**2014**	**$75,000**

(1) Source: Brevard County Property Appraiser Database
* Figures are rounded to the nearest $100.

Libraries

As presented in Table B-6, the current value of land where existing libraries are located averages $51,500, with a range of $8,500 per acre to $348,500 per acre. This information along with the vacant sales values of 4 to 6-acre parcels suggests that an average land value of $50,000 per acre is a reasonable estimate.

Table B-6
Land Value Analysis - Libraries

Variable	Year	Average Land Value per Acre[(1)]
Value of Current Parcels	2014	$51,500
Value of Vacant Land:		
Countywide - Residential		
- 0.5 to 6 acres	2014	$28,100
- 6 to 15 acres	2014	$13,600
Countywide - All Land Uses		
- 0.5 to 6 acres	2014	$35,800
- 6 to 15 acres	2014	$20,400
Vacant Land Sales:		
Countywide - Residential		
- 0.5 to 6 acres	2011-2014	$32,900
- 6 to 15 acres	2011-2014	$15,700
Countywide - All Land Uses		
- 0.5 to 6 acres	2011-2014	$51,000
- 6 to 15 acres	2011-2014	$48,900
Used in the Study	**2014**	**$50,000**

(1) Source: Brevard County Property Appraiser Database
* Figures are rounded to the nearest $100.

Solid Waste

As mentioned previously, the solid waste facilities included in the impact fee calculations include several transfer stations, recycling and mulching facilities, hazardous waste facilities, among others. Some of these facilities are located on the same parcel as landfills while others on separate parcels. The County's Solid Waste Management Plan update provides two estimates for future land purchases: $20,000 per acre for the South County Transfer Station Site and $105,000 per acre for additional land next to the Titusville Transfer Station Site. The high estimate for the Titusville Transfer Station site is due to more developed nature of this area. The land value of solid waste facility parcels, excluding the landfills,

average approximately $14,000. Given the unique nature of these facilities, the estimate of $20,000 per acre is used for impact fee calculations.

Appendix C
Educational Facilities Impact Fee:
Supplemental Information

Educational Facilities Supplemental Information

This appendix presents the inventory of traditional schools in Brevard County as well as an explanation of building and land value estimates used in the impact fee calculations.

School District Inventory

The current inventory of traditional schools in Brevard County is presented in Table C-1.

Table C-1
Brevard County School District Existing School Inventory

Number	Schools	Year Acquired	Grade	Permanent Capacity (after FISH capacity adjustment)	FISH Permanent Net Square Footage
	Elementary Schools				
1	ROY ALLEN ELEMENTARY	1967	PK-6	645	90,670
2	HANS CHRISTIAN ANDERSEN ELEMENTARY	1966	K-6	840	105,034
3	APOLLO ELEMENTARY	1965	PK-6	902	96,896
4	ATLANTIS ELEMENTARY	1988	PK-6	703	115,456
5	AUDUBON ELEMENTARY	1963	PK-6	761	87,512
6	CAMBRIDGE ELEMENTARY MAGNET	1959	PK-6	649	79,792
7	CAPE VIEW ELEMENTARY	1963	PK-6	548	63,934
8	LEWIS CARROLL ELEMENTARY	1967	K-6	751	96,214
9	CHALLENGER 7 ELEMENTARY	1984	K-6	551	107,816
10	COLUMBIA ELEMENTARY	1979	PK-6	685	114,602
11	COQUINA ELEMENTARY	1959	PK-6	627	78,076
12	DR W J CREEL ELEMENTARY	1972	PK-6	1,088	111,109
13	CROTON ELEMENTARY	1965	PK-6	707	67,743
14	DISCOVERY ELEMENTARY	1987	PK-6	826	139,265
15	ENDEAVOUR ELEMENTARY MAGNET	1960	PK-6	852	86,792
16	ENTERPRISE ELEMENTARY	1992	K-6	707	111,940
17	FAIRGLEN ELEMENTARY	1965	K-6	753	99,720
18	STUDIES	1957	K-6	453	49,818
19	GEMINI ELEMENTARY	1965	K-6	667	77,858
20	GOLFVIEW ELEMENTARY MAGNET	1962	PK-6	689	82,976
21	HARBOR CITY ELEMENTARY	1960	K-6	453	56,990
22	SPESSARD L HOLLAND ELEMENTARY	1961	PK-6	605	75,999
23	IMPERIAL ESTATES ELEMENTARY	1967	K-6	729	107,927
24	INDIALANTIC ELEMENTARY	1956	K-6	754	95,396
25	JUPITER ELEMENTARY	1986	PK-6	780	120,860
26	LOCKMAR ELEMENTARY	1980	PK-6	892	112,452
27	LONGLEAF ELEMENTARY	1997	K-6	790	105,846
28	MANATEE ELEMENTARY	2002	PK-6	884	121,661
29	CHRISTA MCAULIFFE ELEMENTARY	1984	PK-6	754	121,884
30	MEADOWLANE INTERMEDIATE ELEMENTARY	1993	3-6	894	130,006
31	MEADOWLANE PRIMARY ELEMENTARY	1993	K-3	824	144,366
32	MILA ELEMENTARY	1950	PK-6	707	90,554
33	MIMS ELEMENTARY	1913	PK-6	725	85,052
34	OAK PARK ELEMENTARY	1965	PK-6	888	105,401
35	OCEAN BREEZE ELEMENTARY	1964	PK-6	498	64,537

Table C-1 (Continued)
Brevard County School District Existing School Inventory

Number	Schools	Year Acquired	Grade	Permanent Capacity (after FISH capacity adjustment)	FISH Permanent Net Square Footage
	Elementary Schools				
36	PALM BAY ELEMENTARY	1965	PK-6	829	86,004
37	PINEWOOD ELEMENTARY	1968	PK-6	503	69,637
38	PORT MALABAR ELEMENTARY	1978	K-6	768	102,410
39	QUEST ELEMENTARY	2003	K-6	928	107,551
40	RIVIERA ELEMENTARY	1988	PK-6	689	106,571
41	THEODORE ROOSEVELT ELEMENTARY	1966	PK-6	599	103,357
42	SABAL ELEMENTARY	1962	K-6	679	70,929
43	SATURN ELEMENTARY	1965	PK-6	830	83,170
44	SEA PARK ELEMENTARY	1958	PK-6	439	55,072
45	SHERWOOD ELEMENTARY	1962	K-6	609	85,471
46	ROBERT LOUIS STEVENSON ELEMENTARY SCHOOL OF THE ARTS	1967	K-6	569	60,758
47	SUNRISE ELEMENTARY	2005	PK-6	895	110,191
48	SUNTREE ELEMENTARY	1986	K-6	689	111,232
49	SURFSIDE ELEMENTARY	1961	K-6	439	50,902
50	TROPICAL ELEMENTARY	1961	K-6	910	102,754
51	JOHN F TURNER SR ELEMENTARY	1980	PK-6	830	94,473
52	UNIVERSITY PARK ELEMENTARY	1959	PK-6	679	80,544
53	WEST MELBOURNE ELEMENTARY SCHOOL FOR SCIENCE	1960	K-6	618	67,378
54	WESTSIDE ELEMENTARY	1996	K-6	835	107,998
55	RALPH M WILLIAMS JR ELEMENTARY	1998	K-6	627	92,491
	Subtotal - Elementary Schools			***39,545***	**5,151,047**
	Middle Schools				
1	CENTRAL MIDDLE	1993	7-8	1,524	225,379
2	DELAURA MIDDLE	1961	7-8	923	127,439
3	HERBERT C HOOVER MIDDLE	1965	7-8	658	103,794
4	ANDREW JACKSON MIDDLE	1964	7-8	654	107,517
5	THOMAS JEFFERSON MIDDLE	1967	7-8	847	117,020
6	LYNDON B JOHNSON MIDDLE	1963	7-8	999	144,424
7	JOHN F KENNEDY MIDDLE	1965	7-8	674	105,449
8	JAMES MADISON MIDDLE	1965	7-8	742	112,666
9	RONALD MCNAIR MIDDLE	1958	7-8	603	95,192
10	SOUTHWEST MIDDLE	1980	7-8	1,177	207,689
11	STONE MAGNET MIDDLE	1954	7-8	1,013	163,019
	Subtotal - Middle Schools			***9,814***	**1,509,588**
	Jr/Sr High Schools				
1	COCOA JR/SR HIGH	1969	7-12	1,570	274,149
2	COCOA BEACH JR/SR HIGH	1957	7-12	1,127	207,964
3	EDGEWOOD JR/ SR HIGH	1957	7-12	996	155,791
4	SPACE COAST JR/ SR HIGH	1992	7-12	1,777	303,715
5	WEST SHORE JR/SR HIGH	1956	7-12	1,108	128,540
	Subtotal - Jr/Sr High Schools			***6,578***	**1,070,159**

Table C-1 (Continued)
Brevard County School District Existing School Inventory

Number	Schools	Year Acquired	Grade	Permanent Capacity (after FISH capacity adjustment)	FISH Permanent Net Square Footage
	High Schools				
1	ASTRONAUT SENIOR HIGH	1970	9-12	1,445	241,490
2	BAYSIDE SENIOR HIGH	1996	9-12	2,235	347,819
3	EAU GALLIE SENIOR HIGH	1958	9-12	1,947	297,586
4	HERITAGE HIGH	2007	9-12	2,314	370,006
5	MELBOURNE SENIOR HIGH	1954	9-12	2,317	334,031
6	MERRITT ISLAND SENIOR HIGH	1964	9-12	1,866	260,878
7	PALM BAY MAGNET SENIOR HIGH	1958	9-12	2,447	320,152
8	ROCKLEDGE SENIOR HIGH	1952	9-12	1,606	254,135
9	SATELLITE SENIOR HIGH	1961	9-12	1,487	259,251
10	TITUSVILLE HIGH	1927	9-12	1,871	313,241
11	VIERA HIGH SCHOOL	2004	9-12	2,133	325,395
	Subtotal - High Schools			***21,668***	**3,323,984**
	Grand Total - All Schools			**77,605**	**11,054,778**

(1) Source: Brevard Public Schools

Building Cost Analysis

To determine the architectural, design, site improvement, construction, and FF&E costs associated with building a new school in Brevard County, the following information was evaluated:

- Recently built schools in Brevard County;
- Cost estimates included in the Educational Plant Survey;
- Insurance values of the existing schools;
- School cost information for 160 schools in other Florida counties; and
- Discussions with the District's Facilities Management Services Division.

The following paragraphs provide further detail on this research and analysis.

Construction Cost

Most recent school construction in Brevard County included the construction of Meadowland Intermediate Elementary in 2007 and Heritage High School in 2009. The cost associated with these schools ranged from $152 per net square foot for the elementary school to $194 per net square foot for the high school, as shown in Table C-2. In addition, the District's Five-Year Plan and Educational Plant Survey include several school expansion/renovation projects. The estimated cost associated with these expansions ranges from $188 per net square foot to $193 per net square foot. These figures are consistent with the construction costs observed in other jurisdictions.

Finally, the insurance values of existing school buildings range from approximately $138 per net square foot for middle schools to $145 per net square foot for high schools, with an average of $145 per net square foot for all traditional schools. It is important to note insurance values do not include the full cost of constructing a school since certain components of a building, such as the foundation, are excluded from these values. As such, insurance values are considered to be a conservative estimate.

Table C-3 summarizes data obtained from the Florida Department of Education for schools built in 2011 and 2013. As shown, the average construction cost is approximately $165 per net square foot, with a range of $150 per net square foot for elementary schools to $180 per net square foot for high schools.

Given this data and information, average construction costs of $150 per net square foot for elementary schools, $160 per net square foot for middle schools, and $190 per net square foot for high schools are used in this study, which is based on the average costs obtained from other Florida jurisdictions and includes an adjustment factor for high schools to account for local cost factors related to Brevard Public Schools' design characteristics. In the case of high schools, the District's design standards include a higher number of career and technical labs at high schools and use the life cycle cost basis, which tend to increase the initial construction cost.

Table C-2
Construction Cost Analysis – Brevard County

Year Built[1]	Facility Name[2]	Construction Cost[3]	Net Permanent Square Feet[4]	Construtction Cost per NSF[5]
2007	Meadowland Intermediate ES	$16,430,866	107,881	$152
2009	Heritage High School	$57,088,946	293,634	$194
Five-Year Plan & Educational Plant Survey Estimates for School Additions[6]				$188 - $193
Insurance Values of Existing School Buildings:[7]				
	- Elementary Schools			$139
	- Middle Schools			$138
	- High Schools			$154
	- All Traditional Schools			$145
Other Florida Jurisdictions:[8]				
	- Elementary Schools			$151
	- Middle Schools			$159
	- High Schools			$181
	- All Traditional Schools			$166
Used in the Study:[9]				
	- Elementary Schools			**$150**
	- Middle Schools			**$160**
	- High Schools			**$190**
	- All Traditional Schools			**$167**

(1), (2), (3), (4), (6), (7) Source: Brevard Public Schools
(5) Construction cost divided by net permanent square feet
(8) Source: Table C-3
(9) Estimates used in the impact fee calculations based on the information included in this section

Table C-3
Construction Cost Analysis – Other Florida Jurisdictions

Year Built	County	Facility Name/Type	Construction Cost	Total Cost	Net Sq. Ft.	Construction Cost per Net SF
Elementary Schools						
2011	Charlotte	Meadow Park Elementary	$12,696,116	$18,415,280	89,652	$142
2011	Duval	Waterleaf Elementary	$14,882,021	$24,786,442	82,062	$181
2011	Escambia	Global Learning Academy	$17,019,155	$24,108,501	120,015	$142
2011	Osceola	Highlands Elementary	$14,534,309	$18,145,244	106,918	$136
2011	Pasco	Connerton Elementary "R"	$11,598,590	$19,102,688	84,972	$136
2012	Alachua	Meadowbrook Elementary	$12,388,973	$19,444,444	97,000	$128
2012	Indian River	Vero Beach Elementary	$17,243,103	$21,533,893	110,495	$156
2012	Lee	Tortuga Preserve	$16,021,554	$23,456,732	129,936	$123
2012	Orange	SunRidge Elementary	$10,031,097	$14,162,606	66,645	$151
2012	St. Johns	Palencia Elementary	$12,677,682	$15,290,832	102,314	$124
2012	Volusia	Citrus Grove Elementary	$13,854,183	$19,661,608	98,842	$140
2013	Marion	Legacy Elementary	$14,047,310	$18,245,314	104,324	$135
2013	Orange	Sun Blaze Elementary	$10,269,207	$12,707,954	64,410	$159
2013	Orange	Hackney Prairies Road Area Elementary	$11,261,094	$14,797,447	75,189	$150
2013	Palm Beach	Galaxy Elementary	$19,780,288	$28,938,866	85,571	$231
2013	Palm Beach	Gove Elementary	$23,540,256	$35,753,685	116,174	$203
Total/Weighted Average -- Elementary Schools			***$231,844,938***	***$328,551,536***	***1,534,519***	***$151***
Middle Schools						
2011	Dade	North Dade Middle	$18,921,534	$21,216,883	94,660	$200
2011	Orange	Lake Nona Middle	$16,923,455	$23,466,083	149,897	$113
2011	Polk	Boone Middle	$17,900,963	$20,312,468	69,921	$256
2011	Walton	Emerald Coast Middle	$15,918,884	$25,134,830	126,770	$126
2012	Collier	Bethune Education Center	$5,538,155	$7,813,329	34,851	$159
2012	Dade	North Dade Middle and North Dade Center for Modern Languages	$18,921,534	$21,216,883	94,660	$200
2012	Lee	Hams Marsh Middle	$23,750,925	$30,653,842	164,662	$144
2012	Orange	Sunridge Middle	$23,617,116	$30,375,846	152,436	$155
2013	Monroe	Horace O'Bryant	$30,596,297	$38,366,941	196,598	$156
Total/Weighted Average -- Middle Schools			***$172,088,863***	***$218,557,105***	***$1,084,455***	***$159***
High Schools						
2011	Broward	Lanier James Education Center	$8,889,147	$12,412,686	42,608	$209
2011	Calhoun	Blountstown High	$19,407,910	$25,135,928	100,366	$193
2011	Charlotte	Charlotte High	$61,755,842	$92,390,747	258,700	$239
2011	Dade	International Studies SHS	$7,192,325	$21,846,054	35,137	$205
2011	Dade	Medical Academy or Science and Technology	$9,303,705	$18,811,197	78,845	$118
2011	Okeechobee	Okeechobee Achievement Academy	$5,499,975	$6,696,931	43,024	$128
2011	Polk	Auburndale Senior	$19,522,053	$24,482,933	101,466	$192
2011	Polk	Davenport School of the Arts	$29,136,512	$32,548,129	157,446	$185
2011	Polk	Kathleen Senior	$24,323,662	$27,493,666	112,017	$217
2011	Polk	Winter Haven Senior	$26,374,234	$29,588,106	140,940	$187
2012	Dade	International Studies SHS	$7,192,325	$21,846,054	35,137	$205
2012	Dade	Medical Academy or Science and Technology	$9,303,705	$18,811,197	78,845	$118
2012	Orange	Evans High	$55,507,691	$81,091,877	289,061	$192
2012	St. Lucie	Lincoln Park Academy	$10,928,736	$24,423,402	93,703	$117
2013	Lake	Lake Minneola High	$46,974,201	$57,354,621	294,664	$159
2013	Martin	Martin County High	$7,623,316	$9,854,403	63,601	$120
Total/Weighted Average -- High Schools			***$348,935,339***	***$504,787,931***	***$1,925,560***	***$181***
Total/Weighted Average (All Schools)			**$752,869,140**	**$1,051,896,572**	**$4,544,534**	**$166**

Source: Florida Department of Education

Architectural, Design, Site Preparation, Furniture, Fixture and Equipment Costs

The architectural, design, site preparation (including on-site improvement and traffic control costs), and FF&E costs (including technology) are calculated based on the ratio of these costs to the construction costs observed in Brevard County and other jurisdictions. These figures were also discussed with the District representatives and are estimated at 15 percent of construction for architectural/ design and site preparation costs, and 8 percent for FF&E costs. Tables C-4 and C-5 summarize the data obtained from Brevard County and other jurisdictions.

Table C-4
Architectural/Civil Design and FF&E Cost Analysis
Brevard County and Other Florida Jurisdictions

Year	District	Type	Facility Name	Construction Cost	Architect & Eng Fees	Ratio of Architect & Eng Fees to Construction Cost	FF&E	Ratio of FF&E to Construction Cost
2008	Leon	Elem	Conley Elementary School	$22,234,866	$1,275,420	6%	$1,977,175	9%
2008	Broward	Elem	Colbert Elementary	$3,576,065	$680,317	19%	$213,389	6%
2008	Charlotte	Elem	Peace River Elementary School	$16,470,888	$1,164,074	7%	$293,047	2%
2008	Citrus	Elem	Central Ridge Elementary	$20,066,027	$1,293,378	6%	$682,662	3%
2008	Clay	Elem	OakLeaf Village Elementary	$22,067,755	$1,132,542	5%	$1,497,860	7%
2008	Clay	Elem	Plantation Oaks Elementary	$15,709,595	$927,982	6%	$900,000	6%
2008	Clay	Elem	Shadowlawn Elementary	$23,666,356	$1,091,411	5%	$1,544,656	7%
2008	Collier	Elem	Parkside Elementary	$21,099,395	$671,650	3%	$2,665,658	13%
2008	Collier	Elem	Veterans Memorial Elementary	$16,957,004	$546,022	3%	$2,625,757	15%
2008	Highlands	Elem	Memorial Elementary	$10,296,575	$749,240	7%	$1,691,188	16%
2008	Hillsborough	Elem	Kimbell Elementary	$10,540,220	$510,924	5%	$1,150,000	11%
2008	Hillsborough	Elem	Reddick Elementary	$13,342,791	$765,913	6%	$1,117,452	8%
2008	Lake	Elem	Grassy Lake Elementary	$16,110,171	$607,929	4%	$1,572,102	10%
2008	Lake	Elem	Mascotte Charter Elementary	$17,028,093	$552,701	3%	$1,414,128	8%
2008	Lake	Elem	Minneola Charter Elementary	$16,878,476	$624,283	4%	$1,506,036	9%
2008	Lake	Elem	Sawgrass Bay Elementary	$15,816,096	$472,825	3%	$1,538,956	10%
2008	Lee	Elem	Heights Elementary School	$21,224,842	$396,000	2%	$1,451,720	7%
2008	Lee	Elem	Treeline Elementary School	$15,989,080	$385,950	2%	$1,452,508	9%
2008	Orange	Elem	Conway Elementary School	$10,376,998	$550,000	5%	$750,000	7%
2008	Orange	Elem	Lakemont Elementary School	$12,830,008	$761,020	6%	$912,049	7%
2008	Orange	Elem	Timber Lakes Elementary School	$12,465,522	$663,155	5%	$968,647	8%
2008	Orange	Elem	Westbrooke Elementary School	$13,259,968	$473,978	4%	$1,000,000	8%
2008	Osceola	Elem	Flora Ridge Elementary	$15,804,425	$414,305	3%	$2,161,629	14%
2008	Osceola	Elem	New ES "J" (Harmony Community)	$13,632,941	$566,980	4%	$2,299,583	17%
2008	Palm Beach	Elem	Allamanda Elementary	$23,238,839	$1,171,581	5%	$879,820	4%
2008	Palm Beach	Elem	Forest Park Elementary	$24,150,475	$1,185,476	5%	$779,820	3%
2008	Palm Beach	Elem	Hagen Ranch Elementary	$22,672,614	$1,267,703	6%	$971,083	4%
2008	Palm Beach	Elem	Palm Beach Gardens Elementary	$22,077,886	$1,262,407	6%	$779,838	4%
2008	Palm Beach	Elem	Pine Jog Elementary	$29,144,023	$1,358,825	5%	$992,167	3%
2008	Palm Beach	Elem	Westward Elementary	$27,207,724	$1,324,188	5%	$869,654	3%
2008	Palm Beach	Elem	Sunset Palms Elementary	$24,576,913	$1,069,387	4%	$997,614	4%
2008	Pasco	Elem	New River Elementary "M"	$11,301,689	$521,935	5%	$1,325,467	12%
2008	Pinellas	Elem	New Heights Elementary	$22,910,850	$1,374,287	6%	$1,171,311	5%
2008	Pinellas	Elem	Tarpon Springs Elementary	$19,675,615	$989,498	5%	$2,746,022	14%
2008	Polk	Elem	Horizons Elementary	$18,873,956	$557,676	3%	$1,642,347	9%
2008	Volusia	Elem	Pride Elementary ("Y")	$14,935,273	$723,815	5%	$1,590,038	11%
2008	Walton	Elem	Mossy Head School	$18,827,427	$1,021,674	5%	$578,838	3%
2008	St. Lucie	High	Ft. Pierce Central High School	$63,908,401	$2,108,410	3%	$3,993,169	6%
2008	Broward	High	West Broward High	$74,974,472	$2,627,821	4%	$5,739,011	8%
2008	Franklin	High	Franklin County Schools	$22,955,575	$1,395,385	6%	$975,000	4%
2008	Lee	High	Island Coast High School	$41,559,854	$1,138,351	3%	$4,350,121	10%
2008	Pasco	High	Wiregrass Ranch High School "CCC"	$22,880,482	$1,045,502	5%	$3,502,243	15%
2008	Polk	High	Tenoroc Senior	$60,017,596	$1,454,175	2%	$3,972,131	7%
2008	Sarasota	High	Suncoast Polytechnical High School	$11,730,040	$1,030,406	9%	$2,160,265	18%
2008	St. Johns	High	Creekside High School ("DDD")	$45,425,406	$2,399,921	5%	$3,150,626	7%
2008	St. Johns	High	Ponte Vedra High School CCC	$54,638,612	$2,115,456	4%	$3,096,813	6%
2008	Leon	Middle	Montford Middle School	$22,008,118	$1,345,194	6%	$2,049,255	9%
2008	Bay	Middle	Breakfast Point Academy K-8	$25,975,683	$1,463,300	6%	$1,661,916	6%
2008	Charlotte	Middle	Punta Gorda Middle School	$23,896,506	$1,829,098	8%	$564,072	2%
2008	Collier	Middle	Cypress Palm Middle	$26,535,164	$1,654,176	6%	$3,551,727	13%
2008	Collier	Middle	Marco Charter Middle	$14,450,518	$580,583	4%	$539,228	4%
2008	Duval	Middle	North Shore K-8	$25,222,118	$1,690,172	7%	$2,651,960	11%
2008	Flagler	Middle	Bunnell K-8	$17,776,495	$1,431,966	8%	$1,481,305	8%
2008	Hillsborough	Middle	Smith Middle	$20,160,152	$969,246	5%	$2,010,000	10%
2008	Lee	Middle	Oak Hammock Middle School	$24,359,562	$623,895	3%	$1,932,445	8%
2008	Marion	Middle	Liberty Middle	$28,242,481	$753,275	3%	$1,391,187	5%
2008	Sarasota	Middle	Woodland Middle School	$31,412,195	$3,004,145	10%	$2,077,048	7%
2008	St. Lucie	Middle	Allapattah Flats K-8	$34,488,744	$2,109,609	6%	$4,788,814	14%
2008	St. Lucie	Middle	Palm Pointe Educational Research School at Tradition	$24,836,235	$1,164,091	5%	$4,425,642	18%
2009	Okaloosa	Elem	Riverside Elementary School	$11,716,323	$1,448,365	12%	$3,066,309	26%
2009	Bay	Elem	Deer Point Elementary	$16,646,867	$1,046,428	6%	$1,106,071	7%
2009	Broward	Elem	Discovery Elementary (K-6)	$24,813,884	$1,017,051	4%	$2,729,823	11%
2009	Broward	Elem	Heron Heights Elementary	$25,377,383	$1,101,087	4%	$2,821,297	11%
2009	Charlotte	Elem	East Elementary	$14,128,364	$1,189,449	8%	$750,180	5%
2009	Collier	Elem	Eden Park Elementary (K-6)	$19,625,793	$743,765	4%	$2,824,488	14%
2009	Collier	Elem	Mike Davis Elementary	$18,747,061	$830,774	4%	$2,390,841	13%
2009	Duval	Elem	Bartram Springs Elementary	$16,349,939	$942,474	6%	$1,752,167	11%
2009	Hillsborough	Elem	Bailey Elementary	$7,308,787	$554,962	8%	$1,475,000	20%
2009	Hillsborough	Elem	Stowers Elementary	$10,360,379	$596,594	6%	$1,475,000	14%
2009	Lee	Elem	Heights Elementary School	$20,794,081	$464,500	2%	$1,635,759	8%
2009	Lee	Elem	Lehigh Elementary School	$15,702,253	$641,950	4%	$856,087	5%
2009	Manatee	Elem	G.D. Rogers Garden Elementary	$12,223,480	$1,049,384	9%	$788,800	6%
2009	Martin	Elem	Citrus Grove Elementary	$21,130,325	$1,067,331	5%	$1,280,297	6%
2009	Orange	Elem	Keene's Crossing Elementary School	$12,452,304	$515,371	4%	$1,196,557	10%
2009	Osceola	Elem	KOA Elementary School (Elem L)	$12,610,702	$621,750	5%	$1,787,818	14%
2009	Osceola	Elem	Narcoossee Elementary (ES M)	$14,770,196	$611,435	4%	$1,800,412	12%
2009	Palm Beach	Elem	C.O. Taylor/Kirklane Elementary	$35,663,420	$1,864,969	5%	$1,013,080	3%
2009	Palm Beach	Elem	Hope-Centennial Elementary	$25,030,950	$2,092,633	8%	$868,294	3%

Table C-4 (Continued)
Architectural/Civil Design and FF&E Cost Analysis
Brevard County and Other Florida Jurisdictions

Year	District	Type	Facility Name	Construction Cost	Architect & Eng Fees	Ratio of Architect & Eng Fees to Construction Cost	FF&E	Ratio of FF&E to Construction Cost
2009	Polk	Elem	Spessard Holland Elementary	$15,642,049	$572,492	4%	$1,508,553	10%
2009	Sarasota	Elem	Atwater Elementary School	$12,524,430	$1,802,665	14%	$651,817	5%
2009	Volusia	Elem	Champion Elementary	$14,696,164	$725,513	5%	$950,364	6%
2009	Wakulla	Elem	Riversink Elementary	$15,363,460	$817,426	5%	$967,599	6%
2009	Washington	Elem	Vernon Elementary School	$6,259,105	$492,392	8%	$267,742	4%
2009	Brevard	High	Satellite High School	$4,736,903	$225,000	5%	$358,000	8%
2009	Brevard	High	Heritage High School	$57,088,946	$2,328,706	4%	$5,470,874	10%
2009	Hillsborough	High	Steinbrenner High School	$38,437,165	$1,588,553	4%	$4,945,000	13%
2009	Hillsborough	High	Strawberry Crest High School	$43,204,430	$3,051,138	7%	$4,945,000	11%
2009	Orange	High	East River High School	$58,970,282	$1,860,628	3%	$5,304,005	9%
2009	Orange	High	Lake Nona High School	$60,857,702	$1,721,299	3%	$5,217,696	9%
2009	Sarasota	High	Suncoast Polytechnical High School	$11,730,040	$1,030,406	9%	$2,160,265	18%
2009	Walton	High	Walton Senior High	$35,764,000	$1,992,342	6%	$645,000	2%
2009	Okaloosa	Middle	Shoal River Middle School	$12,779,256	$1,297,594	10%	$3,229,106	25%
2009	Duval	Middle	Westview K-8	$29,119,287	$2,600,719	9%	$3,013,790	10%
2009	Hernando	Middle	Explorer K-8	$41,212,410	$1,748,584	4%	$3,220,587	8%
2009	Hillsborough	Middle	Barrington Middle School	$16,315,050	$961,428	6%	$2,259,000	14%
2009	Indian River	Middle	Storm Grove Middle School	$34,106,673	$2,205,007	6%	$4,191,001	12%
2009	Lake	Middle	East Ridge Middle School	$27,281,965	$1,283,420	5%	$2,491,107	9%
2009	Osceola	Middle	Westside K-8 School	$23,051,370	$1,363,350	6%	$2,686,144	12%
2009	Sarasota	Middle	Woodland Middle School	$31,412,195	$3,004,145	10%	$2,077,048	7%
2009	St. Johns	Middle	Liberty Pines Academy (K-8)	$25,277,687	$971,288	4%	$1,197,445	5%
2010	Broward	Elem	Norcrest Elementary	$22,286,245	$885,319	4%	$1,257,845	6%
2010	Collier	Elem	Palmetto Elementary	$20,224,743	$889,743	4%	$2,671,470	13%
2010	Lake	Elem	Sorrento Elemenatry	$15,842,160	$668,339	4%	$1,896,206	12%
2010	Orange	Elem	Old Cheney/North Forsyth Elementary	$12,096,899	$783,588	6%	$987,926	8%
2010	Osceola	Elem	East Lake Elementary	$11,747,305	$537,980	5%	$1,885,002	16%
2010	Palm Beach	Elem	Everglades Elementary	$15,940,134	$1,863,296	12%	$1,075,126	7%
2010	Palm Beach	Elem	Northboro Elementary	$24,168,146	$1,990,621	8%	$780,037	3%
2010	Palm Beach	Elem	Plumosa Elementary	$21,038,789	$2,075,316	10%	$715,049	3%
2010	Seminole	Elem	New Midway Elementary	$12,297,322	$810,700	7%	$1,133,007	9%
2010	Clay	High	Oakleaf High	$50,819,745	$2,562,240	5%	$3,064,772	6%
2010	Duval	High	Atlantic Coast High	$50,466,294	$5,220,136	10%	$5,048,820	10%
2010	Hernando	High	Weeki Watchee High	$33,006,787	$1,939,097	6%	$4,719,813	14%
2010	Sarasota	High	Riverview High	$78,561,000	$5,999,998	8%	$4,377,536	6%
2010	Collier	High	Lorenzo Walker Institute of Technology High	$9,843,413	$795,386	8%	$1,312,405	13%
2010	Orange	High	Apopka HS Replacement	$70,267,621	$2,112,349	3%	$4,733,044	7%
2010	Palm Beach	High	Palm Beach Gardens Community High	$75,097,581	$3,829,735	5%	$3,330,581	4%
2010	Palm Beach	High	Suncoast High	$59,972,270	$3,938,916	7%	$2,280,000	4%
2010	Volusia	High	University High	$72,990,143	$3,092,214	4%	$6,096,162	8%
2011	Charlotte	Elem	Meadow Park Elementary	$12,696,116	$944,273	7%	$674,842	5%
2011	Duval	Elem	Waterleaf Elementary	$14,882,021	$1,621,628	11%	$1,899,236	13%
2011	Escambia	Elem	Global Learning Academy	$17,019,155	$1,682,415	10%	$2,861,931	17%
2011	Osceola	Elem	Highlands Elementary	$14,534,309	$666,978	5%	$1,650,318	11%
2011	Pasco	Elem	Connerton Elementary "R"	$11,598,590	$858,671	7%	$1,298,389	11%
2011	Calhoun	High	Blountstown High	$19,407,910	$1,968,893	10%	$994,719	5%
2011	Charlotte	High	Charlotte High	$61,755,842	$6,502,129	11%	$2,676,408	4%
2011	Broward	High	Lanier James Education Center	$8,889,147	$1,075,459	12%	$1,304,137	15%
2011	Dade	High	International Studies SHS	$7,192,325	$684,965	10%	$757,496	11%
2011	Dade	High	Medical Academy or Science and Technology	$9,303,705	$762,932	8%	$919,966	10%
2011	Okeechobee	High	Okeechobee Achievement Academy	$5,499,975	$453,761	8%	$427,114	8%
2011	Polk	High	Auburndale Senior	$19,522,053	$1,462,146	7%	$3,124,050	16%
2011	Polk	High	Davenport School of the Arts	$29,136,512	$1,042,674	4%	$2,330,971	8%
2011	Polk	High	Kathleen Senior	$24,323,662	$875,094	4%	$2,267,250	9%
2011	Polk	High	Winter Haven Senior	$26,374,234	$853,483	3%	$2,360,389	9%
2011	Dade	Middle	North Dade Middle	$18,921,534	$867,900	5%	$1,122,762	6%
2011	Hernando	Middle	Winding Waters K-8	$14,559,177	$880,709	6%	$4,279,500	29%
2011	Orange	Middle	Lake Nona Middle	$16,923,455	$1,277,253	8%	$1,795,567	11%
2011	Polk	Middle	Boone Middle	$17,900,963	$1,080,157	6%	$1,331,348	7%
2011	Walton	Middle	Emerald Coast Middle	$15,918,884	$1,709,689	11%	$700,000	4%
2012	Alachua	Elem	Meadowbrook Elementary	$12,388,973	$1,010,997	8%	$1,974,896	16%
2012	Indian River	Elem	Vero Beach Elementary	$17,243,103	$1,476,006	9%	$1,342,512	8%
2012	Lee	Elem	Tortuga Preserve	$16,021,554	$214,042	1%	$1,487,461	9%
2012	Orange	Elem	SunRidge Elementary	$10,031,097	$580,395	6%	$951,358	9%
2012	St. Johns	Elem	Palencia Elementary	$12,677,682	$956,170	8%	$1,500,000	12%
2012	Volusia	Elem	Citrus Grove Elementary	$13,854,183	$1,098,766	8%	$1,555,729	11%
2012	Collier	Middle	Bethune Education Center	$5,538,155	$561,233	10%	$734,057	13%
2012	Dade	Middle	North Dade Middle	$18,921,534	$867,900	5%	$1,122,762	6%
2012	Lee	Middle	Hams Marsh Middle	$23,750,925	$721,076	3%	$1,814,273	8%
2012	Orange	Middle	SunRidge Middle	$23,617,116	$1,137,698	5%	$1,591,755	7%
2012	Dade	High	International Studies SHS	$7,192,325	$684,965	10%	$757,496	11%
2012	Dade	High	Medical Academy or Science and Technology	$9,303,705	$762,932	8%	$919,966	10%
2012	Orange	High	Evans High	$55,507,691	$3,568,884	6%	$3,743,130	7%
2012	St. Lucie	High	Lincoln Park Academy	$10,928,736	$1,623,543	15%	$3,246,193	30%
2013	Marion	Elem	Legacy Elementary	$14,047,310	$675,267	5%	$1,680,825	12%
2013	Orange	Elem	Sun Blaze Elementary	$10,269,207	$587,445	6%	$1,035,369	10%
2013	Orange	Elem	Hackney Prairies Road Area Elementary	$11,261,094	$890,931	8%	$1,057,127	9%
2013	Palm Beach	Elem	Galaxy Elementary	$19,780,288	$1,804,129	9%	$1,586,590	8%
2013	Palm Beach	Elem	Gove Elementary	$23,540,256	$2,005,390	9%	$2,027,670	9%

Table C-4 (Continued)
Architectural/Civil Design and FF&E Cost Analysis
Brevard County and Other Florida Jurisdictions

Year	District	Type	Facility Name	Construction Cost	Architect & Eng Fees	Ratio of Architect & Eng Fees to Construction Cost	FF&E	Ratio of FF&E to Construction Cost
2013	Monroe	Middle	Horace O'Bryant	$30,596,297	$3,221,414	11%	$1,320,362	4%
2013	Lake	High	Lake Minneola High	$46,974,201	$3,030,934	6%	$6,483,383	14%
2013	Martin	High	Martin County High	$7,623,316	$1,274,200	17%	$419,893	6%
Total/Weighted Average				**$3,749,869,824**	**$213,105,493**	**6%**	**$318,643,622**	**8%**
Total/Weighted Average (Brevard County Schools ONLY)				**$61,825,849**	**$2,553,706**	**4%**	**$5,828,874**	**9%**
Total/Weighted Average (Excluding Brevard County Schools)				**$3,688,043,975**	**$210,551,787**	**6%**	**$312,814,748**	**8%**

Source: Florida Department of Education

Table C-5
Site Development Cost Analysis
Brevard County and Other Florida Jurisdictions

Year	District	Type	Facility Name	Construction Cost	Site Improv/Devel	Ratio of Site Development to Construction Cost
2008	Leon	Elem	Conley Elementary School	$22,234,866	$1,363,038	6%
2008	Broward	Elem	Colbert Elementary	$3,576,065	$54,751	2%
2008	Charlotte	Elem	Peace River Elementary School	$16,470,888	$2,026,353	12%
2008	Citrus	Elem	Central Ridge Elementary	$20,066,027	$3,200	0%
2008	Clay	Elem	Plantation Oaks Elementary	$15,709,595	$2,001,795	13%
2008	Collier	Elem	Parkside Elementary	$21,099,395	$609,364	3%
2008	Collier	Elem	Veterans Memorial Elementary	$16,957,004	$554,493	3%
2008	Highlands	Elem	Memorial Elementary	$10,296,575	$2,623,522	25%
2008	Hillsborough	Elem	Kimbell Elementary	$10,540,220	$798,597	8%
2008	Hillsborough	Elem	Reddick Elementary	$13,342,791	$692,203	5%
2008	Lee	Elem	Heights Elementary School	$21,224,842	$705,540	3%
2008	Lee	Elem	Treeline Elementary School	$15,989,080	$1,494,920	9%
2008	Orange	Elem	Conway Elementary School	$10,376,998	$500,000	5%
2008	Orange	Elem	Lakemont Elementary School	$12,830,008	$300,967	2%
2008	Orange	Elem	Timber Lakes Elementary School	$12,465,522	$1,601,516	13%
2008	Orange	Elem	Westbrooke Elementary School	$13,259,968	$1,145,801	9%
2008	Osceola	Elem	Flora Ridge Elementary	$15,804,425	$684,259	4%
2008	Osceola	Elem	New ES "J" (Harmony Community)	$13,632,941	$1,300,802	10%
2008	Palm Beach	Elem	Allamanda Elementary	$23,238,839	$2,192,788	9%
2008	Palm Beach	Elem	Forest Park Elementary	$24,150,475	$3,842,794	16%
2008	Palm Beach	Elem	Hagen Ranch Elementary	$22,672,614	$4,135,688	18%
2008	Palm Beach	Elem	Palm Beach Gardens Elementary	$22,077,886	$3,007,648	14%
2008	Palm Beach	Elem	Pine Jog Elementary	$29,144,023	$2,874,817	10%
2008	Palm Beach	Elem	Westward Elementary	$27,207,724	$705,832	3%
2008	Palm Beach	Elem	Sunset Palms Elementary	$24,576,913	$1,359,139	6%
2008	Pasco	Elem	New River Elementary "M"	$11,301,689	$2,134,030	19%
2008	Pinellas	Elem	New Heights Elementary	$22,910,850	$2,778,418	12%
2008	Pinellas	Elem	Tarpon Springs Elementary	$19,675,615	$2,740,407	14%
2008	Volusia	Elem	Pride Elementary ("Y")	$14,935,273	$1,296,294	9%
2008	Walton	Elem	Mossy Head School	$18,827,427	$32,000	0%
2008	St. Lucie	High	Ft. Pierce Central High School	$63,908,401	$5,309,308	8%
2008	Broward	High	West Broward High	$74,974,472	$149,041	0%
2008	Franklin	High	Franklin County Schools	$22,955,575	$500,000	2%
2008	Lee	High	Island Coast High School	$41,559,854	$5,418,852	13%
2008	Pasco	High	Wiregrass Ranch High School "CCC"	$22,880,482	$4,536,580	20%
2008	Sarasota	High	Suncoast Polytechnical High School	$11,730,040	$1,463,101	12%
2008	Leon	Middle	Montford Middle School	$22,008,118	$39,230	0%
2008	Bay	Middle	Breakfast Point Academy K-8	$25,975,683	$3,838,363	15%
2008	Charlotte	Middle	Punta Gorda Middle School	$23,896,506	$2,968,607	12%
2008	Collier	Middle	Cypress Palm Middle	$26,535,164	$619,584	2%
2008	Collier	Middle	Marco Charter Middle	$14,450,518	$98,219	1%
2008	Duval	Middle	North Shore K-8	$25,222,118	$450,000	2%
2008	Flagler	Middle	Bunnell K-8	$17,776,495	$1,168,123	7%
2008	Hillsborough	Middle	Smith Middle	$20,160,152	$932,385	5%
2008	Lee	Middle	Oak Hammock Middle School	$24,359,562	$885,000	4%
2008	Marion	Middle	Liberty Middle	$28,242,481	$3,687,549	13%
2008	Sarasota	Middle	Woodland Middle School	$31,412,195	$6,909,752	22%
2008	St. Lucie	Middle	Allapattah Flats K-8	$34,488,744	$3,351,476	10%
2008	St. Lucie	Middle	Palm Pointe Educational Research School at Tradition	$24,836,235	$4,993,386	20%
2009	Okaloosa	Elem	Riverside Elementary School	$11,716,323	$2,148,260	18%
2009	Bay	Elem	Deer Point Elementary	$16,646,867	$1,711,350	10%
2009	Broward	Elem	Discovery Elementary (K-6)	$24,813,884	$3,397	0%
2009	Charlotte	Elem	East Elementary	$14,128,364	$1,389,286	10%
2009	Collier	Elem	Eden Park Elementary (K-6)	$19,625,793	$2,083,000	11%
2009	Collier	Elem	Mike Davis Elementary	$18,747,061	$1,722,320	9%
2009	Duval	Elem	Bartram Springs Elementary	$16,349,939	$1,427,211	9%
2009	Hillsborough	Elem	Bailey Elementary	$7,308,787	$753,646	10%
2009	Hillsborough	Elem	Stowers Elementary	$10,360,379	$941,642	9%
2009	Lee	Elem	Heights Elementary School	$20,794,081	$220,848	1%
2009	Lee	Elem	Lehigh Elementary School	$15,702,253	$679,758	4%
2009	Manatee	Elem	G.D. Rogers Garden Elementary	$12,223,480	$969,092	8%
2009	Martin	Elem	Citrus Grove Elementary	$21,130,325	$722,012	3%
2009	Orange	Elem	Keene's Crossing Elementary School	$12,452,304	$1,487,617	12%
2009	Osceola	Elem	KOA Elementary School (Elem L)	$12,610,702	$1,874,555	15%

Table C-5 (Continued)
Site Development Cost Analysis
Brevard County and Other Florida Jurisdictions

Year	District	Type	Facility Name	Construction Cost	Site Improv/Devel	Ratio of Site Development to Construction Cost
2009	Osceola	Elem	Narcoossee Elementary (ES M)	$14,770,196	$631,727	4%
2009	Palm Beach	Elem	C.O. Taylor/Kirklane Elementary	$35,663,420	$3,628,916	10%
2009	Palm Beach	Elem	Hope-Centennial Elementary	$25,030,950	$2,733,790	11%
2009	Sarasota	Elem	Atwater Elementary School	$12,524,430	$4,737,875	38%
2009	Volusia	Elem	Champion Elementary	$14,696,164	$1,615,729	11%
2009	Wakulla	Elem	Riversink Elementary	$15,363,460	$1,300,000	8%
2009	Washington	Elem	Vernon Elementary School	$6,259,105	$450,421	7%
2009	Brevard	High	Satellite High School	$4,736,903	$307,888	6%
2009	Brevard	High	Heritage High School	$57,088,946	$9,834,384	17%
2009	Hillsborough	High	Steinbrenner High School	$38,437,165	$4,391,015	11%
2009	Hillsborough	High	Strawberry Crest High School	$43,204,430	$3,443,506	8%
2009	Orange	High	East River High School	$58,970,282	$10,333,793	18%
2009	Orange	High	Lake Nona High School	$60,857,702	$7,186,702	12%
2009	Sarasota	High	Suncoast Polytechnical High School	$11,730,040	$1,463,101	12%
2009	Walton	High	Walton Senior High	$35,764,000	$50,000	0%
2009	Okaloosa	Middle	Shoal River Middle School	$12,779,256	$2,170,119	17%
2009	Duval	Middle	Westview K-8	$29,119,287	$1,708,817	6%
2009	Hernando	Middle	Explorer K-8	$41,212,410	$1,200,000	3%
2009	Hillsborough	Middle	Barrington Middle School	$16,315,050	$1,368,167	8%
2009	Indian River	Middle	Storm Grove Middle School	$34,106,673	$6,629,160	19%
2009	Lake	Middle	East Ridge Middle School	$27,281,965	$599,565	2%
2009	Osceola	Middle	Westside K-8 School	$23,051,370	$2,162,558	9%
2009	Sarasota	Middle	Woodland Middle School	$31,412,195	$6,909,752	22%
2010	Broward	Elem	Norcrest Elementary	$22,286,245	$37,949	0%
2010	Collier	Elem	Palmetto Elementary	$20,224,743	$2,440,985	12%
2010	Lake	Elem	Sorrento Elemenatry	$15,842,160	$48,712	0%
2010	Orange	Elem	Old Cheney/North Forsyth Elementary	$12,096,899	$1,815,172	15%
2010	Osceola	Elem	East Lake Elementary	$11,747,305	$1,255,467	11%
2010	Palm Beach	Elem	Everglades Elementary	$15,940,134	$2,286,725	14%
2010	Palm Beach	Elem	Northboro Elementary	$24,168,146	$1,482,606	6%
2010	Palm Beach	Elem	Plumosa Elementary	$21,038,789	$1,967,540	9%
2010	Clay	High	Oakleaf High	$50,819,745	$274,000	1%
2010	Duval	High	Atlantic Coast High	$50,466,294	$7,648,460	15%
2010	Sarasota	High	Riverview High	$78,561,000	$14,665,000	19%
2010	Collier	High	Lorenzo Walker Institute of Technology High	$9,843,413	$287,278	3%
2010	Orange	High	Apopka HS Replacement	$70,267,621	$9,439,283	13%
2010	Palm Beach	High	Palm Beach Gardens Community High	$75,097,581	$10,693,532	14%
2010	Palm Beach	High	Suncoast High	$59,972,270	$9,785,603	16%
2010	Volusia	High	University High	$72,990,143	$12,232,947	17%
2011	Charlotte	Elem	Meadow Park Elementary	$12,696,116	$1,802,689	14%
2011	Duval	Elem	Waterleaf Elementary	$14,882,021	$1,361,500	9%
2011	Escambia	Elem	Global Learning Academy	$17,019,155	$200,000	1%
2011	Osceola	Elem	Highlands Elementary	$14,534,309	$1,293,639	9%
2011	Pasco	Elem	Connerton Elementary "R"	$11,598,590	$2,313,586	20%
2011	Calhoun	High	Blountstown High	$19,407,910	$1,362,604	7%
2011	Charlotte	High	Charlotte High	$61,755,842	$7,904,370	13%
2011	Broward	High	Lanier James Education Center	$8,889,147	$918,943	10%
2011	Okeechobee	High	Okeechobee Achievement Academy	$5,499,975	$1,300	0%
2011	Walton	Middle	Emerald Coast Middle	$15,918,884	$1,717,116	11%
2012	Alachua	Elem	Meadowbrook Elementary	$12,388,973	$86,278	1%
2012	Indian River	Elem	Vero Beach Elementary	$17,243,103	$1,196,000	7%
2012	Lee	Elem	Tortuga Preserve	$16,021,554	$1,367,613	9%
2012	Orange	Elem	SunRidge Elementary	$10,031,097	$1,296,632	13%
2012	St. Johns	Elem	Palencia Elementary	$12,677,682	$0	0%
2012	Volusia	Elem	Citrus Grove Elementary	$13,854,183	$415,026	3%
2012	Collier	Middle	Bethune Education Center	$5,538,155	$479,652	9%
2012	Dade	Middle	North Dade Middle	$18,921,534	$0	0%
2012	Lee	Middle	Hams Marsh Middle	$23,750,925	$2,100,258	9%
2012	Orange	Middle	SunRidge Middle	$23,617,116	$1,051,252	4%
2012	Dade	High	International Studies SHS	$7,192,325	$0	0%

Table C-5 (Continued)
Site Development Cost Analysis
Brevard County and Other Florida Jurisdictions

Year	District	Type	Facility Name	Construction Cost	Site Improv/Devel	Ratio of Site Development to Construction Cost
2012	Dade	High	Medical Academy or Science and Technology	$9,303,705	$0	0%
2012	Orange	High	Evans High	$55,507,691	$2,151,931	4%
2012	St. Lucie	High	Lincoln Park Academy	$10,928,736	$7,901,452	72%
2013	Marion	Elem	Legacy Elementary	$14,047,310	$477,607	3%
2013	Orange	Elem	Sun Blaze Elementary	$10,269,207	$658,487	6%
2013	Orange	Elem	Hackney Prairies Road Area Elementary	$11,261,094	$657,635	6%
2013	Palm Beach	Elem	Galaxy Elementary	$19,780,288	$1,929,530	10%
2013	Palm Beach	Elem	Gove Elementary	$23,540,256	$1,284,903	5%
2013	Monroe	Middle	Horace O'Bryant	$30,596,297	$2,740,572	9%
2013	Lake	High	Lake Minneola High	$46,974,201	$13,992	0%
2013	Martin	High	Martin County High	$7,623,316	$536,994	7%
Total/Weighted Average				**$3,163,588,459**	**$307,453,330**	**10%**
Total/Weighted Average (Brevard County Schools ONLY)				**$61,825,849**	**$10,142,272**	**16%**
Total/Weighted Average (Excluding Brevard County Schools)				**$3,101,762,610**	**$297,311,059**	**10%**

Source: Florida Department of Education

Land Value Analysis

To estimate the current land value the following analysis is conducted:

- A review of current market value of land from the Property Appraiser database where the existing schools are located;
- An analysis of vacant land sales in Brevard County over the past three years for parcels of necessary size;
- An analysis of market value of all vacant land from the Property Appraiser database for parcels of necessary size and similar location;
- Discussions with the District's Facilities Management Services Division and its appraisers.

Results of this analysis suggested that the land values tend to vary significantly in Brevard County depending on location. Future land purchases of the District are likely to occur in central Brevard County/West Melbourne area. In addition, the District is likely to purchase property from existing Developments of Regional Impact (DRIs) such as the Viera Corporation or Sawgrass Development. Most recent land purchases (paid in terms of impact fees) from the Viera Corporation ranged from $39,000 to $127,000 per acre. Discussions with the appraisers who work with the District suggested that the future cost of land for new schools could easily reach up to $120,000 per acre in the DRIs, while the estimates for land outside the DRIs in central Brevard County ranged from $40,000 per acre to $60,000 per acre. Given this information, a unit cost of $50,000 per acre is found to be a reasonable estimate for impact fee calculation purposes.

APPENDIX D
Transportation Impact Fee:
Demand Component Calculations

Demand Component

This appendix presents the detailed calculations for the demand component of the transportation impact fee update.

Interstate & Toll Facility Discount Factor

Table D-1 presents the interstate and toll facility discount factor used in the calculation of the transportation impact fee. This variable is based on data from the Central Florida Regional Planning Model, specifically the 2035 projected vehicle miles of travel, accounting for roadway improvements included in the 2035 Long Range Transportation Plan. It should be noted that discount factor excludes external-to-external trips, which represent traffic that goes through Brevard County, but does not necessarily stop in the county. This traffic is excluded from the calculations since it does not come from development within the county. The I/T discount factor is used to reduce the VMT that the impact fee charges for each land use.

Table D-1
Interstate/Toll Facility Discount Factor

Roadway	VMT (2035)	% VMT
Interstate 95	3,418,783	17.3%
Other Roads	16,290,259	82.7%
Total (All Roads)	**19,709,042**	**100.0%**
Total (Interstate/Toll Roads)	**3,418,783**	**17.3%**

Source: Central Florida Regional Planning Model v5.01

Demand Variable Changes

Since the 2000 technical study, the trip generation rate, trip length, and percent new trips values have changed for several land uses. Land uses were updated based on additional data included in the Florida Studies Database since 2000 and the use of the ITE 9th Edition Trip Generation Reference Report. Table D-2 presents the percent changes in gross VMT (combination of trip generation, trip length, and percent new trips) for each land use in the transportation impact fee schedule as well as an explanation for the change.

Table D-2
Percent VMT Change for Transportation Impact Fee Land Uses

ITE LUC	Land Use	Unit	Gross VMT 2000 Report	Gross VMT 2015 Report	% Change	Explanation
	RESIDENTIAL:					
210	Single Family (Detached)	du	27.27	25.85	-5.2%	TGR decreased by 18% due to the use of FL Studies and TL increased by 16% due to new TCS data available since 2000
220	Multi-Family (Apartment); 1-2 Stories	du	16.80	16.83	0.2%	TGR increased by 0.2% due to rounding
222/223	Multi-Family (Apartment); 3+ Stories	du	14.94	10.56	-29.3%	TGR decreased by 29% due to the use of a blend of the ITE 9th Edition trip generation rates for mid-rise and high-rise apartments
231	Condo/Duplex/Townhouse; 1-2 Stories	du	16.80	19.89	18.4%	This land use was not included in the 2000 study. Brevard County has been charging this land use using "Multi-Family, 1-2 stories" as a proxy. For this update, the TGR has been updated to reflect the ITE 9th Edition TGR for this specific land use category
232	Condo/Duplex/Townhouse; 3+ Stories	du	14.94	10.66	-28.6%	This land use was not included in the 2000 study. Brevard County has been charging this land use using "Multi-Family, 3+ stories" as a proxy. For this update, the TGR has been updated to reflect the ITE 9th Edition TGR for this specific land use category
240	Mobile Home Park	du	10.34	9.59	-7.3%	TGR decreased by 13% due to the use of FL Studies and TL increased by 7% due to new TCS data available since 2000
253	Congregate Care Facility/ALF	du	2.40	2.49	3.8%	TGR increased by 5% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 0.6% due to rounding
	LODGING:					
310	Hotel	room	17.11	13.14	-23.2%	TGR decreased by 23% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 0.6% due to rounding
320	Motel	room	9.32	9.41	1.0%	TL increased by 1% due to rounding
	RECREATION:					
416	RV Park	site	10.34	3.73	-63.9%	The RV Park land use was previously grouped with the Mobile Home Park land use
420	Marina	boat berth	40.50	8.82	n/a	This land use was charged per "acre" in the 2000 study, but will be charged per "boat berth" moving forward. Therefore, a comparison of TGR is not applicable. TL increased by 54% due to the use of the "Single Family" land use as a proxy
430	Golf Course	hole	72.37	106.47	47.1%	TL increased by 47% due to the use of the "Single Family" land use as a proxy
444	Movie Theater w/Matinee	screen	0.28	104.16	n/a	This land use was charged per "seat" in the 2000 study, but will be charged per "screen" moving forward. Therefore, a comparison of TGR is not applicable. TL increased by 1% and PNT decreased by 1% due to rounding
491	Racquet/Tennis Club	court	60.06	93.67	56.0%	TGR increased by 25% due to an update to the ITE 9th Edition Handbook. TL increased by 20% based on the use of the "Office" land use as a proxy. PNT increased by 4% due to the use of the "Health/Fitness Club" land use as a proxy
492	Health/Fitness Club	1,000 sf	36.25	79.71	119.9%	TGR increased by 92% due to an update to the ITE 9th Edition Handbook. TL increased by 14% based on the use of the "Office" land use as a proxy.
	INSTITUTIONS:					
520	Elementary School (Private)	student	1.72	2.22	29.1%	TGR increased by 29% due to an update to the ITE 9th Edition Handbook.
522	Middle School (Private)	student	1.94	3.13	61.3%	TGR increased by 62% due to an update to the ITE 9th Edition Handbook.
530	High School (Private)	student	2.71	3.31	22.1%	TGR increased by 22% due to an update to the ITE 9th Edition Handbook.
540	University/Jr College (7,500 or fewer students) (Private)	student	5.26	5.96	13.3%	TGR increased by 25% due to the use of an ITE regression analysis. TL decreased by 9% due to the use of the "Single Family" land use as a proxy

Table D-2 (continued)
Percent VMT Change for Transportation Impact Fee Land Uses

ITE LUC	Land Use	Unit	Gross VMT 2000 Report	Gross VMT 2015 Report	% Change	Explanation
	INSTITUTIONS:					
550	University/Jr College (more than 7,500 students) (Private)	student	7.88	4.47	-43.3%	TGR decreased by 43% due to the use of an ITE regression analysis. TL decreased by 9% due to the use of the "Single Family" land use as a proxy
560	Church	1,000 sf	15.99	15.99	0.0%	No change
565	Day Care Center	1,000 sf	75.22	53.26	-29.2%	TGR increased by 9% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 22% based on an update to the FL Studies database weighted average TL calculation
610	Hospital	1,000 sf	33.59	33.69	0.3%	TGR decreased by 21% due to an update to the ITE 9th Edition Handbook. TL increased by 27% due to the use of the "Single Family" land use as a proxy
620	Nursing Home	bed	3.02	3.18	5.3%	TGR increased by 6% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 0.4% due to rounding
640	Animal Hospital/Veterinary Clinic	1,000 sf	22.96	21.81	-5.0%	TL decreased by 5% due to rounding
	OFFICE:					
710	General Office 50,000 sf or less	1,000 sf	31.74	36.72	15.7%	TGR increased by 17% due to the use of the ITE 9th Edition equation and an end-point analysis. TL decreased by 1% due to rounding
	General Office 50,001-100,000 sf	1,000 sf	31.74	31.10	-2.0%	TGR decreased by 1% due to the use of the ITE 9th Edition equation and an end-point analysis. TL decreased by 1% due to rounding
	General Office 100,001-200,000 sf	1,000 sf	31.74	26.34	-17.0%	TGR decreased by 16% due to the use of the ITE 9th Edition equation and an end-point analysis. TL decreased by 1% due to rounding
	General Office 200,001-400,000 sf	1,000 sf	31.74	22.29	-29.8%	TGR decreased by 29% due to the use of the ITE 9th Edition equation and an end-point analysis. TL decreased by 1% due to rounding
	General Office greater than 400,000 sf	1,000 sf	31.74	20.23	-36.3%	TGR decreased by 36% due to the use of the ITE 9th Edition equation and an end-point analysis. TL decreased by 1% due to rounding
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	81.73	58.85	-28.0%	The small medical offie tier was not included in the previous study
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	81.73	85.75	4.9%	TGR decreased by 4% due to an analysis of the ITE 9th Edition data. TL increased by 7% and PNT increased by 2% due to the use of FL Studies data
750	Office Park	1,000 sf	38.87	38.27	-1.5%	TGR increased by 3% due to an analysis of the ITE 9th Edition data. TL decreased by 4% based on an update to the FL Studies database weighted average TL calculation
	RETAIL:					
820	Retail 10,000 sfgla or less	1,000 sfgla	37.72	23.64	-37.3%	TGR decreased by 0.9% due to the use of the ITE 9th Edition equation and an end-point analysis. TL decreased by 29% and PNT decreased by 10% due to new TCS data available since 2000
	Retail 10,001-50,000 sfgla	1,000 sfgla	37.72	45.32	20.1%	TGR decreased by 0.9% due to the use of the ITE 9th Edition equation and an end-point analysis. TL increased by 4% and PNT increased by 17% due to new TCS data available since 2000
	Retail 50,001-100,000 sfgla	1,000 sfgla	41.45	48.21	16.3%	TGR decreased by 0.4% due to the use of the ITE 9th Edition equation and an end-point analysis. TL increased by 21% and PNT decreased by 3% due to new TCS data available since 2000
	Retail 100,001-300,000 sfgla	1,000 sfgla	34.06	41.36	21.4%	TGR decreased by 13% due to the use of the ITE 9th Edition equation and an end-point analysis. TL increased by 26% and PNT increased by 11% due to new TCS data available since 2000
	Retail 300,001-500,000 sfgla	1,000 sfgla	37.53	39.87	6.2%	TGR decreased by 18% due to the use of the ITE 9th Edition equation and an end-point analysis. TL increased by 25% and PNT increased by 4% due to new TCS data available since 2000

Table D-2 (continued)
Percent VMT Change for Transportation Impact Fee Land Uses

ITE LUC	Land Use	Unit	Gross VMT 2000 Report	Gross VMT 2014 Report	% Change	Explanation
	RETAIL:					
820	Retail 500,001-1,000,000 sfgla	1,000 sfgla	37.40	41.03	9.7%	TGR decreased by 27% due to the use of the ITE 9th Edition equation and an end-point analysis. TL increased by 39% and PNT increased by 8% due to new TCS data available since 2000
	Retail greater than 1,000,000 sfgla	1,000 sfgla	37.40	41.66	11.4%	TGR decreased by 32% due to the use of the ITE 9th Edition equation and an end-point analysis. TL increased by 49% and PNT increased by 9% due to new TCS data available since 2000
841	New/Used Auto Sales	1,000 sf	68.74	51.33	-25.3%	TGR decreased by 25% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 2% based on an update to the FL Studies database weighted average TL calculation. PNT decreased by 1% due to rounding
850	Supermarket	1,000 sf	72.59	60.21	-17.1%	TGR decreased by 7% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 1% due to rounding. PNT decreased by 10% due to the use of FL Studies data
851	Convenience Market (24 hour)	1,000 sf	226.93	224.10	-1.2%	TGR decreased by 3% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 1% due to rounding
853	Convenience Market w/Gasoline	1,000 sf	147.62	163.86	11.0%	TGR increased by 21% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL decreased by 6% due to new TCS data available since 2000. PNT decreased by 3% due to rounding
880/881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	-	31.94	-	The pharmacy land use was not included in the previous study
890	Furniture Store	1,000 sf	8.33	8.32	-0.1%	TL decreased by 0.2% due to rounding
911	Bank/Savings Walk-In	1,000 sf	88.25	68.63	-22.2%	TGR decreased by 23% due to an update to the ITE 9th Edition Handbook. TL increased by 3% based on the use of the "Bank w/Drive-In" land use as a proxy. PNT decreased by 2% due to rounding
912	Bank/Savings Drive-In	1,000 sf	149.58	90.15	-39.7%	TGR decreased by 40% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 3% due to new TCS data available since 2000. PNT decreased by 2% due to rounding
931	Quality Restaurant	1,000 sf	107.36	110.13	2.6%	TGR increased by 1% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 1% due to rounding
932	High-Turnover Restaurant	1,000 sf	147.48	131.22	-11.0%	TGR decreased by 11% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 2% and PNT decreased by 2% due to new TCS data available since 2000
934	Fast Food Rest. w/Drive-Thru	1,000 sf	234.17	303.79	29.7%	TGR increased by 3% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 28% and PNT decreased by 2% due to new TCS data available since 2000
942	Automobile Care Center	1,000 sf	48.73	40.96	-15.9%	TGR decreased by 16% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 1% due to rounding
944/946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	28.11	34.38	22.3%	TGR decreased by 16% due to a blending analysis of the ITE 9th Edition for LUC 944 and LUC 946. TL increased by 31% based on an update to the FL Studies database weighted average TL calculation
947	Self-Service Car Wash	service bay	73.14	32.57	-55.5%	TGR decreased by 59% due to a blending analysis of the ITE 9th Edition and FL Studies data. TL increased by 9% and PNT decreased by 1% due to new TCS data available since 2000

Table D-2 (continued)
Percent VMT Change for Transportation Impact Fee Land Uses

ITE LUC	Land Use	Unit	Gross VMT 2000 Report	Gross VMT 2014 Report	% Change	Explanation
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	19.54	16.51	-15.5%	TL decreased by 18% and PNT increased by 3% based on the use of the "Office" land use as a proxy
120	General Heavy Industrial	1,000 sf	-	3.55	-	The heavy industrial land use was not included in the previous study
150	Warehousing	1,000 sf	13.91	8.43	-39.4%	TGR decreased by 28% due to an update to the ITE 9th Edition Handbook. TL decreased by 18% and PNT increased by 3% based on the use of the "Office" land use as a proxy
151	Mini-Warehouse	1,000 sf	3.45	3.07	-11.0%	TGR decreased by 14% due to a blending analysis of the ITE 9th Edition and FL Studies data. PNT increased by 3% based on the use of the "Office" land use as a proxy

TGR = Trip Generation Rate
TL = Trip Length
PNT = Percent New Trips
TCS = Trip Characteristics Studies (FL Studies)

Florida Studies Trip Characteristics Database

The Florida Studies Trip Characteristics Database includes over 200 studies on 40 different residential and non-residential land uses collected over the last 20 years. Data from these studies include trip generation, trip length, and percent new trips for each land use. This information has been used in the development of impact fees and the creation of land use plan category trip characteristics for communities throughout Florida and the U.S.

Tindale Oliver estimates trip generation rates for all land uses in a transportation impact fee schedule using data from studies in the Florida Studies Database and the Institute of Transportation Engineers' (ITE) *Trip Generation* reference report (9th edition). In instances, when both ITE *Trip Generation* reference report (9th edition) and Florida Studies trip generation rate (TGR) data are available for a particular land use, the data is typically blended together to increase the sample size and provide a more valid estimate of the average number of trips generated per unit of development. If no Florida Studies data is available, only TGR data from the ITE reference report is used in the fee calculation.

The trip generation rate for each respective land use is calculated using machine counts that record daily traffic into and out of the site studied. The traffic count hoses are set at entrances to residential subdivisions for the residential land uses and at all access points for non-residential land uses.

The trip length information is obtained through origin-destination surveys that ask respondents where they came from prior to arriving at the site and where they intended to go after leaving the site. The results of these surveys were used to estimate average trip length by land use.

The percent new trip variable is based on assigning each trip collected through the origin-destination survey process a trip type (primary, secondary, diverted, and captured). The percent new trip variable is then calculated as 1 minus the percentage of trips that are captured. Tindale Oliver has published an article entitled, *Measuring Travel Characteristics for Transportation Impact Fees, ITE Journal, April 1991* on the data collecting methodology for trip characteristics studies.

Mini-Warehouse (ITE LUC 151)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Orange Co, FL	107.0	-	-	-	1.45	-	-	-	-	Orange County
Orange Co, FL	89.6	-	-	-	1.23	-	-	-	-	Orange County
Orange Co, FL	84.7	-	-	-	1.39	-	-	-	-	Orange County
Orange Co, FL	93.0	-	-	-	1.51	-	-	-	-	Orange County
Orange Co, FL	77.0	-	-	-	2.18	-	-	-	-	Orange County
Total Size	451.3	5					**Average Trip Length:**	**n/a**		
ITE	784.0	14					**Weighted Average Trip Length:**	**n/a**		
Blended total	1,235.3						Weighted Percent New Trip Average:	-		

Weighted Average Trip Generation Rate: 1.53
ITE Average Trip Generation Rate: 2.50
Blend of FL Studies and ITE Average Trip Generation Rate: 2.15

Single-Family Detached Housing (ITE LUC 210)

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Gwinnett Co, GA	-	12/13-18/92	-	-	5.80	-	5.40	N/A	31.32	Street Smarts
Gwinnett Co, GA	-	12/13-18/92	-	-	5.40	-	6.10	N/A	32.94	Street Smarts
Sarasota Co, FL	76	Jun-93	70	70	10.03	-	6.00	N/A	60.18	Sarasota County
Sarasota Co, FL	79	Jun-93	86	86	9.77	-	4.40	N/A	42.99	Sarasota County
Sarasota Co, FL	135	Jun-93	75	75	8.05	-	5.90	N/A	47.50	Sarasota County
Sarasota Co, FL	152	Jun-93	63	63	8.55	-	7.30	N/A	62.42	Sarasota County
Sarasota Co, FL	193	Jun-93	123	123	6.85	-	4.60	N/A	31.51	Sarasota County
Sarasota Co, FL	97	Jun-93	33	33	13.20	-	3.00	N/A	39.60	Sarasota County
Sarasota Co, FL	282	Jun-93	146	146	6.61	-	8.40	N/A	55.52	Sarasota County
Sarasota Co, FL	393	Jun-93	207	207	7.76	-	5.40	N/A	41.90	Sarasota County
Hernando Co, FL	76	May-96	148	148	10.01	9a-6p	4.85	N/A	48.55	Tindale-Oliver & Associates
Hernando Co, FL	128	May-96	205	205	8.17	9a-6p	6.03	N/A	49.27	Tindale-Oliver & Associates
Hernando Co, FL	232	May-96	182	182	7.24	9a-6p	5.04	N/A	36.49	Tindale-Oliver & Associates
Hernando Co, FL	301	May-96	264	264	8.93	9a-6p	3.28	N/A	29.29	Tindale-Oliver & Associates
Charlotte Co, FL	135	Oct-97	230	-	5.30	9a-5p	7.90	N/A	41.87	Tindale-Oliver & Associates
Charlotte Co, FL	142	Oct-97	245	-	5.20	9a-5p	4.10	N/A	21.32	Tindale-Oliver & Associates
Charlotte Co, FL	150	Oct-97	160	-	5.00	9a-5p	10.80	N/A	54.00	Tindale-Oliver & Associates
Charlotte Co, FL	215	Oct-97	158	-	7.60	9a-5p	4.60	N/A	34.96	Tindale-Oliver & Associates
Charlotte Co, FL	257	Oct-97	225	-	7.60	9a-5p	7.40	N/A	56.24	Tindale-Oliver & Associates
Charlotte Co, FL	345	Oct-97	161	-	7.00	9a-5p	6.60	N/A	46.20	Tindale-Oliver & Associates
Charlotte Co, FL	368	Oct-97	152	-	6.60	9a-5p	5.70	N/A	37.62	Tindale-Oliver & Associates
Charlotte Co, FL	383	Oct-97	516	-	8.40	9a-5p	5.00	N/A	42.00	Tindale-Oliver & Associates
Charlotte Co, FL	441	Oct-97	195	-	8.20	9a-5p	4.70	N/A	38.54	Tindale-Oliver & Associates
Charlotte Co, FL	1,169	Oct-97	348	-	6.10	9a-5p	8.00	N/A	48.80	Tindale-Oliver & Associates
Collier Co, FL	90	Dec-99	91	-	12.80	8a-6p	11.40	N/A	145.92	Tindale-Oliver & Associates
Collier Co, FL	400	Dec-99	389	-	7.80	8a-6p	6.40	N/A	49.92	Tindale-Oliver & Associates
Lake Co, FL	49	Apr-02	170	-	6.70	7a-6p	10.20	N/A	68.34	Tindale-Oliver & Associates
Lake Co, FL	52	Apr-02	212	-	10.00	7a-6p	7.60	N/A	76.00	Tindale-Oliver & Associates
Lake Co, FL	126	Apr-02	217	-	8.50	7a-6p	8.30	N/A	70.55	Tindale-Oliver & Associates
Pasco Co, FL	55	Apr-02	133	-	6.80	8a-6p	8.12	N/A	55.22	Tindale-Oliver & Associates
Pasco Co, FL	60	Apr-02	106	-	7.73	8a-6p	8.75	N/A	67.64	Tindale-Oliver & Associates
Pasco Co, FL	70	Apr-02	188	-	7.80	8a-6p	6.03	N/A	47.03	Tindale-Oliver & Associates
Pasco Co, FL	74	Apr-02	188	-	8.18	8a-6p	5.95	N/A	48.67	Tindale-Oliver & Associates
Pasco Co, FL	189	Apr-02	261	-	7.46	8a-6p	8.99	N/A	67.07	Tindale-Oliver & Associates
Marion Co, FL	102	Apr-02	167	-	8.02	7a-6p	5.10	N/A	40.90	Kimley-Horn & Associates
Marion Co, FL	105	Apr-02	169	-	7.23	7a-6p	7.22	N/A	52.20	Kimley-Horn & Associates
Marion Co, FL	124	Apr-02	170	-	6.04	7a-6p	7.29	N/A	44.03	Kimley-Horn & Associates
Marion Co, FL	132	Apr-02	171	-	7.87	7a-6p	7.00	N/A	55.09	Kimley-Horn & Associates
Marion Co, FL	133	Apr-02	209	-	8.04	7a-6p	4.92	N/A	39.56	Kimley-Horn & Associates
Citrus Co, FL	111	Oct-03	273	-	8.66	7a-6p	7.70	N/A	66.68	Tindale-Oliver & Associates
Citrus Co, FL	231	Oct-03	155	-	5.71	7a-6p	4.82	N/A	27.52	Tindale-Oliver & Associates
Citrus Co, FL	306	Oct-03	146	-	8.40	7a-6p	3.94	N/A	33.10	Tindale-Oliver & Associates
Citrus Co, FL	364	Oct-03	345	-	7.20	7a-6p	9.14	N/A	65.81	Tindale-Oliver & Associates
Citrus Co, FL	374	Oct-03	248	-	12.30	7a-6p	6.88	N/A	84.62	Tindale-Oliver & Associates
Lake Co, FL	42	Dec-06	122	-	11.26	-	5.56	N/A	62.61	Tindale-Oliver & Associates
Lake Co, FL	51	Dec-06	346	-	18.22	-	9.46	N/A	172.36	Tindale-Oliver & Associates
Lake Co, FL	59	Dec-06	144	-	12.07	-	10.79	N/A	130.24	Tindale-Oliver & Associates
Lake Co, FL	90	Dec-06	194	-	9.12	-	5.78	N/A	52.71	Tindale-Oliver & Associates
Lake Co, FL	239	Dec-06	385	-	7.58	-	8.93	N/A	67.69	Tindale-Oliver & Associates
Hernando Co, FL	232	Apr-07	516	-	8.02	7a-6p	8.16	N/A	65.44	Tindale-Oliver & Associates
Hernando Co, FL	95	Apr-07	256	-	8.08	7a-6p	5.88	N/A	47.51	Tindale-Oliver & Associates
Hernando Co, FL	90	Apr-07	338	-	7.13	7a-6p	5.86	N/A	41.78	Tindale-Oliver & Associates
Hernando Co, FL	58	Apr-07	153	-	6.16	7a-6p	8.39	N/A	51.68	Tindale-Oliver & Associates
Collier Co, FL	74	Mar-08	503	-	12.81	7a-6p	3.05	N/A	39.07	Tindale-Oliver & Associates
Collier Co, FL	97	Mar-08	512	-	8.78	7a-6p	11.29	N/A	99.13	Tindale-Oliver & Associates
Collier Co, FL	315	Mar-08	1,347	-	6.97	7a-6p	6.55	N/A	45.65	Tindale-Oliver & Associates
Collier Co, FL	42	Mar-08	314	-	9.55	7a-6p	10.98	N/A	104.86	Tindale-Oliver & Associates
Total Size	10,380	55	13,130				**Average Trip Length:**	**6.79**		
							Weighted Average Trip Length:	**6.62**		

Note: Georgia studies are not included in summary statistics.

Weighted Average Trip Generation Rate: 7.81

Multi-Family/Apartment and Residential Condo/Townhouse (ITE LUC 220/230)

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sarasota Co, FL	212	Jun-93	42	42	5.78	-	5.20	N/A	30.06	Sarasota County
Sarasota Co, FL	243	Jun-93	36	36	5.84	-	-	N/A	-	Sarasota County
Marion Co, FL	214	Apr-02	175	175	6.84	-	4.61	N/A	31.53	Kimley-Horn & Associates
Marion Co, FL	240	Apr-02	174	174	6.96	-	3.43	N/A	23.87	Kimley-Horn & Associates
Marion Co, FL	288	Apr-02	175	175	5.66	-	5.55	N/A	31.41	Kimley-Horn & Associates
Marion Co, FL	480	Apr-02	175	175	5.73	-	6.88	N/A	39.42	Kimley-Horn & Associates
Marion Co, FL	500	Apr-02	170	170	5.46	-	5.94	N/A	32.43	Kimley-Horn & Associates
Lake Co, FL	250	Dec-06	135	135	6.71	-	5.33	N/A	35.76	Tindale-Oliver & Associates
Lake Co, FL	157	Dec-06	265	265	13.97	-	2.62	N/A	36.60	Tindale-Oliver & Associates
Lake Co, FL	169	Dec-06	212	-	8.09	-	6.00	N/A	48.54	Tindale-Oliver & Associates
Lake Co, FL	226	Dec-06	301	-	6.74	-	2.17	N/A	14.63	Tindale-Oliver & Associates
Hernando Co, FL	312	Apr-07	456	-	4.09	-	5.95	N/A	24.34	Tindale-Oliver & Associates
Hernando Co, FL	176	Apr-07	332	-	5.38	-	5.24	N/A	28.19	Tindale-Oliver & Associates
Hernando Co, FL	31	May-96	31	31	6.12	9a-6p	4.98	N/A	30.48	Tindale-Oliver & Associates
Hernando Co, FL	128	May-96	128	128	6.47	9a-6p	5.18	N/A	33.51	Tindale-Oliver & Associates
Pasco Co, FL	229	Apr-02	198	198	4.77	9a-6p	-	N/A	-	Tindale-Oliver & Associates
Pasco Co, FL	248	Apr-02	353	353	4.24	9a-6p	3.53	N/A	14.97	Tindale-Oliver & Associates
Total Size	4,103						**Average Trip Length:**	**4.84**		
Total Size (TL)	3,631						**Weighted Average Trip Length:**	**5.10**		

LUC 220: Multi-Family

Total Size	3,467	13	Weighted Average Trip Generation Rate: 6.31
ITE	18,480	88	ITE Average Trip Generation Rate: 6.65
Blended total	21,947		**Blend of FL Studies and ITE Average Trip Generation Rate: 6.60**

LUC 230 Studies are highlighted

LUC 230: Condo/Townhouse

Total Size	636	4	Weighted Average Trip Generation Rate: 4.97
ITE	10,024	56	ITE Average Trip Generation Rate: 5.81
Blended total	10,660		**Blend of FL Studies and ITE Average Trip Generation Rate: 5.76**

Multi-Family/Apartment; 3+ Stories (ITE LUC 222/223)

ITE	435	High-Rise Apartment: 4.20
ITE	120	Mid-Rise Apartment: 3.90
	555	**Blend of ITE Average Trip Generation Rate for High-Rise and Mid-Rise Apts: 4.14**

Mobile Home Park (ITE LUC 240)

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Marion Co, FL	67	Jul-91	22	22	5.40	48hrs.	2.29	N/A	12.37	Tindale-Oliver & Associates
Marion Co, FL	82	Jul-91	58	58	10.80	24hr.	3.72	N/A	40.18	Tindale-Oliver & Associates
Marion Co, FL	137	Jul-91	22	22	3.10	24hr.	4.88	N/A	15.13	Tindale-Oliver & Associates
Marion Co, FL	188	Apr-02	147	-	3.51	24hr.	5.48	N/A	19.23	Kimley-Horn & Associates
Marion Co, FL	227	Apr-02	173	-	2.76	24hr.	8.80	N/A	24.29	Kimley-Horn & Associates
Sarasota Co, FL	235	Jun-93	100	100	3.51	-	5.10	N/A	17.90	Sarasota County
Marion Co, FL	297	Apr-02	175	-	4.78	24hr.	4.76	N/A	22.75	Kimley-Horn & Associates
Sarasota Co, FL	996	Jun-93	181	181	4.19	-	4.40	N/A	18.44	Sarasota County
Hernando Co, FL	1,892	May-96	425	425	4.13	9a-6p	4.13	N/A	17.06	Tindale-Oliver & Associates
Total Size	4,121	9	1,303				**Average Trip Length:**	**4.84**		
							Weighted Average Trip Length:	**4.60**		

Weighted Average Trip Generation Rate: 4.17

Congregate Care Facility (ITE LUC 253)

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Park, FL	72	Aug-89	25	19	3.50	9am-5pm	2.20	79.0	7.70	Tindale-Oliver & Associates
Palm Harbor, FL	200	Oct-89	58	40	-	9am-5pm	3.40	69.0	-	Tindale-Oliver & Associates
Total Size	272	2	83				**Average Trip Length:**	**2.80**		
ITE	388	2					**Weighted Average Trip Length:**	**3.08**		
Blended total	660						Weighted Percent New Trip Average:	71.6		
	460								Weighted Average Trip Generation Rate:	3.50
									ITE Average Trip Generation Rate:	2.02
									Blend of FL Studies and ITE Average Trip Generation Rate:	**2.25**

Hotel (ITE LUC 310)

Location	Size (Rooms)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	174	Aug-89	134	106	12.50	7-11a/3-7p	6.30	79.0	62.21	Tindale-Oliver & Associates
Pinellas Co, FL	114	Oct-89	30	14	7.30	12-7p	6.20	47.0	21.27	Tindale-Oliver & Associates
Orange Co, FL	70	-	-	-	1.85	-	-	-	-	Orange County
Orange Co, FL	211	-	-	-	2.23	-	-	-	-	Orange County
Orange Co, FL	112	-	-	-	2.78	-	-	-	-	Orange County
Orange Co, FL	1,495	-	-	-	3.50	-	-	-	-	Orange County
Orange Co, FL	123	-	-	-	3.70	-	-	-	-	Orange County
Orange Co, FL	130	-	-	-	4.29	-	-	-	-	Orange County
Orange Co, FL	1,499	-	-	-	4.69	-	-	-	-	Orange County
Orange Co, FL	190	-	-	-	4.71	-	-	-	-	Orange County
Orange Co, FL	123	-	-	-	4.81	-	-	-	-	Orange County
Orange Co, FL	105	-	-	-	5.25	-	-	-	-	Orange County
Orange Co, FL	120	-	-	-	5.27	-	-	-	-	Orange County
Orange Co, FL	1,584	-	-	-	5.88	-	-	-	-	Orange County
Orange Co, FL	128	-	-	-	6.10	-	-	-	-	Orange County
Orange Co, FL	174	-	-	-	7.03	-	-	-	-	Orange County
Orange Co, FL	144	-	-	-	7.32	-	-	-	-	Orange County
Orange Co, FL	98	-	-	-	7.32	-	-	-	-	Orange County
Orange Co, FL	106	-	-	-	7.34	-	-	-	-	Orange County
Orange Co, FL	100	-	-	-	7.37	-	-	-	-	Orange County
Orange Co, FL	144	-	-	-	7.66	-	-	-	-	Orange County
Total Size	6,944	21	164				**Average Trip Length:**	**6.25**		
ITE	4,760	10					**Weighted Average Trip Length:**	**6.26**		
Blended total	11,704						Weighted Percent New Trip Average:	66.3		

Weighted Average Trip Generation Rate: 5.12
ITE Average Trip Generation Rate: 8.17
Blend of FL Studies and ITE Average Trip Generation Rate: 6.36

Motel (ITE LUC 320)

Location	Size (Rooms)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	48	Oct-89	46	24	-	10a-2p	2.80	65.0	-	Tindale-Oliver & Associates
Pinellas Co, FL	54	Oct-89	32	22	-	12p-7p	3.80	69.0	-	Tindale-Oliver & Associates
Pinellas Co, FL	120	Oct-89	26	22	-	2p-7p	5.20	84.6	-	Tindale-Oliver & Associates
Total Size	222	3	104				**Average Trip Length:**	**3.93**		
ITE	2,160	10					**Weighted Average Trip Length:**	**4.34**		
							Weighted Percent New Trip Average:	76.6		

ITE Average Trip Generation Rate: 5.63

Resort Hotel (ITE LUC 330)

Location	Size (Rooms)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	207	Sep-89	118	110	-	9a-7p	2.70	93.3	0.00	Tindale-Oliver & Associates
Pinellas Co, FL	390	Sep-89	116	90	-	10a-7p	7.90	78.0	-	Tindale-Oliver & Associates
Total Size	597	2	234				**Average Trip Length:**	**5.30**		
ITE	495	10					**Weighted Average Trip Length:**	**6.10**		
							Weighted Percent New Trip Average:	83.3		

ITE Average Trip Generation Rate (adjusted): 5.72

Movie Theater with Matinee (ITE LUC 444)

Location	Size (Screens)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	8	Oct-89	151	116	113.10	2p-8p	2.70	77.0	235.13	Tindale-Oliver & Associates
Pinellas Co, FL	12	Sep-89	122	116	63.40	2p-8p	1.90	95.0	114.44	Tindale-Oliver & Associates
Total Size	20		273				**Average Trip Length:**	**2.30**		
ITE	10 estimated						**Weighted Average Trip Length:**	**2.22**		
	30						Weighted Percent New Trip Average:	87.8		

Weighted Average Trip Generation Rate: 83.28
ITE Average Trip Generation Rate (6th): 153.33
Blend of FL Studies and ITE Average Trip Generation Rate: 106.63

Health/Fitness Club (ITE LUC 492)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	33	31	-	-	7.90	94.0	-	Kimley-Horn & Associates
Total Size			33				**Average Trip Length:**	**n/a**		
ITE	15	1					Percent New Trip Average:	94.0		

ITE Average Trip Generation Rate: 32.93

Day Care Center (ITE LUC 565)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	5.6	Aug-89	94	66	66.99	7a-6p	1.90	70.0	89.10	Tindale-Oliver & Associates
Pinellas Co, FL	10.0	Sep-89	179	134	66.99	7a-6p	2.10	75.0	105.51	Tindale-Oliver & Associates
Tampa, FL	-	Mar-86	28	25	-	-	2.60	89.0	-	Kimley-Horn & Associates
Total Size	15.6	2	301			**Average Trip Length:**	**2.20**			
ITE	35.0	7				**Weighted Average Trip Length:**	**2.03**			
Blended total	50.6					Weighted Percent New Trip Average:		73.2		
								Weighted Average Trip Generation Rate:		66.99
								ITE Average Trip Generation Rate:		74.06
								Blend of FL Studies and ITE Average Trip Generation Rate:		**71.88**

Nursing Home (ITE LUC 620)

Location	Size (Beds)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Lakeland, FL	120	Mar-90	74	66	2.86	11a-4p	2.59	89.0	6.59	Tindale-Oliver & Associates
Total Size	120	1	74			**Average Trip Length:**	**2.59**			
ITE	714	6				**Weighted Average Trip Length:**	**2.59**			
Blended total	834					Weighted Percent New Trip Average:		89.0		
								Weighted Average Trip Generation Rate:		2.86
								ITE Average Trip Generation Rate:		2.74
								Blend of FL Studies and ITE Average Trip Generation Rate:		**2.76**

Clinic (ITE LUC 630)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	103.9	Aug-89	614	572	37.03	7a-430p	5.10	93.0	175.63	Tindale-Oliver & Associates
St. Petersburg, FL	-	Oct-89	280	252	-	9a-5p	4.10	90.0	-	Tindale-Oliver & Associates
Total Size	103.9	1	894			**Average Trip Length:**	**4.60**			
ITE	224.0	2				**Weighted Average Trip Length:**	**5.10**			
	327.9					Weighted Percent New Trip Average:		93.0		

General Office Building (ITE LUC 710)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sarasota Co, FL	14.3	Jun-93	14	14	46.85	-	11.30	-	529.41	Sarasota County
Gwinnett Co, GA	98.0	Dec-92	-	-	4.30	-	5.40	-	-	Street Smarts
Gwinnett Co, GA	180.0	Dec-92	-	-	3.60	-	5.90	-	-	Street Smarts
Pinellas Co, FL	187.0	Oct-89	431	388	18.49	7a-5p	6.30	90.0	104.84	Tindale-Oliver & Associates
St. Petersburg, FL	262.8	Sep-89	291	274	-	7a-5p	3.40	94.0	-	Tindale-Oliver & Associates
Total Size	742.1	5	736			**Average Trip Length:**	**6.46**			
ITE	15,522.0	78				**Weighted Average Trip Length:**	**5.15**			ITE Trip Generation Formula:
						Weighted Percent New Trip Average:		92.3		**Ln(T) = 0.76 Ln(X) + 3.68**

Medical-Dental Office Building (ITE LUC 720): 10,000 sf or Less

Site	Size (1,000 sf)	Tues., Jan 11		Wedn., Jan 12		Thur., Jan 13		TOTAL		AVERAGE		AVERAGE (per 1,000 sf)		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	TOTAL
Collier Co, FL - Site 1	2.100	35	35	22	22	13	13	70	70	23.33	23.33	**11.11**	**11.11**	**22.22**
Collier Co, FL - Site 2	3.000	40	40	52	52	53	53	145	145	48.33	48.33	**16.11**	**16.11**	**32.22**
Collier Co, FL - Site 3	2.000	28	28	19	21	24	26	71	75	23.67	25.00	**11.84**	**12.50**	**24.34**
Collier Co, FL - Site 4	1.000	30	30	52	52	57	57	139	139	46.33	46.33	**46.33**	**46.33**	**92.66**
Collier Co, FL - Site 5	3.024	31	32	43	43	24	24	98	99	32.67	33.00	**10.80**	**10.91**	**21.71**
Collier Co, FL - Site 6	1.860	22	24	19	17	11	11	52	52	17.33	17.33	**9.32**	**9.32**	**18.64**
Average												**17.59**	**17.71**	**35.30**
Average (excluding Site 4)												**11.84**	**11.99**	**23.83**

Medical-Dental Office Building (ITE LUC 720)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	33	26	-	-	6.00	79.0	-	Kimley-Horn & Associates
Palm Harbor, FL	14.6	Oct-89	104	76	33.98	9a-5p	6.30	73.0	156.27	Tindale-Oliver & Associates
St. Petersburg, FL	-	Nov-89	34	30	57.20	9a-4p	1.20	88.0	-	Tindale-Oliver & Associates
Hernando Co, FL	58.4	May-96	390	349	28.52	9a-6p	6.47	89.5	165.09	Tindale-Oliver & Associates
Hernando Co, FL	28.0	May-96	202	189	49.75	9a-6p	6.06	93.8	282.64	Tindale-Oliver & Associates
Charlotte Co, FL	11.0	Oct-97	-	186	49.50	9a-5p	4.60	92.1	209.67	Tindale-Oliver & Associates
Charlotte Co, FL	28.0	Oct-97	-	186	31.00	9a-5p	3.60	81.6	91.04	Tindale-Oliver & Associates
Charlotte Co, FL	30.4	Oct-97	-	324	39.80	9a-5p	3.30	83.5	109.68	Tindale-Oliver & Associates
Citrus Co, FL	38.9	Oct-03	-	168	32.26	8-6p	6.80	97.1	213.03	Tindale-Oliver & Associates
Citrus Co, FL	10.0	Nov-03	-	340	40.56	8-630p	6.20	92.4	232.33	Tindale-Oliver & Associates
Citrus Co, FL	5.3	Dec-03	-	20	29.36	8-5p	5.25	95.2	146.78	Tindale-Oliver & Associates
Orange Co, FL	50.6	-	-	-	26.72	-	-	-	-	Orange County
Orange Co, FL	23.5	-	-	-	16.58	-	-	-	-	Orange County
Total Size	298.6	11	763				**Average Trip Length:**	**5.07**		
ITE	450.0	10					**Weighted Average Trip Length:**	**5.55**		
Blended total	748.6						Weighted Percent New Trip Average:	88.9		

Average Trip Generation Rate: 32.59
ITE Average Trip Generation Rate: 36.13
Blend of FL Studies and ITE Average Trip Generation Rate: 34.72

Office Park (ITE LUC 750)

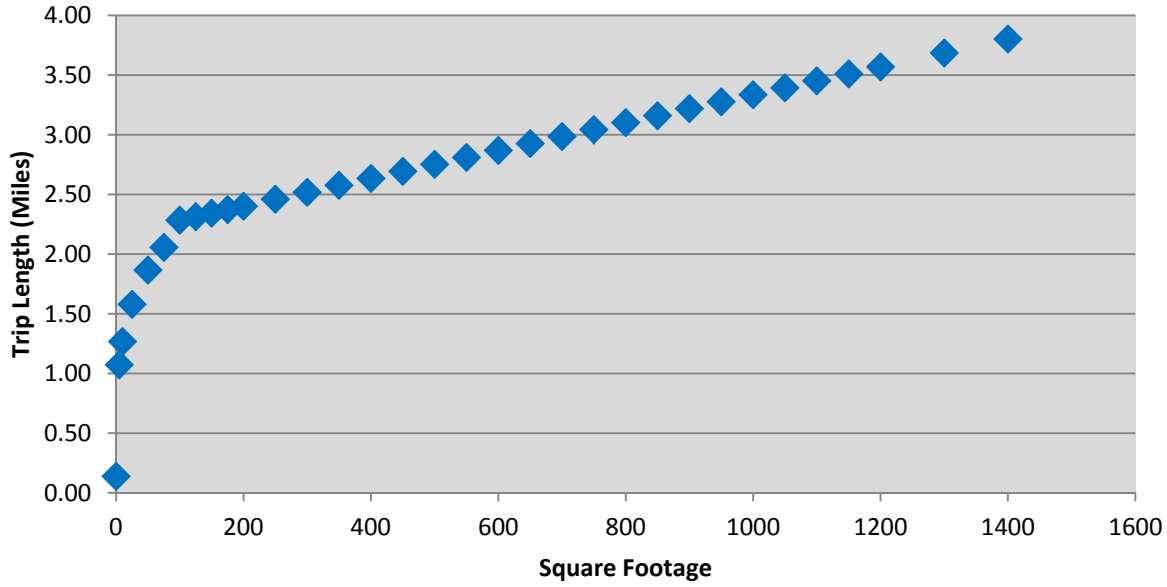
Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sarasota Co, FL	30	Jun-93	10	10	9.10	-	9.00	-	81.90	Sarasota County
Sarasota Co, FL	36	Jun-93	17	17	20.50	-	8.30	-	170.15	Sarasota County
Sarasota Co, FL	45	Jun-93	42	42	37.00	-	4.90	-	181.30	Sarasota County
Total Size	111.0	3	69				**Average Trip Length:**	**7.40**		
ITE	4,944.0	12					**Weighted Average Trip Length:**	**7.11**		
Blended total	5,055.0						Weighted Percent New Trip Average:	-		

Weighted Average Trip Generation Rate: 24.11
ITE Average Trip Generation Rate: 11.42
Blend of FL Studies and ITE Average Trip Generation Rate: 11.70

Shopping Center (ITE LUC 820)

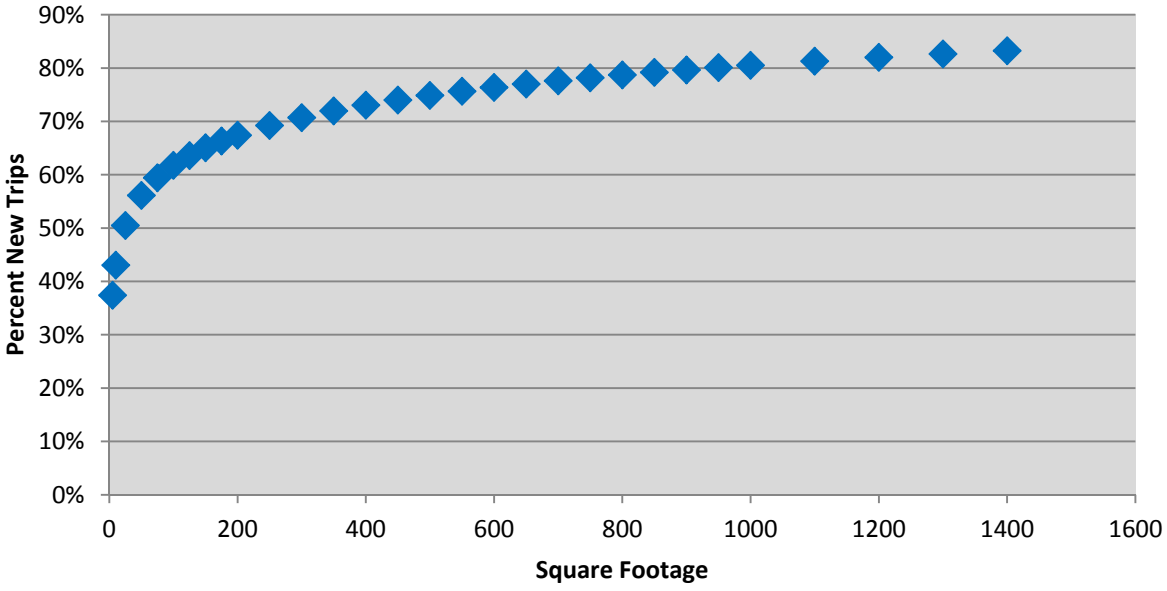
Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	527	348	-	-	-	66.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	170	-	-	-	1.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	354	269	-	-	-	76.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	144	-	-	-	2.50	-	-	Kimley-Horn & Associates
St. Petersburg, FL	1,192.0	Aug-89	384	298	-	11a-7p	3.60	78.0	-	Tindale-Oliver & Associates
St. Petersburg, FL	132.3	Sep-89	400	368	77.00	10a-7p	1.80	92.0	127.51	Tindale-Oliver & Associates
Largo, FL	425.0	Aug-89	160	120	26.73	10a-6p	2.30	75.0	46.11	Tindale-Oliver & Associates
Dunedin, FL	80.5	Sep-89	276	210	81.48	9a-5p	1.40	76.0	86.69	Tindale-Oliver & Associates
Pinellas Park, FL	696.0	Sep-89	485	388	-	9a-6p	3.20	80.0	-	Tindale-Oliver & Associates
Seminole, FL	425.0	Oct-89	674	586	-	-	-	87.0	-	Tindale-Oliver & Associates
Hillsborough Co, FL	134.0	Jul-91	-	-	-	-	1.30	74.0	-	Tindale-Oliver & Associates
Hillsborough Co, FL	151.0	Jul-91	-	-	-	-	1.30	73.0	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	68	64	-	-	3.33	94.1	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	208	154	-	-	2.64	74.0	-	Tindale-Oliver & Associates
Sarasota/Bradenton, FL	109.0	Sep-92	300	185	-	12a-6p	-	61.6	-	King Engineering Associates, Inc.
Ocala, FL	133.4	Sep-92	300	192	-	12a-6p	-	64.0	-	King Engineering Associates, Inc.
Gwinnett Co, GA	99.1	Dec-92	-	-	46.00	-	3.20	70.0	103.04	Street Smarts
Gwinnett Co, GA	314.7	Dec-92	-	-	27.00	-	8.50	84.0	192.78	Street Smarts
Sarasota Co, FL	110.0	Jun-93	58	58	122.14	-	3.20	-	-	Sarasota County
Sarasota Co, FL	146.1	Jun-93	65	65	51.53	-	2.80	-	-	Sarasota County
Sarasota Co, FL	157.5	Jun-93	57	57	79.79	-	3.40	-	-	Sarasota County
Sarasota Co, FL	191.0	Jun-93	62	62	66.79	-	5.90	-	-	Sarasota County
Hernando Co, FL	107.8	May-96	608	331	77.60	9a-6p	4.68	54.5	197.85	Tindale-Oliver & Associates
Charlotte Co, FL	88.0	Oct-97	-	-	73.50	9a-5p	1.80	57.1	75.56	Tindale-Oliver & Associates
Charlotte Co, FL	191.9	Oct-97	-	-	72.00	9a-5p	2.40	50.9	87.97	Tindale-Oliver & Associates
Charlotte Co, FL	51.3	Oct-97	-	-	43.00	9a-5p	2.70	51.8	60.08	Tindale-Oliver & Associates
Lake Co, FL	67.8	Apr-01	246	177	102.60	-	3.40	71.2	248.37	Tindale-Oliver & Associates
Lake Co, FL	72.3	Apr-01	444	376	65.30	-	4.50	59.0	173.37	Tindale-Oliver & Associates
Pasco Co, FL	65.6	Apr-02	222	-	145.64	9a-5p	1.46	46.9	99.62	Tindale-Oliver & Associates
Pasco Co, FL	75.8	Apr-02	134	-	38.23	9a-5p	2.36	58.2	52.52	Tindale-Oliver & Associates
Citrus Co, FL	185.0	Oct-03	-	784	55.84	8a-6p	2.40	88.1	118.05	Tindale-Oliver & Associates
Citrus Co, FL	91.3	Nov-03	-	390	54.50	8a-6p	1.60	88.0	76.77	Tindale-Oliver & Associates
Bozeman, MT	104.3	Dec-06	359	359	46.96	-	3.35	49.0	77.08	Tindale-Oliver & Associates
Bozeman, MT	159.9	Dec-06	502	502	56.49	-	1.56	54.0	47.59	Tindale-Oliver & Associates
Bozeman, MT	35.9	Dec-06	329	329	69.30	-	1.39	74.0	71.28	Tindale-Oliver & Associates
Total Size	5,757.5		7,536				**Average Trip Length:**	**n/a**		ITE Trip Generation Formula:
							Weighted Average Trip Length:	**n/a**		**Ln(T) = 0.65 Ln(X) + 5.83**

Figure D-1
Shopping Center (LUC 820) – Florida Curve Trip Length Regression



Source: Regression analysis based on FL Studies data for LUC 820

Figure D-2
Shopping Center (LUC 820) – Florida Curve Percent New Trips Regression



Source: Regression analysis based on FL Studies data for LUC 820

New/Used Auto Sales (ITE LUC 841)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
St.Petersburg, FL	43.0	Oct-89	152	120	-	9a-5p	4.70	79.0	-	Tindale-Oliver & Associates
Clearwater, FL	43.0	Oct-89	136	106	29.40	9a-5p	4.50	78.0	103.19	Tindale-Oliver & Associates
Orange Co, FL	116.7	-	-	-	22.18	-	-	-	-	Orange County
Orange Co, FL	99.8	-	-	-	13.45	-	-	-	-	Orange County
Orange Co, FL	39.1	-	-	-	10.48	-	-	-	-	Orange County
Orange Co, FL	66.3	-	-	-	28.50	-	-	-	-	Orange County
Orange Co, FL	46.7	-	-	-	40.34	-	-	-	-	Orange County
Orange Co, FL	34.4	-	-	-	23.45	-	-	-	-	Orange County
Orange Co, FL	13.8	-	-	-	35.75	-	-	-	-	Orange County
Total Size	459.7	9	288				**Average Trip Length:**	**4.60**		
ITE	570.0	15					**Weighted Average Trip Length:**	**4.60**		
Blended total	1,029.7									

Weighted Percent New Trip Average: 78.5

Weighted Average Trip Generation Rate: 23.22

ITE Average Trip Generation Rate: 32.30

Blend of FL Studies and ITE Average Trip Generation Rate: 28.25

Supermarket (ITE LUC 850)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Palm Harbor, FL	62.0	Aug-89	163	62	106.26	9a-4p	2.08	56.0	123.77	Tindale-Oliver & Associates
Total Size	62.0	1	163				**Average Trip Length:**	**2.08**		
ITE	156.0	4					**Weighted Average Trip Length:**	**2.08**		
Blended total	218.0									

Weighted Percent New Trip Average: 56.0

Weighted Average Trip Generation Rate: 106.26

ITE Average Trip Generation Rate: 102.24

Blend of FL Studies and ITE Average Trip Generation Rate: 103.38

Convenience Market - 24hrs. (ITE LUC 851)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	80	-	-	-	1.10	-	-	Kimley-Horn & Associates
Largo, FL	2.5	8/15,25/89	171	116	634.80	-	1.20	68.0	518.00	Tindale-Oliver & Associates
Clearwater, FL	2.5	Aug-89	237	64	690.80	-	1.60	27.0	298.43	Tindale-Oliver & Associates
Clearwater, FL	2.1	Nov-89	143	50	635.24	24hr.	1.60	35.0	355.73	Tindale-Oliver & Associates
Marion Co, FL	2.5	Jun-91	94	43	787.20	48hrs.	1.52	46.2	552.80	Tindale-Oliver & Associates
Marion Co, FL	2.5	Jun-91	74	20	714.00	48hrs.	0.75	27.0	144.59	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	146	36	-	-	2.53	24.7	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	148	38	-	-	1.08	25.7	-	Tindale-Oliver & Associates
Gwinnett Co, GA	2.9	12/13-18/92	-	-	-	-	2.30	48.0	-	Street Smarts
Gwinnett Co, GA	3.2	12/13-18/92	-	-	-	-	-	37.0	-	Street Smarts
Total Size	18.2	7	1,093				**Average Trip Length:**	**1.52**		
ITE	16.0	8					**Weighted Average Trip Length:**	**1.52**		
Blended total	34.2									
	28.1									

Weighted Percent New Trip Average: 41.3

Weighted Average Trip Generation Rate: 694.30

ITE Average Trip Generation Rate: 737.99

Blend of FL Studies and ITE Average Trip Generation Rate: 719.18

Convenience Market w/Gasoline (ITE LUC 853)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	72	-	-	-	2.00	-	-	Kimley-Horn & Associates
Marion Co, FL	1.1	Jun-91	77	20	544.80	24hr.	0.89	26.0	126.07	Tindale-Oliver & Associates
Marion Co, FL	2.1	Jun-91	66	24	997.60	24hr.	1.67	36.4	606.42	Tindale-Oliver & Associates
Marion Co, FL	4.4	Jun-91	85	25	486.70	48hrs.	1.06	29.4	151.68	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	96	38	-	-	1.19	39.6	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	78	16	-	-	1.06	20.5	-	Tindale-Oliver & Associates
Tampa, FL	2.3	10/13-15/92	239	74	-	24hr.	1.06	31.1	-	Tindale-Oliver & Associates
Ellenton, FL	3.3	10/20-22/92	124	44	-	24hr.	0.96	35.3	-	Tindale-Oliver & Associates
Tampa, FL	3.8	11/10-12/92	142	23	-	24hr.	3.13	16.4	-	Tindale-Oliver & Associates
Marion Co, FL	2.5	Apr-02	87	-	719.79	24hr.	1.62	32.8	322.19	Kimley-Horn & Associates
Marion Co, FL	2.5	Apr-02	23	-	610.46	24hr.	1.77	11.7	126.61	Kimley-Horn & Associates
Marion Co, FL	3.0	Apr-02	59	-	606.02	24hr.	0.83	32.6	195.00	Kimley-Horn & Associates
Total Size	25.1	9	1,148				**Average Trip Length:**	**1.44**		
ITE	30.0	10					**Weighted Average Trip Length:**	**1.51**		
Blended Total	55.1									
	45.6	15.6								

Weighted Percent New Trip Average: 27.7

Average Trip Generation Rate: 639.68

ITE Average Trip Generation Rate: 845.60

Blend of FL Studies and ITE Average Trip Generation Rate: 775.14

Pharmacy/Drugstore w/Drive-Thru (ITE LUC 880 & 881)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pasco Co, FL	11.1	Apr-02	138	38	88.97	-	2.05	27.5	50.23	Tindale-Oliver & Associates
Pasco Co, FL	12.0	Apr-02	212	90	122.16	-	2.04	42.5	105.79	Tindale-Oliver & Associates
Pasco Co, FL	15.1	Apr-02	1192	54	97.96	-	2.13	28.1	58.69	Tindale-Oliver & Associates
Total Size	38.2	3	1,542				**Average Trip Length:**	**2.07**		
ITE	196.0	16					**Weighted Average Trip Length:**	**2.08**		
Blended total	234.2						Weighted Percent New Trip Average:	32.5		

Average Trip Generation Rate: 103.03
ITE Average Trip Generation Rate (LUC 880 / 881): 90.06 / 96.91
Blend of FL Studies and ITE Average Trip Generation Rate: 95.96

Furniture Store (ITE LUC 890)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	15.0	7/28-30/92	64	34	-	-	4.63	52.5	-	Tindale-Oliver & Associates
Tampa, FL	16.9	Jul-92	68	39	-	-	7.38	55.7	-	Tindale-Oliver & Associates
Total Size	31.9	2	132				**Average Trip Length:**	**6.01**		
ITE	897.0	13					**Weighted Average Trip Length:**	**6.09**		
							Weighted Percent New Trip Average:	54.2		

ITE Average Trip Generation Rate: 5.06

Drive-In Bank (ITE LUC 912)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	77	-	-	-	2.40	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	211	-	-	-	-	54.0	-	Kimley-Horn & Associates
Clearwater, FL	0.4	Aug-89	113	52	-	9a-6p	5.20	46.0	-	Tindale-Oliver & Associates
Largo, FL	2.0	Sep-89	129	94	-	-	1.60	73.0	-	Tindale-Oliver & Associates
Seminole, FL	4.5	Oct-89	-	-	-	-	-	-	-	Tindale-Oliver & Associates
Marion Co, FL	2.3	Jun-91	69	29	-	24hr.	1.33	42.0	-	Tindale-Oliver & Associates
Marion Co, FL	3.1	Jun-91	47	32	-	24hr.	1.75	68.1	-	Tindale-Oliver & Associates
Marion Co, FL	2.5	Jul-91	57	26	-	48hrs.	2.70	45.6	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	162	96	-	24hr.	0.88	59.3	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	116	54	-	-	1.58	46.6	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	142	68	-	-	2.08	47.9	-	Tindale-Oliver & Associates
Hernando Co, FL	5.4	May-96	164	41	-	9a-6p	2.77	24.7	-	Tindale-Oliver & Associates
Marion Co, FL	2.4	Apr-02	70	-	-	24hr.	3.55	54.6	-	Kimley-Horn & Associates
Marion Co, FL	2.7	May-02	50	-	246.66	24hr.	2.66	40.5	265.44	Kimley-Horn & Associates
Total Size	25.2	9	1,407				**Average Trip Length:**	**2.38**		
ITE	21.0	7					**Weighted Average Trip Length:**	**2.46**		
Blended total	46.2						Weighted Percent New Trip Average:	46.2		
	23.7									

Weighted Average Trip Generation Rate: 246.66
ITE Average Trip Generation Rate: 148.15
Blend of FL Studies and ITE Average Trip Generation Rate: 159.34

Quality Restaurant (ITE LUC 931)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	76	62	-	-	2.10	82.0	-	Kimley-Horn & Associates
St. Petersburg, FL	7.5	Oct-89	177	154	-	11a-2p/4-8p	3.50	87.0	-	Tindale-Oliver & Associates
Clearwater, FL	8.0	Oct-89	60	40	110.63	10a-2p/5-9p	2.80	67.0	207.54	Tindale-Oliver & Associates
Total Size	15.5	2	313				**Average Trip Length:**	**2.80**		
ITE	135.0	15					**Weighted Average Trip Length:**	**3.14**		
Blended total	150.5						Weighted Percent New Trip Average:	76.7		
	143.0									

Weighted Average Trip Generation Rate: 110.63
ITE Average Trip Generation Rate: 89.95
Blend of FL Studies and ITE Average Trip Generation Rate: 91.10

High-Turnover Restaurant (ITE LUC 932)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Hernando Co, FL	6.2	May-96	242	175	187.51	9a-6p	2.76	72.5	375.00	Tindale-Oliver & Associates
Hernando Co, FL	8.2	May-96	154	93	102.71	9a-6p	4.15	60.2	256.43	Tindale-Oliver & Associates
St. Petersburg, FL	5.0	Oct-89	74	68	132.60	1130-7p	2.00	92.0	243.98	Tindale-Oliver & Associates
Kenneth City, FL	5.2	Oct-89	236	176	127.88	4p-730p	2.30	75.0	220.59	Tindale-Oliver & Associates
Pasco Co, FL	5.2	Apr-02	114	88	82.47	9a-6p	3.72	77.2	236.81	Tindale-Oliver & Associates
Pasco Co, FL	5.8	Apr-02	182	102	116.97	9a-6p	3.49	56.0	228.77	Tindale-Oliver & Associates
Orange Co, FL	8.9	-	-	-	52.69	-	-	-	-	Orange County
Orange Co, FL	11.3	-	-	-	62.12	-	-	-	-	Orange County
Orange Co, FL	6.7	-	-	-	82.58	-	-	-	-	Orange County
Orange Co, FL	11.4	-	-	-	91.67	-	-	-	-	Orange County
Orange Co, FL	11.3	-	-	-	95.33	-	-	-	-	Orange County
Orange Co, FL	7.2	-	-	-	98.06	-	-	-	-	Orange County
Orange Co, FL	5.5	-	-	-	100.18	-	-	-	-	Orange County
Orange Co, FL	9.7	-	-	-	105.84	-	-	-	-	Orange County
Orange Co, FL	4.6	-	-	-	129.23	-	-	-	-	Orange County
Orange Co, FL	7.0	-	-	-	126.40	-	-	-	-	Orange County
Orange Co, FL	9.7	-	-	-	132.32	-	-	-	-	Orange County
Orange Co, FL	5.0	-	-	-	135.68	-	-	-	-	Orange County
Orange Co, FL	5.6	-	-	-	145.59	-	-	-	-	Orange County
Orange Co, FL	7.4	-	-	-	147.44	-	-	-	-	Orange County
Orange Co, FL	5.9	-	-	-	147.74	-	-	-	-	Orange County
Total Size	152.8	21	1,102				**Average Trip Length:**	**3.07**		
ITE	98.0	14					**Weighted Average Trip Length:**	**3.17**		
Blended total	250.8						Weighted Percent New Trip Average:	70.8		

Weighted Average Trip Generation Rate: 109.84
ITE Average Trip Generation Rate: 127.15
Blend of FL Studies and ITE Average Trip Generation Rate: 116.60

Fast Food Restaurant w/Drive Thru (ITE LUC 934)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	61	-	-	-	2.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	306	-	-	-	-	65.0	-	Kimley-Horn & Associates
Pinellas Co, FL	2.20	Aug-89	81	48	502.80	11a-2p	1.70	59.0	504.31	Tindale-Oliver & Associates
Pinellas Co, FL	4.30	Oct-89	456	260	660.40	1 day	2.30	57.0	865.78	Tindale-Oliver & Associates
Tarpon Springs, FL	-	Oct-89	233	114	-	7a-7p	3.60	49.0	-	Tindale-Oliver & Associates
Marion Co, FL	1.60	Jun-91	60	32	962.50	48hrs.	0.91	53.3	466.84	Tindale-Oliver & Associates
Marion Co, FL	4.00	Jun-91	75	46	625.00	48hrs.	1.54	61.3	590.01	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	66	44	-	-	1.91	66.7	-	Tindale-Oliver & Associates
Collier Co, FL	-	Aug-91	118	40	-	-	1.17	33.9	-	Tindale-Oliver & Associates
Hernando Co, FL	5.43	May-96	136	82	311.83	9a-6p	1.68	60.2	315.27	Tindale-Oliver & Associates
Hernando Co, FL	3.13	May-96	168	82	547.34	9a-6p	1.59	48.8	425.04	Tindale-Oliver & Associates
Lake Co, FL	2.20	Apr-01	376	252	934.30	-	2.50	74.6	1742.47	Tindale-Oliver & Associates
Lake Co, FL	3.20	Apr-01	171	182	654.90	-	4.10	47.8	-	Tindale-Oliver & Associates
Lake Co, FL	3.80	Apr-01	188	137	353.70	-	3.30	70.8	826.38	Tindale-Oliver & Associates
Pasco Co, FL	2.66	Apr-02	100	46	283.12	9a-6p	5.10	46.0	-	Tindale-Oliver & Associates
Pasco Co, FL	2.96	Apr-02	486	164	515.32	9a-6p	2.72	33.7	472.92	Tindale-Oliver & Associates
Pasco Co, FL	4.42	Apr-02	168	120	759.24	9a-6p	1.89	71.4	1024.99	Tindale-Oliver & Associates
Orange Co, FL	8.93	-	-	-	377.00	-	-	-	-	Orange County
Total Size	48.8	13	4,463				**Average Trip Length:**	**2.42**		
ITE	63.0	21					**Weighted Average Trip Length:**	**2.05**		
Blended total	111.8						Weighted Percent New Trip Average:	57.9		
	34.0									

Weighted Average Trip Generation Rate: 530.19
ITE Average Trip Generation Rate: 496.12
Blend of FL Studies and ITE Average Trip Generation Rate: 511.00

Automobile Care Center (ITE LUC 942)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Jacksonville, FL	2.3	2/3-4/90	124	94	-	9a-5p	3.07	76.0	-	Tindale-Oliver & Associates
Jacksonville, FL	2.3	2/3-4/90	110	74	-	9a-5p	2.96	67.0	-	Tindale-Oliver & Associates
Jacksonville, FL	2.4	2/3-4/90	132	87	-	9a-5p	2.32	66.0	-	Tindale-Oliver & Associates
Lakeland, FL	5.2	Mar-90	24	14	-	9a-4p	1.36	59.0	-	Tindale-Oliver & Associates
Largo, FL	5.5	Sep-89	34	30	37.64	9a-5p	2.40	88.0	79.50	Tindale-Oliver & Associates
Orange Co, FL	25.0	Nov-92	41	39	-	2-6p	4.60	-	-	LCE, Inc.
Lakeland, FL	-	Mar-90	54	42	-	9a-4p	2.44	78.0	-	Tindale-Oliver & Associates
Total Size	42.6	6	519				**Average Trip Length:**	**2.74**		
ITE	102.0	6					**Weighted Average Trip Length:**	**3.62**		
Blended total	144.6						Weighted Percent New Trip Average:	72.2		
	107.5									

Weighted Average Trip Generation Rate: 37.64
ITE Average Trip Generation Rate: 31.10
Blend of FL Studies and ITE Average Trip Generation Rate: 31.43

Service Station with and w/o Car Wash (ITE LUC 944 & 946)

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	0.6	Nov-89	70	14	-	8am-5pm	1.90	23.0	-	Tindale-Oliver & Associates
Collier County, FL	-	Aug-91	168	40	-	-	1.01	23.8	-	Tindale-Oliver & Associates
Total Size	0.6	1	238				**Average Trip Length:**	**1.46**		
ITE LUC 944 (vfp)	48.0	6					**Weighted Average Trip Length:**	**1.90**		
ITE LUC 946 (vfp)	120.0	10					Weighted Percent New Trip Average:	23.0		

ITE Average Trip Generation Rate - per fuel position (LUC 944):	168.56
ITE Average Trip Generation Rate - per fuel position (LUC 946):	152.84
Blended ITE Average Trip Generation Rate - per fuel position:	**157.33**

Self-Service Car Wash (ITE LUC 947)

Location	Size (Bays)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	10	Nov-89	111	84	-	8am-5pm	2.00	76.0	-	Tindale-Oliver & Associates
Clearwater, FL	-	Nov-89	177	108	-	10am-5pm	1.30	61.0	-	Tindale-Oliver & Associates
Collier, FL	11	Dec-09	304	-	30.24	-	2.50	57.0	-	Tindale-Oliver & Associates
Collier, FL	8	Jan-09	186	-	22.75	-	1.96	72.0	-	Tindale-Oliver & Associates
Total Size	29	3	778				**Average Trip Length:**	**1.94**		
Total Size (TGR)	19	2					**Weighted Average Trip Length:**	**2.18**		
ITE	5	1					Weighted Percent New Trip Average:	67.7		
Blended total	24									

Weighted Average Trip Generation Rate:	27.09
ITE Average Trip Generation Rate:	108.00
Blend of FL Studies and ITE Average Trip Generation Rate:	**43.94**

APPENDIX E
Transportation Impact Fee:
Cost Component Calculations

Cost Component

This appendix presents the detailed calculations for the cost component of the transportation impact fee update. Backup data and assumptions are provided for all cost variables (for county and state roads), including:

- Design
- Right-of-Way
- Construction
- Construction Engineering/Inspection
- Roadway Capacity

Urban Design vs. Rural Design

Due to a lack of roadway construction data for rural-design roadways, the cost per lane mile for these types of roads was calculated using an adjustment factor. This factor was based on the rural-to-urban design cost ratio from the most recent District 7 Long Range Estimates (LRE) provided by FDOT. Based on the LRE, the cost for rural-design roadway capacity expansion (new road construction or lane addition) is approximately 81 percent of the cost of urban-design roadway improvements. For all subsequent tables (for county and state roadways), costs are presented for urban-design roadways, with the rural-design roadway costs being calculated using the cost ratio from Table E-1.

Table E-1
Urban / Rural Design Cost Factor

Improvement	Cost per Lane Mile		
	Rural Design	Urban Design	Ratio
0-2 Lanes	$2,534,872	$3,660,722	69%
0-4 Lanes	$2,060,744	$2,583,635	80%
0-6 Lanes	$1,750,755	$2,105,746	83%
2-4 Lanes	$2,946,063	$3,386,132	87%
4-6 Lanes	$3,300,893	$3,782,969	87%
Average	**$2,518,665**	**$3,103,841**	**81%**

Source: FDOT District 7 Long Range Estimates, 2014

Design

County Roadways

The design cost factor for county roads was estimated as a percentage of the construction cost per lane mile. This factor was determined through a review of the design-to-construction cost ratios from recently completed and bid improvements in Brevard County and from previously completed impact fee studies throughout Florida. For county roadways, the design factors ranged from 6 percent to 19 percent, with a weighted average of 10 percent from recent studies and 16 percent from local studies. For purposes of this update study, the design cost for county roads was calculated at 12 percent of the construction cost per lane mile based on a review of the available data (see Tables E-10 and E-11 for additional information).

Table E-2
Design Cost Adjustment – County Roads

Road Type	Design Cost per Lane Mile[(1)]	Section Design Distribution[(2)]	Weighted Design Cost per Lane Mile[(3)]
Urban Design	$253,000	78%	$197,000
Rural Design	$205,000	22%	$45,000
Weighted Average Design Cost per Lane Mile			**$242,000**

(1) Design cost is estimated at 12% of construction cost based on recent local projects (Table E-10) and recent TIF studies (Table E-11, Item a); construction cost is shown in Table E-14
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) Design cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together
All figures rounded to nearest $1,000

State Roadways

The design cost factor for state roads was estimated as a percentage of the construction cost per lane mile. This factor was determined through a review of the design-to-construction cost ratios for state road unit costs in previously completed impact fee studies throughout Florida. For state roadways, the design factors ranged from 10 percent to 14 percent, with a weighted average of 11 percent. For purposes of this update study, the design cost for state roads was calculated at 11 percent of the construction cost per lane mile. See Table E-11 for additional information.

Table E-3
Design Cost Adjustment – State Roads

Road Type	Design Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted Design Cost per Lane Mile[3]
Urban Design	$330,000	78%	$257,000
Rural Design	$267,000	22%	$59,000
Weighted Average Design Cost per Lane Mile			**$316,000**

(1) Design cost is estimated at 11% of construction cost based on recent TIF studies in Table E-11 (Item b); construction cost is shown in Table E-15
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) Design cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together
All figures rounded to nearest $1,000

Right-of-Way

The ROW cost reflects the total cost of the acquisitions along a corridor that was necessary to have sufficient cross-section width to widen an existing road or, in the case of new construction, build a new road.

County Roadways

To determine a ROW acquisition cost per lane mile for county roads, Tindale Oliver conducted a review of recently completed ROW acquisitions and current ROW estimates along capacity expansion projects in Brevard County and also reviewed ROW estimates from recent transportation impact fee studies from other counties in Florida. For impact fee purposes, the ROW cost for county roads was estimated as a percentage of the construction cost per lane mile. This factor was determined through a review of the ROW-to-construction cost ratios for county road unit costs from recent local projects and in previously completed impact fee studies throughout Florida. For county roadways in Brevard County, the ROW factors ranged from 32 percent to 39 percent, with a weighted average of 35 percent, as shown in Table E-12. For purposes of this update study, the ROW cost for county roads was calculated at 35 percent of the construction cost per lane mile, which is slightly lower than the average ROW-to-construction cost ratio of 40 percent observed in other Florida jurisdictions.

Table E-4
Right-of-Way Cost Adjustment – County Roads

Road Type	ROW Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted ROW Cost per Lane Mile[3]
Urban Design	$739,000	78%	$576,000
Rural Design	$599,000	22%	$132,000
Weighted Average ROW Cost per Lane Mile			**$708,000**

(1) ROW cost is estimated at 35% of construction cost based on recent Brevard County improvements in Table E-12; construction cost is shown in Table E-14
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) ROW cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together
All figures rounded to nearest $1,000

State Roadways

Similar to county roads, the ROW cost for state roads was estimated as a percentage of the construction cost per lane mile. Given the limited data on ROW costs for state roads in Brevard County and based on experience in other jurisdictions, the ROW cost ratio calculated for county roads was also applied to state roads. Using this ROW-to-construction ratio of 35 percent, the weighted average ROW cost for state roadways is approximately $1.01 million per lane mile.

Table E-5
Right-of-Way Cost Adjustment – State Roads

Road Type	ROW Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted ROW Cost per Lane Mile[3]
Urban Design	$1,050,000	78%	$819,000
Rural Design	$851,000	22%	$187,000
Weighted Average ROW Cost per Lane Mile			**$1,006,000**

(1) ROW cost is estimated at 35% of construction cost based on recent local county roadway improvements in Table E-12; construction cost is shown in Table E-15
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) ROW cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together.
All figures rounded to nearest $1,000

Construction

County Roadways

A review of construction cost data for recent local county roadway capacity expansion projects identified three recent improvements in Brevard County.

These improvements had a weighted average construction cost of approximately $2.28 million per lane mile.

- Pineda Causeway Extension from I-95 to West of Wickham Road
- Babcock Street from South of Foundation Road to Malabar Road
- St. Johns Heritage Pkwy from Southeast of I-95 Intersection to US 192 (Space Coast Parkway)

In addition to local data, a review of recently bid projects throughout the state of Florida was conducted. As shown in Table E-14, a total of 81 additional projects from 16 different counties provided a weighted average cost per lane mile of $2.10 million per lane mile. When combined with the three local improvements, the weighted average cost per lane mile is approximately $2.11 million per lane mile. Based on this data, a construction cost of $2.11 million per lane mile for county roadways with urban design characteristics urban (curb & gutter) was used to calculate the transportation impact fee for Brevard County.

Table E-6
Construction Cost Adjustment – County Roads

Road Type	Construction Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted Constr. Cost per Lane Mile[3]
Urban Design	$2,112,000	78%	$1,647,000
Rural Design	$1,711,000	22%	$376,000
Weighted Average Construction Cost per Lane Mile			**$2,023,000**

(1) Source: Table E-14. Rural design is estimated at 81% of urban design costs (see Table E-1)
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) Construction cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together.
All figures rounded to nearest $1,000

State Roadways

A review of construction cost data for recent local state roadway capacity expansion projects identified two improvements with an average construction cost of approximately $3.93 million per lane mile.

- SR 5 (US 1) from North of Pine Street to North of Cidco Road
- SR 507 (Babcock Street) from Melbourne Avenue to Fee Avenue

In addition to looking at local data, a review of recently bid projects located throughout the state of Florida was conducted. As shown in Table E-15, a total of 58 projects (including the two projects in Brevard County) from 31 different counties estimated a weighted average cost per lane mile of $2.72 million per lane mile.

Based on the local and statewide data, a cost per lane mile of $3.00 million for state roads with urban design characteristics was used in the transportation impact fee calculation. This cost reflects the higher costs observed in Brevard County and District 5, but also considers the lower costs observed throughout the state. The use of $3.00 million per lane mile is a conservative approach that still reflects local characteristics.

Table E-7
Construction Cost Adjustment – State Roads

Road Type	Construction Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted Constr. Cost per Lane Mile[3]
Urban Design	$3,000,000	78%	$2,340,000
Rural Design	$2,430,000	22%	$535,000
Weighted Average Construction Cost per Lane Mile			**$2,875,000**

(1) Source: Table E-15. Rural design is estimated at 81% of urban design costs
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) Construction cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together.
All figures rounded to nearest $1,000

Construction Engineering/Inspection

County Roadways

The CEI cost factor for county roads was estimated as a percentage of the construction cost per lane mile. Based on a discussion with County Staff, a CEI-to-construction cost factor of 17 percent was used for purposes of this impact fee update study. This figure is higher than factors observed in other Florida jurisdictions, but is representative of local conditions

based on input from County staff. As shown in Table E-8, this resulted is a weighted average CEI cost of approximately $0.34 million per lane mile for county roadways.

Table E-8
CEI Cost Adjustment – County Roads

Road Type	CEI Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted CEI Cost per Lane Mile[3]
Urban Design	$359,000	78%	$280,000
Rural Design	$291,000	22%	$64,000
Weighted Average CEI Cost per Lane Mile			**$344,000**

(1) CEI cost is estimated at 17% of construction cost based on discussions with County Staff; construction cost is shown in Table E-14
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) CEI cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together.
All figures rounded to nearest $1,000

State Roadways

The CEI cost factor for state roads was estimated as a percentage of the construction cost per lane mile. This factor was determined through a review of the CEI-to-construction cost ratios for state road unit costs in previously completed impact fee studies throughout Florida. For state roadways, the CEI factors ranged from 8 percent to 17 percent, with a weighted average of 11 percent. For purposes of this update study, the CEI cost for state roads was calculated at 11 percent of the construction cost per lane mile (see Table E-16 for additional information).

Table E-9
CEI Cost Adjustment – State Roads

Road Type	CEI Cost per Lane Mile[1]	Section Design Distribution[2]	Weighted CEI Cost per Lane Mile[3]
Urban Design	$330,000	78%	$257,000
Rural Design	$267,000	22%	$59,000
Weighted Average CEI Cost per Lane Mile			**$316,000**

(1) CEI cost is estimated at 11% of construction cost based on recent TIF studies in Table B-16 (Item b); construction cost is shown in Table E-15
(2) Source: Appendix E, Table E-17 (Items c and d)
(3) CEI cost per lane mile (Item 1) multiplied by the associated section design weight (Item 2) for each design type and added together.
All figures rounded to nearest $1,000

Table E-10
Design Cost Factor – Brevard County Improvements

Description	From	To	Bid Year	Status	Feature	Section Design	Design	Design Cost per Lane Mile	Construction Cost	Design / Construction
Pineda Cswy Extension	I-95	W. of Wickham Rd	2010	bid	0 to 4	Urban	$2,232,492	$265,773	$17,238,865	13.0%
St. Johns Heritage Pkwy	SE of I-95 Intersection	US 192 (Space Cost Pkwy)	2014	bid	0 to 2	Suburban	$3,259,432	$524,024	$16,763,567	19.4%
Total							**$5,491,924**	**$375,645**	**$34,002,432**	**16.2%**

Source: Brevard County Public Works Department

Table E-11
Design Cost Factor for County & State Roads – Recent Impact Fee Studies

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		Design	Constr.	Design Ratio	Design	Constr.	Design Ratio
2006	Collier	$323,639	$2,558,546	13%	$349,643	$3,385,978	10%
2006	Citrus	$361,774	$2,584,099	14%	$400,432	$2,860,227	14%
2006	Highlands	$235,030	$1,678,785	14%	$347,326	$2,480,900	14%
2006	Marion	$185,333	$1,941,244	10%	$154,643	$1,430,919	11%
2007	Pasco	$246,324	$3,079,051	8%	$427,112	$3,050,799	14%
2007	Lake	$232,882	$2,911,021	8%	$318,412	$3,184,125	10%
2007	Flagler	$174,000	$1,740,000	10%	-	-	n/a
2007	Volusia	$291,696	$2,651,778	11%	$309,526	$3,095,258	10%
2008	Leon	$212,800	$2,660,000	8%	$372,130	$3,383,000	11%
2008	Sumter	$178,960	$2,237,000	8%	$238,000	$2,380,000	10%
2009	Collier	$217,000	$3,100,000	7%	$320,000	$3,200,000	10%
2009	Polk	$95,400	$1,590,000	6%	$217,000	$2,170,000	10%
2009	Hillsborough/Tampa	$308,000	$2,800,000	11%	$420,000	$3,500,000	12%
2010	Collier	$119,560	$1,708,000	7%	$241,800	$2,418,000	10%
2011	Sarasota/North Port	$240,000	$2,400,000	10%	$200,000	$2,000,000	10%
2012	Osceola	$371,196	$2,651,400	14%	$313,258	$2,847,800	11%
2012	Orange	$264,000	$2,400,000	11%	-	-	n/a
2012	City of Orlando	$288,000	$2,400,000	12%	$319,000	$2,900,000	11%
2012	City of Sarasota	$240,000	$2,400,000	10%	$286,000	$2,600,000	11%
2013	Hernando	$198,000	$1,980,000	10%	$222,640	$2,024,000	11%
2013	Charlotte	$220,000	$2,200,000	10%	$240,000	$2,400,000	10%
2014	Indian River	$159,000	$1,598,000	10%	$196,000	$1,776,000	11%
Average		**$234,663**	**$2,330,406**	**10%**	**$309,268**	**$2,767,938**	**11%**
				(a)			(b)

Source: Recent impact fee studies constructed throughout Florida
Note: Letter references (i.e., “a”) are used to assist with footnotes and sourcing

Table E-12
Right-of-Way Factor – Recent County Road Improvements in Brevard County

Description	From	To	Bid Year	Status	Feature	Section Design	Right-of-Way	Right-of-Way Cost per Lane Mile	Construction Cost	Right-of-Way / Construction
Pineda Cswy Extension	I-95	W. of Wickham Rd	2010	bid	0 to 4	Urban	$5,508,952	$655,828	$17,238,865	32.0%
St. Johns Heritage Pkwy	SE of I-95 Intersection	US 192 (Space Cost Pkwy)	2014	bid	0 to 2	Suburban	$6,514,051	$1,047,275	$16,763,567	38.9%
Total							**$12,023,003**	**$822,367**	**$34,002,432**	**35.4%**

Source: Brevard County Public Works Department

Table E-13
Right-of-Way Factor for County & State Roads – Recent Impact Fee Studies

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		ROW	Constr.	Design Ratio	ROW	Constr.	Design Ratio
2006	Collier	$1,751,790	$2,558,546	68%	$1,751,790	$3,385,978	52%
2006	Citrus	$784,599	$2,584,099	30%	$949,979	$2,860,227	33%
2006	Highlands	$468,853	$1,678,785	28%	$507,500	$2,480,900	20%
2006	Marion	$1,005,123	$1,941,244	52%	$868,908	$1,430,919	61%
2007	Pasco	$814,517	$3,079,051	26%	$1,560,714	$3,050,799	51%
2007	Lake	$599,185	$2,911,021	21%	$1,462,133	$3,184,125	46%
2007	Flagler	$460,000	$1,740,000	26%	-	-	n/a
2007	Volusia	$858,109	$2,651,778	32%	$954,543	$3,095,258	31%
2008	Leon	$1,120,000	$2,660,000	42%	$1,363,000	$3,383,000	40%
2008	Sumter	$802,000	$2,237,000	36%	$1,400,000	$2,380,000	59%
2009	Collier	$1,300,000	$3,100,000	42%	$1,300,000	$3,200,000	41%
2009	Polk	$1,491,000	$1,590,000	94%	$550,000	$2,170,000	25%
2009	Hillsborough/Tampa	$1,500,000	$2,800,000	54%	$2,500,000	$3,500,000	71%
2010	Collier	$901,000	$1,708,000	53%	$901,000	$2,418,000	37%
2011	Sarasota/North Port	$620,000	$2,400,000	26%	$800,000	$2,000,000	40%
2012	Osceola	$1,087,074	$2,651,400	41%	$1,167,598	$2,847,800	41%
2012	Orange	$1,080,000	$2,400,000	45%	-	-	n/a
2012	City of Orlando	$1,080,000	$2,400,000	45%	$1,305,000	$2,900,000	45%
2012	City of Sarasota	$620,000	$2,400,000	26%	$1,144,000	$2,600,000	44%
2013	Hernando	$811,800	$1,980,000	41%	$890,560	$2,024,000	44%
2013	Charlotte	$1,034,000	$2,200,000	47%	$1,128,000	$2,400,000	47%
2014	Indian River	$656,000	$1,598,000	41%	$781,000	$1,776,000	44%
Average		**$947,502**	**$2,330,406**	**41%**	**$1,164,286**	**$2,654,350**	**44%**
				(a)			(b)

Source: Recent impact fee studies constructed throughout Florida
Note: Letter references (i.e., "a") are used to assist with footnotes and sourcing

Table E-14
Construction Cost – County Road Improvements from Brevard County and Other Jurisdictions throughout Florida

County	District	Description	From	To	Year	Status	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Collier	1	Santa Barbara Blvd Extension	Rattlesnake Hammock Rd	Davis Blvd	2008	Bid	0 to 6	Urban	2.00	6	12.00	$12,035,894	$1,002,991
Polk	1	Silver Connector Rd	E.F. Griffin Rd	US 98	2008	Bid	0 to 2	Urban	0.33	2	0.66	$1,560,483	$2,364,368
Polk	1	County Line Rd Ph. I and II	SR 60	W. Pipkin Rd	2008	Bid	2 to 4	Urban	3.02	2	6.04	$10,827,839	$1,792,689
Polk	1	Berkley Rd Ph. II and III	Old Dixie Hwy	Pace Rd	2008	Bid	2 to 4	Urban	4.80	2	9.60	$13,951,130	$1,453,243
Polk	1	Ernie Caldwell Blvd Ph. I and IIA	FDC Grove Rd	Pine Tree Trail	2008	Bid	0 to 4	Urban	3.66	4	14.64	$25,910,148	$1,769,819
Volusia	5	Debary Ave	Deltona Blvd	Providence Blvd	2008	Bid	2 to 4	Urban	1.84	2	3.68	$7,405,914	$2,012,477
Volusia	5	S. Williamson Blvd Ph. II	S. of Sabal Creek Blvd	N. of Moody Bridge	2008	Bid	2 to 4	Urban	1.91	2	3.82	$11,109,225	$2,908,174
Lake	5	CR 466 (Segment A)	US 301	CR 319	2008	Bid	2 to 4	Urban	1.00	2	2.00	$4,062,660	$2,031,330
Hillsborough	7	40th St	River Pines Apts	Humphrey St	2008	Bid	2 to 4	Urban	0.95	2	1.90	$5,154,862	$2,713,085
Hillsborough	7	Race Track Rd Ph. I	Douglas Rd	Linebaugh Ave	2008	Bid	2 to 6	Urban	1.01	4	4.04	$10,099,911	$2,499,978
Osceola	5	John Young Pkwy	Carroll	Orange Co. Line	2008	Bid	4 to 6	Urban	0.85	2	1.70	$3,230,000	$1,900,000
Orange	5	CR 535 (Segments C and E)	Ficquette Rd	Butler Ridge Dr	2008	Bid	2 to 4	Urban	1.10	2	2.20	$3,693,616	$1,678,916
Orange	5	Clarcona-Ocoee Rd	Ocoee Apopka Rd	SR 417	2008	Bid	2 to 4	Urban	0.40	2	0.80	$2,803,484	$3,504,355
Orange	5	Destination Pkwy	International Dr	Tradeshow Blvd	2008	Bid	2 to 4	Urban	0.71	2	1.42	$3,017,443	$2,124,960
Lee	1	Gladiolus Dr Ph. I	A&W Bulb Rd	Winkler Rd	2008	Bid	2 to 4/6	Urban	1.94	2/4	5.44	$13,971,509	$2,568,292
Lee	1	Gladiolus Dr Ph. II	Pine Ridge Rd	A&W Bulb Rd	2008	Bid	2 to 4	Urban	1.02	2	2.04	$6,748,642	$3,308,158
Charlotte	1	Toledo-Blade Corridor	North Port	US 41	2008	Bid	2 to 4	Sub-Urb	1.20	2	2.40	$3,174,852	$1,322,855
Indian River	4	17th Lane SW	27th Ave	20th Ave	2008	Bid	2 to 3	Urban	0.52	1	0.52	$525,000	$1,009,615
Indian River	4	20th Ave SW	25th St SW	17th Lane SW	2008	Bid	0/1 to 2	Urban	0.52	2	1.04	$1,886,715	$1,814,149
Palm Beach	4	Hypoluxo Rd	W. of Lyons Rd	W. of Hagen Ranch Rd	2008	Bid	2 to 4	Urban	3.00	2	6.00	$15,294,751	$2,549,125
Palm Beach	4	Okeechobee Blvd	Royal Palm Beach High School Entr.	E. of Florida's Turnpike	2008	Bid	6 to 8	Urban	4.70	2	9.40	$30,529,591	$3,247,829
Palm Beach	4	Haverhill Rd	45th St	N. of NPBWCD EPB-10 Canal	2008	Bid	2 to 5	Urban	0.50	3	1.50	$2,050,830	$1,367,220
Palm Beach	4	Jog Rd	Yamato Rd	Clint Moore Rd	2008	Bid	4 to 6	Urban	1.00	2	2.00	$2,396,040	$1,198,020
Palm Beach	4	Jog Rd/Donald Ross Rd	Hood Rd	64th Dr N	2008	Bid	2 to 4	Urban	1.80	2	3.60	$4,630,327	$1,286,202
Orange	5	Clarcona-Ocoee Rd	Hiawassee Rd	Clark	2009	Bid	2 to 4	Urban	2.50	2	5.00	$10,182,738	$2,036,548
Orange	5	Woodbury Rd	S. of SR 50	Challenger Pkwy	2009	Bid	2 to 4	Urban	0.65	2	1.30	$4,088,942	$3,145,340
Orange	5	Sand Lake Rd	President's Dr	FL Mall	2009	Bid	2 to 4	Urban	1.00	2	2.00	$6,020,755	$3,010,378
Orange	5	Taft-Vineland Road Extension	Central Florida Pkwy	John Young Pkwy	2009	Bid	2 to 4	Urban	0.70	2	1.40	$4,462,535	$3,187,525
Osceola	5	Narcoossee Rd	US 192	Orange Co. Line	2009	Bid	2 to 4	Urban	7.40	2	14.80	$47,360,000	$3,200,000
Osceola	5	Osceola Pkwy (Ph. I)	FL Turnpike	Buenaventura Blvd	2009	Bid	4 to 6	Urban	1.57	2	3.14	$5,966,000	$1,900,000
Osceola	5	Poinciana Blvd (Ph. II)	Crescent Lakes	US 17/92	2009	Bid	2 to 4	Urban	2.50	2	5.00	$16,000,000	$3,200,000
Osceola	5	Old Lake Wilson Rd (Ph. I)	Livingston Rd	Sinclair Rd	2009	Bid	2 to 4	Urban	2.30	2	4.60	$14,720,000	$3,200,000
Hillsborough	7	Bruce B. Downs	Palm Springs Blvd	Pebble Beach Blvd	2009	Bid	4 to 8	Urban	7.20	4	28.80	$40,575,305	$1,408,865
Hillsborough	7	Race Track Rd (Ph. IV)	Douglas Rd	Hillsborough Ave	2009	Bid	2 to 6	Urban	0.56	4	2.24	$4,397,412	$1,963,130
Sarasota	1	Fruitville Rd (Ph. I)	Tatum Rd	Debrecen Rd	2009	Bid	2 to 4	Urban	0.72	2	1.44	$4,355,796	$3,024,858
Sarasota	1	Fruitville Rd (Ph. II)	Coburn Rd	Tatum Rd	2009	Bid	2 to 4	Urban	1.26	2	2.52	$8,557,904	$3,395,994
Lee	1	Colonial Blvd (CR 884)	I-75	SR 82	2009	Bid	4 to 6	Urban	2.70	2	5.40	$14,576,393	$2,699,332
Indian River	4	College Lane Rd	Extension IRSC	66th Ave	2009	Bid	0 to 2	Urban	0.50	2	1.00	$1,700,000	$1,700,000
Indian River	4	16th St	66th Ave	74th Ave	2009	Bid	0 to 2	Urban	1.27	2	2.54	$3,109,321	$1,224,142
Polk	1	Pine Tree Trail	Ernie Caldwell Blvd	CR 54/Reagan Pkwy	2009	Bid	0 to 2	Urban	1.40	2	2.80	$3,442,332	$1,229,404
Polk	1	Lakeland Highlands Rd	Polk Pkwy	CR 540A	2009	Bid	2 to 4	Urban	3.01	2	6.02	$13,603,672	$2,259,746
Palm Beach	4	Alt. A1A	S. of Frederick Small Rd	Center St	2009	Bid	4 to 6	Urban	4.40	2	8.80	$6,364,139	$723,198
Palm Beach	4	Lyons Rd	Glades Rd	Yamato Rd	2009	Bid	4 to 6	Urban	1.80	2	3.60	$5,967,464	$1,657,629
Palm Beach	4	Hypoluxo Rd	Jog Rd	Military Tr	2009	Bid	4 to 6	Urban	2.00	2	4.00	$4,054,386	$1,013,597
Palm Beach	4	Lawrence Rd	S. of C. Stanley Weaver Canal	N. of C. Stanley Weaver Canal	2009	Bid	2 to 4	Urban	0.20	2	0.40	$1,051,680	$2,629,200
Orange	5	Alafaya Tr	Avalon Park Blvd	Mark Twain Blvd	2010	Bid	2 to 4	Urban	3.83	2	7.66	$18,918,599	$2,469,791
Hillsborough	7	Boyette Rd (Ph. III)	McMullen Rd	Bell Shoals Rd	2010	Bid	2 to 4	Urban	2.60	2	5.20	$23,184,354	$4,458,530

Table E-14 (continued)
Construction Cost – County Road Improvements from Brevard County and Other Jurisdictions throughout Florida

County	District	Description	From	To	Year	Status	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Broward	4	Bailey Rd	NW 64th Ave / SW 81st Ave	SR 7 (US 441)	2010	Bid	2 to 4	Urban	2.00	2	4.00	$6,330,297	$1,582,574
Collier	1	Oil Well Rd (Segment 2)	Immokalee Rd	E. of Everglades Blvd	2010	Bid	2 to 4/6	Urban	5.05	2/4	10.92	$15,091,068	$1,381,966
Collier	1	Oil Well Rd (Segment 4A)	W. of Oil Well Grade Rd	W. of Camp Keais Rd	2010	Bid	2 to 6	Urban	4.72	4	18.88	$15,875,782	$840,878
Lee	1	Six Mile Cypress Pkwy	Daniels Pkwy	S. of Winkler Rd Ext.	2010	Bid	2 to 4	Urban	3.09	2	6.18	$6,711,242	$1,085,961
Charlotte	1	Piper Rd	Henry St	Jones Loop Rd	2010	Bid	2 to 4	Sub-Urb	2.10	2	4.20	$8,627,803	$2,054,239
Indian River	4	53rd St	Kings Hwy	Lateral H Canal	2010	Bid	0 to 4	Urban	2.04	4	8.16	$7,000,000	$857,843
Indian River	4	53rd St	Lateral H Canal	Indian River Blvd	2010	Bid	0 to 4	Urban	0.50	4	2.00	$7,605,993	$3,802,997
Palm Beach	4	45th St	Jog Rd	E. of Haverhill Rd	2010	Bid	2 to 4	Urban	1.50	2	3.00	$12,423,103	$4,141,034
Palm Beach	4	Jog Rd	S. of 45th St	N. of 45th St	2010	Bid	0 to 4	Urban	0.50	4	2.00	$4,960,399	$2,480,200
Palm Beach	4	Congress Ave	Lantana Rd	Melaluca Ln	2010	Bid	4 to 6	Urban	1.30	2	2.60	$6,130,698	$2,357,961
Palm Beach	4	Seminole Pratt Whitney Rd	SR 80	Sycamore Dr	2010	Bid	2 to 4	Urban	4.20	2	8.40	$9,930,460	$1,182,198
Palm Beach	4	Seminole Pratt Whitney Rd	S. of M Canal	S. of Orange Blvd	2010	Bid	2 to 4	Urban	1.40	2	2.80	$2,820,892	$1,007,461
Citrus	7	CR 486	SR 44	Forest Ridge Blvd	2010	Bid	2 to 4	Urban	6.30	2	12.60	$26,614,211	$2,112,239
Brevard	5	Pineda Cswy Extension	I-95	W. of Wickham Rd	2010	Bid	0 to 4	Urban	2.10	4	8.40	$17,238,865	$2,052,246
Sarasota	1	North Cattlemen Rd	Richardson Rd	Desoto Rd	2011	Bid	2 to 4	Urban	2.55	2	5.10	$12,153,584	$2,383,056
Lee	1	Daniels Pkwy	Chamberlin Pkwy	Gateway Blvd	2011	Bid	4 to 6	Urban	2.05	2	4.10	$2,906,553	$708,915
Orange	5	Rouse Rd	SR 50	Corporate Blvd	2011	Bid	2 to 4	Urban	2.60	2	5.20	$29,380,249	$5,650,048
Orange	5	CR 535 Seg. A	Magnolia Park Ct	SR 429	2011	Bid	2 to 4	Urban	1.37	2	2.74	$8,390,570	$3,062,252
Osceola	5	Goodman Rd	Tri-County	Sand Mine Rd	2011	Bid	0 to 2	Urban	3.53	2	7.06	$7,060,000	$1,000,000
Pinellas	1	Bryan Dairy Rd	Starkey Rd (CR 1)	72nd St	2011	Bid	4 to 6	Urban	1.47	2	2.94	$10,327,383	$3,512,715
Hernando	7	Elgin Blvd	Mariner Blvd	East 3900'	2011	Bid	2 to 4	Urban	0.74	2	1.48	$2,684,566	$1,813,896
Hernando	7	Sunshine Grove Rd	SR 50	Ken Austin Pkwy	2011	Bid	2 to 4	Urban	2.10	2	4.20	$4,646,801	$1,106,381
Palm Beach	4	Lyons Rd	N. of West Atlantic Ave	S. of Boynton Beach Blvd	2011	Bid	0 to 2	Urban	3.20	2	6.40	$5,329,359	$832,712
Charlotte	1	Burnt Store Rd (Ph. I)	US 41	Notre Dame Blvd	2011	Bid	2 to 4	Urban	2.40	2	4.80	$13,512,394	$2,815,082
Indian River	4	Oslo Rd Ph. II	43rd Ave	27th Ave	2011	Bid	2 to 4D	Urban	1.20	3	3.60	$4,531,822	$1,258,839
Indian River	4	Oslo Rd Ph. III	43rd Ave	58th Ave	2012	Bid	2 to 4	Urban	1.15	2	2.30	$3,812,202	$1,657,479
Indian River	4	66th Ave	SR 60	49th St	2012	Bid	2 to 4	Urban	3.05	2	6.10	$20,773,389	$3,405,474
Polk	1	Kathleen Rd (CR35A) Ph. II	Galloway Rd	Duff Rd	2012	Bid	2 to 4	Urban	3.00	2	6.00	$17,813,685	$2,968,948
Polk	1	Bartow Northern Connector Ph. I	US 98	US 17	2012	Bid	0 to 4	Urban	2.00	4	8.00	$11,255,736	$1,406,967
Volusia	5	Tymber Creek Rd	SR 40	Peruvian Ln	2012	Bid	2 to 4	Urban	0.75	2	1.50	$5,276,057	$3,517,371
Palm Beach	4	Jog Rd	N. of SR 710	N. of Florida's Turnpike	2012	Bid	0 to 4	Urban	0.70	4	2.80	$3,413,874	$1,219,241
Palm Beach	4	West Atlantic Ave	W. of Lyons Rd	Starkey Rd	2012	Bid	2 to 4	Urban	0.80	2	1.60	$8,818,727	$5,511,704
Palm Beach	4	60th St N & SR 7 Ext.	E. of Royal Palm Beach Blvd	SR 7	2012	Bid	0 to 2	Urban	1.50	2	3.00	$3,821,404	$1,273,801
Brevard	5	Babcock St	S. of Foundation Park Blvd	Malabar Rd	2013	Bid	2 to 4	Urban	12.40	2	24.80	$56,000,000	$2,258,065
Collier	1	Collier Blvd (CR 951)	Golden Gate Blvd	Green Blvd	2014	Bid	4 to 6	Urban	2.74	2	5.48	$21,157,124	$3,860,789
Collier	1	Golden Gate Blvd	Wilson Blvd	Desoto Blvd	2014	Bid	2 to 4	Urban	5.71	2	11.42	$51,402,161	$4,501,065
Brevard	5	St. Johns Heritage Pkwy	SE of I-95 Intersection	US 192 (Space Coast Pkwy)	2014	Bid	0 to 2	Sub-Urb	3.11	2	6.22	$16,763,567	$2,695,107
Total									**Count:**	**84**	**439.08**	**$927,322,613**	**$2,111,967**
District 5 Improvements ONLY									**Count:**	**23**	116.44	$303,151,219	**$2,603,497**
Excluding Brevard County									**Count:**	**81**	399.66	$837,320,181	**$2,095,081**
Brevard County ONLY									**Count:**	**3**	39.42	$90,002,432	**$2,283,167**
Used in Impact Fee Calculation													**$2,100,000**

Source: Brevard County Public Works Department and roadway bids from recent impact fee studies throughout Florida as well as recent bids from the Tindale Oliver Cost Database, with information having been provided by each respective County

Table E-15
Construction Cost – State Road Improvements from Brevard County and Other Jurisdictions throughout Florida

County	District	Description	From	To	Year	Status	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Walton	3	SR 83 (US 331)	SR 30 (US 98)	S. end of Choctaw Bridge	2008	Bid	2 to 4	Urban	2.08	2	4.16	$11,649,363	$2,800,328
Hillsborough	7	US 301 (SR 43)	S. of Balm Rd	N. of Gibsonton Rd	2008	Bid	2 to 6	Urban	6.03	4	24.12	$55,702,777	$2,309,402
Indian River	4	SR 5 (US 1)	S. of Oslo Rd	S. of Indian River Bend	2008	Bid	4 to 6	Urban	1.70	2	3.40	$14,953,562	$4,398,106
Indian River	4	SR 60/Osceola Blvd	W. of 82 Ave	66th Ave/CR 505	2008	Bid	4 to 6	Urban	2.15	2	4.30	$18,496,793	$4,301,580
Orange	5	SR 50	Good Homes Rd	Pine Hills Rd	2008	Bid	4 to 6	Urban	3.63	2	7.26	$35,929,914	$4,949,024
Leon	3	SR 10 (Mahan Drive)	Dempsey Mayo Rd	Walden Rd	2009	Bid	2 to 4	Urban	3.10	2	6.20	$18,083,510	$2,916,695
Indian River	4	SR 60 (Osceola Blvd)	W. of I-95	W. of 82nd Ave/CR 609	2009	Bid	4 to 6	Urban	3.07	2	6.14	$7,366,557	$1,199,765
Sarasota	1	US 301	Wood St	Myrtle Ave	2009	Bid	4 to 6	Urban	2.60	2	5.20	$18,372,050	$3,533,087
Sarasota	1	US 301	Myrtle Ave	Desoto Rd	2009	Bid	4 to 6	Urban	1.00	2	2.00	$8,293,271	$4,146,636
Pasco	7	US 41 (SR 45)	Tower Rd	Ridge Rd	2009	Bid	2 to 4	Urban	2.84	2	5.68	$12,685,027	$2,233,279
Lee	1	SR 739	US 41 (S. of Alico)	Six Mile Cypress Pkwy	2009	Bid	0 to 6	Urban	2.77	6	16.62	$20,663,929	$1,243,317
Manatee	1	US 301	Erie Rd	CR 675	2009	Bid	4 to 6	Urban	4.10	2	8.20	$21,040,000	$2,565,854
Marion	5	SR 35 (US 301)	Sumter County Line	529' S. of CR 42	2009	Bid	2 to 4	Urban	1.40	2	2.80	$3,596,000	$1,284,286
Miami-Dade	6	Perimeter Rd	NW 72 Avenue	NW 57 Avenue	2009	Bid	2 to 4	Urban	1.50	2	3.00	$6,383,286	$2,127,762
Polk	1	US 27	N. of CR 546	S. of SR 544	2009	Bid	2 to 4	Urban	1.56	2	3.12	$4,100,069	$1,314,125
Santa Rosa	3	SR 281 (Avalon Blvd)	N. of CSX R/R Bridge	S. of Commerce Rd	2009	Bid	2 to 4	Urban	0.98	2	1.96	$5,621,006	$2,867,860
Santa Rosa	3	SR 281 (Avalon Blvd)	Gulf Rd	SR 10 (US 90)	2009	Bid	2 to 4	Urban	1.78	2	3.56	$9,150,583	$2,570,388
St. Lucie	4	SR 70	MP 5.860	MP 10.216	2009	Bid	2 to 4	Urban	4.36	2	8.72	$12,426,020	$1,425,002
Sumter	5	SR 35 (US 301)	N. of CR 204	Marion County Line	2009	Bid	2 to 4	Urban	1.51	2	3.02	$3,856,688	$1,277,049
Washington	3	SR 79	N. Environmental Rd	Strickland Rd	2009	Bid	2 to 4	Urban	1.72	2	3.44	$8,877,323	$2,580,617
Lake	5	SR 50	E. of Grand Hwy	W. of Hancock Rd	2010	Bid	4 to 6	Urban	1.30	2	2.60	$4,689,633	$1,803,705
Polk	1	SR 559 Extension	SR 655 (Recker Hwy)	Derby Ave	2010	Bid	0 to 2	Urban	0.69	2	1.38	$2,751,592	$1,993,907
Santa Rosa	3	SR 281 (Avalon Blvd)	SR 8 (I-10)	S. of Moor's Lodge	2010	Bid	2 to 4	Urban	0.85	2	1.70	$5,378,226	$3,163,662
Santa Rosa	3	SR 281 (Avalon Blvd)	S. of Moor's Lodge	N. of CSX R/R Bridge	2010	Bid	2 to 4	Urban	1.48	2	2.96	$7,145,212	$2,413,923
Lee	1	US 41	Corkscrew Rd	San Carlos Blvd	2010	Bid	4 to 6	Urban	4.48	2	8.96	$12,822,677	$1,431,102
Polk	1	US 98	S. of Manor Dr	N. of CR 540A	2010	Bid	4 to 6	Urban	3.32	2	6.64	$11,092,909	$1,670,619
St. Lucie	4	SR 70	Okeechobee County Line	MP 5.871	2010	Bid	2 to 4	Urban	5.87	2	11.74	$18,782,630	$1,599,883
Polk	1	US 98 (Bartow Hwy)	Brooks St	Edgewood Dr	2011	Bid	4 to 6	Urban	0.72	2	1.44	$4,341,917	$3,015,220
Hillsborough	7	CR 39/Alexander St	N. of I-4	N. of Knights Griffin	2011	Bid	0 to 4	Urban	3.19	4	12.76	$14,782,862	$1,158,532
Pinellas	7	SR 688 (Ulmerton Rd)	E. of 119th St	W. of Seminole Bypass	2011	Bid	4 to 6	Urban	1.50	2	3.00	$16,908,929	$5,636,310
Polk	1	SR 60 (Van Fleet)	W. of US 98/Broadway	W. of US 17 (SR 555)	2011	Bid	2 to 4	Urban	0.86	2	1.72	$9,540,473	$5,546,787
Lake	5	SR 500 (US 441)	Martin Luther King Jr. Blvd	Lake Ella Rd	2011	Bid	4 to 6	Urban	3.25	2	6.50	$16,278,889	$2,504,444
Hillsborough	7	SR 574 (MLK Blvd)	W. of Highview Rd	E. of Parsons Ave	2011	Bid	3 to 5	Urban	0.91	2	1.82	$7,147,510	$3,927,203
Collier	1	SR 84 (Davis Blvd)	E. of Santa Barbara Blvd	W. of Radio Rd	2012	Bid	2 to 6	Urban	1.77	4	7.08	$10,956,198	$1,547,486
Volusia	5	SR 415	Seminole Co. Line	Reed Ellis Rd	2012	Bid	2 to 4	Urban	2.26	2	4.53	$18,718,637	$4,132,149
Volusia	5	SR 415	Reed Ellis Rd	0.3 miles N. of Acorn Lake	2012	Bid	2 to 4	Urban	5.07	2	10.13	$18,388,845	$1,815,286
Pinellas	7	US 19 (SR 55)	N. of CR 576/Sunset Pnt	S. of Countryside Blvd	2012	Bid	6 to 10	Urban	1.76	4	7.04	$17,196,050	$2,442,621
Miami-Dade	6	SR 823/NW 57th Ave	W. 23rd St	W. 46th St	2012	Bid	4 to 6	Urban	1.48	2	2.96	$14,081,161	$4,757,149
Hernando	7	SR 50 (Cortez Blvd)	US 19 (SR 55)	W. of CR 587/Mariner Blvd	2012	Bid	4 to 6	Urban	6.02	2	12.04	$39,444,222	$3,276,098
Orange	5	SR 50	E. of West Oaks Mall	W. of Good Homes Rd	2012	Bid	4 to 6	Urban	0.45	2	0.90	$8,694,472	$9,660,524
Clay	2	SR 23	Oakleaf Plantation Pkwy	Old Jennings	2012	Bid	0 to 2	Urban	3.14	2	6.28	$13,231,111	$2,106,865
Hendry	1	SR 80	Birchwood Pkwy	Dalton Lane	2012	Bid	2 to 4	Urban	5.00	2	10.00	$12,855,092	$1,285,509
Hendry	1	SR 80	CR 833	US 27	2012	Bid	2 to 4	Urban	2.90	2	5.80	$8,117,039	$1,399,489
Lee	1	SR 739	Winkler Ave	Hanson St	2012	Bid	0 to 6	Urban	1.34	6	8.04	$14,025,932	$1,744,519
Seminole	5	SR 434	I-4	Rangeline Rd	2012	Bid	4 to 6	Urban	1.80	2	3.60	$10,111,333	$2,808,704
Palm Beach	4	SR 710/Beeline Hwy	W. of Congress Ave	W. of Australian Ave	2012	Bid	2 to 4	Urban	0.84	2	1.68	$12,189,533	$7,255,674
Polk	1	US 27	N. of Ritchie Rd	S. of Barry Rd	2012	Bid	4 to 6	Urban	3.20	2	6.40	$14,242,918	$2,225,456

Table E-15 (continued)

Construction Cost – State Road Improvements from Brevard County and Other Jurisdictions throughout Florida

County	District	Description	From	To	Year	Status	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Polk	1	US 98 (SR 35/SR 700)	N. of CR 540A	SR 540	2012	Bid	4 to 6	Urban	3.45	2	6.90	$18,004,051	$2,609,283
Brevard	5	SR 5 (US 1)	N. of Pine St	N. of Cidco Rd	2012	Bid	4 to 6	Urban	3.84	2	7.68	$29,360,536	$3,822,986
Brevard	5	SR 507 (Babcock St)	Melbourne Ave	Fee Ave	2013	Bid	2 to 4	Urban	0.55	2	1.10	$5,167,891	$4,698,083
Hillsborough	7	SR 41 (US 301)	S. of Tampa Bypass Canal	N. of Fowler Ave	2013	Bid	2 to 4	Sub-Urb	1.81	2	3.61	$15,758,965	$4,365,364
Lee	1	US 41 Business	Littleton Rd	SR 739	2013	Bid	2 to 4	Urban	1.23	2	2.46	$8,488,393	$3,450,566
Orange	5	SR 50 (Colonial Dr)	E. of CR 425 (Dean Rd)	E. of Old Cheney Hwy	2013	Bid	4 to 6	Urban	4.91	2	9.82	$66,201,688	$6,741,516
Okeechobee	1	SR 70	NE 34th Ave	NE 80th Ave	2014	Bid	2 to 4	Urban	3.60	2	7.20	$23,707,065	$3,292,648
Martin	4	CR 714/Indian St	Turnpike/Martin Downs Blvd	W. of Mapp Rd	2014	Bid	2 to 4	Urban	1.87	2	3.74	$14,935,957	$3,993,571
Broward	4	SR 7	N. of Hallendale Bch	N. of Fillmore St.	2014	Bid	4 to 6	Urban	1.79	2	3.57	$30,674,813	$8,592,385
Broward	4	Andrews Ave Ext.	Pompano Park Place	S. of Atlantic Blvd	2014	Bid	2 to 4	Urban	0.36	2	0.72	$3,177,530	$4,413,236
Charlotte	1	US 41 (SR 45)	Enterprise Dr	Sarasota County Line	2014	Bid	4 to 6	Urban	3.62	2	7.24	$31,131,016	$4,299,864
Total									**Count:**	**58**	**326.64**	**$887,771,634**	**$2,717,890**
District 5 Improvements ONLY									**Count:**	**12**	**59.94**	**$220,994,525**	**$3,686,929**
Excluding Brevard County									**Count:**	**56**	**317.86**	**$853,243,207**	**$2,684,337**
Brevard County ONLY									**Count:**	**2**	**8.78**	**$34,528,427**	**$3,932,623**
Used in Impact Fee Calculation													**$3,000,000**

Source: FDOT recently-bid projects by transportation district, available at www.dot.state.fl.us/

Table E-16
Construction Engineering/Inspection Factor – County & State Roads

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		CEI	Constr.	CEI Ratio	CEI	Constr.	CEI Ratio
200	Collier	$294,054	$2,558,546	11%	$354,442	$3,385,978	10%
2006	Citrus	$180,887	$2,584,099	7%	$474,464	$2,860,227	17%
2007	Pasco	$215,534	$3,079,051	7%	$442,849	$3,050,799	15%
2007	Lake	$116,441	$2,911,021	4%	$318,412	$3,184,125	10%
2007	Flagler	$174,000	$1,740,000	10%	-	-	n/a
2007	Volusia	$238,660	$2,651,778	9%	$309,526	$3,095,258	10%
2008	Leon	$372,400	$2,660,000	14%	$270,640	$3,383,000	8%
2008	Sumter	$223,700	$2,237,000	10%	$238,000	$2,380,000	10%
2009	Collier	$186,000	$3,100,000	6%	$320,000	$3,200,000	10%
2009	Polk	$111,300	$1,590,000	7%	$217,000	$2,170,000	10%
2009	Hillsborough/Tampa	$308,000	$2,800,000	11%	$315,000	$3,500,000	9%
2010	Collier	$119,560	$1,708,000	7%	$241,800	$2,418,000	10%
2011	Sarasota/North Port	$216,000	$2,400,000	9%	$180,000	$2,000,000	9%
2012	Osceola	$265,140	$2,651,400	10%	$313,258	$2,847,800	11%
2012	City of Orlando	-	$2,400,000	n/a	-	$2,900,000	n/a
2012	City of Sarasota	$240,000	$2,400,000	10%	$286,000	$2,600,000	n/a
2013	Hernando	$198,000	$1,980,000	10%	$222,640	$2,024,000	n/a
2013	Charlotte	$220,000	$2,200,000	10%	$240,000	$2,400,000	n/a
2014	Indian River	$159,000	$1,598,000	10%	$196,000	$1,776,000	n/a
Average		**$213,260**	**$2,380,494**	**9%**	**$4,940,031**	**$46,275,187**	**11%**
				(a)			(b)

Source: Recent impact fee studies constructed throughout Florida
Note: Letter references (i.e., “a”) are used to assist with footnotes and sourcing

Roadway Capacity

As shown in Table E-17, the average capacity per lane mile was based on the planned improvements projects in the 2035 Long Range Transportation Plan's Cost Feasible Plan. This listing of projects reflects the mix of improvements that will yield the vehicle miles of capacity (VMC) that will be built in Brevard County.

Table E-17
Brevard County 2035 Long Range Transportation Plan

Jurisdiction	Description	From	To	Improvement	Length	Lanes Added	Lane Miles Added	Initial Capacity	Future Capacity	Added Capacity	Vehicle Miles of Capacity Added
Regional Roads											
County	Babcock St	Malabar Rd	Foundation Park	Widen Road (2 to 4 Lanes)	1.24	2	2.48	16,830	37,350	20,520	25,445
County	Babcock St	Foundation Park	Micco Rd	Widen Road (2 to 4 Lanes)	6.80	2	13.60	16,830	37,350	20,520	139,536
County	Babcock St	Micco Rd	Indian River County	Widen Road (2 to 4 Lanes)	4.20	2	8.40	15,120	34,110	18,990	79,758
County	Ellis Rd	John Rodes Blvd	Wickham Rd	Widen Road (2 to 4 Lanes)	1.68	2	3.36	16,830	37,350	20,520	34,474
State	Malabar Rd	Babcock St	US 1	Widen Road (2 to 4 Lanes)	2.99	2	5.98	18,700	41,500	22,800	68,172
County	Malabar Rd	Bridge	St. Johns Heritage Pkwy	Widen Road (2 to 4 Lanes)	1.02	2	2.04	14,040	30,420	16,380	16,708
State	South St (SR 405)	Existing 4 lane section	SR 50	Widen Road (2 to 4 Lanes)	4.51	2	9.02	18,700	41,500	22,800	102,828
State	SR 524	I-95 Interchange (South)	Industry Rd	Widen Road (2 to 4 Lanes)	2.98	2	5.96	18,700	41,500	22,800	67,944
County	St. Johns Heritage Pkwy	John Rodes Blvd	US 192	New 2 Lane Road	3.15	2	6.30	0	21,780	21,780	68,607
County	St. Johns Heritage Pkwy	US 192	Palm Bay City Limits	New 2 Lane Road	3.02	2	6.04	0	21,780	21,780	65,776
State	US 1	Eyster Blvd	Pineda Causeway	Widen Road (4 to 6 Lanes)	8.96	2	17.92	32,400	50,000	17,600	157,696
State	US 192	St. Johns Heritage Pkwy	Wickham Rd	Widen Road (4 to 6 Lanes)	2.98	2	5.96	39,800	59,900	20,100	59,898
Other Corridors											
State	Clearlake Rd	Michigan Ave	Industry Rd	Widen Road (2 to 4 Lanes)	1.10	2	2.20	16,400	35,700	19,300	21,230
County	Hollywood Blvd	US 192	Palm Bay Rd	Widen Road (2 to 4 Lanes)	3.11	2	6.21	16,830	37,350	20,520	63,725
City	Powerline Rd	St. Johns Heritage Pkwy	Minton Rd	New 2 Lane Road	3.49	2	6.98	0	16,830	16,830	58,737
City	Powerline Rd	Minton Rd	Hollywood Dr	New 2 Lane Road	1.02	2	2.04	0	16,830	16,830	17,167
County	St. Andrews	Judge Fran Jamison	Stadium Pkwy	New 4 Lane Road	1.21	4	4.84	0	30,420	30,420	36,808
County	Stadium Parkway	Fiske Blvd	Viera Blvd	Widen Road (2 to 4 Lanes)	1.50	2	3.00	16,830	37,350	20,520	30,780
County	Viera Blvd	Herons Landing	Schenck Rd	Widen Road (2 to 4 Lanes)	0.94	2	1.88	16,830	37,350	20,520	19,289
County	Washingtonia Ext	Wickham Rd	St. Johns Heritage Pkwy	New 2 Lane Road (ROW for 4 Lan	9.28	2	18.56	0	16,830	16,830	156,182
Total (All Roads):							**132.77**				**1,290,760**
County/City Roads:							85.73	**65%**	**(a)**		812,992
State Roads:							47.04	**35%**	**(b)**		477,768
Urban Section Design:							103.77	**78%**	**(c)**		1,038,112
Rural Section Design:							29.00	**22%**	**(d)**		252,648
										VMC Added per Lane Mile:	**9,722**

Source: Brevard County 2035 Long Range Transportation Plan; Plan includes adjustments based on discussions with County Staff
Note: Letter references (i.e., “a”) are used to assist with footnotes and sourcing

APPENDIX F
Transportation Impact Fee:
Credit Component Calculations

Credit Component

This appendix presents the detailed calculations for the credit component of the transportation impact fee update. Currently, in addition to the capital support that ultimately results from State fuel tax revenues, Brevard County also receives financial benefit from several other funding sources. Of these, County fuel taxes that are collected in Brevard County are listed below, along with a few pertinent characteristics of each.

1. Constitutional Fuel Tax (2¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county. Collected in accordance with Article XII, Section 9 (c) of the Florida Constitution.
- The State allocated 80 percent of this tax to Counties after first withholding amounts pledged for debt service on bonds issued pursuant to provisions of the State Constitution for road and bridge purposes.
- The 20 percent surplus can be used to support the road construction program within the county.
- Counties are not required to share the proceeds of this tax with their municipalities.

2. County Fuel Tax (1¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county.
- Primary purpose of these funds is to help reduce a County's reliance on ad valorem taxes.
- Proceeds are to be used for transportation-related expenses, including the reduction of bond indebtedness incurred for transportation purposes. Authorized uses include acquisition of rights-of-way; the construction, reconstruction, operation, maintenance, and repair of transportation facilities, roads, bridges, bicycle paths, and pedestrian pathways; or the reduction of bond indebtedness incurred for transportation purposes.
- Counties are not required to share the proceeds of this tax with their municipalities.

3. 1st Local Option Tax (up to 6¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county.
- Proceeds may be used to fund transportation expenditures.
- To accommodate statewide equalization, all six cents are automatically levied on diesel fuel in every county, regardless of whether a County is levying the tax on motor fuel at all or at the maximum rate.

- Proceeds are distributed to a county and its municipalities according to a mutually agreed upon distribution ratio, or by using a formula contained in the Florida Statutes.

Brevard County does not levy ninth-cent fuel tax on motor fuel and the 2nd Option Fuel Tax, which are the other local fuel taxes available.

Each year, the Florida Legislature's Office of Economic and Demographic Research (EDR) produces the *Local Government Financial Information Handbook*, which details the estimated local government revenues for the upcoming fiscal year. Included in this document are the estimated distributions of the various fuel tax revenues for each county in the state. The 2013-14 data represent projected fuel tax distributions to Brevard County for the current fiscal year. In the table, the fuel tax revenue data are used to calculate the value per penny (per gallon of fuel) that should be used to estimate the "equivalent pennies" of other revenue sources. Table F-1 shows the distribution per penny for each of the fuel levies, and then the calculation of the weighted average for the value of a penny of fuel tax. The weighting procedure takes into account the differing amount of revenues generated for the various types of gas tax revenues. The weighted average figure of approximately $3.09 million estimates the annual revenue that one penny of gas tax generates in Brevard County.

Table F-1
Estimated Fuel Tax Distribution Allocated to Capital Programs for Brevard County & Municipalities, FY 2013-14(1)

Tax	Amount of Levy per Gallon	Total Distribution	Distribution Per Penny
Constitutional Fuel Tax	$0.02	$5,934,228	$2,967,114
County Fuel Tax	$0.01	$2,615,696	$2,615,696
1st Local Option (1-6 cents)	$0.06	$19,280,398	$3,213,400
Total	**$0.09**	**$27,830,322**	-
Weighted Average per Penny(2)			**$3,092,258**

(1) Source: Florida Legislature's Office of Economic and Demographic Research, http://edr.state.fl.us/content/local-government/reports/

(2) The weighted average distribution per penny is calculated by taking the sum of the total distribution and dividing that value by the sum of the total levies per gallon (multiplied by 100).

Gas Tax Credit

A revenue credit for the annual gas tax equivalent expenditures on roadway capacity expansion projects in Brevard County is presented below. The two components of the credit are as follows:

- County gas tax equivalent pennies
- State gas tax expenditures

County Gas Tax Equivalent Pennies

A review of the County's historical roadway financing program and the Capital Improvement Plan (CIP) for FY 2014-2018 indicates that a combination of transportation impact fees, fuel tax bonds, fuel tax revenues, and grants are used to fund roadway capacity expansion projects. As shown in Table F-2, Brevard County receives a credit of 1.5 pennies for the portion of non-impact fee revenues dedicated to capacity expansion projects such as new road construction, lane additions, and intersection improvements.

Table F-2
County Gas Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[3]	Equivalent Pennies[4]
Historical County Expenditures (FY 2008-2013)[1]	$13,510,743	6	$3,092,258	$0.007
Projected CIP Expenditures (FY 2014-2018)[2]	$37,504,023	5	$3,092,258	$0.024
Total	**$51,014,766**	**11**	**$3,092,258**	**$0.015**

(1) Source: Table F-5
(2) Source: Table F-5
(3) Source: Table F-1
(4) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) divided by 100

Additionally, the County is currently using gas tax revenues to retire debt on the 2007 and 2014 local option fuel tax revenue bonds that were used to help capacity expansion improvements. As show in Table F-3, a credit of 1.8 pennies is given for outstanding debt service in Brevard County.

Table F-3
County Gas Tax Equivalent Pennies for Debt Service

Source	Total Payment Remaining	Number of Years	Revenue from 1 Penny[3]	Equivalent Pennies[4]
Series 2007 LOFT Refunding Revenue Bond[1]	$71,076,036	23	$3,092,258	$0.010
Series 2014 LOFT Refunding Revenue Bond[2]	$30,466,287	12	$3,092,258	$0.008
Total	**$101,542,323**		**$3,092,258**	**$0.018**

(1) Source: Table F-6
(2) Source: Table F-7
(3) Source: Table F-1
(4) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) divided by 100

State Gas Tax Expenditures

In the calculation of the equivalent pennies of gas tax from the State funded capacity expansion projects for the 18-year period (from FY 2003 to FY 2020) were reviewed. For calculation purposes, the 18-year period was broken into three increments; two historical (FY 2003-2008 and FY 2009-2014) and one future (FY 2015-2020). Information on historical projects' funding and the future year estimates was obtained from the FDOT Work Programs. The use of an 18-year period, for purposes of developing a State credit for roadway capacity expansion projects, results in a stable credit, as it accounts for the volatility in FDOT spending in the county over short periods of time.

The total cost of the capacity-adding projects for the 12-year "historical" period and projected in the six-year "future" time period are as follows:

- FY 2003-2008 work plan equates to 7.1 pennies
- FY 2009-2014 work plan equates to 9.0 pennies
- FY 2015-2020 work plan equates to 4.4 pennies

The combined weighted average over the 18-year period of state expenditure for capacity-adding roadway projects results in a total of 6.8. Table F-4 documents this calculation. The specific projects that were used in the equivalent penny calculations are summarized in Table F-8.

Table F-4
Equivalent Penny Calculation for State Portion

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[4]	Equivalent Pennies[5]
Historical Work Program (FY 2003-2008)[1]	$131,119,772	6	$3,092,258	$0.071
Historical Work Program (FY 2009-2014)[2]	$166,587,117	6	$3,092,258	$0.090
Projected Work Program (FY 2015-2020)[3]	$81,817,043	6	$3,092,258	$0.044
Total	**$379,523,932**	**18**	**$3,092,258**	**$0.068**

(1) Source: Table F-8
(2) Source: Table F-8
(3) Source: Table F-8
(4) Source: Table F-1
(5) Cost of projects divided by number of years divided by revenue from 1 penny (Item 4) divided by 100

Table F-5

Historical and Future Capital Improvement Plan Expenditures for Brevard County, FY 2008 to FY 2018

Project Title	Description	FY 2008-2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Total
Capacity Improvement	Hall Rd at SR 3	$271,605	$0	$0	$0	$0	$0	$0	**$271,605**
Capacity Improvement	Wickham Rd ITS	$721,049	$0	$0	$0	$0	$0	$0	**$721,049**
Capacity Improvement	Pineda Cswy Extension & I-95 Interchange	$11,588,585	$0	$0	$0	$0	$0	$0	**$11,588,585**
Road Improvements	Palm Bay Rd from Robert J. Conlan Blvd to Minton Rd	$0	$0	$58,254	$0	$0	$0	$0	**$58,254**
Road Widening	S. Wickham Rd from US 192 to NASA Blvd	$0	$531,075	$0	$0	$0	$0	$0	**$531,075**
Intersection Improvements	Hollywood Blvd and Fell Rd	$0	$0	$2,087,216	$0	$0	$0	$0	**$2,087,216**
Intersection Improvements	Fortenberry Rd and Plumosa St	$0	$0	$263,706	$0	$0	$0	$0	**$263,706**
Intersection Improvements	N. Banana River Dr and Martin Blvd	$0	$0	$540,000	$0	$0	$0	$0	**$540,000**
Intersection Improvements	Grissom Rd and Bridge St	$0	$9,106	$0	$0	$0	$0	$0	**$9,106**
Add Right Turn Lane	Murrell Rd at Holiday Springs	$0	$0	$16,931	$0	$0	$0	$0	**$16,931**
Road Improvements	Pineda Cswy at the FEC Railroad Crossing	$0	$389,323	$3,695,233	$1,813,393	$14,231,813	$6,030,238	$0	**$26,160,000**
Road Construction	St. Johns Pkwy from Northern City Limits of Palm Bay to Ellis Rd	$0	$0	$6,850,359	$1,916,880	$0	$0	$0	**$8,767,239**
Total		**$12,581,239**	**$929,504**	**$13,511,699**	**$3,730,273**	**$14,231,813**	**$6,030,238**	**$0**	$51,014,766

Source: Brevard County Public Works Department and the FY 2014-2018 Capital Improvement Program

Table F-6
Debt Service Schedule – Series 2007 Local Option Fuel Tax

Bond Yr Ending Aug. 1	Series 2007 Principal	Series 2007 Coupon	Series 2007 Interest	Series 2007 Debt Service
2007			$228,721	$228,721
2008		5.00%	$2,421,750	$2,421,750
2009		5.00%	$2,421,750	$2,421,750
2010		5.00%	$2,421,750	$2,421,750
2011		5.00%	$2,421,750	$2,421,750
2012		5.00%	$2,421,750	$2,421,750
2013		5.00%	$2,421,750	$2,421,750
2014		5.00%	$2,421,750	$2,421,750
2015		5.00%	$2,421,750	$2,421,750
2016		5.00%	$2,421,750	$2,421,750
2017		5.00%	$2,421,750	$2,421,750
2018		5.00%	$2,421,750	$2,421,750
2019		5.00%	$2,421,750	$2,421,750
2020		5.00%	$2,421,750	$2,421,750
2021		5.00%	$2,421,750	$2,421,750
2022		5.00%	$2,421,750	$2,421,750
2023		5.00%	$2,421,750	$2,421,750
2024		5.00%	$2,421,750	$2,421,750
2025		5.00%	$2,421,750	$2,421,750
2026		5.00%	$2,421,750	$2,421,750
2027	$3,410,000	5.00%	$2,421,750	$5,831,750
2028	$3,580,000	5.00%	$2,251,250	$5,831,250
2029	$3,760,000	5.00%	$2,072,250	$5,832,250
2030	$3,945,000	5.00%	$1,884,250	$5,829,250
2031	$4,145,000	5.00%	$1,687,000	$5,832,000
2032	$4,350,000	5.00%	$1,479,750	$5,829,750
2033	$4,570,000	5.00%	$1,262,250	$5,832,250
2034	$4,795,000	5.00%	$1,033,750	$5,828,750
2035	$5,035,000	5.00%	$794,000	$5,829,000
2036	$5,290,000	5.00%	$542,250	$5,832,250
2037	$5,555,000	5.00%	$277,750	$5,832,750
Totals	**$48,435,000**	**5.00%**	**$61,948,221**	**$110,383,221**
Payments Remaining (2015-2037)				**$93,202,250**
% Dedicated to Roadway Capacity Expansion Projects				**76.26%**
Portion Dedicated to Roadway Capacity Expansion				**$71,076,036**
Number of Years of Remaining Payments				**23**

Source: Brevard County Public Works Department

Table F-7
Debt Service Schedule – Series 2014 Local Option Fuel Tax

Period Ending	Series 2014 Principal	Series 2014 Coupon	Series 2014 Interest	Series 2014 Debt Service	Annual Debt Service
Aug-14	$65,000	2.77%	$137,992	$202,992	$202,992
Feb-15			$442,646	$442,646	
Aug-15	$325,000	2.77%	$442,646	$767,646	$1,210,292
Feb-16			$438,145	$438,145	
Aug-16	$2,500,000	2.77%	$438,145	$2,938,145	$3,376,290
Feb-17			$403,520	$403,520	
Aug-17	$2,570,000	2.77%	$403,520	$2,973,520	$3,377,040
Feb-18			$367,925	$367,925	
Aug-18	$2,640,000	2.77%	$367,925	$3,007,925	$3,375,851
Feb-19			$331,361	$331,361	
Aug-19	$2,710,000	2.77%	$331,361	$3,041,361	$3,372,723
Feb-20			$293,828	$293,828	
Aug-20	$2,790,000	2.77%	$293,828	$3,083,828	$3,377,656
Feb-21			$255,186	$255,186	
Aug-21	$2,865,000	2.77%	$255,186	$3,120,186	$3,375,373
Feb-22			$215,506	$215,506	
Aug-22	$2,945,000	2.77%	$215,506	$3,160,506	$3,376,012
Feb-23			$174,718	$174,718	
Aug-23	$3,025,000	2.77%	$174,718	$3,199,718	$3,374,436
Feb-24			$132,822	$132,822	
Aug-24	$3,110,000	2.77%	$132,822	$3,242,822	$3,375,643
Feb-25			$89,748	$89,748	
Aug-25	$3,200,000	2.77%	$89,748	$3,289,748	$3,379,496
Feb-26			$45,428	$45,428	
Aug-26	$3,280,000	2.77%	$45,428	$3,325,428	$3,370,856
Totals	**$32,025,000**	**2.77%**	**$6,519,657**	**$38,544,657**	**$38,544,657**
Payments Remaining (2015-2026)					**$38,341,665**
% Dedicated to Roadway Capacity Expansion Projects					**79.46%**
Portion Dedicated to Roadway Capacity Expansion					**$30,466,287**
Number of Years of Remaining Payments					**12**

Source: Brevard County Public Works Department

Table F-8

FY 2003 - FY 2020 Brevard County FDOT Work Program - Capacity-Expansion Projects

Item #	Improvement	Project Description	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
2374381	Add Left Turn Lane(s)	SR 520 , SR 5, US 1	$17,940	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,940
2374581	Add Lanes & Reconstruct	SR 500 (US 192) from 3.8 miles E. Osceola Co. Line to I-95	$570,161	$349,002	$1,536,749	$113,634	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,569,546
2374661	Add Lanes & Reconstruct	SR 520 from Orange Co. Line to SR 524	$477,256	$10,678,206	$113,285	$150,645	$386,414	$1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,805,807
2374665	Add Lanes & Reconstruct	SR 520 from Orange Co. Line to SR 524	$0	$0	$0	$0	$0	$0	$40,713	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40,713
2374741	Add Lanes & Reconstruct	SR 520 from SR 524 to 0.1 miles W. of Friday Rd	$226,000	$6,549,868	$79,155	$54,332	$88,088	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,997,443
2375031	Add Lanes & Reconstruct	SR 5 (US 1) from Aurora Rd to Post Rd	$1,243,458	$1,091,049	$49,058	$180,537	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,564,102
2375321	Add Lanes & Reconstruct	SR 520 from 0.1 miles W. of Friday Rd to W. of Tucker Lane	$316,461	$998,456	$110,498	$357,783	$277,701	$292,986	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,353,885
2375501	Add Lanes & Reconstruct	SR 5 (US 1) from Post Rd to SR 404 (Pineda Cswy)	$2,423,030	$722,278	$866,513	$282,823	$76,346	$126,547	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,497,537
2375651	Add Lanes & Rehabilitate Pvmt	SR 513 (S. Patrick Dr) from Desoto Pkwy to SR 404 (Pineda Cswy)	$33,106	$37,840	$10,961	$129,827	$334,569	$156,534	$6,874,241	$395,973	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,973,051
2375652	Add Right Turn Lane(s)	SR 513 (S. Patrick Dr) from Desoto Pkwy to SR 404 (Pineda Cswy)	$0	$0	$0	$0	$0	$0	$28,527	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$28,527
2375763	Intersection Improvement	SR 5 (US 1) Intersection @ Barnes Blvd	$0	$0	$0	$0	$10,000	$122,851	$1,266,283	$1,330,562	$173,695	$80,943	$3,824	$0	$0	$0	$0	$0	$0	$0	$2,988,158
2375921	Add Lanes & Reconstruct	SR 5 (US 1) from Rosa L Jones Dr to Pine St	$88,052	$1,763,279	$1,991,252	$5,144,749	$1,946,126	$10,113,184	$350,023	$163,287	$338,864	$1,559	$7,062	$1,136	$3,166	$0	$0	$0	$0	$0	$21,911,739
2375922	Add Lanes & Reconstruct	SR 5 (US 1) fom N of Pine St to N of Cido Rd	$0	$0	$185,097	$166,022	$49,149	$25,049	$2,131	$0	$858,464	$617,113	$26,333,921	$1,484,630	$622,637	$125,953	$0	$0	$0	$0	$30,470,166
2376291	Add Right Turn Lane(s)	SR 5 (US 1) from SR 518 to Northbound Right Turn Lane	$1,185	$620	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,805
2376501	PD&E/Emo study	SR 507 (Babcock St) From Valkaria Rd to Nasa Blvd	$5,045	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,045
2376502	Intersection Improvement	SR 507 (Babcock St) From Melborune Ave to Fee Ave	$0	$892,142	$90,423	$41,574	$45,837	$1,819,688	$3,910,414	$5,822,732	$2,404,454	$1,074,378	$7,616,529	$177,317	$56,087	$0	$0	$0	$0	$0	$23,951,575
2376503	Add Lanes & Reconstruct	SR 507/SR 514 (Malabar) Intersection Reconstruction	$0	$0	$324	$812,772	$21,036	$37,006	$12,841	$27,318	$71,209	$1,373,332	$73,874	$67,505	$2,972	$0	$0	$0	$0	$0	$2,500,189
2376506	Prelim Eng for Future Capacity	SR 507 (Babcock St) from Malabar Rd to Palm Bay Rd	$0	$0	$0	$0	$0	$0	$0	$0	$2,773	$3,128,549	$52,014	$89,173	$159,589	$0	$0	$7,140,000	$11,700,000	$8,312,000	$30,584,098
2376871	Add Right Turn Lane(s)	SR 5 (US 1) intersection @ Valkaria Rd	$5,710	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,710
2377051	Preliminary Engineering	SR 3 design from SR 520 to SR 528	$99,622	$24,335	$131,645	$64,489	$54,459	$106	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$374,656
2377111	Corridor Improvements	SR 46 from Volusia Co. Line to N Carpenter Rd	$4,902,012	$611,177	$483	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,513,672
2377251	Add Right Turn Lane(s)	SR 500 (US 192) Intersection Riverside Dr. (On Melbourne Cswy)	$70,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$70,000
2377301	Add Lanes & Reconstruct	SR 500 (US 192) from Osceola Co. Line to 3.8 miles E of Co. Line	$4,915	$9,042	$216,373	$30,388	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$260,718
2412211	Add Lanes & Reconstruct	CR 516 (Palm Bay Rd) from Minton Rd to Conlan Blvd	$1,735,256	$2,288,838	$1,400,115	$1,662,749	$102,062	$82,410	$97,519	$291,245	$139,774	$191,780	$387	$0	$0	$0	$0	$0	$0	$0	$7,992,135
2412212	Add Lanes & Reconstruct	Palm Bay Rd From Minton Rd to Pinewood Dr	$0	$0	$0	$0	$23,219,172	$3,216,932	$1,466,807	$302,537	$13,055,812	$0	$0	$0	$0	$0	$0	$0	$0	$0	$41,261,260
2412213	Add Lanes & Reconstruct	CR 516 (Palm Bay Rd) from Pinewood Dr to Conlan Blvd	$0	$0	$0	$0	$6,201,588	$1,268,928	$17,089	$407,960	$3,115,129	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,010,694
2412411	Add Lanes & Reconstruct	Apollo Blvd from Sarno Rd to Eau Gallie Rd	$0	$0	$0	$1,914,537	$589,359	$1,510,496	$77,517	$48,990	$746,588	$2,800,595	$1,033,888	$16,687,213	$170,804	$0	$55,330	$0	$0	$0	$25,635,317
4038751	Intersection (minor)	SR 5 (US 1) from Brockett Rd to Lionel Rd	$407,134	$3,234	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$410,368
4046051	PD&E/Emo study	Palm Bay Pkwy from Malabar Rd to I-95	$21,485	$3,201	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$24,686
4046671	New Road Construction	Wickham Rd at Nasa Blvd and Ellis Rd	$107,412	$49,102	$3,804,552	$92,849	$499,161	$4,168,809	$551,426	$5,296,908	$751,442	$12,929	$55,121	$2,899	$1,115	$0	$0	$0	$0	$0	$15,393,725
4074022	Add Lanes & Reconstruct	SR 528 from W of I-95 to W of SR 524	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,500,000	$0	$0	$0	$0	$5,500,000
4074023	Add Lanes & Reconstruct	SR 528 from W of SR 524 to E of SR 3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,000,000	$0	$0	$0	$0	$6,000,000
4074024	Add Lanes & Reconstruct	SR 528 from E of SR 3 to Port Canaveral Interchange	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,600,000	$0	$0	$0	$0	$5,600,000
4074041	Intersection (Major)	Park Ave Titusville from Barna Ave to Draa Rd	$0	$0	$0	$737,156	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$737,156
4090351	Traffic Signal Update	SR 5 (US 1) Intersection @ South Terrier Trail	$396,046	$1,211	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$397,257
4130191	Traffic Signals	Brevard Traffic Engineering Contracts	$78,776	$244,519	$334,693	$344,754	$355,118	$369,390	$383,361	$395,702	$412,530	$430,448	$445,089	$459,892	$652,641	$656,942	$726,279	$740,983	$655,491	$0	$7,686,608
4133521	Add Left Turn Lane(s)	SR 524 @ I-95 Interchange	$0	$0	$0	$927,277	$8,901	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$936,178
4137611	Add Left Turn Lane(s)	SR 514 from Weber Rd to Corey Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$38,603	$709,406	$0	$0	$552,000	$2,219,968	$0	$3,519,977
4137641	Add Left Turn Lane(s)	SR 405 from Fox Lane Rd to N of Swan Lake Dr	$0	$0	$0	$0	$1,198,399	$43,324	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,241,723
4149751	Traffic Signals	SR 5 (US 1) from Knox McRae to Country Club Dr	$0	$0	$0	$0	$0	$2,363	$0	$3,207	$3,361	$9,262	$681,490	$29,323	$38,099	$0	$0	$0	$0	$0	$767,105
4149771	Traffic Signals	SR 501 from SR 520 to Michigan Ave	$0	$0	$0	$0	$0	$0	$0	$5,602	$43,478	$831,022	$120,881	$123	$0	$0	$0	$0	$0	$0	$1,001,106
4151951	Corridor/Subarea Planning	Countywide Species Mgmt Plan, Indian River National Scenic Byway	$80,956	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80,956
4155041	Interchange (Minor)	SR 500 (US 192) from Southbound I-95 to 0.019 miles W of Palm	$0	$0	$686,645	$65,996	$10,424	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$763,065
4159561	Corridor/Subarea Planning	US 1 & SR A1A Indian River Lagoon Scenic Hwy	$0	$52,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$52,500
4159731	Add Left Turn Lane(s)	SR 5054 from Engelgau Ln east of Waste Facility	$0	$0	$0	$0	$0	$0	$0	$0	$77,011	$177	$215,821	$1,840	$4,668	$0	$0	$0	$0	$0	$299,517
4159761	Traffic Signals	SR A1A at SR 518 (Eau Gallie Blvd)	$0	$0	$0	$161,716	$31,034	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$192,750
4170061	Traffic Signals	SR 46 @ I-95 Northbound Ramps	$0	$0	$0	$134,798	$39,035	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$173,833
4183261	Add Left Turn Lane(s)	SR 405 from Columbia Blvd @ Sisson Rd	$0	$0	$0	$108,611	$10,908	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$119,519
4183281	Add Left Turn Lane(s)	SR 500 (US 192) at John Rhodes Blvd	$0	$0	$0	$0	$0	$0	$0	$637,667	$8,115	$0	$0	$0	$0	$0	$0	$0	$0	$0	$645,782
4183282	Add Left Turn Lane(s)	SR 500 (US 192) at Dairy Rd	$0	$0	$0	$0	$0	$0	$0	$235,746	$7,097	$0	$0	$0	$50,415	$0	$0	$0	$0	$0	$293,258
4196591	Add Lanes & Reconstruct	Pineda Cswy ext from I-95 to Wickham Rd/CR 509	$0	$0	$0	$1,447,236	$2,178,495	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,625,731
4196592	Add Lanes & Reconstruct	Pineda Cswy Realign from Wickham Rd/CR 509 to SR 5 (US 1)	$0	$0	$0	$0	$2,819,569	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,819,569
4212181	Add Lanes & Reconstruct	Dixon Blvd from Clear Lake Blvd to Fec RR	$0	$0	$0	$0	$0	$0	$0	$0	$482,625	$1,767	$577	$305	$0	$0	$0	$0	$0	$0	$485,274
4228681	Traffic Signal Update	SR 46 at Pine Ave/Holder Rd	$0	$0	$0	$0	$60,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$60,000
4229201	Traffis Signals	SR 46 @ I-95 Northbound Ramps Mast Arm Replacement	$0	$0	$0	$0	$13,177	$0	$0	$0	$0	$0	$0	$0	$2,886	$0	$0	$0	$0	$0	$16,063
4231011	Add Lanes & Reconstruct	Barnes Blvd from Murrell Rd to Fiske Blvd (SR 519)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,100,000	$0	$0	$0	$0	$0	$0	$8,100,000
4235651	Traffic Signals	SR 406 at I-95 Interchange	$0	$0	$0	$0	$0	$0	$147,010	$12,627	$614,678	$18,701	$3,495	$0	$0	$0	$0	$0	$0	$0	$796,511
4241481	Traffic Control Devices/System	Wickham Rd from Sarno Rd to I-95	$0	$0	$0	$0	$0	$721,049	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$721,049
4248903	Traffic Signals	SR 50 from West of Hickory Hill to East of Hickory Hill	$0	$0	$0	$0	$0	$0	$0	$0	$0	$147,431	$0	$0	$0	$0	$0	$0	$0	$0	$147,431
4259271	Traffic Signal Update	SR 5 (US 1) @ SR 518 (Eau Gallie Blvd)	$0	$0	$0	$0	$0	$0	$125,611	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$125,611
4269052	Add Lanes & Reconstruct	St. Johns Heritage Pkwy @ Ellis Rd from John Rhodes to W of Wickham Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$158	$2,389,206	$2,942	$108,848	$0	$0	$0	$0	$0	$2,501,154
4274921	Preliminary Engineering	SR 519 (Fiske Blvd) from Barnes Blvd to SR 520	$0	$0	$0	$0	$0	$0	$0	$174,236	$110,336	$17,538	$20,253	$9,258	$12,741	$0	$0	$0	$0	$0	$344,362
4276451	Intersection Improvement	SR 520 from West of Myrtice Ave to SR 3	$0	$0	$0	$0	$0	$0	$0	$0	$251,336	$1,649,583	$145,349	$53,022	$0	$0	$0	$0	$0	$0	$2,099,290
4283461	New Road Construction	Palm Bay Pkwy from Malabar Rd to N. of Palm Bay Limits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,501,661	$3,012,477	$10,728	$8,256	$0	$0	$0	$0	$0	$7,533,122
4283462	ROW Acquisition	St. Johns Heritage Pkwy from N Palm Bay Limits to I-95/Ellis Interchange	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,776,255	$3,190,258	$21,292	$821	$0	$0	$0	$0	$0	$7,988,626
4283463	New Road Construction	St. Johns Heritage Pkwy from Palm Bay City Limits to US 192	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,000,000	$0	$0	$0	$0	$0	$0	$3,000,000
4285971	Traffic Control Devices/System	SR 500 (US 192) from I-95 Southbound Ramps to E of Wickham/Minton Rd	$0	$0	$0	$0	$0	$0	$0	$0	$890,380	$60,534	$58,588	$11,650	$0	$0	$0	$0	$0	$0	$1,021,152
4289191	ITS Comm System	Brevard Co ITS State Hwy System Roads Various Locations	$0	$0	$0	$0	$0	$0	$0	$0	$4,111,509	$425,323	$109,868	$0	$0	$0	$0	$0	$0	$0	$4,646,700
4289201	ITS Comm System	Brevard Co ITS Off State Hwy System various locations	$0	$0	$0	$0	$0	$0	$0	$0	$2,324,780	$202,757	$272,381	$0	$0	$0	$0	$0	$0	$0	$2,799,918
4289301	ITS Comm System	Brevard Co ITS Operational System	$0	$0	$0	$0	$0	$0	$0	$0	$215,000	$200,000	$200,000	$225,000	$225,000	$225,000	$225,000	$225,000	$225,000	$0	$1,965,000
4301361	PD&E/Emo study	SR 514 (Malabar Rd) from Babcock Rd to US 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,027,548	$36,724	$20,766	$0	$0	$0	$3,505,000	$0	$4,590,038
4302021	Corridor/Subarea Planning	SR A1A Multi-modal Improvement Feasibility Study	$0	$0	$0	$0	$0	$0	$0	$0	$0	$352,701	$530,099	$457	$2,602	$0	$0	$0	$0	$0	$885,859
4302061	Corridor/Subarea Planning	Brevard Countywide Complete Streets Feasibility Study Reserve	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$631,200	$3,343,695	$0	$0	$0	$0	$3,974,895
4302091	PD&E/Emo study	US 192 Feasiblity from West of I-95 to Babcock Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$250,185	$8,754	$119,355	$0	$0	$0	$0	$0	$0	$378,294
4311392	Traffic Signals	SR 520 Sykes Creek Intersection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$99,887	$39,577	$0	$0	$0	$0	$0	$139,464

Table F-8 (continued)

FY 2003 - FY 2020 Brevard County FDOT Work Program - Capacity-Expansion Projects

Item #	Improvement	Project Description	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
4311393	Traffic Signals	SR 520 From Erik Ct to Banana River Br	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,535,744	$206,027	$0	$0	$0	$0	$0	$1,741,771
4311641	Traffic Signals	SR 520 from Delannoy Ave to S Banana Dr	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$257,148	$3,712	$16,000	$1,149,541	$0	$0	$0	$0	$1,426,401
4321451	Intersection Improvement	SR 500 (US 192) at Livingston St Intersection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$82,000	$0	$0	$0	$0	$0	$0	$0	$82,000
4324121	Traffic Signal Update	SR 406 W of Singleton Ave to E of Singleton Ave	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$336,557	$4,196	$449,590	$0	$0	$0	$0	$790,343
4330611	Intersection Improvement	Banana River Dr @ Martin Blvd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$761,995	$2,331	$0	$0	$0	$0	$0	$764,326
4333831	Corridor/Subarea Planning	Brevard Co Transportation Alternative Capacity Projects	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,646,652	$5,646,358	$0	$11,293,010
4336041	PD&E/Emo study	SR 404/Pineda Cswy to Park Avenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,763,000	$0	$1,763,000
4336051	PD&E/Emo study	SR 501 from Michigan Ave to Industry Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,191,000	$0	$0	$0	$2,403,825	$0	$3,594,825
4336541	Add Turn Lane(s)	SR 500/US 192 at Wickhan Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$721,720	$0	$0	$721,720
4336551	Add Turn Lane(s)	SR 500/US 192 at Hollywood Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$629,240	$0	$0	$629,240
4344231	Traffic Signals	Wickham Rd at Stadium Pkwy	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$552,626	$0	$0	$0	$0	$552,626
4348161	Add Right Turn Lane(s)	SR 5 (US 1) at Sarno Rd	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$177,000	$0	$0	$0	$0	$0	$177,000
Total			**$13,311,018**	**$26,369,899**	**$11,607,821**	**$15,127,254**	**$40,626,127**	**$24,077,653**	**$15,351,513**	**$15,552,299**	**$31,210,440**	**$23,156,681**	**$47,947,902**	**$33,368,282**	**$5,120,850**	**$23,603,347**	**$1,006,609**	**$15,655,595**	**$28,118,642**	**$8,312,000**	**$379,523,932**

Source: FDOT Work Program Reports for Brevard County

Table F-9
Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel

Travel Vehicle Miles of Travel (VMT) @			
	21.6	6.4	
Other Arterial Rural	320,156,000,000	46,883,000,000	367,039,000,000
Other Rural	321,133,000,000	32,277,000,000	353,410,000,000
Other Urban	1,408,957,000,000	81,065,000,000	1,490,022,000,000
Total	***2,050,246,000,000***	***160,225,000,000***	***2,210,471,000,000***

Percent VMT	
@ 21.6 mpg	@ 6.4 mpg
87%	13%
91%	9%
95%	5%
93%	**7%**

Fuel Consumed			
	Gallons @ 21.6 mpg	Gallons @ 6.4 mpg	
Other Arterial Rural	14,822,037,037	7,325,468,750	22,147,505,787
Other Rural	14,867,268,519	5,043,281,250	19,910,549,769
Other Urban	65,229,490,741	12,666,406,250	77,895,896,991
Total	***94,918,796,297***	***25,035,156,250***	***119,953,952,547***

Total Mileage and Fuel	
2,210,471	**miles (millions)**
119,954	**gallons (millions)**
18.43	**mpg**

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2012* , Section V, Table VM-1
Annual Vehicle Distance Traveled in Miles and Related Data - 2012 by Highway Category and Vehicle Type
http://www.fhwa.dot.gov/policyinformation/statistics.cfm

Source: See Table F-10

Table F-10

Annual Vehicle Distance Traveled in Miles and Related Data (2012) - By Highway Category and Vehicle Type[1/]

Published January 2014 — TABLE VM-1

YEAR	ITEM	LIGHT DUTY VEHICLES SHORT WB[(2)]	MOTOR-CYCLES	BUSES	LIGHT DUTY VEHICLES LONG WB[(2)]	SINGLE-UNIT TRUCKS[(3)]	COMBINATION TRUCKS	SUBTOTALS		ALL MOTOR VEHICLES
								ALL LIGHT VEHICLES[(2)]	SINGLE-UNIT 2-AXLE 6-TIRE OR MORE AND COMBINATION TRUCKS	
	Motor-Vehicle Travel: (millions of vehicle-miles)									
2012	Interstate Rural	141,090	1,279	1,674	43,889	9,249	48,691	**184,979**	**57,940**	245,872
2012	Other Arterial Rural	231,314	2,880	2,036	88,842	17,194	29,689	**320,156**	**46,883**	371,954
2012	Other Rural	226,777	3,358	2,031	94,356	17,961	14,316	**321,133**	**32,277**	358,799
2012	All Rural	599,181	7,516	5,741	227,086	44,403	92,696	826,268	137,100	976,624
2012	Interstate Urban	345,091	2,815	2,359	84,130	14,539	35,614	**429,220**	**50,153**	484,547
2012	Other Urban	1,119,085	10,967	6,654	289,872	46,018	35,047	**1,408,957**	**81,065**	1,507,643
2012	All Urban	1,464,176	13,782	9,013	374,001	60,557	70,662	1,838,177	131,219	1,992,191
2012	Total Rural and Urban[(5)]	2,063,357	21,298	14,755	601,088	104,960	163,358	2,664,445	268,318	2,968,815
2012	Number of motor vehicles registered[(2)]	183,171,882	8,454,939	764,509	50,588,676	8,190,286	2,469,094	233,760,558	10,659,380	253,639,386
2012	Average miles traveled per vehicle	11,265	2,519	19,299	11,882	12,815	66,161	11,398	25,172	11,705
2012	Person-miles of travel[(4)] (millions)	2,866,797	22,940	312,797	803,023	104,960	163,358	3,669,821	268,318	4,273,876
2012	Fuel consumed (thousand gallons)	88,541,453	489,115	2,059,305	35,093,224	14,286,505	27,925,585	123,634,677	42,212,090	168,395,187
2012	Average fuel consumption per vehicle (gallons)	483	58	2,694	694	1,744	11,310	529	3,960	664
2012	Average miles traveled per gallon of fuel consumed	23.3	43.5	7.2	17.1	7.3	5.8	**21.6**	**6.4**	17.6

(1) The FHWA estimates national trends by using State reported Highway Performance and Monitoring System (HPMS) data, fuel consumption data (MF-21 and MF-27), vehicle registration data (MV-1, MV-9, and MV-10), other data such as the R.L. Polk vehicle data, and a host of modeling techniques. Starting with the 2009 VM-1, an enhanced methodology was used to provide timely indicators on both travel and travel behavior changes.

(2) Light Duty Vehicles Short WB - passenger cars, light trucks, vans and sport utility vehicles with a wheelbase (WM) equal to or less than 121 inches. Light Duty Vehicles Long WB - large passenger cars, vans, pickup trucks, and sport/utility vehicles with wheelbases (WB) larger than 121 inches. All Light Duty Vehicles - passenger cars, light trucks, vans and sport utility vehicles regardless of

(3) Single-Unit - single frame trucks that have 2-Axles and at least 6 tires or a gross vehicle weight rating exceeding 10,000 lbs.

(4) Vehicle occupancy is estimated by the FHWA from the 2009 National Household Travel Survey (NHTS); For single unit truck and heavy trucks, 1 motor vehicle mile travelled = 1 person-mile traveled.

(5) VMT data are based on the latest HPMS data available; it may not match previous published results.

APPENDIX G
Transportation Impact Fee:
Calculated Transportation Impact Fee Schedule

Transportation Impact Fee Schedule

This appendix presents the detailed impact fee calculations for each land use in Brevard County's transportation impact fee schedule. Given the changes in impact fee variables since the last update study in 2000, the calculated fees are significantly higher than the adopted fees. Approximately 80 to 85 percent of the increase is due to the updated cost and credit components, while the remaining change can be attributed to the changes in the demand component (updated trip generation rate, trip length, and percent new trips figures). A detailed description of specific changes in the demand component for each land use is provided in Appendix D, Table D-2.

Table G-1
Calculated Transportation Impact Fee Schedule

	Gasoline Tax						Unit Construction Cost:	$3,735,000		Interstate/Toll Facility Adjustment Factor:	17.3%				
	$$ per gallon to capital:	$0.101					Capacity per lane mile:	9,722		Cost per VMC:	$384.18				
	Facility life (years):	25		County Revenues:	$0.033		Fuel Efficiency:	18.43 mpg							
	Interest rate:	3.00%		State Revenues:	$0.068		Effectivedays per year:	365							

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Impact Fee	Current Impact Fee	% Change
	RESIDENTIAL:															
210	Single Family (Detached)	du	7.81	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	21.38	$8,213	$56	$975	$7,238	$4,353	66%
220	Multi-Family (Apartment); 1-2 Stories	du	6.60	Blend ITE 9th & FL Studies	5.10	5.60	FL Studies (LUC 220/230)	100%	n/a	13.92	$5,347	$37	$644	$4,703	$2,677	76%
222/ 223	Multi-Family (Apartment); 3+ Stories	du	4.14	ITE 9th Edition	5.10	5.60	Same as LUC 220	100%	n/a	8.73	$3,354	$23	$401	$2,953	$2,381	24%
231	Condo/Duplex/Townhouse; 1-2 Stories	du	7.80	ITE 9th Edition	5.10	5.60	Same as LUC 220	100%	n/a	16.45	$6,319	$44	$766	$5,553	$2,677	107%
232	Condo/Duplex/Townhouse; 3+ Stories	du	4.18	ITE 9th Edition	5.10	5.60	Same as LUC 220	100%	n/a	8.81	$3,387	$23	$401	$2,986	$2,381	25%
240	Mobile Home Park	du	4.17	Florida Studies	4.60	5.10	FL Studies	100%	n/a	7.93	$3,047	$21	$366	$2,681	$1,642	63%
253	Congregate Care Facility/ALF	du	2.25	Blend ITE 9th & FL Studies	3.08	3.58	FL Studies	72%	FL Studies	2.06	$793	$6	$104	$689	$378	82%
	LODGING:															
310	Hotel	room	6.36	Blend ITE 9th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	10.87	$4,174	$28	$488	$3,686	$2,735	35%
320	Motel	room	5.63	ITE 9th Edition	4.34	4.84	FL Studies	77%	FL Studies	7.78	$2,989	$21	$366	$2,623	$1,480	77%
	RECREATION:															
416	RV Park[2]	site	1.62	ITE 9th Edition	4.60	5.10	Same as LUC 240	100%	FL Schedules	3.08	$1,184	$8	$139	$1,045	$1,642	-36%
420	Marina	boat berth	2.96	ITE 9th Edition	6.62	7.12	Same as LUC 210	90%	FL Schedules	7.29	$2,802	$19	$331	$2,471	$6,430	n/a
430	Golf Course	hole	35.74	ITE 9th Edition	6.62	7.12	Same as LUC 210	90%	FL Schedules	88.05	$33,827	$229	$3,988	$29,839	$11,501	159%
444	Movie Theater w/Matinee	screen	106.63	Blend ITE 6th & FL Studies	2.22	2.72	FL Studies	88%	FL Studies	86.14	$33,092	$255	$4,440	$28,652	$44	n/a
491	Racquet/Tennis Club	court	38.70	ITE 9th Edition	5.15	5.65	Same as LUC 710	94%	Same as LUC 492	77.47	$29,762	$206	$3,587	$26,175	$9,535	175%
492	Health/Fitness Club	1,000 sf	32.93	ITE 9th Edition	5.15	5.65	Same as LUC 710	94%	FL Studies	65.92	$25,324	$175	$3,047	$22,277	$5,761	287%
	INSTITUTIONS:															
520	Elementary School (Private)	student	1.29	ITE 9th Edition	4.30	4.80	FL Schedules	80%	FL Schedules	1.83	$705	$5	$87	$618	$273	126%
522	Middle School (Private)	student	1.62	ITE 9th Edition	4.30	4.80	FL Schedules	90%	FL Schedules	2.59	$996	$7	$122	$874	$307	185%
530	High School (Private)	student	1.71	ITE 9th Edition	4.30	4.80	FL Schedules	90%	FL Schedules	2.74	$1,051	$7	$122	$929	$430	116%
540	University/Junior College (7,500 or fewer students) (Private)	student	2.00	ITE Regression Analysis	6.62	7.12	Same as LUC 210	90%	FL Schedules	4.93	$1,893	$13	$226	$1,667	$842	98%

Table G-1 (continued)
Calculated Transportation Impact Fee Schedule

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Impact Fee	Current Impact Fee	% Change
	INSTITUTIONS:															
550	University/Junior College (more than 7,500 students) (Private)	student	1.50	ITE Regression Analysis	6.62	7.12	Same as LUC 210	90%	FL Schedules	3.70	$1,420	$10	$174	$1,246	$1,236	1%
560	Church	1,000 sf	9.11	ITE 9th Edition	3.90	4.40	FL Schedules	90%	FL Schedules	13.22	$5,080	$36	$627	$4,453	$2,532	76%
565	Day Care Center	1,000 sf	71.88	Blend ITE 9th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	44.05	$16,921	$133	$2,316	$14,605	$11,769	24%
610	Hospital	1,000 sf	13.22	ITE 9th Edition	6.62	7.12	Same as LUC 210	77%	FL Schedules	27.86	$10,705	$72	$1,254	$9,451	$5,354	77%
620	Nursing Home	bed	2.76	Blend ITE 9th & FL Studies	2.59	3.09	FL Studies	89%	FL Studies	2.63	$1,011	$8	$139	$872	$472	85%
640	Animal Hospital/Veterinary Clinic	1,000 sf	32.80	FL Studies (Pinellas County)	1.90	2.40	FL Studies (Pinellas County)	70%	FL Studies (Pinellas County)	18.04	$6,930	$55	$958	$5,972	$3,552	68%
	OFFICE:															
710	General Office 50,000 sf or less[3]	1,000 sf	15.50	ITE 9th equation	5.15	5.65	FL Studies	92%	FL Studies	30.37	$11,666	$81	$1,410	$10,256	$5,058	103%
	General Office 50,001-100,000 sf[3]	1,000 sf	13.13	ITE 9th equation	5.15	5.65	FL Studies	92%	FL Studies	25.72	$9,883	$68	$1,184	$8,699	$5,058	72%
	General Office 100,001-200,000 sf[3]	1,000 sf	11.12	ITE 9th equation	5.15	5.65	FL Studies	92%	FL Studies	21.79	$8,370	$58	$1,010	$7,360	$5,058	46%
	General Office 200,001-400,000 sf[3]	1,000 sf	9.41	ITE 9th equation	5.15	5.65	FL Studies	92%	FL Studies	18.44	$7,083	$49	$853	$6,230	$5,058	23%
	General Office greater than 400,000 sf[3]	1,000 sf	8.54	ITE 9th equation	5.15	5.65	FL Studies	92%	FL Studies	16.73	$6,428	$44	$766	$5,662	$5,058	12%
720	Medical Office/Clinic 10,000 sf or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	48.67	$18,699	$128	$2,229	$16,470	$13,024	27%
	Medical Office/Clinic greater than 10,000 sf	1,000 sf	34.72	Blend ITE 9th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	70.92	$27,244	$187	$3,256	$23,988	$13,024	84%
750	Office Park	1,000 sf	11.70	Blend ITE 9th & FL Studies	7.11	7.61	FL Studies	92%	Same as LUC 710	31.65	$12,158	$82	$1,428	$10,730	$6,228	72%
	RETAIL:															
820	Retail 10,000 sfgla or less[3]	1,000 sfgla	86.56	ITE 9th equation	1.27	1.77	FL Curve	43%	FL Curve	19.55	$7,509	$66	$1,149	$6,360	$5,804	10%
	Retail 10,001-50,000 sfgla[3]	1,000 sfgla	86.56	ITE 9th equation	1.87	2.37	FL Curve	56%	FL Curve	37.48	$14,400	$115	$2,003	$12,397	$5,804	114%
	Retail 50,001-100,000 sfgla[3]	1,000 sfgla	67.91	ITE 9th equation	2.29	2.79	FL Curve	62%	FL Curve	39.87	$15,317	$117	$2,037	$13,280	$6,396	108%
	Retail 100,001-300,000 sfgla[3]	1,000 sfgla	46.23	ITE 9th equation	2.52	3.02	FL Curve	71%	FL Curve	34.20	$13,140	$99	$1,724	$11,416	$5,270	117%
	Retail 300,001-500,000 sfgla[3]	1,000 sfgla	38.66	ITE 9th equation	2.75	3.25	FL Curve	75%	FL Curve	32.97	$12,667	$94	$1,637	$11,030	$5,833	89%
	Retail 500,001-1,000,000 sfgla[3]	1,000 sfgla	30.33	ITE 9th equation	3.34	3.84	FL Curve	81%	FL Curve	33.93	$13,035	$94	$1,637	$11,398	$5,834	95%
	Retail greater than 1,000,000 sfgla[3]	1,000 sfgla	28.46	ITE 9th equation	3.57	4.07	FL Curve	82%	FL Curve	34.45	$13,235	$95	$1,654	$11,581	$5,834	99%

Table G-1 (continued)
Calculated Transportation Impact Fee Schedule

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Impact Fee	Current Impact Fee	% Change
	RETAIL:															
841	New/Used Auto Sales	1,000 sf	28.25	Blend ITE 9th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	42.45	$16,308	$114	$1,985	$14,323	$10,933	31%
850	Supermarket	1,000 sf	103.38	Blend ITE 9th & FL Studies	2.08	2.58	FL Studies	56%	FL Studies	49.79	$19,129	$149	$2,595	$16,534	$11,258	47%
851	Convenience Market (24 hour)	1,000 sf	719.18	Blend ITE 9th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	185.33	$71,199	$596	$10,378	$60,821	$34,542	76%
853	Convenience Market w/Gasoline	1,000 sf	775.14	Blend ITE 9th & FL Studies	1.51	2.01	FL Studies	28%	FL Studies	135.52	$52,063	$436	$7,592	$44,471	$22,563	97%
880/ 881	Pharmacy/Drug Store with or w/o Drive-Thru	1,000 sf	95.96	Blend ITE 9th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	26.41	$10,146	$79	$1,376	$8,770	n/a	n/a
890	Furniture Store	1,000 sf	5.06	ITE 9th Edition	6.09	6.59	FL Studies	54%	FL Studies	6.88	$2,643	$18	$313	$2,330	$1,332	75%
911	Bank/Savings Walk-In[4]	1,000 sf	121.30	ITE 9th Edition	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	56.76	$21,805	$165	$2,873	$18,932	$13,766	38%
912	Bank/Savings Drive-In	1,000 sf	159.34	Blend ITE 9th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	74.56	$28,644	$217	$3,779	$24,865	$23,331	7%
931	Quality Restaurant	1,000 sf	91.10	Blend ITE 9th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	91.08	$34,990	$255	$4,440	$30,550	$16,898	81%
932	High-Turnover Restaurant	1,000 sf	116.60	Blend ITE 9th & FL Studies	3.17	3.67	FL Studies	71%	FL Studies	108.52	$41,689	$304	$5,294	$36,395	$23,213	57%
934	Fast Food Rest. w/Drive-Thru	1,000 sf	511.00	Blend ITE 9th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	251.23	$96,519	$756	$13,164	$83,355	$35,791	133%
942	Automobile Care Center	1,000 sf	31.43	Blend ITE 9th & FL Studies	3.62	4.12	FL Studies	72%	FL Studies	33.87	$13,014	$93	$1,619	$11,395	$7,703	48%
944/ 946	Gasoline/Service Station with or w/o Car Wash	fuel pos.	157.33	ITE 9th Edition (944 & 946 Blend)	1.90	2.40	FL Studies	23%	FL Studies	28.43	$10,922	$87	$1,515	$9,407	$4,269	120%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 9th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	26.93	$10,348	$80	$1,393	$8,955	$11,530	-22%
	INDUSTRIAL:															
110	General Light Industrial	1,000 sf	6.97	ITE 9th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	13.66	$5,246	$36	$627	$4,619	n/a	n/a
120	General Heavy Industrial	1,000 sf	1.50	ITE 9th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	2.94	$1,129	$8	$139	$990	n/a	n/a
150	Warehousing	1,000 sf	3.56	ITE 9th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	6.97	$2,680	$19	$331	$2,349	n/a	n/a
151	Mini-Warehouse	1,000 sf	2.15	Blend ITE 9th & FL Studies	3.10	3.60	FL Schedules	92%	Same as LUC 710	2.54	$974	$7	$122	$852	n/a	n/a

(1) Source: Net VMT calculated as ((Trip Generation Rate* Trip Length* % New Trips)*(1-Interstate/Toll Facility Adjustment Factor)/2). This reflects the unit of vehicle miles of capacity consumed per unit of development and is multiplied by the cost per vehicle
(2) The ITE 9th Edition trip generation rate was adjusted to reflect the average occupancy rate of 60 percent based on data provided by the Florida Association of RV Parks and Campgrounds; Peak hour of adjacent street traffic, one hour between 4 and 6pm, multiplied by 10
(3) The trip generation rate recommended for the office and shopping center uses the end-point regression value
(4) Walk-In Bank was added back into the 9th Edition; Peak hour of adjacent street traffic (one hr between 4 and 6pm) multiplied by 10