



City of Hallandale Beach

Impact Fee Study

FINAL Report
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Prepared for:

City of Hallandale Beach

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City of Hallandale Beach Impact Fee Study

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I. Introduction

The City of Hallandale Beach is experiencing growth with a projected population increase of 15 percent through 2045. To address the need for additional facilities due to new growth and to continue to provide high quality service to its residents, the City is interested in developing impact fees in the following service areas:

- Fire Rescue
- Law Enforcement
- Parks and Recreation
- Multi-modal Transportation

The City retained Tindale Oliver to prepare a technical study that would document current cost, credit, and demand components associated with providing capital facilities mentioned previously along with resulting fee schedules. It should be noted that figures calculated in this study represent the technically defensible level of impact fees that the City could charge; however, the City Commission may choose to discount the fees as a policy decision.

Methodology

In developing the City's impact fee program, a consumption-based impact fee methodology is utilized, which is commonly used throughout Florida. A consumption-based impact fee charges new growth the proportionate share of the cost of providing additional infrastructure available for use by new growth. Unlike a "needs-based" approach, the consumption-based approach ensures that the impact fee is set at a rate that existing deficiencies cannot be corrected with impact fee revenues. As such, the City does not need to go through the process of estimating the portion of each capacity expansion project that may be related to existing deficiencies.

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.

Finally, 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. In the case of multi-modal transportation, person-miles of travel is used.

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 (if needed) and a list of capacity-adding projects included in the City'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 multi-modal 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 multi-modal 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, multi-modal 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 related to impact fees.

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 primarily in 2017 and 2018, from the City and other sources, as indicated.

II. Fire Rescue Impact Fee

This section provides the results of the fire rescue impact fee analysis. Several elements addressed in this section include:

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

These elements are summarized in the remainder of this section.

It is important to understand the differences between fire rescue impact fees and fire assessments. While impact fees are a one-time charge to new development to fund new/additional capital infrastructure, fire assessments are typically used for annual recurring operational and capital expenses and collected from all residents. Fire assessments are levied based on the benefit received by property, such as fire protection of property, rather than the value of the property such as ad valorem taxes. Impact fees are charged based on new development's potential need/use of the fire/EMS infrastructure.

In 2019, the City entered into a contractual agreement with the Broward Sheriff's Office (BSO) for the BSO to provide emergency medical, fire protection and fire prevention services in Hallandale Beach. This agreement covers mostly operational expenses. The ownership of fire stations and primary vehicles remain with the City while some of the equipment is transferred to the BSO. The inventory used in the impact fee calculations represents capital assets are continued to be owned by the City.

Facility Inventory

The City of Hallandale Beach's Fire Rescue Department provides fire rescue services from 3 stations that are owned by the City. In total, the City's fire rescue facilities include 39,600 square feet of station space and 2.5 acres of land associated with fire rescue related services.

Table II-1 presents the fire rescue building and land inventory owned by City. The building value estimates are based on the recent reconstruction and expansion of Station 7, insurance values of the existing fire facilities, and information from other Florida jurisdictions. This review resulted in an estimated building value of \$325 per square foot for fire rescue stations.

The land value per acre estimates are based on land values of the existing facilities and vacant land sales and values of parcels with similar characteristics to that of the existing facilities. This analysis resulted in an estimated value of \$500,000 per acre.

As presented, the total building and land value associated with fire rescue facilities amounts to \$14.1 million, of which \$12.9 million is for buildings and the remaining \$1.3 million is land. A more detailed explanation of building and land value estimates is included in Appendix B.

**Table II-1
Fire Rescue Land & Buildings Inventory**

Facility ⁽¹⁾	Address ⁽¹⁾	# of Bays ⁽¹⁾	Year Built/ Acquired ⁽¹⁾	Fire Rescue Related Square Footage ⁽¹⁾	Fire Rescue Related Acres ⁽¹⁾	Building Value ⁽²⁾	Land Value ⁽³⁾	Total Building and Land Value ⁽⁴⁾
Station 7	111 Foster Rd, HB, FL 33009	4	2018	25,000	1.40	\$8,125,000	\$700,000	\$8,825,000
Station 60 ⁽⁵⁾	2801 E Hallandale Beach Blvd HB, FL 33009	2	2006	11,348	0.36	\$3,688,100	\$180,000	\$3,868,100
Station 90 ⁽⁶⁾	101 Three Islands Boulevard, HB, FL 33009	1	1990	<u>3,247</u>	<u>0.77</u>	<u>\$1,055,275</u>	<u>\$385,000</u>	<u>\$1,440,275</u>
Total				39,595	2.53	\$12,868,375	\$1,265,000	\$14,133,375
Building Value per Square Foot⁽⁷⁾						\$325	-	-
Land Value per Acre⁽⁸⁾							\$500,000	-

1) Source: City of Hallandale Beach and Broward County Property Appraiser

2) Square footage multiplied by the estimated building value per square foot (Item 7)

3) Fire rescue related acres multiplied by the land value per acre (Item 8)

4) Sum of building value (Item 2) and land value (Item 3)

5) Square footage and acreage figures shown represent the fire rescue portion (60%) of the parcel's square footage and acreage.

6) Acreage shown is associated with the fire station. The parcel's remaining 0.62 acres is included as part of the park's inventory associated with the City Marina.

7) Total building value (Item 2) divided by total fire rescue related square footage

8) Source: Appendix B

In addition to land and buildings, Hallandale Beach’s Fire Rescue Department capital assets include the necessary vehicles to perform its services. As presented in Table II-2, the total value of vehicles is approximately \$4.4 million.

Table II-2
Vehicle Value

Description ⁽¹⁾	Total Units ⁽¹⁾	Unit Value ⁽²⁾	Total Value ⁽¹⁾
Vehicles			
Ambulance	5	\$326,800	\$1,634,000
Fire Truck, Aerial	1	\$899,700	\$899,700
Fire Truck, Pumper	3	\$620,000	\$1,860,000
Total Vehicle Value			\$4,393,700

1) Source: City of Hallandale Beach

2) Total value divided by total units

Service Area and Population

The City of Hallandale Beach Fire Rescue Department provides fire rescue services throughout all of Hallandale Beach. As such, the proper benefit district is the entire City. In this technical study, the current 2018 weighted and functional population estimates are used. Because simply using weighted (permanent, plus weighted seasonal) population estimates does not fully address all of the benefactors of fire rescue services, the “functional” weekly 24-hour population approach is used to establish a common unit of demand across different land uses. Functional population accounts for residents, visitors and workers traveling in and out of the city throughout the day and calculates the presence of population at different land uses during the day. Appendix A provides further detail on the population analysis conducted.

Level of Service

Although fire departments measure level of service (LOS) in terms of response time, for impact fee calculation purposes, the LOS is measured in terms of stations per 1,000 population. As shown in Table II-3, the City of Hallandale Beach has 1 fire station per 14,640 weighted seasonal residents or 0.068 stations per 1,000 residents.

As mentioned previously, the LOS needs to be measured using the functional population to capture all residents, workers, and visitors that benefit from fire rescue services. In terms of functional population, the City's LOS is calculated at 0.074 stations per 1,000 functional residents.

Table II-3
Level of Service (2018)

Calculation Step	Year 2018	
	Weighted Seasonal Population	Functional Population
Population ⁽¹⁾	43,925	40,776
Number of Stations ⁽²⁾	3	3
Population per Station ⁽³⁾	14,642	13,592
LOS (Stations per 1,000 Population)⁽⁴⁾	0.068	0.074

- 1) Source: Appendix A, Table A-1 for weighted seasonal population and Appendix A, Table A-7 for functional population
- 2) Source: Table II-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) multiplied by 1,000

Table II-4 presents a comparison of the City of Hallandale Beach's LOS to that of other Florida municipalities that are near the City or of similar size in population. The LOS comparison is based on permanent population for 2017, as this is the most recent population data available for all jurisdictions. As presented, Hallandale Beach has the second highest LOS when compared to nearby or similar sized population jurisdictions.

Table II-4
Level of Service Comparison

Jurisdiction	Service Area Population (2017) ⁽¹⁾	Number of Stations ⁽²⁾	Residents per Station ⁽³⁾	LOS (Stations) per 1,000 Residents ⁽⁴⁾
City of Miramar	136,246	5	27,249	0.037
City of Pembroke Pines	163,103	6	27,184	0.037
City of Hollywood	147,212	6	24,535	0.041
City of Margate and Coconut Creek ⁽⁵⁾	115,356	5	23,071	0.043
City of North Lauderdale	44,408	2	22,204	0.045
City of Oakland Park	44,409	3	14,803	0.068
City of Hallandale Beach	38,746	3	12,915	0.077
City of Parkland	31,476	3	10,492	0.095

- 1) Source: Bureau of Economic and Business Research (BEBR), University of Florida, April 1, 2017 Final Population Estimates
- 2) Source: Discussions with and review of each of the jurisdiction's fire departments and website
- 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
- 5) Source: City of Margate-Coconut Creek Fire Rescue Department. The City of Margate-Coconut Creek Fire Department is a consolidated fire rescue department that provides services to both cities. As such, the population level figure shown is the sum of the two cities respective levels.

Cost Component

Table II-5 summarizes the total current asset value of land, buildings, and equipment for fire rescue services, including:

- \$12.9 million for buildings;
- \$1.3 for land; and
- \$4.4 million for vehicles, for a total asset value of \$18.5 million.

Table II-5 also presents the total impact cost per functional resident for fire rescue services in the City of Hallandale Beach. This cost figure is calculated by multiplying the total cost per station by the level of service and dividing by 1,000. As shown, this calculation amounts to a total impact cost of \$457 per resident.

**Table II-5
Total Impact Cost**

Variable	Figure	Percent of Total Value ⁽⁹⁾
Building Value ⁽¹⁾	\$12,868,375	69%
Land Value ⁽²⁾	\$1,265,000	7%
Vehicle Value ⁽³⁾	\$4,393,700	24%
Total Asset Value⁽⁴⁾	\$18,527,075	100%
Number of Stations ⁽⁵⁾	3	
Cost per Station⁽⁶⁾	\$6,175,692	
LOS (Stations/1,000 Functional Residents) ⁽⁷⁾	0.074	
Total Impact Cost per Functional Resident⁽⁸⁾	\$457.00	

1) Source: Table II-1

2) Source: Table II-1

3) Source: Table II-2

4) Sum of building value (Item 1), land value (Item 2), and vehicle and equipment value (Item 3)

5) Source: Table II-1

6) Total asset value (Item 4) divided by the number of stations (Item 5)

7) Source: Table II-3

8) Cost per station (Item 6) multiplied by the LOS (Item 7) divided by 1,000

9) Distribution of building, land, and vehicle and equipment values

Credit Component

To avoid overcharging new development, a review of the capital financing program 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 do not add capacity and should not be considered for impact fee credit.

Capital Expansion Expenditure Credit

To calculate the capital expansion expenditure credit per functional resident, capital expansion projects completed over the past five years were reviewed. The City recently finished constructing a new fire station which replaced and expanded the previous Station 7. The expansion portion of this project (approximately 63 percent) is subject to the capital expansion credit of the fire rescue impact fee. The cash expenditures related to the construction of this portion was \$315,000 over the past five years, or \$63,000 per year.

Next, the total capital expansion expenditure per functional resident is calculated by dividing the average annual expenditure of \$63,000 by the average annual functional population over the past five years. This calculation results in \$1.57 per functional resident and is presented in Table II-6.

Once the capital expansion credit is calculated, because the project was partially funded with ad valorem tax revenues, an adjustment is made 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 new homes to that of all homes. As shown, the adjusted capital expansion credit is \$2.18 per resident, which is used for credit calculations of residential land uses.

Table II-6
Fire Rescue Capital Expansion Credit

Description ⁽¹⁾	Funding Source	Total (2013-2017)
New Fire Station 7	General Fund	\$315,000
Total Capital Expansion Expenditures		\$315,000
Average Annual Capital Expansion Expenditure ⁽²⁾		\$63,000
Average Annual Functional Population (2013-2017) ⁽³⁾		40,155
Total Capital Expansion Expenditure per Functional Resident⁽⁴⁾		\$1.57
- Portion Funded with Ad Valorem Tax Revenue ⁽⁵⁾		\$0.61
- Portion Funded with Other Sources ⁽⁶⁾		\$0.96
Credit Adjustment Factor for Residential Land Uses ⁽⁷⁾		2.00
Residential Land Uses - Adjusted Capital Improvement Credit per Functional Resident ⁽⁸⁾		\$1.22
Residential Land Uses - Total Capital Improvement Credit per Functional Resident⁽⁹⁾		\$2.18

- 1) Source: City of Hallandale Beach
- 2) Average annual capital expenditures over the five-year period
- 3) Source: Appendix A, Table A-7
- 4) Average annual capital expansion expenditures (Item 2) divided by the average annual functional population (Item 3)
- 5) Portion of total capital expansion expenditures funded by ad valorem tax revenue. Figure represents approximately 39 percent of total expenditures repaid with general fund dollars.
- 6) Total capital expansion expenditure per functional resident (Item 4) less portion funded with ad valorem tax revenue (Item 5)
- 7) Adjustment factor to reflect higher ad valorem taxes paid by new homes
- 8) Portion funded with ad valorem tax revenue per functional resident (Item 5) multiplied by the credit adjustment factor (Item 7)
- 9) Sum of the adjusted capital expansion credit per functional resident (Item 8) and the portion funded with other sources (Item 6)

Debt Service Credit

Any outstanding debt service issues related to the expansion of fire rescue facilities, vehicles, and equipment also will result in a credit to the impact fee. Currently, the City of Hallandale Beach is paying for debt service on a bond used to fund the construction of the new Fire Station 7.

To calculate the credit of the outstanding loan, the present value of the total remaining payments is divided by the average annual functional population estimated over the remaining life of the bond issue. Additionally, similar to the capital expansion credit, only 63 percent of the total present value of remaining payments is used in the debt service credit calculation as it represents the portion of the project that is expansionary. As presented in Table II-7, the resulting credit is \$113 per resident.

Similar to the capital expansion credit, the portion of the bond that is being repaid with ad valorem tax revenues is adjusted to account for the fact that new homes tend to pay more in property taxes. As presented, the adjusted debt service credit is \$158 per resident, which is used for credit calculations of residential land uses.

Table II-7
Fire Rescue Debt Service Credit

Description ⁽¹⁾	Funding Source ⁽¹⁾	Number of Remaining Payments ⁽¹⁾	Present Value of Payments Remaining ⁽¹⁾	Avg Annual FN. Population During Remaining Issue Period ⁽²⁾	Credit per Resident ⁽³⁾
Series 2016, Fire Station 7	General Fund	18	\$4,896,697	43,167	\$113.44
Total Debt Service Credit					\$113.44
- Portion Funded with Ad Valorem Tax Revenue ⁽⁴⁾					\$44.24
- Portion Funded with Other Sources ⁽⁵⁾					\$69.20
Credit Adjustment Factor for Residential Land Uses ⁽⁶⁾					2.00
Residential Land Uses - Adjusted Debt Service Credit per Functional Resident ⁽⁷⁾					\$88.48
Residential Land Uses - Total Debt Service Credit per Functional Resident ⁽⁸⁾					\$157.68

- 1) Source: City of Hallandale Beach. The total present value of remaining payments is adjusted for the portion of the fire station that is expansion (approximately 63 percent of the total square footage is new).
- 2) Source: Appendix A, Table A-7. Represents the average annual functional population of the remaining issue period.
- 3) Present value of payments remaining (Item 1) divided by the average annual functional population (Item 2)
- 4) Portion of total debt service credit per functional resident funded by ad valorem tax revenue. Figure represents approximately 39 percent of total expenditures repaid with general fund dollars.
- 5) Total debt service credit per resident (Item 3) less portion funded with ad valorem tax revenue (Item 4)
- 6) Adjustment factor to reflect higher ad valorem taxes paid by new homes
- 7) Portion funded with ad valorem tax revenue per functional resident (Item 4) multiplied by the credit adjustment factor (Item 6)
- 8) Sum of the adjusted debt service credit per functional resident (Item 7) and the portion funded with other sources (Item 5)

Net Fire Rescue Impact Cost

Table II-8 summarizes the net impact cost per functional resident, which is the difference between the cost component and the credit component. The resulting net impact cost is \$261 per resident for residential land uses and \$316 per resident for non-residential land uses.

Table II-8
Net Fire Rescue Impact Cost

Impact Cost / Credit Element	Per Functional Resident
Impact Cost per Resident	
Total Impact Cost ⁽¹⁾	\$457.00
Revenue Credit per Resident	
Average Annual Capital Improvement Credit ⁽²⁾ :	
- Residential Land Uses	\$2.18
- Non-residential Land Uses	\$1.57
Capitalization Rate	3.00%
Capitalization Period (in years)	25
Total Capital Improvement Credit ⁽³⁾	
- Residential Land Uses	\$37.96
- Non-residential Land Uses	\$27.34
Debt Service Credit ⁽⁴⁾ :	
- Residential Land Uses	\$157.68
- Non-residential Land Uses	\$113.44
Total Revenue Credit ⁽⁵⁾ :	
- Residential Land Uses	\$195.64
- Non-residential Land Uses	\$140.78
Net Impact Cost per Resident	
Net Impact Cost ⁽⁶⁾ :	
- Residential Land Uses	\$261.36
- Non-residential Land Uses	\$316.22

1) Source: Table II-5

2) Source: Table II-6

3) Average annual capital improvement credit (Item 2) for a capitalization rate of 3.00% over 25 years

4) Source: Table II-7

5) Sum of total capital improvement credit (Item 3) and the debt service credit (Item 4)

6) Total impact cost (Item 1) less total revenue credit (Item 5)

Calculated Fire Rescue Impact Fee

Table II-9 presents the calculated fire rescue impact fee schedule developed for the City of Hallandale Beach for both residential and non-residential land uses, based on the net impact cost per functional resident previously shown in Table II-8.

Fire Rescue Impact Fee Comparison

As part of the work effort in developing the City of Hallandale Beach's fire rescue impact fee schedule, the City's calculated impact fee schedule was compared to the adopted fee schedule of those in similar or nearby jurisdictions. Table II-10 presents this comparison.

Table II-9
Calculated Fire Rescue Impact Fee Schedule

LUC	Land Use	Impact Unit	Functional Population Coefficient ⁽¹⁾	Net Impact Fee per Unit ⁽²⁾
Residential:				
210	Single Family (detached)	du	2.09	\$546
220/221 222/240	Multi-Family/Mobile Home:			
	- Duplex	du	1.54	\$402
	- Multi-Family (3 to 9 units)/Townhouse/Mobile Home	du	1.20	\$314
	- Multi-Family (10 or more units)	du	0.75	\$196
Transient, Assisted, Group:				
320	Hotel/Motel	room	0.78	\$247
253	Congregate Care Facility	du	0.84	\$266
254	Assisted Living	bed	0.93	\$294
620	Nursing Home	bed	1.09	\$345
Recreational:				
416	Campground/RV Park	site	0.49	\$155
420	Marina	boat berth	0.16	\$51
430	Golf Course	hole	0.90	\$285
444	Movie Theater	screen	6.22	\$1,967
492	Health/Fitness Club	1,000 sf	2.88	\$911
Institutions:				
520	Elementary School (Private)	student	0.08	\$25
522	Middle/Junior High School (Private)	student	0.09	\$28
530	High School (Private)	student	0.09	\$28
540	University/Junior College (7,500 or fewer students) (Private)	student	0.10	\$32
550	University/Junior College (more than 7,500 students) (Private)	student	0.08	\$25
560	Church	1,000 sf	0.38	\$120
565	Day Care Center	1,000 sf	0.81	\$256
610	Hospital	1,000 sf	1.29	\$408
630	Clinic	1,000 sf	1.82	\$576
Office & Financial:				
710	Office Building	1,000 sf	0.87	\$275
Retail:				
820	Shopping Center/Retail	1,000 sf gla	1.51	\$477
840/841	New/Used Auto Sales	1,000 sf	1.58	\$500
862	Home Improvement Superstore	1,000 sf	1.95	\$617
880/881	Pharmacy with & without Drive-Through Window	1,000 sf	1.87	\$591
890	Furniture Store	1,000 sf	0.32	\$101
912	Drive-In Bank	1,000 sf	1.50	\$474
931	Restaurant, non-Fast Food	1,000 sf	5.33	\$1,685
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	9.10	\$2,878
942	Automobile Care Center	1,000 sf	1.68	\$531
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	1.47	\$465
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	1.80	\$569
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	2.04	\$645
947	Self-Service Car Wash	service bay	0.97	\$307
Industrial:				
110	Light Industrial	1,000 sf	0.48	\$152
140	Manufacturing	1,000 sf	0.45	\$142
151	Mini-Warehouse/Warehouse	1,000 sf	0.04	\$13

1) Source: Appendix A, Table A-8 for residential land uses and Appendix A, Table A-9 for non-residential land uses
2) Source: Net impact cost per functional resident from Table II-8 multiplied by the functional population coefficient for each land use

Table II-10
Fire Rescue Impact Fee Schedule Comparison

Land Use	Unit ⁽²⁾	Hallandale Beach Calculated ⁽³⁾	Coconut Creek ⁽⁴⁾	Cooper City ⁽⁵⁾	Dania Beach ⁽⁶⁾	Margate ⁽⁷⁾	Miramar ⁽⁸⁾	Oakland Park ⁽⁹⁾	Parkland ⁽¹⁰⁾	Pembroke Park ⁽¹¹⁾
Date of Last Update		2018	2005	1990	2005	1993	2016	N/A	2010	N/A
Adoption Percentage⁽¹⁾		N/A	100%	100%	100%	N/A	77%	N/A	N/A	N/A
Residential:										
Single Family (2,000 sf)	du	\$546	\$586	\$91	\$778	\$415	\$442	\$150	\$462	\$178
Multi-Family (1,300 sf)	du	\$314	\$381	\$91	\$506	\$415	\$442	\$150	\$273	\$178
Non-Residential:										
Light Industrial	1,000 sf	\$152	\$293	\$37	\$389	\$823	\$440	\$980/acre	\$410	\$0.01/ cubic ft.
Office (50,000 sq. ft.)	1,000 sf	\$275	\$293	\$37	\$389	\$823	\$440	\$980/acre	\$930	\$0.01/ cubic ft.
Retail (125,000 sq. ft.)	1,000 sf	\$477	\$293	\$37	\$389	\$823	\$440	\$980/acre	\$1,500	\$0.01/ cubic ft.
Bank w/Drive-Thru	1,000 sf	\$474	\$293	\$37	\$389	\$823	\$440	\$980/acre	\$1,930	\$0.01/ cubic ft.
Fast Food w/Drive-Thru	1,000 sf	\$2,878	\$293	\$37	\$389	\$823	\$440	\$980/acre	\$1,930	\$0.01/ cubic ft.

- 1) Represents the portion of the maximum calculated fee for each respective jurisdiction that was adopted. Fees may have been lowered/increased through annual indexing or policy discounts. Does not account for moratorium/suspensions.
- 2) du = dwelling unit
- 3) Source: Table II-9. Multi-family (3 to 9 units) shown for the multi-family category.
- 4) Source: City of Coconut Creek Sustainable Development Department. Fees shown include a 3 percent administrative fee.
- 5) Source: City of Cooper City Growth and Management Department. Public safety impact fee shown and includes both fire and police services.
- 6) Source: City of Dania Beach Community Development Department.
- 7) Source: City of Margate Economic Development Department
- 8) Source: City of Miramar Community and Economic Development Department
- 9) Source: City of Oakland Park. Assessment for public safety west of interstate 95 is shown.
- 10) Source: City of Parkland, Building Division. Fees are indexed annually based on the Engineering News-Record (ENR) Construction Cost Index.
- 11) Source: Town of Pembroke Parks Public Works Department

III. Law Enforcement Impact Fee

This section provides the results of the law enforcement impact fee analysis. Several elements addressed in this section include:

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

These elements are summarized in the remainder of this section.

Facility Inventory

The City of Hallandale Beach provides its law enforcement related services from the City's police station which is co-located with the City Hall. The building space associated with the police station is 16,900 square feet. The ratio of building area suggests that 1.5 acres of the total acreage is associated with the station. Table III-1 presents this information.

The building value estimate is based on insurance values of the existing facility and information from other Florida jurisdictions. This review resulted in an estimated building value per square foot of \$200. The land value estimate is based on land value of the existing facility and vacant land sales and values of parcels with similar characteristics. This analysis resulted in an estimated land value per acre of \$500,000. Using these cost estimates results in total building and land value of \$4.1 million.

A more detailed explanation of building and land value estimates is included in Appendix B.

Table III-1
Law Enforcement Buildings and Land Inventory

Facility ⁽¹⁾	Address ⁽¹⁾	Year Built/ Acquired ⁽¹⁾	Law Enforcement Related Square Footage ⁽¹⁾	Law Enforcement Related Acres ⁽¹⁾	Building Value ⁽²⁾	Land Value ⁽³⁾	Total Building and Land Value ⁽⁴⁾
Police Station at City Hall ⁽⁵⁾	400 S. Federal Hwy, HB, FL 33009	1994	16,926	1.48	\$3,385,200	\$740,000	\$4,125,200
Building Value per Square Foot⁽⁶⁾					\$200	-	-
Land Value per Acre⁽⁷⁾						\$500,000	-

1) Source: City of Hallandale Beach Police Department and Broward County Property Appraiser (BCPA)

2) Square footage multiplied by the building value per square foot (Item 6)

3) Law enforcement related acres multiplied by the land value per acre (Item 7)

4) Sum of building value (Item 2) and land value (Item 3)

5) Square footage and acreage figures shown represent the portion associated with law enforcement related services, approximately 22% of the parcel's total square footage and acreage

6) Source: Appendix B

7) Source: Appendix B

In addition to the land and buildings inventory, the City of Hallandale Beach’s Police Department also has vehicles and equipment necessary to perform its law enforcement duties. Table III-2 summarizes the equipment and vehicle inventory. As shown, the total value associated with vehicles and equipment amounts to \$5.8 million. To determine the total value, the average cost to outfit an officer of \$44,500 was multiplied by the total number of sworn officers and added to the total value of additional vehicles and equipment not included in the cost to outfit an officer.

Table III-2
Vehicle and Equipment Value

Item	Count ⁽¹⁾	Value per Officer ⁽²⁾	Total Value ⁽³⁾
Number of Sworn Officers (2017)	109		
<i>Average Cost of Field Personnel</i>			
Total Vehicle Cost per Officer		\$31,450	\$3,428,050
Total Uniform/Equipment Cost per Officer		<u>\$13,072</u>	<u>\$1,424,848</u>
Total Cost of Field Personnel		\$44,522	\$4,852,898
<i>Additional Vehicle and Equipment Value⁽⁴⁾</i>			
Vehicle Value			\$910,318
Equipment Value			<u>\$36,200</u>
Total Vehicle and Equipment Value⁽⁵⁾			\$5,799,416

1) Source: City of Hallandale Beach Police Department

2) Source: City of Hallandale Beach Police Department

3) Count of sworn officers (Item 1) multiplied by the value per officer (Item 2)

4) Source: City of Hallandale Beach Police Department. Figures shown represent the total value of equipment and vehicles that are not included in the cost to outfit an officer.

5) Sum of the total cost of field personnel and the additional vehicle and equipment value (Item 4)

Service Area and Population

The City of Hallandale Beach Police Department provides law enforcement services throughout Hallandale Beach. As such, the proper benefit district is the entire City. In this technical study, the current 2018 weighted and functional population estimates are used. Because simply using weighted (permanent plus weighted seasonal) population estimates does not fully address all of the benefactors of law enforcement services, the “functional” weekly 24-hour population approach is used to establish a common unit of demand across different land uses. Functional population accounts for residents, visitors and workers traveling in and out of the city throughout the day and calculates the presence of population at different land uses during the day. Appendix A provides further explanation of the population analysis conducted.

Level of Service

Based on sworn officer counts provided by the City of Hallandale Beach, as well as, population estimates produced in Appendix A, the 2018 level of service (LOS) is 2.48 sworn officers per 1,000 weighted seasonal residents. Table III-3 presents the calculation of the existing LOS.

While the 2018 LOS is 2.48 sworn officers per 1,000 weighted residents, in order to calculate the law enforcement impact fee, the LOS needs to be calculated in terms of sworn officers per 1,000 functional residents. As shown in Table III-3, the current LOS of law enforcement services is 2.67 sworn officers per 1,000 functional residents, which is used in the calculation of the law enforcement impact fee.

**Table III-3
Level of Service (2018)**

Calculation Step	Year 2018	
	Weighted Seasonal Population	Functional Population
Population ⁽¹⁾	43,925	40,776
Number of Sworn Officers (2017) ⁽²⁾	109	109
Residents per Officer ⁽³⁾	403	374
LOS (Officers per 1,000 Residents)⁽⁴⁾	2.48	2.67

1) Source: Appendix A, Table A-1 for weighted seasonal population and Appendix A, Table A-7 for functional population

2) Source: Table III-2

3) Population (Item 1) divided by number of officers (Item 2)

4) Number of officers (Item 2) divided by the population (Item 1) and multiplied by 1,000

Table III-4 presents a comparison of the City of Hallandale Beach's LOS to that of other Florida municipalities that are nearby or possess similar population levels. The LOS comparison is based on the permanent population for 2016, as this is the most recent population and officer count data available for all jurisdictions. For consistency purposes, all data was retrieved from the Florida Department of Law Enforcement (FDLE) Criminal Justice Agency Profile Report. As reported by the FDLE, the City of Hallandale Beach has the highest LOS among the communities reviewed.

Table III-4
Level of Service Comparison

Jurisdiction	Service Area Population (2016)⁽¹⁾	Number of Sworn Officers⁽¹⁾	LOS (Officers per 1,000 Residents)⁽²⁾
City of Miramar	134,037	203	1.52
City of Pembroke Pines	161,799	246	1.52
City of Coconut Creek	57,116	95	1.66
City of Margate	57,226	107	1.87
City of Aventura	37,611	78	2.07
City of Hollywood	146,155	308	2.11
City of Hallandale Beach	38,621	102	2.64

- 1) Source: FDLE Criminal Justice Agency Profile Report; PD Ratios, 2016. Population figures are consistent with BEBR 2016.
- 2) Source: FDLE Criminal Justice Agency Profile Report; PD Ratios, 2016.
- 3) Permanent population (Item 1) divided by the number of officers (Item 2) and multiplied by 1,000

Cost Component

The cost component of the law enforcement impact fee evaluates the cost of capital items, including buildings, land, and vehicles and equipment. Table III-5 presents this summary of all capital costs, which amounts to approximately \$9.9 million or \$91,000 per sworn officer.

In addition, Table III-5 also presents the cost per functional resident used in the impact fee analysis. This cost was calculated as the total capital cost of approximately \$91,000 per officer multiplied by the LOS of 2.67 officers per 1,000 functional residents divided by 1,000. As shown, the total impact cost is \$243 per resident.

**Table III-5
Unit Cost per Functional Resident**

Variable	Cost	Percent of Total Value ⁽⁸⁾
Building Value ⁽¹⁾	\$3,385,200	34%
Land Value ⁽¹⁾	\$740,000	8%
Vehicle and Equipment Value ⁽²⁾	\$5,799,416	58%
Total Asset Value⁽³⁾	\$9,924,616	100.0%
Number of Sworn Officers ⁽⁴⁾	109	
Total Asset Value per Officer⁽⁵⁾	\$91,052	
Level-of-Service (Officers/1,000 Func. Residents) ⁽⁶⁾	2.67	
Total Impact Cost per Functional Resident⁽⁷⁾	\$243.11	

1) Source: Table III-1

2) Source: Table III-2

3) Sum of building, land, and vehicle and equipment value (Items 1 and 2)

4) Source: Table III-2

5) Total asset value (Item 3) divided by the number of police officers (Item 4)

6) Source: Table III-3

7) Total asset value per officer (Item 5) multiplied by the LOS (Item 6) divided by 1,000

8) Distribution of building, land, and vehicle/equipment values as part of the total asset value

Credit Component

To avoid overcharging new development, a review of the capital funding program was completed. The purpose of this review was to determine any potential revenue credits generated by new development that is being used for facility (building, land, vehicles and equipment) expansion of the law enforcement program. It should be noted that the credit component does not include any capital renovation, maintenance, or operational expenses, as these types of expenditures do not add capacity and should not be considered for impact fee credit.

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 were reviewed. During the time period from 2012 through 2021, the City allocated an average annual non-impact fee funding of \$118,000 toward law enforcement capital facilities. The annual capital expansion expenditures for law enforcement services was divided by the average annual functional residents for the same time period. As shown, in Table III-6 the average capital expansion cost is calculated as \$2.92 per resident.

Because law enforcement capacity projects were partially funded with ad valorem revenues, an adjustment was made 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 newer homes to that of all homes. As shown, the adjusted capital expansion credit is \$3.52 per resident, which is used for credit calculations of residential land uses.

Table III-6
Law Enforcement Capital Expansion Credit

Description ⁽¹⁾	Funding Source	Total (FY 2012-2021)
Police Body Cameras	General Fund	\$623,793
Police Body Cameras	Police Equitable Sharing Funds	\$252,857
New Report Management Software System	Radio Communication Reserve account	\$306,255
Total Capital Expansion Expenditures		\$1,182,905
Average Annual Capital Expansion Expenditure ⁽²⁾		\$118,291
Average Annual Functional Population (2012-2021) ⁽³⁾		40,535
Total Capital Expansion Expenditure per Functional Resident⁽⁴⁾		\$2.92
- Portion Funded with Ad Valorem Tax Revenue ⁽⁵⁾		\$0.60
- Portion Funded with Other Sources ⁽⁶⁾		\$2.32
Credit Adjustment Factor for Residential Land Uses ⁽⁷⁾		2.00
Residential Land Uses - Adjusted Capital Improvement Credit per Functional Resident ⁽⁸⁾		\$1.20
Residential Land Uses - Total Capital Improvement Credit per Functional Resident⁽⁹⁾		\$3.52

1) Source: City of Hallandale Beach Police Department and the 2018 City Manager's Recommended Budget

2) Average annual capital expenditures over the ten-year period

3) Source: Appendix A, Table A-7

4) Average annual capital expansion expenditures (Item 2) divided by the average annual functional population (Item 3)

5) Portion of total capital expansion expenditures funded by ad valorem tax revenue. Figure represents approximately 39 percent of total expenditures repaid with general fund dollars.

6) Total capital expansion expenditure per functional resident (Item 4) less portion funded with ad valorem tax revenue (Item 5)

7) Adjustment factor to reflect higher ad valorem taxes paid by new homes

8) Portion funded with ad valorem tax revenue per functional resident (Item 5) multiplied by the credit adjustment factor (Item 7)

9) Sum of the adjusted capital expansion credit per functional resident (Item 8) and the portion funded with other sources (Item 6)

Net Law Enforcement Impact Cost

Table III-7 summarizes the net impact cost per functional resident, which is the difference between the cost component and the credit component. The resulting net impact cost is \$182 per resident for residential land uses and \$192 per resident for non-residential land uses.

Table III-7
Law Enforcement Net Impact Cost

Impact Cost / Credit Element	Per Functional Resident
<i>Impact Cost per Resident</i>	
Total Impact Cost ⁽¹⁾	\$243.11
<i>Revenue Credit per Resident</i>	
Average Annual Capital Improvement Credit ⁽²⁾ :	
- Residential Land Uses	\$3.52
- Non-Residential Land Uses	\$2.92
Capitalization Rate	3.0%
Capitalization Period (in years)	25
Total Capital Improvement Credit ⁽³⁾ :	
- Residential Land Uses	\$61.29
- Non-Residential Land Uses	\$50.85
<i>Net Impact Cost per Resident</i>	
Net Impact Cost ⁽⁴⁾ :	
- Residential Land Uses	\$181.82
- Non-Residential Land Uses	\$192.26

1) Source: Table III-5

2) Source: Table III-6

3) Average annual capital improvement credit (Item 2) for a capitalization rate of 3% over 25 years

4) Total impact cost (Item 1) less total capital improvement credit (Item 3)

Calculated Law Enforcement Impact Fee

Table III-8 presents the calculated law enforcement impact fee schedule developed for the City of Hallandale Beach for both residential and non-residential land uses, based on the net impact cost per functional resident previously presented in Table III-7.

Law Enforcement Impact Fee Comparison

As part of the work effort in developing the City of Hallandale Beach's law enforcement impact fee schedule, the City's calculated impact fee schedule was compared to the adopted fee schedule of those similar in population level or nearby jurisdictions. Table III-9 presents this comparison.

Table III-8
Calculated Law Enforcement Impact Fee Schedule

LUC	Land Use	Impact Unit	Functional Population Coefficient ⁽¹⁾	Net Impact Fee per Unit ⁽²⁾
Residential:				
210	Single Family (detached)	du	2.09	\$380
220/221 222/240	Multi-Family/Mobile Home:			
	- Duplex	du	1.54	\$280
	- Multi-Family (3 to 9 units)/Townhouse/Mobile Home	du	1.20	\$218
	- Multi-Family (10 or more units)	du	0.75	\$136
Transient, Assisted, Group:				
320	Hotel/Motel	room	0.78	\$150
253	Congregate Care Facility	du	0.84	\$161
254	Assisted Living	bed	0.93	\$179
620	Nursing Home	bed	1.09	\$210
Recreational:				
416	Campground/RV Park	site	0.49	\$94
420	Marina	boat berth	0.16	\$31
430	Golf Course	hole	0.90	\$173
444	Movie Theater	screen	6.22	\$1,196
492	Health/Fitness Club	1,000 sf	2.88	\$554
Institutions:				
520	Elementary School (Private)	student	0.08	\$15
522	Middle/Junior High School (Private)	student	0.09	\$17
530	High School (Private)	student	0.09	\$17
540	University/Junior College (7,500 or fewer students) (Private)	student	0.10	\$19
550	University/Junior College (more than 7,500 students) (Private)	student	0.08	\$15
560	Church	1,000 sf	0.38	\$73
565	Day Care Center	1,000 sf	0.81	\$156
610	Hospital	1,000 sf	1.29	\$248
630	Clinic	1,000 sf	1.82	\$350
Office & Financial:				
710	Office Building	1,000 sf	0.87	\$167
Retail:				
820	Shopping Center/Retail	1,000 sfgla	1.51	\$290
840/841	New/Used Auto Sales	1,000 sf	1.58	\$304
862	Home Improvement Superstore	1,000 sf	1.95	\$375
880/881	Pharmacy with & without Drive-Through Window	1,000 sf	1.87	\$360
890	Furniture Store	1,000 sf	0.32	\$62
912	Drive-In Bank	1,000 sf	1.50	\$288
931	Restaurant, non-Fast Food	1,000 sf	5.33	\$1,025
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	9.10	\$1,750
942	Automobile Care Center	1,000 sf	1.68	\$323
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	1.47	\$283
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	1.80	\$346
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	2.04	\$392
947	Self-Service Car Wash	service bay	0.97	\$186
Industrial:				
110	Light Industrial	1,000 sf	0.48	\$92
140	Manufacturing	1,000 sf	0.45	\$87
151	Mini-Warehouse/Warehouse	1,000 sf	0.04	\$8

1) Source: Appendix A, Table A-8 for residential land uses and Appendix A, Table A-9 for non-residential land uses
2) Source: Net impact cost per functional resident from Table III-7 multiplied by the functional population coefficient for each land use

Table III-9
Law Enforcement Impact Fee Schedule Comparison

Land Use	Unit ⁽²⁾	Hallandale Beach Calculated ⁽³⁾	Aventura ⁽⁴⁾	Coconut Creek ⁽⁵⁾	Cooper City ⁽⁶⁾	Dania Beach ⁽⁷⁾	Margate ⁽⁸⁾	Miramar ⁽⁹⁾	Oakland Park ⁽¹⁰⁾	Parkland ⁽¹¹⁾
Date of Last Update		2018	1996	2005	1990	2005	1993	2016	N/A	2010
Adoption Percentage⁽¹⁾		N/A	N/A	50%	100%	100%	N/A	65%	N/A	N/A
Residential:										
Single Family (2,000 sf)	du	\$380	\$96	\$312	\$91	\$368	\$372	\$479	\$150	\$170
Multi-Family (1,300 sf)	du	\$218	\$96	\$203	\$91	\$239	\$372	\$479	\$150	\$101
Non-Residential:										
Light Industrial	1,000 sf	\$92	\$140	\$911	\$37	\$184	\$994	\$370	\$980/acre	\$160
Office (50,000 sq. ft.)	1,000 sf	\$167	\$140	\$911	\$37	\$184	\$994	\$370	\$980/acre	\$360
Retail (125,000 sq. ft.)	1,000 sf	\$290	\$140	\$648	\$37	\$184	\$994	\$370	\$980/acre	\$590
Bank w/Drive-Thru	1,000 sf	\$288	\$140	\$648	\$37	\$184	\$994	\$370	\$980/acre	\$760
Fast Food w/Drive-Thru	1,000 sf	\$1,750	\$140	\$648	\$37	\$184	\$994	\$370	\$980/acre	\$760

- 1) Represents the portion of the maximum calculated fee for each respective jurisdiction that was adopted. Fees may have been lowered/increased through annual indexing or policy discounts. Does not account for moratorium/suspensions.
- 2) du = dwelling unit
- 3) Source: Table III-8. Multi-family (3 to 9 units) shown for the multi-family land use category.
- 4) Source: City of Aventura Community Development Department. Fees were adopted by ordinance in 1996 at the amounts established by Miami-Dade County until the City adopts its own impact fee study. No changes have been made since the 1996 ordinance.
- 5) Source: City of Coconut Creek Sustainable Development Department. Police impact fees were adopted at 100 percent and have since been reduced to 50 percent of the fully calculated rate. Fees shown include a 3 percent administrative fee.
- 6) Source: City of Cooper City Growth and Management Director. Public safety impact fee shown and includes both fire and police services.
- 7) Source: City of Dania Beach Community Development Department.
- 8) Source: City of Margate Economic Development Department
- 9) Source: City of Miramar Community and Economic Development Department
- 12) Source: City of Oakland Park. Assessment for public safety west of interstate 95 is shown.
- 10) Source: City of Parkland, Building Division. Fees are indexed annually based on the Engineering News-Record (ENR) Construction Cost Index.

IV. Parks and Recreation Impact Fee

This section discusses the analysis used in developing the parks and recreation impact fee. Several elements addressed in this section include:

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

These elements are summarized throughout this section, with the result being the proposed parks and recreation impact fee schedule for the City of Hallandale Beach.

Facility Inventory

The City of Hallandale Beach currently owns and maintains several parks located throughout the City, which are classified into three different types, including: community, neighborhood (small and large), and special. The following provides a brief description of the various park types included in the impact fee study, as defined in the Hallandale Beach City Wide Parks Master Plan, updated in February 2012.

- **Community Parks** – Are generally 15 acres or more and are designed to provide lighted athletic fields, large playgrounds, recreation centers, picnic areas and swimming pools. Parks serve a one- to three-mile radius.
- **Small Neighborhood Parks** – Are generally less than 5 acres and focus mainly on passive use, but can have limited recreational activities. Parks serve a one-quarter to one-half mile radius.
- **Large Neighborhood Parks** – Are generally 6 acres to 14 acres in size and are designed to provide neighborhood-based play fields for baseball, soccer, and football, playgrounds, courts, and picnic areas. Parks serve a one-half to one-mile radius.
- **Special Facility** – Offer unique facilities such as swimming pools, nature/interpretative center, dog parks, tennis center, etc.

Table IV-1 provides an inventory of all parks and recreation facilities that are owned by the City and included in the impact fee analysis, along with the facilities that are available at each park location. The parks and recreation inventory used as the basis for the impact fee analysis is comprised of 18 parks, including:

- 1-community park;
- 4-large neighborhood parks;
- 5-small neighborhood parks; and
- 8-special facility parks.

Service Area and Population

The City of Hallandale Beach provides parks and recreation facilities and services to all city residents. As such, the service area for the parks included in the impact fee calculations is citywide. To accurately determine demand for services, this impact fee study utilizes the City's permanent residents, which is consistent with the adopted level of service of parks, as discussed in the subsequent sub-section. Therefore, the parks and recreation impact fee analysis uses the permanent population for all population estimates and projections, unless otherwise noted. Appendix A, Table A-10 provides the permanent population estimate for 2018 and the projected permanent population through 2045 for use in the parks and recreation impact fee analysis.

Level of Service

Table IV-2 presents the parks and recreation facility adopted and the current level of service (LOS). As shown in Table IV-2, the current LOS for all city-owned and maintained parks included in the impact fee study is 2.37 acres per 1,000 permanent residents. The current LOS ranges from a low of 0.40 acres per 1,000 permanent residents for community parks to 1.28 acres per 1,000 permanent residents for specialty parks. The City's current adopted LOS standard for all park types is 4.0 acres per 1,000 permanent residents.

The inventory used for impact fee calculations includes only the active parks and excluded stand-alone waterways that are not part of active parks. The Broward County Land Use Plan, Broward Next, allows the City to include waterway acreage in determining the current level of service. When including the acreage associated with waterways that is accounted for in the LOS standard, the City's total park acreage increases to approximately 120 acres, thus increasing the level of service to over 3 acres per 1,000 permanent residents. To reflect the City's current investment in active parks and recreation facilities and ensure the impact fee is not over charging new development, the City's current achieved LOS of 2.37 acres per 1,000 residents is used in calculating the parks and recreation facilities impact fee.

Table IV-1
Hallandale Beach Parks and Recreation Facilities Inventory ⁽¹⁾

Park	Address	Park Type	Park Acreage	Baseball Field	Basketball Court	Boat Slip	Bocce Court	Center (sf)	Concessions (sf)	Dog Park	Field House (sf)	Fitness Trail (paved) miles of trail	Gazebo	Historic Curci House (sf)	Historic Moffit House (sf)	Historic Schoolhouse (sf)	Hyde Building (Restaurant, etc.) (sf)
Peter Bluesten Park ⁽²⁾	501 SE 1st Avenue	Community	15.61	2	2			3,000	1,500			0.10	1				
B. F. James Park	777 NW 1st Ave	Neighborhood	2.35		2							0.22					
Ingalls Park	735 SW 1st Street	Neighborhood	4.63					2,985				0.26	1				
Joseph Scavo Park	900 Three Islands Boulevard	Neighborhood	7.00		1					2		0.29					
Oreste Blake Johnson Park	1000 NW 8th Avenue	Neighborhood	6.30					41,984			1,350	0.49					
Foster Park and Foster Park Plaza	609 NW 6th Avenue	Neighborhood	1.82					9,000				0.12	1				
Foster Plaza Park	-	Neighborhood	0.70														
Golden Isles Park	424 Layne Boulevard	Neighborhood	1.62		1		2					0.15					
Sunrise Park	800 NE 5th Street	Neighborhood	2.28									0.07					
Sunset Park	814 SW 6th Avenue	Neighborhood	0.47									0.07					
City Marina ⁽³⁾	101 Three Islands Blvd	Special	0.62			30							1				
Chaves Lake Park	NW 8 Avenue	Special	36.92														
Cultural Community Center	410 SE 3rd Street	Special	1.95					10,600									
Golden Isles Tennis Complex	500 Egret Drive	Special	4.80														
Historic Hallandale School House	648 NW 2nd Street	Special	0.33													1,100	
Historic Village	318/324 SW 2nd Avenue	Special	0.70											4,752	3,000		
North City Beach Park	111 South Surf Rd	Special	1.09					6,000									4,000
South City Beach Park	1870 S Ocean Dr.	Special	3.52				2		954			0.18					
Grand Total			92.71	2	6	30	4	73,569	2,454	2	1,350	1.95	4	4,752	3,000	1,100	4,000
Community		1	15.61	2	2	0	0	3,000	1,500	0	0	0.1	1	0	0	0	0
Neighborhood		9	27.17	0	4	0	2	53,969	0	2	1,350	1.67	2	0	0	0	0
Special		8	49.93	0	0	30	2	16,600	954	0	0	0.18	1	4,752	3,000	1,100	4,000
Grand Total		18	92.71	2	6	30	4	73,569	2,454	2	1,350	1.95	4	4,752	3,000	1,100	4,000

Table IV-1 (Continued)
Hallandale Beach Parks and Recreation Facilities Inventory ⁽¹⁾

Park	Address	Park Type	Park Acreage	Multipurpose Field	Office (sf)	Parking Garage	Pavilion	Pickleball Court	Picnic Shelter	Playground	Pool	Racquetball Court	Support / Restroom Facility (sf)	Tennis Center (sf)	Tennis Court	Volleyball (Sand) Court
<i>Peter Bluesten Park</i> ⁽²⁾	501 SE 1st Avenue	Community	15.61		300					1	1	2	2,500		2	
B. F. James Park	777 NW 1st Ave	Neighborhood	2.35		759				1	1	1		3,240			
Ingalls Park	735 SW 1st Street	Neighborhood	4.63				2			1			1,500			
Joseph Scavo Park	900 Three Islands Boulevard	Neighborhood	7.00						2	1			735			
Oreste Blake Johnson Park	1000 NW 8th Avenue	Neighborhood	6.30	1						1					2	
Foster Park and Foster Park Plaza	609 NW 6th Avenue	Neighborhood	1.82							1						
Foster Plaza Park	-	Neighborhood	0.70													
Golden Isles Park	424 Layne Boulevard	Neighborhood	1.62				1			1						
Sunrise Park	800 NE 5th Street	Neighborhood	2.28							1						
Sunset Park	814 SW 6th Avenue	Neighborhood	0.47						1	1						
City Marina ⁽³⁾	101 Three Islands Blvd	Special	0.62		100								400			
Chaves Lake Park	NW 8 Avenue	Special	36.92													
Cultural Community Center	410 SE 3rd Street	Special	1.95													
Golden Isles Tennis Complex	500 Egret Drive	Special	4.80					1						2,000	13	
Historic Hallandale School House	648 NW 2nd Street	Special	0.33													
Historic Village	318/324 SW 2nd Avenue	Special	0.70													
North City Beach Park	111 South Surf Rd	Special	1.09			1										1
South City Beach Park	1870 S Ocean Dr.	Special	3.52				1		3	1			1,391			1
Grand Total	-	-	92.71	1	1,159	1	4	1	7	10	2	2	9,766	2,000	17	2
Community	1	15.61	0	300	0	0	0	0	0	1	1	2	2,500	0	2	0
Neighborhood	9	27.17	1	759	0	3	0	4	8	1	0	0	5,475	0	2	0
Special	8	49.93	0	100	1	1	1	3	1	0	0	0	1,791	2,000	13	2
Grand Total	18	92.71	1	1,159	1	4	1	7	10	2	2	2	9,766	2,000	17	2

1) Source: City of Hallandale Beach Parks and Recreation Department
2) Peter Bluesten Park is currently under construction and is expected to be completed by October 2019.
3) Park acreage excludes the portion associated with Fire Station 90, 0.77 acres.

**Table IV-2
Current Level of Service (2018)**

Park Land Category	City of Hallandale Beach		
	Inventory (Acres) ⁽¹⁾	Current LOS (Acres per 1,000 residents) ⁽²⁾	Adopted LOS (Acres per 1,000 residents) ⁽³⁾
Community	15.61	0.40	-
Neighborhood	27.17	0.69	-
Special	<u>49.93</u>	<u>1.28</u>	-
Total	92.71	2.37	3.25
2018 Permanent Population⁽⁴⁾	39,114		

1) Source: Table IV-1

2) Acres divided by the 2018 City of Hallandale Population (Item 4) multiplied by 1,000

3) City of Hallandale Beach Comprehensive Plan, Recreation and Open Space Element

4) Source: Appendix A, Table A-10

Table IV-3 presents a comparison of the parks and recreation adopted LOS standards of other Florida jurisdictions to the City of Hallandale Beach's adopted LOS. Based on this comparison, the City's adopted LOS standard is within the range of the standards adopted by other communities.

**Table IV-3
Comparison of Adopted
Level of Service Standards**

Community	LOS Standard (Acres per 1,000 Residents)
City of Aventura ⁽¹⁾	2.75
City of Coconut Creek ⁽²⁾	3.00
City of Hollywood ⁽³⁾	3.00
City of Lauderdale Lakes ⁽⁴⁾	3.00
City of Margate ⁽⁵⁾	3.00
City of North Lauderdale ⁽⁶⁾	3.00
City of Oakland Park ⁽⁷⁾	3.00
Town of Pembroke Park ⁽⁸⁾	3.00
City of Hallandale Beach⁽⁹⁾	3.25
City of Miramar ⁽¹⁰⁾	4.00
City of Parkland ⁽¹¹⁾	5.00
City of Cooper City ⁽¹²⁾	6.00
City of Pembroke Pines ⁽¹³⁾	7.00

- 1) Source: City of Aventura Comprehensive Plan, Parks and Recreation Element, Policy 4.1 - 2.75 acres of net usable park land per 1,000 people
- 2) Source: City of Coconut Creek Comprehensive Plan; Parks, Recreation, Open Space, and Conservation Uses Element, Policy II-4.1.2 - 3.00 community park acres per 1,000 people
- 3) Source: City of Hollywood Comprehensive Plan, Recreation and Open Space Element, Policy 1.6 - 3.00 park and open space acres per 1,000 people
- 4) Source: City of Lauderdale Lakes Comprehensive Plan, Recreation and Open Space Element, Policy 1.2.1 - 3.00 park acres per 1,000 people
- 5) Source: City of Margate Comprehensive Plan, Recreation and Open Space Element, Policy 1.6 - 3.00 local park acres per 1,000 people
- 6) Source: City of North Lauderdale Comprehensive Plan, Recreation and Open Space Element, Policy 7.4 - 3.00 park acres per 1,000 people
- 7) Source: City of Oakland Park Comprehensive Plan; Volume 1, Recreation and Open Space Element, Policy 7.1.2 - 2.00 local park acres and 1.00 community park acres per 1,000 people
- 8) Source: Discussions with City Staff
- 9) Source: Table 2
- 10) Source: City of Miramar Comprehensive Plan, Recreation and Open Space Element, Policy 1.1.5 - 4.00 park and open space acres per 1,000 people
- 11) Source: City of Parkland Comprehensive Plan; Parks, Recreation, and Open Space Element, Policy 8.1.11 - 5.00 acres of park, recreation, and open space per 1,000 people
- 12) Source: City of Cooper City Comprehensive Plan, Recreation and Open Space Element, Policy 6.3.1 - 6.00 community park acres per 1,000 people
- 13) Source: City of Pembroke Pines Comprehensive Plan, Recreation and Open Space Element, Policy 3.1 - 7.00 neighborhood and community park acres per 1,000 people

Cost Component

The total cost per resident for parks and recreation facilities consists of two components: the cost of purchasing land and the cost of facilities and equipment.

Land Cost

An analysis of land values was conducted to develop an estimated value of park land. This analysis included an evaluation of current park inventory land value, an analysis of recent vacant land sales and value of similar characteristics to the City's inventory of parks. More specifically, the following analysis was conducted:

- A review of most recent park land purchases;
- A review of the current value of existing park land based on information included in the Broward County Property Appraiser's (BCPA) Database;
- A review of vacant land sales of similar size to the City's park inventory between 2014 and 2017 included in the BCPA Database; and
- A review of the current appraised value of vacant residential land of similar size to the City's park inventory, obtained from the BCPA Database.

This analysis resulted in a land value estimate of \$500,000 per acre. To account for site development costs, a review of recent impact fee studies was conducted. This review indicated that site development costs for similar park types are approximately \$40,000 per acre, which amounts to 13 percent of the estimated land value per acre.

As shown in Table IV-4, the total park land value is approximately \$50 million which converts to \$1,280 per resident.

Facility and Equipment Cost

The second step in calculating the total cost for parks and recreation facilities in the City of Hallandale Beach involves estimating the current value of recreation facilities and equipment. To complete this evaluation, a review of facility cost of recently completed parks, cost associated with planned/proposed facilities, and insurance values of the City's recreational facilities was completed. As shown in Table IV-5, the City recently upgraded/built new facilities at four parks. In addition, in 2016, the City issued a General Obligation (GO) bond. Proceeds from this bond issue are dedicated to parks facilities outlined in the City's Parks Master Plan. For recreational facility value at remaining existing parks, insurance values were used. As shown in Table IV-5, the total recreational facility value amounts to \$92.7 million or \$2,370 per resident.

Table IV-4
Land Cost per Resident

Variable	Park Land Value
Land Value:	
Land Purchase Cost per Acre ⁽¹⁾	\$500,000
Site Development Cost per Acre ⁽²⁾	\$40,000
Total Land Cost per Acre⁽³⁾	\$540,000
Total Acres ⁽⁴⁾	92.71
Total Land Value ⁽⁵⁾	\$50,063,400
Current Level of Service ⁽⁶⁾	2.37
Total Land Value per Resident⁽⁷⁾	\$1,279.80

- 1) Source: Appendix B
- 2) Source: Discussions with City of Hallandale Beach and a review of recently completed impact fee studies
- 3) Sum of land purchase cost per acre (Item 1) and site development cost per acre (Item 2)
- 4) Source: Table IV-1
- 5) Total land cost per acre (Item 3) multiplied by total acres (Item 4)
- 6) Source: Table IV-2
- 7) Total land cost per acre (Item 3) multiplied by the current LOS (Item 6) divided by 1,000

Table IV-5
Parks and Recreation Facility and Equipment Value per Resident

Variable	Recreational Facility Value
Insured Value of Existing Parks ⁽¹⁾	\$6,165,600
Recently Completed Parks⁽²⁾:	
<i>Oreste Blake Johnson Park</i>	<i>\$17,000,000</i>
<i>B. F. James Park</i>	<i>\$5,500,000</i>
<i>Joseph Scavo Park</i>	<i>\$2,900,000</i>
<i>South City Beach Park</i>	<i>\$4,900,000</i>
GO Bond Projects ⁽³⁾	<u>\$56,243,653</u>
Total Recreational Facility Value⁽⁴⁾	\$92,709,253
Total Acres ⁽⁵⁾	92.71
Total Recreational Facility Value per Acre⁽⁶⁾	\$999,992
Current Level of Service ⁽⁷⁾	2.37
Total Recreational Facility Value per Resident⁽⁸⁾	\$2,369.98

- 1) Source: City of Hallandale Beach. Excludes value of recently completed parks and projects that will be built with GO Bond since the value at these facilities is addressed separately under Items (2) and (3).
- 2) Source: City of Hallandale Beach
- 3) Source: City of Hallandale Beach. Citywide Parks Master Plan General Obligation Bond.
- 4) Sum of insured value of existing facilities, recently completed parks, and programmed facilities with GO Bond funding (Items 1-3)
- 5) Source: Table 1
- 6) Total recreational facility value (Item 4) divided by total acres (Item 5)
- 7) Source: Table 2
- 8) Total recreational facility value per acre (Item 6) multiplied by the current LOS (Item 7) divided by 1,000

Table IV-6 presents a summary of the total impact cost per resident, which is calculated by summing the total land value per resident and recreational facility value per resident previously presented in Tables IV-4 and IV-5. As shown, the total impact cost amounts to \$3,650 per resident.

Table IV-6
Total Impact Cost per Resident

Variable	Figure	Percent of Total Asset Value ⁽⁴⁾
Land Cost per Resident ⁽¹⁾	\$1,279.80	35%
Recreational Facility Cost per Resident ⁽²⁾	\$2,369.98	65%
Total Impact Cost per Resident⁽³⁾	\$3,649.78	100%

1) Source: Table IV-4

2) Source: Table IV-5

3) Sum of land cost per resident (Item 1) and recreational facility cost per resident (Item 2)

4) Distribution of total asset value per resident

Credit Component

To avoid overcharging new development for the capital cost of providing parks and recreation services, a review of the capital funding program for the parks and recreation program was completed. The purpose of this review was to estimate any future revenues generated by new development, other than impact fees, which will be used to fund the expansion of capital facilities and land related to the City of Hallandale Beach's parks and recreation program. As mentioned previously, the credit component does not include any capital renovation, maintenance, or operations expenses, as these types of expenditures do not add capacity and should not be considered for impact fee credit.

Debt Service Credit

As previously mentioned, the City of Hallandale Beach is paying for debt service on a General Obligation (GO) bond used for parks capacity expansion projects related to the Citywide Parks Master Plan.

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 permanent population estimated over the remaining life of the bond. As presented in Table IV-7, the resulting credit is \$1,373 per resident.

Once the debt service credit per resident is calculated, because the City is using ad valorem tax revenues to re-pay the debt service, an adjusted credit figure is calculated. The adjustment

accounts for the fact that new homes tend to pay higher property taxes per dwelling unit than older homes. As shown, the adjusted debt service credit amounts to \$2,747 per resident.

Table IV-7
Parks and Recreation Debt Service Credit

Issue	Funding Source ⁽¹⁾	Number of Remaining Payments ⁽¹⁾	Present Value of Remaining Payments ⁽¹⁾	Average Annual Population During Remaining Issue Period ⁽²⁾	Debt Service Credit per Resident ⁽³⁾
General Obligation Bonds, Series 2016	Ad Valorem Tax	29	\$58,558,460	42,636	\$1,373.45
Credit Adjustment Factor ⁽⁴⁾					2.0
Adjusted Debt Service Credit per Resident⁽⁵⁾					\$2,746.90

1) Source: City of Hallandale Beach

2) Source: Appendix A, Table A-10. Average annual permanent population over the remaining issue period.

3) Present value of remaining payments divided by average annual permanent population during remaining issue period (Item 2)

4) Adjustment factor to reflect higher ad valorem taxes paid by new homes

5) Debt service credit per resident (Item 3) multiplied by the credit adjustment factor (Item 4)

Net Parks and Recreation Impact Cost

The net impact cost per resident is the difference between the Cost Component and the Credit Component. Table IV-8 summarizes the calculation of the net impact cost which amounts to \$903 per resident.

Table IV-8
Net Parks & Recreation Impact Cost per Resident

Impact Cost / Credit Element	Figure
<i>Impact Cost:</i>	
Total Impact Cost per Resident ⁽¹⁾	\$3,649.78
<i>Impact Credit:</i>	
Adjusted Debt Service Credit per Resident ⁽²⁾	\$2,746.90
<i>Net Impact Cost:</i>	
Net Impact Cost per Resident⁽³⁾	\$902.88

1) Source: Table IV-6

2) Source: Table IV-7

3) Total impact cost per resident (Item 1) less adjusted debt service credit per resident (Item 2)

Calculated Parks and Recreation Impact Fee

Table IV-9 presents the calculated parks and recreation impact fee schedule, based on the net impact cost per resident figures presented in Table IV-8 and the residential demand (population per housing unit), which is developed in Appendix A. As presented, the calculated fees range from \$975 per dwelling unit in the case of multi-family homes with 10 or more units to \$2,727 per home in the case of single family detached homes.

Table IV-9
Parks and Recreation Impact Fee Schedule

Residential Category	Impact Unit	Persons per Unit ⁽¹⁾	Net Cost per Person ⁽²⁾	Net Impact Fee per Unit ⁽³⁾
Single Family (detached)	du	3.02	\$902.88	\$2,727
Duplex	du	2.23	\$902.88	\$2,013
Multi-Family (3 to 9 units)/Townhouse/Mobile Home	du	1.73	\$902.88	\$1,562
Multi-Family (10 or more units)	du	1.08	\$902.88	\$975

1) Source: Appendix A, Table A-2

2) Source: Table IV-8

3) Persons per unit (Item 1) multiplied by the net cost per resident (Item 2)

Parks and Recreation Impact Fee Comparison

As part of the work effort in calculating the parks and recreation impact fee schedule for the City of Hallandale Beach, the City's calculated impact fee schedule was compared to the adopted fee schedule of similar or nearby jurisdictions. Table IV-10 presents this comparison.

Table IV-10
Parks and Recreation Impact Fee Comparison

Land Use	Unit ⁽²⁾	Hallandale Beach Calculated ⁽³⁾	Aventura ⁽⁴⁾	Cooper City ⁽⁵⁾	Dania Beach ⁽⁶⁾	Hollywood ⁽⁷⁾	Miramar ⁽⁸⁾	Oakland Park ⁽⁹⁾	Pembroke Park ⁽¹⁰⁾
Date of Last Update		2018	N/A	1990	2014	N/A	2016	N/A	N/A
Adoption Percentage⁽¹⁾		N/A	N/A	100%	N/A	N/A	100%	N/A	N/A
Residential:									
Single Family (2,000 sf)	du	\$2,727	\$1,352	\$1,280	\$1,825	\$2,375	\$3,302	\$1,500	\$251
Multi-Family (1,300 sf)	du	\$1,562	\$690	\$1,280	\$1,364	\$2,175	\$2,265	\$1,500	\$251
Mobile Home (1,300 sf)	du	\$1,562	\$1,352	\$1,280	\$1,140	\$2,175	\$2,265	\$1,500	\$251

- 1) Represents the portion of the maximum calculated fee for each respective jurisdiction that was adopted. Fees may have been lowered/increased through annual indexing or policy discounts. Does not account for moratorium/suspensions.
- 2) du = dwelling unit
- 3) Source: Table 9. Multi-family (3 to 9 units) is shown for the multi-family land use category.
- 4) Source: City of Aventura Community Development Department. Single family detached impact fee shown for mobile home. The City's park impact fee was adopted on incorporation of the City in 1997 at the levels assessed by the County. No changes have been made since the 1997 ordinance.
- 5) Source: City of Cooper City Growth and Management Director. Park improvement impact fee shown which excludes the cost of land.
- 6) Source: City of Dania Beach Community Development Department
- 7) Source: City of Hollywood Department of Development Services. Park impact fee rates shown. The City conducted an "in-house" review of other Broward County communities to determine the 2013 adopted rates.
- 8) Source: City of Miramar Community and Economic Development Department. The rates shown combine the recreation impact fee and the community parks land dedication impact fee. The three bedroom rate is used as a proxy for the single family impact fee and the two bedroom rate is used as a proxy for both the multi-family and mobile home impact fees.
- 9) Source: City of Oakland Park
- 10) Source: Town of Pembroke Parks Public Works Department. The Town's parks and acquisition impact fees were adopted in 2003.

V. Multi-Modal Transportation Impact Fee

This section details the calculation of a multi-modal transportation impact fee (MMTIF) for the City of Hallandale Beach. Revenues from this one-time fee for new development must be spent on capacity expansion improvements to the City's transportation network, including roadway, bicycle/pedestrian, and transit modes. Examples of projects include roadway land addition/new roadway, intersection improvements, sidewalk/bicycle lane addition (either in conjunction with roadway expansion or stand-alone), and transit amenities on the City's classified roadway network (collectors and above, and not on neighborhood/local streets).

As discussed previously, the methodology used for the multi-modal transportation impact fee study follows a consumption-based impact fee approach in which new development is charged based upon the proportion of person-miles of travel (PMT) that each unit of new development is expected to consume of a lane-mile of the transportation network. The MMTIF incorporates the entire network of transportation within the city, including city, county and state roads, but excludes limited access facilities and rail, which require large scale investments and are not typically funded with impact fees.

Currently, the City of Hallandale Beach does not have a transportation impact fee program. Broward County has a roadway impact fee ranging from \$39 to \$1,585 per trip for residential uses. However, Hallandale Beach is located in an impact fee exemption area, and therefore, is not subject to the County roadway impact fee. Because the multi-modal fee calculations include all roads in the city, the resulting fee represents cost associated with travel on city, county and state roads. Given that Broward County is not collecting a transportation impact fee in Hallandale Beach, the City can keep the entire fee. Alternatively, the City could collect a fee only for the travel on city roads. Fee schedules reflecting both alternatives are included in this report.

In addition, Broward County collects a concurrency fee. The county is divided into 10 districts for concurrency purposes and Hallandale Beach is in the Southeast Area/District. If the City decides to adopt the full fee, concurrency payments made by new development would be subject to impact fee credits. This issue will be addressed in the impact fee ordinance.

Included in this document is the necessary support material used in the calculation of the multi-modal 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 a transportation system is expressed in units of Person-Miles of Travel (daily vehicle-trip generation rate x the trip length x the percent new trips [of total trips] x person-trip factor) for each land use contained in the impact fee schedule. Trip generation represents the average daily rates since new development consumes trips on a daily basis.

The “cost” of building new capacity typically is expressed in units of dollars per person-mile of transportation capacity.

The “credit” is an estimate of future non-impact fee revenues generated by new development that are allocated to provide transportation capacity expansion. The impact fee is considered to be an “up front” payment for a portion of the cost of building a person-mile of capacity that is 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 the new development activity. These credits are required under the supporting case law for the calculation of impact fees where a new development activity must be reasonably assured that they are not being charged twice for the same level of service. The input variables used in the fee equation are as follows:

Demand Variables:

- Trip generation rate
- Trip length
- Percent new trips

Cost Variables:

- Transportation cost per lane-mile
- Transportation capacity per person-mile

Credit Variables:

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

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 a measure of the person-miles of new travel a unit of development places on the existing transportation 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 on the transportation system.

The trip characteristics variables were primarily obtained from two sources: (1) similar studies conducted throughout Florida (Florida Studies Database) and (2) the Institute of Transportation Engineers' (ITE) Trip Generation reference report (10th Edition). The Florida Trip Characteristics Studies Database is included in Appendix C. This database was used to determine trip length, percent new trips, and the trip generation rate for several land uses.

Conversion of Vehicle-Trips to Person-Trips

For the multi-modal transportation impact fee, it is necessary to estimate travel in units of person-miles. Vehicle-trips were converted to person-trips by applying a vehicle-trip to person-trip conversion factor of 1.40. This factor was derived from a review of the Southeast Regional Planning Model (SERPM) v7 model and is supported by nationwide travel data and vehicle occupancy levels observed in other communities throughout Florida.

Interstate & Toll Facility Adjustment Factor

This variable was used to recognize that interstate highway and toll facility improvements are funded by the State (specifically, the Florida Department of Transportation) using earmarked State and Federal funds. Typically, impact fees are not used to pay for these improvements and the portion of travel occurring on the interstate/toll facility system is subtracted from the total travel for each use.

To calculate the interstate and toll (I/T) facility adjustment factor, the loaded highway network file was generated for the SERPM v7. A select zone analysis was run for all traffic analysis zones located within the City of Hallandale Beach in order to differentiate trips with an origin and/or destination within the city versus trips that simply passed through the city.

The analysis reviewed trips on all interstate and toll facilities within Broward County, including Interstate 95, Interstate 75, Interstate 595, the Everglades Parkway, the Sawgrass Expressway, and the Florida Turnpike. The limited access vehicle-miles of travel (Limited Access VMT) for city-generated trips with an origin and/or destination within city was calculated for the identified limited access facilities. Next, the total VMT was calculated for all city-generated trips with an origin and/or destination within Hallandale Beach for all roads, including limited access facilities. The I/T discount factor of 38.4 percent was determined by dividing the total limited access VMT by the total City VMT. Total City VMT reduced by this factor is representative of only the roadways that are eligible to be funded with multi-modal impact fee revenues. Appendix C, Table C-1 provides further detail on this calculation.

Local Collector Road Adjustment Factor

As mentioned previously, the impact fee calculations reflect cost associated with all roads (city, county, state) in the city. Using the SERPM model data, a local adjustment factor was developed to identify percentage of travel that occurs on city's classified roads. The local collector road adjustment factor of 30.8 percent was determined by dividing the VMT on City roads by the total City VMT and includes a network of local roads that are proposed to be re-classified as collector roads. This figure is applied to the calculated multi-modal fee to determine the City's portion of the impact fee. Additional information is included in Appendix C, Table C-2.

The multi-modal impact fee rates calculated with the local collector travel adjustment factor are presented as an additional scenario to the rates calculated without the factor. The inclusion of this factor depends on the County's collection of the transportation impact fee within the City of Hallandale Beach. Currently, the City of Hallandale Beach lies within the County's transportation impact fee exemption area.

Cost Component

Cost information from Broward County and other counties in Florida was reviewed to develop a unit cost for all phases involved in the construction of one lane-mile of roadway capacity. Additionally, cost information for bicycle/pedestrian and transit facilities was reviewed and included in the cost component calculations presented in this section. Appendix D provides the data and other support information utilized in these analyses.

City/County Roadway Cost

This section examines the right-of-way (ROW), construction, and other cost components associated with city/county roads with respect to transportation capacity expansion

improvements in Broward County and the City of Hallandale Beach. In addition to local (Broward County) data, bid data for recently completed/ongoing local projects and recent construction bid data from roadway projects throughout Florida were used to supplement the cost data for local city/county roadway 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 city/county roads were estimated at 10 percent of construction phase costs based on a review of recent transportation impact fee studies throughout Florida. Additional detail is provided in Appendix D, Table D-2.

CEI costs for city/county roads were estimated at nine (9) percent of construction phase costs based on a review of recent transportation impact fee studies throughout Florida. Additional detail is provided in Appendix D, Table D-5.

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. Since the 1960's Broward County has implemented the Trafficways Plan for ultimate right-of-way preservation on all roads included on the Trafficways Map. Given this, ROW for road construction/expansion is already available for the majority of future improvements. As such, for impact fee purposes, ROW cost is not included.

Construction

The construction cost for city/county roads was based on recently bid/completed projects in Broward County and in other communities in Florida. A review of construction cost data for projects built in Broward County since 2009 identified a single improvement on Bailey Road (from NW 64th Avenue/SW 81st Avenue to SR 7/US 441) with a construction cost of approximately \$1.58 million per lane mile.

In addition to local projects, recent improvements from other counties in FDOT District 4 and throughout Florida were reviewed to increase the sample size. This review included over 390 lane miles of lane addition and new road construction improvements with a weighted average cost of approximately \$2.26 million per lane mile. Projects in FDOT District 4 included over 84 lane miles of improvements with a weighted average construction cost of approximately \$1.90 million per lane mile.

Based on a review of these data sets, a construction cost of \$1.9 million per lane mile was used in the impact fee calculation for urban-design (curb & gutter) improvements. This figure reflects that city/county roadway improvements in FDOT District 4 are slightly less expensive than the statewide average. Additional detail is provided in Appendix D, Table D-3.

To determine the cost per lane mile for county roads with rural-design characteristics (open drainage), the relationship between urban and rural roadway costs from the FDOT District 7 Long Range Estimates (LRE)¹ was reviewed. Similar LRE data was not available for District 4. Based on this information, the costs for roadways with open drainage were estimated at approximately 75 percent of the costs for curb & gutter roadways. Additional detail is provided in Appendix D, Table D-1.

To determine the weighted average cost for city/county roadways, the cost for curb & gutter and open drainage roadways were weighted based on the distribution of improvements included in the Broward County 2040 LRTP's Affordable Roadways list (Appendix D, Table D-6). As shown in Table V-1, the weighted average city/county roadway cost was calculated at approximately \$2.03 million per lane mile.

Table V-1
Estimated Total Cost per Lane Mile for City/County Roads

Cost Phase	Cost per Lane Mile		
	Curb & Gutter	Open Drainage ⁽⁵⁾	Weighted Average ⁽⁶⁾
Design ⁽¹⁾	\$190,000	\$143,000	\$171,000
Construction ⁽²⁾	\$1,900,000	\$1,425,000	\$1,710,000
CEI ⁽³⁾	\$171,000	\$128,000	\$154,000
Total Cost	\$2,261,000	\$1,696,000	\$2,035,000
Lane Mile Distribution ⁽⁴⁾	60%	40%	100%

1) Design is estimated at 10% of construction costs.

2) Source: Appendix D, Table D-3

3) CEI is estimated at 9% of construction costs

4) Source: Appendix D, Table D-6, Items (c) and (d)

5) Open drainage costs are estimated as 75% of curb & gutter costs

6) Lane mile distribution (Item 6) multiplied by the design, construction, and CEI phase costs by road type to develop a weighted average cost per lane mile

Note: All figures rounded to nearest \$000

¹ <http://www.fdot.gov/planning/Policy/To%20Delete/costs/>

State Roadway Cost

This section examines the right-of-way (ROW), construction, and other cost components associated with state roads with respect to transportation capacity expansion improvements in Broward County and the City of Hallandale Beach. For this purpose, bid data for recently completed/ongoing local projects and recent construction bid data from roadway projects throughout Florida were used to identify and provide supporting cost data for state roadway 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 state roads were estimated at 11 percent of construction phase costs based on a review of recent transportation impact fee studies throughout Florida. Additional detail is provided in Appendix D, Table D-2.

CEI costs for state roads were estimated at 10 percent of construction phase costs based on a review of recent transportation impact fee studies throughout Florida. Additional detail is provided in Appendix D, Table D-5.

Right-of-Way

As mentioned previously, ROW for road construction/expansion has been preserved through the Broward County Trafficways Preservation Plan. Therefore, for impact fee purposes, ROW cost is not included.

Construction

The construction cost for state roads was based on recently bid/completed projects in Broward County and in other communities in Florida. A review of construction cost data for projects built in Broward County since 2009 identified four improvements in Broward County with a weighted average cost of \$7.22 million per lane mile.

- Andrews Avenue Extension from NW 18th Street to Copans Road
- SR 7 (US 441) from N. of Hallandale Beach to N. of Fillmore Street
- Andrews Avenue Extension from Pompano Park Place to S. of Atlantic Boulevard
- SW 30th Avenue from Griffin Road to SE 45th Street

In addition to local projects, recent improvements from other counties in FDOT District 4 and throughout Florida were reviewed to increase the sample size. This review included over 490 lane miles of lane addition and new road construction improvements with a weighted average

cost of approximately \$3.26 million per lane mile. Of these, 50 lane miles of improvements were in the FDOT District 4, with a weighted average construction cost of approximately \$3.40 million per lane mile. This figure was used in the impact fee calculation for curb & gutter (urban-design) improvements. Additional detail is provided in Appendix D, Table D-4.

To determine the cost per lane mile for state roads with open drainage (rural-design), the relationship between urban (curb & gutter) and rural roadway costs from the FDOT District 7 Long Range Estimates (LRE)² was reviewed. As mentioned previously, the LRE data was not available for District 4. Based on this information, the costs for open drainage roadways were estimated at approximately 75 percent of the costs for curb & gutter roadways. Additional detail is provided in Appendix D, Table D-1.

To determine the weighted average cost for state roadways, the cost for curb & gutter and open drainage roadways were weighted based on the distribution of lane miles included in the Broward County 2040 Long Range Transportation Plan (Appendix D, Table D-6). As shown in Table V-2, the weighted average county roadway cost was calculated at approximately \$3.7 million per lane mile.

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

Cost Phase	Cost per Lane Mile		
	Curb & Gutter	Open Drainage ⁽⁵⁾	Weighted Average ⁽⁶⁾
Design ⁽¹⁾	\$374,000	\$281,000	\$337,000
Construction ⁽²⁾	\$3,400,000	\$2,550,000	\$3,060,000
CEI ⁽³⁾	\$340,000	\$255,000	\$306,000
Total Cost	\$4,114,000	\$3,086,000	\$3,703,000
Lane Mile Distribution ⁽⁴⁾	60%	40%	100%

1) Design is estimated at 11% of construction costs.

2) Source: Appendix D, Table D-4

3) CEI is estimated at 10% of construction costs

4) Source: Appendix D, Table D-6, Items (c) and (d)

5) Open drainage costs are estimated as 75% of curb & gutter costs

6) Lane mile distribution (Item 6) multiplied by the design, construction, and CEI phase costs by road type to develop a weighted average cost per lane mile

Note: All figures rounded to nearest \$000

² <http://www.fdot.gov/planning/Policy/To%20Delete/costs/>

Summary of Costs (Blended Cost Analysis)

The weighted average cost per lane mile for county and state roads is presented in Table V-3. The resulting weighted average cost of approximately \$2.12 million per lane mile was utilized as the roadway cost input in the calculation of the multi-modal fee schedule. The weighted average cost per lane-mile includes city/county and state roads and is based on weighting the lane miles of roadway improvements in the County's 2040 Long Range Transportation Plan's Affordable and Unfunded Roadway Projects Plan.

Table V-3
Estimated Cost per Lane Mile for City/County and State Roadway Projects

Cost Type	City/County Roads ⁽¹⁾	State Roads ⁽²⁾	City/County & State Roads ⁽³⁾
Design	\$171,000	\$337,000	\$179,000
Construction	\$1,710,000	\$3,060,000	\$1,778,000
CEI	\$154,000	\$306,000	\$162,000
Total	\$2,035,000	\$3,703,000	\$2,119,000
Lane Mile Distribution ⁽⁴⁾	95%	5%	100%

1) Source: Table V-1

2) Source: Table V-2

3) Lane mile distribution (Item 4) multiplied by the design, construction, and CEI phase costs by jurisdiction to develop a weighted average cost per lane-mile. This distribution is based on the current roadway jurisdiction of planned improvements in the 2040 LRTP Cost Affordable and Unfunded Needs Project List

4) Appendix D, Table D-6, Items (a) and (b). Percentages reflect the distribution of roadway projects only, not all projects included in the Long Range Transportation Plan.

Person-Miles of Capacity per Lane Mile

An additional component of the multi-modal impact fee equation is the capacity added per lane-mile of roadway constructed. The VMC is an estimate of capacity added per lane mile, for city/county and state roadway improvements in the Broward County 2040 LRTP Cost Affordable and Unfunded Roadways Plan. As shown in Table V-4, each lane mile will add approximately 8,400 vehicles. The VMC figure was then multiplied by the person-trip factor (1.40) to calculate the PMC for use in the multi-modal fee calculation. Additional detail is provided in Appendix D, Table D-6.

**Table V-4
Weighted Average Capacity per Lane Mile**

Source	Lane Mile Added ⁽¹⁾	Vehicle-Miles of Capacity Added ⁽¹⁾	VMC Added per Lane Mile ⁽²⁾
City/County Roads	92.20	766,962	8,318
State Roads	4.52	45,426	10,050
Total	96.72	812,388	
Weighted Average VMC Added per Lane Mile⁽³⁾			8,400
Vehicle-Trip to Person-Trip Factor⁽⁴⁾			1.40
Weighted Average PMC Added per Lane Mile⁽⁵⁾			11,760

1) Source: Appendix D, Table D-6

2) Vehicle-miles of capacity added divided by lane miles added

3) VMC Added per lane mile (Item 2) rounded to nearest 100

4) Source: Based on a review of SERPM v7, nation-wide vehicle occupancy data, and peer jurisdictions

5) VMC added per lane mile multiplied by the person-trip factor, rounded to the nearest 100

Cost per Person-Mile of Capacity

The transportation cost per unit of development is assessed based on the cost per person-mile of capacity. As shown in Tables V-1 through V-4, the cost and capacity for transportation in Hallandale Beach have been calculated based on recent statewide improvements. As shown in Table V-5, the cost per PMC for travel within the city is approximately **\$180**.

The cost per PMC figure is used in the multi-modal transportation impact fee calculation to determine the total cost per unit of development based on person-miles of travel consumed. For each person-mile of travel that is added to the transportation system, approximately \$180 of capacity is consumed.

Table V-5
Weighted Average Cost per Person-Mile of Capacity Added

Source	Cost per Lane Mile ⁽¹⁾	Average PMC Added per Lane Mile ⁽²⁾	Cost per PMC ⁽³⁾
City/County Roads	\$2,035,000	11,645	\$174.75
State Roads	\$3,703,000	14,070	\$263.18
Weighted Average	\$2,119,000	11,760	\$180.19

1) Source: Table V-3 (weighted 95% City/County and 5% State based on 2040 L RTP roadway projects)

2) Source: Table V-4

3) Average PMC added per lane mile (Item 2) divided by cost per lane mile (Item 1)

Bicycle and Pedestrian Facility Costs

Bicycle and pedestrian facilities provide for relatively small quantities of the total vehicle-miles of travel due to the difference in the average distance traveled by a car trip versus pedestrian/bicycle trips. Because of their relatively limited role in the urban travel scheme, they do not have a significant effect on cost of providing for transportation. However, bike and pedestrian facilities are important and provide a source of travel for those who cannot drive, cannot afford to drive or choose not to drive, and they are a standard part of the urban street and sometimes included in rural roadways. Their costs are included in the standard roadway cross-sections for which costs are estimated for safety and mobility reasons. Thus, the costs of these facilities on major roads are included in the multi-modal fee. The multi-modal fee provides funding for only those bike and pedestrian facilities associated with roadways on the classified road system (excluding local/neighborhood roads), and allows for facilities to be added to existing classified roadways or included in the construction of a new classified roadway or lane addition improvement.

Transit Capital Cost per Person-Mile of Travel

A model for transit service and cost was developed to establish both the capital cost per person-mile of capacity and the system operating characteristics in terms of system coverage, hours of service, and headways. The model developed for Hallandale Beach was based on information from the Broward County Transit Development Plan. Components of the transit capital cost include:

- Vehicle acquisition tied to new routes
- Bus stops, shelters, and benches
- Cost of road network used by transit vehicles

Transit capital costs are computed as the cost of capital features needed to expand the transit system, as follows:

$$\text{Transit Capital Cost} = \text{Bus Infrastructure Cost} + \text{Road Capacity Cost}$$

Taking into account the infrastructure costs and the decline in potential vehicle-capacity that comes with adding transit, it was determined that the roadway-with-transit cost per PMC is approximately seven (7) percent higher per lane-mile than the cost to simply construct a road without transit amenities. This adjustment is shown in Table V-6. Additional information regarding the transit capital cost calculation is included in Appendix D, Tables D-7 and D-8.

Table V-6
Transportation Cost per Person-Mile of Capacity

Item	Cost per PMC
Roadway/Bike/Ped Cost ⁽¹⁾	\$180.19
Transit Cost Adjustment ⁽²⁾	7.15%
Total Transportation Cost per PMC ⁽³⁾	\$193.07

1) Source: Table V-5

2) Source: Appendix D, Table D-8

3) Road/Bike/Ped cost (Item 1) increased by transit cost adjustment (Item 2)

Credit Component

Capital Improvement Credit

The credit component of the impact fee accounts for the existing City, County, and State funding sources that are being expended on transportation capacity expansion (excluding impact fee funds). This section summarizes the calculations utilized in the credit for non-impact fee contributions. Additional details are provided in Appendix E.

The present value of the portion of non-impact fee funding generated by new development over a 25-year period that is expected to be expended on capacity expansion projects was credited against the cost of the system consumed by travel associated with new development. In order to provide a connection to the demand component, which is measured in terms of travel, the non-impact fee dollars were converted to a fuel tax equivalency.

City Credit

As shown in Table V-7, the City of Hallandale Beach allocates the equivalent of 0.2 pennies on roadway capacity-expansion projects funded with non-impact fee revenues. Additional detail is provided in Appendix E, Table E-5.

County Credit

As shown in Table V-7, Broward County dedicates the equivalent of 2.1 pennies on roadway capacity-expansion projects funded primarily with fuel tax revenues. This amount is based on the improvements included in the County's 5-year Capital Improvements Program. Additional detail is provided in Appendix E, Table E-6.

In addition, in November 2018, Broward County adopted a one-percent charter county surtax as part of the "Penny for Transportation" campaign. This local option surtax will be available for a wide variety of transportation-related improvements, including bike lanes, sidewalks, intersection improvements, road capacity expansion, and other capacity and maintenance projects. The Broward County website provides a map of potential improvements along with preliminary cost estimates. For purposes of this impact fee calculation, the capacity-expansion projects located within Hallandale Beach were identified and included in the credit component. Capacity projects related to light rail are excluded since multi-modal impact fee calculations do not include rail in any of the fee components. Based on these improvements, it was estimated that the surtax will generate 0.3 equivalent pennies, annually, for capacity expansion. This estimate can be refined as more detailed project information becomes available. Additional detail is provided in Appendix E.

State Credit

Similarly, State expenditures in Broward County were reviewed and a credit for the capacity-expansion portion attributable to state projects was estimated (excluding expenditures on limited access facilities). The review, which included 11 years of historical expenditures, as well as six (6) years of planned expenditures, indicated that FDOT's funding allocation generates a credit of 10.6 pennies of equivalent gas tax revenue, annually. The use of a 17-year period for developing the State credit results in a reasonably stable credit for Broward County, accounting for the volatility in FDOT spending in the county over short time periods. Additional detail is provided in Appendix E, Table E-7.

In summary, for multi-modal transportation, the City of Hallandale Beach contributes approximately 0.2 pennies and Broward County contributes 2.4 pennies, while the State allocates an average of 10.6 pennies, annually. A total credit of 13.2 pennies was included in the multi-

modal transportation impact fee calculation to recognize the future capital revenues that are expected to be generated by new development from all non-impact fee revenues. This credit reflects the most recent available data for transportation expenditures from City, County, and State sources.

Table V-7
Equivalent Pennies of Gas Tax Revenue

Credit	Average Annual Expenditures	Value per Penny ⁽⁴⁾	Equivalent Pennies per Gallon ⁽⁵⁾
City Revenues ⁽¹⁾	\$1,381,213	\$8,294,643	\$0.002
County Revenues ⁽²⁾	\$20,676,205	\$8,294,643	\$0.024
State Revenues ⁽³⁾	\$87,832,719	\$8,294,643	\$0.106
Total	\$109,890,137		\$0.132

1) Source: Appendix E, Table E-2

2) Source: Appendix E, Table E-3

3) Source: Appendix E, Table E-4

4) Source: Appendix E, Table E-1

5) Average annual expenditures divided by the value per penny (Item 5), divided by 100

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 impact fee calculation based on recent GO bond rates observed within the City.

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 E, Table E-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 2016*. Based on the calculation completed in Appendix E, Table E-9, the fuel efficiency rate to be used in the updated impact fee equation is 18.74 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 non-impact fee contributions are adequately credited against the fee.

Calculated Multi-Modal Transportation Impact Fee

Detailed impact fee calculations for each land use are included in Appendix F, 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 F illustrates the following:

- Demand component variables (trip rate, trip length, and percent of new trips);
- Total impact fee cost;
- Annual capital improvement credit;
- Present value of the capital improvement credit; and
- Net multi-modal transportation impact fee.

It should be noted that the net impact fee illustrated in Appendix F is not necessarily a recommended fee, but instead represents the technically calculated impact fee per unit of land use that could be charged in the City of Hallandale Beach.

For clarification purposes, it may be useful to walk through the calculation of an impact fee for one of the land use categories. 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 schedules included in Appendix F. For each land use category, the following equations are utilized to calculate the net impact fee:

$$\text{Net Impact Fee} = \text{Total Impact Cost} - \text{Capital Improvement Credit}$$

Where:

Total Multi-Modal Transportation Cost = $\left(\left[\text{Trip Rate} \times \text{Assessable Trip Length} \times \% \text{ New Trips} \right] / 2 \right) \times (1 - \text{Interstate/Toll Facility Adjustment Factor}) \times (\text{Person-Trip Factor}) \times (\text{Cost per Person-Mile of Capacity})$

Capital Improvement Credit = Present Value (Annual Capital Improvement Credit), given 3.0% interest rate & a 25-year facility life

Annual Capital Improvement Credit = $\left(\left[\text{Trip Rate} \times \text{Total Trip Length} \times \% \text{ New Trips} \right] / 2 \right) \times (\text{Effective Days per Year} \times \$/\text{Gallon to Capital}) / \text{Fuel Efficiency}$

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 (2,000 sq. ft.):

- *Trip Rate* = the average daily trip generation rate, in vehicle-trips/day (7.81)
- *Assessable Trip Length* = the average trip length on collector roads or above, for the category, in vehicle-miles (6.62) (excluding local neighborhood roads).
- *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 Adjustment Factor* = discount factor to account for travel demand occurring on interstate highways and/or toll facilities (38.4%)
- *Person-Trip Factor* = converts vehicle-miles of travel to person-miles of travel (1.40)
- *Cost per Person-Mile of Capacity* = unit of person-miles of capacity consumed per unit of development (\$193.07)
- *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 3.00% 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 equivalent gas tax revenue per gallon of fuel that is used for capital improvements, in \$/gallon (\$0.132)
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (18.74)

Multi-Modal Transportation Impact Fee Calculation

Using these inputs, a net impact fee can be calculated for the single-family residential detached (2,000 sf) land use category as follows:

Multi-Modal Transportation Impact Fee:

$$\text{Total Impact Cost} = ([7.81 * 6.62 * 1.0] / 2) * (1 - 0.384) * 1.40 * (\$193.07) = \mathbf{\$4,304}$$

$$\text{Annual Cap. Improv. Credit} = ([7.81 * 7.12 * 1.0] / 2) * 365 * (\$0.132 / 18.74) = \$71$$

$$\text{Capital Improvement Credit} = \$71 * 17.4131 = \$1,236$$

$$\text{Net Impact Fee} = \$4,304 - \$1,236 = \mathbf{\$3,068}$$

$$\text{City Collector Roads ONLY} = \$3,068 * 30.8\% = \mathbf{\$945}$$

Multi-Modal Transportation Impact Fee Comparison

As part of the work effort in developing the City of Hallandale Beach's multi-modal transportation impact fee program, a comparison of calculated fees to mobility/multi-modal/roadway impact fee scheduled adopted in other jurisdictions was completed, as shown in Table V-8.

Note that differences in fee levels for a given land use can be caused by several factors, including the year of the technical study, adoption percentage, study methodology including variation in costs, credits, and travel demand, land use categories included in the fee schedule, etc.

Table V-8
Multi-Modal Transportation Impact Fee Comparison

Land Use	Unit ⁽²⁾	City of Hallandale Beach		Broward County ⁽⁵⁾	Collier County ⁽⁶⁾	Glades County ⁽⁷⁾	Hillsborough County ⁽⁸⁾	Martin County ⁽⁹⁾	Miami-Dade County ⁽¹⁰⁾	Orange County ⁽¹¹⁾	Palm Beach County ⁽¹²⁾	St. Lucie County ⁽¹³⁾	City of Riviera Beach ⁽¹⁴⁾	Village of Royal Palm Beach ⁽¹⁵⁾	City of Palm Beach Gardens ⁽¹⁶⁾	Village of Wellington ⁽¹⁷⁾
		Full Calculated ⁽³⁾	City Collector Only ⁽⁴⁾													
Date of Last Update		2018	2018	n/a	2015	2008	2016	2012	2006	2012	2012	2009	2005	n/a	2016	2004
Adoption Percentage ⁽¹⁾		100%	100%	n/a	100%	100%	50%	n/a	100%	56%	n/a	100%	100%	n/a	100%	n/a
Residential:																
Single Family (2,000 sf)	du	\$3,068	\$945	\$407	\$7,444	\$5,716	\$3,184	\$2,815	\$9,164	\$3,761	\$7,281	\$4,988	\$1,494	\$1,079	\$1,779	\$1,330
Multi-Family (1-2 floors)	du	\$2,185	\$673	\$407	\$5,542	\$4,026	\$2,059	\$2,815	\$6,435	\$2,435	\$4,842	\$3,637	\$1,139	\$672	\$1,107	\$916
Non-Residential:																
Light Industrial	1,000 sf	\$1,381	\$425	\$455	\$5,700	\$3,644	\$2,025	\$1,857	\$3,700	\$2,088	\$1,522	\$849	\$374	\$246	\$1,135	\$441
Office (50,000 sq ft)	1,000 sf	\$2,710	\$835	\$419	\$10,249	\$4,831	\$4,496	\$2,198	\$14,931	\$5,374	\$3,418	\$2,861	\$841	\$550	\$2,531	\$1,055
Retail (125,000 sq ft)	1,000 sf	\$4,253	\$1,310	\$387	\$14,354	\$8,636	\$5,057	\$5,183	\$19,434	\$5,246	\$9,831	\$5,526	\$4,894	\$1,447	\$2,941	\$1,999
Bank w/Drive-Thru	1,000 sf	\$6,537	\$2,013	\$387	\$28,961	\$10,428	\$10,653	\$6,841	\$24,221	\$11,050	\$19,056	\$5,340	\$8,201	\$5,322	\$6,180	\$6,303
Fast Food w/Drive-Thru	1,000 sf	\$31,796	\$9,793	\$387	\$96,567	\$11,877	\$35,413	\$15,693	\$48,750	\$36,809	\$30,702	\$5,340	\$7,808	\$4,117	\$20,811	\$9,286

1) Represents the portion of the maximum calculated fee for each respective county that is actually charged. Fees may have been lowered/raised through indexing or policy discounts. Does not account for moratoriums/suspensions

2) Du = dwelling unit

3) Source: Appendix F, Table F-1

4) Source: Appendix F, Table F-2

5) Source: Broward County Planning & Development Management Division. Average of 46 zones. Hallandale Beach is located within the impact fee exemption area. In practice, Broward charges a concurrency fee and not these impact fees.

6) Source: Collier County Growth Management Division, Planning and Regulation. Road impact fees shown were adopted at 100 percent in 2015 and have since been indexed.

7) Source: Glades County Planning and Zoning Department. Road impact fees shown are currently suspended through February 14, 2019 and include the County's 3% administrative fee.

8) Source: Hillsborough County Public Works Department. Mobility fees shown are for the Urban Assessment District and are being phased in over a five-year period. The current fees shown are 50 percent (effective January 1, 2018) of the maximum rates calculated in the 2016 Mobility Fee Study.

9) Source: Martin County Growth Management Department

10) Source: Miami-Dade County Development Services Division. Fees shown are the non-urban infill rates. The County conducted an "in-house" review to calculate the base year (2006) rates. Since 2009, the County has utilized a "Present Day Cost Multiplier" to calculate the yearly rate change to account for inflation.

11) Source: Orange County Planning and Development Department. Fees shown are the alternative mobility area (AMA) multi-modal rates. Fees were adopted at 42 percent in 2012 and phased to 56 percent in 2014.

12) Source: Palm Beach County Department of Planning, Zoning, and Building

13) Source: St. Lucie County Planning and Development service Department. Fees shown are for mainland development and reflect indexing that has been applied annually since 2010 implementation.

14) Source: City of Riviera Beach Planning Zoning and Building Division

15) Source: Village of Royal Palm Beach Building Department

16) Source: City of Palm Beach Gardens Unified Services Division

17) Source: Village of Wellington; Municode, Light Industrial land use is charged "per service position."

APPENDIX A

Population

Appendix A: Population

With the exception of the transportation impact fee, 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 City, but also the seasonal residents and visitors were considered. Seasonal residents include visitors to hotel and motel facilities, RV parks, visitors that stay with relatives and friends, and part-time residents, which are defined as living in the City of Hallandale Beach 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 seasonal population will be used in all population estimates and projections. References to population contained in this report pertain to the weighted seasonal population, unless otherwise noted.

Table A-1 presents the population trend for Hallandale Beach. The projections indicate that the current weighted seasonal population of the City is approximately 44,000 and is estimated to increase to 51,000 by 2045. Based on these estimates, the City's population average annual growth rate amounts to 0.5 percent.

Table A-1
Weighted Seasonal Population Trends and Projections

Year	Hallandale Beach
2000	38,023
2001	38,111
2002	38,206
2003	38,782
2004	39,060
2005	39,641
2006	39,630
2007	41,785
2008	41,952
2009	41,320
2010	41,674
2011	41,808
2012	42,373
2013	43,114
2014	42,980
2015	43,150
2016	43,372
2017	43,512
2018	43,925
2019	44,342
2020	44,769
2021	44,966
2022	45,164
2023	45,362
2024	45,562
2025	45,771
2026	46,184
2027	46,598
2028	47,018
2029	47,441
2030	47,872
2031	48,112
2032	48,352
2033	48,593
2034	48,836
2035	49,085
2036	49,247
2037	49,410
2038	49,572
2039	49,736
2040	49,895
2041	50,055
2042	50,214
2043	50,375
2044	50,537
2045	50,687

Source: Appendix A, Table A-10

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 (duplex/apartment/condominium/townhouse); and
- Mobile Homes.

Table A-2 presents the number of persons per housing type for the residential categories identified above in Hallandale Beach. This analysis includes all housing units, both occupied and vacant.

Based on direction from the City, the multi-family land use is tiered based on the number of dwelling units developed: duplexes, three to nine units and 10 units or more. To accommodate the tiering of impact fee assessments for the multi-family residential land use category, an analysis was completed based on the number of persons per housing unit. This analysis utilized U.S. Census data from the 2000 Census and data from the 2016 American Community Survey (ACS), 5-Yr Estimates to examine this relationship.

Table A-2
Persons per Housing Unit by Housing Type (Hallandale Beach, 2016)

Housing Type	Population ⁽¹⁾	Housing Units ⁽²⁾	Ratio ⁽³⁾	Residents / Housing Units ⁽⁴⁾
Single Family (detached)	12,593	4,170		3.02
Multi-Family/Mobile Home	31,022	24,692		1.26
- Duplex			177%	2.23
- Multi-Family (3 to 9 units)/Townhouse/Mobile Home			137%	1.73
- Multi-Family (10 or more units)			86%	1.08
Congregate Care Facility ⁽⁵⁾	32,654	28,146		1.16

1) Source: 2016 ACS, Table B25033 (adjusted for seasonal population)

2) Source: 2016 ACS, Table DP04

3) Ratios developed based on data derived from the 2000 U.S. Census

4) Population (Item 1) divided by housing units (Item 2). For the multi-family/mobile home land uses, residents per housing unit of 1.26 multiplied by the ratios developed in Item 3.

5) Estimate for congregate care facility 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 2017 National Household Travel Survey, prepared by the US Department of Transportation.

Notes: Excludes boats, RVs, vans, etc.

Functional Population

Functional population, in addition to permanent and seasonal residents, also accounts for employees, and is a generally accepted methodology for several impact fee areas. It 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 city 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 needed 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)³. 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.

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 City of Hallandale Beach's functional population, an

³ Arthur C. Nelson and James C. Nicholas, "Estimating Functional Population for Facility Planning," *Journal of Urban Planning and Development* 118(2): 45-58 (1992)

analysis of the City's population and employment characteristics was conducted. Tables A-3 and A-4 present this analysis for Hallandale Beach. Based on this analysis, people in the city, on average, spend 16.6 hours each day at their place of residence. This corresponds to approximately 69 percent of each 24-hour day at their place of residence and the other 31 percent away from home.

Table A-3
Population & Employment Characteristics

Item/Calculation Step	Figure
Total Workers Living in Hallandale Beach ⁽¹⁾	15,150
Total Census Population (2010) ⁽²⁾	37,113
Total Workers as a Percent of Population ⁽³⁾	40.8%
School Age Population (5-17 years) (2010) ⁽⁴⁾	3,803
School Age Population as a Percent of Population ⁽⁵⁾	10.2%
Population Net of Workers and School Age Population ⁽⁶⁾	18,160
Other Population as a Percent of Total Population ⁽⁷⁾	49.0%

1) Source: Census Transportation Planning Package (CTPP), 2010

2) Source: 2010 U.S Census, Table P-1

3) Total workers (Item 1) divided by population (Item 2)

4) Source: 2010 U.S Census, Table QT-P1

5) Total school age population (Item 4) divided by 2010 population (Item 2)

6) Total 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 2010 population (Item 2)

Table A-4
Residential Coefficient for 24-Hour Functional Population

Pop. Group	Hours at Residence ⁽¹⁾	Percent of Population ⁽²⁾	Effective Hours ⁽³⁾
Workers	13	40.8%	5.3
Students	15	10.2%	1.5
Other	20	49.0%	9.8
Total Hours at Residence ⁽⁴⁾			16.6
Residential Functional Population Coefficient⁽⁵⁾			69.2%

1) Estimated

2) Source: Table A-3

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 percentage from Table A-4 is used in the calculation of the residential coefficient for the 24-hour functional population. These actual calculations are presented in Table A-5.

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, which is now widely used in the industry. 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-5 shows the functional population coefficients for residential and non-residential uses in the City of Hallandale Beach. The functional population coefficients in Table A-5 were used to estimate the City's 2018 functional population in Table A-6.

Table A-5
General Functional Population Coefficients

Population/ Employment Category	ITE LUC	Employee Hours In- Place ⁽¹⁾	Trips per Employee ⁽²⁾	One-Way Trips per Employee ⁽³⁾	Journey-to- Work Occupants per Trip ⁽⁴⁾	Daily Occupants per Trip ⁽⁵⁾	Visitors per Employee ⁽⁶⁾	Visitor Hours per Trip ⁽¹⁾	Days per Week ⁽⁷⁾	Functional Population Coefficient ⁽⁸⁾
Population									7.00	0.692
Natural Resources	N/A	9.00	3.05	1.53	1.32	1.38	0.09	1.00	7.00	0.379
Construction	110	9.00	3.05	1.53	1.32	1.38	0.09	1.00	5.00	0.271
Manufacturing	140	9.00	2.47	1.24	1.32	1.38	0.07	1.00	5.00	0.270
Transportation, Communication, Utilities	110	9.00	3.05	1.53	1.32	1.38	0.09	1.00	5.00	0.271
Wholesale Trade	150	9.00	5.05	2.53	1.32	1.38	0.15	1.00	5.00	0.272
Retail Trade	820	9.00	48.90	24.45	1.24	1.73	11.98	1.50	7.00	1.124
Finance, Insurance, Real Estate	710	9.00	3.28	1.64	1.24	1.73	0.80	1.00	5.00	0.292
Services ⁽⁹⁾	N/A	9.00	28.38	14.19	1.24	1.73	6.95	1.00	6.00	0.570
Government ⁽¹⁰⁾	730	9.00	7.45	3.73	1.24	1.73	1.83	1.00	7.00	0.451

(1) Assumed

(2) Trips per employee represents all trips divided by the number of employees and is based on Trip Generation 10th Edition (Institute of Transportation Engineers 2017) as follows:

ITE Code 110 at 3.05 weekday trips per employee, Volume 2 - Industrial Land Uses, page 11

ITE Code 140 at 2.47 weekday trips per employee, Volume 2 - Industrial Land Uses, page 58

ITE Code 150 at 5.05 weekday trips per employee, Volume 2 - Industrial Land Uses, page 77

ITE Code 710 at 3.28 weekday trips per employee, Volume 2 Office Land Uses, page 12

ITE Code 730 at 7.45 weekday trips per employee, Volume 2 Office Land Uses, page 180

ITE Code 820 based on blended average of trips by retail center size calculated below, adapted from Volume 2 - Retail Land Uses, page 138.

Trips per retail employee from the following table:

<i>Retail Scale</i>	<i>Assumed Center Size</i>	<i>Trip Rate</i>	<i>Sq Ft per Employee⁽¹¹⁾</i>	<i>Trips per Employee</i>	<i>Share</i>	<i>Weighted Trips</i>
Neighborhood <50k sq.ft.	50	75.05	802	60	45.0%	27.00
Community 50k-250k sq.ft.	250	44.84	975	44	35.0%	15.40
Regional 250k-500k sq.ft.	500	35.92	1,043	37	15.0%	5.55
Super Reg. 500k-1000k sq.ft.	1,000	28.78	676	19	5.0%	0.95
Sum of Weighted Trips/1k sq.ft.						48.90

(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-7 for residential and the equation below to determine the Functional Population Coefficient per Employee for all land-use categories except residential includes the following:

((Days per Week x Employee Hours in Place) + (Visitors per Employee x Visitor Hours per Trip x Days per Week))

(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, 10th 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-6
Citywide Functional Population (2018)

Population Category	Hallandale Beach Baseline Data ⁽¹⁾	Functional Resident Coefficient ⁽²⁾	Functional Population ⁽³⁾
2018 Weighted Population	43,925	0.692	30,396
Employment Category			
Natural Resources	189	0.379	72
Construction	1,130	0.271	306
Manufacturing	361	0.270	97
Transportation, Communication, and Utilities	815	0.271	221
Wholesale Trade	649	0.272	177
Retail Trade	1,884	1.124	2,118
Finance, Insurance, and Real Estate	2,625	0.292	767
Services	10,907	0.570	6,217
Government Services	898	0.451	405
Total Employment by Category Population ⁽⁴⁾			10,380
2018 Total Functional Population⁽⁵⁾			40,776

1) Source: Table A-1 for population and 2017 Woods & Poole for employment data

2) Source: Table A-5

3) Functional population is calculated by multiplying the Hallandale Beach baseline data (Item 1) 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-7 presents the City's annual functional population figures from 2000 through 2045, based on the 2018 functional population figure from Table A-6 and the annual population growth rates from the population figures previously presented in Table A-1.

Table A-7
Functional Population (2000-2045)

Year	Hallandale Beach
2000	35,348
2001	35,419
2002	35,490
2003	36,022
2004	36,274
2005	36,818
2006	36,818
2007	38,806
2008	38,961
2009	38,377
2010	38,722
2011	38,838
2012	39,382
2013	40,051
2014	39,931
2015	40,091
2016	40,291
2017	40,412
2018	40,776
2019	41,143
2020	41,554
2021	41,720
2022	41,887
2023	42,055
2024	42,223
2025	42,434
2026	42,816
2027	43,201
2028	43,590
2029	43,982
2030	44,378
2031	44,600
2032	44,823
2033	45,047
2034	45,272
2035	45,498
2036	45,634
2037	45,771
2038	45,908
2039	46,046
2040	46,184
2041	46,323
2042	46,462
2043	46,601
2044	46,741
2045	46,881

Source: Table A-6 for 2018. Other years are based on growth rates of the weighted seasonal population; Table A-1

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 Table A-8. The average number of persons per housing unit in Hallandale Beach was calculated for the single family, multi-family, and mobile home land uses, based on information obtained from the 2016 ACS and the 2000 U.S. Census. Besides the residential land uses, Table A-8 also includes transient land uses, such as hotels, motels, congregate care facilities (CCF), and nursing homes. Secondary sources, such as the Visit Greater Fort Lauderdale Convention & Visitors Bureau and the Florida Department of Elderly Affairs, are used to determine the occupancy rate for hotels, motels, CCF, and nursing home land uses.

Non-Residential Land Uses

A similar approach is used to estimate functional residents for non-residential land uses. Table A-9 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 select 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-8
Functional Residents for Residential and Transient Land Uses

Residential Land Use	Impact Unit	ITE LUC ⁽¹⁾	Residents/Visitors Per Unit ⁽²⁾	Occupancy Rate ⁽³⁾	Adjusted Residents Per Unit ⁽⁴⁾	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	3.02	-	-	-	-	-	-	2.09
Multi-Family/Mobile Home:										
- Duplex	du	220/221 222/240	2.23	-	-	-	-	-	-	1.54
- Multi-Family (3 to 9 units)/Townhouse/Mobile Home	du		1.73	-	-	-	-	-	-	1.20
- Multi-Family (10 or more units)	du		1.08	-	-	-	-	-	-	0.75
Transient, Assisted, Group:										
Hotel/Motel	room	320	1.87	78%	1.46	12	0.13	9	7	0.78
Congregate Care Facility	du	253	1.16	84%	0.97	16	0.51	9	7	0.84
Assisted Living	bed	254	1.00	84%	0.84	20	0.61	9	7	0.93
Nursing Home	bed	620	1.00	84%	0.84	20	1.05	9	7	1.09
<p>(1) Land use code from the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 10th Edition</p> <p>(2) Estimates for the single family, multi-family, mobile home, and congregate care facility land use from Table A-2; estimates for the hotel/motel land use is based on data obtained from Greater Fort Lauderdale Convention & Visitors Bureau; and the estimate used for assisted living and nursing home is based on 1 person per bed.</p> <p>(3) Source for hotel/motel occupancy: Greater Fort Lauderdale Convention & Visitors Bureau. Average hotel/motel occupancy rate for 2014 through 2016. Source for assisted living and nursing home occupancy rate is the Florida Department of Elderly Affairs, Broward County Profile. Average occupancy rate for 2015 and 2016 projection.</p> <p>(4) Residents per unit times occupancy rate (Item 3)</p> <p>(5), (7), (8) Estimated</p> <p>(6) Adapted from ITE Trip Generation Handbook, 10th Edition</p> <p>(9) For residential this is Residents Per Unit times 0.692. For Transient, Assisted, and Group it is:</p> <p><u>[(Adjusted Residents per Unit X Hours at Place X Days per Week) + (Workers Per Unit X Work Hours Per Day X Days per Week)]</u></p> <p>(24 Hours per Day X 7 Days per Week)</p>										

Table A-9
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⁾
RECREATIONAL:												
416	Campground/RV Park ⁽¹²⁾	site	1.62	n/a	1.20	0.81	9	2.30	0.66	1.50	7	0.49
420	Marina	boat berth	2.41	20.52	0.12	1.21	9	2.30	2.66	1.00	7	0.16
430	Golf Course	hole	30.38	20.52	1.48	15.19	9	2.30	33.46	0.25	7	0.90
444	Movie Theater	screen	114.83	53.12	2.16	57.42	9	2.30	129.91	1.00	7	6.22
492	Health/Fitness Club	1,000 sf	34.50	27.25	1.27	17.25	9	2.30	38.41	1.50	7	2.88
INSTITUTIONS:												
520	Elementary School (Private)	student	1.89	21.00	0.09	0.95	9	1.11	0.96	2.00	5	0.08
522	Middle/Junior High School (Private)	student	2.13	25.15	0.08	1.07	9	1.11	1.11	2.00	5	0.09
530	High School (Private)	student	2.03	22.25	0.09	1.02	9	1.11	1.04	2.00	5	0.09
540	University/Junior College (7,500 or fewer students) (Private)	student	2.00	11.75	0.17	1.00	9	1.11	0.94	2.00	5	0.10
550	University/Junior College (more than 7,500 students) (Private)	student	1.50	11.75	0.13	0.75	9	1.11	0.70	2.00	5	0.08
560	Church	1,000 sf	6.95	20.04	0.35	3.48	9	1.80	5.91	1.00	7	0.38
565	Day Care Center	1,000 sf	49.63	21.38	2.32	24.82	9	1.80	42.36	0.15	5	0.81
610	Hospital	1,000 sf	10.72	3.79	2.83	5.36	9	1.54	5.42	1.00	7	1.29
630	Clinic	1,000 sf	37.46	9.25	4.05	18.73	9	1.54	24.79	1.00	5	1.82
OFFICE & FINANCIAL:												
710	Office Building	1,000 sf	9.74	3.28	2.97	4.87	9	1.13	2.53	1.00	5	0.87
RETAIL:												
820	Shopping Center/Retail	1,000 sf gla	37.75	16.11	2.34	18.88	9	1.74	30.51	0.50	7	1.51
840/841	New/Used Auto Sales	1,000 sf	24.58	11.84	2.08	12.29	9	1.74	19.30	1.00	7	1.58
862	Home Improvement Superstore	1,000 sf	30.74	n/a	2.50	15.37	9	1.74	24.24	1.00	7	1.95
880/881	Pharmacy with & without Drive-Through Window	1,000 sf	104.37	69.17	1.51	52.19	9	1.74	89.30	0.35	7	1.87
890	Furniture Store	1,000 sf	6.30	10.93	0.58	3.15	9	1.74	4.90	0.50	7	0.32
912	Drive-In Bank	1,000 sf	102.66	31.79	3.23	51.33	9	1.74	86.08	0.15	6	1.50
931	Restaurant, non-Fast Food	1,000 sf	86.03	17.90	4.81	43.02	9	2.08	84.67	1.00	7	5.33
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	45.49	10.61	241.27	9	2.08	491.23	0.25	7	9.10
942	Automobile Care Center	1,000 sf	28.19	14.30	1.97	14.10	9	1.74	22.56	1.00	7	1.68
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	275.78	0.62	86.01	9	1.74	149.04	0.20	7	1.47
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	243.86	0.84	102.68	9	1.74	177.82	0.20	7	1.80
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	230.91	1.00	115.26	9	1.74	199.55	0.20	7	2.04
947	Self-Service Car Wash	service bay	43.94	n/a	0.50	21.97	9	1.74	37.73	0.50	7	0.97

Table A-9 (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⁾
INDUSTRIAL:												
110	Light Industrial	1,000 sf	4.96	3.05	1.63	2.48	9	1.26	1.49	1.00	5	0.48
140	Manufacturing	1,000 sf	3.93	2.47	1.59	1.97	9	1.26	0.89	1.00	5	0.45
151	Mini-Warehouse/Warehouse	1,000 sf	1.49	61.90	0.02	0.75	9	1.26	0.93	0.75	7	0.04

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

Table A-10
Weighted Seasonal Population Projections

Year	Permanent Population ⁽¹⁾	Seasonal Population ⁽²⁾	Total Weighted Season Pop. ⁽³⁾
2000	34,282	3,741	38,023
2001	34,361	3,750	38,111
2002	34,447	3,759	38,206
2003	34,966	3,816	38,782
2004	35,216	3,844	39,060
2005	35,740	3,901	39,641
2006	35,731	3,899	39,630
2007	37,673	4,112	41,785
2008	37,824	4,128	41,952
2009	37,254	4,066	41,320
2010	37,113	4,561	41,674
2011	37,229	4,579	41,808
2012	37,732	4,641	42,373
2013	38,391	4,723	43,114
2014	38,273	4,707	42,980
2015	38,424	4,726	43,150
2016	38,621	4,751	43,372
2017	38,746	4,766	43,512
2018	39,114	4,811	43,925
2019	39,486	4,856	44,342
2020	39,866	4,903	44,769
2021	40,041	4,925	44,966
2022	40,217	4,947	45,164
2023	40,394	4,968	45,362
2024	40,572	4,990	45,562
2025	40,758	5,013	45,771
2026	41,125	5,059	46,184
2027	41,495	5,103	46,598
2028	41,868	5,150	47,018
2029	42,245	5,196	47,441
2030	42,629	5,243	47,872
2031	42,842	5,270	48,112
2032	43,056	5,296	48,352
2033	43,271	5,322	48,593
2034	43,487	5,349	48,836
2035	43,709	5,376	49,085
2036	43,853	5,394	49,247
2037	43,998	5,412	49,410
2038	44,143	5,429	49,572
2039	44,289	5,447	49,736
2040	44,430	5,465	49,895
2041	44,572	5,483	50,055
2042	44,715	5,499	50,214
2043	44,858	5,517	50,375
2044	45,002	5,535	50,537
2045	45,135	5,552	50,687

- 1) Source: 2000 through 2017 is the U.S. Census and the Bureau of Economic and Business Research (BEBR). Population projections for 2018 through 2045 are based on the Broward County 2017 Municipal Population Forecast Model (PFAM).
- 2) Source: 2000 and 2010 U.S. Census and the Greater Fort Lauderdale Convention & Visitors Bureau
- 3) Sum of permanent population (Item 1) and seasonal population (Item 2)

Appendix B
Building and Land Value
Supplemental Information for
Fire Rescue, Law Enforcement, and Parks and
Recreation

Appendix B: Building and Land Value Supplemental Information

This Appendix provides a summary of building and land value estimates for fire rescue, law enforcement, and parks and recreation impact fees. Information related to cost estimates for transportation is included in Appendix D.

Building Values

For the fire rescue and law enforcement program areas, the following information was reviewed to estimate building values:

- Recent construction by the City of Hallandale Beach (fire rescue Station 7);
- Insurance values of existing facilities; and
- Data from other jurisdictions for recently completed facilities.

The following paragraphs provide a summary for the fire rescue and law enforcement program areas.

Fire Rescue

The City of Hallandale Beach recently finished construction of a new fire station is that is replacing Station 7 with a larger facility. This expansion is estimated to cost approximately \$340 per square foot.

The insurance value of Fire Station 60 (built in 2006) is almost \$300 per square foot, including contents, but excluding site preparation and landscaping cost, permits, fees and other similar expenses. It should be noted that insurance values are considered to be a conservative estimate because insurance companies exclude the value of the foundation and other more permanent parts of the structure since they would not have to be rebuilt if the structure was damaged or lost.

Tindale Oliver supplemented the local data with cost estimates utilized in recently completed fire rescue impact fee studies. This analysis reviewed cost data from studies conducted between 2015 and 2017, which ranged from \$300 to \$350 per square foot for fire station construction.

Given this information, an average building value of \$325 per square foot is used for the current station value. This figure is representative of the local design characteristics and cost.

Table B-1 provides a summary of information considered in determining this figure for station cost.

**Table B-1
Fire Rescue Building Cost**

Source	Value per Square Foot
Recent Cost to Construct Station 7 ⁽¹⁾	\$340
Insurance Values⁽¹⁾:	
- All Stations ⁽²⁾	\$242
- Station 60	\$302
Other Florida Jurisdictions (2015 - 2017)	\$300-\$350
Value Used in Study	\$325

1) Source: City of Hallandale Beach

2) Included the old Station 7

Law Enforcement

The City of Hallandale Beach has one police station which is located within the City Hall. The current insurance value of the entire facility is \$195 per square foot. In addition to the insurance values, cost estimates utilized in recently (2014 – 2017) completed law enforcement impact fee studies were reviewed. This review suggested a range of \$155 per square foot to \$325 per square foot for law enforcement building construction. Given this information, a unit value of \$200 per square foot is used for the police stations.

Land Values

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

- Recent land purchases or appraisals for the related infrastructure (if any);
- Land value of current inventory as reported by the Broward County Property Appraiser (BCPA);
- Value of vacant land by size and by land use; and
- Vacant land sales between 2014 and 2017 by size and by land use.

Fire Rescue and Law Enforcement

The following information is considered in estimating land values for both fire rescue and law enforcement facilities:

- The 2014 land purchase for Fire Station 7 was completed for \$91,000 per acre. The current land value of this parcel, as reported by the BCPA, is \$350,000 per acre.
- As reported by the BCPA, the average value of parcels where the current stations are located is \$315,000 per acre with a range of \$250,000 per acre to \$480,000 per acre.
- The current land value associated with City Hall, where the City's police station is located is \$262,000 per acre.
- Vacant land sales of similarly sized parcels between 2014 and 2017 averaged over \$500,000 per acre for all vacant land use types. The values ranged from a low of \$91,000 per acre for vacant governmental land to \$900,000 per acre for commercial land.
- Similarly, the value of vacant land reported by the Property Appraiser averaged approximately \$360,000 per acre. Additionally, the values ranged from \$231,000 per acre for vacant residential land to \$534,000 per acre for vacant commercial land.

Given this information, an average value of \$500,000 per acre is determined to be a reasonable estimate, taking into consideration that fire and police stations tend to be located on a combination of residential and commercial parcels. This analysis is presented in Table B-2.

Table B-2
Fire Rescue and Law Enforcement Land Cost

Source				Vacant Land Value/Sale Price per Acre			
				W. Avg.	Range		
Current Land Values ⁽¹⁾							
- Fire Rescue				\$314,950	\$249,000 - \$481,500		
- Law Enforcement				\$261,500	N/A	N/A	
Recent Land Purchases ⁽²⁾							
Land for Fire Station 7; Year 2014				\$90,580	N/A	N/A	
- Current Land Value of Parcel (Based on BCPA Land Values)				\$348,940	N/A	N/A	
Source	Vacant Land Value/Sale Price per Acre						
	Residential		Commercial		Government		
	W. Avg	Median	W. Avg	Median	W. Avg	Median	
Recent Land Sales (2014-2017) ⁽¹⁾							
0.5 to 2 acres		\$453,780	\$504,590	\$902,240	\$898,510	\$90,580	\$90,580
2.01 to 4 acres		N/A	N/A	N/A	N/A	N/A	N/A
Counts							
0.5 to 2 acres		3		2		1	
2.01 to 4 acres		<u>0</u>		<u>0</u>		<u>0</u>	
All		3		2		1	
Vacant Land Values ⁽¹⁾							
0.5 to 2 acres		\$231,300	\$217,710	\$533,900	\$497,590	\$330,610	\$348,790
2.01 to 4 acres		N/A	N/A	\$261,350	\$261,350	\$158,320	\$145,260
All		\$231,300	\$217,710	\$396,480	\$436,840	\$213,280	\$261,550
Counts							
0.5 to 2 acres		4		4		5	
2.01 to 4 acres		<u>0</u>		<u>1</u>		<u>4</u>	
All		4		5		9	
Value Used in Study							\$500,000

1) Source: Broward County Property Appraiser (BCPA)

2) Source: City of Hallandale Beach and BCPA

Parks

The following information is considered in estimating land values for parks facilities:

- The most recent park land purchases occurred in 2011 and 2012, as reported by the BCPA, and were for land associated with Sunset Park. These two purchases included small parcels and the cost ranged from \$615,000 per acre to \$1.5 million per acre.
- As reported by the BCPA, the average value of parcels where the current parks are located is \$460,000 per acre with a range of \$130,000 per acre to \$3 million per acre.
 - Community park average land value per acre amounted to \$180,000.
 - Neighborhood parks average land value per acre amounted to \$334,000 and ranged from \$192,000 per acre to \$995,000 per acre.

- Specialty parks average land value per acre amounted to \$768,000 and ranged from \$130,000 per acre to \$3 million per acre.
- Vacant residential parcel sales between 2014 and 2017 were limited to 3 properties, with an average of \$455,000 per acre and a median value of \$505,000 per acre. Because parks are unlikely to be located on commercial properties, commercial land sales and values are not included in this analysis. In terms of government properties, there was only one sale for \$91,000 per acre.
- The value of vacant land reported by the Property Appraiser for residential and government parcels with similar size to the park inventory averaged approximately \$215,000 per acre to \$225,000 per acre.

Given this information, similar to fire rescue and law enforcement, an average value of \$500,000 per acre is determined to be a reasonable, if not conservative estimate for impact fee calculation purposes. Table B-3 presents this analysis.

**Table B-3
Parks and Recreation Land Cost**

Source		Vacant Land Value/Sale Price per Acre			
		W. Avg	Range		
Recent Land Purchases ⁽¹⁾					
Sunrise Park; Year: 2011 - 0.15 acres		\$615,380	N/A	N/A	
Sunrise Park; Year: 2012 - 1.95 acres		\$1,466,670	N/A	N/A	
Current Values of Existing Park Land ⁽²⁾					
- Community		\$181,000	N/A		
- Neighborhood		\$333,990	\$191,710 - \$994,570		
- Special		\$767,880	\$128,880 - \$3,048,370		
All		\$458,900	\$128,880 - \$3,048,370		
Source	Vacant Land Value/Sale Price per Acre				
	Residential		Government		
	W. Avg	Median	W. Avg	Median	
Recent Land Sales (2014-2017) ⁽²⁾					
0.5 to 5 acres		\$453,780	\$504,590	\$90,580	\$90,580
5.01 to 10 acres		N/A	N/A	N/A	N/A
10.01 to 15 acres		N/A	N/A	N/A	N/A
15.01 to 40 acres		N/A	N/A	N/A	N/A
All		\$453,780	\$504,590	\$90,580	\$90,580
Counts					
0.5 to 5 acres		3		1	
5.01 to 10 acres		0		0	
10.01 to 15 acres		0		0	
15.01 to 40 acres		0		0	
All		3		1	
Residential and Government Vacant Land Values ⁽²⁾					
0.5 to 5 acres		\$148,490	\$175,400	\$213,280	\$261,550
5.01 to 10 acres		N/A	N/A	N/A	N/A
10.01 to 15 acres		\$291,990	\$291,990	N/A	N/A
15.01 to 40 acres		N/A	N/A	N/A	N/A
All		\$225,830	\$217,710	\$213,280	\$261,550
Counts					
0.5 to 5 acres		5		9	
5.01 to 10 acres		0		0	
10.01 to 15 acres		1		0	
15.01 to 40 acres		0		0	
All		6		9	
Value Used in Study		\$500,000		-	-

1) Source: City of Hallandale Beach Source: BCPA

2) Source: and Broward County Property Appraiser (BCPA)

Appendix C
Multi-Modal Transportation Impact Fee
Demand Component

Appendix C: MMTIF – Demand Component

This appendix presents the detailed calculations for the demand component of the multi-modal transportation impact fee study.

Interstate & Toll Facility Adjustment Factor

Table C-1 presents the interstate and toll facility adjustment factor used in the calculation of the multi-modal impact fee. This variable is based on data from the Southeast Regional Planning Model v7 (SERPM v7), specifically the 2040 projected vehicle-miles of travel of all city-generated trips on all in-county roadways. It should be noted that the adjustment factor excludes all external-to-external trips, which represent traffic that goes through Hallandale Beach, but does not necessarily stop in the city. This traffic is excluded from the analysis since it does not come from development within the city. The I/T adjustment factor is used to reduce the PMT that the multi-modal fee charges for each land use.

Table C-1
Interstate/Toll Facility Adjustment Factor

Facility Type	Total	
	VMT	%
Interstate/Toll	347,655	38.4%
Other Roads	557,893	61.6%
Total	905,548	100.0%
Interstate/Toll	347,655	38.4%

Source: SERPM v7, 2040

Local Collector Road Adjustment Factor

Table C-2 presents the local collector adjustment factor used in the calculation of the multi-modal impact fee. Tindale Oliver reviewed the City's existing classified roadway network and identified additional roads that could be re-classified as collector roads. This reclassification was based on the segments identified as part of the Relief Grid for Congested Roadways from the City of Hallandale Beach Multimodal Mobility Plan, roadways that connect neighborhoods, and roadways that connect to other major roadways to enable smaller roads to connect. A map of the proposed classified transportation network is included in this appendix. It is important for the City to incorporate the updated roadway network classifications into the Comprehensive Plan

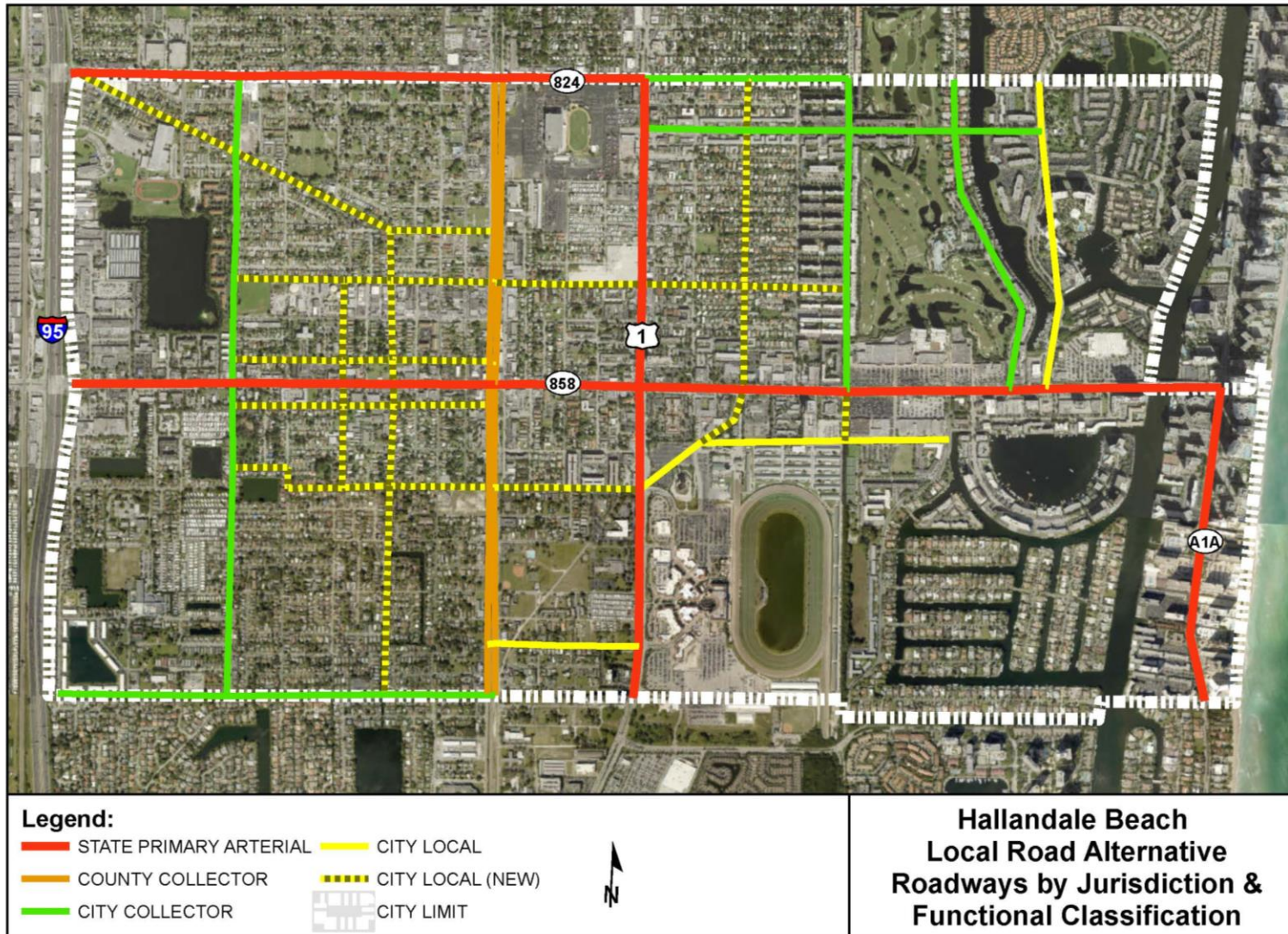
during the next update cycle as multi-modal impact fee revenues can only be used for facilities on the classified transportation network. Based on data from the Southeast Regional Planning Model v7 (SERPM v7) and using this expanded City collector road network, local travel adjustment factor of almost 31% is calculated.

Table C-2
Interstate/Toll Facility Adjustment Factor

Facility Jurisdiction	Total	
	VMT	%
State (Principal Arterial)	306,564	60.7%
County (Collector)	42,756	8.5%
City (Collector)	51,576	10.2%
City (Proposed Collector)	<u>104,044</u>	<u>20.6%</u>
Total	504,940	100.0%
City Total	155,620	30.8%

Source: SERPM v7, 2040

Map C-1
Existing and Proposed City Collector Road Network



Source: Based on the City of Hallandale Beach Multimodal Mobility Plan, Fig. III.A.4, with some segments added

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 25 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 roadway impact fee schedule using data from studies in the Florida Studies Database and the Institute of Transportation Engineers' (ITE) *Trip Generation* reference report (10th edition). In instances, when both ITE *Trip Generation* reference report (10th edition) and Florida Studies trip generation rate (TGR) data are available for a particular land use, the data is typically blended 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.

Land Use 151: Mini-Warehouse

Linda GSC 2017 VMT Warehouse										
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	89.6	2006	-	-	1.23	-	-	-	-	Orange County
Orange Co, FL	84.7	2006	-	-	1.39	-	-	-	-	Orange County
Orange Co, FL	93.0	2006	-	-	1.51	-	-	-	-	Orange County
Orange Co, FL	107.0	2007	-	-	1.45	-	-	-	-	Orange County
Orange Co, FL	77.0	2009	-	-	2.18	-	-	-	-	Tindale Oliver
Orange Co, FL	93.7	2012	-	-	1.15	-	-	-	-	Tindale Oliver
Total Size	545.0		5	Average Trip Length:				n/a		
ITE	780.0		15	Weighted Average Trip Length:				n/a		
Blended total	1,325.0			Weighted Percent New Trip Average:				-		
								Weighted Average Trip Generation Rate:		1.47
								ITE Average Trip Generation Rate:		1.51
								Blend of FL Studies and ITE Average Trip Generation Rate:		1.49

Land Use 210: Single Family - Detached

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

Land Use 220/221/222: Multi-Family (Low-, Mid-, High-Rise)

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	-	30.06	Sarasota County
Sarasota Co, FL	243	Jun-93	36	36	5.84	-	-	-	-	Sarasota County
Marion Co, FL	214	Apr-02	175	175	6.84	-	4.61	-	31.53	Kimley-Horn & Associates
Marion Co, FL	240	Apr-02	174	174	6.96	-	3.43	-	23.87	Kimley-Horn & Associates
Marion Co, FL	288	Apr-02	175	175	5.66	-	5.55	-	31.41	Kimley-Horn & Associates
Marion Co, FL	480	Apr-02	175	175	5.73	-	6.88	-	39.42	Kimley-Horn & Associates
Marion Co, FL	500	Apr-02	170	170	5.46	-	5.94	-	32.43	Kimley-Horn & Associates
Lake Co, FL	250	Dec-06	135	135	6.71	-	5.33	-	35.76	Tindale Oliver
Lake Co, FL	157	Dec-06	265	265	13.97	-	2.62	-	36.60	Tindale Oliver
Lake Co, FL	169	Dec-06	212	-	8.09	-	6.00	-	48.54	Tindale Oliver
Lake Co, FL	226	Dec-06	301	-	6.74	-	2.17	-	14.63	Tindale Oliver
Hernando Co, FL	312	Apr-07	456	-	4.09	-	5.95	-	24.34	Tindale Oliver
Hernando Co, FL	176	Apr-07	332	-	5.38	-	5.24	-	28.19	Tindale Oliver
Orange Co, FL	364	Nov-13	-	-	9.08	-	-	-	-	Orange County
Orange Co, FL	108	Aug-14	-	-	5.51	-	-	-	-	Orange County
Hernando Co, FL	31	May-96	31	31	6.12	9a-6p	4.98	-	30.48	Tindale Oliver
Hernando Co, FL	128	May-96	128	128	6.47	9a-6p	5.18	-	33.51	Tindale Oliver
Pasco Co, FL	229	Apr-02	198	198	4.77	9a-6p	-	-	-	Tindale Oliver
Pasco Co, FL	248	Apr-02	353	353	4.24	9a-6p	3.53	-	14.97	Tindale Oliver
Total Size	4,575			Average Trip Length: 4.27						
Total Size (TL)	3,631			Weighted Average Trip Length: 5.10						

Land Use 240: Mobile Home Park

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	-	12.37	Tindale Oliver
Marion Co, FL	82	Jul-91	58	58	10.80	24hr.	3.72	-	40.18	Tindale Oliver
Marion Co, FL	137	Jul-91	22	22	3.10	24hr.	4.88	-	15.13	Tindale Oliver
Sarasota Co, FL	996	Jun-93	181	181	4.19	-	4.40	-	18.44	Sarasota County
Sarasota Co, FL	235	Jun-93	100	100	3.51	-	5.10	-	17.90	Sarasota County
Marion Co, FL	188	Apr-02	147	-	3.51	24hr.	5.48	-	19.23	Kimley-Horn & Associates
Marion Co, FL	227	Apr-02	173	-	2.76	24hr.	8.80	-	24.29	Kimley-Horn & Associates
Marion Co, FL	297	Apr-02	175	-	4.78	24hr.	4.76	-	22.75	Kimley-Horn & Associates
Hernando Co, FL	1,892	May-96	425	425	4.13	9a-6p	4.13	-	17.06	Tindale Oliver
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	

Land Use 253: Congregate Care Facility

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
Palm Harbor, FL	200		58	40	-	9am-5pm	3.40	69.0	-	Tindale Oliver
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	

Land Use 320: Motel

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
Pinellas Co, FL	54	Oct-89	32	22	-	12p-7p	3.80	69.0	-	Tindale Oliver
Pinellas Co, FL	120	Oct-89	26	22	-	2p-7p	5.20	84.6	-	Tindale Oliver
Total Size	222		3	104			Average Trip Length:	3.93		
ITE	654		6				Weighted Average Trip Length:	4.34		
Weighted Percent New Trip Average:									76.6	
ITE Average Trip Generation Rate:									3.35	

Land Use 444: Movie Theater

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
Pinellas Co, FL	12	Sep-89	122	116	63.40	2p-8p	1.90	95.0	114.44	Tindale Oliver
Total Size	20		2	273			Average Trip Length:	2.30		
ITE	6		1				Weighted Average Trip Length:	2.22		
Blended total	26						Weighted Percent New Trip Average:			87.8
Weighted Average Trip Generation Rate:									83.28	
ITE Average Trip Generation Rate:									220.00	
Blend of FL Studies and ITE Average Trip Generation Rate:									114.83	

Land Use 492: Health/Fitness Club

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	37		8				Percent New Trip Average:			94.0
Average Trip Generation Rate:									-	
ITE Average Trip Generation Rate (adjusted):									34.50	

Land Use 565: Day Care Center

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
Pinellas Co, FL	10.0	Sep-89	179	134	66.99	7a-6p	2.10	75.0	105.51	Tindale Oliver
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	135.0		27				Weighted Average Trip Length:	2.03		
Blended total	150.6						Weighted Percent New Trip Average:			73.2
Weighted Average Trip Generation Rate:									66.99	
ITE Average Trip Generation Rate:									47.62	
Blend of FL Studies and ITE Average Trip Generation Rate:									49.63	

Land Use 620: Nursing Home

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
Total Size	120		1	74			Average Trip Length:	2.59		
ITE	480		3				Weighted Average Trip Length:	2.59		
Blended total	600						Weighted Percent New Trip Average:			89.0
Weighted Average Trip Generation Rate:									2.86	
ITE Average Trip Generation Rate:									3.06	
Blend of FL Studies and ITE Average Trip Generation Rate:									3.02	

Land Use 630: Clinic

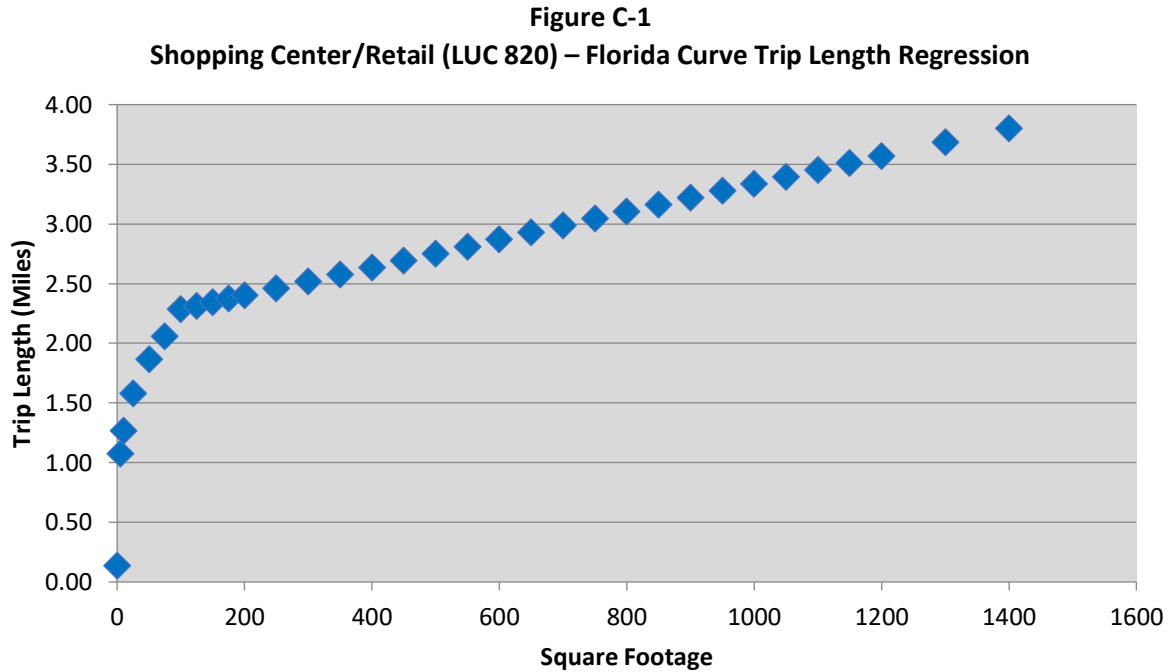
Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Largo, FL	103.9	Aug-89	614	572	37.03	7a-430p	5.10	93.0	175.63	Tindale Oliver
St. Petersburg, FL	-	Oct-89	280	252	-	9a-5p	4.10	90.0	-	Tindale Oliver
Total Size	103.9	1	894	Average Trip Length: 4.60						
ITE	63.0	3		Weighted Average Trip Length: 5.10						
	166.9			Weighted Percent New Trip Average:					93.0	
								Weighted Average Trip Generation Rate:		37.03
								ITE Average Trip Generation Rate:		38.16
								Blend of FL Studies and ITE Average Trip Generation Rate:		37.46

Land Use 710: Office Building

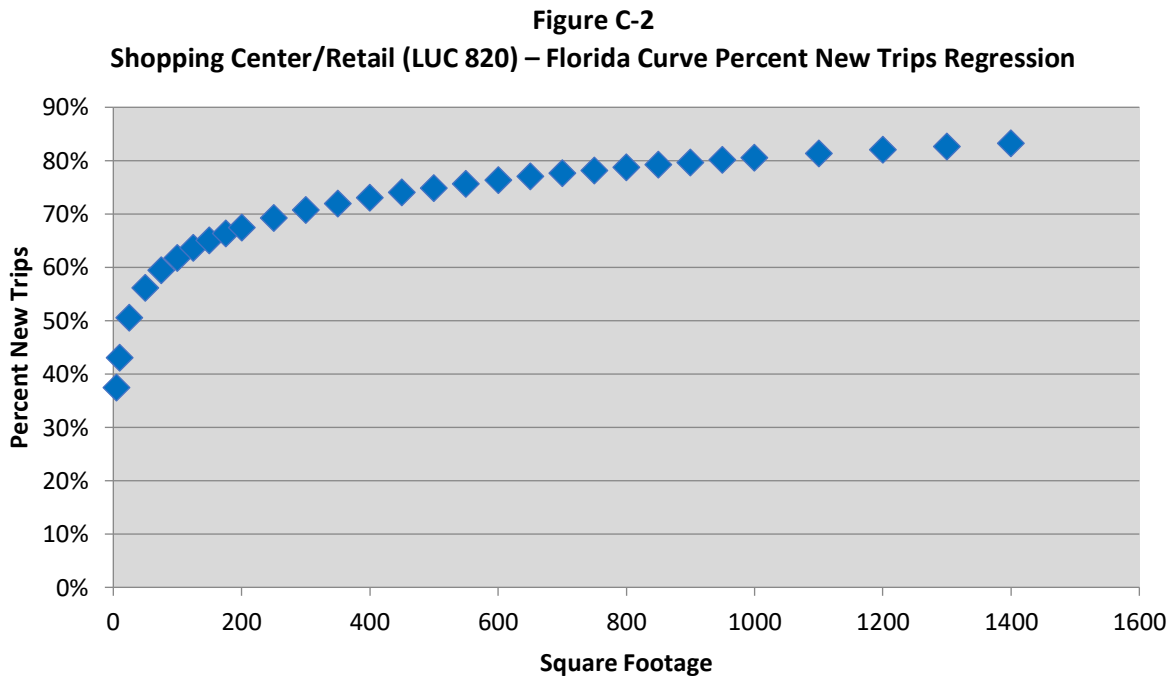
Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Sarasota Co, FL	14.3	Jun-93	14	14	46.85	-	11.30	-	529.41	Sarasota County
Gwinnett Co, GA	98.0	Dec-92	-	-	4.30	-	5.40	-	-	Street Smarts
Gwinnett Co, GA	180.0	Dec-92	-	-	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
St. Petersburg, FL	262.8	Sep-89	291	274	-	7a-5p	3.40	94.0	-	Tindale Oliver
Total Size	742.1	5	736	Average Trip Length: 6.46						
ITE	11,286.0	66		Weighted Average Trip Length: 5.15						
Weighted Percent New Trip Average:								92.3		

Land Use 820: Shopping Center

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	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
St. Petersburg, FL	132.3	Sep-89	400	368	77.00	10a-7p	1.80	92.0	127.51	Tindale Oliver
Largo, FL	425.0	Aug-89	160	120	26.73	10a-6p	2.30	75.0	46.11	Tindale Oliver
Dunedin, FL	80.5	Sep-89	276	210	81.48	9a-5p	1.40	76.0	86.69	Tindale Oliver
Pinellas Park, FL	696.0	Sep-89	485	388	-	9a-6p	3.20	80.0	-	Tindale Oliver
Seminole, FL	425.0	Oct-89	674	586	-	-	-	87.0	-	Tindale Oliver
Hillsborough Co, FL	134.0	Jul-91	-	-	-	-	1.30	74.0	-	Tindale Oliver
Hillsborough Co, FL	151.0	Jul-91	-	-	-	-	1.30	73.0	-	Tindale Oliver
Collier Co, FL	-	Aug-91	68	64	-	-	3.33	94.1	-	Tindale Oliver
Collier Co, FL	-	Aug-91	208	154	-	-	2.64	74.0	-	Tindale Oliver
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	-	-	84.0	-	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
Charlotte Co, FL	88.0	Oct-97	-	-	73.50	9a-5p	1.80	57.1	75.56	Tindale Oliver
Charlotte Co, FL	191.9	Oct-97	-	-	72.00	9a-5p	2.40	50.9	87.97	Tindale Oliver
Charlotte Co, FL	51.3	Oct-97	-	-	43.00	9a-5p	2.70	51.8	60.08	Tindale Oliver
Lake Co, FL	67.8	Apr-01	246	177	102.60	-	3.40	71.2	248.37	Tindale Oliver
Lake Co, FL	72.3	Apr-01	444	376	65.30	-	4.50	59.0	173.37	Tindale Oliver
Pasco Co, FL	65.6	Apr-02	222	-	145.64	9a-5p	1.46	46.9	99.62	Tindale Oliver
Pasco Co, FL	75.8	Apr-02	134	-	38.23	9a-5p	2.36	58.2	52.52	Tindale Oliver
Citrus Co, FL	185.0	Oct-03	-	784	55.84	8a-6p	2.40	88.1	118.05	Tindale Oliver
Citrus Co, FL	91.3	Nov-03	-	390	54.50	8a-6p	1.60	88.0	76.77	Tindale Oliver
Bozeman, MT	104.3	Dec-06	359	359	46.96	-	3.35	49.0	77.08	Tindale Oliver
Bozeman, MT	159.9	Dec-06	502	502	56.49	-	1.56	54.0	47.59	Tindale Oliver
Bozeman, MT	35.9	Dec-06	329	329	69.30	-	1.39	74.0	71.28	Tindale Oliver
Total Size	5,757.5		7,536		Average Trip Length: 2.66					



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



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

Land Use 840/841: New/Used Automobile Sales

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
St.Petersburg, FL	43.0	Oct-89	152	120	-	9a-5p	4.70	79.0	-	Tindale Oliver
Clearwater, FL	43.0	Oct-89	136	106	29.40	9a-5p	4.50	78.0	103.19	Tindale Oliver
Orange Co, FL	13.8	1997	-	-	35.75	-	-	-	-	Orange County
Orange Co, FL	34.4	1998	-	-	23.45	-	-	-	-	Orange County
Orange Co, FL	66.3	2001	-	-	28.50	-	-	-	-	Orange County
Orange Co, FL	39.1	2002	-	-	10.48	-	-	-	-	Orange County
Orange Co, FL	116.7	2003	-	-	22.18	-	-	-	-	Orange County
Orange Co, FL	51.7	2007	-	-	40.34	-	-	-	-	L-TEC
Orange Co, FL	36.6	-	-	-	15.17	-	-	-	-	Orange County
Orange Co, FL	216.4	2008	-	-	13.45	-	-	-	-	Orange County
Total Size	618.0		8	288	Average Trip Length: 4.60					
ITE (840)	648.0		18		Weighted Average Trip Length: 4.60					
ITE (841)	28.0		14		Weighted Percent New Trip Average: 78.5					
Blended total	1,294.0				Weighted Average Trip Generation Rate: 21.04					
					ITE Average Trip Generation Rate (LUC 840): 27.84					
					ITE Average Trip Generation Rate (LUC 841): 27.06					
					Blend of FL Studies and ITE Average Trip Generation Rate: 24.58					

Land Use 880/881: Pharmacy with and without Drive-Through Window

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Pasco Co, FL	11.1	Apr-02	138	38	88.97	-	2.05	27.5	50.23	Tindale Oliver
Pasco Co, FL	12.0	Apr-02	212	90	122.16	-	2.04	42.5	105.79	Tindale Oliver
Pasco Co, FL	15.1	Apr-02	1192	54	97.96	-	2.13	28.1	58.69	Tindale Oliver
Total Size	38.2		3	1,542	Average Trip Length: 2.07					
ITE (LUC 880)	66.0		6		Weighted Average Trip Length: 2.08					
ITE (LUC 881)	208.0		16		Weighted Percent New Trip Average: 32.4					
Blended total	312.2				Average Trip Generation Rate: 103.03					
					ITE Average Trip Generation Rate (LUC 880): 90.08					
					ITE Average Trip Generation Rate (LUC 881): 109.16					
					Blend of FL Studies and ITE Average Trip Generation Rate: 104.37					

Land Use 890: Furniture Store

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Largo, FL	15.0	7/28-30/92	64	34	-	-	4.63	52.5	-	Tindale Oliver
Tampa, FL	16.9	Jul-92	68	39	-	-	7.38	55.7	-	Tindale Oliver
Total Size	31.90		2	132	Average Trip Length: 6.01					
ITE	779.0		19		Weighted Average Trip Length: 6.09					
Blended total	810.90				Weighted Percent New Trip Average: 54.2					
					ITE Average Trip Generation Rate: 6.30					

Land Use 912: Drive-In Bank

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	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
Largo, FL	2.0	Sep-89	129	94	-	-	1.60	73.0	-	Tindale Oliver
Seminole, FL	4.5	Oct-89	-	-	-	-	-	-	-	Tindale Oliver
Marion Co, FL	2.3	Jun-91	69	29	-	24hr.	1.33	42.0	-	Tindale Oliver
Marion Co, FL	3.1	Jun-91	47	32	-	24hr.	1.75	68.1	-	Tindale Oliver
Marion Co, FL	2.5	Jul-91	57	26	-	48hrs.	2.70	45.6	-	Tindale Oliver
Collier Co, FL	-	Aug-91	162	96	-	24hr.	0.88	59.3	-	Tindale Oliver
Collier Co, FL	-	Aug-91	116	54	-	-	1.58	46.6	-	Tindale Oliver
Collier Co, FL	-	Aug-91	142	68	-	-	2.08	47.9	-	Tindale Oliver
Hernando Co, FL	5.4	May-96	164	41	-	9a-6p	2.77	24.7	-	Tindale Oliver
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	147.0		21		Weighted Average Trip Length: 2.46					
Blended total	172.2				Weighted Percent New Trip Average: 46.2					
	149.7				Weighted Average Trip Generation Rate: 246.66					
					ITE Average Trip Generation Rate: 100.03					
					Blend of FL Studies and ITE Average Trip Generation Rate: 102.66					

Land Use 931: Restaurant, non-Fast Food

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VTM	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
Clearwater, FL	8.0	Oct-89	60	40	110.63	10a-2p/5-9p	2.80	67.0	207.54	Tindale Oliver
Total Size	15.5		2	313	Average Trip Length: 2.80					
ITE	90.0		10		Weighted Average Trip Length: 3.14					
Blended total	105.5				Weighted Percent New Trip Average: 76.7					
	98.0				Weighted Average Trip Generation Rate: 110.63					
					ITE Average Trip Generation Rate: 83.84					
					Blend of FL Studies and ITE Average Trip Generation Rate: 86.03					

Land Use 934: Fast Food Restaurant with Drive-Through Window

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
Pinellas Co, FL	4.30	Oct-89	456	260	660.40	1 day	2.30	57.0	865.78	Tindale Oliver
Tarpon Springs, FL	-	Oct-89	233	114	-	7a-7p	3.60	49.0	-	Tindale Oliver
Marion Co, FL	1.60	Jun-91	60	32	962.50	48hrs.	0.91	53.3	466.84	Tindale Oliver
Marion Co, FL	4.00	Jun-91	75	46	625.00	48hrs.	1.54	61.3	590.01	Tindale Oliver
Collier Co, FL	-	Aug-91	66	44	-	-	1.91	66.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	118	40	-	-	1.17	33.9	-	Tindale Oliver
Hernando Co, FL	5.43	May-96	136	82	311.83	9a-6p	1.68	60.2	315.27	Tindale Oliver
Hernando Co, FL	3.13	May-96	168	82	547.34	9a-6p	1.59	48.8	425.04	Tindale Oliver
Orange Co, FL	8.93	1996	-	-	377.00	-	-	-	-	Orange County
Lake Co, FL	2.20	Apr-01	376	252	934.30	-	2.50	74.6	1742.47	Tindale Oliver
Lake Co, FL	3.20	Apr-01	171	182	654.90	-	-	47.8	-	Tindale Oliver
Lake Co, FL	3.80	Apr-01	188	137	353.70	-	3.30	70.8	826.38	Tindale Oliver
Pasco Co, FL	2.66	Apr-02	100	46	283.12	9a-6p	-	46.0	-	Tindale Oliver
Pasco Co, FL	2.96	Apr-02	486	164	515.32	9a-6p	2.72	33.7	472.92	Tindale Oliver
Pasco Co, FL	4.42	Apr-02	168	120	759.24	9a-6p	1.89	71.4	1024.99	Tindale Oliver
Total Size	48.8	13	4,463	Average Trip Length:				2.11		
ITE	201.0	67	Weighted Average Trip Length:				2.05			
Blended total	249.8	Weighted Percent New Trip Average:								57.9
	34.0	Weighted Average Trip Generation Rate:								530.19
		ITE Average Trip Generation Rate:								470.95
		Blend of FL Studies and ITE Average Trip Generation Rate:								482.53

Land Use 942: Automobile Care Center

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	5.5	Sep-89	34	30	37.64	9a-5p	2.40	88.0	79.50	Tindale Oliver	
Jacksonville, FL	2.3	2/3-4/90	124	94	-	9a-5p	3.07	76.0	-	Tindale Oliver	
Jacksonville, FL	2.3	2/3-4/90	110	74	-	9a-5p	2.96	67.0	-	Tindale Oliver	
Jacksonville, FL	2.4	2/3-4/90	132	87	-	9a-5p	2.32	66.0	-	Tindale Oliver	
Lakeland, FL	5.2	Mar-90	24	14	-	9a-4p	1.36	59.0	-	Tindale Oliver	
Lakeland, FL	-	Mar-90	54	42	-	9a-4p	2.44	78.0	-	Tindale Oliver	
Orange Co, FL	25.0	Nov-92	41	39	-	2-6p	4.60	-	-	LCE, Inc.	
Orange Co, FL	36.6	-	-	-	15.17	-	-	-	-	Orange County	
Orange Co, FL	7.0	-	-	-	46.43	-	-	-	-	Orange County	
Total Size	86.2	6	519	Average Trip Length:			2.74				
ITE	102.0	6	Weighted Average Trip Length:								3.62
Blended total	188.2	Weighted Percent New Trip Average:									72.2
	151.1	Weighted Average Trip Generation Rate:									22.14
		ITE Average Trip Generation Rate (adjusted):									31.10
		Blend of FL Studies and ITE Average Trip Generation Rate:									28.19

Land Use 944/945: Gasoline/Service Station with and without Convenience Market

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
Collier Co, FL	-	Aug-91	168	40	-	-	1.01	23.8	-	Tindale Oliver
Total Size	0.6	1	238	Average Trip Length: 1.46						
ITE LUC 944 (vfp)	144.0	18	Weighted Average Trip Length: 1.90							
ITE LUC 945 (vfp)	90.0	5	Weighted Percent New Trip Average:				23.0			

Land Use 947: Self-Service Car Wash

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
Clearwater, FL	-	Nov-89	177	108	-	10am-5pm	1.30	61.0	-	Tindale Oliver
Collier Co, FL	11	Dec-09	304	-	30.24	-	2.50	57.0	-	Tindale Oliver
Collier Co, FL	8	Jan-09	186	-	22.75	-	1.96	72.0	-	Tindale Oliver
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

Single Family Residential Trip Generation Rate Tiering

As part of this study, the single family residential trip generation rate tiering was included to reflect a three-tier analysis to ensure equity by the size of a home. To facilitate this, an analysis was completed on the comparative relationship between housing size and household travel behavior. This analysis utilized data from the 2009 National Household Travel Survey (NHTS) and

the 2015 American Housing Survey (AHS) to examine overall trip-making characteristics of households in the United States.

Table C-3 presents that trip characteristics being utilized in the proposed multi-modal transportation impact fee schedule for the single family (detached) land use. The 2009 NHTS database was used to assess average annual household vehicle miles of travel (VMT) for various annual household income levels. In addition, the 2015 AHS database was used to compare median annual family/household incomes with housing unit size. It is important to recognize that the use of the income variable in each of these databases is simply to provide a convenient linking mechanism between household VMT from the NHTS and housing unit size from the AHS.

Table C-3
Calculated Single Family Trip Characteristics

Calculated Values Excluding Tiering	Trip Rate	Assessable Trip Length	Daily VMT
Single Family (Detached)	7.81	6.62	51.70

Source: Florida Studies TCS Database, Land Use 210: Single Family Residential

The results of the NHTS and AHS analyses are included in Tables C-4 and C-5. First, the data shown in Table C-4 indicates that the average income in the U.S. for families/households living in housing units smaller than 1,500 square feet in size (\$48,880) is lower than the overall average income for the U.S. (\$63,584). In Table C-5, annual average household VMT was calculated from the NHTS database for a number of different income levels and ranges related to the resulting AHS income data in Table C-4.

Table C-4
Annual Income by Housing Size

2015 AHS Average Income Data by Housing Size (Single Family, detached)	Annual Income ⁽¹⁾
Less than 1,500 sf	\$48,880
1,500 to 2,499 sf	\$70,371
2,500 sf or more	\$87,897
Average of All Houses	\$63,584

Source: American Housing Survey for the United State in 2015

1) Weighted average of annual income for each tier

Table C-5
NHTS VMT Annual VMT by Income Category

2009 NHTS Travel Data by Annual HH Income	Annual VMT/HH	Days	Daily VMT	Ratio to Mean	Normalized to 1.061
Average of \$48,880	20,736	365	56.81	0.847	0.798
Total (All Homes)	24,496	365	67.11	1.000	
Average of \$70,371	25,995	365	71.22	1.061	1.000
Average of \$87,897	29,347	365	80.40	1.198	1.129

Source: 2009 National Household Travel Survey Database, Federal Highway Administration

To calculate a corresponding trip rate for the new tiers it was necessary to rely on comparative ratios. As an example, consider the \$48,880 annual income category. First, it was determined that the average annual household VMT for this income level is 20,736 miles. This figure was then compared to the overall average annual VMT per household in the U.S. and normalized to the average of the \$70,371 (24,496 miles) category to derive a ratio of 0.798. It should be noted that the tiers are normalized to the \$70,371 (1,500-2,499 sq ft) figure because the average home size in Hallandale Beach (approximately 2,200 sq ft for houses built from 2000-present) falls within these square footage parameters.

Next, the normalized ratio was applied to the daily VMT for the average single family housing unit size (less than 1,500 sq ft) to generate a daily VMT of 41.26 for the new tier, as shown in Table C-6. This daily VMT figure was then divided by the proposed assessable trip length of 6.62 miles to obtain a trip generation rate of 6.23 trips per day.

Table C-6
Trip Generation Rate by Single Family Land Use Tier

Estimation of Trip Rate by Tier	Trip Rate ⁽¹⁾	Assessable Trip Length ⁽²⁾	Daily VMT ⁽³⁾	Ratio to Mean ⁽⁴⁾
<i>Single Family (Detached)</i>				
Less than 1,500 sf	6.23	6.62	41.26	0.798
1,500 to 2,499 sf	7.81	6.62	51.70	1.000
2,500 sf or larger	8.82	6.62	58.37	1.129

1) Daily VMT (Item 3) divided by assessable trip length (Item 2) for each tier

2) Source: Table C-2

3) Ratio to the mean (Item 4) multiplied by the total daily VMT for the 1,500 to 2,499 sq tier

4) Source: Table C-4

Table C-7 illustrates the impact that the trip generation rate tiers for the single family (detached) land use have on the City's calculated multi-modal fee rate.

Table C-7
Net Impact Fee by Single Family Land Use Tier

Impact of Tiering on Fee Schedule	Trip Rate ⁽¹⁾	Assessable Trip Length ⁽²⁾	Daily VMT ⁽³⁾	Net Fee ⁽²⁾
<i>Single Family (Detached)</i>				
Less than 1,500 sf	6.23	6.62	41.26	\$2,459
1,500 to 2,499 sf	7.81	6.62	51.70	\$3,085
2,500 sf or larger	8.82	6.62	58.37	\$3,485

1) Source: Table C-5, Item 1

2) Source: Appendix F, Table F-1

Appendix D
Multi-Modal Transportation Impact Fee
Cost Component

Appendix D: MMTIF – Cost Component

This appendix presents the detailed calculations for the cost component of the multi-modal transportation impact fee. Supporting data and estimates are provided for all cost variables, including:

- Design
- Construction
- Construction Engineering & Inspection
- Roadway Capacity
- Transit Capital Costs

Urban-Design vs. Rural-Design

Due to a lack of available roadway construction data for open drainage (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 Estimates⁴ provided by FDOT. Based on the LRE, the costs for roadway capacity expansion (new road construction or lane addition) with open drainage is approximately 75 percent of the construction costs for roadway improvements with curb & gutter. For all subsequent tables, costs are presented for curb & gutter (urban-design) roadways with the rural-design roadway costs being calculated using the cost ratio in Table D-1.

Table D-1
Urban/Rural-Design Cost Factor

Improvement	Cost per Lane Mile		
	Rural Design	Urban Design	Ratio
0-2 Lanes	\$2,878,590	\$4,387,394	66%
0-4 Lanes	\$2,328,452	\$3,126,905	74%
0-6 Lanes	\$1,976,888	\$2,536,724	78%
2-4 Lanes	\$3,429,601	\$4,255,585	81%
4-6 Lanes	\$3,762,445	\$4,783,600	79%
Average	\$2,875,195	\$3,818,042	75%

Source: FDOT District 7 Long Range Estimates, 2017

⁴ Data not available for FDOT District 4

Design

City/County Roadways

The design cost factor for city/county roads was estimated as a percentage of the construction cost per lane mile. This factor was determined based on a review of design-to-construction cost ratios from previously completed transportation impact fee studies throughout Florida. As shown in Table D-2, recent design factors ranged from 6 to 14 percent with a weighted average of 10 percent. For purposes of this study, the design cost for city/county roads was calculated at 10 percent of the construction cost per lane mile.

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 based on a review of design-to-construction cost ratios from previously completed transportation impact fee studies throughout Florida. As shown in Table D-2, recent design factors ranged from 10 to 12 percent with a weighted average of 11 percent. For purposes of this study, the design cost for state roads was calculated at 11 percent of the construction cost per lane mile.

Table D-2

Design Cost Factor for City/County and State Roads – Recent Impact Fee Studies

Year	Study	City/County Roads (Cost per Lane Mile)			State Roads (Cost per Lane Mile)		
		Design	Constr.	Ratio	Design	Constr.	Ratio
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%
2012	Osceola	\$371,196	\$2,651,400	14%	\$313,258	\$2,847,800	11%
2012	Orange	\$264,000	\$2,400,000	11%	-	-	n/a
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%
2015	Collier	\$270,000	\$2,700,000	10%	\$270,000	\$2,700,000	10%
2015	Brevard	\$242,000	\$2,023,000	12%	\$316,000	\$2,875,000	11%
2015	Sumter	\$210,000	\$2,100,000	10%	\$276,000	\$2,505,000	11%
2015	Marion	\$167,000	\$1,668,000	10%	\$227,000	\$2,060,000	11%
2015	Palm Beach	\$224,000	\$1,759,000	13%	\$333,000	\$3,029,000	11%
2016	Hillsborough	\$348,000	\$2,897,000	12%	\$319,000	\$2,897,000	11%
2017	St. Lucie	\$220,000	\$2,200,000	10%	\$341,000	\$3,100,000	11%
2017	Clay	\$239,000	\$2,385,000	10%	-	-	n/a
2017	Orange	\$203,000	\$2,542,000	8%	-	-	n/a
Average		\$226,398	\$2,238,967	10%	\$283,513	\$2,633,453	11%

Source: Recent impact fee studies conducted throughout Florida

Right-of-Way

Since the 1960's Broward County has implemented the Trafficways Plan for ultimate right-of-way preservation and due to this, ROW for road construction/expansion is already available for the majority of future improvements. Therefore, for impact fee purposes, ROW cost is not included.

Construction

City/County Roadways

A review of construction cost data for recent county roadway capacity expansion improvements identified a single improvement in Broward County:

- Bailey Rd from NW 64th Ave/SW 81st Ave to SR 7 (US 441)

As shown in Table D-3, this improvements has a weighted average construction cost of approximately \$1.58 million per lane mile. This cost is relatively low compared to other similar improvements from around the state.

In addition to the Broward data, county improvements from other Florida counties were also reviewed. As shown in Table D-3, a total of 84 projects from 19 different counties were identified (including the one Broward improvement), totaling over 394 lane miles of improvements with a weighted average cost of \$2.26 million per lane mile. When only the improvements in FDOT District 4 was considered, the sample is reduced to 23 improvements totaling over 84 lane miles and a weighted average cost of \$1.90 million per lane mile.

For purposes of the multi-modal transportation impact fee, a county roadway construction cost of **\$1.90 million per lane mile** (curb & gutter) was used in the fee calculation. This figure represents a conservative estimate and is based on a reasonable sample of District 4 improvements.

State Roadways

A review of construction cost data for recent state roadway capacity expansion improvements identified four (4) improvements in Broward County:

- Andrews Ave Extension from NW 18th St to Copans Rd
- SR 7 (US 441) from N. of Hallandale Beach to N. of Fillmore St
- Andrews Ave Extension from Pompano Park Pl to S. of Atlantic Blvd
- SW 30th Ave from Griffin Rd to SW 45th St

As shown in Table D-4, these improvements have a weighted average construction cost of approximately \$7.22 million per lane mile. This cost is significant due to two very expensive segments along Andrews Avenue Extension and SR 7 which are over \$6.00 million per lane mile.

In addition to Broward County data, state improvements from other Florida counties were also reviewed. As show in Table D-4, a total of 89 projects from 40 different counties were identified (including the four Broward improvements), totaling over 490 lane miles of improvements with a weighted average cost of \$3.26 million per lane mile. When projects located in FDOT District 4 are considered, the sample is reduced to 12 improvements totaling over 50 lane miles of improvements and a weighted average cost of \$3.40 million per lane mile.

For purposes of the multi-modal transportation impact fee, a state roadway construction cost of **\$3.40 million per lane mile** (curb & gutter) was used in the fee calculation.

Table D-3

Construction Cost – County Road Improvements from 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
Orange	5	CR 535 (Segments C and E)	Ficquette Rd	Butler Ridge Dr	2009	Bid	2 to 4	Urban	1.10	2	2.20	\$3,301,137	\$1,500,517
Orange	5	Woodbury Rd	S. of SR 50	Challenger Pkwy	2009	Bid	2 to 4	Urban	0.65	2	1.30	\$3,993,488	\$3,071,914
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 Rd Extension	Central Florida Pkwy	John Young Pkwy	2009	Bid	2 to 4	Urban	0.50	2	1.00	\$4,317,525	\$4,317,525
Orange	5	Narcoossee Rd	Osceola Co. Line	SR 417	2009	Bid	2 to 6	Urban	3.80	4	15.20	\$17,093,872	\$1,124,597
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	Boyette Rd, Ph. III	Donneymoor Dr	Bell Shoals Rd	2009	Bid	2 to 4	Urban	1.84	2	3.68	\$20,814,450	\$5,656,101
Hillsborough	7	Race Track Rd, Ph. IV	Douglas Rd	Hillsborough Ave	2009	Bid	2 to 6	Urban	0.69	4	2.76	\$5,375,855	\$1,947,774
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
Collier	1	Oil Well Rd (Segment 2)	Immokalee Rd	E. of Everglades Blvd	2009	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	2009	Bid	2 to 6	Urban	4.72	4	18.88	\$15,875,782	\$840,878
Marion	5	CR 200A	US 441	NE 35th St	2009	Bid	2 to 4	Urban	1.73	2	3.46	\$6,451,296	\$1,864,536
Marion	5	NW 44th Ave	US 27	NW 60th St	2009	Bid	2 to 4	Urban	2.63	2	5.26	\$5,910,189	\$1,123,610
Marion	5	SE 31st St	SE 19th Ave	SE 36th Ave	2009	Bid	2 to 4	Urban	1.50	2	4.20	\$5,544,524	\$1,320,125
Marion	5		SE 36th Ave	SR 464	2009	Bid	0 to 4	Urban	0.30	4			
Clay	2	Old Jennings Rd	SR 21	Brananfield Rd	2009	Bid	2 to 4	Urban	1.10	2	2.20	\$4,807,479	\$2,185,218
Clay	2	Henley	CR 218	Black Creek Bridge	2009	Bid	2 to 4	Urban	4.00	2	8.00	\$22,737,553	\$2,842,194
Clay	2	CR 209	Black Creek Bridge	CR 200	2009	Bid	2 to 4	Urban	0.95	2	1.90	\$5,962,899	\$3,138,368
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
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
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
Orange	5	Valencia College Ln	Goldenrod Rd	OOCEA	2010	Bid	2 to 4	Urban	0.90	2	1.80	\$5,016,171	\$2,786,762
Sarasota	1	North Cattlemen Rd	Richardson Rd	Desoto Rd	2011	Bid	2 to 4	Urban	2.55	2	5.10	\$11,101,990	\$2,176,861
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	Alafaya Tr	Avalon Park Blvd	Mark Twain Blvd	2011	Bid	2 to 4	Urban	3.83	2	7.66	\$18,947,695	\$2,473,589

Table D-3 (continued)

Construction Cost – County Road Improvements from 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
Orange	5	CR 535 Seg. A	Magnolia Park Ct	SR 429	2011	Bid	2 to 4	Urban	1.37	2	2.74	\$7,484,816	\$2,731,685
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 Boynotno 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
Hillsborough	7	Madison Ave	US 41	78th St	2011	Bid	2 to 4	Urban	2.29	2	4.58	\$7,000,000	\$1,528,384
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
Orange	5	Clarcona-Ocoee Rd	Ocoee-Apopka Rd	Hiawassee Rd	2012	Bid	2 to 4	Urban	5.08	2	10.16	\$19,831,058	\$1,951,876
Orange	5	John Young Pkwy	SR 528	FL Turnpike	2012	Bid	4 to 6	Urban	2.34	2	4.68	\$13,722,494	\$2,932,157
Orange	5	Econlockhatchee Tr	SR 408	SR 50	2012	Bid	2 to 4	Urban	1.38	2	2.76	\$8,621,445	\$3,123,712
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	2013	Bid	4 to 6	Urban	2.74	2	5.48	\$23,295,924	\$4,251,081
Marion	5	SW 110th St	US 41	SW 200th Ave	2013	Bid	0 to 2	Urban	0.11	2	0.22	\$438,765	\$1,994,386
Marion	5	NW 35th St	NW 35th Avenue Rd	NW 27th Ave	2013	Bid	0 to 4	Urban	0.50	4	4.60	\$8,616,236	\$1,873,095
Marion	5	NW 35th St	NW 27th Ave	US 441	2013	Bid	2 to 4	Urban	1.30	2			
Sumter	5	C-466A, Ph. III	US 301 N	Powell Rd	2013	Bid	2 to 3/4	Urban	1.10	2	2.20	\$4,283,842	\$1,947,201
Orange	5	Rouse Rd	Lake Underhill	Corporate Blvd	2013	Bid	2 to 4	Urban	4.15	2	8.30	\$35,075,000	\$4,225,904
Orange	5	Lake Underhill	Goldenrod Rd	Chickasaw Tr	2013	Bid	2 to 4	Urban	0.69	2	1.38	\$6,629,620	\$4,804,072
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
Hillsborough	7	Turkey Creek Rd	Dr. MLK Blvd	Sydney Rd	2014	Bid	2 to 4	Urban	1.40	2	2.80	\$3,166,000	\$1,130,714
Sarasota	1	Bee Ridge Rd	Mauna Loa Blvd	Iona Rd	2014	Bid	2 to 4	Urban	2.68	2	5.36	\$14,066,523	\$2,624,351
St. Lucie	4	W Midway Rd (CR 712)	Selvitz Rd	South 25th St	2014	Bid	2 to 4	Urban	1.00	2	2.00	\$6,144,000	\$3,072,000
Orange	5	CR 535 Seg. F	Overstreet Rd	Fossick Rd	2014	Bid	2 to 4	Urban	0.60	2	1.20	\$3,836,448	\$3,197,040
Orange	5	Wetherbee Rd	Balcombe Rd	Orange Ave	2014	Bid	2 to 4	Urban	1.50	2	3.00	\$9,234,873	\$3,078,291
Orange	5	International Dr	N Westwood Blvd	S Westwood Blvd	2015	Bid	4 to 6	Urban	2.20	2	4.40	\$18,802,148	\$4,273,215
St. Lucie	4	W Midway Rd (CR 712)	W. of South 25th St	E. of SR 5 (US 1)	2016	Bid	2 to 4	Urban	1.77	2	3.54	\$24,415,701	\$6,897,091
Orange	5	Reams Rd	Delmar Ave	Taborfield Ave	2017	Bid	2 to 4	Urban	0.60	2	1.20	\$5,487,872	\$4,573,227
Total									Count:	84	394.24	\$889,275,012	\$2,255,669
Broward ONLY									Count:	1	4.00	\$6,330,297	\$1,582,574
District 4 ONLY									Count:	23	84.64	\$160,509,310	\$1,896,377

Source: Data obtained from each respective county (Building and Public Works Departments)

Table D-4

Construction Cost – State Road Improvements from 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
Leon	3	SR 10 (Mahan Drive)	Dempsey Mayo Rd	Walden Rd	2009	Bid	2 to 4	Urban	3.10	2	6.20	\$18,083,410	\$2,916,679
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	\$7,134,452	\$1,161,963
Sarasota	1	US 301	Wood St	Myrtle Ave	2009	Bid	4 to 6	Urban	2.60	2	5.20	\$14,666,593	\$2,820,499
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	\$20,552,627	\$1,236,620
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	\$4,855,070	\$1,618,357
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	Sub-Urb	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	\$7,120,212	\$2,405,477
Lee	1	US 41	Corkscrew Rd	San Carlos Blvd	2010	Bid	4 to 6	Urban	4.48	2	8.96	\$12,468,224	\$1,391,543
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	\$18,782,629	\$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	\$16,908,928	\$5,636,309
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	\$9,460,591	\$5,500,344
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	\$10,663,287	\$1,506,114
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	4 to 6	Urban	1.76	2	3.52	\$17,196,050	\$4,885,241
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	\$13,942,533	\$4,710,315
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
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	\$17,707,436	\$2,566,295
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	\$28,089,660	\$3,657,508
Broward	4	Andrews Ave Ext.	NW 18th St	Copans Rd	2013	Bid	2 to 4	Urban	0.50	2	1.00	\$6,592,014	\$6,592,014
Lee	1	SR 78 (Pine Island)	Burnt Store Rd	W of Chiquita Blvd	2013	Bid	2 to 4	Urban	1.94	2	3.88	\$8,005,048	\$2,063,157
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	3.62	\$15,758,965	\$4,353,305

Table D-4 (continued)
Construction Cost – State Road Improvements from 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
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
Brevard	5	Apollo Blvd	Sarno Rd	Eau Gallie Blvd	2013	Bid	2 to 4	Urban	0.74	2	1.48	\$10,318,613	\$6,972,036
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
Pinellas	7	43rd St Extension	S. of 118th Ave	40th St	2014	Bid	0 to 4	Urban	0.49	4	1.96	\$4,872,870	\$2,486,158
Broward	4	SR 7 (US 441)	N. of Hallandale Beach	N. of Fillmore St	2014	Bid	4 to 6	Urban	1.79	2	3.58	\$30,674,813	\$8,568,384
Nassau	2	SR 200 (A1A)	W. of Still Quarters Rd	W. of Ruben Ln	2014	Bid	4 to 6	Urban	3.05	2	6.10	\$18,473,682	\$3,028,472
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
Miami-Dade	6	SR 823/NW 57th Ave	W. 65th St	W. 84th St	2014	Bid	4 to 6	Urban	1.00	2	2.00	\$17,896,531	\$8,948,266
Miami-Dade	6	SR 823/NW 57th Ave	W. 53rd St	W. 65th St	2014	Bid	4 to 6	Urban	0.78	2	1.56	\$14,837,466	\$9,511,196
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
Duval	2	SR 243 (JIA N Access)	Airport Rd	Pelican Park (I-95)	2014	Bid	0 to 2	Urban	2.60	2	5.20	\$14,205,429	\$2,731,813
Desoto	1	US 17	CR 760A (Nocatee)	Heard St	2014	Bid	2 to 4	Urban	4.40	2	8.80	\$29,584,798	\$3,361,909
Pinellas	7	SR 688 (Ulmerton Rd)	E. of 49th St	W. of 38th St N	2014	Bid	4 to 6	Urban	0.76	2	1.52	\$19,306,771	\$12,701,823
Orange	5	SR 50	SR 429 (Western Beltway)	E. of West Oaks Mall	2014	Bid	4 to 6	Urban	2.56	2	5.12	\$34,275,001	\$6,694,336
Hendry	1	SR 82 (Immokalee Rd)	Lee County Line	Collier County Line	2015	Bid	2 to 4	Urban	1.27	2	2.54	\$7,593,742	\$2,989,662
Sarasota	1	SR 45A (US 41) (Venice Bypass)	Gulf Coast Blvd	Bird Bay Dr W	2015	Bid	4 to 6	Urban	1.14	2	2.28	\$16,584,224	\$7,273,782
Clay	2	SR 21	S. of Branan Field	Old Jennings Rd	2015	Bid	4 to 6	Urban	1.45	2	2.90	\$15,887,487	\$5,478,444
Putnam	2	SR 15 (US 17)	Horse Landing Rd	N Boundary Rd	2015	Bid	2 to 4	Urban	1.99	2	3.98	\$13,869,804	\$3,484,875
Palm Beach	4	SR 710 (Beeline Hwy)	W. of Australian Ave	Old Dixie Hwy	2015	Bid	2 to 4	Urban	0.82	2	1.64	\$17,423,228	\$10,623,920
Osceola	5	SR 500 (US 192/441)	Eastern Ave	Nova Rd	2015	Bid	4 to 6	Urban	3.18	2	6.36	\$16,187,452	\$2,545,197
Orange	5	SR 15 (Hofner Rd)	Lee Vista Blvd	Conway Rd	2015	Bid	2 to 4	Urban	3.81	2	7.62	\$37,089,690	\$4,867,413
Osceola	5	SR 500 (US 192/441)	Aeronautical Blvd	Budinger Ave	2015	Bid	4 to 6	Urban	3.94	2	7.88	\$34,256,621	\$4,347,287
Lake	5	SR 25 (US 27)	N of Boggy Marsh Rd	N of Lake Louisa Rd	2015	Bid	4 to 6	Sub-Urb	6.52	2	13.03	\$37,503,443	\$2,878,238
Seminole	5	SR 15/600	Shepard Rd	Lake Mary Blvd	2015	Bid	4 to 6	Urban	3.63	2	7.26	\$42,712,728	\$5,883,296
St. Lucie	4	SR 614 (Indrio Rd)	W of SR 9 (I-95)	E of SR 607 (Emerson Ave)	2016	Bid	2 to 4	Urban	3.80	2	7.60	\$22,773,660	\$2,996,534
Seminole	5	SR 46	Mellonville Ave	E of SR 415	2016	Bid	2 to 4	Urban	2.83	2	5.66	\$26,475,089	\$4,677,578
Miami-Dade	6	SR 977/Krome Ave/SW 177th Ave	S of SW 136th St	S of SR 94 (SW 88th St/Kendall Dr)	2016	Bid	0 to 4	Urban	3.50	4	14.00	\$32,129,013	\$2,294,930
Broward	4	SW 30th Ave	Griffin Rd	SW 45th St	2016	Bid	2 to 4	Urban	0.24	2	0.48	\$1,303,999	\$2,716,665
St. Lucie	4	CR 712 (Midway Rd)	W. of S. 25th St	E. of SR 5 (US 1)	2016	Bid	2 to 4	Urban	1.77	2	3.54	\$24,415,701	\$6,897,091
Hillsborough	7	SR 43 (US 301)	SR 674	S. of CR 672 (Balm Rd)	2016	Bid	2 to 6	Urban	3.77	4	15.08	\$43,591,333	\$2,890,672
Citrus	7	SR 55 (US 19)	W. Green Acres St	W. Jump Ct	2016	Bid	4 to 6	Urban	2.07	2	4.14	\$27,868,889	\$6,731,616
Walton	3	SR 30 (US 98)	Emerald Bay Dr	Tang-o-mar Dr	2016	Bid	4 to 6	Urban	3.37	2	6.74	\$42,140,000	\$6,252,226
Duval	2	SR 201	S. of Baldwin	N. of Baldwin (Bypass)	2016	Bid	0 to 4	Urban	4.11	4	16.44	\$50,974,795	\$3,100,657
Hardee	1	SR 35 (US 17)	S. of W. 9th St	N. of W. 3rd St	2016	Bid	0 to 4	Urban	1.11	4	4.44	\$14,067,161	\$3,168,280
Miami-Dade	6	NW 87th Ave/SR 25 & SR 932	NW 74th St	NW 103rd St	2016	Bid	0 to 4	Urban	1.93	4	7.72	\$28,078,366	\$3,637,094
Alachua	2	SR 20 (SE Hawthorne Rd)	E of US 301	E of Putnam Co. Line	2017	Bid	2 to 4	Urban	1.70	2	3.40	\$11,112,564	\$3,268,401
Okaloosa	3	SR 30 (US 98)	CR 30F (Airport Rd)	E. of Walton Co. Line	2017	Bid	4 to 6	Urban	3.85	2	7.70	\$33,319,378	\$4,327,192
Bay	3	SR 390 (St. Andrews Blvd)	E of CR 2312 (Baldwin Rd)	Jenks Ave	2017	Bid	2 to 6	Urban	1.33	4	5.32	\$14,541,719	\$2,733,406
Pasco	7	SR 54	E of CR 577 (Curley Rd)	E of CR 579 (Morris Bridge Rd)	2017	Bid	2 to 4/6	Urban	4.50	2/4	11.80	\$41,349,267	\$3,504,175
Lake	5	SR 46 (US 441)	W of SR 500	E of Round Lake Rd	2017	Bid	2 to 6	Urban	2.23	4	8.92	\$27,677,972	\$3,102,912
Orange	5	SR 423 (John Young Pkwy)	SR 50 (Colonial Dr)	Shader Rd	2017	Bid	4 to 6	Urban	2.35	2	4.70	\$27,752,000	\$5,904,681
Total									Count:	89	491.49	\$1,600,717,956	\$3,256,868
Broward ONLY									Count:	4	5.78	\$41,748,356	\$7,222,899
District 4 ONLY									Count:	12	50.58	\$171,829,536	\$3,397,183

Source: Florida Department of Transportation Contracts Administration Department, Bid Tabulations

Construction Engineering/Inspection

City/County Roadways

The CEI cost factor for city/county roads was estimated as a percentage of the construction cost per lane mile. This factor was determined based on a review of CEI-to-construction cost ratios from previously completed transportation impact fee studies throughout Florida. As shown in Table D-5, recent CEI factors ranged from 3 to 17 percent with a weighted average of 9 percent. For purposes of this study, the CEI cost for city/county roads was calculated at 9 percent of the construction cost per lane mile.

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 based on a review of CEI-to-construction cost ratios from previously completed transportation impact fee studies throughout Florida. As shown in Table D-5, recent CEI factors ranged from 9 to 11 percent with a weighted average of 10 percent. For purposes of this study, the CEI cost for state roads was calculated at 10 percent of the construction cost per lane mile.

Table D-5
CEI Cost Factor for City/County and State Roads – Recent Impact Fee Studies

Year	Study	City/County Roads (Cost per Lane Mile)			State Roads (Cost per Lane Mile)		
		CEI	Constr.	Ratio	CEI	Constr.	Ratio
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%
2012	Osceola	\$265,140	\$2,651,400	10%	\$313,258	\$2,847,800	11%
2013	Hernando	\$178,200	\$1,980,000	9%	\$222,640	\$2,024,000	11%
2013	Charlotte	\$220,000	\$2,200,000	10%	\$240,000	\$2,400,000	10%
2014	Indian River	\$143,000	\$1,598,000	9%	\$196,000	\$1,776,000	11%
2015	Collier	\$270,000	\$2,700,000	10%	\$270,000	\$2,700,000	10%
2015	Brevard	\$344,000	\$2,023,000	17%	\$316,000	\$2,875,000	11%
2015	Sumter	\$147,000	\$2,100,000	7%	\$250,000	\$2,505,000	10%
2015	Marion	\$50,000	\$1,668,000	3%	\$227,000	\$2,060,000	11%
2015	Palm Beach	\$108,000	\$1,759,000	6%	\$333,000	\$3,029,000	11%
2016	Hillsborough	\$261,000	\$2,897,000	9%	\$319,000	\$2,897,000	11%
2017	St. Lucie	\$198,000	\$2,200,000	9%	\$341,000	\$3,100,000	11%
2017	Clay	\$191,000	\$2,385,000	8%	-	-	n/a
Average		\$193,763	\$2,209,963	9%	\$274,780	\$2,633,453	10%

Source: Recent impact fee studies conducted throughout Florida

Roadway Capacity

As shown in Table D-6, the average capacity per lane miles was based on the projects in the Broward County Long Range Transportation's affordable and unfunded roadway projects lists. The listing of projects reflects the mix of improvements that will yield the vehicle-miles of capacity (VMC) that will be built in Broward County. The resulting weighted average capacity per lane mile of 8,400 was used in the multi-modal transportation impact fee calculation.

Table D-6
Broward County 2040 Long Range Transportation Plan

Jurisdiction	Description	From	To	Improvement	Length	Lanes Added	Lane Miles Added	Section Design*	Initial Capacity	Future Capacity	Added Capacity	Vehicle Miles of Capacity Added
Affordable Roadway Projects												
State Principal Arterial	SR 7/US 441	Fillmore St	Stirling Rd	Widen 4 to 6 Lanes	2.26	2	4.52	C&G	39,800	59,900	20,100	45,426
City Minor Arterial	Andrews Ave	NW 18th St	Copans Rd	Widen 2 to 4 Lanes	0.50	2	1.00	C&G	15,045	33,830	18,785	9,393
County Major Collector	SW 30th Ave	SR 818/Griffin Rd	SW 45th St	Widen 2 to 4 Lanes	0.25	2	0.50	C&G	13,320	29,160	15,840	3,960
County Minor Arterial	Andrews Ave	Pompano Park Pl	SR 814/Atlantic Blvd	Widen 2 to 4 Lanes	0.37	2	0.74	C&G	15,045	33,830	18,785	6,950
County Minor Arterial	SR 818/Griffin Rd	I-75	SR 823/Flamingo	Widen 4 to 6 Lanes	2.27	2	4.54	C&G	37,810	56,905	19,095	43,346
City Principal Arterial	SR 817/University Dr	SR 869/Sawgrass Expwy	NW 40th St (Cardinal)	Widen 4 to 6 Lanes	1.56	2	3.12	C&G	32,400	50,000	17,600	27,456
City Major Collector	Pembroke Rd	SW 200th Ave	SW 184th Ave	New 4-Lane Road	1.50	4	6.00	OD	0	33,830	33,830	50,745
City Major Collector	Pembroke Rd	SW 184th Ave	SW 160th Ave	Widen 2 to 4 Lanes	1.90	2	3.80	OD	15,045	33,830	18,785	35,692
Local Street	SR 817/University Dr	Holmberg Rd	County Line Rd	Widen 2 to 4 Lanes	1.65	2	3.30	C&G	13,320	29,160	15,840	26,136
City Major Collector	SW 148th Ave	Bass Creek Rd	SR 858/Miramar Pkwy	Widen 2 to 4 Lanes	1.00	2	2.00	C&G	13,320	29,160	15,840	15,840
Local Street	SE 2nd St	SR 5/US 1	Layne Blvd	New 2-Lane Road	0.52	2	1.04	C&G	0	13,320	13,320	6,926
City Major Collector	SW 196th Ave	SR 858/Miramar Pkwy	SR 820/Pines Blvd	Widen 2 to 4 Lanes	1.20	2	2.40	OD	13,320	29,160	15,840	19,008
City Major Collector	NE 3rd Ave	Sample Rd	SW 10th St	Widen 2 to 4 Lanes	2.20	2	4.40	C&G	13,320	29,160	15,840	34,848
City Minor Arterial	SW 184th Ave	SR 822/Sheridan St	SR 818/Griffin Rd	New 2-Lane Road	2.23	2	4.46	OD	0	16,815	16,815	37,497
City Minor Arterial	Pembroke Rd	Douglas Rd	SR 817/University Dr	Widen 4 to 6 Lanes	1.00	2	2.00	C&G	35,820	53,910	18,090	18,090
City Major Collector	Pembroke Rd	SW 200th Ave	US 27	New 4-Lane Road	1.00	4	4.00	OD	0	35,820	35,820	35,820
Unfunded Roadway Projects												
County Local	Hillsboro Blvd	University Dr	Current Hillsboro Blvd	New 4-Lane Road	2.00	4	8.00	C&G	0	29,160	29,160	58,320
City/County Principal Arterial	SR 822/Sheridan St	SW 148th Ave	Douglas St	Widen 4 to 6 Lanes	5.00	2	10.00	OD	39,800	59,900	20,100	100,500
Local Street	Oakes Rd	Davie Rd	SR 7/US 441	New 4-Lane Road	1.72	4	6.88	C&G	0	29,160	29,160	50,155
City Minor Arterial	SW 184th Ave	SR 822/Sheridan St	SR 858/Miramar Pkwy	Widen 4 to 6 Lanes	3.50	2	7.00	OD	33,830	50,915	17,085	59,798
City Major Collector	Bass Creek Rd	172nd Ave	SW 148th Ave	Widen 2 to 4 Lanes	2.11	2	4.22	OD	13,320	29,160	15,840	33,422
City Major Collector	Blount Rd	Hammondville Rd	Copans Rd	Widen 2 to 4 Lanes	1.00	2	2.00	OD	13,320	29,160	15,840	15,840
Local Street	Bass Creek Rd	SW 184th Ave	SW 172nd Ave	New 4-Lane Road	1.00	4	4.00	OD	0	29,160	29,160	29,160
Local Street	Trails End Rd	SR 817/University Dr	County Line Rd	New 4-Lane Road	1.10	4	4.40	C&G	0	29,160	29,160	32,076
Local Street	SW 210th Terrace	SR 848/Stirling Rd	SW 54th St	New 2-Lane Road	1.20	2	2.40	OD	0	13,320	13,320	15,984
Total (All Roads):							96.72					812,388
City/County Roads:							92.20		95% (a)			766,962
State Roads:							4.52		5% (b)			45,426
Affordable Projects - Curb & Gutter:							27.16		60% (c)			-
Affordable Projects - Open Drainage:							20.66		40% (d)			-
Lane Addition:							55.54		57% (e)			-
New Road Construction:							41.18		43% (f)			-
VMC Added per Lane Mile:											8,400	

Sources: Broward County 2040 Long Range Transportation Plan
 Broward County Road Jurisdiction & Functional Classification Map, February 2017
 Comprehensive Plan Transportation Element Supporting Document, Appendix D
 *"C&G" = Curb & Gutter, "OD" = Open Drainage

Transit Capital Costs

To convert the roadway impact fee into a multi-modal fee, the marginal cost of adding transit infrastructure needs to be considered. This section details the difference in cost per person-mile of capacity between expanding a roadway without transit amenities versus expanding a roadway with transit amenities. This calculation also accounts for the change in roadway PMC that occurs when a bus is on the road.

First, Table D-7 calculates the person-miles of capacity added for each new transit vehicle on the road. This calculation adjusts for the fact that buses have a significantly higher person-capacity than passenger vehicles. This table also identifies transit capital cost variables that will be used to calculate the added capital cost of constructing/expanding a roadway with transit facilities.

Next, Table D-8 combines the roadway VMC and the transit PMC to calculate the marginal change in cost per PMC. First, the roadway characteristics, including cost and capacity, were used to calculate the roadway cost per VMC for a generic 30-mile roadway segment. Then, an adjustment factor was applied to recognize that incorporating transit along a segment of roadway decreases the vehicle-capacity as the bus makes intermittent stops and interrupts the free-flowing traffic. As shown in Table D-8, the bus blockage adjustment factor is much higher for a 2-lane roadway than for a 4-lane roadway. On a 2-lane road, all cars get caught behind the bus during a stop, while on a 4-lane roadway, there is an unobstructed travel lane that cars can use to pass-by or maneuver around the slower transit vehicle. This adjusted VMC was then converted to PMC using the vehicle-miles to person-miles adjustment factor previously discussed in this report. The additional person-capacity from the buses was added to the adjusted roadway PMC. The person-miles of capacity that a transit system would add to the stretch of roadway (Table D-7) mitigates the decrease in vehicle-miles of capacity due to the bus blockage adjustments.

Next, the capital cost of transit infrastructure was added to the capital cost of the roadway expansion for both new road construction (0 to 2 lanes) and lane addition (2 to 4 lanes). With the transit infrastructure included, the updated cost per PMC was calculated, which now reflects the total cost of building a new road with transit, or expanding a roadway and adding transit amenities. When compared to the cost per PMC for simply building/expanding a roadway without transit, the added cost of transit is between six (6) percent and eight (8) percent.

As a final step, the increased costs were then weighted by the lane mile distribution of new road construction and lane addition improvements in the Broward County 2040 Long Range

Transportation Plan. As shown, the plan calls for a slightly higher number of lane addition improvements through 2040. When the marginal cost of transit is included and weighted by this ratio, the resulting percent change is approximately 7.15 percent. Essentially, adding transit results in a slight increase to the cost per person-mile of capacity for new road construction and lane addition improvements.

As it is currently structured, the transit model detailed in Tables D-7 and D-8 assumes that transit-miles and road-miles will be added to the system at the same rate. If the City/County builds more transit-miles, this would increase the bus traffic on existing roads, adding more stops, higher stop frequency, and creating additional bus blockage. As a result, the capital cost per person-mile for a roadway with transit would increase in relation to the ratio of added transit-miles vs. roadway-miles. For example, if the transit-mile investment was double that of roadway construction/expansion, the 7.15 percent change calculated in Table D-8 would increase to approximately 14.3 percent. The annual construction figures for transit-miles and road-miles should be tracked by the City and adjusted for in subsequent multi-modal fee update studies.

Table D-7

Multi-Modal Cost per Person-Mile of Capacity

Input	Local Transit	
Transit Person-Miles of Capacity Calculation		Source:
Vehicle Capacity ⁽¹⁾	53	1) Source: Local transit averages 42 seats with an assumed 25 percent standing room capacity equivalent
Number of Vehicles (20% fleet margin) ⁽²⁾	8	2) Cycle time (Item 9) divided by headway time (Item 6) increased by 20 percent to accommodate the required fleet margin
Service Span (hours) ⁽³⁾	17	3) Source: Assumption based on current BCT routes
Cycles/Hour (aka Peak Vehicles) ⁽⁴⁾	3.00	4) Headway time (Item 6) divided by 60
Cycles per Day ⁽⁵⁾	51	5) Service span (Item 3) multiplied by the cycles/hour (Item 4)
Headway Time (minutes) ⁽⁶⁾	20	6) Source: Assumption based on current BCT routes
Speed (mph) ⁽⁷⁾	14	7) Source: Integrated National Transit Database Analysis System (INTDAS). 6-yr average
Round Trip Length (miles) ⁽⁸⁾	30.0	8) Source: Average trip length of current BCT routes
Cycle Time (minutes) ⁽⁹⁾	129	9) Round trip length (Item 8) divided by speed (Item 7) multiplied by 60
Total Person-Miles of Capacity ⁽¹⁰⁾	81,090	10) Vehicle capacity (Item 1) multiplied by the cycles per day (Item 5) multiplied by the round trip length (Item 8)
Load Factor/System Capacity ⁽¹¹⁾	30%	11) Source: Optimistic assumption based on future goals
Adjusted Person-Miles of Capacity ⁽¹²⁾	24,327	12) Total person-miles of capacity (Item 10) multiplied by the load factor (Item 11)
Capital Cost Variables		
Stops per Mile (w/o Shelter) ⁽¹³⁾	3	13) Source: Model assumes 3 bench stops per mile
Shelters per Mile ⁽¹⁴⁾	1	14) Source: Model assumes 1 shelter stop per mile
Vehicle Cost ⁽¹⁵⁾	\$800,000	15) Source: 2013 TDP Major Update, approximate cost of 42' Hybrid vehicle from the 2013 BCT TDP
Simple Bus Stop ⁽¹⁶⁾	\$12,000	16) Source: 2013 TDP Major Update, includes pad, bench, receptacle, and sign
Sheltered Bus Stop ⁽¹⁷⁾	\$35,000	17) Source: 2013 TDP Major Update

Table D-8

Multi-Modal Transportation Impact Fee: Transit Component Model

Item	New Road Construction		Lane Additions	
	Roadway	Transit	Roadway	Transit
Roadway Characteristics:				
Roadway Cost per Mile ⁽¹⁾	\$4,238,000		\$4,238,000	
Roadway Segment Length (miles) ⁽²⁾	30.0		30.0	
Roadway Segment Cost ⁽³⁾	\$127,140,000	PMC	\$127,140,000	PMC
Average Capacity Added (per mile) ⁽⁴⁾	16,800	23,520	16,800	23,520
VMC/PMC Added (entire segment) ⁽⁵⁾	504,000	705,600	504,000	705,600
Roadway Cost per VMC/PMC ⁽⁶⁾	\$252.26	\$180.19	\$252.26	\$180.19
Transit Capacity:				
Adjustment for Bus Blockage ⁽⁷⁾	3.2%	-	1.6%	-
VMC/PMC Added (transit deduction) ⁽⁸⁾	16,128	22,579	8,064	11,290
VMC/PMC Added (less transit deduction) ⁽⁹⁾	487,872	683,021	495,936	694,310
PMC Added (transit addition ONLY) ⁽¹⁰⁾		<u>24,327</u>		<u>24,327</u>
Net PMC Added (transit effect included) ⁽¹¹⁾		707,348		718,637
Road/Transit Cost per PMC (Road Capital) ⁽¹²⁾		\$179.74		\$176.92
Transit Infrastructure:				
Buses Needed ⁽¹³⁾	8	\$6,400,000	8	\$6,400,000
Stops per mile (both sides of street) ⁽¹⁴⁾	3	\$2,160,000	3	\$2,160,000
Shelters per mile (both sides of street) ⁽¹⁵⁾	1	<u>\$2,100,000</u>	1	<u>\$2,100,000</u>
Total infrastructure ⁽¹⁶⁾		\$10,660,000		\$10,660,000
Multi-Modal Cost per PMC:				
Road/Transit Cost per PMC ⁽¹⁷⁾		\$194.81		\$191.75
Percent Change ⁽¹⁸⁾		8.12%		6.42%
Weighted Multi-Modal Cost per PMC:				
Lane Mile Distribution ⁽¹⁹⁾		43%		57%
Weighted Roadway Cost per PMC ⁽²⁰⁾		\$77.48		\$102.71
Weighted Road/Transit Cost per PMC ⁽²¹⁾		\$83.77		\$109.30
Weighted Average Multi-Modal Cost per PMC:				
Weighted Average Roadway Cost per PMC (new road construction and lane additions) ⁽²²⁾				\$180.19
Weighted Average Road/Transit Cost per PMC (new road construction and lane additions) ⁽²³⁾				\$193.07
Percent Change ⁽²⁴⁾				7.15%

Source:

- 1) Source: Table 1, adjusted to cost "per mile"
- 2) Source: Average length of BCT route
- 3) Roadway cost per mile (Item 1) multiplied by the roadway segment length (Item 2)
- 4) Source: Table 2, adjusted to capacity "per mile"
- 5) Roadway segment length (Item 2) multiplied by the average capacity added (Item 4) for both VMC and PMC
- 6) Roadway segment cost (Item 3) divided by the VMC/PMC added (Item 5) individually
- 7) Source: 2010 Highway Capacity Manual, Equation 18-9
- 8) VMC added (Item 5) multiplied by the adjustment for bus blockage (Item 7). For PMC, multiply the VMC by 1.40 persons per vehicle
- 9) VMC/PMC added (entire segment) (Item 5) less the VMC/PMC added (transit deduction) (Item 8) for VMC and PMC individually
- 10) Source: Table D-7, Adjusted Person-Miles of Capacity (Item 12)
- 11) PMC added (less transit deduction) (Item 9) plus the PMC added (transit addition ONLY) (Item 10)
- 12) Road segment cost (Item 3) divided by the net PMC added (transit effect included) (Item 11)
- 13) Number of vehicles (see Table D-8, Item 2) multiplied by the vehicle cost (see Table D-7, Item 15)
- 14) Stops per mile (3) multiplied by the roadway segment length (Item 2) multiplied by the cost per stop (Table D-7, Item 16)
- 15) Shelters per mile (1) multiplied by the roadway segment length (Item 2) multiplied by the cost per shelter (Table D-7, Item 17)
- 16) Sum of buses needed (Item 13), stops needed (Item 14), and shelters needed (Item 15)
- 17) Sum of the roadway segment cost (Item 3) and the total transit infrastructure cost (Item 16) divided by the net PMC added (Item 11)
- 18) Percent difference between the road/transit cost per PMC (Item 17) and the Roadway cost per PMC (Item 6)
- 19) Source: Estimate based on mix of Affordable and Unfunded Needs Plan improvements (Table D-6, Items e and f)
- 20) Roadway cost per PMC (Item 6) multiplied by the lane mile distribution (Item 19)
- 21) Road/Transit cost per PMC (Item 17) multiplied by the lane mile distribution (Item 19)
- 22) Sum of the weighted roadway cost per PMC (Item 20) for new road construction and lane additions
- 23) Sum of the weighted road/transit cost per PMC (Item 21) for new road construction and lane additions
- 24) Percent difference between the weighted average road/transit cost per PMC (Item 23) and the weighted average roadway cost per PMC (Item 22)

Appendix E
Multi-Modal Transportation Impact Fee
Credit Component

Appendix E: MMTIF – Credit Component

This appendix presents the detailed calculations for the credit component. County fuel taxes that are collected in Broward 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. Ninth-Cent Fuel Tax (1¢/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, this tax is automatically levied on diesel fuel in every county, regardless of whether a County is levying the tax on motor fuel at all.
- Counties are not required to share the proceeds of this tax with their municipalities.

4. 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.

5. 2nd Local Option Tax (up to 5¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county.
- Proceeds may be used to fund transportation expenditures needed to meet requirements of the capital improvements element of an adopted Local Government Comprehensive Plan.
- Proceeds are distributed to a county and its municipalities according to a mutually agreed upon distribution scheme, or by using a formula contained in the Florida Statutes.

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 2017-18 data represent projected fuel tax distributions to Broward County for the current fiscal year. Table E-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 fuel taxes. It is estimated that approximately \$8.3 million of annual revenue will be generated for the County from one penny of fuel tax in Broward County.

Table E-1
Estimated Fuel Tax Distribution Allocated to Capital Programs for
Broward County & Municipalities, FY 2017-18⁽¹⁾

Tax	Amount of Levy per Gallon	Total Distribution	Distribution per Penny
Constitutional Fuel Tax	\$0.02	\$15,601,312	\$7,800,656
County Fuel Tax	\$0.01	\$6,886,023	\$6,886,023
9th Cent Fuel Tax	\$0.01	\$9,468,139	\$9,468,139
1st Local Option (1-6 cents)	\$0.06	\$52,980,664	\$8,830,111
2nd Local Option (1-5 cents)	\$0.05	\$39,483,506	\$7,896,701
Total	\$0.15	\$124,419,644	
Weighted Average per Penny⁽²⁾			\$8,294,643

- 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).

Capital Improvement Credit

For the calculated impact fee, the capital improvement credit includes capacity-expansion expenditures for multi-modal improvements in Hallandale Beach and Broward County.

City Capital Project Funding

A review of Hallandale Beach's future transportation financing programs indicate that the City is primarily funding capacity-expansion improvements with fuel tax and CRA revenues. As shown in Table E-2, a City credit of 0.2 pennies was included in the impact fee calculation.

Table E-2
City Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽²⁾	Equivalent Pennies ⁽³⁾
Projected CIP Expenditures (FY 2018-2022) ⁽¹⁾	\$6,906,066	5	\$8,294,643	\$0.002
Total	\$6,906,066	5	\$8,294,643	\$0.002

1) Source: Table E-5

2) Source: Table E-1

3) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) divided by 100

County Capital Project Funding

As shown in Table E-3, a review of Broward County's future transportation expenditures indicates that transportation capacity improvements are primarily funded through fuel tax revenue. However, in November 2018, Broward County adopted a one-percent charter county surtax specifically for transportation improvements, as part of the "Penny for Transportation" campaign. Using the preliminary project lists developed by Broward County, improvements within Hallandale Beach were identified and included in the credit component. Additionally, a portion of the costs for bus-rapid transit improvements passing through Hallandale Beach were included (using a generous credit of 50%, resulting in a conservative fee). While initial plans show a portion of the sales tax revenues will go to light rail, the impact fee credit in this report does not include any light rail funding. Based on these assumptions, an equivalent credit of approximately 0.3 pennies was calculated for use in the impact fee equation. These assumptions and allocations can be refined at a later date as more detailed project information becomes available. As shown in Table E-3, a county credit of 2.4 pennies was included in the impact fee calculation.

Table E-3
County Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽³⁾	Equivalent Pennies ⁽⁴⁾
Projected CIP Expenditures (FY 2017-2021) ⁽¹⁾	\$89,013,523	5	\$8,294,643	\$0.021
Charter County Surtax (2019-2048) ⁽²⁾	\$86,205,000	30	\$8,294,643	\$0.003
Total				\$0.024

1) Source: Table E-6

2) Source: Table E-7

3) Source: Table E-1

4) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) divided by 100

State Capital Project Funding

In the calculation of the equivalent pennies of fuel tax from the State, expenditures on transportation capacity-expansion spanning a 17-year period (from FY 2007 to FY 2023) were reviewed. From these, a list of improvements was developed, including lane additions, new road construction, intersection improvements, interchanges, traffic signal projects, vehicle acquisition, capital for fixed route service, sidewalks etc. The use of a 17-year period, for purposes of developing a State credit for multi-modal capacity expansion projects, results in a stable credit, as it accounts for volatility in FDOT spending in the County over short periods of time.

The total cost of the transportation capacity-expansion projects for the “historical” periods and the “future” period:

- FY 2007-2011 work plan equates to 8.3 pennies
- FY 2012-2017 work plan equates to 11.4 pennies
- FY 2018-2023 work plan equates to 11.7 pennies

The combined weighted average over the 17-year period of state expenditure for capacity-expansion roadway projects results in a total of 10.6 equivalent pennies. Table E-4 documents this calculation. The specific projects that were used in the equivalent penny calculations are summarized in Table E-8.

Table E-4
State Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽⁴⁾	Equivalent Pennies ⁽⁵⁾
Historical Work Program (FY 2007-2011) ⁽¹⁾	\$343,197,014	5	\$8,294,643	\$0.083
Historical Work Program (FY 2012-2017) ⁽²⁾	\$569,376,543	6	\$8,294,643	\$0.114
Projected Work Program (FY 2018-2023) ⁽³⁾	<u>\$580,582,662</u>	<u>6</u>	\$8,294,643	\$0.117
Total	\$1,493,156,219	17	\$8,294,643	\$0.106

1) Source: Table E-8

2) Source: Table E-8

3) Source: Table E-8

4) Source: Table E-1

5) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) divided by 100

Table E-5
City of Hallandale Beach Capital Improvement Plan – Capacity Projects

ID	Description	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	Total
<i>Right-of-Way Projects</i>							
-	Diana Dr	\$0	\$1,100,000	\$0	\$0	\$0	\$1,100,000
-	NW 14th Ave Roadway & Streetscape Improvements	\$300,000	\$0	\$0	\$0	\$0	\$300,000
-	Complete Streets Roadway Improvements	\$0	\$0	\$500,000	\$500,000	\$500,000	\$1,500,000
-	Atlantic Shores Roadway Improvement Projects	<u>\$506,066</u>	<u>\$0</u>	<u>\$1,000,000</u>	<u>\$1,250,000</u>	<u>\$1,250,000</u>	<u>\$4,006,066</u>
Total		\$806,066	\$1,100,000	\$1,500,000	\$1,750,000	\$1,750,000	\$6,906,066

Source: City of Hallandale Beach Budget Department

Table E-6
Broward County FY 2017-2021 Capital Improvement Program – Capacity Projects

ID	Description	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Road Projects							
-	Davie Rd Extension, Stirling to University	\$3,654,000	\$0	\$0	\$0	\$0	\$3,654,000
-	Wiles Rd, Riverside to Rock Island	\$6,300,000	\$0	\$0	\$0	\$0	\$6,300,000
-	Wiles Rd, University to Riverside	\$1,200,000	\$0	\$6,250,000	\$0	\$0	\$7,450,000
-	Wiles Rd, Rock Island to SR 7	\$790,000	\$0	\$0	\$0	\$0	\$790,000
-	Pembroke Rd, Dykes to Silver Shore	\$3,686,023	\$0	\$0	\$0	\$0	\$3,686,023
-	Ravenswood Rd, Griffin to Stirling	\$557,000	\$0	\$0	\$0	\$0	\$557,000
-	Loxahatchee Rd, Parkside Dr to Wildlife Refuge	\$0	\$0	\$3,765,000	\$0	\$0	\$3,765,000
-	Sheridan St and Dykes Rd	\$120,000	\$0	\$2,160,000	\$0	\$0	\$2,280,000
Maintenance and Improvement Projects							
-	Sidewalks/ADA	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$6,000,000
-	Bike Lane Construction	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
Traffic Engineering Projects							
-	Traffic Control Devices & Equipment	\$4,107,000	\$4,312,350	\$4,528,000	\$4,754,000	\$4,992,000	\$22,693,350
-	Mast Arms	\$3,090,000	\$3,090,000	\$3,090,000	\$3,090,000	\$3,090,000	\$15,450,000
-	Communication System Maintenance & Enhancement	\$300,000	\$400,000	\$400,000	\$400,000	\$400,000	\$1,900,000
Capital Program Support							
-	Capital Cost Allocation	\$688,540	\$688,540	\$688,540	\$688,540	\$688,540	\$3,442,700
-	Capital Project Highway Construction & Engineering Support	\$1,367,050	\$1,367,050	\$1,367,050	\$1,025,300	\$769,000	\$5,895,450
Reserves and Transfers							
-	Transfer to Transit Capital Fund for Concurrency Projects	\$3,150,000	\$0	\$0	\$0	\$0	\$3,150,000
Capital Expenditures:							
		\$30,709,613	\$11,557,940	\$23,948,590	\$11,657,840	\$11,639,540	\$89,513,523
Impact Fee Funding for "Road Projects":		-	-	-	-	-	\$500,000
Non-Impact Fee Funded Expenditures:		-	-	-	-	-	\$89,013,523

Source: Broward County FY 2017-2021 CIP

Table E-7
Charter County Surtax Capacity Addition Projects in Hallandale Beach

Jurisdiction	Project ID	Project Name	Amount
City Projects			
Hallandale Beach	HALL-006	South Old Dixie Highway 2-way Conversion Project	\$5,000,000
Hallandale Beach	HALL-005	City-Wide Bus Shelter Improvements	\$3,000,000
Hallandale Beach	HALL-007	SE 1st Ave Lane Elimination and Complete Street	\$395,000
Hallandale Beach	HALL-008.2	NE 1st Ave Lane Elimination and Complete Street	\$2,700,000
Hallandale Beach	HALL-009	Diana Drive Extension Project	\$900,000
Hallandale Beach	HALL-010	Church Drive Complete Street Project	\$1,100,000
Hallandale Beach	HALL-013	Hallandale Beach Boulevard, US1, Pembroke Road & A1A	\$780,000
Hallandale Beach	HALL-014	NW 3rd Street Expansion Complete Street Project	\$1,450,000
Hallandale Beach	HALL-015	Old Federal Highway & SE 3rd Street Safety Project	\$25,000
Hallandale Beach	HALL-016	SE/SW 3rd Street	\$405,000
Hallandale Beach	HALL-020	Three Islands Boulevard	\$215,000
Hallandale Beach	HALL-025	Community Bus Fleet Trolley Modernization	\$600,000
Hallandale Beach	HALL-024	Community Bus Service	\$2,200,000
Hallandale Beach	HALL-017	SE 4th Street Facility Extension	\$260,000
Hallandale Beach	HALL-023	County Line Road/ SW 11th St	\$200,000
Hallandale Beach	HALL-018	SE 9th Street FEC Rail Crossing Realignment	\$1,700,000
Hallandale Beach	HALL-027	Hallandale Beach Coastal Link Station	\$5,000,000
Hallandale Beach	HALL-026	City-wide Bus Stops Digital Signage	\$520,000
Hallandale Beach	HALL-022	Parkview Drive	\$75,000
Hallandale Beach	HALL-019	NW/SW 8th Ave Complete Street Project	\$1,500,000
Hallandale Beach	HALL-021	Diplomat Parkway	\$395,000
Hallandale Beach	HALL-008.1	Diana Drive Complete Street Project	\$2,500,000
Hallandale Beach	HALL-001	Atlantic Shores Blvd. Roadway Improvement	\$335,000
County Projects			
Broward County	345	Dixie Hwy Bike Lanes	\$7,525,000
Broward County	394	Foster Rd and NW 2nd Ave Mast Arms	\$600,000
Broward County	630	Hallandale Beach Blvd Adaptive Signal Control	\$1,275,000
Broward County	640	US-1 Adaptive Signal Control	\$5,550,000
Broward County	734	US 1 Rapid Bus*	\$40,000,000
Total			
			\$86,205,000

Source: Broward County

*Portion of BRT located in Hallandale Beach was estimated at 50 percent for credit purposes

Table E-8

[illegible]

Table E-8 (continued)
Broward County FDOT Work Program, FY 2007 to FY 2023

Item No.	Project Description	Work Type	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	FY 2021	FY 2022	FY 2023	Total
416319-1	COCONUT CREEK EDUCATIONAL CORRIDOR	PRELIMINARY ENGINEERING	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000
416404-1	BROWARD COUNTY POMPANO STATION PARKING EXPANSION	PARK AND RIDE LOTS		\$500,000	\$155,261	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$655,261
416405-1	SR-84/TRAIL/GREENWAY FROM MARKHAM PARK TO 136TH AVE	BIKE PATH/TRAIL	\$0	\$0	\$1,970,021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,970,021
416405-2	SR-84/TRAIL/GREENWAY FROM 136TH AVE TO UNIVERSITY DRIVE	BIKE PATH/TRAIL	\$0	\$0	\$0	\$0	\$401,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$401,000
416527-1	BROWARD CO SEC 5309 CLEAN AIR COOPERATIVE ALT FUEL VEHICLES	TRANSIT IMPROVEMENT	\$0	\$2,475,073	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,475,073
416582-1	BROWARD COUNTY SIDEWALKS @ VARIOUS SPOTS	SIDEWALK	\$30,977	\$0	\$504	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,481
416871-2	SR-842/LAS OLAS BLVD FR SE 16TH AVE TO W. OF ICWW BRIDGE	PRELIMINARY ENGINEERING	\$0	\$0	\$0	\$0	\$0	\$0	\$28,168	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$28,168
417059-1	SR-84 @ ANDREWS AVE	ADD TURN LANE(S)	\$21,594	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,594
417060-1	SR-84 @SW 4TH AVE	ADD TURN LANE(S)	\$2,444	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,444
417980-1	SFRTA FT LAUD A/P TRI-RAIL STATION PARKING CAPACITY IMPROVEMENTS	INTERMODAL HUB CAPACITY	\$0	\$0	\$3,526,000	\$800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,326,000
418048-1	SR-838/SUNRISE BLVD FROM E. OF SR-7 TO NW 34TH AVE	SIDEWALK	\$1,288,682	\$66,204	\$511	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,355,397
418048-2	SR-823/FLAMINGO RD FROM PINES BLVD TO TAFT STREET	SIDEWALK	\$0	\$0	\$2,388	\$4,776	\$259,490	\$1,869	\$0	\$465	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$268,988
418930-1	CENTRAL CITY UNEAR PARK TRAIL - PHASE II IN PLANTATION	BIKE PATH/TRAIL	\$0	\$0	\$0	\$406,712	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$406,712
419059-2	FEC R/R LEASE @ 48TH STREET IN POMPANO BCH	RIGHT OF WAY ACTIVITIES	\$0	\$0	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1
419675-1	SR-811/DIXIE HWY @ NE 38TH STREET INTERSECTION IMPROVEMENT	INTERCHANGE IMPROVEMENT	\$0	\$0	\$0	\$979,252	\$0	\$76	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$979,328
420328-1	SW 50 AVE/CC CIRCLE FROM PETERS ROAD SW 6 COURT	BIKE PATH/TRAIL	\$0	\$0	\$0	\$0	\$505,368	\$1,715	\$792	\$128	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$508,003
420329-1	N.E. 3 RD STREET FROM CR-811/DIXIE HIGHWAY TO 5TH AVENUE	BIKE PATH/TRAIL	\$0	\$0	\$0	\$0	\$436,530	\$9,202	\$64	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$445,796
420332-1	SW 48TH AVE FROM CITY LIMITS TO HALLANDALE BEACH BLVD	SIDEWALK	\$0	\$0	\$0	\$58,712	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$58,712
420336-1	NE 44TH STREET CITY OF LIGHTHOUSE POINT SIDEWALKS	SIDEWALK	\$0	\$0	\$130,000	\$51,073	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$181,073
420416-1	RELIEVER ROAD/A1A FROM A1A/HILLSBORO BLVD TO A1A/NE 7TH STREET	PD&E/EMO STUDY	\$785,000	\$0	\$375,068	\$67	\$103,203	\$569,677	\$2,830	\$5,061	\$1,532	\$3,086	\$232	\$0	\$0	\$0	\$0	\$0	\$0	\$1,845,756
420490-1	COCONUT CREEK BUS SHELTER CONSTRUCTION	TRANSIT IMPROVEMENT	\$24,598	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,598
421182-1	PARK & RIDE LOT BROWARD MALL - PLANTATION	PARK AND RIDE LOTS	\$142,889	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$142,889
421183-1	PARK & RIDE LOT TRI-RAIL LOT POMPANO BEACH	PARK AND RIDE LOTS	\$174,982	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,982
421261-1	SR-818/GRIFFIN RD @ SW 106TH AVE	TRAFFIC SIGNALS	\$174,125	\$24,769	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$198,894
421390-4	DOWNTOWN FORT LAUDERDALE WAVE STREETCAR	TRANSIT IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23,360,000	\$11,536,868	\$0	\$1,140,000	\$0	\$0	\$0	\$0	\$0	\$0	\$36,036,868
421390-7	DOWNTOWN FORT LAUDERDALE WAVE STREETCAR	TRANSIT IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$105,486,102	\$1,308,400	\$2,770,712	\$2,752,252	\$1,184,990	\$0	\$113,502,456
421390-8	DOWNTOWN FORT LAUDERDALE WAVE STREETCAR	TRANSIT IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,725,360	\$0	\$0	\$0	\$0	\$0	\$1,725,360
421501-1	BROWARD COUNTY JOINT PUBLIC/PRIVATE BICYCLE STATION	TRANSIT IMPROVEMENT	\$150,000	\$161,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$311,000
421866-1	BROWARD CO BCT TRIP BUS STOPS/BUS BAYS	TRANSIT IMPROVEMENT	\$0	\$750,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$750,000
422211-1	HOLMBERG ROAD PEDESTRIAN/BICYCLE FACILITIES & LANDSCAPING	SIDEWALK	\$0	\$0	\$0	\$202,473	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$202,473
422213-1	US-441/OAKES ROAD GATEWAY ENHANCEMENT PROJ.	SIDEWALK	\$0	\$0	\$0	\$112,977	\$0	\$206	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$113,183
422265-1	GOOLSBY BLVD W ENTRANCE TO TRI-RAIL	SIDEWALK	\$0	\$0	\$359,670	\$42,120	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$401,790
422276-1	SR-A1A FROM N OF COUNTYLINE RD TO HALLANDALE BCH BLVD	SIDEWALK	\$0	\$0	\$0	\$0	\$1,190	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,190
422778-1	NOVA SOUTHEASTERN UNIVERSITY, INTERACTIVE SIGNAGE, TRANSIT INFO	TRANSIT IMPROVEMENT	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
422821-1	SR-A1A/N. OCEAN BLVD @ ATLANTIC BLVD/MP 9.78 TO MP 9.85	INTERSECTION IMPROVEMENT	\$38,963	\$300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$39,263
422871-1	BLOUNT ROAD FROM HAMMONDVILLE ROAD TO COPANS ROAD	SIDEWALK	\$0	\$0	\$0	\$230,530	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$230,530
423183-1	SOUTH MIAMI RD FROM SE 12TH STREET TO SE 17TH STREET	SIDEWALK	\$0	\$0	\$0	\$0	\$75,298	\$1,149	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$76,447
423184-1	SE 10TH AVE FROM SE 12TH STREET TO SE 17TH STREET	SIDEWALK	\$0	\$0	\$0	\$98,058	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$98,058
423185-1	NW 7TH TERRACE FROM NW 12TH STREET TO NW 13TH STREET	SIDEWALK	\$0	\$0	\$0	\$28,365	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$28,365
423223-1	SFRTA CYPREES CREEK PARK & RIDE LOT PLATFORM IMPROVEMENTS	PARK AND RIDE LOTS	\$0	\$61,853	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$61,853
423393-1	BROWARD/I-95 EXPRESS BUS PURCHASE & STATION IMPROVEMENTS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$0	\$106,616	\$1,977,833	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,084,449
423393-2	BROWARD/I-95 EXPRESS BUS PURCHASE & STATION IMPROVEMENTS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,843,206	\$1,748,392	\$1,748,392	\$1,748,392	\$1,748,392	\$874,196	\$0	\$10,710,970
423976-1	I-595/SR-862/P3 BCT PURCHASE BUSES AND OPERATIONS	PURCHASE VEHICLES/EQUIPMENT	\$0	\$0	\$0	\$13,783,806	\$1,540,000	\$0	\$1,810,000	\$2,100,000	\$934,214	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,168,020
423976-2	I-595/SR-862/P3 BCT PURCHASE BUSES AND OPERATIONS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
423976-3	I-595/SR-862/P3 BCT PURCHASE BUSES AND OPERATIONS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$0	\$5,070	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,070
424139-1	PALM AVE FROM STIRLING ROAD TO GRIFFIN ROAD	ADD LANES & RECONSTRUCT	\$0	\$0	\$4,114,216	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,114,216
424311-1	SR-7/US-441 @ 11 TH PLACE CITY OF LAUDERHILL	INTERCHANGE IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$698,887	\$1,104	\$1,453	\$135	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$701,579
424523-1	SR-820/PINES BLVD @ HIATUS ROAD JPA FOR MAST ARMS	TRAFFIC SIGNALS	\$0	\$87,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$87,000
424528-1	BROWARD COUNTY BCT OAKLAND PRK BLVD CORRIDOR PURCHASE ARTICULATED BUS	PURCHASE VEHICLES/EQUIPMENT	\$0	\$2,481,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,481,000
424745-1	SR-5/US-1 @ NE 21ST STREET FT LAUDERDALE	TRAFFIC SIGNALS	\$0	\$0	\$45,957	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$45,957
425120-1	WESTON BUS SHELTERS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000
425122-1	CITY OF PLANTATION BUS SHELTERS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$8,085	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,085
425123-1	CITY FT LAUDERDALE PROGRESSO NEIGHBORHOOD TRANSIT PED CORRIDOR	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$300,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$300,000
425124-1	CITY FT LAUDERDALE SISTRUNK PEDESTRIAN CORRIDORS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$375,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$375,000
425125-1	CITY FT LAUDERDALE NW FT LAUDERDALE PEDESTRIAN CORRIDORS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$268,405	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$268,405
425417-2	PINE ISLAND ROAD AT NW 57TH STREET AND NW 67TH COURT	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$285,357	\$0	\$0	\$0	\$0	\$290,357
425534-1	COCONUT CREEK PRKWAY FROM BANKS RD TO FL TPKE	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$3,579	\$2,275,216	\$3,207	\$5,446	\$467	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,287,915
425535-1	TAMARAC BIKEWAY/ WALKWAY SYSTEM (PHASE 2) VARIOUS LOCATION	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$767,752	\$16,400	\$581	\$1,955	\$1,675	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$788,363
425535-2	TAMARAC BIKEWAY/ WALKWAY SYSTEM (PHASE 3) VARIOUS LOCATION	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$649	\$929,657	\$297	\$401	\$243	\$3,546	\$0	\$0	\$0	\$0	\$0	\$934,793
425538-1	NW 39 STREET GREENWAY FROM NW 29TH AVE TO NW 21ST AVE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$744,706	\$517	\$101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$745,324
425606-1	SR-A1A/DANIA BEACH @ ICWW BRIDGE LOOP RAMP	SIDEWALK	\$0	\$0	\$88,891	\$143,709	\$20,388	\$618	\$1,010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$254,616
425769-1	SR-822/SHERIDAN ST FROM WEST LAKE PARK TO ANNE KOLB NATURE CTR ENTR	SIDEWALK	\$0	\$0	\$0	\$17,263	\$64,465	\$544,689	\$14,980	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$641,397
425816-1	SR-25/US-27 FROM S. OF PINES BLVD TO N. OF GRIFFIN ROAD	OTHER ITS	\$0	\$0	\$570	\$4,378	\$1,311,550	\$98,666	\$18,396	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,433,560
425859-1	WILES ROAD FROM ROCK ISLAND ROAD TO SR-7/US-441	ADD LANES & REHABILITATE PVMNT	\$0	\$0	\$0	\$0	\$0	\$501,885	\$0	\$5,625,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,126,885
425861-2	COLLEGE AVE-PHASE 1 FROM 30TH STREET TO NOVA DRIVE	ADD LANES & REHABILITATE PVMNT	\$0	\$0	\$0	\$0	\$947,890	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$947,890
425861-3	COLLEGE AVENUE PHASE 2 FROM NOVA DRIVE TO SR-84	ADD LANES & REHABILITATE PVMNT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,705,312	\$0	\$0	\$0	\$0	\$1,705,312
426202-1	ARRA BROWARD COUNTY CNTYWDE PASNGER SHELTERS VARIOUS LOCATIONS	PUBLIC TRANSPORTATION SHELTER	\$0	\$0	\$0	\$2,670,298	\$12,990	\$18,633	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,701,921
426382-1	PEMBROKE RD & 196TH AVE; CITY-PEMBROKE PINES MULTI-USE PATHS	BIKE PATH/TRAIL	\$0	\$0	\$519,215	\$40,365	\$0	\$0	\$0	\$0	\$0									

Table E-8 (continued)

Broward County FDOT Work Program, FY 2007 to FY 2023

Item No.	Project Description	Work Type	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	FY 2021	FY 2022	FY 2023	Total
427769-1	SW 56 AVENUE FROM COUNTYLINE ROAD TO PEMBROKE ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$5,070	\$590,731	\$3,593	\$1,204	\$0	\$0	\$1,056	\$0	\$0	\$0	\$0	\$0	\$601,654
427801-1	BROWARD COUNTY JPA SIGNAL MAINTENANCE & OPS ON SHS	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$1,243,904	\$1,281,793	\$1,319,766	\$1,366,791	\$1,423,106	\$1,468,822	\$1,495,361	\$3,484,530	\$3,579,420	\$3,676,914	\$3,777,085	\$3,883,618	\$3,988,476	\$31,989,586
427858-1	DAVIE ROAD FROM NOVA DRIVE TO SR-84	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$49,164	\$0	\$0	\$418,835	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$467,999
427927-1	SR-824/PEMBROKE ROAD @ SW 31ST AVE	TRAFFIC SIGNALS	\$0	\$0	\$0	\$1,464	\$133,640	\$15,645	\$370,514	\$24,845	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$546,108
427937-1	SR-7/US-441 FROM SOUTH OF SR-834/SAMPLE ROAD TO BROWARD/PB COUNTYLINE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$1,791,722	\$31,569	\$21,623	\$21,422	\$521,604	\$421,233	\$13,231,553	\$176,743	\$0	\$0	\$0	\$0	\$0	\$16,217,469
427937-2	SR-7/US-441 FROM SR-870/COMMERCIAL BOULEVARD TO SR-834/SAMPLE ROAD	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$565	\$54,940	\$2,501,125	\$152,323	\$0	\$0	\$0	\$0	\$0	\$2,708,953
427960-1	LYONS RD/31ST AVE FROM FL TURNPIKE TO FERN FOREST NATURE CENTER	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$526	\$298,468	\$1,944	\$305	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$301,243
427971-1	ATMS INSTALLATION IN CENTRAL BROWARD COUNTY	TRAFFIC CONTROL DEVICES/SYSTEM	\$0	\$0	\$0	\$0	\$78,177	\$10,455,873	\$32,848	\$37,528	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,604,426
428009-1	SR-9/I-95 FROM MIAMI-DADE/BROW CL TO DAVIE BLVD.	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$24,606	\$532,396	\$431	\$351	\$670,707	\$1,049	\$79	\$6,491	\$0	\$0	\$0	\$0	\$0	\$1,236,110
428273-1	SR-7/US-441 @ SOUTHGATE BLVD	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$148,606	\$41	\$6,104	\$856,548	\$21,618	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,032,917
428274-1	SR-845/POWERLINE RD @ NW 40TH COURT	TRAFFIC SIGNALS	\$0	\$0	\$0	\$1,542	\$126,299	\$9,340	\$327,621	\$98,821	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$563,623
428275-1	SR-820/HOLLYWOOD BLV @ 35TH AVE	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$1,516	\$94,557	\$7,820	\$249,728	\$41,928	\$0	\$109	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$395,658
428449-1	SR-25/US-27 FROM N. OF GRIFFIN ROAD TO BROWARD/PB COUNTY LINE	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$140,412	\$17,089	\$2,902,711	\$14,293	\$96,178	\$37,372	\$51,018	\$17,829	\$0	\$0	\$0	\$0	\$0	\$0	\$3,276,902
428727-2	SR-A1A/SOUTH OCEAN DR FR COUNTYLINE RD TO SR-858/HALLANDALE BEACH BLVD	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$83,390	\$1,554,665	\$9,998	\$127,619	\$0	\$0	\$0	\$0	\$0	\$1,775,672
429366-1	SR-817/UNIVERSITY DR @ NOVA DRIVE	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$302,171	\$316,983	\$130,378	\$2,806,340	\$33,640	\$363	\$83,643	\$0	\$0	\$0	\$0	\$0	\$3,673,518
429367-1	SADDLE CLUB ROAD @ LAKEVIEW DRIVE	ROUNDABOUT	\$0	\$0	\$0	\$0	\$0	\$2,298	\$464,520	\$617	\$1,347	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$468,782
429569-5	SR-816/OAKLAND PARK BLV TRANSIT & MOBILITY PROJECTS @ VARIOUS ROADWAYS	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,378,307	\$0	\$0	\$4,378,307
429575-1	SR-5/US-1 FROM THE MIAMI-DADE COUNTY LINE TO SR-842/BROWARD BLVD	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$149,981	\$0	\$0	\$0	\$589,193	\$19,317	\$0	\$0	\$0	\$0	\$0	\$758,491
429576-2	SR-7/US-441 TRANSIT CORRIDOR IMPROVEMENTS GROUP/PRIORITY 1	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$480,000	\$0	\$0	\$2,382,034	\$0	\$2,862,034
429576-3	SR-7/US-441 TRANSIT CORRIDOR IMPROVEMENTS GROUP/PRIORITY 2	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$605,000	\$0	\$0	\$0	\$5,280,125	\$5,885,125
429576-4	SR-7/US-441 TRANSIT CORRIDOR IMPROVEMENTS GROUP/PRIORITY 4	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$591,000	\$0	\$0	\$4,144,380	\$4,735,380
429576-5	SR-7/US-441 TRANSIT CORRIDOR IMPROVEMENTS GROUP/PRIORITY 5	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000	\$0	\$0	\$3,217,665	\$3,717,665
429653-1	HARLEM MCBRIDE/NE 34 CT FROM NE 2ND AVE TO DIXIE HIGHWAY	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$2,324	\$993,045	\$4,414	\$1,148	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,931
429655-1	SR-817/UNIVERSITY DR FROM NW 44 ST TO COMMERCIAL BLVD	PUBLIC TRANSPORTATION SHELTER	\$0	\$0	\$0	\$0	\$0	\$0	\$469	\$183,065	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$183,534
429656-1	ANSIN BLVD FROM HALLANDALE BCH BLVD TO FOSTER ROAD	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$522	\$335,976	\$30,872	\$2,136	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$369,506
429686-1	BROWARD COUNTY ATMS MAINTENANCE	OTHER ITS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$997,184	\$1,062,632	\$1,124,504	\$1,145,160	\$0	\$0	\$0	\$0	\$0	\$4,329,480
429686-2	BROWARD COUNTY ATMS MAINTENANCE	OTHER ITS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,170,165	\$1,170,165	\$1,170,165	\$1,170,165	\$1,170,165	\$5,850,825
429686-4	BROWARD COUNTY ATMS MAINTENANCE	OTHER ITS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,145,160	\$1,145,160	\$1,148,160	\$1,145,160	\$1,145,160	\$5,728,800
429739-1	SR-822/SHERIDAN ST FROM I/CWW BRIDGE TO SR-A1A	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$226,053	\$33,651	\$2,187,776	\$189,345	\$1,353	\$41	\$106	\$0	\$0	\$0	\$0	\$0	\$2,638,325
429740-1	SR-848/STIRLING RD @ OAKWOOD BLVD	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$150,243	\$18,453	\$8,773	\$539,666	\$5,502	\$456	\$19,321	\$0	\$0	\$0	\$0	\$0	\$742,414
429741-1	SR-814/ATLANTIC BLVD @ NB TURNPIKE OFF-RAMP	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$144,636	\$6,681	\$22,731	\$547,746	\$22,919	\$0	\$57,064	\$0	\$0	\$0	\$0	\$0	\$801,777
429783-1	PINE ISLAND ROAD FROM NOVA DRIVE TO I-595	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,825,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,825,000
430196-1	SR-838/SUNRISE BLVD @ NW 24 AVENUE	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$156,227	\$47,417	\$9,850	\$455,915	\$4,893	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$674,302
430295-1	BROWARD CO. TRANSIT CB SMITH PARK & RIDE EXPANSION	PARK AND RIDE LOTS	\$0	\$0	\$0	\$0	\$0	\$912,722	\$0	\$233,223	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,145,945
430295-2	BROWARD CO. TRANSIT CB SMITH PARK & RIDE EXPANSION	PARK AND RIDE LOTS	\$0	\$0	\$0	\$0	\$0	\$41,748	\$127,565	\$0	\$90	\$0	\$0	\$805	\$0	\$0	\$0	\$0	\$0	\$170,208
430298-1	SFRTA BROWARD COUNTY TRANSIT CORRIDOR	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000
430590-2	SR-824/PEMBROKE ROAD FR. W. OF DIXIE HWY. TO E. OF S. 21ST AVE/NE 1ST	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$184,433	\$107,531	\$787,587	\$0	\$0	\$0	\$0	\$1,079,551
430613-1	US-1 FEDERAL HIGHWAY KINNEY TUNNEL, INDEPTH INSPECTION & TESTING	PRELIMINARY ENGINEERING	\$0	\$0	\$0	\$0	\$0	\$0	\$445,141	\$18,241	\$40,664	\$13,734	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$517,780
430763-4	SR-93/I-75 FROM MIAMI-DADE/BROWARD CL TO I-595	PURCHASE VEHICLES/EQUIPMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,090,000	\$0	\$1,300,000	\$1,339,000	\$1,379,170	\$1,420,545	\$1,463,161	\$1,463,161	\$12,455,037
430798-1	SR-816/OAKLAND PK BLV @ NW 56 AVE/INVERRARY BLV	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$143,912	\$14,754	\$551,529	\$99,725	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$809,920
430801-1	SR-7/US-441 @ SR-818/GRIFFIN ROAD (PROJECT B/C RATIO = 6.7)	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$7,434	\$116,527	\$757,064	\$66,021	\$2,382	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$949,428
430947-1	ITS EQUIPMENT REPLACEMENT CONSULTANT / GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,138,708	\$0	\$0	\$5,000	\$0	\$0	\$0	\$0	\$0	\$2,143,708
430947-2	ITS EQUIPMENT REPLACEMENT CONSULTANT / GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$920,135	\$0	\$0	\$0	\$0	\$0	\$0	\$920,135
430947-3	ITS EQUIPMENT REPLACEMENT CONSULTANT / GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,964,960	\$0	\$0	\$0	\$0	\$0	\$1,964,960
430947-4	ITS EQUIPMENT REPLACEMENT CONSULTANT / GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,969,000	\$0	\$0	\$0	\$0	\$1,969,000
430947-5	ITS EQUIPMENT REPLACEMENT CONSULTANT / GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,594,000	\$0	\$0	\$0	\$7,594,000
430947-6	ITS EQUIPMENT REPLACEMENT CONSULTANT/ GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$710,000	\$0	\$0	\$710,000
430947-7	ITS EQUIPMENT REPLACEMENT CONSULTANT/ GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,121,000	\$0	\$1,121,000
430947-8	ITS EQUIPMENT REPLACEMENT CONSULTANT/ GRANT	ITS COMMUNICATION SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,019,000	\$3,019,000
431148-1	SR-811/DIXIE HWY NB RTL @ NE 48 STREET	RIGHT OF WAY ACTIVITIES	\$0	\$0	\$0	\$0	\$0	\$112,976	\$21,273	\$21,912	\$18,185	\$18,000	\$18,000	\$25,750	\$28,623	\$25,000	\$25,000	\$25,000	\$0	\$339,719
431148-3	SR-811/DIXIE HWY NB RTL @ NE 48 STREET	RIGHT OF WAY ACTIVITIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000	\$125,000	\$0	\$0	\$145,000
431204-1	SR-A1A FR. SR-816/OAKLAND PARK BLVD. TO FLAMINGO AVE.	BIKE PATH/TRAIL	\$0	\$0	\$0	\$0	\$0	\$13,029	\$1,000,077	\$171,329	\$10,625,311	\$168,937	\$761,496	\$77,502	\$0	\$0	\$0	\$0	\$0	\$12,817,681
431590-1	ATMS FOR 3 CORRIDORS @ SR-817, SR-818 & SR-7	ATMS - ARTERIAL TRAFFIC MGMT	\$0	\$0	\$0	\$0	\$0	\$0	\$119,755	\$5,725,342	\$70,728	\$172,496	\$141,935	\$574	\$0	\$0	\$0	\$0	\$0	\$6,230,830
431657-1	SR-811/DIXIE HWY/NE 4 AVE FR SR-838/SUNRISE BLVD TO NE 26TH STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$547,581	\$334,584	\$4,358,650	\$0	\$0	\$0	\$0	\$0	\$5,240,815
431665-1	NW 19TH STREET FROM SR-7 TO SR-845/POWERLINE ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$566,137	\$81,867	\$23,888	\$2,029,930	\$0	\$0	\$0	\$0	\$0	\$2,701,822
431666-1	SUNSET STRIP FROM NOB HILL ROAD TO SR-838/SUNRISE BLVD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$426,123	\$284,367	\$4,048,910	\$216,820	\$0	\$0	\$0	\$0	\$0	\$4,976,220
431669-1	LAS OLAS BLVD FROM ANDREWS AVENUE TO SE 15TH AVENUE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$186,348	\$753,000	\$10,000	\$1,055,074	\$0	\$0	\$0	\$0	\$2,004,422
431672-1	NE 6TH AVENUE FROM SR-816/OAKLAND PARK BLVD TO SR-870/COMMERCIAL BLVD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$276,465	\$464,783	\$91,724	\$0	\$0	\$0	\$0	\$0	\$832,972
431674-1	NW 29TH STREET FROM CORAL SPRINGS DR TO CORAL HILLS DRIVE	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$485	\$1,394	\$413,222	\$29,885	\$526	\$0	\$0	\$0	\$0	\$0	\$0	\$445,512
431678-1	SE 3RD AVENUE FROM SE 17TH STREET TO SE 6TH STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$379,460	\$21,932	\$2,866	\$4,315	\$0	\$0	\$0	\$0	\$0	\$408,573
431678-2	SE 3 AVE FROM SE 17 ST TO SE 6 ST	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$460,000	\$0	\$460,000
431679-1	NW 38TH STREET FROM PARK DRIVE TO SR-845/POWERLINE RD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$138	\$4,872	\$940,978	\$3,184	\$7,259	\$0	\$0	\$0	\$0	\$0	\$0	\$956,431
431687-1	COMMODORE DRIVE FROM NORTH OF SR-84 TO NW 8TH STREET	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$125,218	\$332,514	\$48,997	\$0	\$0				

Table E-8 (continued)

Broward County FDOT Work Program, FY 2007 to FY 2023

Item No.	Project Description	Work Type	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	FY 2021	FY 2022	FY 2023	Total
431770-5	CITY OF HOLLYWOOD MOBILITY IMPROVEMENTS @ VARIOUS LOCATIONS	BIKE PATH/TRAIL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000	\$3,016,098	\$0	\$0	\$0	\$0	\$3,026,098
431802-1	BROWARD COUNTY INSTALL PIVOTAL HANGERS ON TRAFFIC SIGNALS	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$34,253	\$773,346	\$98,630	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$906,229
432066-3	SR-817/UNIVERSITY DR FR SR-858/HALLANDALE BCH BLVD TO SR-834/SAMPLE RD	PRELIMINARY ENGINEERING	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,275,848	\$105,806	\$1,723,702	\$66,135	\$0	\$0	\$0	\$0	\$0	\$3,171,491
432066-4	SR-817/UNIVERSITY DR FROM S OF MCNAB RD TO N OF NW 78TH ST	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,116,573	\$0	\$0	\$0	\$0	\$0	\$3,116,573
432066-5	SR-817/UNIVERSITY DRIVE FROM S OF SPRINGTREE DRIVE TO NW 45TH COURT	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,646,860	\$0	\$0	\$0	\$0	\$3,646,860
432066-6	SR-817/UNIVERSITY DRIVE FROM NW 45TH COURT TO N OF NW 57TH STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$200,000	\$3,937,909	\$0	\$0	\$0	\$0	\$4,137,909
432066-7	SR-817/UNIVERSITY DR FROM NW 28TH STREET TO N OF SR-834/SAMPLE ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$323,000	\$0	\$0	\$2,213,870	\$0	\$2,536,870
432066-8	SR-817/UNIVERSITY DRIVE FROM N OF RIVIERA BLVD TO N SR-824/PEMBROKE RD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,115,000	\$0	\$7,748,910	\$0	\$8,863,910
432066-9	SR-817/UNIVERSITY DRIVE FROM N OF WB SR-84 TO N OF NW 1ST STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,215,000	\$0	\$8,769,441	\$0	\$9,984,441
432724-1	SR-838/SUNRISE BLVD FR SR-869/SAWGRASS EXPWY TO SR-A1A	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000	\$260,784	\$187	\$0	\$0	\$0	\$0	\$0	\$0	\$485,971
432759-1	SR-7/US-441 SEMINOLE WAY TO LUCKY STREET	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$62,154	\$404,361	\$28,101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$494,616
432786-1	SR-834/SAMPLE RD FROM WEST OF SR-817 TO SR-811/DIXIE HWY	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$224,938	\$255,000	\$0	\$0	\$0	\$0	\$0	\$479,938
432949-1	OLD DIXIE HWY FROM NE 13 STREET TO S END OF BRIDGE OVER MIDDLE RIVER	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$101,600	\$306,174	\$337,246	\$3,324,890	\$187,749	\$0	\$0	\$0	\$0	\$0	\$4,257,659
433062-1	WILES ROAD FROM RIVERSIDE DRIVE TO ROCK ISLAND ROAD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$494,489	\$0	\$5,750,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,244,989
433165-1	BROWARD COUNTY MOBILITY PROJECTS SIDEWALK & BIKE LANE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$229,099	\$16,914,452	\$98,614	\$122,931	\$181,920	\$243,039	\$0	\$0	\$0	\$0	\$0	\$17,790,055
433182-1	SW 145TH AVE @ PINES BLVD. INTERSECTION IMPROVEMENT	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,283	\$0	\$107,363	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$122,646
433199-1	RAVENSWOOD RD FROM STIRLING RD TO GRIFFIN RD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$139	\$669	\$1,008,445	\$37,024	\$13,649	\$0	\$0	\$0	\$0	\$0	\$1,059,926
433207-1	NW 9TH AVENUE FROM BROWARD BLVD. TO SOUTH OF SISTRUNK BLVD.	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$277,351	\$63,093	\$1,203,349	\$181,971	\$53,733	\$0	\$0	\$0	\$0	\$0	\$1,779,497
433209-1	NW 44TH STREET FROM 11500 BLOCK TO PINE ISLAND ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$542	\$1,208	\$1,045,423	\$363,874	\$6,939	\$0	\$0	\$0	\$0	\$0	\$1,417,986
433974-1	CYPRESS CREEK PARK AND RIDE LOT REPLACE BUS SHELTERS	PUBLIC TRANSPORTATION SHELTER	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,252	\$108,180	\$6,281	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$132,713
434004-1	SR-842/BROWARD BLVD. @ NW 9TH AVE INTERSECTION	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$44,111	\$441,213	\$32,213	\$40	\$0	\$0	\$0	\$0	\$0	\$0	\$517,577
434005-1	SR-870/COMMERCIAL BLVD. @ N.E. 15TH AVE	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$42,218	\$21,115	\$992	\$39	\$0	\$0	\$0	\$0	\$0	\$0	\$64,364
434449-1	SR-A1A SOUTHEAST 17TH STREET AT SOUTHEAST 15TH AVENUE	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,892	\$133,707	\$220,381	\$521,169	\$32,801	\$0	\$0	\$0	\$0	\$0	\$944,950
434481-1	CITY OF FT. LAUDERDAL E TRANSIT CORRIDOR DOWNTOWN ROUTE	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000
434666-1	HOLLYWOOD BLVD. FROM CITY HALL CIRCLE TO DIXIE HIGHWAY	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$203,100	\$327,486	\$7,801,316	\$454,714	\$0	\$0	\$0	\$0	\$0	\$8,786,616
434669-1	PERIMETER ROAD FROM GRIFFIN ROAD TO SW 4TH AVE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,414	\$154,614	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$176,028
434672-1	JOHNSON STREET FROM EAST OF N 31ST AVENUE TO N 8TH AVENUE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$153,539	\$129,911	\$145,220	\$5,483	\$0	\$0	\$0	\$0	\$0	\$0	\$434,153
434674-1	BROWARD MOBILITY PROJECT - POMPANO BEACH BIKE LANES	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$326,489	\$44,949	\$2,238,937	\$0	\$0	\$0	\$0	\$2,610,375
434679-1	BROWARD COUNTY HOLLYWOOD GARDENS	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$820,028	\$50,658	\$83,971	\$3,607,622	\$0	\$0	\$0	\$0	\$0	\$0	\$4,562,279
434686-1	NE BROWARD MOBILITY PROJECT-POMPANO BCH/ DEERFIELD BCH	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$926,550	\$157,667	\$5,331,068	\$0	\$0	\$0	\$0	\$0	\$6,415,285
434690-1	BROWARD MOBILITY HOLLYWOOD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$974,704	\$45,009	\$3,422,895	\$0	\$0	\$0	\$0	\$4,442,608
434695-1	SR-5/US-1 FROM SR-834/SAMPLE ROAD TO BR/PB COUNTY LINE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$386,501	\$31,661	\$10,067,124	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,485,286
434697-1	BROWARD MOBILITY MIRAMAR/HOLLYWOOD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,591,591	\$25,322	\$10,872,580	\$0	\$0	\$0	\$0	\$0	\$12,489,493
434699-1	BROWARD MOBILITY PROJECT - POMPANO BEACH SIDEWALKS	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$366,091	\$33,792	\$675,148	\$0	\$0	\$0	\$0	\$0	\$1,075,031
434726-1	SR-834/SAMPLE ROAD FROM W. OF MILITARY TRAIL TO E. OF MILITARY TRAIL	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$196,948	\$1,341,361	\$118,675	\$27,010	\$39	\$0	\$0	\$0	\$0	\$0	\$0	\$1,684,033
434829-1	SR-820/PINES BLVD FROM DYKES RD TO SR-823/FLAMINGO RD	ATMS - ARTERIAL TRAFFIC MGMT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$202,205	\$3,348,360	\$163,651	\$0	\$0	\$0	\$0	\$0	\$3,714,216
435088-1	NW 110 AVENUE FROM SAMPLE ROAD TO WILES ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$419	\$1,953	\$1,534,624	\$106,947	\$0	\$0	\$0	\$0	\$0	\$1,643,943
435091-1	SR-834/SAMPLE ROAD AT SR-811/DIXIE HIGHWAY	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$175,099	\$617,102	\$40,221	\$96,503	\$0	\$0	\$0	\$0	\$0	\$0	\$928,925
435093-1	SR-7/US-441 AT NW 29TH STREET	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$135,519	\$332,529	\$28,919	\$50,898	\$0	\$0	\$0	\$0	\$0	\$0	\$547,865
435095-1	SR-824/PEMBROKE ROAD AT OLEANDER DRIVE	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$212,020	\$78,122	\$736,582	\$144,360	\$0	\$0	\$0	\$0	\$0	\$1,171,084
435143-1	DAVIE RD EXTENSION FROM SR-817/UNIVERSITY DR. TO SR-848/STIRLING RD.	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$191	\$2,550	\$992,616	\$204,223	\$0	\$0	\$0	\$0	\$0	\$1,199,580
435145-1	NW 7TH AVE. FROM ATLANTIC BLVD. TO NW 8TH STREET	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$546	\$2,815	\$177	\$0	\$0	\$0	\$0	\$0	\$0	\$3,538
435690-1	SR-A1A FROM CLEVELAND STREET TO SHERIDAN STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0	\$2,000
435703-1	BROWARD COUNTY PUSH BUTTON FOR TRAFFIC SIGNAL CONSTRUCTION	TRAFFIC CONTROL DEVICES/SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$75,567	\$518,437	\$224,777	\$1,297	\$0	\$0	\$0	\$0	\$0	\$0	\$820,078
435706-1	SR-5/US-1 FROM SR-820/HOLLYWOOD BLV TO SR-822/SHERIDAN STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0	\$2,000
435728-1	NORTH WEST 136TH AVE FROM S. OF 14TH ST. TO S. OF YELLOW TOUCAN RD	ADD TURN LANE(S)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$700,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$700,000
435767-1	WEST PARK VARIOUS OFF SYSTEM LOCATIONS	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$602,916	\$4,880	\$2,986	\$0	\$0	\$0	\$0	\$0	\$610,782
435781-1	BROWARD COUNTYWIDE MOBILITY HUBS VARIOUS LOCATIONS ON SHS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,504,850	\$22,335	\$459,578	\$23,960	\$0	\$0	\$0	\$0	\$0	\$2,010,723
435781-2	LAUDERDALE LAKES MOBILITY IMPROVEMENTS	INTERMODAL HUB CAPACITY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000	\$2,941,084	\$0	\$0	\$0	\$0	\$0	\$2,966,084
435855-1	MIRAMAR BLVD AND HIATUS RD	PARK AND RIDE LOTS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$45,942	\$215,885	\$35,426	\$40,575	\$126,752	\$650,000	\$1,624,593	\$0	\$0	\$0	\$2,739,173
435855-2	MIRAMAR PARK AND RIDE CONSTRUCTION	PARK AND RIDE LOTS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,046,787	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,046,787
435925-1	PROSPECT RD. FROM COMMERCIAL BLVD. TO SR-811/DIXIE HWY	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,115,731	\$0	\$4,907,916	\$0	\$0	\$0	\$6,023,647
436037-1	190TH STREET EXTENSION FROM SW 49TH STREET TO GRIFFIN ROAD	NEW ROAD CONSTRUCTION	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$243,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$243,000
436039-1	NE 3RD AVE/SW 11TH WAY FROM SR-834/SAMPLE ROAD TO SR-869/SW 10TH ST.	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000
436111-1	SR-858/HALLANDALE BCH BLVD E OF RR XING #628290-Y TO W OF ANSIN BLVD	ADD RIGHT TURN LANE(S)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$252,474	\$54,089	\$2,775,773	\$0	\$0	\$0	\$0	\$3,082,336
436196-1	SW 40TH AVENUE FROM STIRLING ROAD TO GRIFFIN ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$355,000	\$20,000	\$1,820,967	\$0	\$0	\$0	\$2,195,967
436226-1	COPANS ROAD FROM NW 36TH AVE. TO FLORIDA TURNPIKE	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$234,518	\$24,146	\$978,653	\$0	\$0	\$0	\$0	\$1,237,317
436308-1	EASTBOUND SR-84 TO SOUTHBOUND SR-93/I-75 ON-RAMP	INTERCHANGE RAMP (NEW)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,140,800	\$276,320	\$5,690,239	\$0	\$0	\$0	\$0	\$7,107,359
436319-1	LYONS ROAD FROM C-14 CANAL TO SAWGRASS EXPRESSWAY	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$973,710	\$193,753	\$0	\$10,022,895	\$0	\$0	\$0	\$11,190,358
436339-1	BROWARD COUNTY PUSH BUTTON CONTRACT TRAFFIC SIGNAL CONST	TRAFFIC CONTROL DEVICES/SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,183,505	\$0	\$0	\$0	\$1,183,505
436339-2	BROWARD COUNTY PUSH BUTTON CONTRACT TRAFFIC SIGNAL CONST	TRAFFIC CONTROL DEVICES/SYSTEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,060,000	\$0	\$0	\$1,060,000
436414-1	SR-5/US-1 FROM 30TH ST. TO DAVIE BLVD & A1A/17TH ST. FROM US-1 TO ICWW	ATMS - ARTERIAL TRAFFIC MGMT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$393,740	\$2,845	\$70,669	\$0	\$0	\$0	\$0	\$0	\$467,254
436418-1	I-95 EXPRESS BUS PURCHASES	PURCHASE VEHICLES/EQUIPMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,828,249	\$0	\$0	\$0	\$0	\$0	\$2,828,249
436418-2	I-595 EXPRESS BUS FROM SUNRISE TO MIAMI CENTRAL BUSINESS DISTRICT	PURCHASE VEHICLES/EQUIPMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,300,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,300,000
436																				

[illegible]

Tindale Oliver
April 2019

Table E-9

Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel

Travel Vehicle Miles of Travel (VMT) @			
	22.0	6.4	
Other Arterial Rural	317,691,000,000	45,164,000,000	362,855,000,000
Other Rural	302,483,000,000	27,939,000,000	330,422,000,000
Other Urban	1,553,636,000,000	93,910,000,000	1,647,546,000,000
Total	2,173,810,000,000	167,013,000,000	2,340,823,000,000

Percent VMT	
@ 22.0 mpg	@ 6.4 mpg
88%	12%
92%	8%
94%	6%
93%	7%

Fuel Consumed			
	Gallons @ 22.0 mpg	Gallons @ 6.4 mpg	
Other Arterial Rural	14,440,500,000	7,056,875,000	21,497,375,000
Other Rural	13,749,227,273	4,365,468,750	18,114,696,023
Other Urban	70,619,818,182	14,673,437,500	85,293,255,682
Total	98,809,545,455	26,095,781,250	124,905,326,705

Total Mileage and Fuel	
2,340,823	miles (millions)
124,905	gallons (millions)
18.74	mpg

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2016*, Section V, Table VM-1

Annual Vehicle Distance Traveled in Miles and Related Data - 2016 by Highway Category and Vehicle Type

<http://www.fhwa.dot.gov/policyinformation/statistics.cfm>

Table E-10
Annual Vehicle Distance Travelled in Miles and Related Data – 2016⁽¹⁾
By Highway Category and Vehicle Type

Published December 2017								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	
2016	Motor-Vehicle Travel: (millions of vehicle-miles) Interstate Rural	139,460	1,095	1,740	44,086	9,905	50,430	183,546	60,335	246,716
2016	Other Arterial Rural	226,036	2,633	2,116	91,655	16,371	28,794	317,691	45,164	367,605
2016	Other Rural	212,457	2,856	1,946	90,026	15,563	12,375	302,483	27,939	335,224
2016	All Rural	577,954	6,583	5,802	225,768	41,839	91,599	803,721	133,439	949,545
2016	Interstate Urban	392,838	2,939	2,542	99,523	18,555	41,991	492,361	60,546	558,388
2016	Other Urban	1,220,973	10,923	8,006	332,663	52,944	40,966	1,553,636	93,910	1,666,475
2016	All Urban	1,613,810	13,862	10,548	432,186	71,499	82,958	2,045,997	154,456	2,224,863
2016	Total Rural and Urban ⁽⁵⁾	2,191,764	20,445	16,350	657,954	113,338	174,557	2,849,718	287,895	3,174,408
2016	Number of motor vehicles registered ⁽²⁾	192,774,508	8,679,380	976,161	54,870,473	8,746,518	2,752,043	247,644,981	11,498,561	268,799,083
2016	Average miles traveled per vehicle	11,370	2,356	16,749	11,991	12,958	63,428	11,507	25,037	11,810
2016	Person-miles of travel ⁽⁴⁾ (millions)	3,045,205	22,022	346,610	878,994	113,338	174,557	3,924,199	287,895	4,580,725
2016	Fuel consumed (thousand gallons)	91,487,810	465,802	2,225,795	37,818,755	15,338,479	29,554,641	129,306,565	44,893,120	176,891,283
2016	Average fuel consumption per vehicle (gallons)	475	54	2,280	689	1,754	10,739	522	3,904	658
2016	Average miles traveled per gallon of fuel consumed	24.0	43.9	7.3	17.4	7.4	5.9	22.0	6.4	17.9
<p>(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.</p> <p>(2) Light Duty Vehicles Short WB - passenger cars, light trucks, vans and sport utility vehicles with a wheelbase (WB) 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</p> <p>(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.</p> <p>(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.</p> <p>(5) VMT data are based on the latest HPMS data available; it may not match previous published results.</p>										

Appendix F
Multi-Modal Transportation Impact Fee
Calculated Fee Schedule

Appendix F: MMTIF – Calculated Fee Schedule

This appendix presents the detailed fee calculations for each land use in the City of Hallandale Beach’s multi-modal transportation impact fee schedule.

Table F-1 presents the full calculated multi-modal transportation impact fee rates while Table F-2 presents the same rates with the local collector road adjustment factor applied.

Table F-1
City of Hallandale Beach - Multi-Modal Transportation Impact Fee Schedule

<div>Gasoline Tax \$\$ per gallon to capital: \$0.132 Facility life (years): 25 Interest rate: 3.00%</div> <div>City Revenues: \$0.002 County Revenues: \$0.024 State Revenues: \$0.106</div> <div>Cost per PMC (Roads/Bike/Ped): \$180.19 Cost per PMC (including Transit): \$193.07 Fuel Efficiency: 18.74 mpg Effectivedays per year: 365</div> <div>Interstate/Toll Facility Adjustment Factor: 38.4%</div>																
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⁾	Person-Trip Factor	Net PMT	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Multi-Modal Fee
RESIDENTIAL:																
210	Single Family (Detached) - Less than 1,500 sf	du	6.23	Appendix C: Table C-7	6.62	7.12	Appendix C: LUC 210	100%	n/a	12.70	1.40	17.78	\$3,434	\$57	\$993	\$2,441
	Single Family (Detached) - 1,500 to 2,499 sf	du	7.81	Appendix C: Table C-7	6.62	7.12	Appendix C: LUC 210	100%	n/a	15.92	1.40	22.29	\$4,304	\$71	\$1,236	\$3,068
	Single Family (Detached) - 2,500 sf and greater	du	8.82	Appendix C: Table C-7	6.62	7.12	Appendix C: LUC 210	100%	n/a	17.98	1.40	25.17	\$4,861	\$81	\$1,410	\$3,451
220	Multi-Family, Low-Rise (1-2 levels)	du	7.32	ITE 10th Edition	5.10	5.60	Appendix C: LUC 220/221/222	100%	n/a	11.50	1.40	16.10	\$3,108	\$53	\$923	\$2,185
221	Multi-Family, Mid-Rise (3-10 levels)	du	5.44	ITE 10th Edition	5.10	5.60	Appendix C: LUC 220/221/222	100%	n/a	8.55	1.40	11.97	\$2,310	\$39	\$679	\$1,631
222	Multi-Family, High-Rise (>10 levels)	du	4.45	ITE 10th Edition	5.10	5.60	Appendix C: LUC 220/221/222	100%	n/a	6.99	1.40	9.79	\$1,889	\$32	\$557	\$1,332
240	Mobile Home Park	du	4.17	Appendix C: LUC 240	4.60	5.10	Appendix C: LUC 240	100%	n/a	5.91	1.40	8.27	\$1,597	\$27	\$470	\$1,127
253	Congregate Care Facility	du	2.25	Appendix C: LUC 253	3.08	3.58	Appendix C: LUC 253	72%	Appendix C: LUC 253	1.54	1.40	2.16	\$415	\$7	\$122	\$293
254	Assisted Living	du	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	1.78	1.40	2.49	\$480	\$9	\$157	\$323
LODGING:																
320	Hotel/Motel	room	3.35	ITE 10th Edition	4.34	4.84	Appendix C: LUC 320	77%	Appendix C: LUC 320	3.45	1.40	4.83	\$932	\$16	\$279	\$653
RECREATION:																
416	Campground/RV Park ⁽²⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 240	2.30	1.40	3.22	\$620	\$11	\$192	\$428
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	4.42	1.40	6.19	\$1,195	\$20	\$348	\$847
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	55.75	1.40	78.05	\$15,069	\$250	\$4,353	\$10,716
444	Movie Theater	screen	114.83	Appendix C: LUC 444	2.22	2.72	Appendix C: LUC 444	88%	Appendix C: LUC 444	69.09	1.40	96.73	\$18,676	\$353	\$6,147	\$12,529
492	Health/Fitness Club	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Appendix C: LUC 492	51.44	1.40	72.02	\$13,904	\$236	\$4,110	\$9,794
INSTITUTIONS:																
520	Elementary School (Private)	student	1.89	ITE 10th Edition	3.31	3.81	50% of LUC 210: Travel Demand Model	80%	Based on LUC 710 (adjusted) ⁽³⁾	1.54	1.40	2.16	\$417	\$7	\$122	\$295
522	Middle/Junior High School (Private)	student	2.13	ITE 10th Edition	3.31	3.81	50% of LUC 210: Travel Demand Model	80%	Based on LUC 710 (adjusted) ⁽³⁾	1.74	1.40	2.44	\$470	\$8	\$139	\$331
530	High School (Private)	student	2.03	ITE 10th Edition	3.31	3.81	50% of LUC 210: Travel Demand Model	90%	Based on LUC 710	1.86	1.40	2.60	\$503	\$9	\$157	\$346
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%	Based on LUC 710	3.67	1.40	5.14	\$992	\$16	\$279	\$713
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%	Based on LUC 710	2.75	1.40	3.85	\$744	\$12	\$209	\$535
560	Church	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. C)	90%	Based on LUC 710	7.53	1.40	10.54	\$2,036	\$35	\$609	\$1,427
565	Day Care Center	1,000 sf	49.63	Appendix C: LUC 565	2.03	2.53	Appendix C: LUC 565	73%	Appendix C: LUC 565	22.65	1.40	31.71	\$6,123	\$118	\$2,055	\$4,068
610	Hospital	1,000 sf	10.72	ITE 10th Edition	6.62	7.12	Same as LUC 210	78%	Midpoint of LUC 310 & LUC 720	17.05	1.40	23.87	\$4,608	\$77	\$1,341	\$3,267

Table F-1 (continued)
City of Hallandale Beach - Multi-Modal 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⁾	Person-Trip Factor	Net PMT	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Multi-Modal Fee
INSTITUTIONS:																
620	Nursing Home	bed	3.02	Appendix C: LUC 620	2.59	3.09	Appendix C: LUC 620	89%	Appendix C: LUC 620	2.14	1.40	3.00	\$580	\$11	\$192	\$388
630	Clinic	1,000 sf	37.46	Appendix C: LUC 630	5.10	5.60	Appendix C: LUC 630	93%	Appendix C: LUC 630	54.72	1.40	76.61	\$14,792	\$251	\$4,371	\$10,421
OFFICE:																
710	Office Building	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	Appendix C: LUC 710	92%	Appendix C: LUC 710	14.21	1.40	19.89	\$3,842	\$65	\$1,132	\$2,710
RETAIL:																
820	Shopping Center/Retail	1,000 sfgla	37.75	ITE 10th Edition	2.69	3.19	Appendix C: Fig. C-1 (450k sfgla)	74%	Appendix C: Fig. C-2 (450k sfgla)	23.14	1.40	32.40	\$6,256	\$115	\$2,003	\$4,253
840/841	New/Used Auto Sales	1,000 sf	24.58	Appendix C: LUC 840/841	4.60	5.10	Appendix C: LUC 840/841	79%	Appendix C: LUC 840/841	27.51	1.40	38.51	\$7,436	\$127	\$2,211	\$5,225
862	Home Improvement Superstore	1,000 sf	30.74	ITE 10th Edition	2.40	2.90	Appendix C: Fig. C-1 (200k sfgla)	67%	Appendix C: Fig. C-2 (200k sfgla)	15.22	1.40	21.31	\$4,115	\$77	\$1,341	\$2,774
880/881	Pharmacy with & without Drive-Through Window	1,000 sf	104.37	Appendix C: LUC 880/881	2.08	2.58	Appendix C: LUC 880/881	32%	Appendix C: LUC 880/881	21.40	1.40	29.96	\$5,783	\$111	\$1,933	\$3,850
890	Furniture Store	1,000 sf	6.30	ITE 10th Edition	6.09	6.59	Appendix C: LUC 890	54%	Appendix C: LUC 890	6.38	1.40	8.93	\$1,725	\$29	\$505	\$1,220
912	Drive-In Bank	1,000 sf	102.66	Appendix C: LUC 912	2.46	2.96	Appendix C: LUC 912	46%	Appendix C: LUC 912	35.78	1.40	50.09	\$9,671	\$180	\$3,134	\$6,537
931	Restaurant, non-Fast Food	1,000 sf	86.03	Appendix C: LUC 931	3.14	3.64	Appendix C: LUC 931	77%	Appendix C: LUC 931	64.07	1.40	89.70	\$17,317	\$310	\$5,398	\$11,919
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Appendix C: LUC 934	2.05	2.55	Appendix C: LUC 934	58%	Appendix C: LUC 934	176.71	1.40	247.39	\$47,764	\$917	\$15,968	\$31,796
942	Automobile Care Center	1,000 sf	28.19	Appendix C: LUC 942	3.62	4.12	Appendix C: LUC 942	72%	Appendix C: LUC 942	22.63	1.40	31.68	\$6,117	\$107	\$1,863	\$4,254
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	Appendix C: LUC 944/945	23%	Appendix C: LUC 944/945	23.15	1.40	32.41	\$6,258	\$122	\$2,124	\$4,134
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Appendix C: LUC 944/945	23%	Appendix C: LUC 944/945	27.64	1.40	38.70	\$7,471	\$146	\$2,542	\$4,929
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 945	23%	Same as LUC 945	31.03	1.40	43.44	\$8,387	\$164	\$2,856	\$5,531
947	Self-Service Car Wash	service bay	43.94	Appendix C: LUC 947	2.18	2.68	Appendix C: LUC 947	68%	Appendix C: LUC 947	20.06	1.40	28.08	\$5,423	\$103	\$1,794	\$3,629
INDUSTRIAL:																
110	Light Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.24	1.40	10.14	\$1,956	\$33	\$575	\$1,381
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	5.74	1.40	8.04	\$1,550	\$26	\$453	\$1,097
151	Mini-Warehouse/Warehouse	1,000 sf	1.49	Appendix C: LUC 151	3.51	4.01	Midpoint of LUC 710 & Fig. C-1 (50k sq ft)	92%	Same as LUC 710	1.48	1.40	2.07	\$401	\$7	\$122	\$279

1) 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 10th 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
3) The percent new trips for schools was estimated at 90%, based on LUC 710, but was then adjusted to 80% to provide a conservative fee rate. This adjustment reflects the nature of the elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents on their way to another destination

Table F-2
City of Hallandale Beach - Multi-Modal Transportation Impact Fee Schedule (Local Collector Road Adjustment)

<div>Gasoline Tax \$\$ per gallon to capital: \$0.132 Facility life (years): 25 Interest rate: 3.00%</div> <div>City Revenues: \$0.002 County Revenues: \$0.024 State Revenues: \$0.106</div> <div>Cost per PMC (Roads/Bike/Ped): \$180.19 Cost per PMC (including Transit): \$193.07 Fuel Efficiency: 18.74 mpg Effectivedays per year: 365</div> <div>Interstate/Toll Facility Adjustment Factor: 38.4% Local Collector Road Adjustment Factor: 30.8%</div>																	
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⁾	Person-Trip Factor	Net PMT	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Multi-Modal Fee	Net MMTIF Local Rds ⁽²⁾
RESIDENTIAL:																	
210	Single Family (Detached) - Less than 1,500 sf	du	6.23	Appendix C: Table C-7	6.62	7.12	Appendix C: LUC 210	100%	n/a	12.70	1.40	17.78	\$3,434	\$57	\$993	\$2,441	\$752
	Single Family (Detached) - 1,500 to 2,499 sf	du	7.81	Appendix C: Table C-7	6.62	7.12	Appendix C: LUC 210	100%	n/a	15.92	1.40	22.29	\$4,304	\$71	\$1,236	\$3,068	\$945
	Single Family (Detached) - 2,500 sf and greater	du	8.82	Appendix C: Table C-7	6.62	7.12	Appendix C: LUC 210	100%	n/a	17.98	1.40	25.17	\$4,861	\$81	\$1,410	\$3,451	\$1,063
220	Multi-Family, Low-Rise (1-2 levels)	du	7.32	ITE 10th Edition	5.10	5.60	Appendix C: LUC 220/221/222	100%	n/a	11.50	1.40	16.10	\$3,108	\$53	\$923	\$2,185	\$673
221	Multi-Family, Mid-Rise (3-10 levels)	du	5.44	ITE 10th Edition	5.10	5.60	Appendix C: LUC 220/221/222	100%	n/a	8.55	1.40	11.97	\$2,310	\$39	\$679	\$1,631	\$502
222	Multi-Family, High-Rise (>10 levels)	du	4.45	ITE 10th Edition	5.10	5.60	Appendix C: LUC 220/221/222	100%	n/a	6.99	1.40	9.79	\$1,889	\$32	\$557	\$1,332	\$410
240	Mobile Home Park	du	4.17	Appendix C: LUC 240	4.60	5.10	Appendix C: LUC 240	100%	n/a	5.91	1.40	8.27	\$1,597	\$27	\$470	\$1,127	\$347
253	Congregate Care Facility	du	2.25	Appendix C: LUC 253	3.08	3.58	Appendix C: LUC 253	72%	Appendix C: LUC 253	1.54	1.40	2.16	\$415	\$7	\$122	\$293	\$90
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	1.78	1.40	2.49	\$480	\$9	\$157	\$323	\$99
LODGING:																	
320	Hotel/Motel	room	3.35	ITE 10th Edition	4.34	4.84	Appendix C: LUC 320	77%	Appendix C: LUC 320	3.45	1.40	4.83	\$932	\$16	\$279	\$653	\$201
RECREATION:																	
416	Campground/RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 240	2.30	1.40	3.22	\$620	\$11	\$192	\$428	\$132
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	4.42	1.40	6.19	\$1,195	\$20	\$348	\$847	\$261
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	55.75	1.40	78.05	\$15,069	\$250	\$4,353	\$10,716	\$3,301
444	Movie Theater	screen	114.83	Appendix C: LUC 444	2.22	2.72	Appendix C: LUC 444	88%	Appendix C: LUC 444	69.09	1.40	96.73	\$18,676	\$353	\$6,147	\$12,529	\$3,859
492	Health/Fitness Club	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Appendix C: LUC 492	51.44	1.40	72.02	\$13,904	\$236	\$4,110	\$9,794	\$3,017
INSTITUTIONS:																	
520	Elementary School (Private)	student	1.89	ITE 10th Edition	3.31	3.81	50% of LUC 210: Travel Demand Model	80%	Based on LUC 710 (adjusted) ⁽³⁾	1.54	1.40	2.16	\$417	\$7	\$122	\$295	\$91
522	Middle/Junior High School (Private)	student	2.13	ITE 10th Edition	3.31	3.81	50% of LUC 210: Travel Demand Model	80%	Based on LUC 710 (adjusted) ⁽³⁾	1.74	1.40	2.44	\$470	\$8	\$139	\$331	\$102
530	High School (Private)	student	2.03	ITE 10th Edition	3.31	3.81	50% of LUC 210: Travel Demand Model	90%	Based on LUC 710	1.86	1.40	2.60	\$503	\$9	\$157	\$346	\$107
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%	Based on LUC 710	3.67	1.40	5.14	\$992	\$16	\$279	\$713	\$220
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%	Based on LUC 710	2.75	1.40	3.85	\$744	\$12	\$209	\$535	\$165
560	Church	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. C)	90%	Based on LUC 710	7.53	1.40	10.54	\$2,036	\$35	\$609	\$1,427	\$440
565	Day Care Center	1,000 sf	49.63	Appendix C: LUC 565	2.03	2.53	Appendix C: LUC 565	73%	Appendix C: LUC 565	22.65	1.40	31.71	\$6,123	\$118	\$2,055	\$4,068	\$1,253
610	Hospital	1,000 sf	10.72	ITE 10th Edition	6.62	7.12	Same as LUC 210	78%	Midpoint of LUC 310 & LUC 720	17.05	1.40	23.87	\$4,608	\$77	\$1,341	\$3,267	\$1,006
620	Nursing Home	bed	3.02	Appendix C: LUC 620	2.59	3.09	Appendix C: LUC 620	89%	Appendix C: LUC 620	2.14	1.40	3.00	\$580	\$11	\$192	\$388	\$120

Table F-2 (continued)
City of Hallandale Beach - Multi-Modal Transportation Impact Fee Schedule (Local Collector Road Adjustment)

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⁾	Person-Trip Factor	Net PMT	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Multi-Modal Fee	Net MMTIF Local Rds ⁽²⁾
INSTITUTIONS:																	
630	Clinic	1,000 sf	37.46	Appendix C: LUC 630	5.10	5.60	Appendix C: LUC 630	93%	Appendix C: LUC 630	54.72	1.40	76.61	\$14,792	\$251	\$4,371	\$10,421	\$3,210
OFFICE:																	
710	Office Building	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	Appendix C: LUC 710	92%	Appendix C: LUC 710	14.21	1.40	19.89	\$3,842	\$65	\$1,132	\$2,710	\$835
RETAIL:																	
820	Shopping Center/Retail	1,000 sfgla	37.75	ITE 10th Edition	2.69	3.19	Appendix C: Fig. C-1 (450k sfgla)	74%	Appendix C: Fig. C-2 (450k sfgla)	23.14	1.40	32.40	\$6,256	\$115	\$2,003	\$4,253	\$1,310
840/841	New/Used Auto Sales	1,000 sf	24.58	Appendix C: LUC 840/841	4.60	5.10	Appendix C: LUC 840/841	79%	Appendix C: LUC 840/841	27.51	1.40	38.51	\$7,436	\$127	\$2,211	\$5,225	\$1,609
862	Home Improvement Superstore	1,000 sf	30.74	ITE 10th Edition	2.40	2.90	Appendix C: Fig. C-1 (200k sfgla)	67%	Appendix C: Fig. C-2 (200k sfgla)	15.22	1.40	21.31	\$4,115	\$77	\$1,341	\$2,774	\$854
880/881	Pharmacy with & without Drive-Through Window	1,000 sf	104.37	Appendix C: LUC 880/881	2.08	2.58	Appendix C: LUC 880/881	32%	Appendix C: LUC 880/881	21.40	1.40	29.96	\$5,783	\$111	\$1,933	\$3,850	\$1,186
890	Furniture Store	1,000 sf	6.30	ITE 10th Edition	6.09	6.59	Appendix C: LUC 890	54%	Appendix C: LUC 890	6.38	1.40	8.93	\$1,725	\$29	\$505	\$1,220	\$376
912	Drive-In Bank	1,000 sf	102.66	Appendix C: LUC 912	2.46	2.96	Appendix C: LUC 912	46%	Appendix C: LUC 912	35.78	1.40	50.09	\$9,671	\$180	\$3,134	\$6,537	\$2,013
931	Restaurant, non-Fast Food	1,000 sf	86.03	Appendix C: LUC 931	3.14	3.64	Appendix C: LUC 931	77%	Appendix C: LUC 931	64.07	1.40	89.70	\$17,317	\$310	\$5,398	\$11,919	\$3,671
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Appendix C: LUC 934	2.05	2.55	Appendix C: LUC 934	58%	Appendix C: LUC 934	176.71	1.40	247.39	\$47,764	\$917	\$15,968	\$31,796	\$9,793
942	Automobile Care Center	1,000 sf	28.19	Appendix C: LUC 942	3.62	4.12	Appendix C: LUC 942	72%	Appendix C: LUC 942	22.63	1.40	31.68	\$6,117	\$107	\$1,863	\$4,254	\$1,310
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	Appendix C: LUC 944/945	23%	Appendix C: LUC 944/945	23.15	1.40	32.41	\$6,258	\$122	\$2,124	\$4,134	\$1,273
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Appendix C: LUC 944/945	23%	Appendix C: LUC 944/945	27.64	1.40	38.70	\$7,471	\$146	\$2,542	\$4,929	\$1,518
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 945	23%	Same as LUC 945	31.03	1.40	43.44	\$8,387	\$164	\$2,856	\$5,531	\$1,704
947	Self-Service Car Wash	service bay	43.94	Appendix C: LUC 947	2.18	2.68	Appendix C: LUC 947	68%	Appendix C: LUC 947	20.06	1.40	28.08	\$5,423	\$103	\$1,794	\$3,629	\$1,118
INDUSTRIAL:																	
110	Light Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.24	1.40	10.14	\$1,956	\$33	\$575	\$1,381	\$425
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	5.74	1.40	8.04	\$1,550	\$26	\$453	\$1,097	\$338
151	Mini-Warehouse/Warehouse	1,000 sf	1.49	Appendix C: LUC 151	3.51	4.01	Midpoint of LUC 710 & Fig. C-1 (50k sq ft)	92%	Same as LUC 710	1.48	1.40	2.07	\$401	\$7	\$122	\$279	\$86

1) 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) Net multi-modal fee multiplied by the local collector road adjustment factor

3) The ITE 10th 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

4) The percent new trips for schools was estimated at 90%, based on LUC 710, but was then adjusted to 80% to provide a conservative fee rate. This adjustment reflects the nature of the elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents on their way to another destination