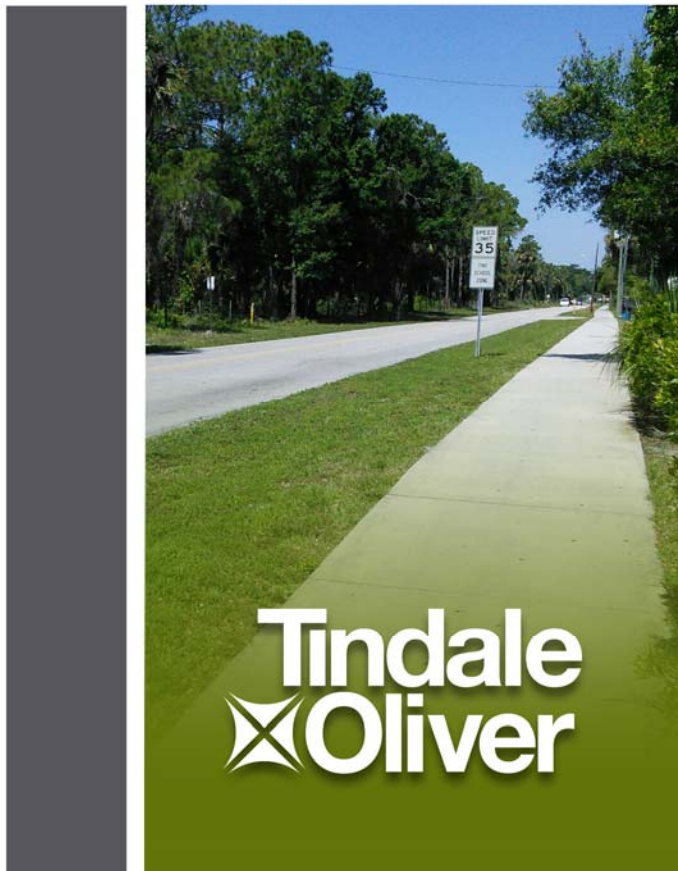




Final Mobility Fee Study for Martin County

June 19, 2020

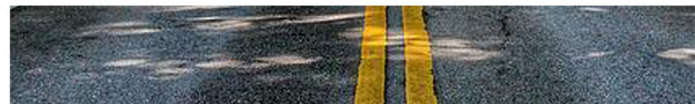


Tindale
Oliver

Martin MPO

Final Mobility Fee Study for Martin County

June 19, 2020



Prepared for

Martin MPO
3481 S.E. Willoughby Blvd.
Suite 101
Stuart, Florida 34994

Prepared by

Tindale Oliver
1000 N. Ashley Dr.
Suite 400
Tampa, Florida 33602
(813) 224-8862



**GREAT INSIGHTS.
GREATER OUTCOMES.**

Martin Metropolitan Planning Organization

Final Mobility Fee Study for Martin County

Table of Contents

Executive Summary.....	1
I. Introduction/Background Information.....	8
II. Coordinated Outreach Process.....	21
III. Overview of Legal Requirements	26
IV. Mobility/Multimodal Fee Calculations.....	29
V. Financial Planning Analysis	48
VI. Development Review Process.....	59
VII. Summary of Findings.....	68

Appendices

Appendix A Demand Component Calculations.....	A-1
Appendix B Cost Component Calculations.....	B-1
Appendix C Credit Component Calculations	C-1
Appendix D Geographic Variation	D-1
Appendix E Mobility/Multimodal Fee Schedules.....	E-1
Appendix F Public Involvement Activities.....	F-1
Appendix G Technical Memorandum #1: Summary of Coordinated Outreach	G-1
Appendix H Technical Memorandum #2: Data Compilation & Review.....	H-1
Appendix I Technical Memorandum #3: Best Practices.....	I-1
Appendix J Technical Memorandum #4: Goals & Objectives and Geographic District Areas	J-1
Appendix K Technical Memorandum #5: Mobility Fee Alternatives	K-1

List of Figures

Figure 1: Population Projections.....	9
Figure 2: Residential Permitting, Martin County	10
Figure 3: Residential Permitting, City of Stuart.....	10
Figure 4: Historical Population Ranking	15
Figure 5: Employment/Population Ranking.....	16
Figure 6: Income per Capita Ranking	16
Figure 7: Wage per Job Ranking.....	17
Figure 8: Median Age Ranking	17
Figure 9: Tax Base Allocation, Martin County.....	18
Figure 10: Taxable Value per Capita Ranking.....	19
Figure 11: Sales Tax Revenue per Capita Ranking	19
Figure 12: Public and Stakeholder Involvement Process Flow-Chart	22
Figure 13: Value of a Penny Fuel Tax	50
Figure 14: Fuel Tax per Capita Growth	51
Figure 15: Taxable Value per Capita Growth	52
Figure 16: Sales Tax per Capita Growth	53
Figure 17: Applicability of Concurrency Controls/Proportionate Share Requirements and Site Review Controls Relative to Development Review Stages.....	66
Figure 18: Applicability of Denial/Timing/Phasing Controls Via Mobility Fee Model Relative to Development Review Stages.....	67
Figure A-1: Retail/Shopping Center (LUC 820) – Florida Curve Trip Length Regression.....	A-11
Figure A-2: Retail/Shopping Center (LUC 820) – Florida Curve Percent New Trips Regression	A-11
Figure D-1: Percent of VMT by V/C Ratio (Urban Fee District)	D-14
Figure D-2: Percent of VMT by V/C Ratio (Rural Fee District).....	D-14

List of Maps

Map 1: Single Family Development Trends	11
Map 2: Projected Population by Area (2040)	12
Map 3: Projected Population Density (2040).....	13
Map 4: Projected Employment Growth by Area.....	14
Map D-1: Martin County USB, Municipalities, and CRAs.....	D-3
Map D-2: Existing Land Use	D-4
Map D-3: Population Density by Subarea	D-5
Map D-4: Bicycle and Pedestrian Crashes.....	D-6
Map D-5: Transportation Level of Service	D-7
Map D-6: 2040 LRTP: Multi-Modal Cost Feasible Plan	D-8

Map D-7: Proposed Mobility/Multimodal Fee Districts.....	D-9
Map D-8: Proposed Mobility/Multimodal Impact Fee Assessment Zones	D-12

List of Tables

Table 1: Mobility/Multimodal Impact Fee Rates for Select Land Uses.....	4
Table 2: Estimated Total Cost per Lane Mile for County Roads	33
Table 3: Cost per Lane Mile for State Roads.....	35
Table 4: Estimated Cost per Lane Mile for County and State Roadway Projects in Martin County	36
Table 5: Weighted Average Capacity Added per Lane Mile.....	37
Table 6: Cost per Person-Mile of Capacity Added (Roadways).....	37
Table 7: Summary of Capital Improvement Credits.....	40
Table 8: Calculated Mobility/Multimodal Fee Rates for Martin County – All Scenarios	46
Table 9: Mobility/Multimodal/Roadway Impact Fee Rate Comparison	47
Table 10: 2040 LRTP Local Source Revenue Projections (2021-2040).....	48
Table 11: Recent Residential Parcels Added (2010-2018) – Community Redevelopment Areas	56
Table A-1: Interstate/Toll Facility Adjustment Factor.....	A-2
Table A-2: Calculated Single Family Trip Characteristics	A-3
Table A-3: Annual Income by Housing Size	A-3
Table A-4: Martin County SHIP Definitions	A-4
Table A-5: NHTS Annual VMT by Income Category	A-4
Table A-6: Trip Generation Rate by Single Family Land Use Tier	A-5
Table A-7: Net Mobility/Multimodal Fee by Single Family Land Use Tier	A-5
Table A-8: Comparison of Mixed-Use Models	A-15
Table A-9: Comparison of Mixed-Use Internal Capture.....	A-18
Table B-1: Design Cost Factor for County and State Roads – Recent Impact Fee Studies:.....	B-3
Table B-2: Right-of-Way Cost Factor for County and State Roads – Recent Impact Fee Studies.....	B-5
Table B-3: Construction Cost – County Road Improvements from Other Jurisdictions throughout Florida	B-7
Table B-4: Construction Cost – State Road Improvements from Martin County and Other Jurisdictions throughout Florida	B-9
Table B-5: CEI Cost Factor for County and State Roads – Recent Impact Fee Studies	B-12
Table B-6: Martin MPO 2040 Long Range Transportation Plan: Moving Martin Forward – Cost Feasible Plan	B-14
Table B-7: Mobility/Multimodal Cost per Person-Mile of Capacity.....	B-17
Table B-8: Mobility/Multimodal Fee: Transit Component Model	B-18
Table C-1: Estimated Fuel Tax Distributions Allocated to Capital Program of Martin County & Municipalities, FY 2019-20(1)	C-4

Table C-2: County Fuel Tax Equivalent Pennies	C-5
Table C-3: County Debt Service Equivalent Pennies	C-5
Table C-4: State Fuel Tax Equivalent Pennies	C-6
Table C-5: Martin County Capital Improvement Program, FY 2020	C-7
Table C-6: Martin County Gas Tax Refunding Revenue Note, Series 2014.....	C-7
Table C-7: Martin County FDOT Work Program.....	C-8
Table C-8: Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel	C-9
Table C-9: Annual Vehicle Distance Travelled in Miles and Related Data – 2017(1) By Highway Category and Vehicle Type	C-10
Table D-1: V/C Ratio Reference	D-13
Table D-2: Differential Fee Rate Scenarios	D-15
Table E-1: Mobility/Multimodal Fee Schedule – V/C 1.00.....	E-3
Table E-2: Mobility/Multimodal Fee Schedule – V/C 0.80.....	E-6
Table E-3: Mobility/Multimodal Fee Schedule – V/C 0.60.....	E-9

Executive Summary

Tindale Oliver has been retained by the Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure.

The study involved several phases, including a review of Martin County's economic and demographic variables, public involvement, development of alternative mobility/multimodal fee options, an evaluation of each of these options under several financial and planning criteria, and summary of options related to the development review process.

Review of Economic and Demographic Variables

The data and analysis conducted as part of this review suggest the following:

- Martin County is a growing county at a projected annual growth rate of 0.8 percent through 2045. This growth rate provides the County with some time to plan for transportation infrastructure funding.
- The County is developed on the eastern side along the Atlantic Ocean and future development is projected to occur primarily within the Urban Service Boundary (USB). Most of the permitting along with projected population growth over the next 25 years is occurring within the USB. Finally, most of the transportation projects in the County's 5-Year Plan as well as the Cost Feasible Long Range Transportation Plan are also located within USB. Given these characteristics, mobility fee variation within USB versus outside of the USB was recommended.
- Martin County is a high-income county with a high taxable value per capita compared to other Florida counties. However, the ad valorem tax base is not very diversified, which makes it more vulnerable to economic fluctuations. Developing fee incentives for select non-residential land uses may help with further diversification.
- Martin County is one of the highest ranked counties in terms of sales tax revenue per resident. Both ad valorem tax and sales tax are likely to be productive revenue sources for Martin County in the future.

Further detail on this analysis is included in Section I of this report.

Coordinated Outreach Process

The primary groups involved in the public outreach process included the following:

- Martin MPO Staff
- Mobility Fee Stakeholder Committee
- MPO Policy Board
- MPO Joint Advisory Committee
- General Public

As the study progressed, the findings were presented to each group in each phase, and the input received was incorporated into the analysis. In general, the outreach process suggested the following:

- Support for a multimodal fee to continue the current structure and flexibility.
- Support for fee variation by geographic subareas divided by the Urban Service Boundary (USB). The urban fee district to include the Village of Indiantown.
- Incentives/discounts in Community Redevelopment Areas (CRAs) and for certain land uses such as affordable housing, mixed-use and targeted/contributing industries.

A more detailed explanation of this process is included in Section II of this report.

Best Practices

As part of the study, Tindale Oliver obtained information on the process other Florida jurisdictions underwent in implementing a multimodal/mobility fee. After the initial review of the program characteristics, maturity of the program as well as each community's economic and demographic characteristics, a subset of these jurisdictions were selected for more detailed case studies to understand best and common practices. These case study counties included:

- Alachua
- Orange
- Osceola
- Pasco
- Sarasota

Key findings of this effort included the following:

- **Use of concurrency:** While counties that implemented mobility fees ceased concurrency practice, development review practices that include timing and phasing provisions can

still be maintained for discretionary development approvals such as those requiring land use and zoning changes.

- **Incentives by geographic area:** Four out of five the case study counties included fee structures to create some form of urban/rural variation in fee with lower fees in urban areas.
- **Incentives for mixed-use/TND/TOD:** Four out of five case study counties include reductions for mixed-use, TND, or TOD.
- **Incentives for single, targeted uses:** Two out of five case study counties provided incentives, whether in the form of fee buy-downs or deferrals, for specific targeted uses, such as industrial, office, commercial of a certain value, or certain housing types.
- **Flexibility of revenue use:** The mobility and multi-modal fees increased flexibility of use of revenues for the case study counties. In some cases, jurisdictions placed limits on spending on each mode.
- **Other funding sources:** all the case study counties use other forms of transportation funding, such as fuel taxes, local option sales tax, ad valorem tax, and tax increment revenues, or MSTUs, to supplement impact fees.

Mobility/Multimodal Fee Calculations

The methodology used for the mobility/multimodal study follows a consumption-based 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 the transportation network. A detailed explanation of the methodology along with legal requirements is included in Sections III and IV of this report.

Under this methodology, the fees assess a proportionate share cost for the entire transportation network in the county, including classified City, County and State roadways, except for local/neighborhood roads and interstate highways/toll facilities. Generally, neighborhood roads are the obligation of the developer and are part of the site/subdivision approvals. Interstate highways and toll facilities tend to be funded with earmarked State and Federal funds.

A consumption-based impact fee rate is based on the adopted level of service (LOS) standards, which are exception standards, requiring no road to be in worse travel condition than the adopted standard. Consistent with the methodology used by many Florida jurisdictions, transportation/mobility/multimodal fee calculations use adopted LOS standard as a countywide average, which suggests half the roads will be worse than the adopted standard and the other

half will be better. However, in many cases, the actual countywide average LOS is better than the adopted standard. In other words, under the current methodology, even with the full impact fee, unless local governments use other revenue sources, the current achieved LOS for the system will deteriorate and more congestion will be experienced. As such, the standard methodology used for mobility/multimodal fees results in revenue levels that slow down the degradation of the system but do not generate sufficient revenues to maintain the existing conditions when they are better than the adopted LOS standard.

When the current system performance conditions are better than the adopted standards, local governments have the option to base the fees on achieved LOS or at least to a LOS level that is in between. This approach was also supported by HB 319, when the bill allowed for adoption of an area-wide LOS not dependent on any single road segment function. The LOS for each road segment correlates to the volume-to-capacity (V/C) ratio. The V/C ratio measures the number of vehicles on the road versus the number of vehicles that the road can handle based on its functional classification (arterial, collector, freeway, etc.) and design characteristics (number of lanes, signal spacing, etc.). A low V/C ratio suggests less congestion and delay and better average speed/performance.

Example fee schedules were prepared as part of the study for policy consideration. The following table provides a summary for select land uses.

Table 1: Mobility/Multimodal Impact Fee Rates for Select Land Uses

ITE LUC	Land Use	Unit	Mobility/Multimodal		
			Countywide or Urban ONLY		Rural
			V/C 1.00	V/C 0.80	V/C 0.60
RESIDENTIAL:					
210	Single Family (Detached) - 1,000 to 2,499 sf	du	\$5,784	\$7,658	\$10,782
220	Multi-Family (Low-Rise, 1-2 Levels)	du	\$4,325	\$5,738	\$8,093
NON-RESIDENTIAL:					
110	General Industrial	1,000 sf	\$2,729	\$3,619	\$5,101
710	Office	1,000 sf	\$5,366	\$7,113	\$10,024
820	Retail/Shopping Center	1,000 sfgla	\$8,503	\$11,347	\$16,088
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	\$63,906	\$85,622	\$121,815

Source: Appendix E, Tables E-1 through E-3

Financial Planning Analysis

The study reviewed proposed mobility/multimodal fee and other funding options for adequacy, sustainability, and equitability. The primary conclusions of this analysis are summarized in the following paragraphs with Section IV of this report providing a detailed review.

Adequacy and Sustainability of Revenue Sources

- At this time, the transportation capacity addition projects in Martin County are being funded with fuel tax and impact fee revenues as well as the State funding.
- Of these, the local option fuel taxes are not an effective or sustainable revenue source. They are charged on a per-gallon basis and local governments do not have the ability to index these taxes. Overtime, revenues generated are able fund fewer projects. Currently, Martin County has adopted all available local option fuel taxes.
- Impact fee revenues are considered sustainable during growth periods. If there is no growth, a community's needs for additional capital infrastructure is reduced.
- Although not used for transportation capacity projects in Martin County at this time, ad valorem tax can be another funding source. A review of ad valorem tax base trends in Martin County suggests that this is a sustainable revenue source as its growth rate outpaces the population growth rate. A more diversified tax base can withstand economic fluctuations better. Martin County can improve the diversity of its base through multiple policies, including a reduced mobility/multimodal fee for targeted non-residential land uses.
- Local option sales tax is not implemented in Martin County; however, it is a productive and sustainable revenue source. Trends for sales tax collection per person in Martin County suggests that growth in revenues outpaced population growth. This revenue source is also paid not only by residents, but by visitors as well. Information obtained from other Florida jurisdictions suggests that 20 percent to 60 percent of the revenues come from non-resident spending.

Equitability

To achieve an equitable program as well as one that provides incentives consistent with the County's and municipalities economic development and growth management goals, there are several options available.

Local governments have the ability to adopt mobility/multimodal/impact fees at a reduced rate when the reduction is applied to all land uses. Care should be given when discounting fees for

select land uses and/or areas to ensure those who paid the full fee receive the associated benefit. If the discount results in a compromise of facilities that would have been built with full fees, the equity among land uses is jeopardized. **However, HB 7103 that was signed by the Governor following the 2019 legislative session allowed local governments to waive/reduce fees for affordable housing projects without having to offset the revenues.**

For all other residential and non-residential land uses, the fees can be reduced for select land uses and/or geographic subareas, such as CRA under the following conditions:

- **Travel Characteristics:** If it can be demonstrated that a given land use or an area generates less travel due to certain characteristics, it is appropriate to apply a reduced fee instead of the countywide average. Examples would be an urban service district or a downtown core with limited parking and a mix of land uses that result in lower vehicle miles of travel. Additionally, a mixed-use development outside of the urban core may exhibit less travel due to the mix of uses and internal design/connectivity of the development. Another example is low/moderate income housing, which tends to generate fewer trips. The fee schedules in [Appendix E](#) include this option.
- **De-minimis Impact:** If the uses discounted are permitted infrequently such that revenues generated from these groups are considered de-minimis, it is possible to provide the discount without jeopardizing the jurisdiction's transportation improvements program. As a general industry standard, if the revenues from these land uses comprise less than 5 percent of total impact fee revenues generated in a jurisdiction, the land use is considered de-minimis. When using this methodology, it is important for the County and/or municipalities to set up a monitoring system to track revenue generation levels annually. Based on the limited permitting activity within the existing CRA's over the past several years, this is a viable option for Martin County.
- **Economic Growth Methodology:** Tindale Oliver developed an economic growth approach that accounts for the County's growth rate and revenues generated by the existing population that are dedicated to transportation capacity. This model identifies level of additional discounts that can be offered through revenues generated by the existing development while maintaining the County's transportation improvements program funded with mobility/multimodal fee revenues.

In addition to these methods, the County and municipalities have the option to buy down the fees with additional taxes and/or other non-impact fee revenue sources. Examples of potential incentives/discounts are provided in Section IV of this report.

Development Review Process

Whether Martin County maintains its current transportation impact fee structure or moves to a mobility or multimodal fee, the recent legislative changes to the development review process are likely to affect the County's current concurrency review process. The following paragraphs summarize key aspects of two possible processes.

Concurrency, Proportionate Share and Impact Fee Model

Traditional concurrency standards mitigated by proportionate share calculations have the following characteristics:

- Limited revenues due to the revised proportionate share formula compared to impact fee amounts. This practice has the benefit of receiving revenues sooner than impact fee payments that are collected at building permit or later. Some jurisdictions manage this process through adjusting certain aspects of the traffic impact analysis and payment calculations.
- Triggered at later stages in the development review process, such as re-zonings and development agreements.
- Applicants may not be charged for existing deficiencies. While some jurisdictions interpreted this requirement to exclude all deficient roads entirely, other jurisdictions excluded just the existing deficiency that is the local government's responsibility.

Mobility Fee Model

This approach allows local governments to calculate a fee that is based on areawide level of service and use a "pay-and-go" system for most development. However, Florida Statutes do not explicitly prohibit the use of alternative mobility funding systems to deny, time, or phase development during these development phases.

Site Plan Review Controls

Regardless of development review processes discussed so far, local governments can still rely on site planning requirements to manage certain site-specific transportation impacts, such as site access, thresholds for signalization, and queuing space. Site plan review is more of a management tool that is distinct from concurrency and fee processes/requirements.

A more detailed explanation of development review tools is included Section V of this report.

I. Introduction/Background Information

Tindale Oliver has been retained by the Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure.

This technical memorandum provides background demographic information for Martin County, the alternative mobility/multimodal fee structures for considerations and an evaluation of these fee options in terms of several financial planning and legal criteria.

Local Conditions and Demographic/Economic Trends

As part of the mobility/multimodal fee calculations and transportation funding analysis, it is important to understand economic and demographic conditions in Martin County.

Population and Employment Trends

Population trends and projections are reviewed to gain an understanding of growth levels and develop revenue estimates. As growth levels increase, the need for additional infrastructure and alternative revenue sources to fund this need, such as a mobility/multimodal/impact fee, increases.

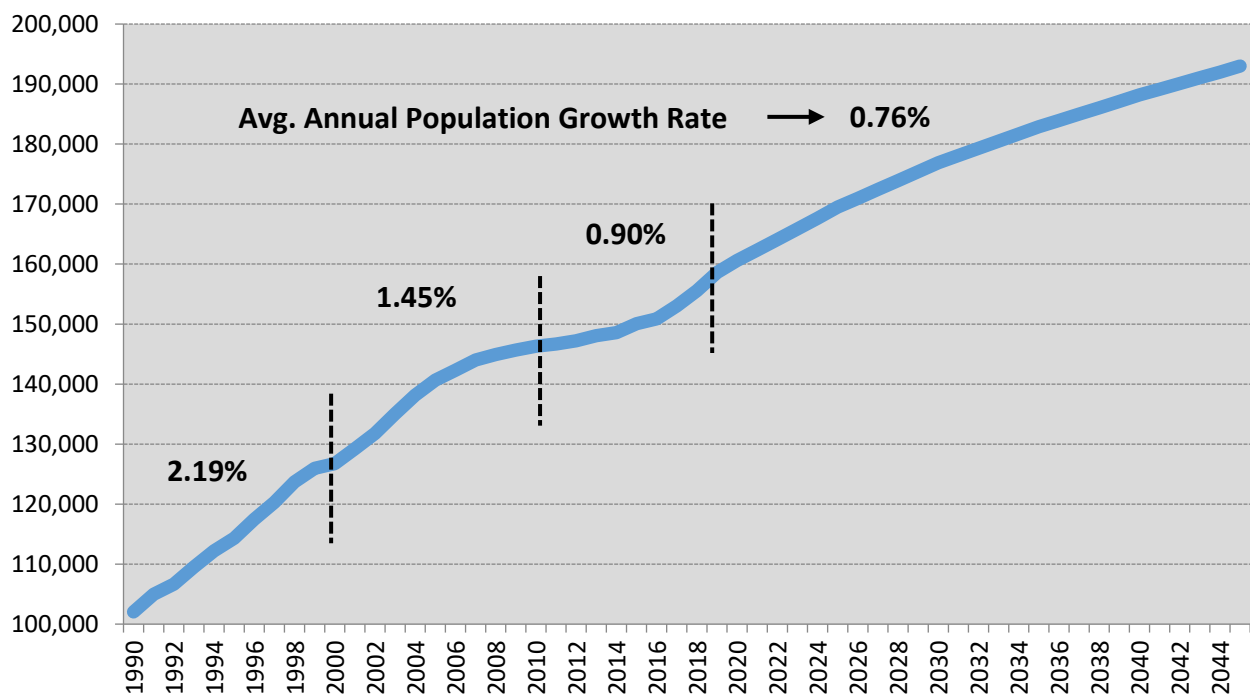
The following sources were reviewed for population and employment data. In terms of population data, the County's Comprehensive Plan requires use of the State's Bureau of Economic & Business Research (BEBR) data for population projections; however, information from other sources are shown for reference purposes.

- BEBR
- Woods & Poole Economics, Inc.
- Bureau of Economic Analysis (BEA)
- U.S. Census Bureau
 - o American Community Survey (ACS) 5-year estimates
 - o Census Transportation Planning Products Program (CTPP)
 - o Building Permits Survey
- Martin MPO's Community Characteristics Report, 2017
- Martin County Residential Demand Analysis, 2018
- Martin County Growth and Development Trends, February 2019

- Treasure Coast Regional Planning Model v4 TAZ data (used in the Long Range Transportation Plan)

Figure 1 illustrates the historical population growth and the population projections for Martin County based on the BEBR medium-level projections. For 2045, the County is estimated to reach a population of 193,000, representing an annual average growth rate of 0.76 percent between 2019 and 2045.

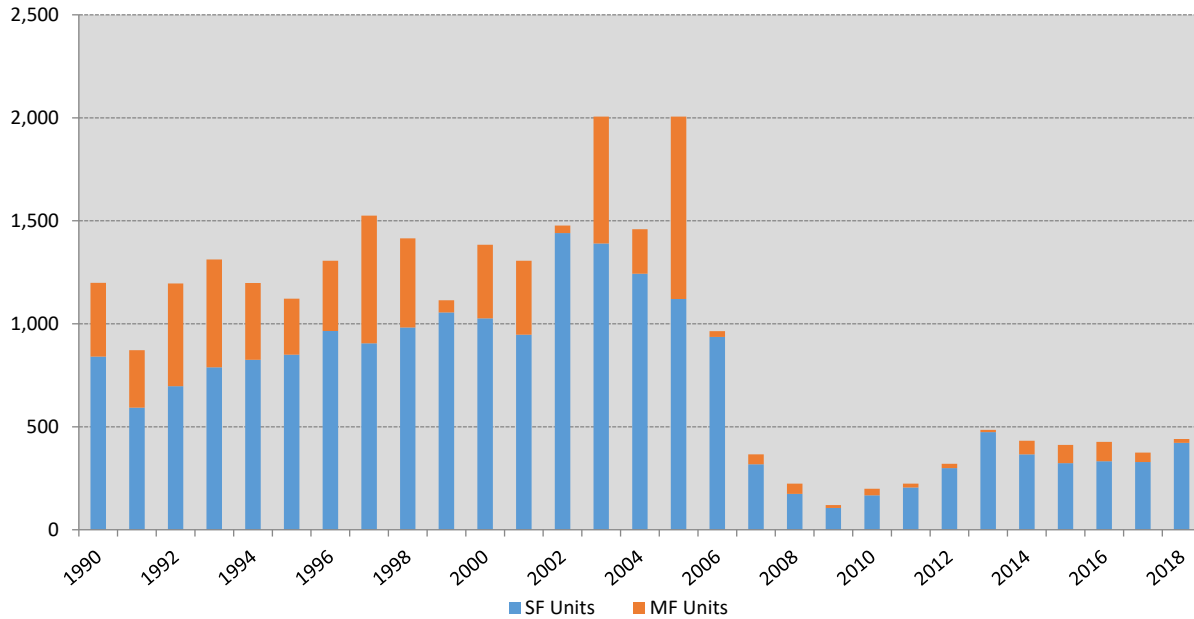
Figure 1: Population Projections



Source: Bureau of Economic & Business Research, Medium-Level projections, 2020

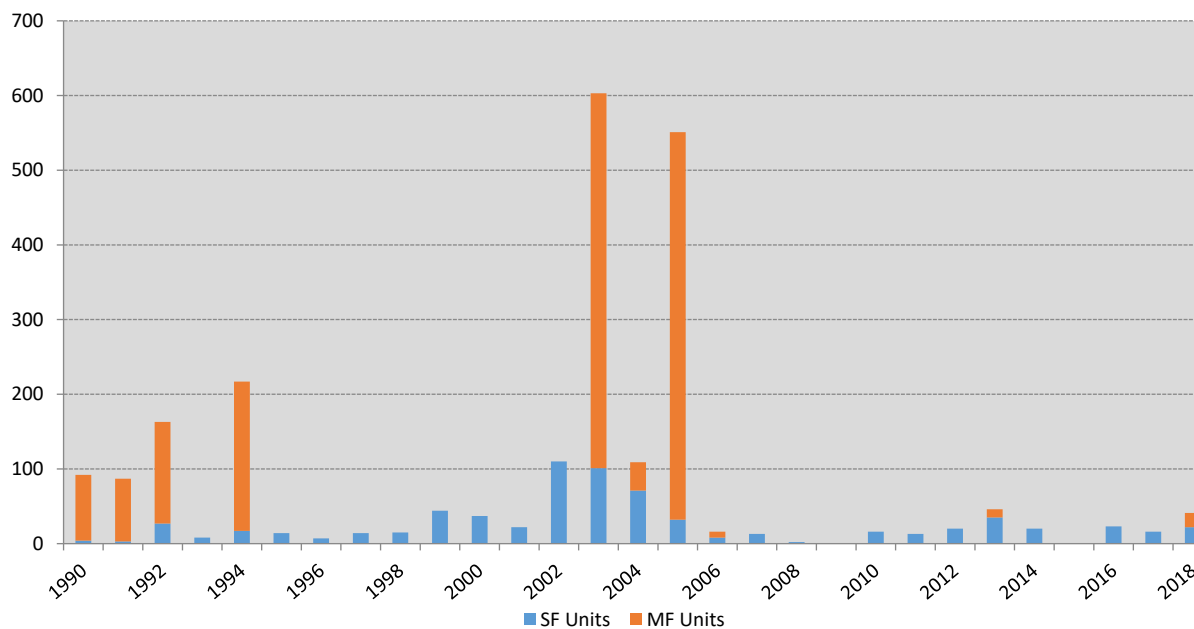
Figures 2 and 3 illustrate the recent residential permitting in Martin County and the City of Stuart, indicating that most of the permitting is occurring in the unincorporated County.

Figure 2: Residential Permitting, Martin County



Source: U.S. Census Bureau, Building Permit Survey

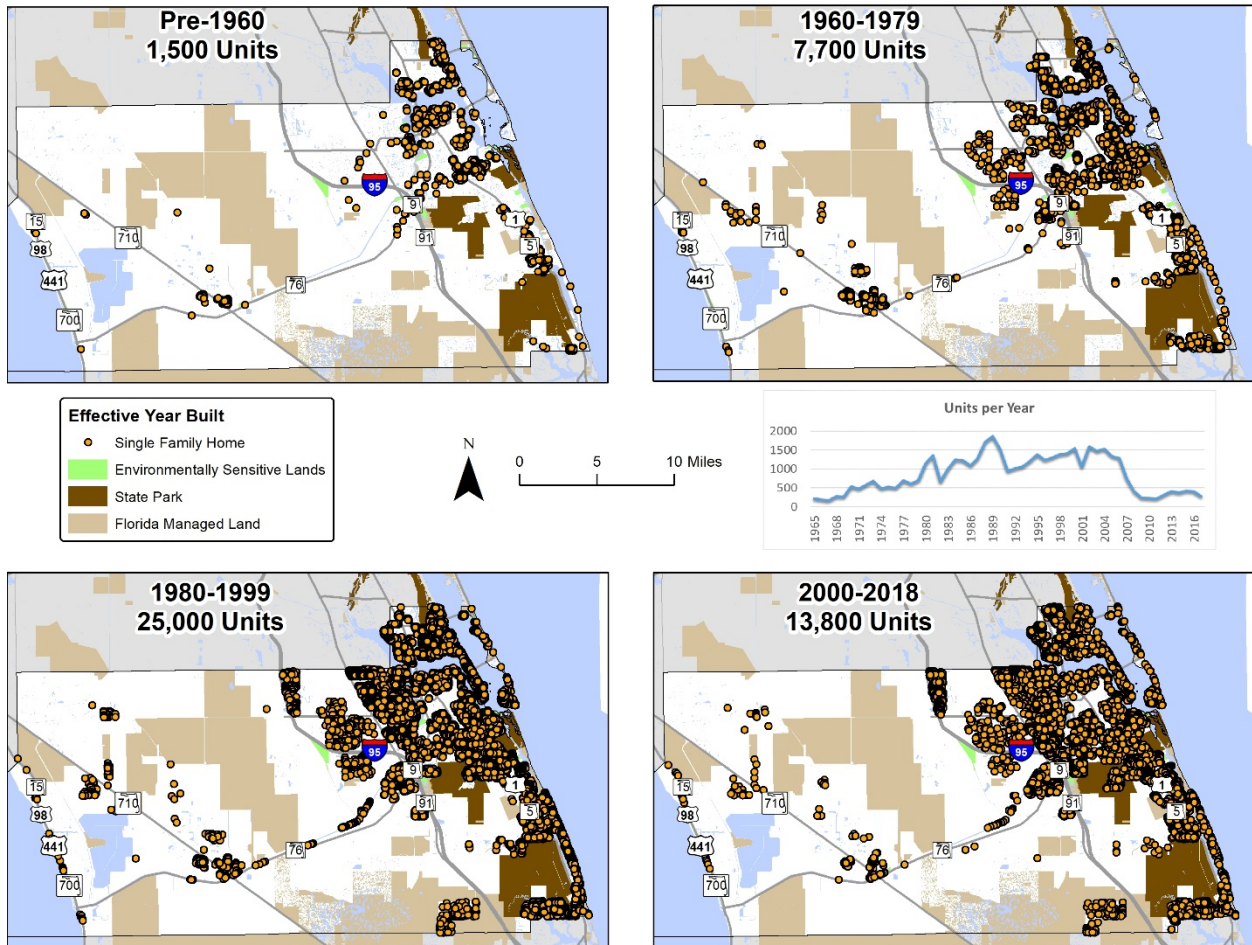
Figure 3: Residential Permitting, City of Stuart



Source: U.S. Census Bureau, Building Permit Survey

Map 1 presents the construction of single family homes over time. As expected, the earlier development occurred on the coast, and as the coastline became more built out, the development started to move to the west.

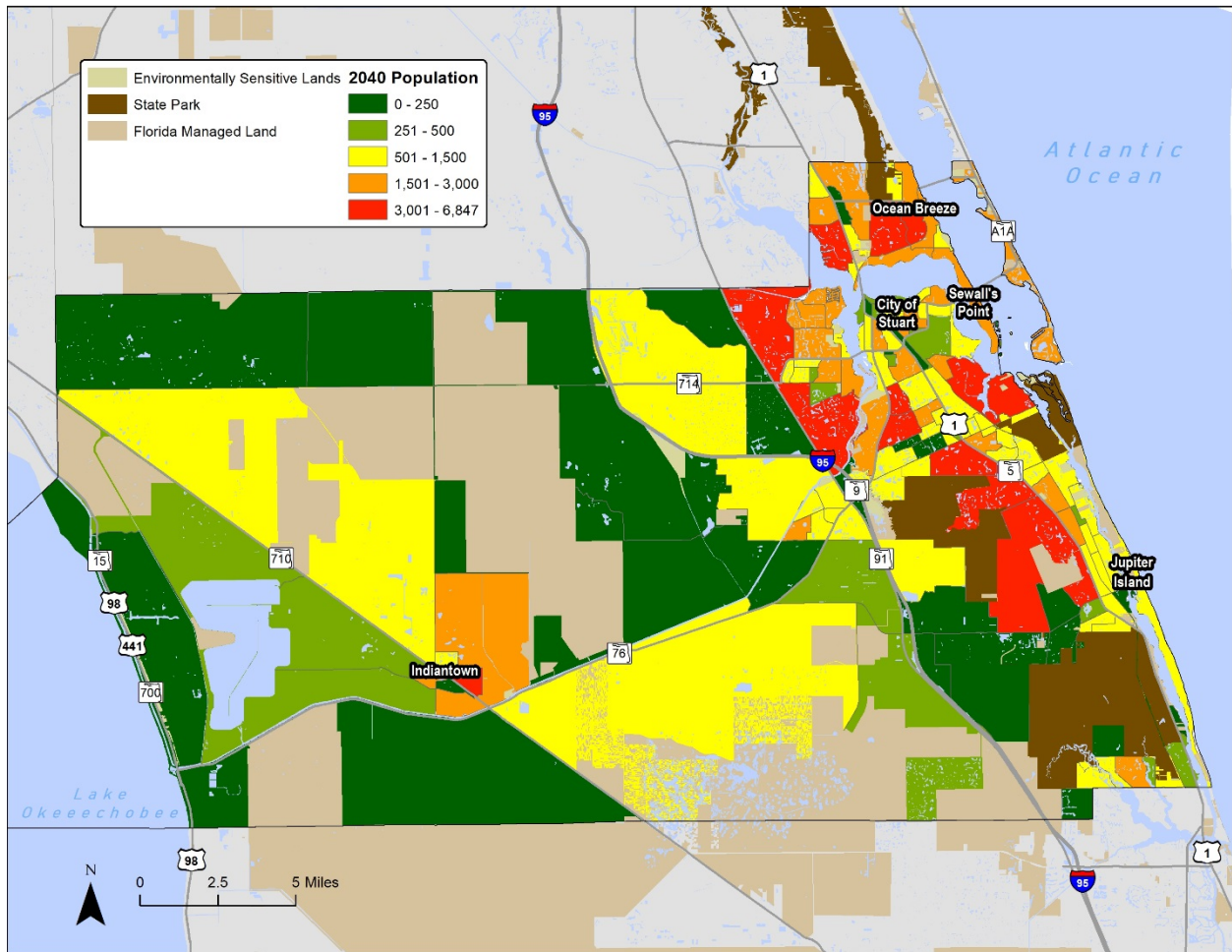
Map 1: Single Family Development Trends



Source: Florida Department of Revenue, Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

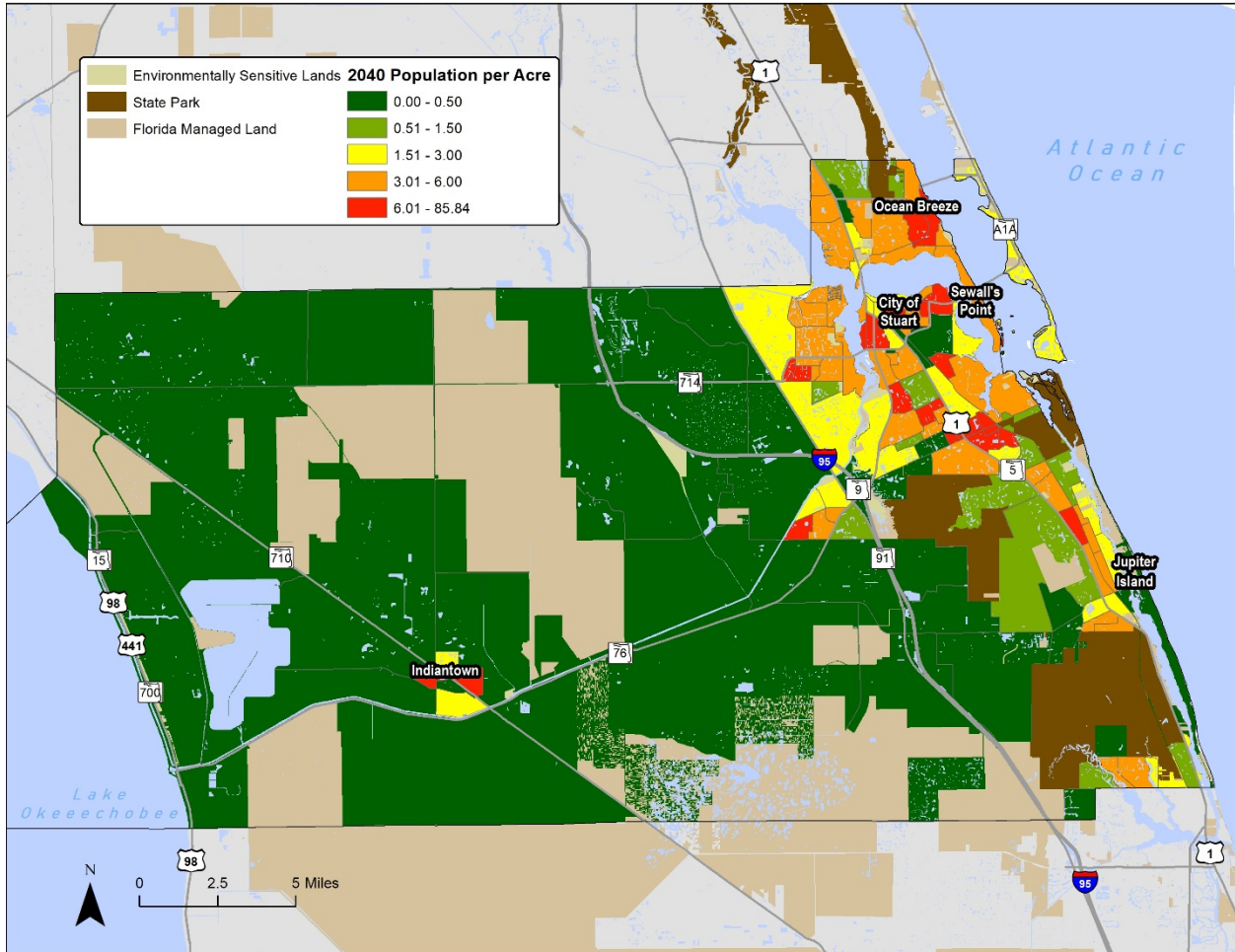
Map 2 shows projected population by Traffic Analysis Zone (TAZ). Areas along the Atlantic coast are generally anticipated to see higher projected population by zone, as well as zones around Indiantown. The 2040 projected population density by zone (Map 3) shows similar patterns.

Map 2: Projected Population by Area (2040)



Source: Treasure Coast Regional Planning Model v4 TAZ data

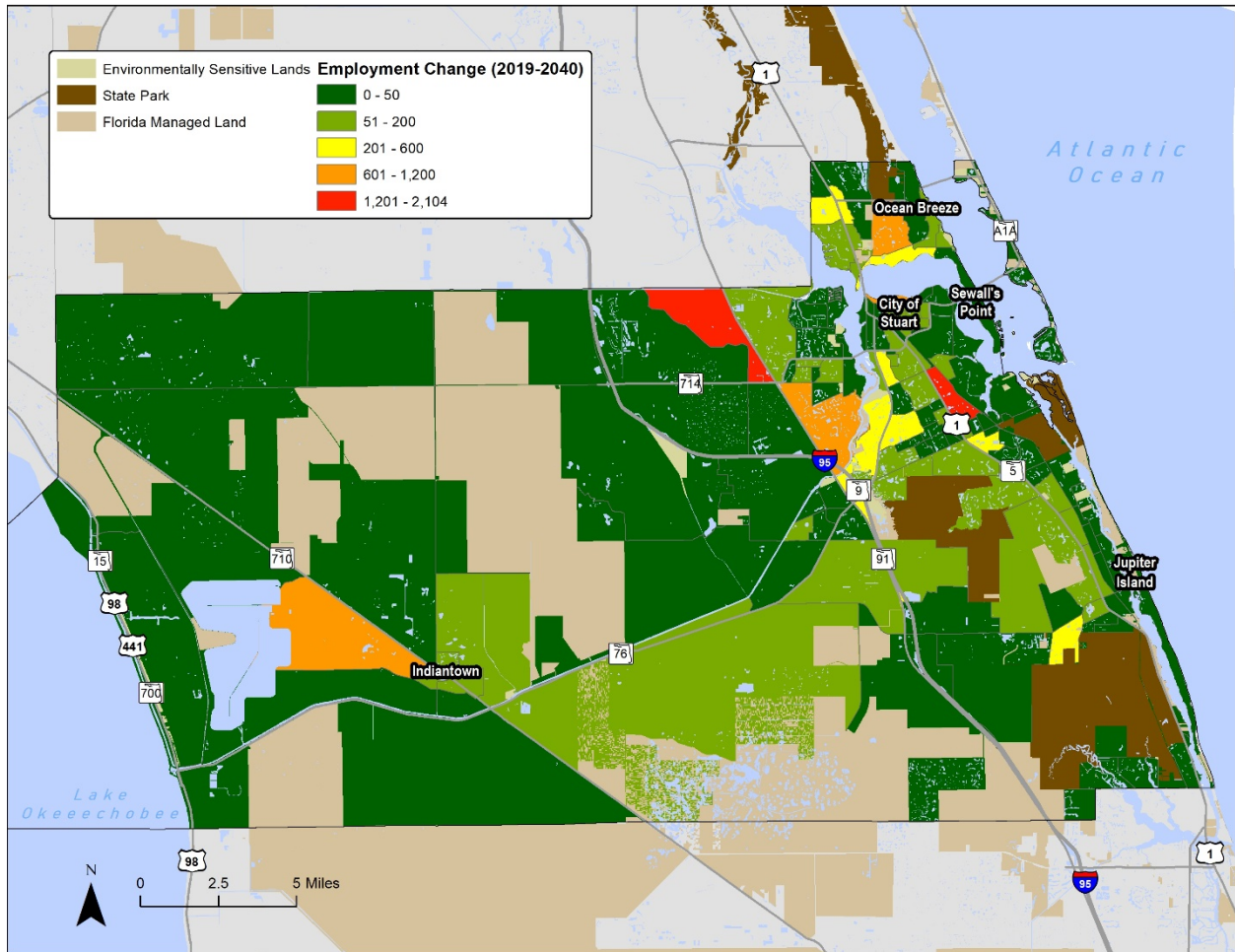
Map 3: Projected Population Density (2040)



Source: Treasure Coast Regional Planning Model v4 TAZ data

Finally, Map 4 presents projected employment levels by geographic area, which follows a similar pattern to the population projections.

Map 4: Projected Employment Growth by Area



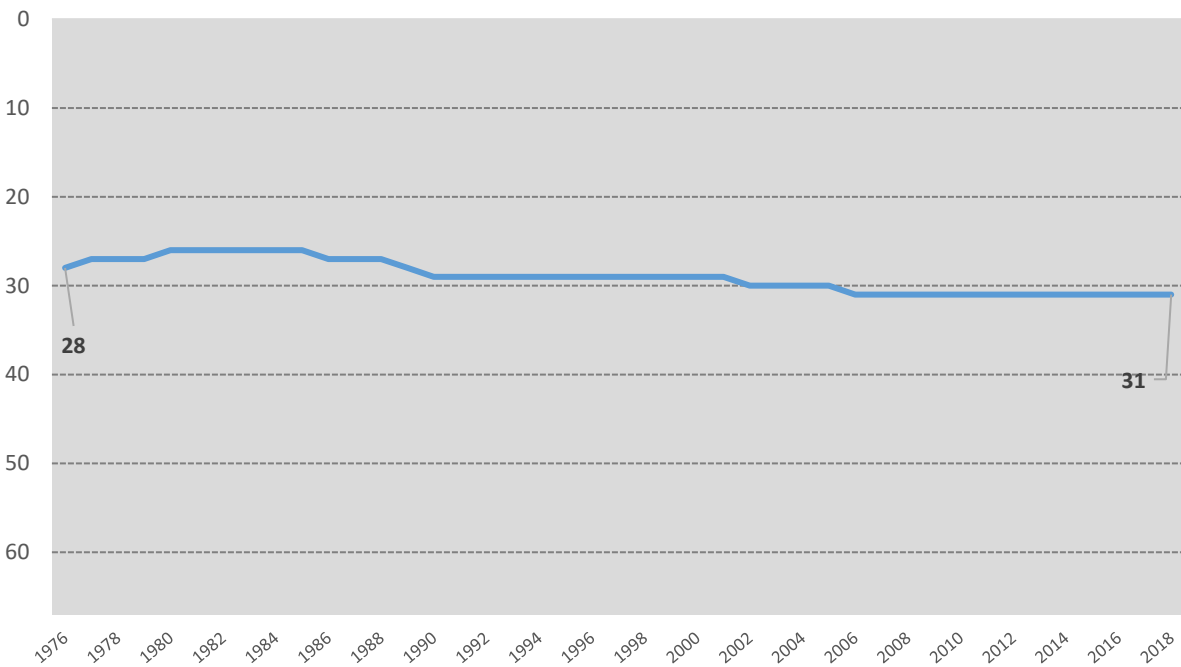
Source: Treasure Coast Regional Planning Model v4 TAZ data, Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

Statewide Rankings of Demographic and Economic Variables

The following figures illustrate Martin County’s economic and demographic trends as they relate to the other counties in Florida. For each year of the trend, all Florida counties are ranked from 1 to 67, and Martin County’s position is tracked for several different variables. This review provides an understanding of county’s economic and demographic characteristics both in terms of current conditions and over time, illustrating the evolution of Martin County as compared to the rest of the state of Florida. Primary findings of this review include the following.

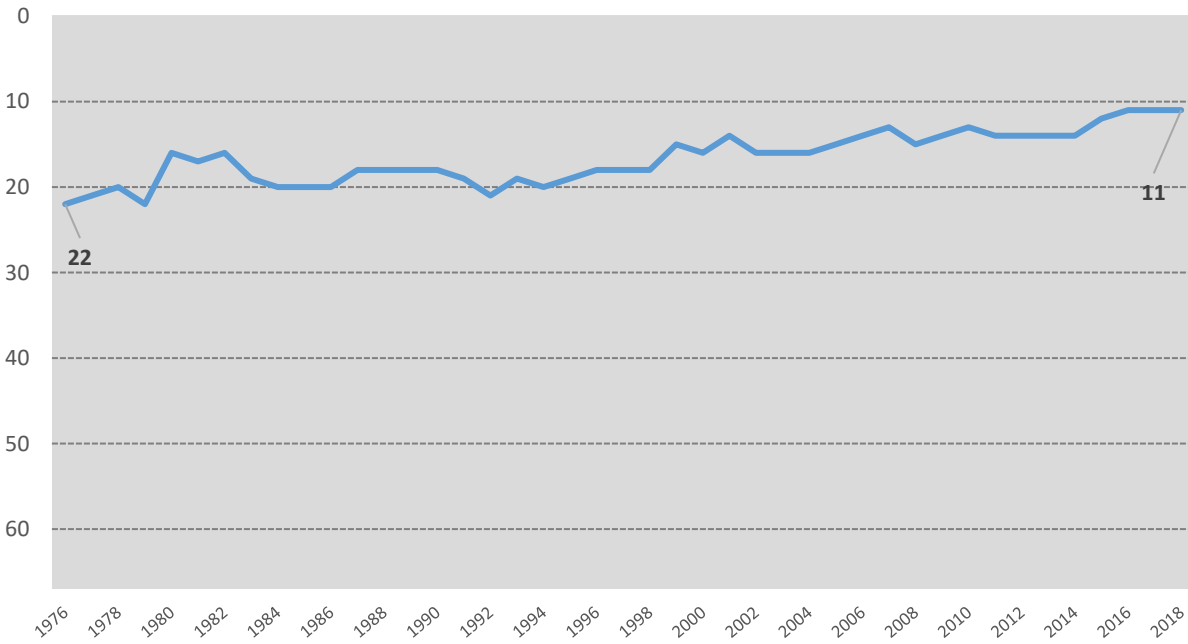
- Martin County ranks in the middle of Florida counties in terms of population and maintained this ranking over time. The county’s ranking in terms of employment to population ratio improved over time, indicating more employment opportunities.
- Martin County is a high-income county (ranked 3rd in the state), and wage levels suggested an improvement over time as well.
- Martin County ranks 61st out of 67 counties in terms of median age and maintained this ranking over time.

Figure 4: Historical Population Ranking



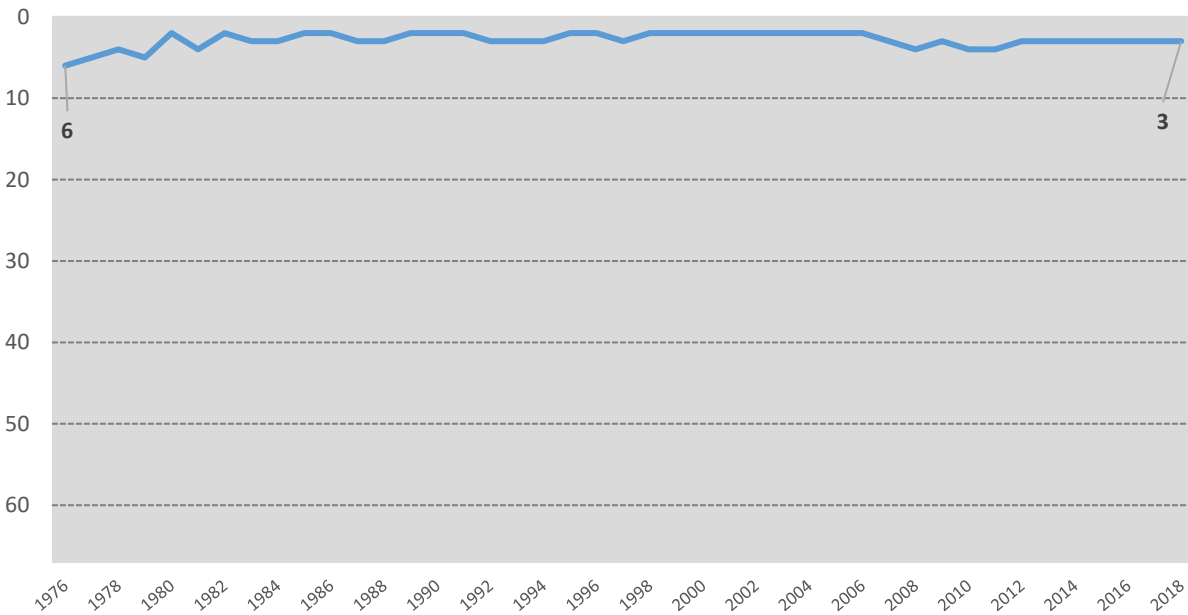
Source: Bureau of Economic Analysis and BEBR
Highest population = 1, Lowest population = 67

Figure 5: Employment/Population Ranking



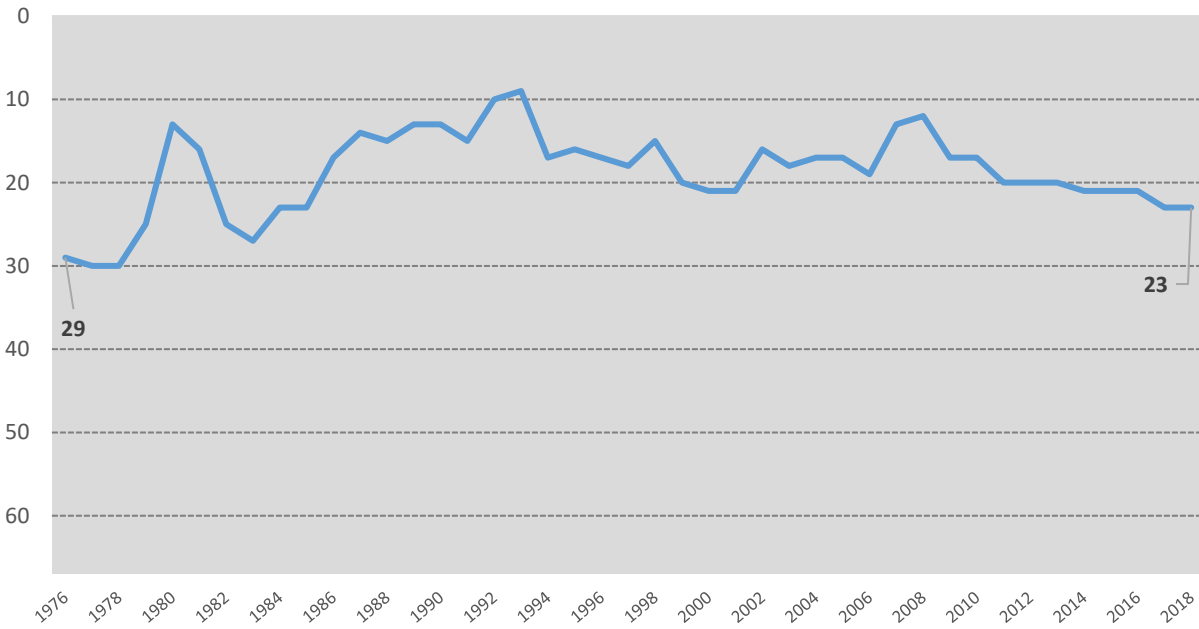
Source: Bureau of Economic Analysis (full-time and part-time employment)
Highest E/P ratio = 1, Lowest E/P ratio = 67

Figure 6: Income per Capita Ranking



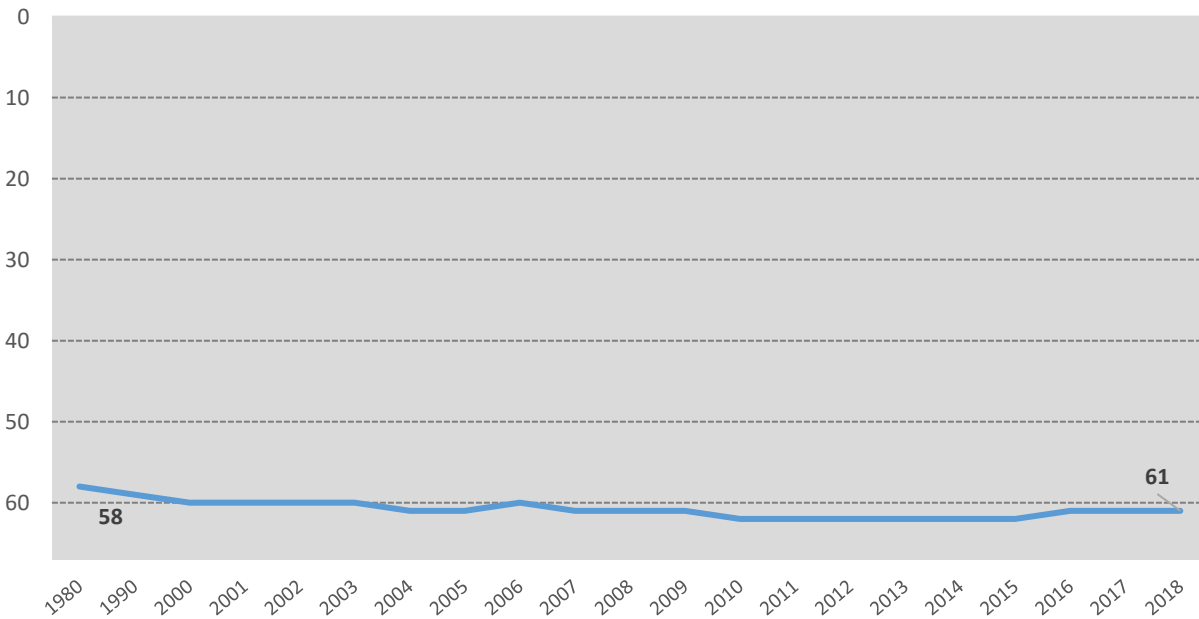
Source: Bureau of Economic Analysis
Highest Income/Capita = 1, Lowest Income/Capita = 67

Figure 7: Wage per Job Ranking



Source: Bureau of Economic Analysis
 Highest Wage/Job = 1, Lowest Wage/Job = 67

Figure 8: Median Age Ranking

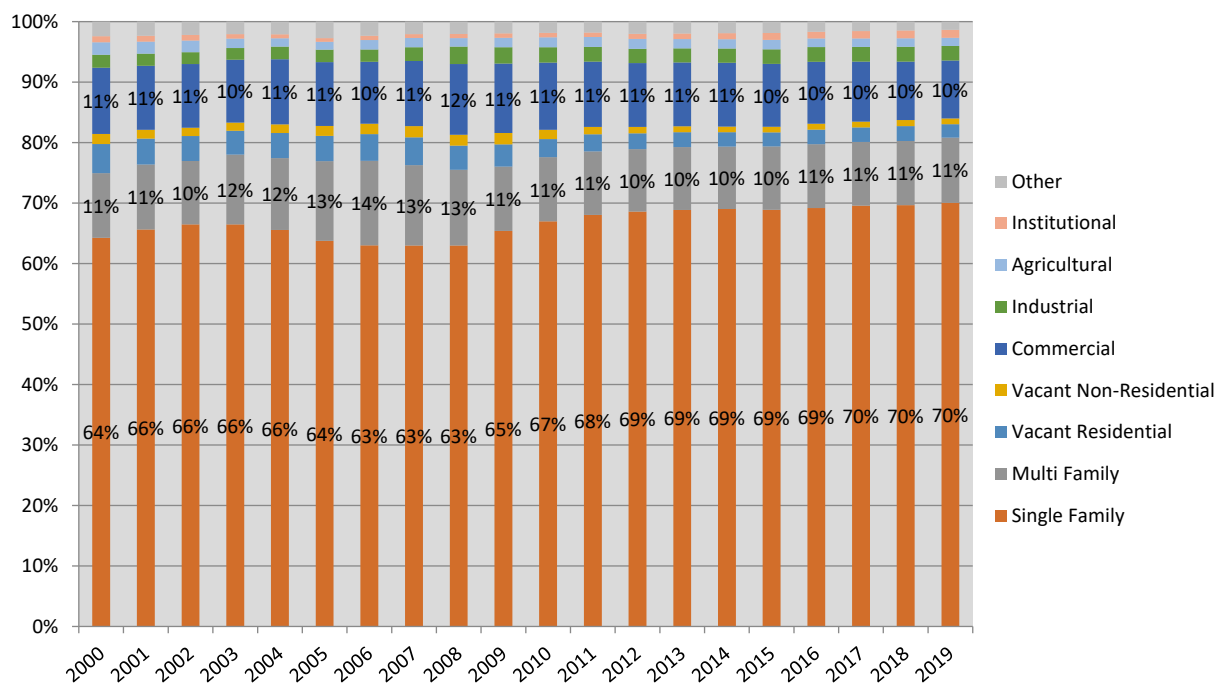


Source: American Community Survey (ACS), 5-year Estimates
 Lowest Median Age = 1, Highest Median Age = 67

The data in Figures 9 through 11 provide an understanding of tax base distribution of the county as well as revenue generation levels. This information is utilized while reviewing existing and potential transportation revenues and helps to determine more productive revenue options.

Figure 9 presents the tax base allocation by land use category. As shown, residential land uses dominate the tax base, accounting for over 80 percent of the County’s taxable value. The County has moved from a 75 percent residential tax base in 2000 to an 81 percent residential tax base in 2019, resulting in a less diverse tax base. In other words, non-residential tax base decreased by approximately 25 percent as a portion of the total tax base since 2000. Some of this change could be due to high property values of residential waterfront property. Some of the mobility/multimodal fee incentives toward select non-residential development may help improve the tax base diversity.

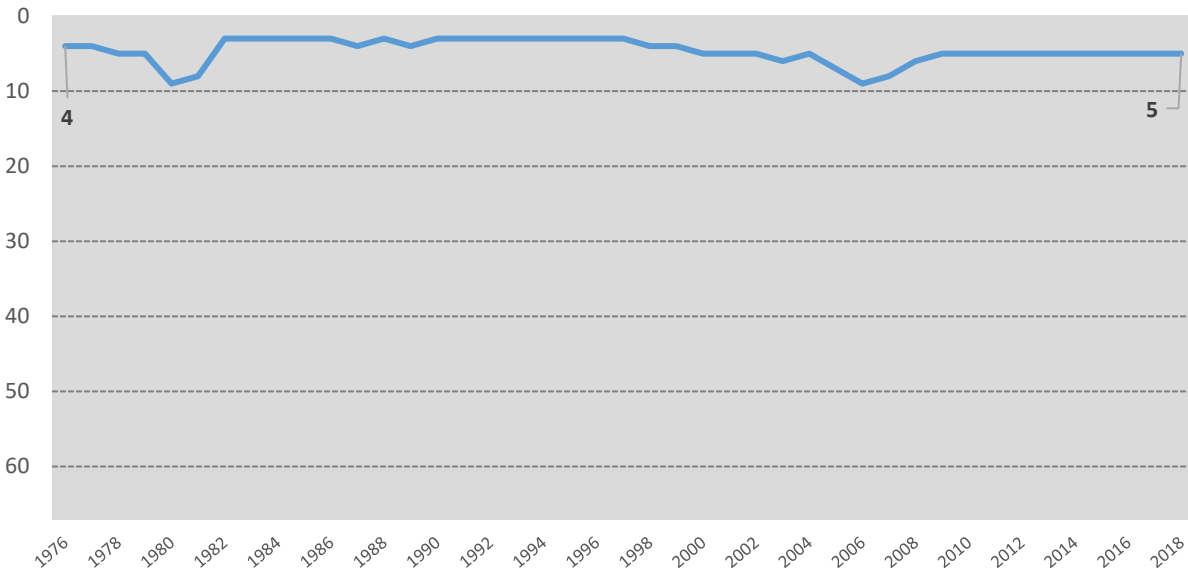
Figure 9: Tax Base Allocation, Martin County



Source: Florida Department of Revenue, Florida Property Valuations and Tax Databook

As shown in Figure 10, Martin County ranks 5th in terms of taxable value per capita, which is mostly a function of waterfront property on the east coast. This suggests that ad valorem tax is a highly productive revenue source, but as the new development occurs in mid-county as well as western parts of the county, this productivity may decline over time.

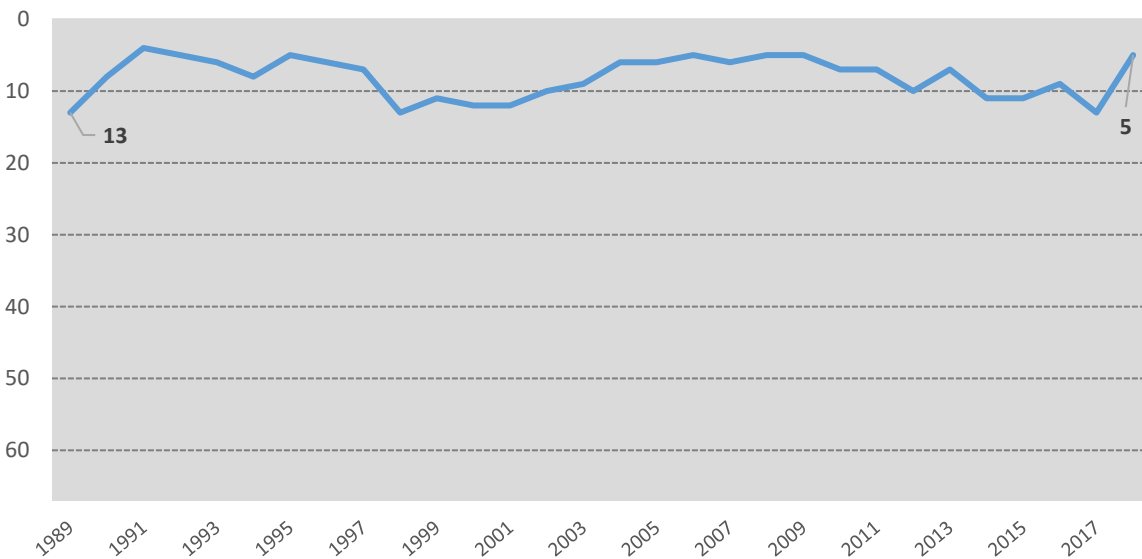
Figure 10: Taxable Value per Capita Ranking



Source: Florida Property Valuations and Tax Databook, Florida Department of Revenue
 Highest TaxVal/Capita = 1, Lowest TaxVal/Capita = 67

In terms of sales tax revenue per capita, the County ranks 5th, suggesting that this is also a relatively productive revenue source for Martin County compared to other counties.

Figure 11: Sales Tax Revenue per Capita Ranking



Source: Florida’s Local Government and Financial Information Handbook
 Sales Tax = estimated revenue per 1% of local option sales tax
 Highest Sales Tax/Capita = 1, Lowest Sales Tax/Capita = 67

[Martin MPO's Community Characteristics Report \(2017\)](#)

This MPO report documents 11 planning areas for Martin County. Further discussion with County Growth Management staff indicated that the County is relying less on these area designations for general planning purposes, but still uses them as a basis for the population bulletin. Given this information, these planning areas will be less prioritized in geographic considerations for fee scenarios.

[Martin County Residential Demand Analysis \(2018\)](#)

This analysis helps indicate where the county might accommodate future population growth based on residential demand and supply, which impacts land use and density considerations in studying transportation needs and funding. Based on analysis from 2012 through 2016, the report anticipates the greatest residential demand in its Primary Urban Service district in the eastern part of the county. This finding is consistent with trends shown in Map 1.

[Summary of Findings](#)

The data and analysis included in this section suggest the following:

- Martin County is a growing county with a projected annual growth rate of 0.8 percent through 2045. This growth rate provides the County with some time to plan for transportation infrastructure funding.
- The County is developed on the eastern side along the Atlantic Ocean and future development is projected to occur primarily within the Urban Service Boundary.
- Martin County is a high-income county with a high taxable value per capita compared to other Florida counties. However, the ad valorem tax base is not very diversified, which makes it more vulnerable to economic fluctuations. Developing fee incentives for select non-residential land uses may help with further diversification.
- Martin County ranks as one of the highest ranked in terms of sales tax per resident. Both ad valorem revenues and sales tax revenues are likely to be productive for Martin County in the future.

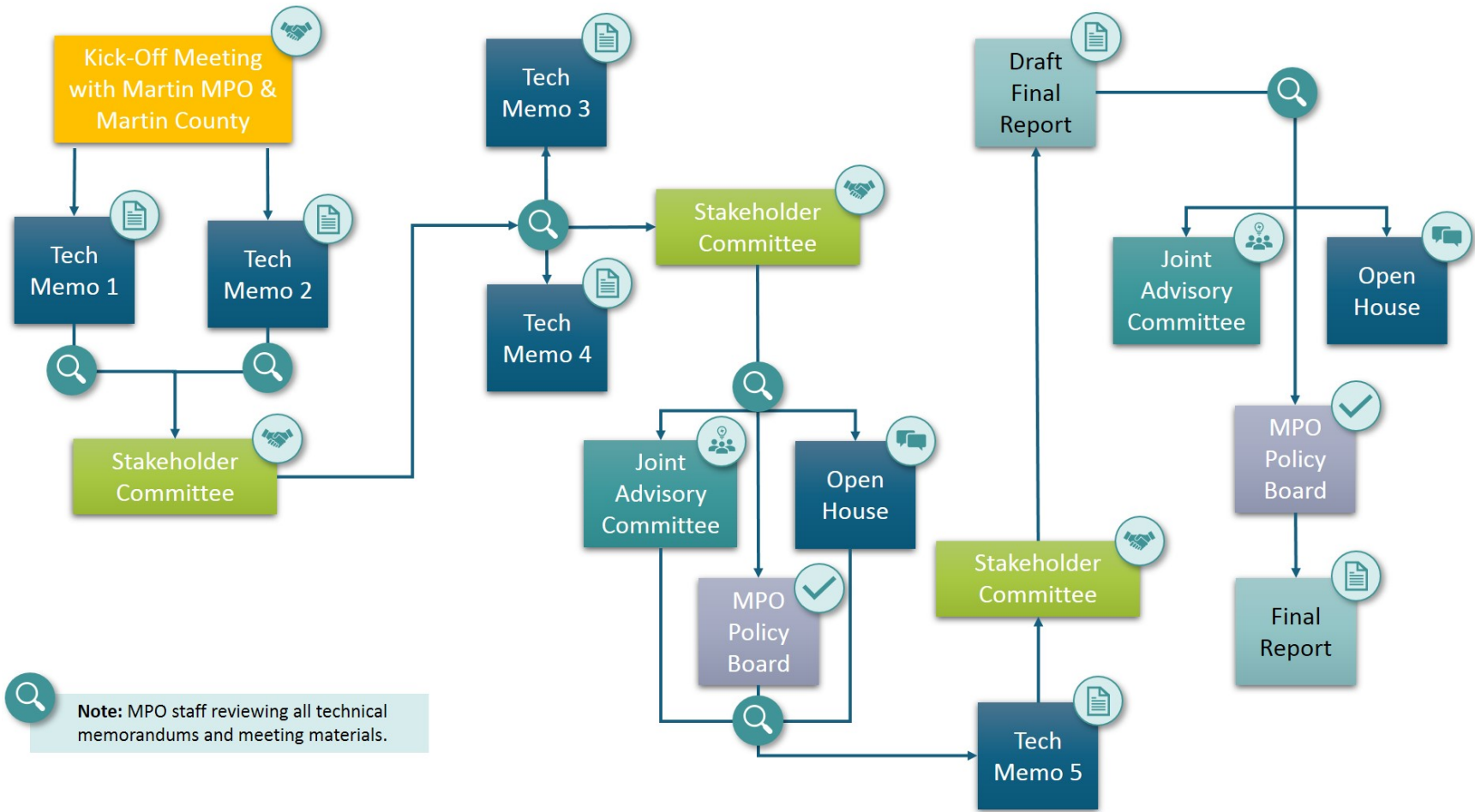
II. Coordinated Outreach Process

The outreach process involved several steps for different levels of review. The primary groups that involved included the following:

- Martin MPO Staff
- Mobility Fee Stakeholder Committee
- MPO Joint Advisory Committee
- MPO Policy Board
- General Public

Figure 12 provides an overview of meetings with these groups, flow of resulting information, and the relationship to technical memoranda that Tindale Oliver produced as part of the study. This figure was used at all the meetings indicating the study progress and the focus area at each meeting. The remainder of this memo details the involvement process for each of these groups in more detail.

Figure 12: Public and Stakeholder Involvement Process Flow-Chart



1. **Martin MPO Staff:** Tindale Oliver coordinated with staff for review of technical memoranda and meeting materials, including agendas, PowerPoint presentations, and any handouts. Documents and materials were sent to staff in advance of a meeting or other public distribution to allow adequate review time for staff and revision time by Tindale Oliver.

2. **Mobility Fee Stakeholder Committee** that is composed of the following members:
 - MPO Administrator and/or designee
 - County Engineer
 - Growth Management Director
 - Senior Financial Analyst
 - Representatives from Martin County local governments, including Martin County, City of Stuart, City of Sewall’s Point, City of Jupiter Island, City of Ocean Breeze, and the Village of Indiantown
 - Florida Department of Transportation (FDOT) representative
 - Stuart/Martin Chamber of Commerce representative
 - Legal representative
 - Representative from the development community

This group met three times throughout the study with meeting notice and scheduling occurring via email coordination facilitated by MPO staff. Tindale Oliver prepared PowerPoint presentations that summarized the study results and documented major takeaways from each meeting for consideration in analysis, preparation of deliverables, and development of public outreach events. The scope of these meetings included the following:

- **Meeting 1 – Kick-off Meeting:** The purpose of this meeting was to discuss the study goals/purpose, introduce the general methodology that will be used (including a summary of *Technical Memorandum #2 – Data Compilation & Review* on data collection and analysis), and provide initial, preliminary findings about the countywide economic, demographic and geographic characteristics.
- **Meeting 2 – Review of Initial Results:** This meeting provided an opportunity to review the findings of draft *Technical Memoranda #3 – Best Practices* and *Technical Memorandum #4 – Goals/Objectives & Geographic District Areas*, which were distributed prior to the meeting. Tindale Oliver summarized findings from case study research on best and common practices for the development and implementation of multi-modal and mobility fees. Tindale Oliver also presented initial findings on fee variations for three approaches developed to support the

County's and the municipalities' goals and objectives for countywide transportation funding and fee variations by different geographic districts and/or targeted land uses, such as affordable housing or high wage generating land uses, etc. In addition, alternative options for development review and concurrency processes were discussed and compared to the County's current practices. As part of this meeting, Tindale Oliver obtained input on proposed alternatives as well as providing the Committee with the opportunity to ask questions. The Committee's input was incorporated into the revised Technical Memoranda prior to findings being presented to the MPO Policy Board and Joint Advisory Committee.

- **Meeting 3 – Review of Mobility Fee Alternatives:** Based on the input received from the Stakeholder Committee as well as the Joint Advisory Committee and MPO Policy Board, Tindale Oliver prepared and submitted *Technical Memorandum #5 – Mobility Fee Alternatives*, which included different approaches to a mobility funding program. Based on input from the Committee (and other groups), Tindale Oliver started to prepare a final report for review.

This group also reviewed the draft final report of Mobility Fee Study for Martin County. Sign-in sheets and pictures from these meetings are included in [Appendix F](#).

- 3. MPO Joint Advisory Committee and MPO Policy Board Meetings and Presentations:** In addition to the Mobility Fee Stakeholder Committee, Tindale Oliver presented the findings of the study to the Martin MPO Joint Advisory Committee and the MPO Policy Board. Of these, **MPO Policy Board** consists of elected officials representing Martin County, the City of Stuart, the Town of Sewall's Point, and the Village of Indiantown. The MPO Board is supported by several advisory committees that include technical staff and citizen representatives that review information and make recommendations.

Joint Advisory Committee includes the following Committees:

- **Citizen's Advisory Committee (CAC)**, which consists of 12 members, representing citizens appointed by the MPO Board. This Committee strives to represent the citizens of Martin County and is responsible for providing continuous public input for the MPO decision-making process.
- **Technical Advisory Committee (TAC)**, which includes 14 members, representing municipal governments and other public agencies, such as the School District, FDOT, Martin County Growth Management Department, and the City of Stuart. This Committee serves as a source of wide-ranging expertise for the MPO Board

and is responsible for advising the Board on all technical matters, including transportation plans, studies, and implementation programs.

- **Bicycle & Pedestrian Advisory Committee (BPAC)** consists of 16 members. BPAC represents Martin County citizens on all bicycle and pedestrian-related issues. The Committee is responsible for providing input into the MPO decision-making process, which includes reviewing and commenting on transportation needs and issues relating to bicycle routes, sidewalk and other non-motorized mobility facilities.

Study findings described previously were also presented to the MPO Board and Joint Advisory Committee to obtain input and direction. Tindale Oliver prepared PowerPoint presentations to summarize findings and provided a basis for discussion at the meetings. Feedback was documented and considered in the analysis and preparation of deliverables.

- 4. Public Open Houses:** Two public open houses were held during the study to present information on study findings, provide opportunities for the general public to ask questions, and provide opportunities for the public to offer input and suggestions. These public open houses were publicized through the MPO's and each municipality's standard public notice procedures, including Constant Contact applications.

Tindale Oliver prepared visual materials for use at the open houses (e.g., display boards and/or PowerPoint presentations with graphs, charts, infographics, etc.) to summarize baseline information (e.g., existing conditions in the county, current funding, summary of projects from existing plans), study methodology and findings, and general recommendations. Due to COVID-19, the second Open House was held in a webinar format. Sign-in sheets and pictures from these meetings are included in [Appendix F](#).

As discussed previously, the primary purpose of these meetings was to obtain input from stakeholders, elected officials, and others regarding the countywide transportation funding options. Input from these meetings were incorporated into the calculations and the general approach as appropriate, prior to publishing the final report.

III. Overview of Legal Requirements

Florida Statutes require that mobility/multimodal fees follow the same legal requirements as impact fees. In Florida, legal requirements related to impact fees have primarily been established through case law since the 1980's. Impact fees must comply with the "dual rational nexus" test, which requires that they:

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

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

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

- **HB 227 in 2009:** The Florida legislation statutorily clarified that in any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the requirements of state legal precedent or the Impact Fee Act and that the court may not use a deferential standard.
- **SB 360 in 2009:** Allowed fees to be decreased without the 90-day notice period required to increase the fees and purported to change the standard of legal review associated with impact fees. SB 360 also required the Florida Department of Community Affairs (now the Department of Economic Opportunity) and Florida Department of Transportation (FDOT) to conduct studies on "mobility fees," which were completed in 2010.
- **HB 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 163.31801 (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.

- **HB 207 in 2019:** Included the following changes to the Impact Fee Act along with additional clarifying language:
 1. Impact fees cannot be collected prior to building permit issuance; and
 2. Impact fee revenues cannot be used to pay debt service for previously approved projects unless the expenditure is reasonably connected to, or has a rational nexus with, the increased impact generated by the new residential and commercial construction.
- **HB 7103 in 2019:** Addressed multiple issues related to affordable housing/linkage fees, impact fees, and building services fees. In terms of impact fees, the bill required that when local governments increase their impact fees, the outstanding impact fee credits for developer contributions should also be increased. This requirement will operate

prospectively. This bill also allowed local governments to waive/reduce impact fees for affordable housing projects without having to offset the associated revenue loss.

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 based upon the specific benefit to the user related to a given infrastructure type and is not established for the primary purpose of generating revenue for the general benefit of the community, 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.

The fee options developed in this memorandum comply with all of the legal requirements.

IV. Mobility/Multimodal Fee Calculations

This section of the memorandum includes data and analysis completed to calculate the mobility/multimodal fee options for the consideration of Martin MPO, Martin County and the municipalities. Several options, such as countywide fees vs. fee variation by geographic area as well as a “roadway ONLY” impact fee in the rural section of the County are included in this section.

Methodology

The methodology used for the mobility/multimodal study follows a consumption-based 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 the transportation network.

Under this methodology, the fees assess a proportionate share cost for the entire transportation network in the county, including classified City, County and State roadways, with the exception of local/neighborhood roads and interstate highways/toll facilities. Generally, neighborhood roads are the obligation of the developer and are part of the site/subdivision approvals. Interstate highways and toll facilities tend to be funded with earmarked State and Federal funds.

Included in this document is the necessary support material used in the calculation of the mobility/multimodal fee. The general equation used to compute the mobility/multimodal fee for a given land use is:

$$\mathbf{[Demand \times Cost] - Credit = Fee}$$

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 mobility/multimodal 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 dollars per person-mile of transportation capacity added.

The “credit” is an estimate of future non-mobility/multimodal fee revenues generated by new development that are allocated to provide transportation capacity expansion. The mobility/multimodal fee is considered to be an “up front” payment for a portion of the cost of building a lane/person-mile of capacity that is directly related to the amount of capacity consumed by each unit of land use contained in the 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 fees where a new development activity must be reasonably assured that they are not being charged twice for the same level of service.

It should be noted that, consistent with the State Impact Fee Act requirements, the information used to develop the mobility/multimodal fee schedule was based on the most recent and localized data available.

Demand Component

The amount of road system consumed by a unit of new land development is calculated using the following variables and is a measure of the vehicle miles of new travel a unit of development places on the existing roadway system:

- Number of gross daily trips generated
- Average length of those trips
- Proportion of travel that is new travel, rather than travel that is already traveling on the transportation system and is captured by new development
- Interstate/toll facility adjustment factor
- Vehicle-trip to person-trip factor

As part of this update, the trip characteristics variables were obtained primarily 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 A](#). This database was used to determine trip length, percent new trips, and trip rate for some land uses.

[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, mobility/multimodal fees are not used to pay for these

improvements and the portion of travel occurring on the interstate/toll facility system is usually eliminated 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 Treasure Coast Regional Planning Model (TCRPM v4). A select link analysis was run for all traffic analysis zones located within Martin County in order to differentiate trips with an origin and/or destination within the county versus trips with no origin or destination within the county.

Currently, interstate and toll facilities in Martin County include I-95 and the Florida Turnpike. The limited access vehicle-miles of travel (Limited Access VMT) for trips with an origin and/or destination within the county was calculated for the identified limited access facilities. The total Martin County VMT was calculated for all trips with an origin and/or destination within the county for all roads, including limited access facilities.

The I/T adjustment factor of 20.2 percent was determined by dividing the total limited access VMT by the total countywide VMT. By applying this factor to the total county VMT, the reduced VMT is then representative of only the roadways which are funded by mobility/multimodal fees. [Appendix A, Table A-1](#) provides further detail on this calculation.

Conversion of Vehicle-Trips to Person-Trips

In the case of the mobility/multimodal 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 1.30. This value was derived from a review of the TCRPM v4. Given that a large portion of travel occurs via automobile, this approach is found to be reasonable.

Land Use Changes

Land uses included in the fee schedule are based on the Martin County's current transportation impact fee schedule. However, as part of this update study, several land uses were revised/added/removed to reflect the most recent data on demand variables. A full listing on the land uses in the mobility/multimodal fee schedule is included in [Appendix E](#).

Cost Component

Cost information from Martin County, other Florida Counties, and the Florida Department of Transportation (FDOT) was reviewed to develop a unit cost for all phases involved in the construction of one lane-mile of roadway capacity. In addition, cost information for

bicycle/pedestrian and transit facilities was reviewed and included in the cost component calculations for the mobility/multimodal fee rates. The following sections summarize the methodology and findings of the total unit cost analysis for all modes of travel. [Appendix B](#) provides the data and other support information utilized in these analyses.

County Roadway Cost

This section examines the right-of-way (ROW), construction and other cost components associated with county roads with respect to transportation capacity expansion improvements in Martin County. For this purpose, recent 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 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 county roads were estimated at 11 percent of construction phase costs based on a review of recently completed and ongoing transportation impact fee studies throughout Florida. Additional detail is included in [Appendix B, Table B-1](#).

CEI costs for county roads were estimated at nine (9) percent of construction phase costs based on a review of recently completed and ongoing transportation impact fee studies throughout Florida. Additional detail is included in [Appendix B, Table B-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. With no recent local data available, ROW cost estimates were developed based on the ROW-to-construction ratios observed in recently completed and ongoing transportation impact fee studies throughout Florida. The ratios from these studies ranged from 26 percent to 60 percent, with an average of 41 percent. For purposes of the Martin County impact fee calculation, a factor of 40 percent was estimated. Additional detail is provided in [Appendix B, Table B-2](#).

Construction

The construction cost for county roads was based on a review of local and statewide projects. For local improvements, data provided by County staff, the Capital Improvement Program (CIP), and the Martin Metropolitan Planning Organization's (MPO) Long Range Transportation Plan

(LRTP) were all reviewed. Local costs from staff included seven recent county road improvements, but no travel lane additions. Therefore, these improvements were not utilized for the roadway construction cost estimate.

In addition, the County’s FY 2020 Capital Improvement Plan and 2040 Long Range Transportation Plan (Cost Feasible Plan) were reviewed. Although these documents included lane addition projects, figures did not appear to include all related cost and were not separated for various phases. Given this limited local information, recent improvements from other counties in Florida were reviewed. This review included approximately 139 lane miles of lane addition and new road construction improvements with a weighted average cost per added lane mile of approximately \$2.80 million. Additional detail is provided in [Appendix B, Table B-3](#).

Based on this review, a county roadway cost of **\$2.80 million** per lane mile was used in the mobility/multimodal fee calculation for county roads.

As shown in Table 2, the weighted average county roadway construction cost was calculated at approximately \$2.80 million per lane mile, with a total weighted average cost of \$4.48 million per lane mile for county roadways.

Table 2: Estimated Total Cost per Lane Mile for County Roads

Cost Type	County Roads
Design ⁽¹⁾	\$308,000
Right-of-Way ⁽²⁾	\$1,120,000
Construction ⁽³⁾	\$2,800,000
CEI ⁽⁴⁾	\$252,000
Total Cost	\$4,480,000

1) Design is estimated at 11% of construction costs

2) Right-of-Way is estimated at 40% of construction costs

3) Source: Appendix B, Table B-4

4) CEI is estimated at 9% of construction costs

Note: All figures rounded to nearest \$000

State Roadway Cost

This section examines the right-of-way, construction and other cost components associated with state roads with respect to transportation capacity expansion improvements in Martin County. For this purpose, recent data from state roadway projects bid in Martin County and throughout Florida and the FDOT’s Long Range Estimates were used to identify and provide supporting cost

data for state improvements. The cost for each roadway capacity-expansion project was separated into four phases: design, CEI, ROW, and construction.

Design and CEI

Design and CEI costs for state roads were each 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 B, [Table B-1 \(design\)](#) and [Table B-5 \(CEI\)](#).

Right-of-Way

Given the limited data on ROW costs for state roads in Martin County, ROW cost estimates were developed based on the ROW-to-construction ratios observed in recently completed and ongoing transportation impact fee studies throughout Florida. The ratios from these studies ranged from 32 percent to 60 percent, with an average of 43 percent. For purposes of the Martin County impact fee calculation, a factor of 40 percent was estimated. Additional detail is provided in [Appendix B, Table B-2](#).

Construction

The construction cost for state roads was based on a review of local and statewide projects. For local improvements, data provided by County staff, the Capital Improvement Program (CIP), the MPO's Long Range Transportation Plan (LRTP), and recent FDOT bid tabs were all reviewed. Local costs from staff included one recent improvement, but no travel lane additions. Therefore, this improvement was not utilized for the roadway construction cost estimate.

Similar to county roadway costs, the County's FY 2020 Capital Improvement Plan and 2040 Long Range Transportation Plan (Cost Feasible Plan) were reviewed. Although these documents included lane addition projects, figures did not appear to include all related cost and were not separated for various phases.

A review of FDOT bid tabs for recent state road capacity improvements in Martin County identified two improvements, as shown in [Appendix B, Table B-4](#):

- CR 714/Indian St from Turnpike/Martin Downs Blvd to W. of Mapp Rd
- Kanner Hwy (SR 76) from S. of Pratt Whitney Rd (CR 711) to SW Jack James Dr

These improvements ranged from approximately \$3.32 million per lane mile to \$3.99 million per lane mile for construction, with a weighted average of approximately \$3.65 million per lane mile. To increase the sample size, these costs were compared to costs for state road improvements for several other jurisdictions throughout the state. Considering 76 improvements with over 436

lane miles from other counties and the two local improvements, the weighted average cost per lane mile for state road construction is approximately \$3.84 million per lane mile. [Appendix B, Table B-4](#) provides a detailed description of the projects analyzed. Based on this review, a state roadway construction cost of **\$3.70 million** per lane mile was used in the mobility/multimodal fee calculation.

As shown in Table 3, the state roadway construction cost was calculated at approximately \$3.70 million per lane mile, with a total cost of \$5.99 million per lane mile for state roadways.

Table 3: Cost per Lane Mile for State Roads

Cost Type	State Roads
Design ⁽¹⁾	\$407,000
Right-of-Way ⁽²⁾	\$1,480,000
Construction ⁽³⁾	\$3,700,000
CEI ⁽⁴⁾	\$407,000
Total Cost	\$5,994,000

1) Design is estimated at 11% of construction costs

2) Right-of-Way is estimated at 40% of construction costs

3) Source: Appendix B, Table B-4

4) CEI is estimated at 11% of construction costs

Note: All figures rounded to nearest \$000

Summary of Costs (Blended Cost Analysis)

The weighted average cost per lane mile for county and state roads is presented in Table 4. The resulting weighted average cost of approximately \$5.54 million per lane mile was utilized as the unit cost input in the calculation of the mobility/multimodal fee schedule. The weighted average cost per lane mile includes county and state roads and is based on weighting the lane miles of roadway improvements in the Martin MPO’s 2040 Long Range Transportation Plan.

It should be noted that the cost estimates developed for this impact fee study reflect a large sample size from several communities over the last several years. When compared to the smaller sample of improvements observed over the last two to three years, the data and estimates used in this study represent a conservative approach. Additionally, these estimates account for Martin County’s suburban/rural nature, which tends to moderate roadway costs compared to some of the larger, more urbanized counties that are experiencing higher construction and land acquisition costs.

Table 4: Estimated Cost per Lane Mile for County and State Roadway Projects in Martin County

Cost Type	County Roads ⁽¹⁾	State Roads ⁽²⁾	County & State Roads ⁽³⁾
Design	\$308,000	\$407,000	\$377,000
Right-of-Way	\$1,120,000	\$1,480,000	\$1,372,000
Construction	\$2,800,000	\$3,700,000	\$3,430,000
CEI	\$252,000	\$407,000	\$361,000
Total Cost	\$4,480,000	\$5,994,000	\$5,540,000
Lane Mile Distribution ⁽⁴⁾	30%	70%	100%

1) Source: Table 2

2) Source: Table 3

3) Lane mile distribution (Item 4) multiplied by the design, ROW, construction, and CEI phase costs by jurisdiction to develop a weighted average cost per lane mile

4) Source: Appendix B, Table B-6; Items (e) and (f)

Person-Miles of Capacity Added per Lane Mile

An additional component of the mobility/multimodal fee equation is the capacity added per lane mile (also known as the maximum service volume added per lane mile) of roadway constructed. To calculate the vehicle-miles of capacity (VMC) per lane mile of constructed future roadway, an analysis of the MPO's Long Range Transportation Plan's Cost Feasible Plan was conducted to summarize improvements that will be built in Martin County in the future. As shown in Table 5, The VMC was then converted to person-miles of capacity (PMC) using the person-trip factor (1.30 persons per vehicle) previously discussed.

Table 5: Weighted Average Capacity Added per Lane Mile

Source	Lane Mile Added ⁽¹⁾	Vehicle-Miles of Capacity Added ⁽¹⁾	VMC Added per Lane Mile ⁽²⁾
County Roads	13.67	165,351	12,096
State Roads	31.68	496,672	15,678
Total	45.35	662,023	
Weighted Average VMC Added per Lane Mile⁽³⁾			14,600
Vehicle-Trip to Person-Trip Factor ⁽⁴⁾			1.30
Weighted Average PMC Added per Lane Mile⁽⁵⁾			18,980

- 1) Source: Appendix B, Table B-6 (adjusted distribution)
- 2) Vehicle-miles of capacity added (Item 2) divided by lane mile added (Item 1)
- 3) Total vehicles miles of capacity added for city/county and state roads (Item 2) divided by the total lane miles added (Item 1)
- 4) Source: Based on a review of the TCRPM v4 transportation model
- 5) VMC added per lane mile (Item 3) multiplied by the vehicle-trip to person-trip factor (Item 4)

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 4 and 5, the cost and capacity for roadways in Martin County have been calculated based on typical roadway improvements.

The cost per PMC figure is used in the mobility/multimodal 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 \$292 of capacity is consumed.

Table 6: Cost per Person-Mile of Capacity Added (Roadways)

Source	Cost per Lane Mile ⁽¹⁾	Average PMC Added per Lane Mile ⁽²⁾	Cost per PMC ⁽³⁾
County/State Rds	\$5,540,000	18,980	\$291.89

- 1) Source: Table 4
- 2) Source: Table 5
- 3) Cost per lane mile (Item 1) divided by average VMC/PMC added per lane mile (Item 2)

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 small role in the urban travel scheme, they do not have a significant effect on evaluating the costs of providing for multimodal transportation. However, bike and pedestrian facilities are important and provide a source of

travel for those who cannot drive or cannot afford 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 multimodal reasons and are estimated at less than five percent of the total roadway cost. Thus, the costs of these facilities on major roads are included in the mobility/multimodal fee. The mobility/multimodal 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 Martin County was based on information from the Marty Transit Development Plan (TDP). 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 difference between constructing a lane mile of roadway (for cars only) versus constructing a roadway with transit is not significant. The roadway with transit cost per PMC is approximately 3.13 percent higher per lane mile than the cost to simply construct a road without transit amenities. Therefore, for the mobility/multimodal fee calculation, the cost per PMC of approximately \$292 is representative of the cost to provide transportation capacity for all modes of travel. Additional information regarding the transit capital cost calculation is included in [Appendix B, Table B-8](#).

Credit Component

Capital Improvement Credit

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 that is measured in terms of travel, non-impact fee dollars are converted to gas tax equivalency.

County

As show in Table 7, Martin County spends \$1.2 million annually, the equivalent of 1.4 pennies, on mobility/multimodal capacity-expansion projects funded with non-impact fee revenues. This includes bus acquisition costs associated with the Marty transit service. In addition, the County allocates an equivalent cash credit of 1.7 pennies for debt service associated with transportation capacity improvements.

State

As show in Table 7, State expenditures on state roads were reviewed, and a credit for the mobility/multimodal capacity-expansion portion attributable to state projects was estimated (excluding expenditures on limited access facilities). This review, which included 11 years of historical expenditures, as well as 5 years of planned expenditures, indicated that FDOT spending amounts to \$12.5 million per year and generates an equivalent gas tax credit of 15.0 pennies annually. In the case of a roadway-based fee, this credit would decrease to 13.2 pennies. The use of a 16-year period for developing a State credit results in a reasonably stable cash credit for Martin County, since it accounts for the volatility in FDOT spending in the county over short time periods.

In summary, for mobility/multimodal improvements, Martin County allocates approximately 3.1 pennies (including debt), and FDOT is spending gas tax revenues at an average of 15.0 equivalent pennies for state transportation projects in Martin County. A total credit of 18.1 pennies was included in the mobility/multimodal fee calculation to recognize future capital revenues that are expected to be generated by new development from all non-mobility/multimodal fee revenues.

Table 7: Summary of Capital Improvement Credits

Credit	Average Annual Expenditures	Value per Penny ⁽⁴⁾	Equivalent Pennies per Gallon ⁽⁵⁾
County Revenue ⁽¹⁾	\$1,206,352	\$834,176	\$0.014
County Debt ⁽²⁾	\$1,443,573	\$834,176	\$0.017
State Revenue ⁽³⁾	<u>\$12,509,311</u>	\$834,176	<u>\$0.150</u>
Total	\$15,159,236		\$0.181

1) Source: Appendix C, Table C-2

2) Source: Appendix C, Table C-3

3) Source: Appendix C, Table C-4

4) Source: Appendix C, Table C-1

5) Average annual expenditures divided by value per penny (Item 6) divided by 100

Present Worth Variables

Facility Life

The facility life used in the mobility 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 2.5 percent was used in the mobility/multimodal fee calculation based on information obtained from Martin County.

Fuel Efficiency

The fuel efficiency (i.e., the average miles traveled per gallon of fuel consumed) of the fleet of motor vehicles was estimated using the quantity of gasoline consumed by travel associated with a particular land use. [Appendix C, Table C-8](#) documents the calculation of the 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.

$$Fuel\ Efficiency = \sum VMT_{Roadway\ Type} \div \sum \left(\frac{VMT_{Vehicle\ Type}}{MPG_{Vehicle\ Type}} \right)_{Roadway\ Type}$$

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 appropriately accounts for the existing fleet mix of traffic on non-interstate roadways. The VMT and average fuel efficiency data were obtained from the most recent *Highway Statistics 2017* (Federal Highway Administration). Based on the calculation completed in [Appendix C, Table C-8](#), the fuel efficiency rate to be used in the updated mobility fee equation is 18.92 miles per gallon.

Effective Days per Year

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

Calculated Mobility/Multimodal Impact Fee Schedule

The mobility/multimodal fee calculations for each land use are included in [Appendix E](#), 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 E](#) illustrates the following:

- Demand component variables (trip rate, trip length, percent new trips, and person-trip factor)
- Total impact cost
- Annual capital improvement credit
- Present value of the capital improvement credit
- Net mobility/multimodal fee
- Current Martin County transportation impact fee
- Percent difference between the calculated fee and the current fee

It should be noted that the net mobility/multimodal fee illustrated in [Appendix E](#) is not necessarily a recommended fee, but instead represents a technically documented impact fee per unit of land use that could be charged in Martin County.

For clarification purposes, it may be useful to walk through the calculation of an impact fee for a couple of the land use categories. In the following example, the net mobility/multimodal fee rate is calculated for the single-family residential land use category (ITE LUC 210) and the office land use category (ITE LUC 710) using information from the fee schedules included in [Appendix E](#). For each land use category, the following equations are utilized to calculate the net impact fee:

Net Impact Fee = Total Impact Cost – All Capital Improvement Credits

Where:

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

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

Capital Improvement Credit = Present Value (Annual Gas Tax), given a 2.5% interest rate & a 25-year facility life

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 (1,000-2,499 sf) land use category and the office land use category:

- *Trip Rate* = the average daily trip generation rate, in vehicle-trips/day (Single Family = 7.48; Office = 9.74)
- *Assessable Trip Length* = the actual average trip length for the category, in vehicle-miles (Single Family = 6.62; Office = 5.15)
- *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 (Single Family: 6.62 + 0.50 = 7.12; Office: 5.15 + 0.50 = 5.65)
- *% New Trips* = adjustment factor to account for trips that are already on the roadway (Single Family = 100%; Office = 92%)
- *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 among land use codes since every trip has an origin and a destination

- *Interstate/Toll Facility Adjustment Factor* = adjustment factor to account for the travel demand occurring on interstate highways and/or toll facilities (20.2%)
- *Person-Trip Factor* = Converts vehicle-miles of travel to person-miles of travel (1.30)
- *Cost per Added Lane Mile* = Unit cost to construct one lane mile of roadway, in \$/lane-mile (\$5,540,000)
- *Average Person-Capacity Added per Lane Mile* = vehicle-capacity added per lane mile (14,600) multiplied by the person-trip factor (1.30) = 18,980 person-miles of capacity
- *Cost per Person-Mile of Capacity* = unit of vehicle-miles or person-miles of capacity consumed per unit of development. Cost per added lane mile divided by the average capacity added per lane mile ($\$5,540,000 / 18,980 = \291.89)
- *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 (\$0.181)
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (18.92)
- *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 2.5% interest and a 25-year facility life, the uniform series present worth factor is 18.4244

Mobility/Multimodal Fee Calculation

Using these inputs and the formula below, a mobility/multimodal fee can be calculated for the single-family residential (1,000-2,499 sf) detached land use category and the office land use category in the following manner:

Formula:

Total Impact Cost = ([Trip Rate x Assessable Trip Length x % New Trips] / 2) x (1 – Interstate/Toll Facility Adjustment Factor) x (Person-Trip Factor) * (Cost per Person-Mile of Capacity)

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

Capital Improvement Credit = Present Value (Annual Gas Tax), given a 2.5% interest rate & a 25-year facility life

Single Family: Countywide, V/C 1.00 (Table E-1)

Total Impact Cost = ([7.48 * 6.62 * 1.0] / 2) * (1 – 0.202) * 1.30 * (\$291.89) = \$7,497

Annual Cap. Improv. Credit = ([7.48 * 7.12 * 1.0] / 2) * 365 * (\$0.181 / 18.92) = \$93

Capital Improvement Credit = \$93 * 18.4244 = \$1,713

Net Mobility/Multimodal Fee = \$7,497 - \$1,713 = **\$5,784**

Office: Countywide, V/C 1.00 (Table E-1)

Total Impact Cost = ([9.74 * 5.15 * 0.92] / 2) * (1 – 0.202) * 1.30 * (\$291.89) = \$6,987

Annual Cap. Improv. Credit = ([9.74 * 5.65 * 0.92] / 2) * 365 * (\$0.181 / 18.92) = \$88

Capital Improvement Credit = \$88 * 18.4244 = \$1,621

Net Mobility/Multimodal Fee = \$6,987 - \$1,621 = **\$5,366**

Mobility/Multimodal Fee Scenarios

Currently, Martin County charges a transportation impact fee throughout the entire County, which includes separate dollar amounts for roads versus pedestrian facilities. As part of this update, options for fee variation by geographic area were developed that can be implemented based on County policy. Table 8 presents a range for mobility/multimodal fee rates which are based on volume-to-capacity (V/C) ratios in urban vs. rural fee areas. Of these, urban fee district follows the Urban Service Boundary (USB) and includes the Village of Indiantown, while the remaining parts of the county are included in the Rural Fee District. [Appendix D](#) provides a detailed explanation of methodology used for fee variation and the geographic subareas.

Additionally, the fees presented in this report represent “mobility/multimodal” impact fee rates. If the County wishes to only charge for “roads”, the calculated rates will increase approximately five to ten percent.

Mobility/Multimodal Fee Comparison

As part of the work effort in developing Martin County mobility/multimodal fee program, a comparison of calculated fees to mobility/multimodal/roadway impact fee schedules adopted in other jurisdictions was completed, as shown in Table 9.

It should be noted that the 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 variations in costs, credits and travel demand, land use categories included in the fee schedule, etc.

Table 8: Calculated Mobility/Multimodal Fee Rates for Martin County – All Scenarios

ITE LUC	Land Use	Unit	Mobility/Multimodal		
			Countywide or Urban ONLY		Rural
			V/C 1.00	V/C 0.80	V/C 0.60
RESIDENTIAL:					
210	Single Family (Detached) - Very Low Income	du	\$3,335	\$4,417	\$6,221
	Single Family (Detached) - Low Income	du	\$4,066	\$5,387	\$7,587
	Single Family (Detached) - Less than 750 sf	du	\$4,516	\$5,977	\$8,412
	Single Family (Detached) - 750 to 999 sf	du	\$5,332	\$7,061	\$9,942
	Single Family (Detached) - 1,000 to 2,499 sf	du	\$5,784	\$7,658	\$10,782
	Single Family (Detached) - 2,500 sf and greater	du	\$6,885	\$9,118	\$12,839
220	Multi-Family (Low-Rise, 1-2 Levels)	du	\$4,325	\$5,738	\$8,093
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	\$3,224	\$4,275	\$6,025
240	Mobile Home Park	du	\$2,222	\$2,948	\$4,158
251	Senior Adult Housing - Detached	du	\$2,209	\$2,927	\$4,124
252	Senior Adult Housing - Attached	du	\$1,672	\$2,219	\$3,131
253	Congregate Care Facility	du	\$571	\$760	\$1,075
254	Assisted Living	bed	\$652	\$870	\$1,234
255	Continuing Care Retirement Center	du	\$603	\$804	\$1,140
LODGING:					
310	Hotel	room	\$2,680	\$3,548	\$4,994
320	Motel	room	\$1,290	\$1,714	\$2,420
RECREATION:					
411	Public Park	acre	\$418	\$555	\$783
416	RV Park	site	\$870	\$1,152	\$1,622
420	Marina	boat berth	\$1,677	\$2,220	\$3,126
430	Golf Course	hole	\$21,140	\$27,991	\$39,410
444	Movie Theater	1,000 sf	\$17,091	\$22,866	\$32,489
490	Tennis Court	court	\$16,321	\$21,640	\$30,506
491	Racquet/Tennis Club	1,000 sf	\$11,067	\$14,677	\$20,693
492	Health/Fitness Club	1,000 sf	\$19,390	\$25,712	\$36,248
INSTITUTIONS:					
520	Elementary School (Private)	1,000 sf	\$5,910	\$7,866	\$11,127
522	Middle School (Private)	1,000 sf	\$6,115	\$8,137	\$11,506
530	High School (Private)	1,000 sf	\$4,798	\$6,384	\$9,029
540	Junior/Community College (Private)	1,000 sf	\$14,084	\$18,651	\$26,262
550	University/College (Private)	1,000 sf	\$18,128	\$24,001	\$33,788
560	Place of Worship	1,000 sf	\$2,819	\$3,745	\$5,287
565	Day Care Center	1,000 sf	\$8,187	\$10,971	\$15,610
590	Library	1,000 sf	\$27,297	\$36,143	\$50,887
732	Post Office	1,000 sf	\$30,462	\$40,390	\$56,937
MEDICAL:					
610	Hospital	1,000 sf	\$6,465	\$8,560	\$12,052
620	Nursing Home	1,000 sf	\$1,727	\$2,307	\$3,272
OFFICE:					
710	Office	1,000 sf	\$5,366	\$7,113	\$10,024
720	Medical Office 10,000 sq ft or less	1,000 sf	\$13,694	\$18,149	\$25,575
720	Medical Office greater than 10,000 sq ft	1,000 sf	\$19,603	\$25,982	\$36,614
RETAIL:					
820	Retail/Shopping Center	1,000 sfgla	\$8,503	\$11,347	\$16,088
840/841	New/Used Auto Sales	1,000 sf	\$10,337	\$13,718	\$19,353
851	Convenience Market - 24 hrs	1,000 sf	\$50,078	\$67,522	\$96,594
880/881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	\$7,754	\$10,383	\$14,765
SERVICES:					
911	Bank/Savings Walk-In	1,000 sf	\$7,577	\$10,121	\$14,360
912	Bank/Savings Drive-In	1,000 sf	\$13,092	\$17,489	\$24,818
931	Quality Restaurant	1,000 sf	\$23,735	\$31,608	\$44,730
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	\$63,906	\$85,622	\$121,815
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	\$8,323	\$11,168	\$15,910
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	\$9,939	\$13,336	\$18,997
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	\$11,162	\$14,975	\$21,330
947	Self-Service Car Wash	service bay	\$7,283	\$9,748	\$13,857
INDUSTRIAL:					
110	General Industrial	1,000 sf	\$2,729	\$3,619	\$5,101
140	Manufacturing	1,000 sf	\$2,156	\$2,861	\$4,036
150	Warehousing	1,000 sf	\$953	\$1,265	\$1,785
151	Mini-Warehouse	1,000 sf	\$544	\$727	\$1,030

Source: Appendix E, Tables E-1 through E-3

Table 9: Mobility/Multimodal/Roadway Impact Fee Rate Comparison

Land Use	Unit ⁽²⁾	Martin County				Palm Beach County ⁽⁷⁾	St. Lucie County MAINLAND ⁽⁸⁾	Brevard County ⁽⁹⁾	Indian River County ⁽¹⁰⁾	Highlands County ⁽¹¹⁾	Collier County ⁽¹²⁾	Charlotte County ⁽¹³⁾	Hernando County ⁽¹⁴⁾	Osceola County NON-MXD ⁽¹⁵⁾
		Multimodal V/C 1.00 ⁽³⁾	Multimodal V/C 0.80 ⁽⁴⁾	Multimodal V/C 0.60 ⁽⁵⁾	Existing ⁽⁶⁾									
Date of Last Update		2020	2020	2020	2012	2012	2019	2000	2014	2006	2015	2014	2013	2017
Assessed Portion of Calculated ⁽¹⁾		100%	100%	100%	100%	n/a	100%	100%	100%/45%	25%	100%	49%	22%	100%
Residential:														
Single Family (2,000 sf)	du	\$5,784	\$7,658	\$10,782	\$2,815	\$7,281	\$5,015	\$4,353	\$4,248	\$1,649	\$7,444	\$2,907	\$1,269	\$8,706
Non-Residential:														
General Industrial	1,000 sf	\$2,729	\$3,619	\$5,101	\$1,857	\$1,522	\$1,078	n/a	\$1,206	\$1,166	\$4,584	\$1,847	\$806	\$3,843
Office (50,000 sq ft)	1,000 sf	\$5,366	\$7,113	\$10,024	\$2,198	\$3,418	\$3,634	\$5,058	\$1,916	\$3,095	\$8,605	\$3,475	\$1,516	\$5,480
Retail (100,000 sq ft)	1,000 sfgla	\$8,503	\$11,347	\$16,088	\$5,183	\$9,831	\$7,553	\$5,270	\$2,862	\$2,455	\$13,774	\$4,616	\$1,884	\$22,397
Bank w/Drive-Thru	1,000 sf	\$13,092	\$17,489	\$24,818	\$6,841	\$19,056	\$3,411	\$23,331	\$6,219	\$11,232	\$21,254	\$9,737	\$2,100	\$10,370
Fast Food w/Drive-Thru	1,000 sf	\$63,906	\$85,622	\$121,815	\$15,693	\$30,702	\$3,411	\$35,791	\$20,459	\$25,202	\$96,567	\$32,359	\$17,397	\$13,465

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

2) Du = dwelling unit

3) Source: Appendix E, Table E-1

4) Source: Appendix E, Table E-2

5) Source: Appendix E, Table E-3

6) Source: Martin County Adopted Impact Fee Schedule, includes both the roadway and pedestrian facility amounts

7) Source: Palm Beach County Administrations Division

8) Source: St. Lucie County Planning & Development Services Department. Mainland district fee rates are shown. "Retail/Trade 0 to 8,000 sq ft" rate is shown for Bank and Fast Food land uses

9) Source: Brevard County Planning & Development Department

10) Source: Indian River County Planning Division. Residential fees were adopted at 100% and non-residential fees were adopted at 45% of the full calculated impact fee rates

11) Source: Highlands County Code of Ordinances, Section 13-28. Impact fee moratorium currently in effect

12) Source: Collier County Capital Project Planning, Impact Fees, and Program Management Division

13) Source: Charlotte County Community Development Department

14) Source: Hernando County Planning & Development Department

15) Source: Osceola County Community Development Department. Non-Mixed Use fee rates are shown. "Warehouse" rate is shown for Light Industrial land use

V. Financial Planning Analysis

This section reviews the calculated mobility/multimodal fee in terms of several financial variables, including:

- Adequacy of funding to build necessary multimodal capital infrastructure improvements.
- Sustainability of the revenue source to meet the capital costs, including interest and inflation.
- Equitability in terms of allocation of costs between private and public sectors as well as user groups and County stakeholders through provision of incentives for affordable housing, economic targets that would attract high wage jobs and/or diversify the tax base revenues, among others.
- Administrative manageability in terms of ease of coordination and implementation and associated costs.
- Financial market acceptability for bond market acceptance.

Adequacy of Funding

The Martin MPO's 2040 Long Range Transportation Plan lays out a detailed funding structure for the County's 2040 Cost Feasible Plan. As shown in the LRTP, future transportation improvements will be funded with federal/state contributions, local revenue (including fuel tax and impact fees) and developer funds. Projected local revenue levels in the LRTP (published in 2014) include:

Table 10: 2040 LRTP Local Source Revenue Projections (2021-2040)

Revenue Source (2021-2040)	Total	Annual	Typical Uses
Fuel Tax: 1st Local Option Fuel Tax (6 cents)	\$88,260,000	\$4,413,000	Operations & Maintenance
Fuel Tax: 2nd Local Option Fuel Tax (5 cents)	\$66,190,000	\$3,309,500	Capital
Fuel Tax: 9th Cent (1 cent)	\$17,790,000	\$889,500	Operations & Maintenance
Fuel Tax: Constitutional (2 cents)	\$39,420,000	\$1,971,000	Operations & Maintenance
Fuel Tax: County (1 cent)	\$17,790,000	\$889,500	Operations & Maintenance
Impact Fees	\$62,000,000	\$3,100,000	Capital
Total - Fuel Tax and Impact Fees	\$291,450,000	\$14,572,500	-
Total - Fuel Tax	\$229,450,000	\$11,472,500	-
Total - Capital	\$128,190,000	\$6,409,500	-

Source: Martin MPO 2040 LRTP, Table 8-2

The current local fuel tax revenue levels are presented in [Appendix C, Table C-1](#) and are expected to generate approximately \$12.51 million for FY 2019/2020. As shown in Table 10, approximately 70 percent of fuel tax revenues are allocated to operations and maintenance, leaving the remaining 30 percent (or approximately \$3.3 million per year) for capacity projects. As will be discussed

further in the next section, fuel taxes are not indexed and are an ineffective revenue source to fund rising cost of transportation. Similar to Martin County, most jurisdictions are able to cover only their operating/maintenance costs with fuel tax revenues.

While the 2040 LRTP projects impact fee revenues at approximately \$3.10 million a year, actual collections over the past several years averaged only \$1.00 million. This reduction reflects a slower rate of permitting and growth occurring during these initial years. It may also partially be due to any outstanding developer credits. However, depending on the County's decisions regarding this mobility/multimodal fee study, the fee revenue levels can be significantly altered. The fee scenarios included in this report can result in revenues ranging from two to five times higher than current annual collections.

In addition to fuel taxes and impact fees, Martin County has a Roads Municipal Service Taxing Unit (MSTU) that generates funds for roadway operations and maintenance improvements. MSTUs are taxing entities established by ordinance to provide a mechanism to assess ad valorem taxes for specific services or projects benefitting residents in a defined geographic area. Currently, the County has a Road Maintenance Unincorporated Area MSTU with a FY 2020 adopted millage rate of 0.3125 and estimated revenues of \$4.57 million. As shown in the CIP, revenues are currently programmed for resurfacing and neighborhood restoration projects but they could be re-allocated to help fund capital projects in the future.

Sustainability

Mobility/multimodal fees tend to be sustainable during growth periods. If there is no growth, a community's needs for additional capital infrastructure is reduced along with mobility/multimodal fee revenues. In this sense, mobility/multimodal fees are self-correcting and sustainable.

Local Option Fuel Tax

Martin County adopted all available local option fuel taxes. As discussed previously in *Technical Memorandum #4 – Goals/Objectives & Geographic District Areas*, fuel tax revenues have been declining over time due to fuel efficiency and inability to index the rate that is charged on a per gallon basis. Although this is a dedicated revenue source for transportation projects, it is proven to be ineffective and not sustainable. Figure 13 illustrates the declining value of a penny of fuel tax over the past 25 years. In addition to revenue loss due to increases in vehicle fuel efficiency, local option fuel taxes are not indexed annually. Therefore, a local penny of fuel tax adopted in 1994 is worth less than 50 percent of its original value today. State fuel taxes that are indexed are only subject to the revenue loss due to increased fuel efficiency, as seen in Figure 13. In other

words, although fuel taxes represent a dedicated revenue source, they are not a sustainable revenue source in funding rising cost of transportation projects.

Figure 13: Value of a Penny Fuel Tax

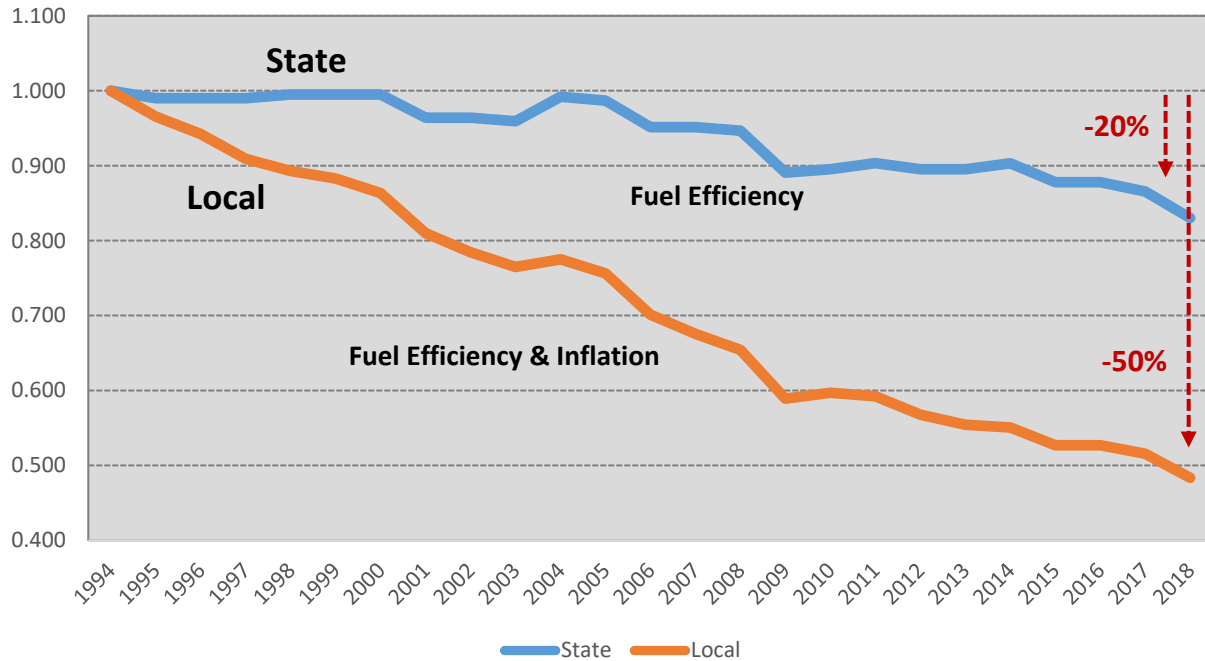
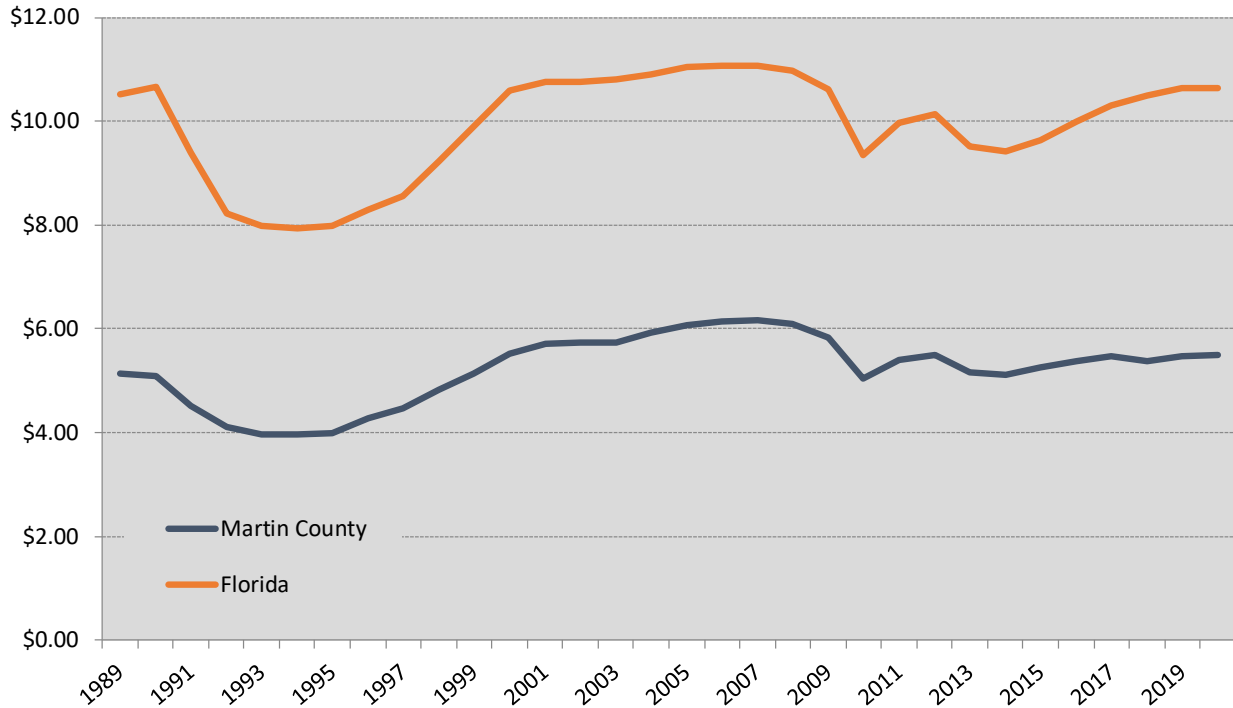


Figure 14 illustrates the change in the value of a 1-cent fuel tax (per capita) in Martin County versus the entire state of Florida. As shown, the value per capita in Martin County has slightly increased while the value per capita in all of Florida has slightly decreased since 1990. Since 1990, the gross value of 1-cent of local option fuel tax in the County has increased by approximately 1.8 percent annually, while population has increased at 1.6 percent annually. Therefore, the increase in value per capita has averaged 0.2 percent over the last 30 years.

The current value of a 1-cent fuel tax in Martin County is approximately \$5.50 per capita, which is comparable to other Florida counties of similar size and higher than the statewide average of \$4.60 per capita. However, the statewide data shows that more urbanized counties with higher population levels tend to have lower revenue per capita. For example, while some of the rural counties located in the Florida Panhandle generate \$25 per capita to \$45 per capita from 1-cent fuel tax, this figure decreases to \$3 per capita to \$4 per capita in urbanized and densely populated counties, such as Broward and Miami-Dade. Therefore, as Martin County continues to grow and become more urbanized, the fuel tax is likely to generate less revenue per capita.

Figure 14: Fuel Tax per Capita Growth



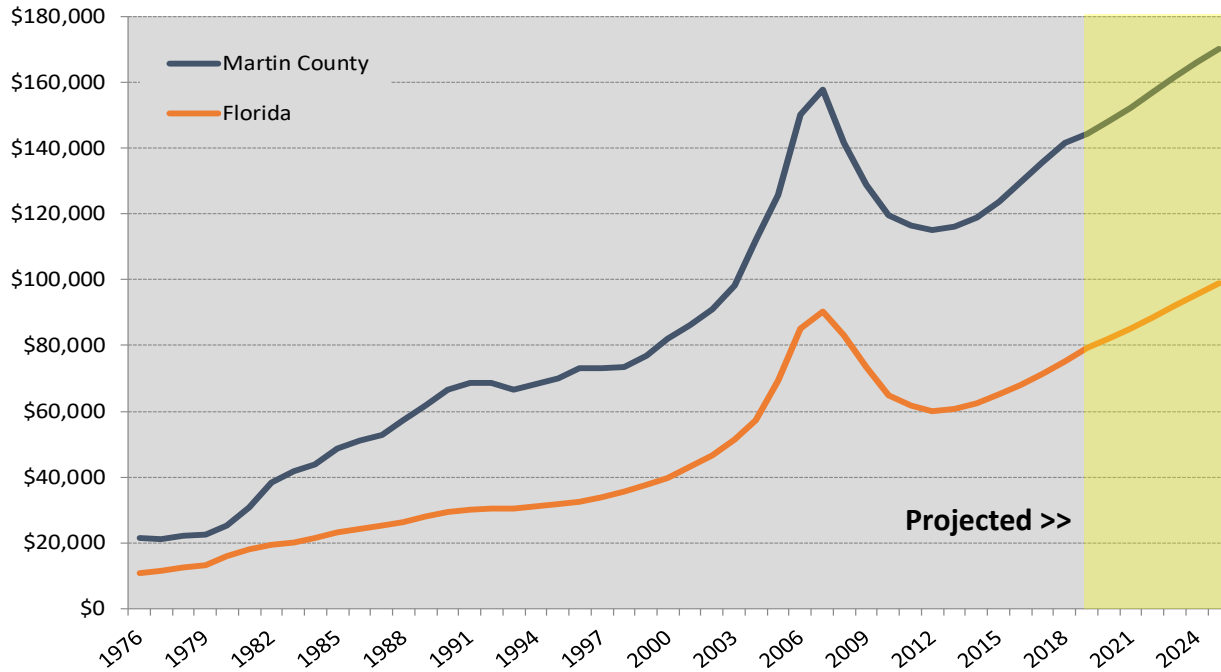
Ad Valorem Tax

Ad valorem tax-based revenues tend to fluctuate with economic cycles and are depending on the local economy and market more than some of the other revenue sources, such as infrastructure sales tax. As the ad valorem tax base becomes more diversified, the fluctuations are better moderated. Approximately 83 percent of Martin County’s current tax base consists of residential properties while only 17 percent of non-residential properties. The information from the Property Appraiser database indicates that 76 percent of structures are comprised of residential land uses and 24 percent are non-residential. This suggest that residential property values are increasing at a faster rate than non-residential properties. As was discussed in *Technical Memorandum #3 – Best Practices* (provided in [Appendix I](#)), in some communities, the distribution of tax base is closer to 60 percent to 70 percent residential properties with the balance comprised of non-residential land uses. Providing incentives to types of development that would help diversify the tax base is likely to both enhance the tax base and result in a more sustainable revenue source.

As shown in Figure 15, the taxable value in Martin County has shown significant growth since the late seventies. The County continues to maintain a high taxable value per capita, ranking 5th out of 67 counties in the state at approximately \$143,000 per person. Since 1990, the gross taxable value of the County has increased by approximately 4.5 percent annually, while population has increased

at 1.6 percent annually. Therefore, the increase in values has averaged 2.9 percent over the last 30 years. This high value per capita and increasing values net of population growth make ad valorem taxes one of the more sustainable revenue sources.

Figure 15: Taxable Value per Capita Growth

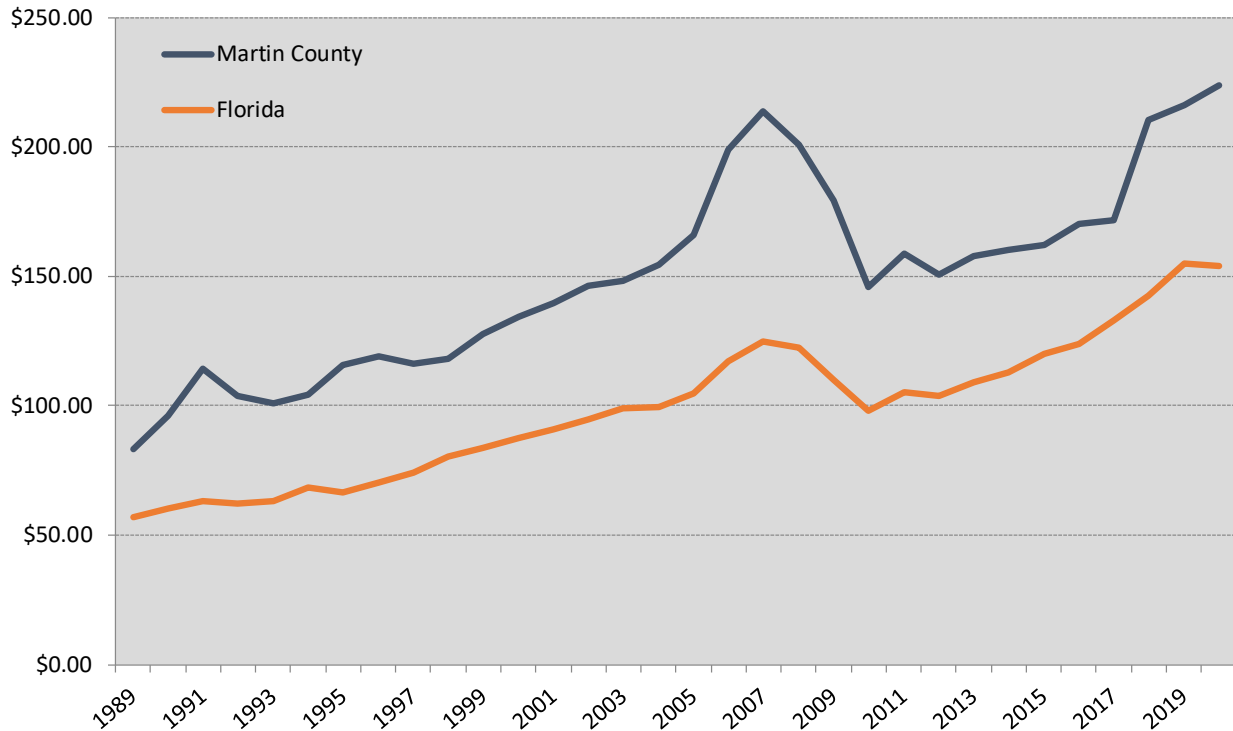


Local Option Sales Tax

Although currently not collected in Martin County, local option sales tax tends to be a strong revenue generator and one of the most sustainable revenue sources. This is partially because it is paid by not only the residents but also the visitors/tourists, which moderates its dependence on the local economy. Based on information from other communities in Florida, non-resident spending is estimated to account for 20 percent to 60 percent of a community’s sales tax revenues.

As shown in Figure 16, sales tax per capita in Martin County has shown significant growth over time, tracking higher than the state average. In addition, the County has surpassed several other counties, moving from 13th to 7th out of 67 counties in the state in terms of sales tax per capita, at approximately \$222 per person. Since 1990, the gross value of the one percent sales tax increased by approximately 4.9 percent annually, while population has increased at 1.6 percent annually. Therefore, the increase in values has averaged 3.3 percent over the last 30 years. This net value increase along with contributions from visitors make the sales tax one of the most sustainable revenue sources.

Figure 16: Sales Tax per Capita Growth



Equitability

To achieve an equitable program as well as one that provides incentives consistent with the County’s and municipalities economic development and growth management goals, there are several options available.

Local governments have the ability to adopt mobility/multimodal/impact fees at a reduced rate when the reduction is applied to all land uses. Care should be given when discounting fees for select land uses and/or areas to ensure those who paid the full fee receive the associated benefit. If the discount results in a compromise of facilities that would have been built with full fees, the equity among land uses is jeopardized. **However, HB 7103 that was signed by the Governor following the 2019 legislative session determined that local governments can now waive/reduce fees for affordable housing projects without having to offset the revenues.**

For all other residential and non-residential land uses, the fees can be reduced for select land uses and/or geographic subareas under the following conditions:

- **Travel Characteristics:** If it can be demonstrated that a given land use or an area generates less travel due to certain characteristics, it is appropriate to apply a reduced fee instead of the countywide average. Examples would be an urban service district or a

downtown core with limited parking and a mix of land uses that result in lower vehicle miles of travel. Another example is low/moderate income housing, which tends to generate fewer trips. The fee schedules in [Appendix E](#) include this option.

- ***De-minimis Impact:*** If the uses that are being discounted are permitted infrequently such that revenues generated from these groups are considered de-minimis, it is possible to provide the discount without jeopardizing the jurisdiction’s transportation improvements program. As a general industry standard, if the revenues from these land uses comprise less than 5 percent of total impact fee revenues generated in a jurisdiction, the land use is considered de-minimis. When using this methodology, it is important for the County and/or municipalities to set up a monitoring system to track revenue generation levels annually.
- ***Economic Growth Methodology:*** Tindale Oliver developed an economic growth approach that accounts for the County’s growth rate and revenues generated by the existing population that are dedicated to transportation capacity. This model identifies level of additional discounts that can be offered through revenues generated by the existing development while maintaining the County’s transportation improvements program funded with mobility/multimodal fee revenues.

In addition to these methods, the County and municipalities have the option to buy down the fees with additional taxes and/or other non-impact fee revenue sources. The following paragraphs provide examples of potential incentives/discounts based on discussions during the public meetings to date.

[Affordable Housing](#)

From a technical perspective, smaller homes occupied by lower income households generate fewer trips. Given this, it is possible to incorporate this tiering into the fee schedules. As shown in [Appendix E](#), for households with incomes at 50 percent to 80 percent of the Area Median Income, this approach results in fee levels that are lower than all other categories of single family homes and up to 40 percent lower than the fee for a 2,000-square foot single family home. This fee differential moderates the cost for affordable housing.

As mentioned previously, HB 7103 provided the flexibility to discount affordable housing as a policy decision. HB 7103 defines qualifying units as “housing that is affordable, as defined in section 420.9071, Florida Statutes.” F.S. section 420.9071 provides the following definitions:

- Section 420.9071 (2) “Affordable” means that monthly rents or monthly mortgage payments including taxes and insurance do not exceed 30 percent of that amount

which represents the percentage of the median annual gross income for the households as indicated in subsection (19), subsection (20), or subsection (28).

These subsections provide definitions for very low to moderate income families, with incomes ranging from less than 50 percent of the area median income to 120 percent of the area median income.

Mixed Use Development

Travel characteristics of mixed-use development suggest a higher internal capture rate and fewer trips when various land uses are located in close proximity with the correct design standards (including connectivity of uses) to support each other and reduce travel. Industry models used to measure internal capture suggest that to the extent travel distribution from each land use within the mixed-use development is balanced, the level of internal capture increases. When one land use is dominant, internal capture percentage decreases. For example, when residential development generates more than 60 percent of trips and 80 percent of VMT, the resulting internal capture is negligible. On the other hand, a mix of at least three different uses, with none of the uses generating more than 50 percent of travel, result in higher levels of internal capture.

[Appendix A](#) provides further detail on industry research and practices as well as mixed-use development characteristics needed to achieve high internal capture and a sensitivity analysis.

Geographic Area Discounts

As indicated during discussions with Martin County and the City of Stuart, there is a general interest in reducing fees in the Community Redevelopment Areas (CRAs). There are seven CRAs in Martin County: one is in the City of Stuart and remaining six are in unincorporated county. The fees can be reduced through the following mechanisms.

De-minimis Impact

As discussed previously, if the development levels are limited and revenue generated in the CRAs amount to less than five percent of future mobility/multimodal fee revenues, the County and the City of Stuart have the flexibility of reducing the fees. Tindale Oliver reviewed the information available through the Property Appraiser database on “year built” since 2010. This analysis suggested that there is very limited multi-family and non-residential activity in the CRAs. Most of the construction is in the form of single family. Even the single family homes built per year are limited compared to total single family permitting countywide. The table below provides this information. Given this limited activity, the fees in these areas can be reduced as a policy decision without impacting service levels.

Table 11: Recent Residential Parcels Added (2010-2018) – Community Redevelopment Areas

CRA	Single Family/ Mobile Home	Multi-Family	Commercial/ Industrial	Total
Golden Gate	7	0	0	7
Hobe Sound	32	0	1	33
Jensen Beach	0	0	2	2
Old Palm City	40	0	4	44
Port Salerno	27	0	3	30
Rio	11	0	0	11
Stuart	19	0	11	30
Total	136	0	21	157
CRA (Avg. Annual)	15	0	2	17
Countywide (Avg. Annual)	346	10	122	478
CRA / Countywide⁽¹⁾	4%	0%	2%	4%

Source: Florida Department of Revenue

1) Average annual CRA parcels added divided by the average annual Countywide parcels added (17/478 = 4%)

If the County and/or the City use this approach to provide discounts within the CRA, it is important to track associated revenue loss to ensure the loss does not exceed the threshold of five (5) percent.

Targeted Industries

In addition to the de-minimis permitting approach, fees can be bought down for targeted/contributing industries and/or targeted areas through an evaluation of revenues dedicated to transportation capacity compared to the County’s projected growth rate.

As mentioned previously, the economic growth approach takes into account the existing development’s ability to absorb new growth and calculates the levels of possible policy discounts without reducing the level-of-service used in the calculated mobility/multimodal impact fee.

In addition to impact/mobility/multimodal fees, other revenue sources such as fuel tax, ad valorem tax, etc. are also being used to fund the transportation system in the county. In terms of the economic growth calculations, it is important to note the following:

- The economic growth strategy calculations are based on the future estimated fuel tax and other non-impact fee funding toward transportation capital capacity projects in Martin County, excluding any funding dedicated toward paying the debt service since this dollar amount cannot be available for absorbing the growth.

- Based on the projections obtained from the University of Florida, Bureau of Business and Economic Research (BEER), an average annual growth rate of 0.8 percent is estimated for Martin County through 2045. This growth rate is considered a moderate growth level.
- Although impact fee calculations already account for the portion of non-impact/mobility/multimodal fee revenue that is generated by new development, a larger portion of the revenue is generated by existing population and can be treated as a “buy-down” fund. In other words, as long as the County limits the buy-down amount to the level of non-impact fee investment into the transportation infrastructure, the equity requirements of impact fee will be met. Once the County decides on fee levels, more precise discount levels can be developed to refine these initial figures.
- Given that any impact fee discount results in revenue loss, it is recommended that the discounts are applied to select land uses consistent with the County’s and municipalities’ Comprehensive Plans and economic development goals and policies. Examples would be high wage creating jobs, industries/sectors important to well-being of the residents (such as housing, education, safety, etc.).

It is important that the County track the impact fee discount amounts and compare them to the non-impact fee capacity funding programmed in the five-year Capital Improvement Plan to ensure that the discounted amounts do not exceed funding provided by other sources. This process should be documented in an annual report.

Administrative Manageability

Martin County already has an impact fee program and the County has a process in place for assessing and collecting the fee, as well as allocating the revenues between the existing benefit districts. A transition to a mobility/multimodal fee will require the initial set-up of a separate fund to keep mobility/multimodal revenues separate from any remaining funds in the current impact fee account. The remaining funds from the current transportation impact fee should be spent in the same manner as they currently are, while newly collected mobility/multimodal fees can be used for bike/ped, transit, and roadway improvements within each benefit district. Once the existing transportation impact fee funds are expended, these accounts will no longer be needed.

Martin County already engages in certain best practices regarding fee administration, such as requiring creditable improvements to be in the Capital Improvement Plan or cost-feasible plan to obtain credit. The following are additional recommendations to explore, based on best practices findings documented in *Technical Memorandum #3 – Best Practices* (provided in [Appendix I](#)):

- Establish an expiration timeframe for inactive impact fee credits. Twenty years is a conservative timeframe to use.
- Establish indexing mechanisms for fees and credit values to mitigate large increases resulting from less regular fee studies and resulting fee schedule updates. Note that HB 7103 approved in 2019 required that when local governments increase their impact fees, the outstanding impact fee credits for developer contributions should also be increased.
- Adjust the current credit tracking approach as needed to support these recommendations and recent legislation, and any resulting additional complexity.

Financial Market Acceptability

Like any other impact fees, mobility/multimodal fees are typically used as a secondary pledge for bond issuance. This is because this revenue source varies with growth levels and is not as dependable as ad valorem taxes or sales tax during low growth periods. As discussed previously, HB 207 included certain language related to use of impact fees for debt service payments and stated the following: *“The local government may not use revenues generated by the impact fee to pay existing debt or for previously approved projects unless the expenditure is reasonably connected to, or has a rational nexus with, the increased impact generated by the new residential or commercial construction.”*

Given this requirement, it is important for the County and municipalities to clearly document the projects funded with existing or upcoming bond issues to demonstrate the portions used for capacity expansion.

VI. Development Review Process

Whether the County maintains its current transportation impact fee structure or moves to a mobility or multimodal fee, the recent legislative changes to the development review process are likely to affect the County's current concurrency review process. This section provides the key considerations related to two main approaches relative to the provision of adequate transportation facilities: (1) a traditional concurrency approach and (2) a mobility fee approach, the main alternative to concurrency for development timing and phasing. Figures 5 and 6 at the end of this section show when certain concurrency/proportionate share and timing/phasing controls apply under the two models, as well as separate site plan review controls for site-specific transportation impacts, relative to the general stages of the development review process and based on the State legislation. The County can evaluate these options for further consideration.

The 1985 Growth Management Act included statewide concurrency management requirements to ensure that new development was coordinated with the provision of adequate public facilities. Since the Act, concurrency has undergone several evolutions; the most notable of these changes occurred with the adoption of HB 7207 in 2011, which repealed State-mandated concurrency for transportation facilities, yet maintained certain requirements and guidance if a jurisdiction retained concurrency, including requirements for use of a proportionate share payment for traffic impacts in-lieu of constructing facilities to mitigate impacts. Additional notable changes occurred with the adopted of HB 319 in 2013, which expanded certain proportionate share requirements to development orders and added provisions related to alternative transportation funding systems such as mobility fees. The following paragraphs provide further detail.

Concurrency, Proportionate Share, and Impact Fee Model

Concurrency standards are the traditional method of ensuring adequate public facilities based on adopted level of service (LOS) standards. Proportionate share is a tool often available for new developments to meet traditional concurrency requirements by paying a fee based on a site-specific impact analysis (excluding existing deficiencies) as opposed to constructing necessary improvements to mitigate impacts if there is a lack of capacity available based on the adopted LOS standards. In many instances, State statute requires the use of proportionate share if the applicant offers to enter into a binding proportionate share agreement. A more detailed discussion and additional key takeaways are provided below.

- Due to the proportionate share calculation method adopted in State statutes as part of HB 7207 in 2011, **proportionate share calculations tend to generate relatively low fees.**

While impact fees can help generate additional revenue, they are generally collected later in the development process than proportionate share payments. Proportionate share payment amounts may also be partially managed by adjusting aspects of the traffic impact analysis and payment calculation.

Impact fees are typically charged using a countywide average fee for general impacts to the transportation system as opposed to the site-specific impacts used in the proportionate share calculation. While proportionate share payments may be collected upfront during the development review process, collection of impact fees may not be required to occur earlier than the date of issuance of the building permit for the property that is subject to the fee (Florida Statutes Section 163.31801(3)(e)). In some jurisdictions, impact fees are collected up through the issuance of the Certificate of Occupancy. As a result, local governments are not able to collect the necessary money upfront in the development process to help provide the needed facilities. Some jurisdictions incentivize the early payment of these fees to address this issue. Additionally, options may exist to adjust how proportionate share payments are analyzed and calculated to increase resulting payments. These approaches may include adjusting the adopted LOS standards for roadways or reducing the threshold at which size of traffic impacts are exempted from payments as part of a traffic impact analysis.

- **The payment responsibilities for small developments may be eased through the use of exemptions from proportionate share requirements based on the size of the development and the adopted share of the full impact fee rate.**

Proportionate share requirements may overly burden small developments due to the time and effort required to undertake a proportionate share calculation and the amount of payment that may be required. These aspects can be managed by eliminating proportionate share requirements upfront for small developments based on their size (as opposed to size of traffic impacts on roadways as determined during a traffic impact analysis).

- **Under a traditional concurrency system, the required use of proportionate share (if offered by the applicant) by State statute is not triggered at the land use amendment stage but at later stages in the development review process such as re-zonings and development agreements.**

HB 7207 passed in 2011 and HB 319 passed in 2013 introduced requirements for when jurisdictions must accept proportionate share payments. FL Statutes Sec. 163.3180(5)(h)1 indicates the following (emphasis added): “local governments that

continue to implement a transportation concurrency system must allow an applicant for a *DRI [development of regional impact] development order, development agreement, rezoning, or other land use development permit* to satisfy transportation concurrency requirements of the local comprehensive plan, the local government's concurrency management system, and s. 380.06, when applicable, if the applicant in good faith offers to enter into a binding agreement to pay for or construct its proportionate share of required improvements in a manner consistent with State statutes and the proportionate-share contribution or construction is sufficient to accomplish one or more mobility improvements that will benefit a regionally significant transportation facility.”

Martin County conducts a generalized analysis of the public facility needs resulting from land use amendment approvals. However, final determination of concurrency is done during final site plan review. On occasion, the creation of Comprehensive Plan policies creating a new future land use designation may include language regarding the use of development agreements for future development that may occur in the new designation.

- **Applicants may not be charged for existing deficiencies; some have interpreted this requirement to mean excluding deficient roadways entirely from proportionate share calculations, while others interpreted this requirement as excluding just the existing deficiency that is local governments' responsibility.**

Florida Statutes Section 163.3180(5)(h)2 indicates the following: “an applicant shall not be held responsible for the additional cost of reducing or eliminating deficiencies. If any road is determined to be transportation deficient without the project traffic under review, the costs of correcting that deficiency shall be removed from the project's proportionate share calculation and the necessary transportation improvements to correct that deficiency shall be considered to be in place for purposes of the proportionate share calculation.”

Certain interpretations of this statute may involve excluding deficient roadways entirely, while a more reasonable interpretation is for a jurisdiction to calculate its share of improvements to address existing deficiencies, remove that share from calculations, and then seek payment for private developments' share for overage of the Level of Service standard requiring a payment. These shares would also depend on whether a jurisdiction's share is calculated to attain the minimum capacity for the adopted LOS standard or if additional capacity is funded within the adopted LOS standards range. It is

recommended to document all needed improvements in the cost feasible plan of the Long Range Transportation Plan (as well as shorter term capital plans, such as the local Capital Improvement Plan, as appropriate based on the timeframe).

Mobility Fee Model

Mobility fees serve as a transportation funding alternative that does not rely on traditional concurrency and proportionate share payments. Generally, this system is “pay-and-go” for development, helping streamline approval, although there are jurisdictions taking certain opportunities in the development review process to conduct traffic analyses and use them as a basis to deny, time, or phase development. This timing and phasing control is generally applied to approvals where additional entitlements may be sought, such as land use amendments and re-zonings. The following provides more detailed takeaways regarding this approach.

- **Florida Statutes do not explicitly prohibit the use of alternative mobility funding systems to deny, time, or phase development at the land use amendment and rezoning phases. As a result, some jurisdictions with mobility fee systems have traffic analyses to time and phase development during these development phases.**

Florida Statutes section 163.3180(5)(i) indicates that if a local government elects to repeal transportation concurrency, it is encouraged to adopt an alternative mobility funding system that uses one or more of the tools and techniques identified in State statutes. Any alternative mobility funding system adopted may not be used to deny, time, or phase an application for site plan approval, plat approval, final subdivision approval, building permits, or the functional equivalent of such approvals provided that the developer agrees to pay for the development’s identified transportation impacts via the funding mechanism implemented by the local government.

This alternative approach thus limits the use of denial, timing, and phasing controls to approvals that may involve additional entitlements, including those at land use amendments and re-zoning. It restricts this ability to deny, time, or phase development for several approval types that include by-right approvals (these approvals are typically when proportionate share calculations apply to development agreements under traditional concurrency). As a result, it can help streamline processing of by-right approvals relative to traditional concurrency yet uses more general impacts to the transportation network as a basis for payments, potentially diminishing the link to immediate impacts that can be challenging for political or transportation planning reasons. Where transportation analysis is required of developments seeking land use and

zoning amendments, these analyses will be based on more general development programs since more specific programs are created during site planning and platting phases.

- **Pasco County provides an illuminating example of the application of a mobility fee model.**
 - Pasco County's land development code (sec. 901.12) provides details, summarized below, of the application of transportation analysis and timing and phasing as part of a mobility fee.
 - Transportation analysis is generally required for Future Land Use (FLU) Map amendments, re-zonings, and amendments to DRIs and Master Planned Unit Developments (MPUDs). The County is also allowed to use its Transportation Analysis standards to evaluate other developments not approved by right, such as conditional uses and special exceptions, to evaluate transportation system impacts if the development exceeds thresholds for Neighborhood Commercial designations or where the increase in gross trips is less than 50 peak hour trips. Regardless of the analysis used, needed future transportation corridors identified through the County's Highway Vision Plan are assessed and identified.
 - Amendments to the FLU Map undergo a transportation needs assessment in addition to the transportation analysis, except in the case of conflict zoning where a property has zoning which permits more trips than provided for under the FLU Map. This assessment involves the following applied in order as necessary:
 - Impact determination compares the existing and proposed net-peak-hour, external trips to determine the degree of impact to the road network. If the net peak hour external trips of the project traffic are less than or equal to the nonexempt net-peak-hour, external trips from existing entitlements, the analysis stops.
 - Otherwise, the future scenario is analyzed with the MPO's adopted LRTP and the County's Comprehensive Plan.
 - If failures occur, (1) appropriate improvements to accommodate future project traffic are identified, and/or (2) appropriate reductions in proposed density/intensity increases in terms of net-peak-hour trips are identified.
 - Re-zonings, amendments to DRIs and MPUDs, and FLU Map amendments associated with conflict zonings shall undergo timing and phasing analysis in addition to the transportation analysis. The timing and phasing analysis includes the following applied in order as necessary:

- Impact determination compares the existing and proposed net-peak-hour, external trips to determine the degree of impact to the road network. If the net-peak-hour, external trips of the existing entitlements are greater than or equal to the nonexempt net-peak-hour, external trips from proposed entitlements, no additional analysis is necessary.
 - If there is a net increase in peak-hour, external trips, the future scenario is evaluated. The future scenario is the analysis of existing traffic, plus reasonable background traffic and project traffic at build-out on the committed network. If no failure occurs, the analysis stops.
 - In circumstances where there is a failure, the future scenario is evaluated including any improvements where construction is fully funded in the FDOT's Five-Year Transportation Improvement Plan and the County's Five-Year Capital Improvement Plan. If no failure occurs, the analysis stops.
 - Where there is still a failure, the analysis continues with inclusion of any cost-affordable improvements from the MPO's adopted LRTP and the Comprehensive Plan.
- For all locations estimated to fail, the analysis identifies when each failure is expected as a fraction of development trips associated with nonexempt on-site land use quantities and the estimated year of the failure. If possible, the analysis identifies improvements necessary to accommodate trips for the additional nonexempt entitlements requested. These improvements may include new interchanges, overpasses, and/or roadways identified in the Comprehensive Plan or Land Development Code.
- Exemptions from these standards apply in the following cases:
 - The increase in gross trips is less than 50 peak hour trips, AM or PM, whichever is higher, provided the access is not on a roadway with a known Level of Service deficiency.
 - FLU Map amendments and re-zonings for many office, employment, and industrial districts are exempt, as well as government, office, hotel, industrial, and TOD of certain Planned Developments/Planned Unit Developments, consistent with the County's economic development goals.
 - The increased number of trips is from Transfer of Development Rights.
 - Unexpired DRIs and MPUDs which do not propose to eliminate or delay the timing of their existing road construction obligations or increase gross AM or PM peak hour trips, whichever is higher, beyond the threshold permitted by County code.

- Requests to eliminate or delay site-access improvements or substandard road improvements; however, such requests may be subject to additional review via other code requirements.
- Requests to use statutorily authorized extensions.
- Government buildings.
- Existing entitlements.

Site Plan Review Controls

Regardless of whether a jurisdiction retains traditional concurrency and proportionate share or adopts an alternative funding and timing/phasing system such as a mobility fee, it can still rely on site planning requirements to manage certain site-specific transportation impacts. Impacts that may be managed at this stage of the process include those related to site access, thresholds for signalization, and queuing space. Certain impacts may be managed at the plat review stage if there is no prior development agreement. Note that site plan review provides a management tool that is distinct from concurrency and fee processes and requirements.

As mentioned previously, Figures 17 and 18 illustrate when certain concurrency/proportionate share and timing/phasing controls apply under the two models discussed in this section, as well as separate site plan review controls for site-specific transportation impacts, relative to the general stages of the development review process and based on the State legislation. The County can evaluate these options for further consideration.

Figure 17: Applicability of Concurrency Controls/Proportionate Share Requirements and Site Review Controls Relative to Development Review Stages

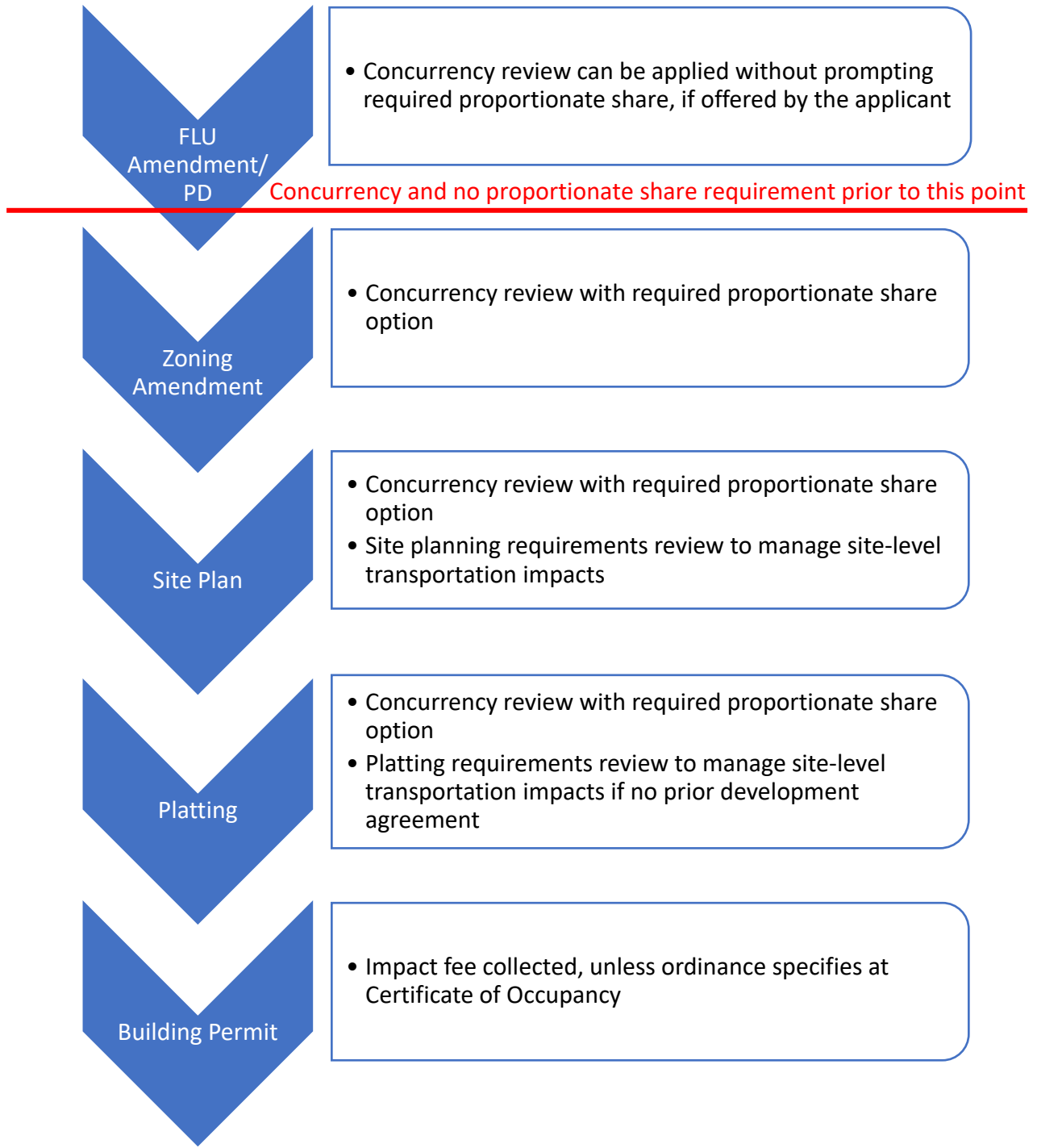
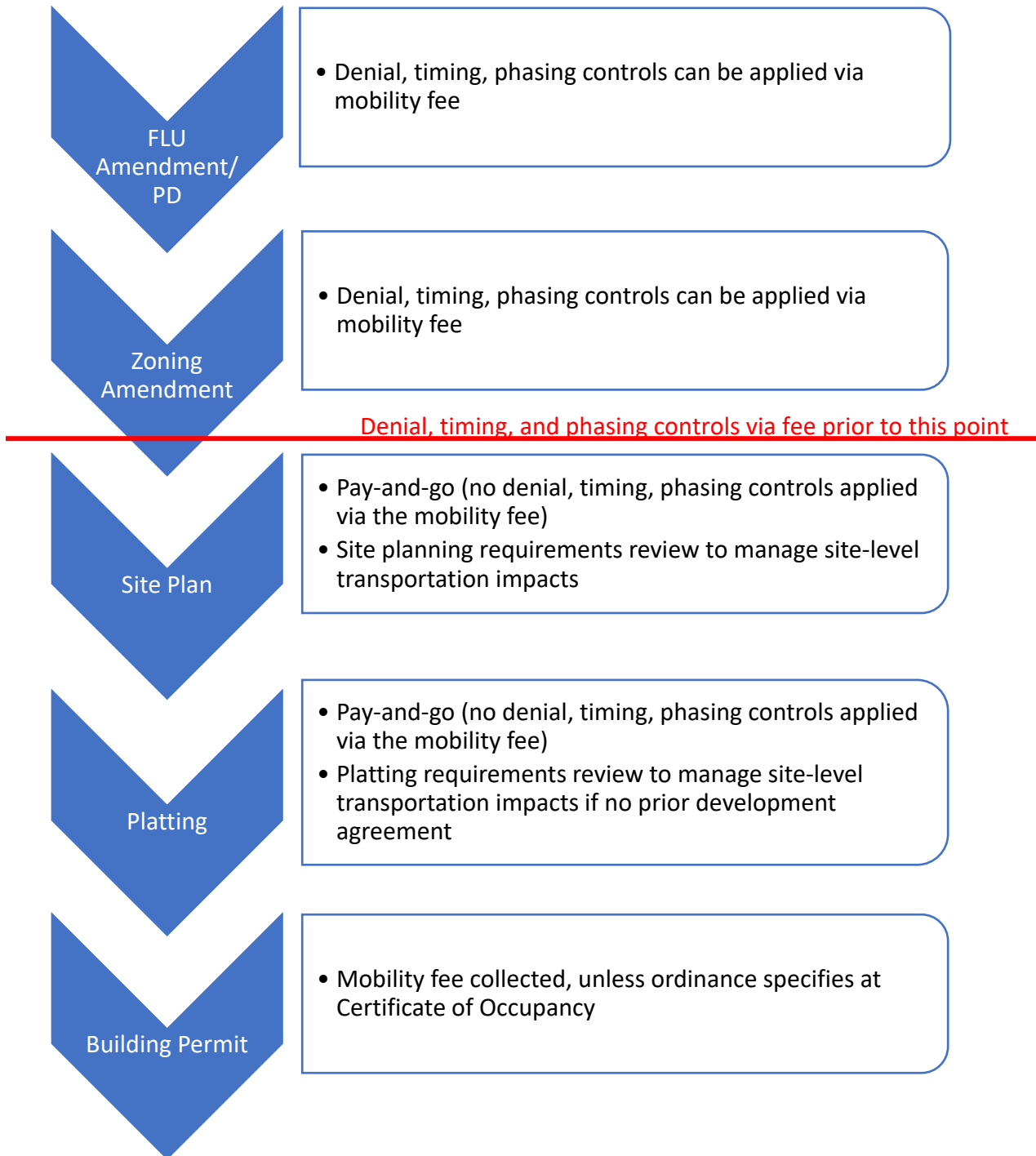


Figure 18: Applicability of Denial/Timing/Phasing Controls Via Mobility Fee Model Relative to Development Review Stages



VII. Summary of Findings

This memorandum outlined the mobility/multimodal study findings and identified potential tools to develop a fee program that aligns with the local growth management and economic development goals. More specifically, the following key findings are incorporated into the study:

- Martin County is a growing county with a projected annual growth rate of 0.8 percent through 2045. This growth rate provides the County with some time to plan for transportation infrastructure funding.
- The County is developed on the eastern side along the Atlantic Ocean and future development is projected to occur primarily within the Urban Service Boundary.
- Martin County is a high-income county with a high taxable value per capita compared to other Florida counties. However, the ad valorem tax base is not very diversified, which makes it more vulnerable to economic fluctuations. Developing fee incentives for select non-residential land uses may help with further diversification.
- Martin County is one of the highest ranked counties in terms of sales tax revenue per resident. Both ad valorem tax and sales tax are likely to be productive revenue sources for Martin County in the future.

Based on input received during the outreach process, the following analysis was completed:

- Mobility/multimodal fee calculations and associated data and analysis.
- Multiple options for varying the fee by geographic area, for targeted land uses and subareas.
- An evaluation of proposed options under several financial and legal criteria.
- Discussion of development review process, associated legal requirements, and best practices.

This report provided tools available to develop a mobility/multimodal fee program that supports the County's and municipalities' economic development and growth management goals. Some of the decisions the County and the municipalities can make using the tools and information included in this report include the following:

- Whether to convert current transportation impact fee to a mobility fee.
- Whether to charge a countywide single fee or vary the fee in the urban vs. rural districts.
- Determine the list of land uses or geographic subareas (such as CRAs) that may need impact fee incentive and implement these discounts.
- Review the development review process and make any changes needed.

Appendix A

Demand Component Calculations

Appendix A: Demand Component

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

Interstate & Toll Facility Adjustment Factor

Table A-1 presents the interstate and toll facility adjustment factor used in the calculation of the mobility/multimodal fee. This variable is based on data from the Treasure Coast Regional Planning Model, specifically the 2040 projected vehicle-miles of travel, accounting for roadway improvements included in the 2040 Long Range Transportation Plan. It should be noted that the adjustment factor excludes all external-to-external trips, which represent traffic that goes through Martin County, but does not necessarily stop in the county. This traffic is excluded from the analysis since it does not come from development within the county. The I/T adjustment factor is used to reduce the VMT that the impact fee charges for each land use.

Table A-1: Interstate/Toll Facility Adjustment Factor

Roadway	VMT (2040)	% VMT
Interstate/Toll Facilities	843,080	20.2%
Other Roads	3,322,073	79.8%
Total (All Roads)	4,165,153	100.0%
Total (Interstate/Toll Roads)	843,080	20.2%

Source: Treasure Coast Regional Planning Model (TCRPM) v4, base year 2010, future year Cost Feasible 2040
Excludes EE Travel

Single Family Residential Trip Generation Rate Tiering

As part of this study, the single family residential trip generation rate tiering is included to reflect a four-tier analysis to ensure equity by the size of a home. To facilitate this, an analysis is completed on the comparative relationship between housing size and household travel behavior. In addition, an analysis is completed on the travel behavior of low income households. This analysis utilizes data from the 2017 National Household Travel Survey (NHTS) and the 2017 American Housing Survey (AHS) to examine overall trip-making characteristics of households in the United States.

Table A-2 presents the trip characteristics being utilized in the proposed mobility/multimodal impact fee schedule for the single family (detached) land use. The 2017 NHTS database is used to assess average annual household vehicle miles of travel (VMT) for various annual household income levels. In addition, the 2017 AHS database is 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 completed simply to provide a linking mechanism between household VMT from the NHTS and housing unit size from the AHS.

Table A-2: 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 for LUC 210 included in this Appendix

The results of the NHTS and AHS analyses are included in Tables A-3 through A-5. First, the data shown in Table A-3 presents the average income in the U.S. for families/households living in the three housing tiers. As shown, the average income for housing units between 1,500 square feet and 2,499 square feet in size (\$70,622) is higher than the overall average income for the U.S. (\$59,840). Table A-4 presents the median household income levels for low and very low income levels in Martin County. Next, as shown in Table A-5, annual average household VMT is calculated from the NHTS database for a number of different income levels and ranges related to the resulting AHS income data from Table A-3 and the Martin County SHIP definitions for low income (<\$51,500) and very low income (<\$32,200).

Table A-3: Annual Income by Housing Size

2017 AHS Average Income Data by Housing Size	Annual Income ⁽¹⁾
Less than 750 sf	\$35,510
750 to 999 sf	\$42,511
1,000 to 2,499 sf	\$63,641
1,500 to 2,499 sf	\$70,622
2,500 sf or more	\$87,984
Average of All Houses	\$59,840

Source: American Housing Survey for the United States in 2017

1) Weighted average of annual income for each tier

Table A-4: Martin County SHIP Definitions

Martin County SHIP Definitions	
Median Income	\$59,500
Low Income ⁽¹⁾	\$51,500
Very Low Income ⁽²⁾	\$32,200

Source: Florida Housing Finance Corporation, 2019 Income Limits; SHIP (4 person household)

1) Defined as 80% of the median income

2) Defined as 50% of the median income

To calculate a corresponding trip rate for the new tiers it is necessary to rely on comparative ratios. As an example, consider the \$35,510 annual income category. First, it is determined that the average annual household VMT for this income level is 14,678 miles. This figure is compared to the overall average annual VMT per household in the U.S. and normalized to the average of the \$59,840 (18,493 miles) category to derive a ratio of 0.794 as shown in Table A-5. This figure is then normalized to the \$70,622 (19,713 miles) category, as this tier corresponds to the average trip generation rate of 7.81 presented in Table A-2, resulting in a ratio of 0.747.

Next, the normalized ratio is applied to the daily VMT for the average single family housing unit size (less than 750 sf) to generate a daily VMT of 38.62 for the new tier, as shown in Table A-6. This daily VMT figure is then divided by the proposed assessable trip length of 6.62 miles to obtain a typical trip rate of 5.83 trips per day.

Table A-5: NHTS Annual VMT by Income Category

2017 NHTS Travel Data by Annual HH Income	Annual VMT/HH	Days	Daily VMT	Ratio to Mean	Normalized to 1.063
Average of \$16,100	10,880	365	29.81	0.588	0.553
Average of \$25,750	13,279	365	36.38	0.718	0.675
Average of \$35,510	14,678	365	40.21	0.794	0.747
Average of \$42,511	17,383	365	47.62	0.940	0.884
Total (All Homes)	18,493	365	50.67	1.000	
Average of \$63,641	18,834	365	51.60	1.018	0.958
Average of \$70,622	19,713	366	53.86	1.063	1.000
Average of \$87,984	22,430	365	61.45	1.213	1.141

Source: 2017 National Household Travel Survey Database, Federal Highway Administration

Table A-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⁾
Single Family (Detached)				
Very Low Income	4.32	6.62	28.59	0.553
Low Income	5.27	6.62	34.90	0.675
Less than 750 sf	5.83	6.62	38.62	0.747
750 to 999 sf	6.90	6.62	45.70	0.884
1,000 to 2,499 sf	7.48	6.62	49.53	0.958
1,500 to 2,499 sf	7.81	6.62	51.70	1.000
2,500 sf or more	8.91	6.62	58.99	1.141

1) Daily VMT (Item 3) divided by assessable trip length (Item 2) for each tiered single family land use category

2) Source: Table A-2

3) Ratio to the mean (Item 4) divided by total daily VMT for the 1,500 to 2,499 sf tier for each tiered single family land use category

4) Source: Table A-5

Table A-7 illustrates the tiered mobility/multimodal fee schedule.

Table A-7: Net Mobility/Multimodal Fee by Single Family Land Use Tier

Impact of Tiering on Fee Schedule	Trip Rate ⁽¹⁾	Assessable Trip Length	Daily VMT	Net Fee ⁽²⁾
Single Family (Detached)				
Very Low Income	4.32	6.62	28.59	\$3,335
Low Income	5.27	6.62	34.90	\$4,066
Less than 750 sf	5.83	6.62	38.62	\$4,516
750 to 999 sf	6.90	6.62	45.70	\$5,332
1,000 to 2,499 sf	7.48	6.62	49.53	\$5,784
2,500 sf or more	8.91	6.62	58.99	\$6,885

1) Source: Table A-4

2) Source: Appendix E, Table E-1

Florida Studies Trip Characteristics Database

The Florida Studies Trip Characteristics Database includes approximately 345 studies on 40 different residential and non-residential land uses collected over the last 30 years. Of these, 263 studies for approximately 24 land uses are included in Martin County's fee schedule. 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/multi-modal/mobility 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 an 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 together to increase the sample size and provide a more valid estimate of the average number of trips generated per unit of development. If no Florida Studies data is available, only TGR data from the ITE reference report is used in the fee calculation.

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

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

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

Land Use 151: Mini-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		6							
ITE	780.0		15							
Blended total	1,325.0									
							Average Trip Length:	n/a		
							Weighted Average Trip Length:	n/a		
							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
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		
							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		19				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 251: Retirement Community/Senior Adult Housing - Detached

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Lakeland, FL	67	3/28-4/2/90	26	24	3.50	9am-4pm	2.44	-	8.54	Tindale Oliver
Marion Co, FL	778	Apr-02	175	-	2.96	24hr.	3.49	-	10.33	Kimley-Horn & Associates
Marion Co, FL	877	Apr-02	209	-	2.91	24hr.	5.90	-	17.17	Kimley-Horn & Associates
Marion Co, FL	1,054	Apr-02	173	-	3.65	24hr.	6.00	-	21.90	Kimley-Horn & Associates
Marion Co, FL	3,076	Apr-02	198	-	2.63	24hr.	5.16	-	13.57	Kimley-Horn & Associates
Marion Co, FL	3,625	Apr-02	164	-	2.50	24hr.	5.83	-	14.58	Kimley-Horn & Associates
Total Size	9,477		6	945			Average Trip Length: 4.80			
ITE	9,170		14				Weighted Average Trip Length: 5.42			
Blended total	18,647									

Weighted Average Trip Generation Rate: 2.75
ITE Average Trip Generation Rate: 4.27
Blend of FL Studies and ITE Average Trip Generation Rate: 3.50

Land Use 252: Retirement Community/Senior Adult Housing - Attached

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sun City Center, FL	208	Oct-91	726	726	2.46	24hr.	-	-	-	Tindale Oliver
Total Size	208		1				Average Trip Length: -			
ITE	486		6				Weighted Average Trip Length: -			
Blended total	694									

Weighted Average Trip Generation Rate: 2.46
ITE Average Trip Generation Rate: 3.70
Blend of FL Studies and ITE Average Trip Generation Rate: 3.33

Land Use 253: Congregate Care Facility/Assisted Living 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	Oct-89	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

Land Use 310: Hotel

Location	Size (Rooms)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	174	Aug-89	134	106	12.50	7-11a/3-7p	6.30	79.0	62.21	Tindale Oliver
Pinellas Co, FL	114	Oct-89	30	14	7.30	12-7p	6.20	47.0	21.27	Tindale Oliver
Orange Co, FL	123	1997	-	-	6.32	-	-	-	-	Orange County
Orange Co, FL	120	1997	-	-	5.27	-	-	-	-	Orange County
Orange Co, FL	146	1997	-	-	7.61	-	-	-	-	Orange County
Orange Co, FL	252	1997	-	-	5.63	-	-	-	-	Orange County
Orange Co, FL	172	1997	-	-	6.36	-	-	-	-	Orange County
Orange Co, FL	170	1997	-	-	6.06	-	-	-	-	Orange County
Orange Co, FL	128	1997	-	-	6.10	-	-	-	-	Orange County
Orange Co, FL	200	1997	-	-	4.56	-	-	-	-	Orange County
Orange Co, FL	112	1998	-	-	2.78	-	-	-	-	Orange County
Orange Co, FL	130	1998	-	-	9.12	-	-	-	-	Orange County
Orange Co, FL	106	1998	-	-	7.34	-	-	-	-	Orange County
Orange Co, FL	98	1998	-	-	7.32	-	-	-	-	Orange County
Orange Co, FL	120	1998	-	-	5.57	-	-	-	-	Orange County
Orange Co, FL	70	1999	-	-	1.85	-	-	-	-	Orange County
Orange Co, FL	123	1999	-	-	4.81	-	-	-	-	Orange County
Orange Co, FL	123	1999	-	-	3.70	-	-	-	-	Orange County
Orange Co, FL	211	2000	-	-	2.23	-	-	-	-	Orange County
Orange Co, FL	144	2000	-	-	7.32	-	-	-	-	Orange County
Orange Co, FL	105	2001	-	-	5.25	-	-	-	-	Orange County
Orange Co, FL	891	2005	-	-	5.69	-	-	-	-	Orange County
Orange Co, FL	1,584	2005	-	-	5.88	-	-	-	-	Orange County
Orange Co, FL	210	2006	-	-	4.88	-	-	-	-	Orange County
Orange Co, FL	1,499	2006	-	-	4.69	-	-	-	-	Orange County
Orange Co, FL	144	-	-	-	4.74	-	-	-	-	Orange County
Orange Co, FL	148	-	-	-	7.61	-	-	-	-	Orange County
Orange Co, FL	160	-	-	-	6.19	-	-	-	-	Orange County
Orange Co, FL	130	-	-	-	4.29	-	-	-	-	Orange County
Orange Co, FL	130	-	-	-	3.40	-	-	-	-	Orange County
Orange Co, FL	144	-	-	-	7.66	-	-	-	-	Orange County
Orange Co, FL	100	-	-	-	7.37	-	-	-	-	Orange County
Orange Co, FL	190	-	-	-	4.71	-	-	-	-	Orange County
Orange Co, FL	1,501	2011	-	-	3.50	-	-	-	-	Tindale Oliver
Orange Co, FL	174	2011	-	-	7.03	-	-	-	-	Tindale Oliver
Orange Co, FL	238	2014	-	-	4.05	-	-	-	-	Tindale Oliver

Total Size	10,184	36	164	Average Trip Length:	6.25	
ITE	876	6		Weighted Average Trip Length:	6.26	
Blended total	11,060			Weighted Percent New Trip Average:	66.3	
				Weighted Average Trip Generation Rate:		5.31
				ITE Average Trip Generation Rate:		8.36
				Blend of FL Studies and ITE Average Trip Generation Rate:		5.55

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	

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	

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	-	-	-	94.0	-	Kimley-Horn & Associates

Total Size	-	1	33	Average Trip Length:	n/a	
ITE	37	8		Percent New Trip Average:	94.0	

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	3	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	

Land Use 710: General Office Building

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sarasota Co, FL	14.3	Jun-93	14	14	46.85	-	11.30	-	529.41	Sarasota County
Gwinnett Co, GA	98.0	Dec-92	-	-	4.30	-	5.40	-	-	Street Smarts
Gwinnett Co, GA	180.0	Dec-92	-	-	3.60	-	5.90	-	-	Street Smarts
Pinellas Co, FL	187.0	Oct-89	431	388	18.49	7a-5p	6.30	90.0	104.84	Tindale Oliver
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										

LUC 720: Small Medical/Dental Office Building: 10,000 sf or Less

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

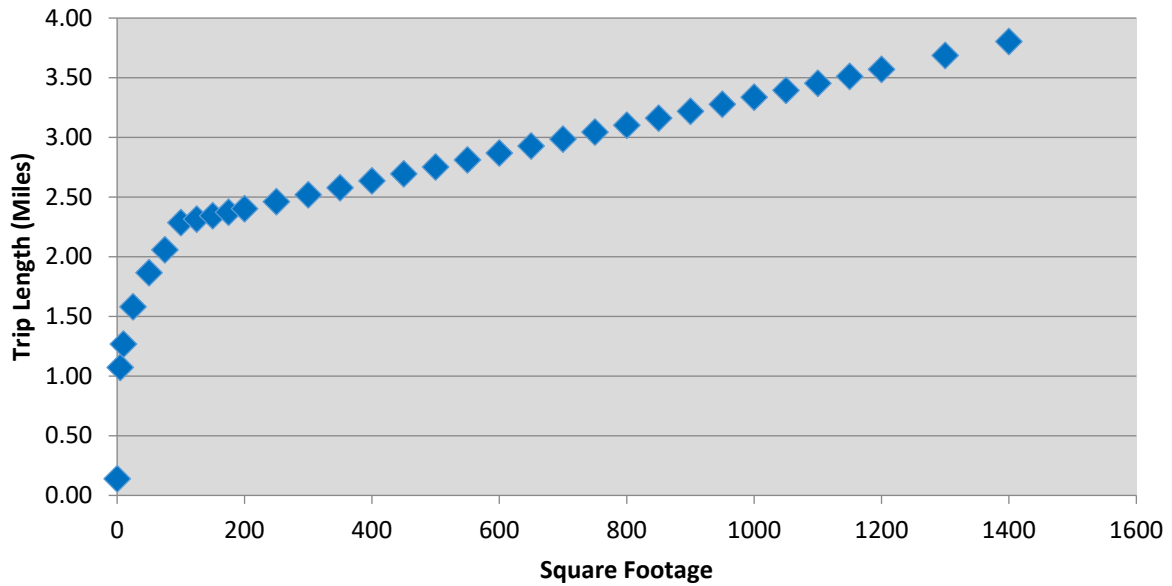
Land Use 720: Medical-Dental Office Building

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	33	26	-	-	6.00	79.0	-	Kimley-Horn & Associates
Palm Harbor, FL	14.6	Oct-89	104	76	33.98	9a-5p	6.30	73.0	156.27	Tindale Oliver
St. Petersburg, FL	-	Nov-89	34	30	57.20	9a-4p	1.20	88.0	-	Tindale Oliver
Hernando Co, FL	58.4	May-96	390	349	28.52	9a-6p	6.47	89.5	165.09	Tindale Oliver
Hernando Co, FL	28.0	May-96	202	189	49.75	9a-6p	6.06	93.8	282.64	Tindale Oliver
Charlotte Co, FL	11.0	Oct-97	-	186	49.50	9a-5p	4.60	92.1	209.67	Tindale Oliver
Charlotte Co, FL	28.0	Oct-97	-	186	31.00	9a-5p	3.60	81.6	91.04	Tindale Oliver
Charlotte Co, FL	30.4	Oct-97	-	324	39.80	9a-5p	3.30	83.5	109.68	Tindale Oliver
Citrus Co, FL	38.9	Oct-03	-	168	32.26	8-6p	6.80	97.1	213.03	Tindale Oliver
Citrus Co, FL	10.0	Nov-03	-	340	40.56	8-630p	6.20	92.4	232.33	Tindale Oliver
Citrus Co, FL	5.3	Dec-03	-	20	29.36	8-5p	5.25	95.2	146.78	Tindale Oliver
Orange Co, FL	50.6	2009	-	-	26.72	-	-	-	-	Orange County
Orange Co, FL	23.5	2010	-	-	16.58	-	-	-	-	Tindale Oliver
Total Size	298.6		13	763			Average Trip Length: 5.07			
ITE	672.0		28				Weighted Average Trip Length: 5.55			
Blended total	970.6									
Weighted Percent New Trip Average: 88.9										
Average Trip Generation Rate: 32.59										
ITE Average Trip Generation Rate: 34.80										
Blend of FL Studies and ITE Average Trip Generation Rate: 34.12										

Land Use 820: Shopping Center

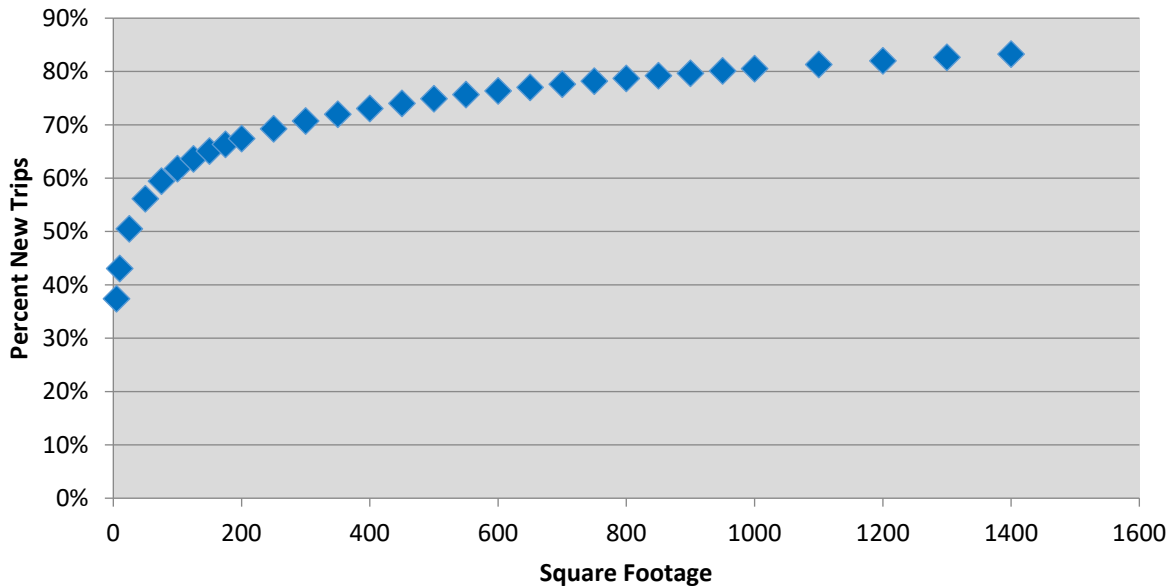
Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	527	348	-	-	-	66.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	170	-	-	-	1.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	354	269	-	-	-	76.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	144	-	-	-	2.50	-	-	Kimley-Horn & Associates
St. Petersburg, FL	1,192.0	Aug-89	384	298	-	11a-7p	3.60	78.0	-	Tindale Oliver
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	-	8.50	84.0	192.78	Street Smarts
Sarasota Co, FL	110.0	Jun-93	58	58	122.14	-	3.20	-	-	Sarasota County
Sarasota Co, FL	146.1	Jun-93	65	65	51.53	-	2.80	-	-	Sarasota County
Sarasota Co, FL	157.5	Jun-93	57	57	79.79	-	3.40	-	-	Sarasota County
Sarasota Co, FL	191.0	Jun-93	62	62	66.79	-	5.90	-	-	Sarasota County
Hernando Co, FL	107.8	May-96	608	331	77.60	9a-6p	4.68	54.5	197.85	Tindale Oliver
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		35	7,536			Average Trip Length: 2.66			

Figure A-1: Retail/Shopping Center (LUC 820) – Florida Curve Trip Length Regression



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

Figure A-2: Retail/Shopping Center (LUC 820) – Florida Curve Percent New Trips Regression



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	VMT	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		10	288			Average Trip Length: 4.60			
ITE (840)	648.0		18				Weighted Average Trip Length: 4.60			
ITE (841)	28.0		14							
Blended total	1,294.0									

Weighted Percent New Trip Average: 78.5
 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 851: 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
Tampa, FL	-	Mar-86	80	-	-	-	1.10	-	-	Kimley-Horn & Associates
Largo, FL	2.5	8/15/25/89	171	116	634.80	-	1.20	68.0	518.00	Tindale Oliver
Clearwater, FL	2.5	Aug-89	237	64	690.80	-	1.60	27.0	298.43	Tindale Oliver
Clearwater, FL	2.1	Nov-89	143	50	635.24	24hr.	1.60	35.0	355.73	Tindale Oliver
Marion Co, FL	2.5	Jun-91	94	43	787.20	48hrs.	1.52	46.2	552.80	Tindale Oliver
Marion Co, FL	2.5	Jun-91	74	20	714.00	48hrs.	0.75	27.0	144.59	Tindale Oliver
Collier Co, FL	-	Aug-91	146	36	-	-	2.53	24.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	148	38	-	-	1.08	25.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	148	84	-	-	1.11	56.8	-	Tindale Oliver
Gwinnett Co, GA	2.9	12/13-18/92	-	-	-	-	2.30	48.0	-	Street Smarts
Gwinnett Co, GA	3.2	12/13-18/92	-	-	-	-	-	37.0	-	Street Smarts
Total Size	18.2		11	1,241			Average Trip Length: 1.48			
ITE	24.0		8				Weighted Average Trip Length: 1.52			
Blended total	42.2									

Weighted Percent New Trip Average: 41.3
 Weighted Average Trip Generation Rate: 694.30
 ITE Average Trip Generation Rate: 762.28
Blend of FL Studies and ITE Average Trip Generation Rate: 739.50

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	VMT	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							
Blended total	312.2									

Weighted Percent New Trip Average: 32.4
 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	VMT	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

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	VMT	Source
Tampa, FL	-	Mar-86	77	-	-	-	2.40	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	211	-	-	-	-	54.0	-	Kimley-Horn & Associates
Clearwater, FL	0.4	Aug-89	113	52	-	9a-6p	5.20	46.0	-	Tindale Oliver
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		14	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
 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: Low-Turnover (Quality) Restaurant

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	76	62	-	-	2.10	82.0	-	Kimley-Horn & Associates
St. Petersburg, FL	7.5	Oct-89	177	154	-	11a-2p/4-8p	3.50	87.0	-	Tindale Oliver
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		3	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					
					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		18	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 944: Gasoline/Service Station

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		2	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		4	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					

Mixed-Use Internal Capture Sensitivity Analysis

There are several models that measure travel reduction achieved by mixed-use development:

- Historically, the ITE model has been the primary model used to quantify internal capture. ITE groups land uses into three categories:
 - Residential;
 - Office; and
 - Retail.

Internal capture calculations focus on trip reduction, especially between residential and retail uses. The data is available for weekday P.M. peak hour, midday, and “daily,” which

is based on data collection between noon and 6:30 PM. ITE calculations fail to capture much of the interaction between residential and office land uses. Compared to raw data used for verification, ITE method error rate is about one-half.

- Several publications by National Cooperative Highway Research Program (NCHRP) made improvements to the original ITE approach, which were summarized in the NCHRP 684. This improved estimate method was developed based on existing survey data from prior studies plus three pilot data collection surveys for this study.
 - Although the model developed as part of NCHRP 684 continued to focus on trip reduction, three land uses were added: restaurant, hotel, and cinema. These resulted for a higher internal capture percentage. **The authors caution users to limit their applications to these six uses, and that the model was not tested for any additional land uses.** The model should only be used for development up to 300 acres.
 - NCHRP Report 684 also added weekday A.M. peak hour and created a land use classification structure that would permit disaggregation of the six land uses to more detailed categories should enough data become available.
 - The NCHRP report included the **effects of proximity (convenient walking distance) between interacting land uses to represent both compactness and design.** The report states that several planners and architects recommend ¼-mile or longer walking distances. However, developers contacted for the study reported that acceptable walking distances range from 600 feet to 1,000 feet. The study found that when the major uses were within a convenient (e.g., covered walkways, etc.) and short walking distance, the capture rate increased.
 - This method reduced the estimation error by half compared to the original ITE method, resulting in an error rate of about one-fourth of the raw trip generation rates.
- Since the late 1980s, there have been numerous studies of various census and regional travel survey databases, limited site data collection, and studies and surveys of related travel and development characteristics that could contribute useful material for developing an improved estimation technique. Internal trip capture rates found in this research vary widely depending on conditions and land uses, but for developments with major commercial components, capture rates typically reached up to more than 30 percent. For mixed-use neighborhoods and small communities, internal capture reached 50 percent and even higher.

- Another widely used approach is a policy determined flat percentage reduction in external trips. Such percentages are established by local planning, zoning, or transportation engineering officials for use in transportation impact analyses (TIAs) prepared to support applications for zoning, subdivision, site plan approval, or access permits. The percentages are typically arbitrarily selected and tend to range from 5 percent to 25 percent, with 10 percent being most commonly used discount factor.

Table A-8 provides a summary of some of these studies and resulting internal capture levels.

Table A-8: Comparison of Mixed-Use Models

Source	Reference	Range of Internal Capture
Research Studies		
ITE 2nd Edition	Institute of Transportation Engineers Handbook, 2nd Ed.	5-25%
NCHRP 684/ITE 3rd Edition	National Cooperative Highway Research Program	28-41%
EPX MXD Model v4.0	EPA, Fehr & Peers	8-28%
ITE 1998 surveys (origins)	NCHRP 684, PDF pg 19	0-53%
ITE 1998 surveys (destinations)	NCHRP 684, PDF pg 19	0-37%
Districtwide TGR Study, FDOT, District IV, March 1995	NCHRP 684, PDF pg 20	28-41%
FDOT Trip Characteristics Study of MXDs, FDOT, District IV, March 1993	NCHRP 684, PDF pg 21 (Table 8)	7-62%
Trip Generation for MXDs, Technical Committee Report, Colorado-Wyoming Section, ITE, January 1986	NCHRP 684, PDF pg 23	25%
Brandermill PUD Traffic Generation Study, Technical Report, JHK & Associates, Alexandria, Virginia, June 1984	NCHRP 684, PDF pg 23	45-55%
Kittelson & Associates, Crocker Center, Mizner Park, Galleria	NCHRP 684, PDF pg 25	38-41%
Mehara and Keller	NCHRP 684, PDF pg 25	0-40%
Local Government Practices		
Transportation Impact Analyses (ITE Method)	NCHRP 684, PDF pg 11	5-25%

As mentioned previously, internal capture levels of a mixed-use development are dependent on the combination of uses as well as their connectivity and design. Tables A-8 through A-10 present a sensitivity analysis for internal capture that includes developments of all levels, in terms of both units of development and percent of travel. Observations include:

- When single family units dominate the overall development (generating over 60 percent of trips or over 80 percent of vehicle miles of travel (VMT)), there does not seem to be any substantial internal capture.
- In cases where there are three or more uses with some level of activity, the internal capture improves. The internal capture rate is higher when travel generated by each land use is balanced (e.g., no one land use exceeds 50 percent of trips).
- Availability of retail (including restaurants) is important in achieving high levels of internal capture.
- Travel demand characteristics used in the standard impact fee calculations evolved over time to recognize reduction in travel due to the availability of multiple uses at a regional level.
- Any additional internal capture that is attributed to a mixed-use development needs to be due to the increase in pedestrian travel as well as travel within the development. Some of the variables that will determine the level internal capture include:
 - Scale of development;
 - Complementary land uses;
 - Proximity and connectivity between each pair of land uses, especially the layout of the land uses relative to each other; and
 - Other characteristics such as proximity to transit and pedestrian access within and around the site.
- Industry models used to measure internal capture suggest that to the extent travel distribution from each land use within the mixed-use development is balanced, the level of internal capture increases. When one land use is dominant, internal capture percentage decreases. For example, when residential development generates more than 60 percent of trips and 80 percent of VMT, the resulting internal capture is negligible. On the other hand, a mix of at least three different uses, with none of the uses generating more than 50 percent of travel, result in higher levels of internal capture.

As previously mentioned, the NCHRP model does not account for proximity of uses, density, and other design elements. It is recommended that potential mixed-use developments include elements of connectivity, promote walkability between land uses, and include access to other travel modes (transit, bike lanes, etc.) when possible. These factors, along with a balanced mix of uses, will yield the most favorable internal capture rates.

Depending on the scale of potential future developments, it may be difficult to achieve reasonable walkability and enhanced trip capture. By focusing on smaller, inter-connected areas,

developers can work towards creating a truly “mixed-use” community. The sensitivity analysis in Tables A-9 through A-11 provide general guidelines that can be applied to future development in order to achieve the best balance of uses.

Table A-9: Comparison of Mixed-Use Internal Capture

Scenario	Single Family DU's	Hotel Rooms	Retail Sq Ft	Office Sq Ft	Restaurant Sq Ft	AM Peak Hr: IC %	PM Peak Hr: IC %	Average Internal Capture %	Trip Distribution				
									Single Family	Hotel	Retail	Office	Restaurant
Scenario #1.01	50	50	10,000	10,000	2,000	19%	29%	24%	20%	15%	33%	24%	8%
Scenario #1.02	50	60	10,000	10,000	2,000	18%	29%	24%	20%	17%	32%	23%	8%
Scenario #1.03	50	75	10,000	10,000	2,000	18%	28%	23%	19%	20%	31%	22%	8%
Scenario #1.04	50	90	10,000	10,000	2,000	17%	27%	22%	18%	23%	30%	22%	8%
Scenario #1.05	50	120	10,000	10,000	2,000	15%	26%	21%	17%	28%	28%	20%	7%
Scenario #1.06	50	200	10,000	10,000	2,000	13%	22%	18%	15%	38%	24%	17%	6%
Scenario #1.07	50	300	10,000	10,000	2,000	10%	19%	15%	12%	47%	20%	15%	5%
Scenario #1.08	50	400	10,000	10,000	2,000	9%	17%	13%	11%	54%	18%	13%	4%
Scenario #1.09	50	500	10,000	10,000	2,000	8%	15%	12%	10%	59%	16%	11%	4%
Scenario #1.10	50	600	10,000	10,000	2,000	7%	14%	11%	9%	63%	14%	10%	4%
Scenario #1.11	50	50	20,000	10,000	2,000	19%	27%	23%	17%	12%	44%	20%	7%
Scenario #1.12	50	50	50,000	10,000	2,000	18%	22%	20%	12%	9%	59%	15%	5%
Scenario #1.13	50	50	80,000	10,000	2,000	16%	18%	17%	10%	7%	66%	12%	4%
Scenario #1.14	50	50	100,000	10,000	2,000	15%	16%	16%	9%	7%	69%	11%	4%
Scenario #1.15	50	50	300,000	10,000	2,000	10%	9%	10%	5%	4%	82%	6%	2%
Scenario #1.16	50	50	500,000	10,000	2,000	8%	7%	8%	4%	3%	87%	5%	2%
Scenario #1.17	50	50	1,000,000	10,000	2,000	6%	4%	5%	3%	2%	91%	3%	1%
Scenario #1.18	50	50	2,000,000	10,000	2,000	4%	3%	4%	2%	1%	94%	2%	1%
Scenario #1.19	50	50	3,000,000	10,000	2,000	3%	2%	3%	1%	1%	95%	2%	1%
Scenario #1.20	50	50	10,000	20,000	2,000	20%	28%	24%	19%	14%	31%	29%	8%
Scenario #1.21	50	50	10,000	50,000	2,000	19%	26%	23%	16%	12%	26%	39%	7%
Scenario #1.22	50	50	10,000	80,000	2,000	19%	24%	22%	14%	10%	23%	46%	6%
Scenario #1.23	50	50	10,000	100,000	2,000	18%	23%	21%	13%	10%	22%	50%	5%
Scenario #1.24	50	50	10,000	300,000	2,000	13%	15%	14%	8%	6%	13%	70%	3%
Scenario #1.25	50	50	10,000	500,000	2,000	9%	11%	10%	6%	4%	10%	78%	2%
Scenario #1.26	50	50	10,000	1,000,000	2,000	6%	7%	7%	4%	3%	6%	86%	2%
Scenario #1.27	50	50	10,000	2,000,000	2,000	3%	4%	4%	2%	2%	3%	92%	1%
Scenario #1.28	50	50	10,000	3,000,000	2,000	3%	3%	3%	2%	1%	2%	94%	1%
Scenario #1.29	50	50	10,000	10,000	5,000	22%	36%	29%	18%	13%	29%	21%	18%
Scenario #1.30	50	50	10,000	10,000	7,000	22%	40%	31%	17%	12%	27%	20%	24%
Scenario #1.31	50	50	10,000	10,000	10,000	19%	43%	31%	15%	11%	25%	18%	31%
Scenario #1.32	50	50	10,000	10,000	15,000	16%	45%	31%	13%	10%	22%	16%	40%
Scenario #1.33	50	50	10,000	10,000	30,000	10%	40%	25%	9%	7%	15%	11%	57%
Scenario #1.34	50	50	10,000	10,000	50,000	7%	32%	20%	7%	5%	11%	8%	69%
Scenario #1.35	50	50	10,000	10,000	100,000	4%	20%	12%	4%	3%	7%	5%	82%
Scenario #1.36	50	50	10,000	10,000	200,000	2%	11%	7%	2%	2%	4%	3%	90%
Scenario #1.37	50	50	10,000	10,000	400,000	1%	6%	4%	1%	1%	2%	1%	95%
Scenario #1.38	50	60	20,000	20,000	5,000	25%	32%	29%	14%	12%	37%	22%	15%
Scenario #1.39	50	75	50,000	50,000	7,000	28%	27%	28%	9%	10%	45%	23%	13%
Scenario #1.40	50	90	80,000	80,000	10,000	28%	26%	27%	7%	9%	46%	23%	15%
Scenario #1.41	50	120	100,000	100,000	15,000	28%	27%	28%	6%	10%	44%	22%	18%
Scenario #1.42	50	200	300,000	300,000	30,000	28%	23%	26%	3%	8%	46%	26%	18%
Scenario #1.43	50	300	500,000	500,000	50,000	28%	23%	26%	2%	8%	43%	26%	21%
Scenario #1.44	50	400	1,000,000	1,000,000	100,000	28%	24%	26%	1%	6%	40%	28%	24%
Scenario #1.45	50	500	2,000,000	2,000,000	200,000	27%	25%	26%	1%	4%	37%	30%	28%
Scenario #1.46	50	600	3,000,000	3,000,000	400,000	23%	30%	27%	0%	3%	31%	28%	37%
Scenario #1.47	50	50	3,000,000	3,000,000	400,000	65%	27%	46%	0%	0%	32%	29%	38%
Scenario #1.48	50	600	10,000	3,000,000	400,000	18%	11%	15%	1%	5%	1%	41%	53%
Scenario #1.49	50	600	3,000,000	10,000	400,000	6%	33%	20%	1%	5%	43%	1%	51%
Scenario #1.50	50	600	3,000,000	3,000,000	2,000	14%	7%	11%	1%	5%	50%	44%	0%

Notes:

- Each scenario includes a different mix of dwelling units, hotel rooms and non-residential development.
- Using the ITE 9th Edition handbook, AM and PM Peak Hour trip generation rates are applied to each land use and each development scenario. This results in the total AM and PM Peak Hour trips. Using the direction distribution provided in the ITE handbook, the “entering” and “exiting” trips are determined.
- The resulting trips are entered into the NCHRP internal capture model which outputs the internal capture percentages for both AM and PM Peak Hour.
- The average internal capture shown in the tab above reflects the average of the AM and PM Peak Hour internal capture.
- The trip distribution illustrates the proportion of trip that is attributed to each land use in each scenario. The scenarios which include a balanced distribution of trip tend to yield higher internal capture.

Table A-9: Comparison of Mixed-Use Internal Capture (Continued)

Scenario	Single Family DU's	Hotel Rooms	Retail Sq Ft	Office Sq Ft	Restaurant Sq Ft	AM Peak Hr: IC %	PM Peak Hr: IC %	Average Internal Capture %	Trip Distribution				
									Single Family	Hotel	Retail	Office	Restaurant
Scenario #2.01	1,000	50	10,000	10,000	2,000	5%	11%	8%	79%	4%	9%	6%	2%
Scenario #2.02	1,000	60	10,000	10,000	2,000	5%	11%	8%	79%	4%	8%	6%	2%
Scenario #2.03	1,000	75	10,000	10,000	2,000	5%	11%	8%	78%	5%	8%	6%	2%
Scenario #2.04	1,000	90	10,000	10,000	2,000	5%	11%	8%	77%	6%	8%	6%	2%
Scenario #2.05	1,000	120	10,000	10,000	2,000	5%	11%	8%	76%	8%	8%	6%	2%
Scenario #2.06	1,000	200	10,000	10,000	2,000	5%	11%	8%	72%	12%	8%	6%	2%
Scenario #2.07	1,000	300	10,000	10,000	2,000	5%	10%	8%	68%	17%	7%	5%	2%
Scenario #2.08	1,000	400	10,000	10,000	2,000	4%	10%	7%	65%	21%	7%	5%	2%
Scenario #2.09	1,000	500	10,000	10,000	2,000	4%	9%	7%	62%	25%	7%	5%	2%
Scenario #2.10	1,000	600	10,000	10,000	2,000	4%	9%	7%	59%	28%	6%	5%	2%
Scenario #2.11	1,000	50	20,000	10,000	2,000	6%	13%	10%	76%	4%	13%	6%	2%
Scenario #2.12	1,000	50	50,000	10,000	2,000	7%	17%	12%	68%	3%	21%	5%	2%
Scenario #2.13	1,000	50	80,000	10,000	2,000	6%	19%	13%	64%	3%	27%	5%	2%
Scenario #2.14	1,000	50	100,000	10,000	2,000	6%	20%	13%	61%	3%	30%	5%	2%
Scenario #2.15	1,000	50	300,000	10,000	2,000	5%	25%	15%	46%	2%	47%	4%	1%
Scenario #2.16	1,000	50	500,000	10,000	2,000	5%	27%	16%	39%	2%	55%	3%	1%
Scenario #2.17	1,000	50	1,000,000	10,000	2,000	4%	22%	13%	30%	1%	66%	2%	1%
Scenario #2.18	1,000	50	2,000,000	10,000	2,000	3%	16%	10%	21%	1%	75%	2%	1%
Scenario #2.19	1,000	50	3,000,000	10,000	2,000	3%	12%	8%	17%	1%	80%	1%	0%
Scenario #2.20	1,000	50	10,000	20,000	2,000	6%	11%	9%	78%	4%	8%	8%	2%
Scenario #2.21	1,000	50	10,000	50,000	2,000	7%	11%	9%	75%	4%	8%	12%	2%
Scenario #2.22	1,000	50	10,000	80,000	2,000	8%	11%	10%	72%	3%	8%	15%	2%
Scenario #2.23	1,000	50	10,000	100,000	2,000	8%	11%	10%	70%	3%	8%	17%	2%
Scenario #2.24	1,000	50	10,000	300,000	2,000	9%	10%	10%	57%	3%	6%	32%	2%
Scenario #2.25	1,000	50	10,000	500,000	2,000	7%	9%	8%	49%	2%	5%	42%	1%
Scenario #2.26	1,000	50	10,000	1,000,000	2,000	5%	7%	6%	37%	2%	4%	57%	1%
Scenario #2.27	1,000	50	10,000	2,000,000	2,000	4%	5%	5%	25%	1%	3%	71%	1%
Scenario #2.28	1,000	50	10,000	3,000,000	2,000	3%	4%	4%	19%	1%	2%	78%	1%
Scenario #2.29	1,000	50	10,000	10,000	5,000	7%	13%	10%	77%	4%	8%	6%	5%
Scenario #2.30	1,000	50	10,000	10,000	7,000	7%	15%	11%	75%	4%	8%	6%	7%
Scenario #2.31	1,000	50	10,000	10,000	10,000	8%	18%	13%	73%	4%	8%	6%	10%
Scenario #2.32	1,000	50	10,000	10,000	15,000	9%	21%	15%	70%	3%	7%	5%	14%
Scenario #2.33	1,000	50	10,000	10,000	30,000	11%	24%	18%	61%	3%	7%	5%	25%
Scenario #2.34	1,000	50	10,000	10,000	50,000	13%	26%	20%	53%	3%	6%	4%	35%
Scenario #2.35	1,000	50	10,000	10,000	100,000	15%	26%	21%	39%	2%	4%	3%	52%
Scenario #2.36	1,000	50	10,000	10,000	200,000	9%	18%	14%	26%	1%	3%	2%	68%
Scenario #2.37	1,000	50	10,000	10,000	400,000	5%	11%	8%	15%	1%	2%	1%	81%
Scenario #2.38	1,000	60	20,000	20,000	5,000	9%	16%	13%	72%	4%	12%	7%	5%
Scenario #2.39	1,000	75	50,000	50,000	7,000	13%	21%	17%	61%	4%	19%	10%	6%
Scenario #2.40	1,000	90	80,000	80,000	10,000	15%	25%	20%	54%	4%	23%	11%	7%
Scenario #2.41	1,000	120	100,000	100,000	15,000	18%	28%	23%	49%	5%	24%	12%	10%
Scenario #2.42	1,000	200	300,000	300,000	30,000	24%	35%	30%	32%	5%	32%	18%	13%
Scenario #2.43	1,000	300	500,000	500,000	50,000	27%	39%	33%	24%	6%	34%	21%	16%
Scenario #2.44	1,000	400	1,000,000	1,000,000	100,000	30%	38%	34%	16%	5%	35%	24%	21%
Scenario #2.45	1,000	500	2,000,000	2,000,000	200,000	28%	34%	31%	10%	4%	34%	27%	26%
Scenario #2.46	1,000	600	3,000,000	3,000,000	400,000	24%	35%	30%	6%	3%	30%	26%	34%
Scenario #2.47	1,000	50	3,000,000	3,000,000	400,000	63%	33%	48%	7%	0%	30%	27%	35%
Scenario #2.48	1,000	600	10,000	3,000,000	400,000	20%	14%	17%	9%	4%	1%	37%	48%
Scenario #2.49	1,000	600	3,000,000	10,000	400,000	9%	39%	24%	9%	4%	40%	1%	47%
Scenario #2.50	1,000	600	3,000,000	3,000,000	2,000	13%	14%	14%	10%	5%	45%	40%	0%

Notes:

- Each scenario includes a different mix of dwelling units, hotel rooms and non-residential development.
- Using the ITE 9th Edition handbook, AM and PM Peak Hour trip generation rates are applied to each land use and each development scenario. This results in the total AM and PM Peak Hour trips. Using the direction distribution provided in the ITE handbook, the “entering” and “exiting” trips are determined.
- The resulting trips are entered into the NCHRP internal capture model which outputs the internal capture percentages for both AM and PM Peak Hour.
- The average internal capture shown in the tab above reflects the average of the AM and PM Peak Hour internal capture.
- The trip distribution illustrates the proportion of trip that is attributed to each land use in each scenario. The scenarios which include a balanced distribution of trip tend to yield higher internal capture.

Table A-9: Comparison of Mixed-Use Internal Capture (Continued)

Scenario	Single Family DU's	Hotel Rooms	Retail Sq Ft	Office Sq Ft	Restaurant Sq Ft	AM Peak Hr: IC %	PM Peak Hr: IC %	Average Internal Capture %	Trip Distribution				
									Single Family	Hotel	Retail	Office	Restaurant
Scenario #3.01	5,000	50	10,000	10,000	2,000	1%	3%	2%	95%	1%	2%	2%	1%
Scenario #3.02	5,000	60	10,000	10,000	2,000	1%	3%	2%	94%	1%	2%	2%	1%
Scenario #3.03	5,000	75	10,000	10,000	2,000	1%	3%	2%	94%	1%	2%	2%	1%
Scenario #3.04	5,000	90	10,000	10,000	2,000	1%	3%	2%	94%	2%	2%	2%	1%
Scenario #3.05	5,000	120	10,000	10,000	2,000	1%	3%	2%	93%	2%	2%	2%	1%
Scenario #3.06	5,000	200	10,000	10,000	2,000	1%	3%	2%	92%	3%	2%	2%	1%
Scenario #3.07	5,000	300	10,000	10,000	2,000	1%	4%	3%	91%	5%	2%	2%	1%
Scenario #3.08	5,000	400	10,000	10,000	2,000	1%	4%	3%	89%	6%	2%	2%	1%
Scenario #3.09	5,000	500	10,000	10,000	2,000	1%	4%	3%	88%	8%	2%	1%	1%
Scenario #3.10	5,000	600	10,000	10,000	2,000	1%	4%	3%	87%	9%	2%	1%	1%
Scenario #3.11	5,000	50	20,000	10,000	2,000	1%	4%	3%	93%	1%	3%	2%	1%
Scenario #3.12	5,000	50	50,000	10,000	2,000	2%	6%	4%	91%	1%	6%	2%	1%
Scenario #3.13	5,000	50	80,000	10,000	2,000	2%	7%	5%	89%	1%	8%	2%	1%
Scenario #3.14	5,000	50	100,000	10,000	2,000	2%	7%	5%	88%	1%	9%	1%	1%
Scenario #3.15	5,000	50	300,000	10,000	2,000	3%	11%	7%	80%	1%	18%	1%	0%
Scenario #3.16	5,000	50	500,000	10,000	2,000	3%	14%	9%	75%	1%	23%	1%	0%
Scenario #3.17	5,000	50	1,000,000	10,000	2,000	3%	17%	10%	66%	1%	32%	1%	0%
Scenario #3.18	5,000	50	2,000,000	10,000	2,000	3%	21%	12%	55%	1%	43%	1%	0%
Scenario #3.19	5,000	50	3,000,000	10,000	2,000	3%	23%	13%	49%	1%	49%	1%	0%
Scenario #3.20	5,000	50	10,000	20,000	2,000	1%	3%	2%	94%	1%	2%	2%	1%
Scenario #3.21	5,000	50	10,000	50,000	2,000	2%	3%	3%	93%	1%	2%	3%	1%
Scenario #3.22	5,000	50	10,000	80,000	2,000	2%	4%	3%	92%	1%	2%	4%	1%
Scenario #3.23	5,000	50	10,000	100,000	2,000	2%	4%	3%	91%	1%	2%	5%	1%
Scenario #3.24	5,000	50	10,000	300,000	2,000	3%	5%	4%	86%	1%	2%	11%	1%
Scenario #3.25	5,000	50	10,000	500,000	2,000	3%	5%	4%	81%	1%	2%	15%	0%
Scenario #3.26	5,000	50	10,000	1,000,000	2,000	3%	5%	4%	72%	1%	2%	25%	0%
Scenario #3.27	5,000	50	10,000	2,000,000	2,000	3%	5%	4%	60%	1%	1%	38%	0%
Scenario #3.28	5,000	50	10,000	3,000,000	2,000	3%	4%	4%	52%	1%	1%	46%	0%
Scenario #3.29	5,000	50	10,000	10,000	5,000	2%	4%	3%	94%	1%	2%	2%	1%
Scenario #3.30	5,000	50	10,000	10,000	7,000	2%	5%	4%	93%	1%	2%	2%	2%
Scenario #3.31	5,000	50	10,000	10,000	10,000	2%	5%	4%	93%	1%	2%	2%	3%
Scenario #3.32	5,000	50	10,000	10,000	15,000	2%	6%	4%	91%	1%	2%	2%	4%
Scenario #3.33	5,000	50	10,000	10,000	30,000	3%	8%	6%	88%	1%	2%	1%	8%
Scenario #3.34	5,000	50	10,000	10,000	50,000	4%	10%	7%	84%	1%	2%	1%	12%
Scenario #3.35	5,000	50	10,000	10,000	100,000	7%	12%	10%	74%	1%	2%	1%	22%
Scenario #3.36	5,000	50	10,000	10,000	200,000	10%	15%	13%	61%	1%	1%	1%	36%
Scenario #3.37	5,000	50	10,000	10,000	400,000	14%	18%	16%	45%	0%	1%	1%	53%
Scenario #3.38	5,000	60	20,000	20,000	5,000	2%	5%	4%	92%	1%	3%	2%	1%
Scenario #3.39	5,000	75	50,000	50,000	7,000	4%	7%	6%	88%	1%	6%	3%	2%
Scenario #3.40	5,000	90	80,000	80,000	10,000	5%	10%	8%	84%	2%	8%	4%	2%
Scenario #3.41	5,000	120	100,000	100,000	15,000	6%	12%	9%	81%	2%	9%	4%	4%
Scenario #3.42	5,000	200	300,000	300,000	30,000	11%	19%	15%	68%	3%	15%	8%	6%
Scenario #3.43	5,000	300	500,000	500,000	50,000	15%	24%	20%	59%	3%	18%	11%	9%
Scenario #3.44	5,000	400	1,000,000	1,000,000	100,000	20%	31%	26%	46%	3%	22%	16%	13%
Scenario #3.45	5,000	500	2,000,000	2,000,000	200,000	25%	37%	31%	33%	3%	25%	20%	19%
Scenario #3.46	5,000	600	3,000,000	3,000,000	400,000	27%	44%	36%	24%	3%	24%	22%	28%
Scenario #3.47	5,000	50	3,000,000	3,000,000	400,000	57%	41%	49%	24%	0%	25%	22%	29%
Scenario #3.48	5,000	600	10,000	3,000,000	400,000	23%	19%	21%	31%	3%	1%	28%	37%
Scenario #3.49	5,000	600	3,000,000	10,000	400,000	16%	48%	32%	30%	3%	30%	1%	36%
Scenario #3.50	5,000	600	3,000,000	3,000,000	2,000	10%	23%	17%	33%	3%	33%	30%	0%

Notes:

- Each scenario includes a different mix of dwelling units, hotel rooms and non-residential development.
- Using the ITE 9th Edition handbook, AM and PM Peak Hour trip generation rates are applied to each land use and each development scenario. This results in the total AM and PM Peak Hour trips. Using the direction distribution provided in the ITE handbook, the “entering” and “exiting” trips are determined.
- The resulting trips are entered into the NCHRP internal capture model which outputs the internal capture percentages for both AM and PM Peak Hour.
- The average internal capture shown in the tab above reflects the average of the AM and PM Peak Hour internal capture.
- The trip distribution illustrates the proportion of trips that is attributed to each land use in each scenario. The scenarios which include a balanced distribution of trips tend to yield higher internal capture.

Appendix B

Cost Component Calculations

Appendix B: Cost Component

This appendix presents the detailed calculations for the cost component of the mobility/multimodal fee update. Backup data and assumptions are provided for all cost variables, including:

- Design
- Right-of-Way
- Construction
- Construction engineering/inspection
- Roadway capacity
- Transit capital costs

Design

County Roadways

The design cost factor for county roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the design-to-construction cost ratios from previously completed impact studies throughout Florida. For county roadways from throughout Florida, the design factors ranged from 10 percent to 14 percent with a weighted average of 11 percent. For purposes of this study, the design cost for county roads is estimated at 11 percent of the construction cost per lane mile. Table B-1 provides additional information.

State Roadways

The design cost factor for state roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the design-to-construction cost ratios for state road unit costs in previously completed transportation impact studies throughout Florida. For state roadways, the design factors ranged from 10 percent to 11 percent, with a weighted average of 11 percent. For purposes of this study, the design cost for state roads is estimated at 11 percent of the construction cost per lane mile. Table B-1 provides further detail.

Table B-1: Design Cost Factor for County and State Roads – Recent Impact Fee Studies:

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		Design	Constr.	Design Ratio	Design	Constr.	Design Ratio
2012	Osceola	\$371,196	\$2,651,400	14%	\$313,258	\$2,847,800	11%
2012	Orange	\$264,000	\$2,400,000	11%	-	-	n/a
2012	City of Orlando	\$288,000	\$2,400,000	12%	\$319,000	\$2,900,000	11%
2012	City of Sarasota	\$240,000	\$2,400,000	10%	\$286,000	\$2,600,000	11%
2013	Hernando	\$198,000	\$1,980,000	10%	\$222,640	\$2,024,000	11%
2013	Charlotte	\$220,000	\$2,200,000	10%	\$240,000	\$2,400,000	10%
2014	Indian River	\$159,000	\$1,598,000	10%	\$196,000	\$1,776,000	11%
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
2018	City of Tampa	\$403,000	\$3,100,000	13%	-	-	n/a
2018	City of Hallandale Beach	\$171,000	\$1,710,000	10%	\$337,000	\$3,060,000	11%
2018	City of Oviedo	\$319,000	\$2,900,000	11%	-	-	n/a
2018	Collier	\$385,000	\$3,500,000	11%	\$385,000	\$3,500,000	11%
Average		\$259,905	\$2,345,863	11%	\$286,575	\$2,642,817	11%

Source: Recent impact fee studies conducted throughout Florida

Right-of-Way

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

County Roadways

For impact fee purposes, the ROW cost for county roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the ROW-to-construction cost ratios from previously completed impact studies throughout Florida. For county roadways throughout Florida, the ROW factors ranged from 26 percent to 60 percent with a weighted average of 41 percent. For purposes of this study, the ROW cost for county roads is estimated at 40 percent of the construction cost per lane mile. Table B-2 provides additional information.

State Roadways

Similar to county roads, the ROW cost of state roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the ROW-to-construction cost ratios from previously completed impact studies throughout Florida. For state roadways throughout Florida, the ROW factors ranged from 32 percent to 60 percent with a weighted average of 43 percent. For purposes of this study, the ROW cost for state roads is estimated at 40 percent of the construction cost per lane mile. Table B-2 provides further detail.

Table B-2: Right-of-Way Cost Factor for County and State Roads – Recent Impact Fee Studies

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		ROW	Constr.	ROW Ratio	ROW	Constr.	ROW Ratio
2012	Osceola	\$1,087,074	\$2,651,400	41%	\$1,167,598	\$2,847,800	41%
2012	Orange	\$1,080,000	\$2,400,000	45%	-	-	n/a
2012	City of Orlando	\$1,080,000	\$2,400,000	45%	\$1,305,000	\$2,900,000	45%
2012	City of Sarasota	\$620,000	\$2,400,000	26%	\$1,144,000	\$2,600,000	44%
2013	Hernando	\$811,800	\$1,980,000	41%	\$890,560	\$2,024,000	44%
2013	Charlotte	\$1,034,000	\$2,200,000	47%	\$1,128,000	\$2,400,000	47%
2014	Indian River	\$656,000	\$1,598,000	41%	\$781,000	\$1,776,000	44%
2015	Collier	\$863,000	\$2,700,000	32%	\$863,000	\$2,700,000	32%
2015	Brevard	\$708,000	\$2,023,000	35%	\$1,006,000	\$2,785,000	36%
2015	Sumter	\$945,000	\$2,100,000	45%	\$1,127,000	\$2,505,000	45%
2015	Marion	\$1,001,000	\$1,668,000	60%	\$1,236,000	\$2,060,000	60%
2015	Palm Beach	\$721,000	\$1,759,000	41%	\$1,333,000	\$3,029,000	44%
2016	Hillsborough	\$1,448,000	\$2,897,000	50%	\$1,448,000	\$2,897,000	50%
2017	St. Lucie	\$990,000	\$2,200,000	45%	\$1,395,000	\$3,100,000	45%
2017	Clay	\$954,000	\$2,385,000	40%	-	-	n/a
2018	Collier	\$1,208,000	\$3,500,000	35%	\$1,208,000	\$3,500,000	35%
Average		\$950,430	\$2,303,838	41%	\$1,131,930	\$2,635,317	43%

Source: Recent impact fee studies conducted throughout Florida

Construction

To determine the average construction cost per lane mile for roadway capacity-expansion in Martin County, recent project costs provided by staff, the Capital Improvement Program, and the MPO's 2040 Long Range Transportation Plan were reviewed. Although these documents included lane addition projects, figures did not appear to include all related cost and were not separated for various phases. Therefore, no local data roadway construction cost data was available for the mobility/multimodal fee calculation.

County Roadways

With limited local data, a review of recently bid projects (from 2012 to 2018) throughout the state of Florida was conducted. As shown in Table B-3, a total of 30 projects from 12 different counties were identified with a weighted average cost of approximately \$2.80 million per lane mile. Of these improvements, seven (7) project were located in FDOT District 4, averaging approximately \$3.34 million per lane mile. Based on this review, a county roadway cost of \$2.80 million per lane mile was used in the mobility/multimodal fee calculation.

Table B-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
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 (CR 35A) 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	S. of SR 40	N. of Peruvian Ln	2012	Bid	2 to 4	Urban	0.89	2	1.78	\$5,276,057	\$2,964,077
Palm Beach	4	Jog Rd	N. of SR 710	N. of Florida's Turnpike	2012	Bid	0 to 4	Urban	0.70	4	2.80	\$3,413,874	\$1,219,241
Palm Beach	4	West Atlantic Ave	W. of Lyons Rd	Starkey Rd	2012	Bid	2 to 4	Urban	0.80	2	1.60	\$8,818,727	\$5,511,704
Palm Beach	4	60th St N & SR 7 Ext.	E. of Royal Palm Beach Blvd	SR 7	2012	Bid	0 to 2	Urban	1.50	2	3.00	\$3,821,404	\$1,273,801
Brevard	5	Babcock St	S. of Foundation Park Blvd	Malabar Rd	2013	Bid	2 to 4	Urban	12.40	2	24.80	\$56,000,000	\$2,258,065
Collier	1	Collier Blvd (CR 951)	Golden Gate Blvd	Green Blvd	2013	Bid	4 to 6	Urban	2.00	2	4.00	\$17,122,640	\$4,280,660
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
Collier	1	Golden Gate Blvd	Wilson Blvd	Desoto Blvd	2014	Bid	2 to 4	Urban	2.40	2	4.80	\$16,003,504	\$3,334,063
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	\$6,166,000	\$2,202,143
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
Lake	5	N Hancock Rd Ext.	Old 50	Gateway Dr	2014	Bid	0/2 to 4	Urban	1.50	2/4	5.00	\$8,185,574	\$1,637,115
Polk	1	CR 655 & CR 559A	Pace Rd & N of CR 559A	N of CR 559A & SR 599	2014	Bid	2 to 4	Urban	2.60	2	5.20	\$10,793,552	\$2,075,683
Volusia	5	Howland Blvd	Courtland Blvd	N of SR 415	2014	Bid	2 to 4	Urban	2.08	2	4.16	\$11,110,480	\$2,670,788
Hillsborough	7	Citrus Park Extension	Sheldon Dr	Countryway Blvd	2015	Bid	0 to 4	Urban	2.70	4	10.80	\$46,942,585	\$4,346,536
Polk	1	Ernie Caldwell Blvd	Pine Tree Tr	US 17/92	2015	Bid	0 to 4	Urban	2.41	4	9.64	\$19,535,391	\$2,026,493
Volusia	5	LPGA Blvd	Jimmy Ann Dr/Grand Reserve	Derbyshire Rd	2016	Bid	2 to 4	Urban	0.68	2	1.36	\$3,758,279	\$2,763,440
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
Volusia	5	Howland Blvd	Providence Blvd	Elkcam Blvd	2017	Bid	2 to 4	Urban	2.15	2	4.30	\$10,850,000	\$2,523,256
Volusia	5	Orange Camp Rd	MLK Blvd	I-4 in DeLand	2017	Bid	2 to 4	Urban	0.75	2	1.50	\$10,332,000	\$6,888,000
Lake	5	CR 466A, Ph. IIIA	Poinsettia Ave	Century Ave	2018	Bid	2 to 4	Urban	0.42	2	0.84	\$3,062,456	\$3,645,781
Hillsborough	7	Van Dyke Rd	Suncoast Pkwy	Whirley Ave	2018	Estimate	2 to 4	Urban	2.05	2	4.10	\$20,000,000	\$4,878,049
Total									Count:	30	139.02	\$389,576,169	\$2,802,303
District 4 ONLY									Count:	7	21.34	\$71,199,297	\$3,336,424

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

State Roadways

A review of construction cost data for recent state roadway capacity expansion projects identified two (2) improvements in Martin County:

- CR 714/Indian St from Turnpike/Martin Downs Blvd to E. of Mapp Rd
- Kanner Hwy from S. of Pratt Whitney Rd (CR 711) to SW Jack James Dr

As shown in Table B-4, these improvements had a weighted average construction cost of approximately \$3.65 million, ranging from \$3.32 million to \$3.99 million per lane mile.

In addition to local data, a review of recently bid projects located throughout the state of Florida was conducted. As shown in Table B-4, a total of 76 projects from 33 different counties were identified with a weighted average cost of approximately \$3.84 million per lane mile (all improvements are urban-design). The FDOT District 7 Long Range Estimates¹ were also reviewed and provided an average construction cost of approximately \$4.23 million per lane mile.

Based on this review, a state roadway cost of \$3.70 million per lane mile was used in the mobility/multimodal fee calculation for state roads.

¹ This data was not available for FDOT District 4

Table B-4: Construction Cost – State Road Improvements from Martin County and Other Jurisdictions throughout Florida

County	District	Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Collier	1	SR 84 (Davis Blvd)	E. of Santa Barbara Blvd	W. of Radio Rd	2012	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	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	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	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	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	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	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	0 to 2	Urban	3.14	2	6.28	\$13,231,111	\$2,106,865
Hendry	1	SR 80	Birchwood Pkwy	Dalton Lane	2012	2 to 4	Urban	5.00	2	10.00	\$12,855,092	\$1,285,509
Hendry	1	SR 80	CR 833	US 27	2012	2 to 4	Urban	2.90	2	5.80	\$8,117,039	\$1,399,489
Lee	1	SR 739	Winkler Ave	Hanson St	2012	0 to 6	Urban	1.34	6	8.04	\$14,025,932	\$1,744,519
Seminole	5	SR 434	I-4	Rangeline Rd	2012	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	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	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	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	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	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	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	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	2 to 4	Sub-Urb	1.81	2	3.62	\$15,758,965	\$4,353,305
Lee	1	US 41 Business	Littleton Rd	SR 739	2013	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	2 to 4	Urban	3.80	2	7.60	\$22,773,660	\$2,996,534

Table B-4: Construction Cost – State Road Improvements from Martin County and Other Jurisdictions throughout Florida (Continued)

County	District	Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile	
Seminole	5	SR 46	Mellonville Ave	E. of SR 415	2016	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	4 to 6	Urban	2.35	2	4.70	\$27,752,000	\$5,904,681	
Palm Beach	4	SR 80	W. of Lion County Safari Rd	Forest Hill Blvd	2018	4 to 6	Urban	7.20	2	14.40	\$32,799,566	\$2,277,748	
Wakulla	3	SR 369 (US 19)	N. of SR 267	Leon Co. Line	2018	2 to 4	Urban	2.24	2	4.48	\$15,646,589	\$3,492,542	
St. Lucie	4	SR 713 (Kings Hwy)	S. of SR 70	SR 9 (I-95) Overpass	2018	2 to 4	Urban	3.42	2	6.84	\$45,162,221	\$6,602,664	
Citrus	7	SR 55 (US 19)	W. Jump Ct	CR 44 (W Fort Island Tr)	2018	4 to 6	Urban	4.81	2	9.62	\$50,444,444	\$5,243,705	
Miami-Dade	6	SR 847 (NW 47th Ave)	SR 860 (NW 183rd St)	N. of NW 199th St	2018	2 to 4	Urban	1.31	2	2.62	\$18,768,744	\$7,163,643	
Miami-Dade	6	SR 847 (NW 47th Ave)	N. of NW 199th St and S of NW 203 St	Premier Pkwy and N of S Snake CR Canal	2018	2 to 4	Urban	1.09	2	2.18	\$10,785,063	\$4,947,277	
Hillsborough	7	CR 580 (Sam Allen Rd)	W. of SR 39 (Paul Buchman Hwy)	E. of Park Rd	2018	2 to 4	Urban	2.02	2	4.04	\$23,444,444	\$5,803,080	
Orange	5	SR 414 (Maitland Blvd)	E. of I-4	E. of CR 427 (Maitland Ave)	2018	4 to 6	Urban	1.39	2	2.78	\$7,136,709	\$2,567,162	
Sarasota	1	SR 45A (US 41) (Venice Bypass)	Center Rd	Gulf Coast Blvd	2018	4 to 6	Urban	1.19	2	2.38	\$15,860,000	\$6,663,866	
Martin	4	Kanner Hwy	S. of Pratt Whitney Rd (CR 711)	SW Jack James Dr	2019	2 to 4	Urban	1.94	2	3.88	\$12,892,089	\$3,322,703	
Hernando	7	CR 578 (County Line Rd)	Suncoast Pkwy	US 41 @ Ayers Rd	2019	0 to 4	Urban	1.49	4	5.96	\$20,155,312	\$3,381,764	
Seminole	5	SR 46	Orange Blvd	N. Oregon St (Wekiva Section 7B)	2019	4 to 6	Urban	1.30	2	2.60	\$17,848,966	\$6,864,987	
Miami-Dade	6	SR 997 (Krome Ave)	SW 312 St	SW 232nd St	2019	2 to 4	Urban	3.64	2	7.28	\$30,374,141	\$4,172,272	
Duval	2	Jax National Cemetery Access Rd	Lannie Rd	Arnold Rd	2019	0 to 2	Urban	3.26	2	6.52	\$11,188,337	\$1,716,003	
Pasco	7	SR 52	W. of Suncoast Pkwy	E. of SR 45 (US 41)	2019	4 to 6	Urban	4.64	2	9.28	\$45,307,439	\$4,882,267	
Total									Count:	78	443.67	\$1,701,723,030	\$3,835,560
Martin County ONLY									Count:	2	7.62	\$27,828,046	\$3,651,975
Total, Excluding Martin County									Count:	76	436.05	\$1,673,894,984	\$3,838,768
District 4 ONLY									Count:	12	49.10	\$224,340,311	\$4,569,049
District 4 ONLY, Excluding Martin County									Count:	10	41.48	\$196,512,265	\$4,737,518

Source: Florida Department of Transportation Bid Tabs

Construction Engineering/Inspection

County Roadways

The CEI cost factor for county roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the CEI-to-construction cost ratios from previously completed impact studies throughout Florida. For county roadways from throughout Florida, the CEI factors ranged from three (3) percent to 17 percent with a weighted average of nine (9) percent. For purposes of this study, the CEI cost for county roads is estimated at nine (9) percent of the construction cost per lane mile. Table B-5 provides additional information.

State Roadways

The CEI cost factor for state roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the CEI-to-construction cost ratios for state road unit costs in previously completed transportation impact studies throughout Florida. For state roadways, the CEI factors ranged from 10 percent to 11 percent, with a weighted average of 11 percent. For purposes of this study, the CEI cost for state roads is estimated at 11 percent of the construction cost per lane mile. Table B-5 provides additional information.

Table B-5: CEI Cost Factor for County and State Roads – Recent Impact Fee Studies

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		CEI	Constr.	CEI Ratio	CEI	Constr.	CEI Ratio
2012	Osceola	\$265,140	\$2,651,400	10%	\$313,258	\$2,847,800	11%
2012	City of Sarasota	\$216,000	\$2,400,000	9%	\$286,000	\$2,600,000	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
2018	Collier	\$315,000	\$3,500,000	9%	\$385,000	\$3,500,000	11%
Average		\$207,596	\$2,290,100	9%	\$3,698,898	\$34,313,800	11%

Source: Recent impact fee studies conducted throughout Florida

Roadway Capacity

As shown in Table B-6, the average capacity per lane mile was based on the projects in the Martin MPO's 2040 Long Range Transportation Needs Plan. This listing of projects reflects the mix of improvements that will yield the vehicle-miles of capacity (VMC) that will be built in Martin County. The 2040 LRTP list was published in 2014 with projected impact fee revenues averaging \$3.1 million per year. Based on recent collection data provided by Martin County, the transportation impact fees are only generating approximately \$1.1 million per year. As detailed in the LRTP, the impact fee revenues make up half of the future capital funding and the 2nd local option fuel taxes account for the other half. With impact fee revenues generating less than projected annual revenues, the cost feasible improvements will not have sufficient funding. Therefore, for mobility/multimodal fee calculation purposes, the lane miles of projected County road improvements were reduced by 1/3 to account for this potential funding shortfall. The resulting weighted average capacity per lane mile of 14,600 was used in the impact fee calculation.

Table B-6: Martin MPO 2040 Long Range Transportation Plan: Moving Martin Forward – Cost Feasible Plan

Owner	Description	From	To	Improvement	Length	Lanes Added	Lane Miles Added	Section Design*	Initial Capacity	Future Capacity	Added Capacity	Vehicle Miles of Capacity Added	VMC Added per Lane Mile	
Cost Feasible Plan														
State	SR 714 (Martin Hwy)	CR 76A (Citrus Blvd)	Martin Downs Blvd	Widen from 2 to 4 Lanes	0.88	2	1.76	Urban	17,700	39,800	22,100	19,448	11,050	
County	CR 713 (High Meadow Ave)	I-95	CR 714 (Martin Hwy)	Widen from 2 to 4 Lanes	2.64	2	5.28	Urban	24,200	65,600	41,400	109,296	20,700	
County	Indian St	SR 76 (Kanner Hwy)	Willoughby Blvd	Widen from 4 to 6 Lanes	0.45	2	0.90	Urban	35,820	53,910	18,090	8,141	9,046	
County	Willoughby Blvd	Monterey Rd	SR 5 (US 1)	New 2-Lane Road	0.84	2	1.68	Urban	0	15,930	15,930	13,381	7,965	
County	Cove Rd	SR 76 (Kanner Hwy)	US 1	Widen from 2 to 4 Lanes	3.20	2	6.40	Urban	15,930	35,820	19,890	63,648	9,945	
County	Cove Rd	US 1	CR A1A	Widen from 2 to 4 Lanes	1.12	2	2.24	Urban	13,320	29,160	15,840	17,741	7,920	
County	Village Pkwy Ext.	Martin Hwy	St. Lucie County Line	New 4-Lane Road	1.00	4	4.00	Urban	0	35,820	35,820	35,820	8,955	
SIS Needs Plan														
State	SR 710 (Warfield Blvd)	Martin Powerplant	CR 609 (Allapattah Rd)	Widen from 2 to 4 Lanes	8.82	2	17.64	Urban	8,400	40,300	31,900	281,358	15,950	
State	SR 710 (Warfield Blvd)	Okeechobee/Martin Co. Line	Martin Powerplant	Widen from 2 to 4 Lanes	6.14	2	12.28	Urban	8,400	40,300	31,900	195,866	15,950	
Total (All Roads):							52.18					744,699	14,272	
County Roads:								20.50		39% (a)			248,027	12,099
State Roads:								31.68		61% (b)			496,672	15,678
New Road Construction:								5.68		11% (c)			49,201	8,662
Lane Addition:								46.50		89% (d)			695,498	14,957
Adjusted Distribution ⁽¹⁾														
County Roads:								13.67		30% (e)			165,351	12,096
State Roads:								31.68		70% (f)			496,672	15,678
												VMC Added per Lane Mile:	14,600	

Source: Martin MPO 2040 Long Range Transportation Cost Feasible Plan

1) Given that transportation impact fee revenues collected have been one third of what was estimated in the 2040 LRTP, the associated County road lane miles (and vehicle-miles of capacity added) projected in 2040 LRTP were reduced by approximately 1/3.

Transit Capital Costs

In the case of mobility/multimodal fees, 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 B-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. An optimistic load factor of 30 percent was assumed for the transit model, resulting in a conservative approach.

Next, Table B-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 19-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 B-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 B-8) 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 two (2) percent and five (5) 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 Martin MPO's 2040 Long Range Transportation Cost Feasible Plan. As shown, the plan calls for a 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 3.13 percent. Essentially, adding transit does not have a significant effect on 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 B-7 and B-8 assumes that transit-miles and road-miles will be added to the system at the same rate. If the County builds more transit-miles, this would increase the bus traffic on existing roads, adding more stops, higher stop frequency, and create 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 3.13 percent change calculated in Table B-8 would increase to approximately 6.26 percent. The annual construction figures for transit-miles and road-miles should be tracked by the County and adjusted for in subsequent mobility/multimodal fee update studies.

Table B-7: Mobility/Multimodal Cost per Person-Mile of Capacity

Input	Local Transit	
Transit Person-Miles of Capacity Calculation		
Vehicle Capacity ⁽¹⁾	42	1) Source: Local transit is assumed to have 30 seats with a 40 percent standing room capacity equivalent
Number of Vehicles (20% fleet margin) ⁽²⁾	4	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⁾	12	3) Source: Assumption based on current Marty routes
Cycles/Hour (aka Peak Vehicles) ⁽⁴⁾	2.00	4) Headway time (Item 6) divided by 60
Cycles per Day ⁽⁵⁾	24	5) Service span (Item 3) multiplied by the cycles/hour (Item 4)
Headway Time (minutes) ⁽⁶⁾	30	6) Source: Assumption based on current Marty routes
Speed (mph) ⁽⁷⁾	15	7) Source: Integrated National Transit Database Analysis System (INTDAS). 6-yr average
Round Trip Length (miles) ⁽⁸⁾	19.0	8) Source: Average trip length of current Marty routes
Cycle Time (minutes) ⁽⁹⁾	76	9) Round trip length (Item 8) divided by speed (Item 7) multiplied by 60
Total Person-Miles of Capacity ⁽¹⁰⁾	19,152	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⁾	5,746	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⁾	\$480,512	15) Source: 2019 Marty Transit Development Plan (2020-2029)
Simple Bus Stop ⁽¹⁶⁾	\$10,300	16) Source: 2019 Marty Transit Development Plan (2020-2029)
Sheltered Bus Stop ⁽¹⁷⁾	\$36,000	17) Source: 2019 Marty Transit Development Plan (2020-2029)

Table B-8: Mobility/Multimodal Fee: Transit Component Model

Item	New Road Construction		Lane Additions	
	Roadway	Transit	Roadway	Transit
Roadway Characteristics:				
Roadway Cost per Mile ⁽¹⁾	\$11,080,000		\$11,080,000	
Roadway Segment Length (miles) ⁽²⁾	19.0		19.0	
Roadway Segment Cost ⁽³⁾	\$210,520,000	PMC	\$210,520,000	PMC
Average Capacity Added (per mile) ⁽⁴⁾	29,200	37,960	29,200	37,960
VMC/PMC Added (entire segment) ⁽⁵⁾	554,800	721,240	554,800	721,240
Roadway Cost per VMC/PMC ⁽⁶⁾	\$379.45	\$291.89	\$379.45	\$291.89
Transit Capacity:				
Adjustment for Bus Blockage ⁽⁷⁾	3.2%	-	1.6%	-
VMC/PMC Added (transit deduction) ⁽⁸⁾	17,754	23,080	8,877	11,540
VMC/PMC Added (less transit deduction) ⁽⁹⁾	537,046	698,160	545,923	709,700
PMC Added (transit addition ONLY) ⁽¹⁰⁾		5,746		5,746
Net PMC Added (transit effect included) ⁽¹¹⁾		703,906		715,446
Road/Transit Cost per PMC (Road Capital) ⁽¹²⁾		\$299.07		\$294.25
Transit Infrastructure:				
Buses Needed ⁽¹³⁾	4	\$1,922,048	4	\$1,922,048
Stops per mile (both sides of street) ⁽¹⁴⁾	3	\$1,174,200	3	\$1,174,200
Shelters per mile (both sides of street) ⁽¹⁵⁾	1	\$1,368,000	1	\$1,368,000
Total infrastructure ⁽¹⁶⁾		\$4,464,248		\$4,464,248
Multi-Modal Cost per PMC:				
Road/Transit Cost per PMC ⁽¹⁷⁾		\$305.42		\$300.49
Percent Change ⁽¹⁸⁾		4.64%		2.95%
Weighted Multi-Modal Cost per PMC:				
Lane Mile Distribution ⁽¹⁹⁾		11%		89%
Weighted Roadway Cost per PMC ⁽²⁰⁾		\$32.11		\$259.78
Weighted Road/Transit Cost per PMC ⁽²¹⁾		\$33.60		\$267.44
Weighted Average Multi-Modal Cost per PMC:				
Weighted Average Roadway Cost per PMC (new road construction and lane additions) ⁽²²⁾				\$291.89
Weighted Average Road/Transit Cost per PMC (new road construction and lane additions) ⁽²³⁾				\$301.04
Percent Change ⁽²⁴⁾				3.13%

Source:

- 1) Source: Table 3, adjusted to cost "per mile"
- 2) Source: Average length of Marty route
- 3) Roadway cost per mile (Item 1) multiplied by the roadway segment length (Item 2)
- 4) Source: Table 4, 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 1.30 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 B-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 B-7, Item 2) multiplied by the vehicle cost (see Table B-7, Item 15)
- 14) Stops per mile (3) multiplied by the roadway segment length (Item 2) multiplied by the cost per stop (Table B-7, Item 16)
- 15) Shelters per mile (1) multiplied by the roadway segment length (Item 2) multiplied by the cost per shelter (Table B-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: Appendix B, Table B-6, Items (c) and (d). Lane mile distribution of new road construction versus lane addition
- 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 C

Credit Component Calculations

Appendix C: Credit Component

This appendix presents the detailed calculations for the credit component. Currently, in addition to the capital support that ultimately results from State fuel tax revenue, Martin County also receives financial benefit from several other funding sources. Of these, the fuel taxes collected in Martin 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 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 (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 (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 ratio, or by using a formula contained in the Florida Statutes.

Each year, the Florida Legislature’s Office of Economic and Demographic Research 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 2019-20 data represent projected fuel tax distributions to Martin County for the current fiscal year. In the table, the fuel tax revenue data are used to calculate the value per penny (per gallon of fuel) that should be used to estimate the “equivalent pennies” of other revenue sources. Table C-1 shows the distribution per penny for each of the fuel levies, and then the calculation of the weighted average for the value of a penny of fuel tax. The weighting procedure takes into account the differing amount of revenues generated for the various types of gas tax revenues. The weighted average figure of approximately \$834,000 estimates the annual revenue that one penny of gas tax generates in Martin County.

Table C-1: Estimated Fuel Tax Distributions Allocated to Capital Program of Martin County & Municipalities, FY 2019-20(1)

Tax	Amount of Levy per Gallon	Total Distribution	Distribution per Penny
Constitutional Fuel Tax	\$0.02	\$1,990,850	\$995,425
County Fuel Tax	\$0.01	\$875,825	\$875,825
9th Cent Fuel Tax	\$0.01	\$898,706	\$898,706
1st Local Option (1-6 cents)	\$0.06	\$5,056,332	\$842,722
2nd Local Option (1-5 cents)	\$0.05	\$3,690,926	\$738,185
Total	\$0.15	\$12,512,639	
Weighted Average per Penny⁽²⁾			\$834,176

1) Source: Florida Legislature’s Office of Economic and Demographic Research; Local Government Financial Information Handbook

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

A revenue credit for the annual expenditures on transportation capacity expansion projects in Martin County is presented below. The components of the credit are as follows:

- County “cash” funding
- County debt service
- State funding

The annual expenditures from each revenue source are converted to gas tax pennies to be able to create a connection between travel by each land use and tax revenue contributions.

County “Cash” Funding

As shown in Table C-2, when capacity funding for multi-modal projects is considered, Martin County uses 1.4 equivalent pennies from non-impact fee funding for projects such as new road construction, lane additions, transit lanes, sidewalks, bike lanes, and intersection improvements. Note that CIP projects using State funds are detailed in the “State Funding” section of this appendix.

Table C-2: County Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽²⁾	Equivalent Pennies ⁽³⁾
Martin County CIP FY 2020-2024 ⁽¹⁾	\$6,031,759	5	\$834,176	\$0.014
Total				\$0.014

1) Source: Table C-5

2) Source: Table C-1

3) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) multiplied by 0.01

In addition, the County allocates an equivalent credit of 1.7 pennies for debt service associated with the Gas Tax Refunding Revenue Note, Series 2014, as shown in Table C-3. This credit is given for only the non-impact fee portion used for transportation capacity-expansion improvements. For the mobility/multimodal fee calculation, it was assumed that all debt funds are allocated to transportation capacity-expansion improvements.

Table C-3: County Debt Service Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽²⁾	Equivalent Pennies ⁽³⁾
Gas Tax Refunding Revenue Note, Series 2014 ⁽¹⁾	\$10,179,114	7	\$834,176	\$0.017
Total				\$0.017

1) Source: Table C-6

2) Source: Table C-1

3) Cost of projects divided by number of years divided by revenue from 1 penny (Item 4) multiplied by 0.01

State Funding

In the calculation of the equivalent pennies of gas tax from the State, expenditures on transportation capacity expansion spanning a 16-year period (from FY 2009 to FY 2024) were reviewed. This period represents past FDOT Work Program expenditures from FY 2009-2019 and also includes the projected FDOT Work Program expenditures from 2020 to 2024. From these, a list of improvements was developed, including lane additions, new road construction, intersection improvements, interchanges, traffic signal projects, sidewalks, bike lanes, transit, and other capacity-addition projects. The use of a 16-year period, for purposes of developing a State credit for mobility/multimodal capacity expansion projects, results in a stable credit, as it accounts for the volatility in FDOT spending in the county over short periods of time.

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

- FY 2009-2014 work plan equates to 8.9 pennies
- FY 2015-2019 work plan equates to 26.3 pennies
- FY 2020-2024 work plan equates to 10.9 pennies

The combined weighted average over the 16-year period of state expenditure for capacity-adding mobility/multimodal projects results in a total of 15.0 equivalent pennies. Table C-4 documents this calculation. The specific projects that were used in the equivalent penny calculations are summarized in Table C-7.

Table C-4: State Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽⁴⁾	Equivalent Pennies ⁽⁵⁾
Projected Work Program (FY 2020-2024) ⁽¹⁾	\$45,633,794	5	\$834,176	\$0.109
Historical Work Program (FY 2015-2019) ⁽²⁾	\$109,784,519	5	\$834,176	\$0.263
Historical Work Program (FY 2009-2014) ⁽³⁾	<u>\$44,730,661</u>	<u>6</u>	\$834,176	\$0.089
Total	\$200,148,974	16	\$834,176	\$0.150

1) Source: Table C-7

2) Source: Table C-7

3) Source: Table C-7

4) Source: Table C-1

5) Cost of projects divided by number of years divided by revenue from 1 penny (Item 4) multiplied by 0.01

Table C-5: Martin County Capital Improvement Program, FY 2020

Project #	Project Name	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
Public Transportation							
TBD	Bus Acquisition (Replacement & Expansion)	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$2,250,000
Roads							
101603	Salerno Rd - SE Cable Dr Turn Lane	\$302,744	\$0	\$0	\$0	\$0	\$302,744
101105	Ocean Blvd Sidewalk	\$0	\$0	\$0	\$500,000	\$0	\$500,000
101778	Urban Service District Dirt Road Paving	\$0	\$0	\$0	\$350,000	\$350,000	\$700,000
101104	NW Dixie Highway Sidewalk	\$404,015	\$0	\$0	\$0	\$0	\$404,015
1016	Intersection Improvements	\$375,000	\$375,000	\$375,000	\$375,000	\$375,000	\$1,875,000
Total - Mobility/Multimodal		\$1,531,759	\$825,000	\$825,000	\$1,675,000	\$1,175,000	\$6,031,759

Source: Martin County

Table C-6: Martin County Gas Tax Refunding Revenue Note, Series 2014

Year	Principal	Interest	Total Debt Service
FY 2020	\$2,234,000	\$184,745	\$2,418,745
FY 2021	\$2,284,000	\$320,119	\$2,604,119
FY 2022	\$2,334,000	\$269,642	\$2,603,642
FY 2023	\$2,386,000	\$218,061	\$2,604,061
FY 2024	\$2,439,000	\$165,330	\$2,604,330
FY 2025	\$2,493,000	\$111,428	\$2,604,428
FY 2026	\$2,549,000	\$56,333	\$2,605,333
Total	\$16,719,000	\$1,325,658	\$18,044,658
Non-Impact Fee Portion (56%)			\$10,105,008
Payments Remaining			7
Annual Average Payment			\$1,443,573

Source: Martin County

Table C-7: Martin County FDOT Work Program

Item	Item Description	Work Mix Description	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	FY 2024	Total	
230978-2	CR-714/INDIAN ST FROM TPK/MARTIN DOWNS BV TO W. OF MAPP ROAD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$1,115,597	\$756,314	\$17,898,762	\$142,212	\$858,860	\$85,310	\$567	\$569	\$0	\$0	\$0	\$0	\$0	\$0	\$20,858,191
230978-3	CR-714/INDIAN ST FROM E. OF KANNER HIGHWAY TO E. OF WILLOUGHBY BLVD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$39,764	\$318	\$38	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,120
404741-1	MARTIN CO JPA SIGNAL MAINTENANCE & OP ON SHS	TRAFFIC SIGNALS	\$92,572	\$96,622	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$189,194
409700-2	MARTIN CO SIGNAL SYS ENHANCED OPERATIONS	TRAFFIC SIGNAL UPDATE	\$134,000	\$136,000	\$143,000	\$144,814	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$557,814
413493-1	MARTIN COUNTY SECTION 5307 FORMULA FUNDS	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$947,902	\$972,027	\$897,195	\$0	\$4,676,700	\$905,000	\$905,000	\$905,000	\$905,000	\$905,000	\$905,000	\$12,018,824
413733-1	MARTIN MPO SECTION 5303 TRANSIT PLANNING	PTO STUDIES	\$44,156	\$0	\$60,428	\$122,748	\$59,316	\$36,071	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$322,719
413733-2	MARTIN MPO SECTION "5305D" TRANSIT PLANNING	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$161,821	\$65,710	\$66,663	\$68,470	\$65,390	\$0	\$0	\$0	\$0	\$0	\$428,054
413733-3	MARTIN MPO SECTION "5305D" TRANSIT PLANNING	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,570	\$53,117	\$51,570	\$51,570	\$0	\$207,827
416140-1	FERNDAL AVENUE FROM GARDEN STREET TO IRIS STREET	SIDEWALK	\$34,595	\$2,607	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37,202
419252-2	SR-710/WARFIELD BL. FR MARTIN FPL PWR PLANT TO CR609/SW ALLAPATTAH RD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$1,505,414	\$282,914	\$75,766	\$164,870	\$96,770	\$15,043	\$941,939	\$462,105	\$30,903	\$0	\$0	\$0	\$0	\$0	\$3,575,724
419344-1	SR-710/WARFIELD BLVD FROM MARTIN/OKEE CO/LINE TO CR-609/ALLAPATTAH RD	PD&E/EMO STUDY	\$71,563	\$60,387	\$64,444	\$31,801	\$2,503	\$2,481	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$233,179
419348-2	SR-710/WARFIELD BLVD FROM EAST OF SR-76 TO PBC/MARTIN CO LINE	PD&E/EMO STUDY	\$2,375	\$1,059	\$21,371	\$541	\$18,267	\$14,225	\$87	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57,925
419348-3	SR-710/WARFIELD BLVD FROM CR-609/ALLAPATTAH RD TO EAST OF SR-76	PD&E/EMO STUDY	\$705,667	\$53,414	\$36,518	\$29,168	\$23,093	\$22,395	\$1,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$871,605
419669-1	WILLOUGHBY BLVD FROM SR-714/MONTEREY RD TO SR-5/US-1 FEDERAL HWY	NEW ROAD CONSTRUCTION	\$0	\$0	\$0	\$0	\$81,991	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,991
419669-3	WILLOUGHBY BLVD FROM SR-714/MONTEREY RD TO SR-5/US-1/FEDERAL HWY	PD&E/EMO STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$505,000	\$4,565,000	\$15,000	\$0	\$5,085,000
422641-1	SR-76/KANNER HWY FROM WEST OF CR-711 TO EAST OF COVE ROAD	ADD LANES & RECONSTRUCT	\$1,256,123	\$40,292	\$23,944	\$18,162	\$18,691	\$5,466	\$783	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,363,461
422641-2	SR-76/KANNER HWY FROM S OF CR-711/PRATT WHITNEY RD TO SW JACK JAMES DR	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$521	\$121,319	\$178,792	\$108,404	\$0	\$79,952	\$14,709,119	\$836,285	\$10,260	\$10,530	\$0	\$0	\$0	\$0	\$16,055,182
422641-3	SR-76/KANNER HWY FROM LOST RIVER ROAD TO MONTEREY ROAD	ADD LANES & RECONSTRUCT	\$0	\$0	\$8,874	\$2,521,609	\$261,100	\$141,035	\$23,534,425	\$4,900,150	\$2,640,970	\$145,157	\$436,525	\$0	\$0	\$0	\$0	\$0	\$0	\$34,589,845
423262-1	MARTIN COUNTY ATMS	ADV TRAVELER INFORMATION SYSTM	\$500,000	\$478,174	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$978,174
423529-1	MARTIN CO WIDE BUS SHELTERS @ 4 LOCATIONS	PUBLIC TRANSPORTATION SHELTER	\$0	\$400,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$400,000
423865-1	PALM TRAN PARK & RIDE LOT	PARK AND RIDE LOTS	\$1,085,351	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,085,351
425263-2	SEABRANCH EAST COAST GREENWAY, FROM SE GRAFTON AVE TO SEABRANCH PRESER	BIKE LANE/SIDEWALK	\$0	\$208,157	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$208,157
425263-3	SEABRANCH EAST COAST GREENWAY FROM SEABRANCH PRESERVE TO PECK LAKE PK	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$583,893	\$1,021	\$5,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$590,314
425773-1	SR-5/US-1 FROM N. OF WESTMORELAND TO ST LUCIE CO/LINE	SIDEWALK	\$0	\$17,921	\$765	\$14,477	\$67,402	\$78	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,643
426252-1	SR-707 FROM 320FT S OF NW WRIGHT BLVD TO 320 FT N OF NW WRIGHT BLVD	ADD RIGHT TURN LANE(S)	\$0	\$155,410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155,410
426402-2	ARRA SECTION 5307 MARTIN CO PORT ST. LUCIE UZA	CAPITAL FOR FIXED ROUTE	\$0	\$1,199,564	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,199,564
427394-1	INDIAN RIVER DRIVE FR INDIAN RIVERSIDE PK N TO DIXIE HWY INTERSECTION	SIDEWALK	\$0	\$156,597	\$1,489	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$158,086
427395-1	POINCIANA GARDENS FROM US-1/SE POINCIANA LN TO SE LONGVIEW	SIDEWALK	\$0	\$83,533	\$599	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$84,132
427396-1	RUHNKE STREET FROM WILLOUGHBY BLVD TO ASTER LANE	SIDEWALK	\$0	\$104,118	\$788	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$104,906
427397-1	SE COMMERCE AVENUE FROM INDIAN STREET TO MONROE STREET	SIDEWALK	\$0	\$149,517	\$16,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,026
427664-1	PALM CITY CRA SIDEWALKS	SIDEWALK	\$0	\$0	\$0	\$2,375	\$149,774	\$2,943	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155,092
427803-1	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPS ON SHS	TRAFFIC SIGNALS	\$0	\$0	\$106,957	\$113,314	\$116,513	\$117,848	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$454,632
427803-2	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPERATIONS ON STATE HWY SYSTEM	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$124,260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$124,260
427803-3	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPS ON STATE HWY SYSTEM	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$228,456	\$331,125	\$341,873	\$356,200	\$364,822	\$0	\$0	\$0	\$0	\$0	\$1,622,476
427803-5	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPS ON STATE HWY SYSTEM	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$374,705	\$384,858	\$395,249	\$407,107	\$0	\$1,561,919
431646-1	CR-707/DIXIE HWY FR. SOUTH OF FLORIDA ST. TO NORTH OF SE 5TH ST.	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$909	\$282,042	\$1,922	\$128	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$285,001
431649-1	CR-A1A/SE DIXIE HWY. FROM US-1 TO SATURN STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$1,717	\$355,534	\$7,673	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$364,924
431730-1	INDIANTOWN CONNECTOR SIDEWALKS	SIDEWALK	\$0	\$0	\$0	\$0	\$2,596	\$689,818	\$4,399	\$3,420	\$1,517	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$701,750
432705-1	SR-710/SW WARFIELD BLVD. FROM E. OF SR-76 TO PALM BEACH/MARTIN CO LINE	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$1,111,636	\$56,515	\$1,261,198	\$31,490,825	\$983,950	\$6,320,297	\$0	\$0	\$0	\$0	\$0	\$0	\$41,224,421
432707-1	SR-710/BEE LINE HWY FROM MP 2.0 TO W. OF SW FOX BROWN RD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$581,013	\$7,795,676	\$109,321	\$159,827	\$145,678	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,791,540
433170-1	BAKER RD IMPROVEMENTS FROM NW GREEN RIVER PARKWAY TO SE BRAILLE PLACE	SIDEWALK	\$0	\$0	\$0	\$0	\$1,328	\$3,891	\$358,337	\$90,282	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$453,838
433349-1	SR-A1A AT SEWALL'S POINT ROAD	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$23,097	\$31,268	\$597,362	\$60,241	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$711,968
434377-1	NEW FREEDOM VOLUNTEER R DRIVER PROGRAM MARTIN COUNTY	PURCHASE VEHICLES/EQUIPMENT	\$0	\$0	\$0	\$0	\$136,565	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$136,565
434661-1	MARTIN COUNTY SECTION 5339 CAPITAL FOR BUS & BUS FACILITIES	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$97,545	\$97,572	\$97,900	\$0	\$234,128	\$98,000	\$98,000	\$98,000	\$98,000	\$98,000	\$98,000	\$1,017,145
435137-1	SR-714/MARTIN DOWNS AT CITRUS BLVD	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$151	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$151
435413-1	MAPP RD. FROM SW MARTIN HIGHWAY TO MARTIN DOWNS BLVD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,221	\$276,898	\$880	\$3,953	\$0	\$0	\$0	\$0	\$0	\$0	\$284,952
435727-1	MARTIN COUNTY SECTION 5316 JARC GRANT	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$94,622	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$94,622
436861-1	SE KINDRED STREET/SE JOHNSON AVE FROM SOUTH COLORADO TO SR-5/US-1	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,019	\$358,143	\$26,007	\$2,442	\$0	\$0	\$0	\$0	\$0	\$0	\$387,611
436869-1	SR-A1A FROM EAST OF LYONS BRIDGE TO SR-732/JENSEN BEACH BLVD	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$370,259	\$124,322	\$677,717	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,172,298
436870-1	SR-714/SW MARTIN HWY FROM CITRUS BLVD TO SW MARTIN DOWNS BLVD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$428,872	\$2,086,200	\$623,579	\$1,316,444	\$1,032,397	\$22,448,282	\$0	\$0	\$0	\$0	\$27,935,774
436967-1	SR-5/US-1 NORTH OF NW BRITT ROAD	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$190,995	\$2,553	\$25,106	\$0	\$489,406	\$0	\$0	\$0	\$0	\$0	\$708,060
438125-1	CR-708/SE BRIDGE ROAD FROM SE FLORA AVE TO SE PLANDOME DR	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,015	\$308,777	\$7,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$316,792
438345-2	SR-5/US-1 @ SW JOAN JEFFERSON WAY	TRAFFIC ENGINEERING STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$407,724	\$19,781	\$3,000	\$0	\$335,000	\$0	\$0	\$0	\$765,505
438346-1	SR-714/SE MONTEREY RD FROM KINGSWOOD TER TO EAST OCEAN BLVD	TRAFFIC ENGINEERING STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$103,000	\$0	\$0	\$350,000	\$0	\$0	\$453,000
438346-2	SE OCEAN BLVD FROM WEST OF SE HOSPITAL AVE TO SE PALM BEACH ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$0	\$532,697	\$0	\$0	\$537,697
438524-1	MARTIN COUNTY SERVICE DEVELOPMENT STUART- TRAM PURCHASE	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,000
439979-1	PORT SALERNO ELEMENTARY SIDEWALKS VARIOUS LOCATIONS	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$433,024	\$0	\$0	\$0	\$0		

Table C-8: Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel

Travel			
Vehicle Miles of Travel (VMT) @			
	22.3	6.5	
Other Arterial Rural	320,839,000,000	46,784,000,000	367,623,000,000
Other Rural	302,342,000,000	31,207,000,000	333,549,000,000
Other Urban	1,566,682,000,000	95,483,000,000	1,662,165,000,000
Total	2,189,863,000,000	173,474,000,000	2,363,337,000,000

Percent VMT	
@ 22.3 mpg	@ 6.5 mpg
87%	13%
91%	9%
94%	6%
93%	7%

Fuel Consumed			
	Gallons @ 22.3 mpg	Gallons @ 6.5 mpg	
Other Arterial Rural	14,387,399,103	7,197,538,462	21,584,937,565
Other Rural	13,557,937,220	4,801,076,923	18,359,014,143
Other Urban	70,254,798,206	14,689,692,308	84,944,490,514
Total	98,200,134,529	26,688,307,693	124,888,442,222

Total Mileage and Fuel	
2,363,337	miles (millions)
124,888	gallons (millions)
18.92	mpg

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2017*, Section V, Table VM-1 Annual Vehicle Distance Traveled in Miles and Related Data - 2017 by Highway Category and Vehicle Type <http://www.fhwa.dot.gov/policyinformation/statistics.cfm>

Table C-9: Annual Vehicle Distance Travelled in Miles and Related Data – 2017(1) By Highway Category and Vehicle Type

Published March 2019										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	
2017	Motor-Vehicle Travel: (millions of vehicle-miles)									
2017	Interstate Rural	142,445	1,128	1,775	44,928	10,103	52,171	187,373	62,274	252,550
2017	Other Arterial Rural	228,664	2,661	2,109	92,175	16,814	29,970	320,839	46,784	372,393
2017	Other Rural	213,923	2,728	1,986	88,419	16,563	14,644	302,342	31,207	338,262
2017	All Rural	585,032	6,517	5,870	225,522	43,480	96,785	810,554	140,265	963,206
2017	Interstate Urban	400,339	2,596	2,628	99,803	18,617	43,228	500,142	61,844	567,210
2017	Other Urban	1,235,430	11,036	8,730	331,253	54,006	41,478	1,566,682	95,483	1,681,932
2017	All Urban	1,635,769	13,632	11,358	431,056	72,622	84,705	2,066,824	157,328	2,249,142
2017	Total Rural and Urban ⁽⁵⁾	2,220,801	20,149	17,227	656,578	116,102	181,490	2,877,378	297,593	3,212,347
2017	Number of motor vehicles registered ⁽²⁾	193,672,370	8,715,204	983,231	56,880,878	9,336,998	2,892,218	250,553,248	12,229,216	272,480,899
2017	Average miles traveled per vehicle	11,467	2,312	17,521	11,543	12,435	62,751	11,484	24,335	11,789
2017	Person-miles of travel ⁽⁴⁾ (millions)	3,709,919	23,382	365,220	1,106,303	116,102	181,490	4,816,223	297,593	5,502,417
2017	Fuel consumed (thousand gallons)	91,712,165	458,429	2,350,323	37,466,749	15,599,855	30,363,561	129,178,914	45,963,416	177,951,081
2017	Average fuel consumption per vehicle (gallons)	474	53	2,390	659	1,671	10,498	516	3,758	653
2017	Average miles traveled per gallon of fuel consumed	24.2	44.0	7.3	17.5	7.4	6.0	22.3	6.5	18.1
<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.</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 wheelbase.</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) Starting with 2009 VM-1, vehicle occupancy is estimated by the FHWA from the 2009 National Household Travel Survey (NHTS) and the annual R.L. Polk Vehicle registration data; 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 D

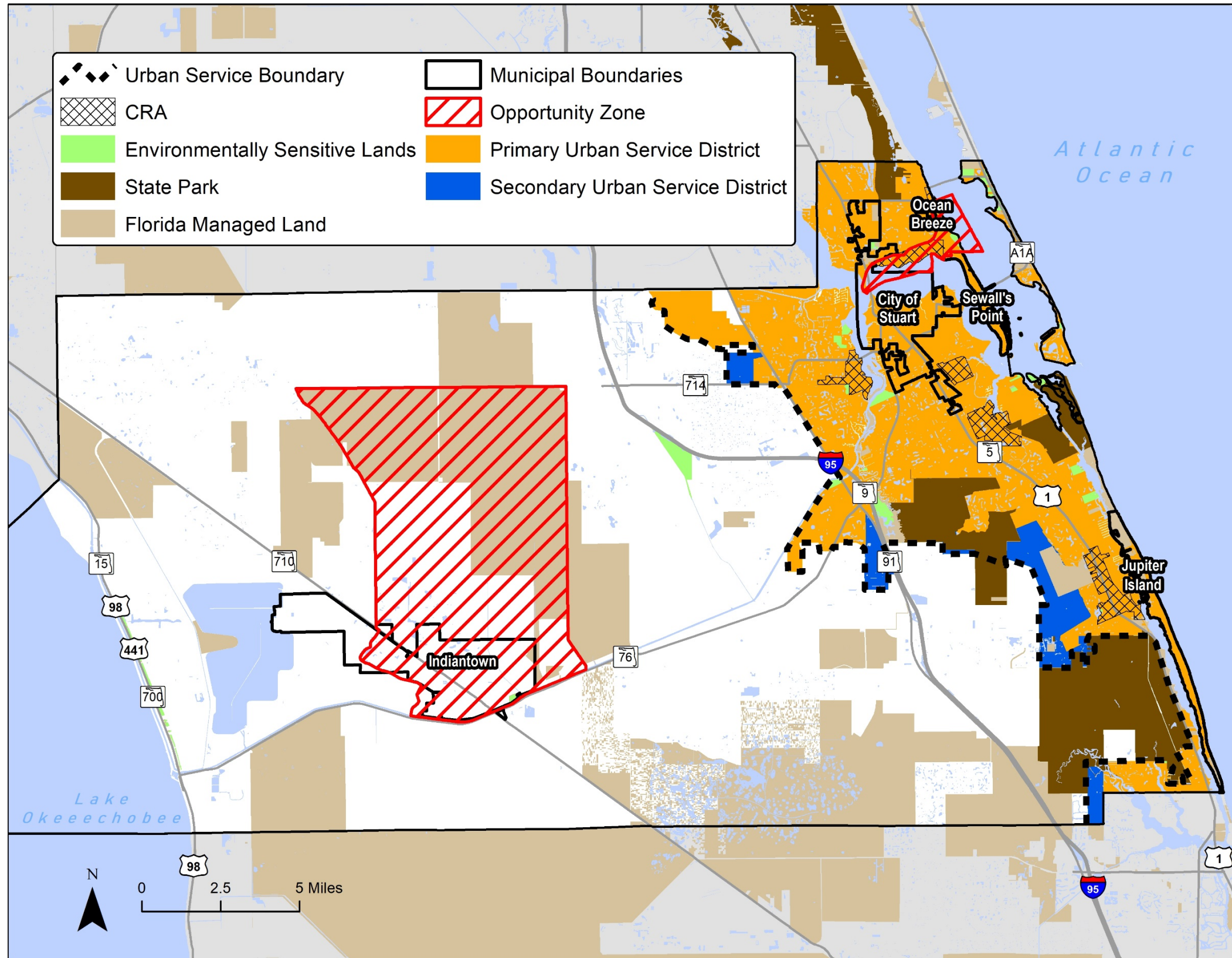
Geographic Variation

Appendix D: Geographic Variation

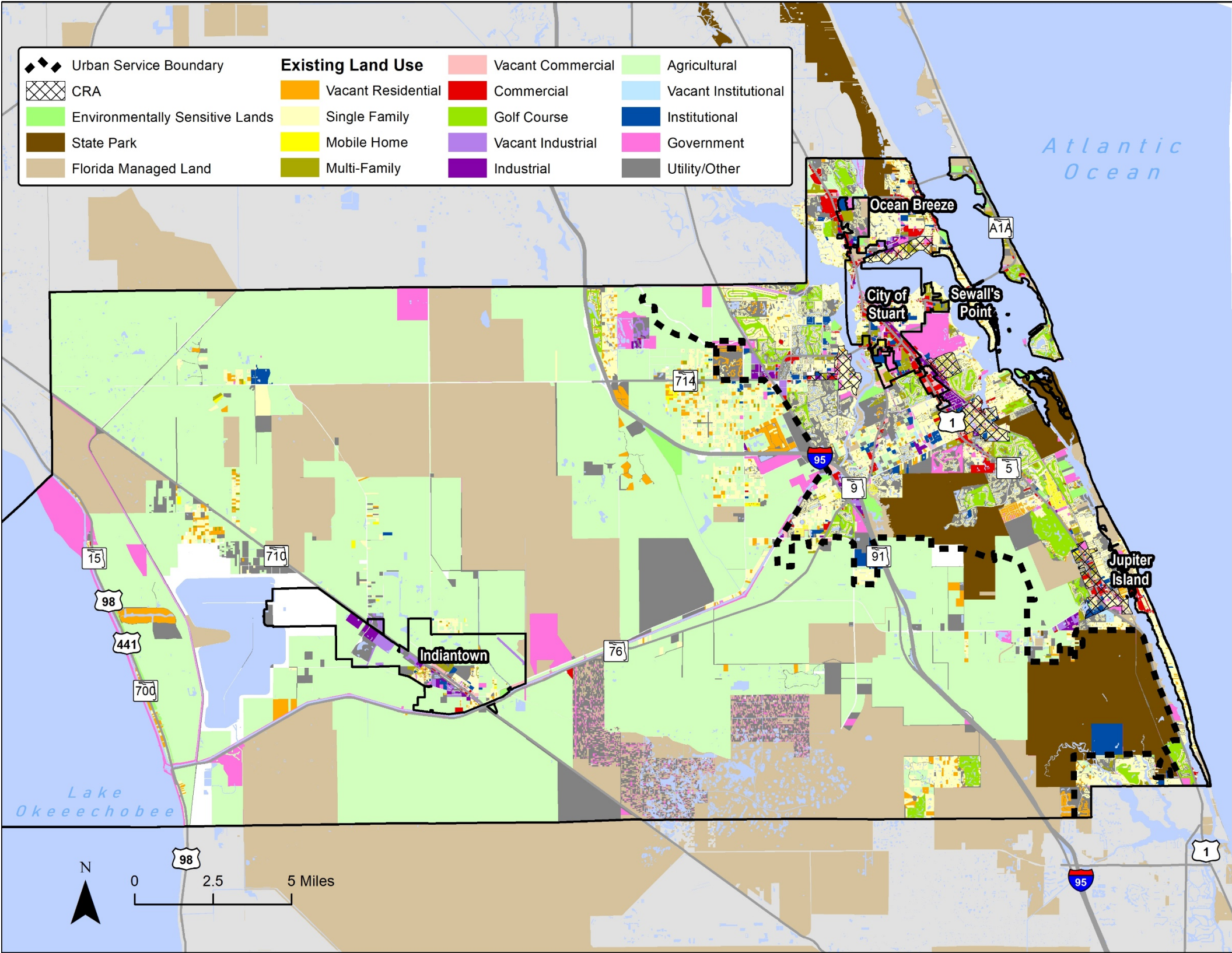
This study evaluated whether different fee structures may be appropriate within subareas of Martin County. As shown in the following maps the more developed portions of the county are located within the urban service boundary (USB) while the remaining parts are mostly rural. More specifically, the following maps are included:

- Map D-1 presents the location of municipalities, existing USB, and State owned/managed land and/or environmental land that is not likely to be developed. As presented, most of the development is within the USB. Map 1 also includes the Community Redevelopment Areas.
- Map D-2 includes density levels based on existing land use characteristics, which supports the fact that rural area has limited density while more dense areas are located within the USB.
- Map D-3 shows the population density per acre in urban/suburban vs. rural area. As shown, the density in the urban area is three times the density exhibited in the rural area.
- Map D-4 presents the location of pedestrian and bicycle crashes, which are primarily within the USB as well, indicating that the mix of land uses available in this area results in a higher level of non-auto travel. A mobility/multimodal fee that can be used for stand-alone bicycle lanes/amenities and sidewalks would be beneficial in this area.
- Map D-5 presents the County's and State's transportation network and current achieved LOS in each district. As shown, the rural district is enjoying better travel conditions, measured in terms of speed of travel. When travel conditions are measured in terms of vehicles/capacity (V/C) ratios, the rural area averages a V/C ratio of 0.32 while the urban area averages 0.59, suggesting still efficient travel conditions, but more congestion in the urban area. A V/C of 0.32 suggests an average speed of higher than 35 miles per hour while a V/C of 0.59 suggests an average speed of 28 miles per hour.
- Map D-6 shows the 2040 Long Range Transportation Plans Cost Feasible Plan improvements. As shown, all County funded (motorized) improvements are located within the urban service boundary.
- Map D-7 shows the proposed fee district boundaries which divides the county into two areas: rural and urban. The urban area includes the current USB boundary with the remaining area comprise the rural district. In the case of Indiantown, it may be appropriate to use the urban rate even though the Village is located in rural fee district.

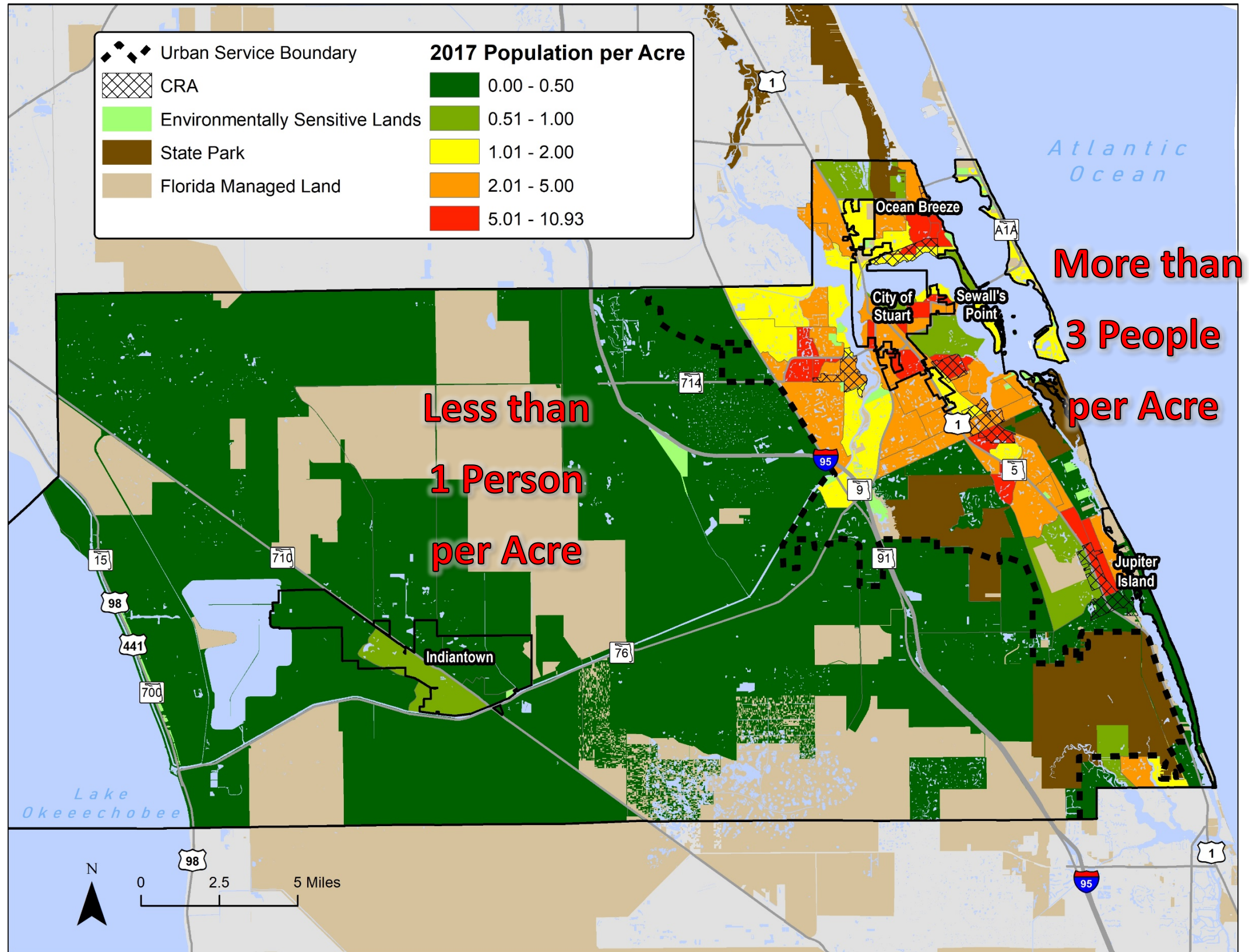
Map D-1: Martin County USB, Municipalities, and CRAs



Map D-2: Existing Land Use



Map D-3: Population Density by Subarea



Map D-4: Bicycle and Pedestrian Crashes

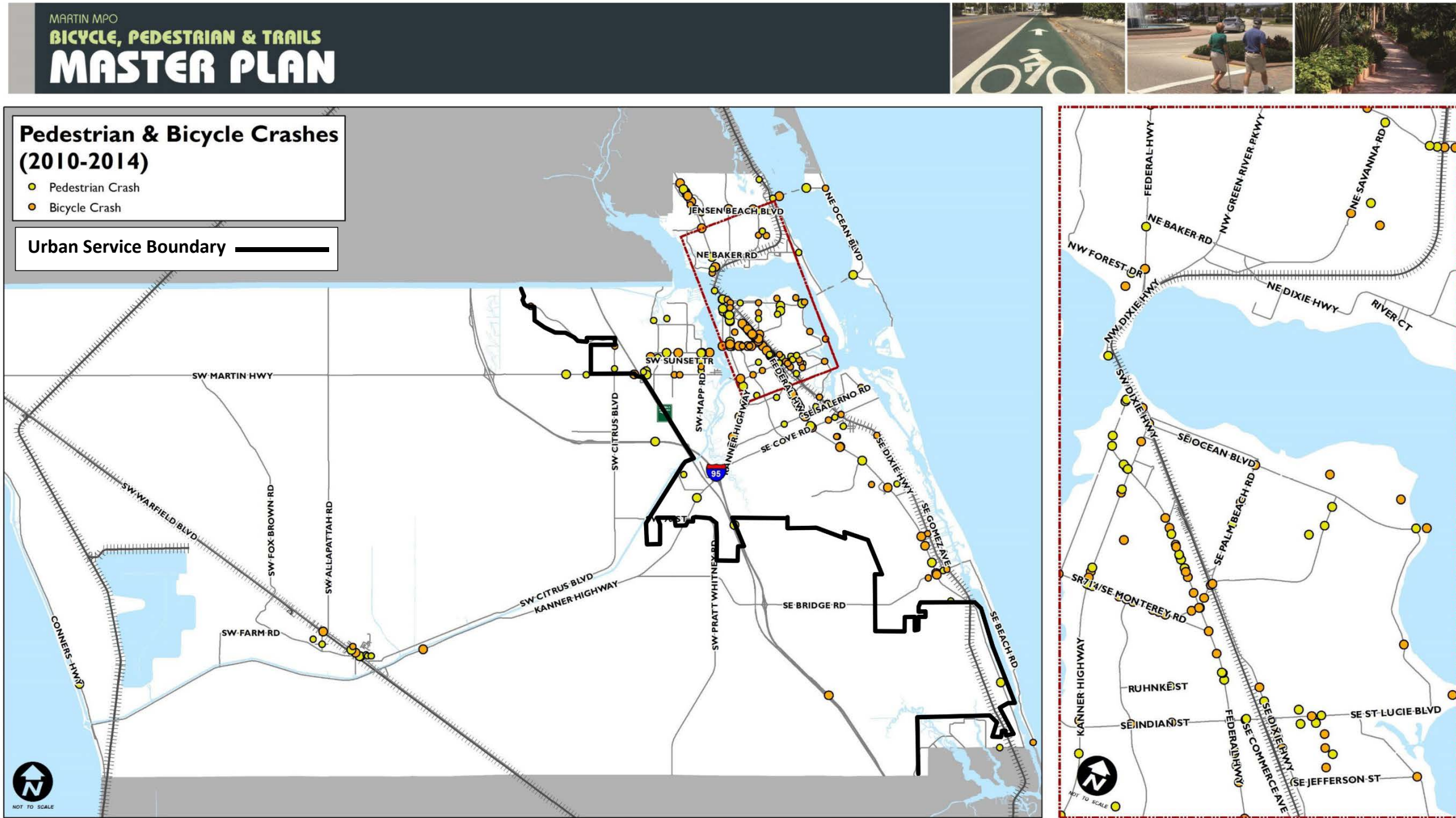
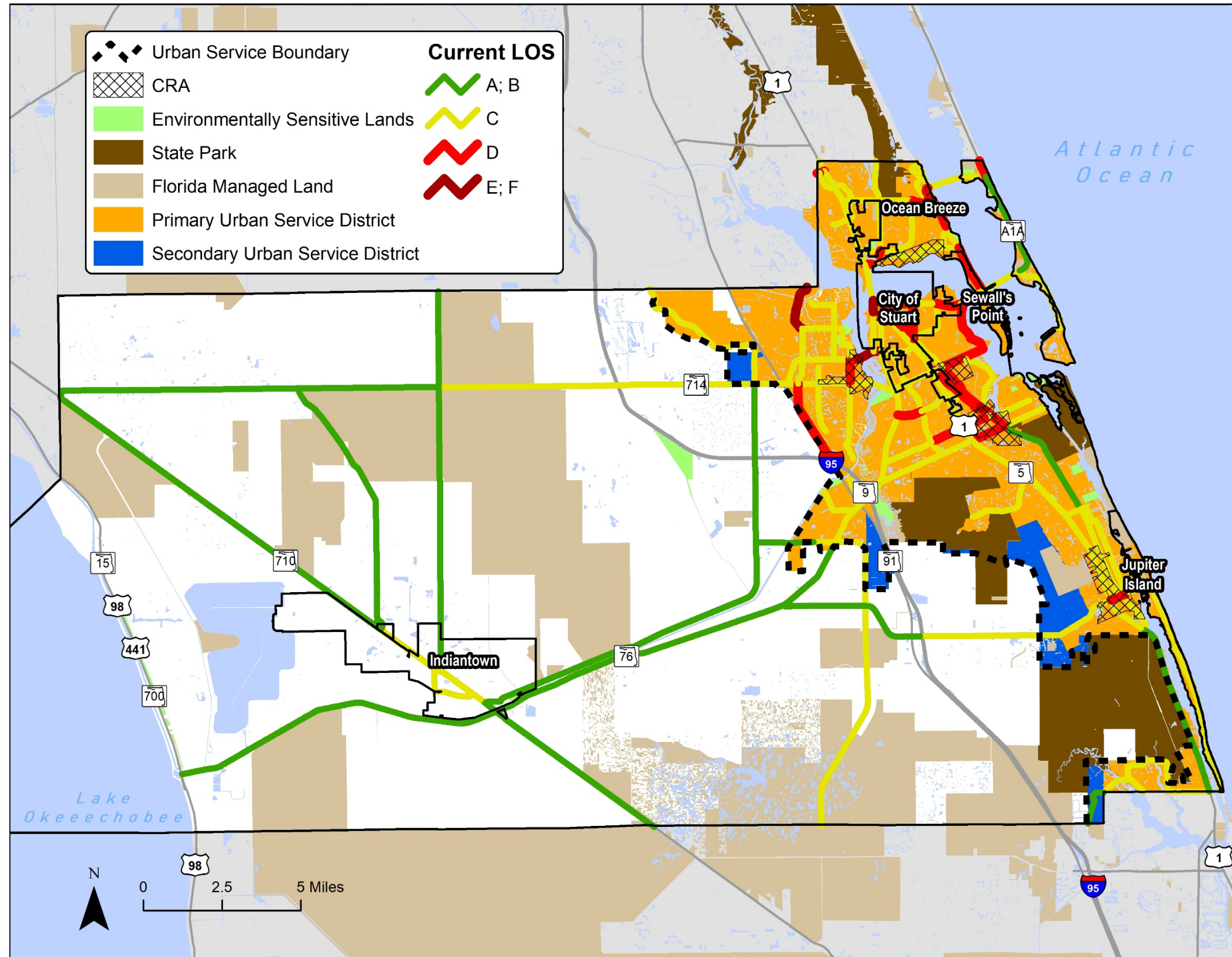


Figure 2-5. Pedestrian & Bicycle Crashes (2010-2014)

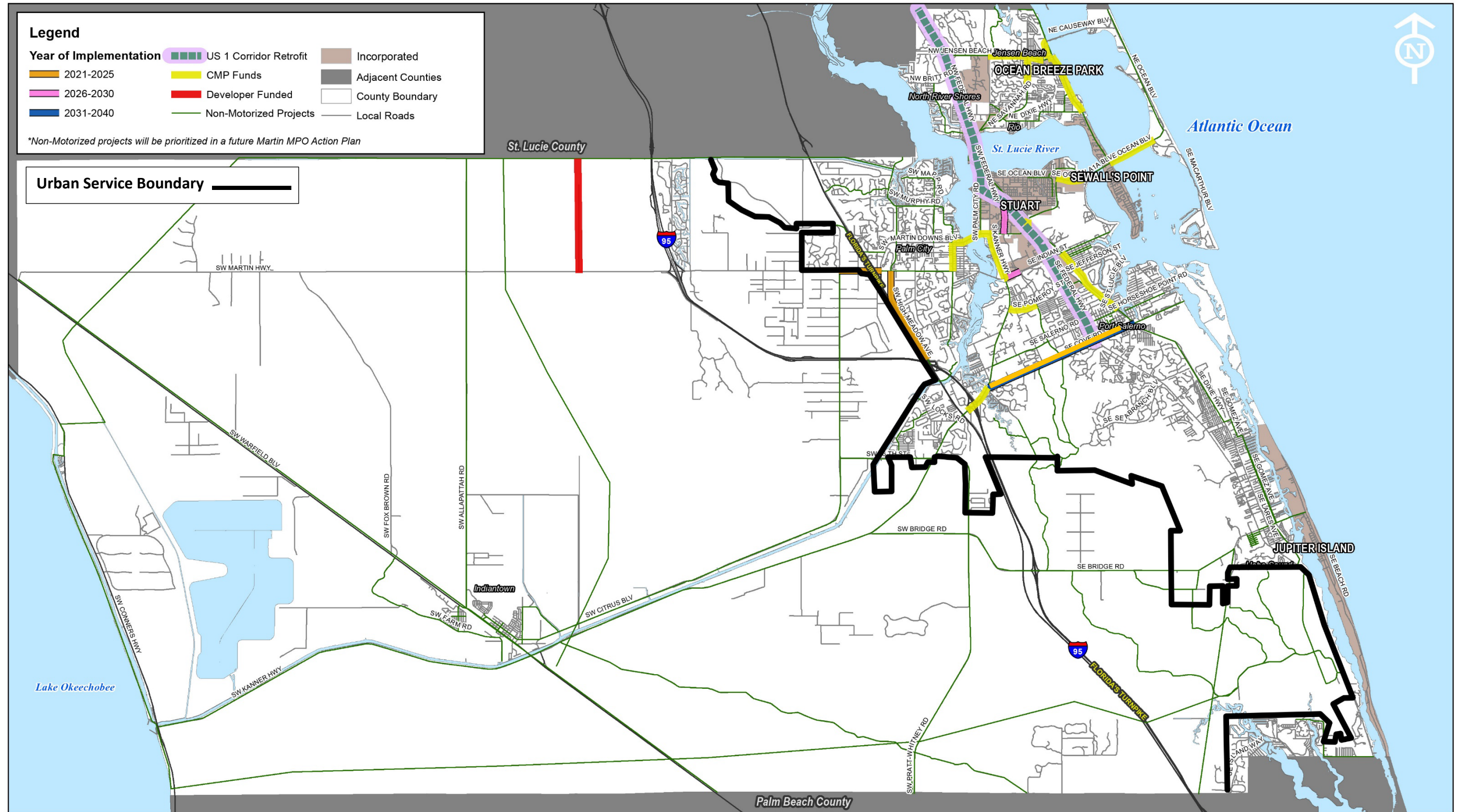
Source: FDOT Unified Basemap Depository (UBR)

The locations of pedestrian and bicycle related crashes are provided in Figure 2-5. These crashes include both FDOT on-system and off-system crashes from 2010 – 2014. Crash clusters are shown in the eastern urbanized area of Stuart and Port Salerno. A significant cluster in Indiantown was also observed. There was a total of 110 pedestrian crashes and 142 bicycle crashes reported between 2010 – 2014. Of those crashes, 13 pedestrian crashes were reported to be fatal and 3 bicycle related crashes were fatal. It should be noted that many of the bicycle crash locations that occurred in the urbanized area of Martin County correspond to short gaps (typically less than ¼ mile in length) between existing on-road bicycle facilities.

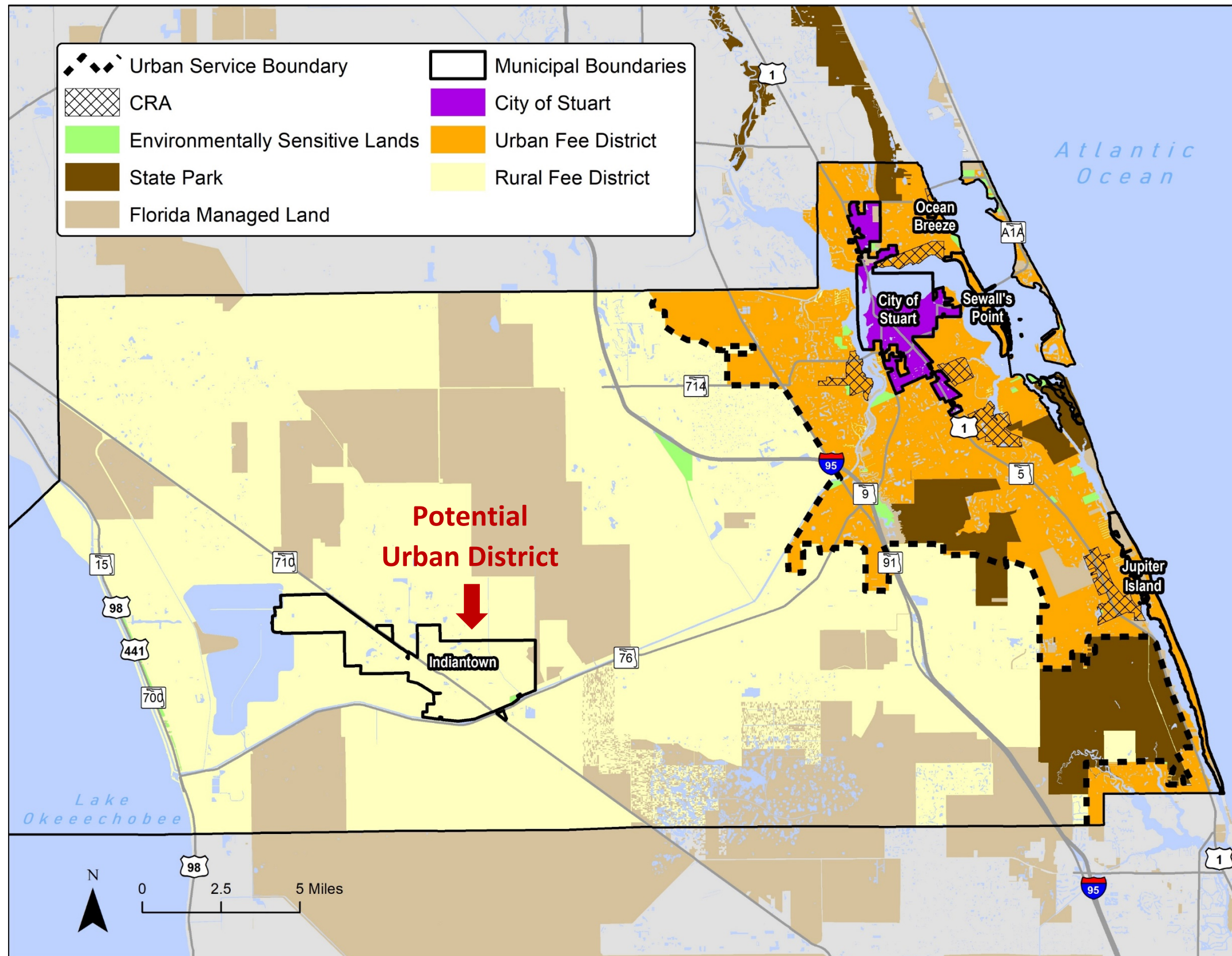
Map D-5: Transportation Level of Service



Map D-6: 2040 LRTP: Multi-Modal Cost Feasible Plan



Map D-7: Proposed Mobility/Multimodal Fee Districts



Based on information provided in this section, options available for Martin County and the municipalities include the following:

- A countywide mobility/multimodal fee versus a mobility/multimodal fee in the urban area while a roadway impact fee in the rural area. This would reflect the limited multimodal needs in the rural area and a greater need for regional connectivity through roadway improvements that would connect this area to the urbanized section of the county.
- The fee differential where the fee would be higher in the rural area, reflecting higher LOS measured in terms of better travel conditions in the rural area. This approach may help encourage development toward the urban area where transportation facilities are available, and therefore, moderating future County investment needed.

Due to the limited development levels, fee exemption in the municipalities of Jupiter Island, Ocean Breeze and Sewall's Point could be a consideration. Similarly, fees in CRAs and/or Opportunity Zones may be reduced.

Once the background review was completed, the proposed fee assessment areas were determined and the fee rate differential analysis was completed, as detailed in the following section.

Proposed Impact Fee Assessment Zones

Currently, Martin County charges a transportation impact fee throughout the entire County. As part of this update, several options for fee variation by geographic area were developed. This appendix provides a detailed explanation of the approach used for these alternative mobility/multimodal impact fee rate scenarios.

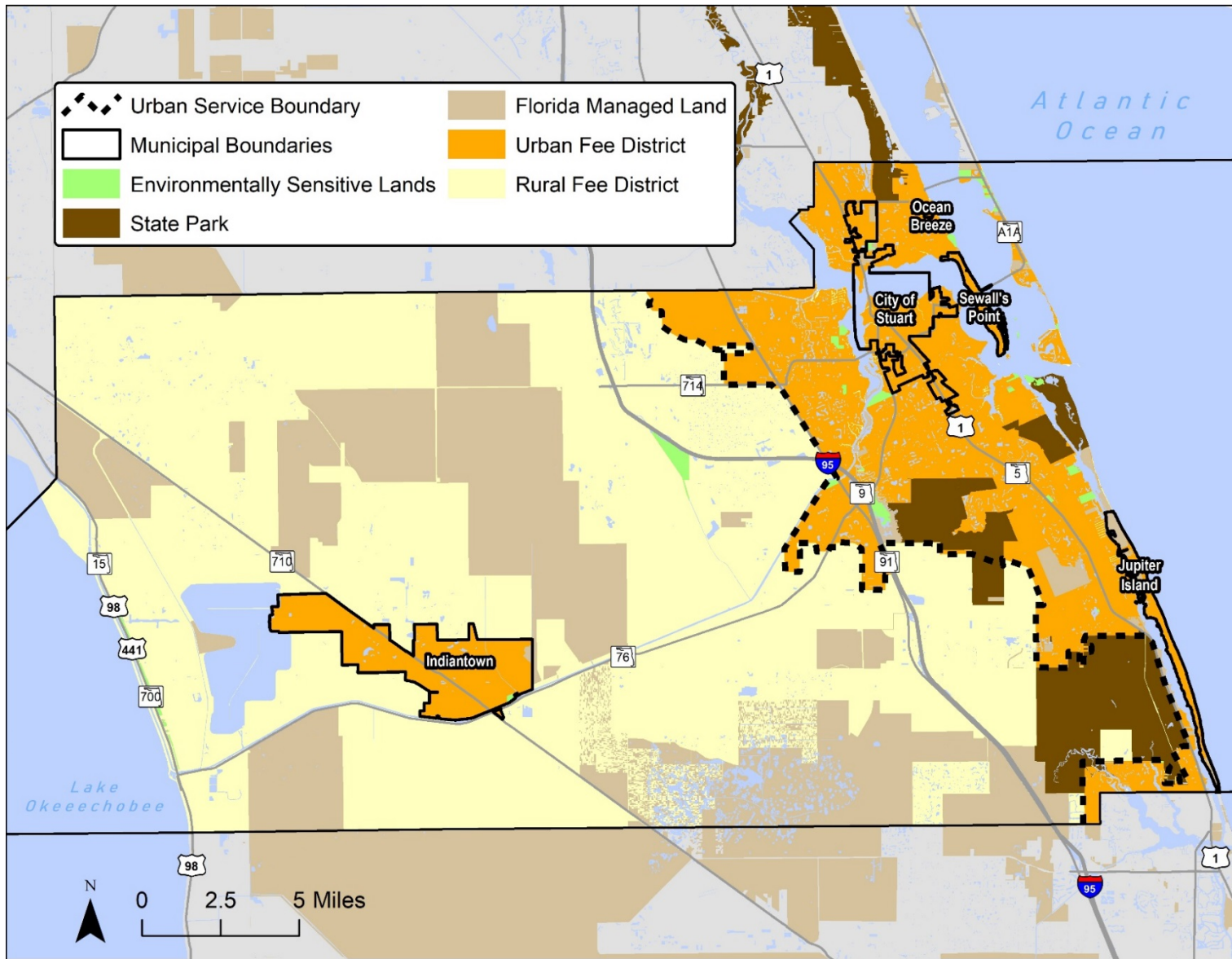
A consumption-based impact fee rate is based on the adopted level of service (LOS) standards, which are exception standards, requiring no road to be in worse travel condition than the adopted standard. Consistent with the methodology used by many Florida jurisdictions, transportation/mobility/multimodal fee calculations use adopted LOS standard as a countywide average, which suggests half the roads will be worse than the adopted standard and the other half will be better. However, in many cases, the actual countywide average LOS is better than the adopted standard. In other words, under the current methodology, even with the full impact fee, unless local governments use other revenue sources, the current achieved LOS for the system will deteriorate and more congestion will be experienced. As such, the standard methodology used for mobility/multimodal fees results in revenue levels that slow down the

degradation of the system but do not generate sufficient revenues to maintain the existing conditions when they are better than the adopted LOS standard.

When the current system performance conditions are better than the adopted standards, local governments have the option to base the fees on achieved LOS or at least to a LOS level that is in between. This approach was also supported by HB 319, when the bill allowed for adoption of an area-wide LOS not dependent on any single road segment function. The LOS for each road segment correlates to the volume-to-capacity (V/C) ratio. The V/C ratio measures the number of vehicles on the road versus the number of vehicles that the road can handle based on its functional classification (arterial, collector, freeway, etc.) and design characteristics (number of lanes, signal spacing, etc.). A low V/C ratio suggests less congestion and delay and better average speed/performance.

In terms of geographic variation, the “urban fee district” is defined as the part of the county within the urban service boundary (USB) and the Village of Indiantown. Similar to the USB, Indiantown’s roadway network experiences higher levels of congestion and lower average travel speeds than roadways outside of the urban service area. In addition, Indiantown’s Comprehensive Plan supports compact development and higher densities compared to unincorporated county outside the USB. The “rural fee district” is composed of the remainder of the County. Map D-8 illustrates the proposed fee districts.

Map D-8: Proposed Mobility/Multimodal Impact Fee Assessment Zones



The current achieved V/C ratios are as follows:

- Countywide \approx 0.54
- Proposed Urban Fee District \approx 0.59
- Proposed Rural Fee District \approx 0.30

As shown in Table D-1, the average speed is estimated for a range of V/C ratios. For example, while the average speed in the urban area is declining toward 28 miles per hour, the V/C ratio in the rural fee district suggests average speed levels of 35 miles per hour or higher.

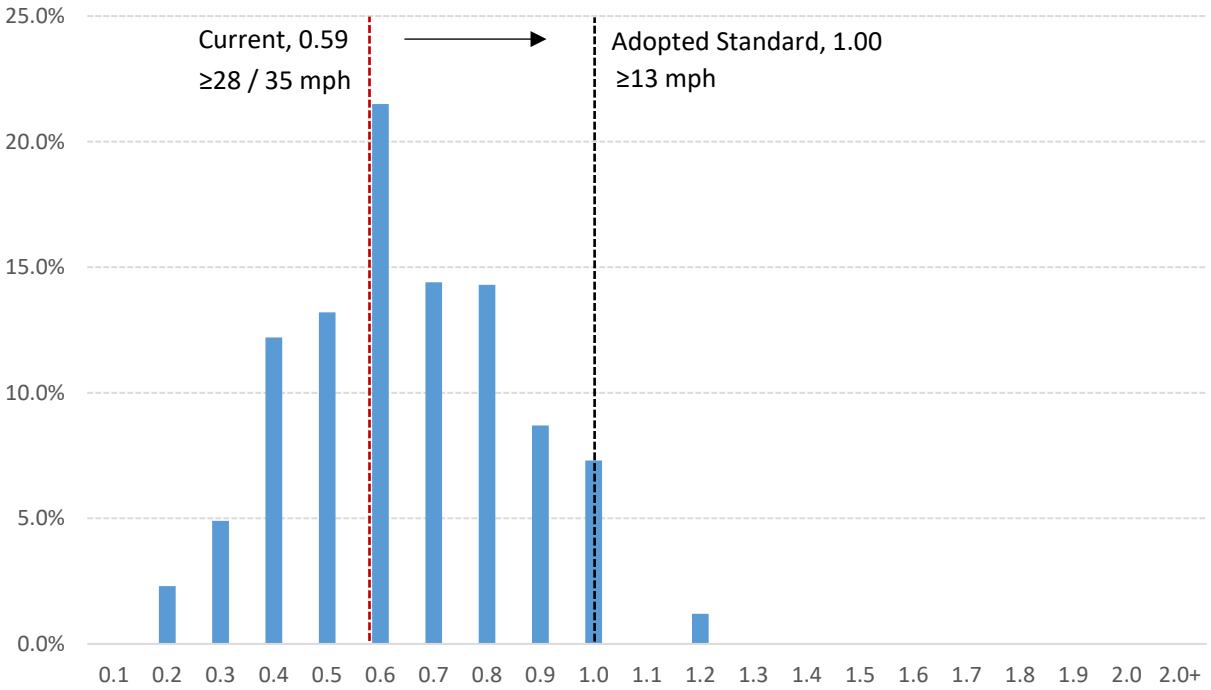
Table D-1: V/C Ratio Reference

LOS	V/C	Avg Speed
A - Free Flow	0.00 to 0.60	\geq 35
B - Reasonable unimpede operations	0.61 to 0.70	\geq 28
C - Stable operations	0.71 to 0.80	\geq 22
D - Approaching unstable operations	0.81 to 0.90	\geq 17
E - Significant intersection approach delays	0.91 to 1.00	\geq 13
F - Extremely low speeds, high delay	$>$ 1.00	$<$ 13

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, 1994

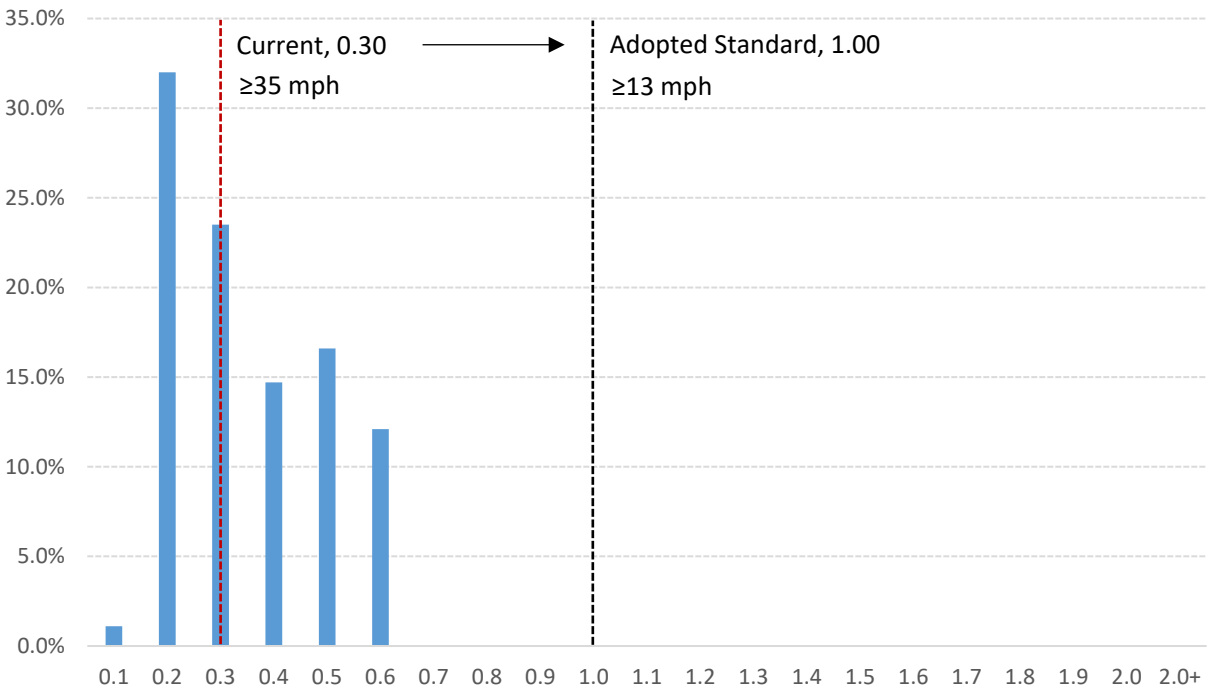
Figures D-1 and D-2 illustrate the distribution of roadway VMT based on each road segments current V/C ratio. Figure D-1 illustrates all of those segments within the urban fee district and Figure D-2 illustrates those segments within the rural fee district.

Figure D-1: Percent of VMT by V/C Ratio (Urban Fee District)



Source: Martin County 2018 Roadway Inventory

Figure D-2: Percent of VMT by V/C Ratio (Rural Fee District)



Source: Martin County 2018 Roadway Inventory

Table D-2 presents several different combinations that could be implemented to increase or decrease the fee differential between subareas.

Table D-2: Differential Fee Rate Scenarios

Fee District	Current		Future	
	V/C	Avg. Speed	V/C	Avg. Speed
Scenario #1				
Urban	0.59	≥35 mph	1.00	≥13mph
Rural	0.30	≥35 mph	1.00	≥13mph
Scenario #2				
Urban	0.59	≥35 mph	1.00	≥13mph
Rural	0.30	≥35 mph	0.80	≥22mph
Scenario #3				
Urban	0.59	≥35 mph	1.00	≥13mph
Rural	0.30	≥35 mph	0.60	≥35 mph
Scenario #4				
Urban	0.59	≥35 mph	0.80	≥22mph
Rural	0.30	≥35 mph	0.80	≥22mph
Scenario #5				
Urban	0.59	≥35 mph	0.80	≥22mph
Rural	0.30	≥35 mph	0.60	≥35 mph

Table D-2 Notes:

- Scenario #1
 - o Mobility/multimodal fees adopted at the current LOS standard. Average travel speed will decrease over time.
- Scenario #2
 - o Urban rates adopted at the current LOS standard. Average travel speed will decrease over time.
 - o Rural rates adopted at a 0.80 V/C, resulting in higher rates to maintain higher LOS. Average travel speed will decrease over time, but not as rapidly as Scenario #1
- Scenario #3
 - o Urban rates adopted at the current LOS standard. Average travel speed will decrease over time.
 - o Rural rates adopted at a 0.60 V/C, resulting in higher rates to maintain higher LOS. Although average speed will decrease over time, it will remain above 35 mph.
- Scenario #4
 - o Mobility/multimodal fees adopted at a 0.80 V/C. Average travel speed will decrease over time, but not as rapidly as Scenario #1.
- Scenario #5
 - o Urban rates adopted at a 0.80 V/C, resulting in higher rates to maintain higher LOS. Average travel speed will decrease over time, but not as rapidly as Scenario #1.
 - o Rural rates adopted at a 0.60 V/C, resulting in higher rates to maintain higher LOS. Although average speed will decrease over time, it will remain above 35 mph.

Depending on the level of fee variation desired, the person-miles of capacity would be adjusted using the proposed V/C ratios:

- Mobility/Multimodal Fee, V/C of 1.00 = $18,980 * 1.00 = \mathbf{18,980}$
- Mobility/Multimodal Fee, V/C of 0.80 = $18,980 * 0.80 = \mathbf{15,184}$
- Mobility/Multimodal Fee, V/C of 0.60 = $18,980 * 0.60 = \mathbf{11,388}$
 - o The 0.60 V/C option is NOT recommended for the urban fee district

Appendix E, Tables E-1 through E-3 provide detailed fee calculations for each land use in the County's impact fee schedule and for each V/C option shown above.

Appendix E

Mobility/Multimodal Fee Schedules

Appendix E: Mobility/Multimodal Fee Schedules

This appendix provides mobility/multimodal fee schedules. In addition, the fee schedules are provided varying levels of services as potential options. More specifically, the following tables are included:

Urban Fee District or Countywide:

- Table E-1: Mobility/Multimodal Fee, V/C of 1.00
- Table E-2: Mobility/Multimodal Fee, V/C of 0.80

Rural Fee District Only:

- Table E-3: Mobility/Multimodal Fee, V/C of 0.60

Based on input from the MPO, County and municipalities, these options will be refined and reduced.

Table E-1: Mobility/Multimodal Fee Schedule – V/C 1.00

		Equivalent Gasoline Tax \$\$ per gallon to capital: Facility life (years): Interest rate:	\$0.181 25 2.50%	County Revenues: State Revenues:	\$0.031 \$0.150	Unit Cost per Lane Mile: Average PMC per Lane Mile: Fuel Efficiency: Effectivedays per year:	\$5,540,000 18,980 18.92 mpg 365			Interstate/Toll Facility Adjustment Factor: Cost per PMC:	20.2% \$291.89								
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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change	
RESIDENTIAL:																			
210	Single Family (Detached) - Very Low Income; Annual HH Income less than 50% SHIP Definition	du	4.32	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	11.41	1.30	14.83	\$4,330	\$54	\$995	\$3,335	\$2,268	47%	
	Single Family (Detached) - Low Income; Annual HH Income between 50-80% SHIP Definition	du	5.27	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	13.92	1.30	18.10	\$5,282	\$66	\$1,216	\$4,066	\$2,268	79%	
	Single Family (Detached) - Less than 750 sf	du	5.83	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	15.40	1.30	20.02	\$5,843	\$72	\$1,327	\$4,516	\$2,268	99%	
	Single Family (Detached) - 750 to 999 sf	du	6.90	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	18.23	1.30	23.70	\$6,916	\$86	\$1,584	\$5,332	\$2,293	133%	
	Single Family (Detached) - 1,000 to 2,499 sf	du	7.48	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	19.76	1.30	25.69	\$7,497	\$93	\$1,713	\$5,784	\$2,815	106%	
	Single Family (Detached) - 2,500 sf and greater	du	8.91	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	23.53	1.30	30.59	\$8,930	\$111	\$2,045	\$6,885	\$4,063	70%	
220	Multi-Family (Low-Rise, 1-2 Levels)	du	7.32	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	14.90	1.30	19.37	\$5,652	\$72	\$1,327	\$4,325	\$2,293	89%	
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	5.44	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	11.07	1.30	14.39	\$4,200	\$53	\$976	\$3,224	\$2,293	41%	
240	Mobile Home Park	du	4.17	FL Studies	4.60	5.10	FL Studies	100%	n/a	7.65	1.30	9.95	\$2,904	\$37	\$682	\$2,222	\$2,268	-2%	
251	Senior Adult Housing - Detached	du	3.50	Blend ITE 10th & FL Studies	5.42	5.92	FL Studies	100%	n/a	7.57	1.30	9.84	\$2,872	\$36	\$663	\$2,209	-	-	
252	Senior Adult Housing - Attached	du	3.33	Blend ITE 10th & FL Studies	4.34	4.84	Same as LUC 251 (adjusted) ⁽⁵⁾	100%	n/a	5.77	1.30	7.50	\$2,188	\$28	\$516	\$1,672	-	-	
253	Congregate Care Facility	du	2.25	Blend ITE 10th & FL Studies	3.08	3.58	FL Studies	72%	FL Studies	1.99	1.30	2.59	\$755	\$10	\$184	\$571	-	-	
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	2.30	1.30	2.99	\$873	\$12	\$221	\$652	\$283	131%	
255	Continuing Care Retirement Center	du	2.40	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	2.12	1.30	2.76	\$806	\$11	\$203	\$603	-	-	
LODGING:																			
310	Hotel	room	5.55	Blend ITE 10th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	9.15	1.30	11.90	\$3,472	\$43	\$792	\$2,680	\$2,159	24%	
320	Motel	room	3.35	ITE 10th Edition	4.34	4.84	FL Studies	77%	FL Studies	4.47	1.30	5.81	\$1,695	\$22	\$405	\$1,290	\$2,159	-40%	
RECREATION:																			
411	Public Park	acre	0.78	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	1.44	1.30	1.87	\$547	\$7	\$129	\$418	\$527	-21%	
416	RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 210	2.97	1.30	3.86	\$1,128	\$14	\$258	\$870	\$1,110	-22%	
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	5.73	1.30	7.45	\$2,174	\$27	\$497	\$1,677	\$715	135%	
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	72.22	1.30	93.89	\$27,404	\$340	\$6,264	\$21,140	\$8,219	157%	

Table E-1: Mobility/Multimodal Fee Schedule – V/C 1.00 (Continued)

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
RECREATION:																		
444	Movie Theater	1,000 sf	78.09	ITE 10th Edition	2.22	2.72	FL Studies	88%	FL Studies	60.87	1.30	79.13	\$23,097	\$326	\$6,006	\$17,091	\$10,141	69%
490	Tennis Court	court	30.32	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	56.07	1.30	72.89	\$21,277	\$269	\$4,956	\$16,321	\$7,138	129%
491	Racquet/Tennis Club ⁽⁴⁾	1,000 sf	19.70	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Same as LUC 942	38.05	1.30	49.47	\$14,439	\$183	\$3,372	\$11,067	\$3,152	251%
492	Health/Fitness Club ⁽⁴⁾	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	FL Studies	66.64	1.30	86.63	\$25,286	\$320	\$5,896	\$19,390	\$4,610	321%
INSTITUTIONS:																		
520	Elementary School (Private)	1,000 sf	19.52	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁶⁾	20.62	1.30	26.81	\$7,826	\$104	\$1,916	\$5,910	\$1,770	234%
522	Middle School (Private)	1,000 sf	20.17	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁶⁾	21.31	1.30	27.70	\$8,086	\$107	\$1,971	\$6,115	\$1,695	261%
530	High School (Private)	1,000 sf	14.07	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	90%	Based on LUC 710	16.72	1.30	21.74	\$6,346	\$84	\$1,548	\$4,798	\$1,758	173%
540	Junior/Community College (Private)	1,000 sf	20.25	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	48.14	1.30	62.58	\$18,266	\$227	\$4,182	\$14,084	-	-
550	University/College (Private)	1,000 sf	26.04	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	61.90	1.30	80.47	\$23,489	\$291	\$5,361	\$18,128	-	-
560	Place of Worship	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	9.76	1.30	12.69	\$3,703	\$48	\$884	\$2,819	\$1,347	109%
565	Day Care Center	1,000 sf	49.63	Blend ITE 10th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	29.35	1.30	38.16	\$11,135	\$160	\$2,948	\$8,187	\$2,686	205%
590	Library	1,000 sf	72.05	ITE 10th Edition	6.62	7.12	Same as LUC 210	49%	Estimate Based on Orange County Report	93.25	1.30	121.23	\$35,385	\$439	\$8,088	\$27,297	\$4,675	484%
732	Post Office	1,000 sf	103.94	ITE 10th Edition	5.15	5.65	Same as LUC 710	49%	Estimate Based on Orange County Report	104.65	1.30	136.05	\$39,711	\$502	\$9,249	\$30,462	\$4,404	592%
MEDICAL:																		
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	22.09	1.30	28.72	\$8,381	\$104	\$1,916	\$6,465	\$2,133	203%
620	Nursing Home	1,000 sf	6.64	ITE 10th Edition	2.59	3.09	FL Studies	89%	FL Studies	6.11	1.30	7.94	\$2,317	\$32	\$590	\$1,727	\$725	138%
OFFICE:																		
710	Office	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	FL Studies	92%	FL Studies	18.41	1.30	23.93	\$6,987	\$88	\$1,621	\$5,366	\$2,198	144%
720	Medical Office 10,000 sq ft or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	46.97	1.30	61.06	\$17,821	\$224	\$4,127	\$13,694	\$5,281	159%
720	Medical Office greater than 10,000 sq ft	1,000 sf	34.12	Blend ITE 10th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	67.25	1.30	87.43	\$25,517	\$321	\$5,914	\$19,603	\$5,281	271%
RETAIL:																		
820	Retail/Shopping Center	1,000 sf	37.75	ITE 10th Edition	2.69	3.19	Appendix A: Fig. A-1 (450k sf	74%	Appendix A: Fig. A-2 (450k sf	29.98	1.30	38.97	\$11,377	\$156	\$2,874	\$8,503	\$5,183	64%
840/841	New/Used Auto Sales	1,000 sf	24.58	Blend ITE 10th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	35.64	1.30	46.33	\$13,524	\$173	\$3,187	\$10,337	\$7,071	46%
851	Convenience Market - 24 hrs	1,000 sf	739.50	Blend ITE 10th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	183.88	1.30	239.04	\$69,774	\$1,069	\$19,696	\$50,078	\$13,556	269%
880/881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	104.37	Blend ITE 10th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	27.72	1.30	36.04	\$10,518	\$150	\$2,764	\$7,754	\$1,763	340%

Table E-1: Mobility/Multimodal Fee Schedule – V/C 1.00 (Continued)

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
SERVICES:																		
911	Bank/Savings Walk-In ⁽⁴⁾	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	26.82	1.30	34.87	\$10,175	\$141	\$2,598	\$7,577	\$6,241	21%
912	Bank/Savings Drive-In	1,000 sf	102.66	Blend ITE 10th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	46.35	1.30	60.26	\$17,588	\$244	\$4,496	\$13,092	\$6,841	91%
931	Quality Restaurant	1,000 sf	86.03	Blend ITE 10th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	82.99	1.30	107.89	\$31,492	\$421	\$7,757	\$23,735	\$10,571	125%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Blend ITE 10th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	228.92	1.30	297.60	\$86,863	\$1,246	\$22,957	\$63,906	\$15,693	307%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	FL Studies	23%	FL Studies	29.99	1.30	38.99	\$11,381	\$166	\$3,058	\$8,323	\$3,266	155%
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	35.81	1.30	46.55	\$13,587	\$198	\$3,648	\$9,939	\$3,266	204%
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	40.19	1.30	52.25	\$15,252	\$222	\$4,090	\$11,162	\$3,266	242%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 10th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	25.99	1.30	33.79	\$9,862	\$140	\$2,579	\$7,283	\$9,570	-24%
INDUSTRIAL:																		
110	General Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	9.38	1.30	12.19	\$3,558	\$45	\$829	\$2,729	\$1,857	47%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.43	1.30	9.66	\$2,819	\$36	\$663	\$2,156	\$1,045	106%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	3.29	1.30	4.28	\$1,248	\$16	\$295	\$953	\$1,314	-28%
151	Mini-Warehouse	1,000 sf	1.49	Blend ITE 10th & FL Studies	3.51	4.01	Average of LUC 710 & LUC 820 (50k sq ft)	92%	Same as LUC 710	1.92	1.30	2.50	\$728	\$10	\$184	\$544	\$827	-34%

- 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) Source: Martin County Adopted Impact Fee Schedule. Residential 801-1,100 sf is shown for LUC 220, 221, 222. Residential 800 or less sf is shown for LUC 240. Office <100,000 sf is shown for LUC 710. Retail 100,000-199,999 sf is shown for LUC 820. Gasoline w/Conv. Market is shown for LUC 944, 945, 960
- 3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR. Then, the daily TGR 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 ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
- 5) The trip length for Senior Adult Housing Attached was based on the trip length for LUC 251, but was then adjusted by 80% based on the relationship of the trip lengths for LUC 210 (single family) and LUC 220 (multi-family)
- 6) 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 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 E-2: Mobility/Multimodal Fee Schedule – V/C 0.80

		Equivalent Gasoline Tax		County Revenues:		Unit Cost per Lane Mile:		Interstate/Toll Facility Adjustment Factor:											
		\$ per gallon to capital:		\$0.031		Average PMC per Lane Mile:		20.2%											
		Facility life (years):		\$0.150		Fuel Efficiency:		Cost per PMC:											
		Interest rate:				Effectivedays per year:													
		\$0.181				15,184													
		25				18.92 mpg													
		2.50%				365													
ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT ⁽¹⁾	Person-Trip Factor	Net PMT	Total Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change	
RESIDENTIAL:																			
210	Single Family (Detached) - Very Low Income; Annual HH Income less than 50% SHIP Definition	du	4.32	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	11.41	1.30	14.83	\$5,412	\$54	\$995	\$4,417	\$2,268	95%	
	Single Family (Detached) - Low Income; Annual HH Income between 50-80% SHIP Definition	du	5.27	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	13.92	1.30	18.10	\$6,603	\$66	\$1,216	\$5,387	\$2,268	138%	
	Single Family (Detached) - Less than 750 sf	du	5.83	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	15.40	1.30	20.02	\$7,304	\$72	\$1,327	\$5,977	\$2,268	164%	
	Single Family (Detached) - 750 to 999 sf	du	6.90	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	18.23	1.30	23.70	\$8,645	\$86	\$1,584	\$7,061	\$2,293	208%	
	Single Family (Detached) - 1,000 to 2,499 sf	du	7.48	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	19.76	1.30	25.69	\$9,371	\$93	\$1,713	\$7,658	\$2,815	172%	
	Single Family (Detached) - 2,500 sf and greater	du	8.91	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	23.53	1.30	30.59	\$11,163	\$111	\$2,045	\$9,118	\$4,063	124%	
220	Multi-Family (Low-Rise, 1-2 Levels)	du	7.32	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	14.90	1.30	19.37	\$7,065	\$72	\$1,327	\$5,738	\$2,293	150%	
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	5.44	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	11.07	1.30	14.39	\$5,251	\$53	\$976	\$4,275	\$2,293	86%	
240	Mobile Home Park	du	4.17	FL Studies	4.60	5.10	FL Studies	100%	n/a	7.65	1.30	9.95	\$3,630	\$37	\$682	\$2,948	\$2,268	30%	
251	Senior Adult Housing - Detached	du	3.50	Blend ITE 10th & FL Studies	5.42	5.92	FL Studies	100%	n/a	7.57	1.30	9.84	\$3,590	\$36	\$663	\$2,927	-	-	
252	Senior Adult Housing - Attached	du	3.33	Blend ITE 10th & FL Studies	4.34	4.84	Same as LUC 251 (adjusted) ⁽⁵⁾	100%	n/a	5.77	1.30	7.50	\$2,735	\$28	\$516	\$2,219	-	-	
253	Congregate Care Facility	du	2.25	Blend ITE 10th & FL Studies	3.08	3.58	FL Studies	72%	FL Studies	1.99	1.30	2.59	\$944	\$10	\$184	\$760	-	-	
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	2.30	1.30	2.99	\$1,091	\$12	\$221	\$870	\$283	208%	
255	Continuing Care Retirement Center	du	2.40	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	2.12	1.30	2.76	\$1,007	\$11	\$203	\$804	-	-	
LODGING:																			
310	Hotel	room	5.55	Blend ITE 10th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	9.15	1.30	11.90	\$4,340	\$43	\$792	\$3,548	\$2,159	64%	
320	Motel	room	3.35	ITE 10th Edition	4.34	4.84	FL Studies	77%	FL Studies	4.47	1.30	5.81	\$2,119	\$22	\$405	\$1,714	\$2,159	-21%	
RECREATION:																			
411	Public Park	acre	0.78	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	1.44	1.30	1.87	\$684	\$7	\$129	\$555	\$527	5%	
416	RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 210	2.97	1.30	3.86	\$1,410	\$14	\$258	\$1,152	\$1,110	4%	
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	5.73	1.30	7.45	\$2,717	\$27	\$497	\$2,220	\$715	211%	
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	72.22	1.30	93.89	\$34,255	\$340	\$6,264	\$27,991	\$8,219	241%	

Table E-2: Mobility/Multimodal Fee Schedule – V/C 0.80 (Continued)

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
RECREATION:																		
444	Movie Theater	1,000 sf	78.09	ITE 10th Edition	2.22	2.72	FL Studies	88%	FL Studies	60.87	1.30	79.13	\$28,872	\$326	\$6,006	\$22,866	\$10,141	126%
490	Tennis Court	court	30.32	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	56.07	1.30	72.89	\$26,596	\$269	\$4,956	\$21,640	\$7,138	203%
491	Racquet/Tennis Club ⁽⁴⁾	1,000 sf	19.70	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Same as LUC 942	38.05	1.30	49.47	\$18,049	\$183	\$3,372	\$14,677	\$3,152	366%
492	Health/Fitness Club ⁽⁴⁾	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	FL Studies	66.64	1.30	86.63	\$31,608	\$320	\$5,896	\$25,712	\$4,610	458%
INSTITUTIONS:																		
520	Elementary School (Private)	1,000 sf	19.52	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁶⁾	20.62	1.30	26.81	\$9,782	\$104	\$1,916	\$7,866	\$1,770	344%
522	Middle School (Private)	1,000 sf	20.17	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁶⁾	21.31	1.30	27.70	\$10,108	\$107	\$1,971	\$8,137	\$1,695	380%
530	High School (Private)	1,000 sf	14.07	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	90%	Based on LUC 710	16.72	1.30	21.74	\$7,932	\$84	\$1,548	\$6,384	\$1,758	263%
540	Junior/Community College (Private)	1,000 sf	20.25	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	48.14	1.30	62.58	\$22,833	\$227	\$4,182	\$18,651	-	-
550	University/College (Private)	1,000 sf	26.04	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	61.90	1.30	80.47	\$29,362	\$291	\$5,361	\$24,001	-	-
560	Place of Worship	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	9.76	1.30	12.69	\$4,629	\$48	\$884	\$3,745	\$1,347	178%
565	Day Care Center	1,000 sf	49.63	Blend ITE 10th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	29.35	1.30	38.16	\$13,919	\$160	\$2,948	\$10,971	\$2,686	309%
590	Library	1,000 sf	72.05	ITE 10th Edition	6.62	7.12	Same as LUC 210	49%	Estimate Based on Orange County Report	93.25	1.30	121.23	\$44,231	\$439	\$8,088	\$36,143	\$4,675	673%
732	Post Office	1,000 sf	103.94	ITE 10th Edition	5.15	5.65	Same as LUC 710	49%	Estimate Based on Orange County Report	104.65	1.30	136.05	\$49,639	\$502	\$9,249	\$40,390	\$4,404	817%
MEDICAL:																		
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	22.09	1.30	28.72	\$10,476	\$104	\$1,916	\$8,560	\$2,133	301%
620	Nursing Home	1,000 sf	6.64	ITE 10th Edition	2.59	3.09	FL Studies	89%	FL Studies	6.11	1.30	7.94	\$2,897	\$32	\$590	\$2,307	\$725	218%
OFFICE:																		
710	Office	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	FL Studies	92%	FL Studies	18.41	1.30	23.93	\$8,734	\$88	\$1,621	\$7,113	\$2,198	224%
720	Medical Office 10,000 sq ft or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	46.97	1.30	61.06	\$22,276	\$224	\$4,127	\$18,149	\$5,281	244%
720	Medical Office greater than 10,000 sq ft	1,000 sf	34.12	Blend ITE 10th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	67.25	1.30	87.43	\$31,896	\$321	\$5,914	\$25,982	\$5,281	392%
RETAIL:																		
820	Retail/Shopping Center	1,000 sf	37.75	ITE 10th Edition	2.69	3.19	Appendix A: Fig. A-1 (450k sf)gl	74%	Appendix A: Fig. A-2 (450k sf)gl	29.98	1.30	38.97	\$14,221	\$156	\$2,874	\$11,347	\$5,183	119%
840/ 841	New/Used Auto Sales	1,000 sf	24.58	Blend ITE 10th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	35.64	1.30	46.33	\$16,905	\$173	\$3,187	\$13,718	\$7,071	94%
851	Convenience Market - 24 hrs	1,000 sf	739.50	Blend ITE 10th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	183.88	1.30	239.04	\$87,218	\$1,069	\$19,696	\$67,522	\$13,556	398%
880/ 881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	104.37	Blend ITE 10th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	27.72	1.30	36.04	\$13,147	\$150	\$2,764	\$10,383	\$1,763	489%

Table E-2: Mobility/Multimodal Fee Schedule – V/C 0.80 (Continued)

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
SERVICES:																		
911	Bank/Savings Walk-In ⁽⁴⁾	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	26.82	1.30	34.87	\$12,719	\$141	\$2,598	\$10,121	\$6,241	62%
912	Bank/Savings Drive-In	1,000 sf	102.66	Blend ITE 10th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	46.35	1.30	60.26	\$21,985	\$244	\$4,496	\$17,489	\$6,841	156%
931	Quality Restaurant	1,000 sf	86.03	Blend ITE 10th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	82.99	1.30	107.89	\$39,365	\$421	\$7,757	\$31,608	\$10,571	199%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Blend ITE 10th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	228.92	1.30	297.60	\$108,579	\$1,246	\$22,957	\$85,622	\$15,693	446%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	FL Studies	23%	FL Studies	29.99	1.30	38.99	\$14,226	\$166	\$3,058	\$11,168	\$3,266	242%
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	35.81	1.30	46.55	\$16,984	\$198	\$3,648	\$13,336	\$3,266	308%
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	40.19	1.30	52.25	\$19,065	\$222	\$4,090	\$14,975	\$3,266	359%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 10th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	25.99	1.30	33.79	\$12,327	\$140	\$2,579	\$9,748	\$9,570	2%
INDUSTRIAL:																		
110	General Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	9.38	1.30	12.19	\$4,448	\$45	\$829	\$3,619	\$1,857	95%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.43	1.30	9.66	\$3,524	\$36	\$663	\$2,861	\$1,045	174%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	3.29	1.30	4.28	\$1,560	\$16	\$295	\$1,265	\$1,314	-4%
151	Mini-Warehouse	1,000 sf	1.49	Blend ITE 10th & FL Studies	3.51	4.01	Average of LUC 710 & LUC 820 (50k sq ft)	92%	Same as LUC 710	1.92	1.30	2.50	\$911	\$10	\$184	\$727	\$827	-12%

- 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) Source: Martin County Adopted Impact Fee Schedule. Residential 801-1,100 sf is shown for LUC 220, 221, 222. Residential 800 or less sf is shown for LUC 240. Office <100,000 sf is shown for LUC 710. Retail 100,000-199,999 sf is shown for LUC 820. Gasoline w/Conv. Market is shown for LUC 944, 945, 960
- 3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR. Then, the daily TGR 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 ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
- 5) The trip length for Senior Adult Housing Attached was based on the trip length for LUC 251, but was then adjusted by 80% based on the relationship of the trip lengths for LUC 210 (single family) and LUC 220 (multi-family)
- 6) 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 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 E-3: Mobility/Multimodal Fee Schedule – V/C 0.60

		Equivalent Gasoline Tax		County Revenues:		Unit Cost per Lane Mile:		Interstate/Toll Facility Adjustment Factor:											
		\$ per gallon to capital:		\$0.031		Average PMC per Lane Mile:		20.2%											
		Facility life (years):		\$0.150		Fuel Efficiency:		Cost per PMC:											
		Interest rate:				Effectivedays per year:													
		\$0.181				365													
		25				18.92 mpg													
		2.50%																	
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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change	
RESIDENTIAL:																			
210	Single Family (Detached) - Very Low Income; Annual HH Income less than 50% SHIP Definition	du	4.32	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	11.41	1.30	14.83	\$7,216	\$54	\$995	\$6,221	\$2,268	174%	
	Single Family (Detached) - Low Income; Annual HH Income between 50-80% SHIP Definition	du	5.27	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	13.92	1.30	18.10	\$8,803	\$66	\$1,216	\$7,587	\$2,268	235%	
	Single Family (Detached) - Less than 750 sf	du	5.83	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	15.40	1.30	20.02	\$9,739	\$72	\$1,327	\$8,412	\$2,268	271%	
	Single Family (Detached) - 750 to 999 sf	du	6.90	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	18.23	1.30	23.70	\$11,526	\$86	\$1,584	\$9,942	\$2,293	334%	
	Single Family (Detached) - 1,000 to 2,499 sf	du	7.48	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	19.76	1.30	25.69	\$12,495	\$93	\$1,713	\$10,782	\$2,815	283%	
	Single Family (Detached) - 2,500 sf and greater	du	8.91	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	23.53	1.30	30.59	\$14,884	\$111	\$2,045	\$12,839	\$4,063	216%	
220	Multi-Family (Low-Rise, 1-2 Levels)	du	7.32	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	14.90	1.30	19.37	\$9,420	\$72	\$1,327	\$8,093	\$2,293	253%	
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	5.44	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	11.07	1.30	14.39	\$7,001	\$53	\$976	\$6,025	\$2,293	163%	
240	Mobile Home Park	du	4.17	FL Studies	4.60	5.10	FL Studies	100%	n/a	7.65	1.30	9.95	\$4,840	\$37	\$682	\$4,158	\$2,268	83%	
251	Senior Adult Housing - Detached	du	3.50	Blend ITE 10th & FL Studies	5.42	5.92	FL Studies	100%	n/a	7.57	1.30	9.84	\$4,787	\$36	\$663	\$4,124	-	-	
252	Senior Adult Housing - Attached	du	3.33	Blend ITE 10th & FL Studies	4.34	4.84	Same as LUC 251 (adjusted) ⁽⁵⁾	100%	n/a	5.77	1.30	7.50	\$3,647	\$28	\$516	\$3,131	-	-	
253	Congregate Care Facility	du	2.25	Blend ITE 10th & FL Studies	3.08	3.58	FL Studies	72%	FL Studies	1.99	1.30	2.59	\$1,259	\$10	\$184	\$1,075	-	-	
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	2.30	1.30	2.99	\$1,455	\$12	\$221	\$1,234	\$283	337%	
255	Continuing Care Retirement Center	du	2.40	ITE 10th Edition	3.08	3.58	Same as LUC 253	72%	Same as LUC 253	2.12	1.30	2.76	\$1,343	\$11	\$203	\$1,140	-	-	
LODGING:																			
310	Hotel	room	5.55	Blend ITE 10th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	9.15	1.30	11.90	\$5,786	\$43	\$792	\$4,994	\$2,159	131%	
320	Motel	room	3.35	ITE 10th Edition	4.34	4.84	FL Studies	77%	FL Studies	4.47	1.30	5.81	\$2,825	\$22	\$405	\$2,420	\$2,159	12%	
RECREATION:																			
411	Public Park	acre	0.78	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	1.44	1.30	1.87	\$912	\$7	\$129	\$783	\$527	49%	
416	RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 210	2.97	1.30	3.86	\$1,880	\$14	\$258	\$1,622	\$1,110	46%	
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	5.73	1.30	7.45	\$3,623	\$27	\$497	\$3,126	\$715	337%	
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	72.22	1.30	93.89	\$45,674	\$340	\$6,264	\$39,410	\$8,219	380%	

Table E-3: Mobility/Multimodal Fee Schedule – V/C 0.60 (Continued)

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change	
RECREATION:																			
444	Movie Theater	1,000 sf	78.09	ITE 10th Edition	2.22	2.72	FL Studies	88%	FL Studies	60.87	1.30	79.13	\$38,495	\$326	\$6,006	\$32,489	\$10,141	220%	
490	Tennis Court	court	30.32	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	56.07	1.30	72.89	\$35,462	\$269	\$4,956	\$30,506	\$7,138	327%	
491	Racquet/Tennis Club ⁽⁴⁾	1,000 sf	19.70	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Same as LUC 942	38.05	1.30	49.47	\$24,065	\$183	\$3,372	\$20,693	\$3,152	557%	
492	Health/Fitness Club ⁽⁴⁾	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	FL Studies	66.64	1.30	86.63	\$42,144	\$320	\$5,896	\$36,248	\$4,610	686%	
INSTITUTIONS:																			
520	Elementary School (Private)	1,000 sf	19.52	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁶⁾	20.62	1.30	26.81	\$13,043	\$104	\$1,916	\$11,127	\$1,770	529%	
522	Middle School (Private)	1,000 sf	20.17	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁶⁾	21.31	1.30	27.70	\$13,477	\$107	\$1,971	\$11,506	\$1,695	579%	
530	High School (Private)	1,000 sf	14.07	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	90%	Based on LUC 710	16.72	1.30	21.74	\$10,577	\$84	\$1,548	\$9,029	\$1,758	414%	
540	Junior/Community College (Private)	1,000 sf	20.25	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	48.14	1.30	62.58	\$30,444	\$227	\$4,182	\$26,262	-	-	
550	University/College (Private)	1,000 sf	26.04	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	61.90	1.30	80.47	\$39,149	\$291	\$5,361	\$33,788	-	-	
560	Place of Worship	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	9.76	1.30	12.69	\$6,171	\$48	\$884	\$5,287	\$1,347	293%	
565	Day Care Center	1,000 sf	49.63	Blend ITE 10th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	29.35	1.30	38.16	\$18,558	\$160	\$2,948	\$15,610	\$2,686	481%	
590	Library	1,000 sf	72.05	ITE 10th Edition	6.62	7.12	Same as LUC 210	49%	Estimate Based on Orange County Report	93.25	1.30	121.23	\$58,975	\$439	\$8,088	\$50,887	\$4,675	989%	
732	Post Office	1,000 sf	103.94	ITE 10th Edition	5.15	5.65	Same as LUC 710	49%	Estimate Based on Orange County Report	104.65	1.30	136.05	\$66,186	\$502	\$9,249	\$56,937	\$4,404	1193%	
MEDICAL:																			
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	22.09	1.30	28.72	\$13,968	\$104	\$1,916	\$12,052	\$2,133	465%	
620	Nursing Home	1,000 sf	6.64	ITE 10th Edition	2.59	3.09	FL Studies	89%	FL Studies	6.11	1.30	7.94	\$3,862	\$32	\$590	\$3,272	\$725	351%	
OFFICE:																			
710	Office	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	FL Studies	92%	FL Studies	18.41	1.30	23.93	\$11,645	\$88	\$1,621	\$10,024	\$2,198	356%	
720	Medical Office 10,000 sq ft or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	46.97	1.30	61.06	\$29,702	\$224	\$4,127	\$25,575	\$5,281	384%	
720	Medical Office greater than 10,000 sq ft	1,000 sf	34.12	Blend ITE 10th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	67.25	1.30	87.43	\$42,528	\$321	\$5,914	\$36,614	\$5,281	593%	
RETAIL:																			
820	Retail/Shopping Center	1,000 sf	37.75	ITE 10th Edition	2.69	3.19	Appendix A: Fig. A-1 (450k sf	74%	Appendix A: Fig. A-2 (450k sf	29.98	1.30	38.97	\$18,962	\$156	\$2,874	\$16,088	\$5,183	210%	
840/ 841	New/Used Auto Sales	1,000 sf	24.58	Blend ITE 10th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	35.64	1.30	46.33	\$22,540	\$173	\$3,187	\$19,353	\$7,071	174%	
851	Convenience Market - 24 hrs	1,000 sf	739.50	Blend ITE 10th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	183.88	1.30	239.04	\$116,290	\$1,069	\$19,696	\$96,594	\$13,556	613%	
880/ 881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	104.37	Blend ITE 10th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	27.72	1.30	36.04	\$17,529	\$150	\$2,764	\$14,765	\$1,763	738%	

Table E-3: Mobility/Multimodal Fee Schedule – V/C 0.60 (Continued)

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
SERVICES:																		
911	Bank/Savings Walk-In ⁽⁴⁾	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	26.82	1.30	34.87	\$16,958	\$141	\$2,598	\$14,360	\$6,241	130%
912	Bank/Savings Drive-In	1,000 sf	102.66	Blend ITE 10th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	46.35	1.30	60.26	\$29,314	\$244	\$4,496	\$24,818	\$6,841	263%
931	Quality Restaurant	1,000 sf	86.03	Blend ITE 10th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	82.99	1.30	107.89	\$52,487	\$421	\$7,757	\$44,730	\$10,571	323%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Blend ITE 10th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	228.92	1.30	297.60	\$144,772	\$1,246	\$22,957	\$121,815	\$15,693	676%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	FL Studies	23%	FL Studies	29.99	1.30	38.99	\$18,968	\$166	\$3,058	\$15,910	\$3,266	387%
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	35.81	1.30	46.55	\$22,645	\$198	\$3,648	\$18,997	\$3,266	482%
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	40.19	1.30	52.25	\$25,420	\$222	\$4,090	\$21,330	\$3,266	553%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 10th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	25.99	1.30	33.79	\$16,436	\$140	\$2,579	\$13,857	\$9,570	45%
INDUSTRIAL:																		
110	General Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	9.38	1.30	12.19	\$5,930	\$45	\$829	\$5,101	\$1,857	175%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.43	1.30	9.66	\$4,699	\$36	\$663	\$4,036	\$1,045	286%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	3.29	1.30	4.28	\$2,080	\$16	\$295	\$1,785	\$1,314	36%
151	Mini-Warehouse	1,000 sf	1.49	Blend ITE 10th & FL Studies	3.51	4.01	Average of LUC 710 & LUC 820 (50k sq ft)	92%	Same as LUC 710	1.92	1.30	2.50	\$1,214	\$10	\$184	\$1,030	\$827	25%

- 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) Source: Martin County Adopted Impact Fee Schedule. Residential 801-1,100 sf is shown for LUC 220, 221, 222. Residential 800 or less sf is shown for LUC 240. Office <100,000 sf is shown for LUC 710. Retail 100,000-199,999 sf is shown for LUC 820. Gasoline w/Conv. Market is shown for LUC 944, 945, 960
- 3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR. Then, the daily TGR 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 ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
- 5) The trip length for Senior Adult Housing Attached was based on the trip length for LUC 251, but was then adjusted by 80% based on the relationship of the trip lengths for LUC 210 (single family) and LUC 220 (multi-family)
- 6) 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 elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents on their way to another destination


Appendix F

Public Involvement Activities

Appendix F: Public Involvement Activities

Mobility Fee Stakeholder Committee Meetings

- Meeting #1 (Aug 19, 2019):


 Martin MPO Mobility/Multimodal Fee Study Mobility Fee Stakeholder Committee Kick-off Meeting August 19, 2019		
Name	Organization/Department	Email Address / Phone Number
Joy Puerta	Martin MPO	jpuerta@Martin.fl.us ; 772-320-3015
Alquis Kamp	Tindale Oliver	nkamp@tindaloliver.com 813-224-8862
Behar Gomez	Martin MPO	bgomez@martin.fl.us
Steph M. Trachsel	T-O	813-224-8862 strachsel@tindaloliver.com
Nicki Van Vorst	GMD	nickiv@martin.fl.us
Smaranda Lovelady	GrAD	
Michael Venton	Town of Jupiter Inland	muertano@ti-martin.fl.us
Tyson Wozniak	Fox McCluskey Bush Basis	Eusters@fox.mcccluskey.com larry.hymowitz@dot.state.fl.us
Larry Hymowitz	FDOT	954-777-4663
Jennise Manning	Manatee County	Jmanning@manatee.fl.us
Melissa Corbett	Stuart Chamber	melissac@themilcorgroup.com



Martin MPO
Mobility/Multimodal Fee Study
Mobility Fee Stakeholder Committee Kick-off Meeting
August 19, 2019

Name	Organization/Department	Email Address / Phone Number
David Dyess	City of Stuart	dyess@c1.stuart.fl.us
Terry O'Neil	Town of Ocean Breeze	tsooneil@tob.com
Scha Wied		
Lisa Wichser	Martin Co Public Works	lwichser@martin.fl.us 772-223-7945


- Meeting #2 (Nov 6, 2019):

 Martin MPO Mobility/Multimodal Fee Mobility Fee Stakeholder Committee Meeting November 6, 2019		
Name	Organization/Department	Email Address / Phone Number
Joy Puertez	Martin MPO	jpuertez@martin.fl.us
Michael Vertun	Tyler Island	mvertun@ti.martin.fl.us
David Dyess	City of Stuart	ddyess@ci.stuart.fl.us
Tyson Winters	Fox Mulician Bush Regional Development Community	t-winters@foxmcl.usky.com
Lois Bush	FDOT District Firm	lois.bush@dot.state.fl.us
Elizabeth Zenikow	Martin County	
Beth Beltrao	Martin MPO	
LISA WICHSEF	MARTIN PUBLIC WORKS	772-223-7945 lwichser@martin.fl.us
Samantha howeledy	GMD	772-288-5264 slove@martin.fl.us
Nicki Bum Zina	GMPO	772-288-5520 nikkiv@martin.fl.us
Tennisea Manning	OMB	Tmanning@martin.fl.us

- Meeting Photos:



- Meeting #3 (Mar 2, 2020):

 Martin MPO Mobility/Multimodal Fee Mobility Fee Stakeholder Committee Meeting March 2, 2020		
Name	Organization/Department	Email Address / Phone Number
Joy Puerta	MPO	jpuerta@martafla.com
LARRY WALLACE	FOOT	LARRY.WALLACE@DOT.STATE.FL.US
Jerry Hypowitz	FDOT	Jerry.hypowitz@dot.state.fl.us
David Dyess	Stuart	dyess@ci.stuart.fl.us
TYSON WATERS	FMBR - Evaporator Comm.	twaters@foxmccluskey.com
Shawn Trumb	Town of Apalachicola	STREHN@TZ.MARTIN.FL.US
Sherrille Cavendish	Martin Bocc	
Sherrill Mandy	Martin Bocc	
Michelle Burgess	Town M62	MBurgess@Sunlightpoint.org
Cheryl Dinkin	MC GMD	cduline@martin.fl.us
Teply Dweil	Ocean Base 22	twoneil@Aol.com



Martin MPO
Mobility/Multimodal Fee
Mobility Fee Stakeholder Committee Meeting
March 2, 2020

Name	Organization/Department	Email Address / Phone Number
Lisa Wichser	Martin Public Works	lwichser@martin.fl.us 772 223-7945
Krista Storey	Martin County Attorney	kstorey@martin.fl.us 772-88-5923
Beth Beltran	Martin MPO	bbeltran@martin.fl.us 772/288-5484
Melissa Corbett	Stuart Chamber	melissac@themulcorgroup.com 772-223-8850
Bilivar Gomez	Martin MPO	bgomez@martin.fl.us / 772-288-5946

Open Houses

- Open House #1 (Nov 18, 2019):

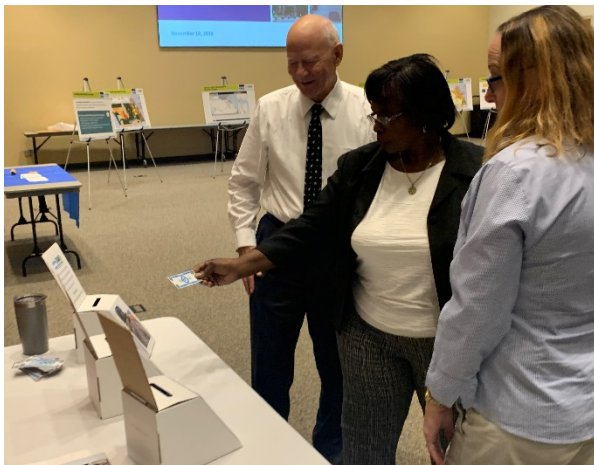
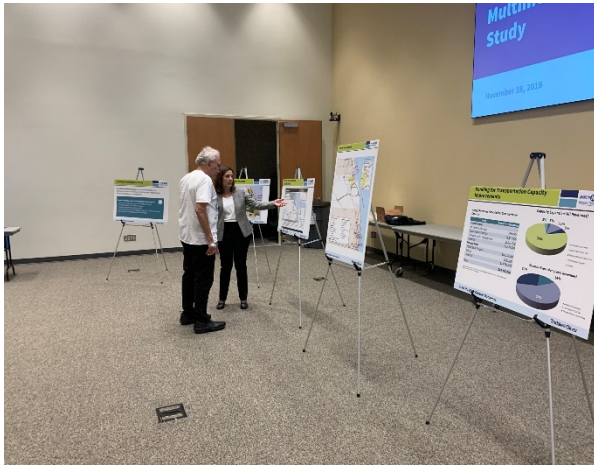


SIGN-IN SHEET
 Mobility/Multimodal Fee Study
 Open House
 November 18, 2019

Please note that any information you elect to provide will remain strictly confidential and will not be distributed in any way. Please write legibly.

No.	Name & Contact Information	Name & Contact Information
1	Joy Puerta jpuerta@martin.fl.us	
2	Ricardo Vazquez rvazquez@martin.fl.us	
3	Beth Beltran bbeltran@martin.fl.us	
4	Jill Quigley jqquigley@tindalediver.com	
5	Nigin Kemp nkemp@tridalesher.com	
6	Steve Tridale stridale@tridalesher.com	
7	DAVE KAPPELL WINDSTREAM.NET DAVID.KAPPELL@	
8	Belmar Stone bstone@martin.fl.us	
9	DIANA DWERS dianadwers@live.com	
10	Bernadette Scarfi BScarfi@rsc.edu	
11	Eliot Brown ebrown@st-eng.com	
12		
13		


- Event Photos:



- Open House #2 (May 7, 2020):

 Martin MPO Mobility/Multimodal Fee Study Virtual Open House May 7, 2020			
First Name	Last Name	Organization/Department	Email Address
Eric	Buetens	Eric Buetens, Atty.	ebuetens@metrolink.net
EULA	CLARKE	Mrs.	eclarke@ci.stuart.fl.us
Kim	DeLaney	TCRPC	kdelaney@tcrpc.org
Clyde	Dulin	GMD	cdulin@martin.fl.us
Kimberly	Everman	Martin County School District	evermak@martin.k12.fl.us
Michael	Houston	HJA Design Studio	mhouston@hjadstudio.com
Jan	Icyda	BPAC	icyda@bellsouth.net
Thomas	Lanahan	Treasure Coast Regional Planning Council	tlanahan@tcrpc.org
Michael	Meier	City of Stuart	mmeier@ci.stuart.fl.us
Josh	Mills	Martin County CRA	JMills@martin.fl.us
Dylan	OBerry	CAPTEC Engineering	doberry@goCAPTEC.com
Jordan	Pastorius	MC	jpastori@martin.fl.us
Jordan	Pinkston	City of Stuart	jpinkston@ci.stuart.fl.us
Jessica	Seymour	Treasure Coast Regional Planning Council	jseymour@tcrpc.org
Irene	Szedlmayer	Martin County BOCC	izedlma@martin.fl.us
Lisa	Tompson	Martin County Genealogical Society	lisa.tompson@gmail.com
Bill	Whiteford	Team Plan Inc.	wcw@teamplaninc.com
Mike	Wolfe	www.brackish-rehab.com	bike@brackish-rehab.com
Melissa	Zolla	Firefly	melissa@fireflyforyou.com
Beth	Beltran	Martin County MPO	bbeltran@martin.fl.us
Bolivar	Gomez	Martin County MPO	bgomez@martin.fl.us

- Open House #2 (May 7, 2020), continued:

			
Martin MPO Mobility/Multimodal Fee Study Virtual Open House May 7, 2020			
First Name	Last Name	Organization/Department	Email Address
Joy	Puerta	Martin County MPO	jpuerta@martin.fl.us
Ricardo	Vazquez	Martin County MPO	rvazquez@martin.fl.us
Florence	Allen	Martin County MPO	fallen@martin.fl.us

Appendix G
Technical Memorandum #1:
Summary of Coordinated Outreach

FINAL REPORT - APPENDIX G



Multimodal/Mobility Fee study
**Technical
Memorandum #1**

May 27, 2020



**Tindale
Oliver**

FINAL REPORT - APPENDIX G

Martin Metropolitan Planning Organization Mobility/Multimodal Fee Study Technical Memorandum 1

Table of Contents

- I. INTRODUCTION 1
- II. SUMMARY OF COORDINATED OUTREACH..... 2

FINAL REPORT - APPENDIX G

I. Introduction

Tindale Oliver has been retained by Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure. The fee calculations will take into consideration the County's growth management and concurrency policies.

Given that the MPO is responsible for planning and programming all federal and state transportation funds for all jurisdictions in Martin County, it serves as a primary forum to conduct a countywide transportation funding study. As part of this process, a set of meetings and outreach efforts need to be undertaken to share study findings and related information, obtain input from local governments, stakeholders, and the general public, and finally reach a consensus on the final action items.

This Technical Memorandum provides a summary of approach to coordinated outreach of local governments and general public.

FINAL REPORT - APPENDIX G

II. Summary of Coordinated Outreach

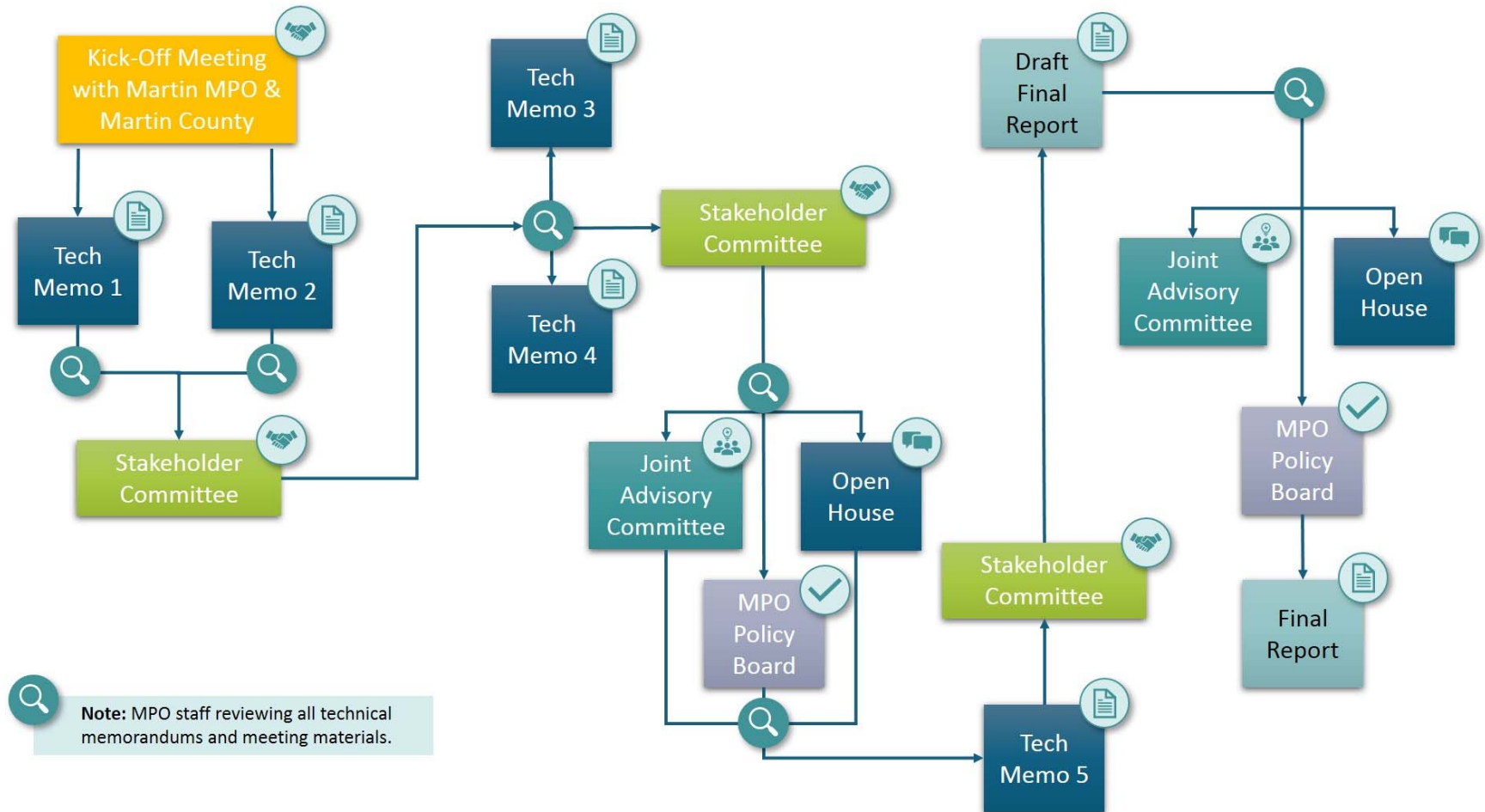
The outreach process involved several steps for different levels of review. The primary groups that will be involved include the following:

- Martin MPO Staff
- Mobility Fee Stakeholder Committee
- MPO Policy Board
- MPO Joint Advisory Committee
- General Public

Figure 1 provides an overview of meetings with these groups, flow of resulting information, and the relationship to technical memoranda that Tindale Oliver will produce as part of the study. This figure was used at all the meetings indicating the study progress and the focus area at each meeting. The remainder of this memo details the involvement process for each of these groups in more detail.

FINAL REPORT - APPENDIX G

Figure 1: Public and Stakeholder Involvement Process Flow-Chart



FINAL REPORT - APPENDIX G

- 1. **Martin MPO Staff:** Tindale Oliver coordinated with staff for review of technical memoranda and meeting materials, including agendas, PowerPoint presentations, and any handouts. Documents and materials were sent to staff in advance of a meeting or other public distribution to allow adequate review time for staff and revision time by Tindale Oliver.

- 2. **Mobility Fee Stakeholder Committee** that is composed of the following members:
 - MPO Administrator and/or designee
 - County Engineer
 - Growth Management Director
 - Senior Financial Analyst
 - Representatives from Martin County local governments, including Martin County, City of Stuart, City of Sewall’s Point, City of Jupiter Island, City of Ocean Breeze, and the Village of Indiantown
 - Florida Department of Transportation (FDOT) representative
 - Stuart/Martin Chamber of Commerce representative
 - Legal representative
 - Representative from the development community

This group met three times throughout the study with meeting notice and scheduling occurring via email coordination facilitated by MPO staff. Tindale Oliver prepared PowerPoint presentations that summarized the study results and documented major takeaways from each meeting for consideration in analysis, preparation of deliverables, and development of public outreach events. The scope of these meetings included the following:

- **Meeting 1 – Kick-off Meeting:** The purpose of this meeting was to discuss the study goals/purpose, introduce the general methodology that will be used (including a summary of *Technical Memorandum #2 – Data Compilation & Review* on data collection and analysis), and provide initial, preliminary findings about the countywide economic, demographic and geographic characteristics.
- **Meeting 2 – Review of Initial Results:** This meeting provided an opportunity to review the findings of draft *Technical Memoranda #3 – Best Practices* and *Technical Memorandum #4 – Goals/Objectives & Geographic District Areas*, which were distributed prior to the meeting. Tindale Oliver summarized findings from case study research on best and common practices for the development and implementation of multi-modal and mobility fees. Tindale Oliver also presented initial findings on fee variations for three approaches developed to support the

FINAL REPORT - APPENDIX G

County’s and the municipalities’ goals and objectives for countywide transportation funding and fee variations by different geographic districts and/or targeted land uses, such as affordable housing or high wage generating land uses, etc. In addition, alternative options for development review and concurrency processes were discussed and compared to the County’s current practices. As part of this meeting, Tindale Oliver obtained input on proposed alternatives as well as providing the Committee with the opportunity to ask questions. The Committee’s input was incorporated into the revised Technical Memoranda prior to findings being presented to the MPO Policy Board and Joint Advisory Committee.

- **Meeting 3 – Review of Mobility Fee Alternatives:** Based on the input received from the Stakeholder Committee as well as the Joint Advisory Committee and MPO Policy Board, Tindale Oliver prepared and submitted *Technical Memorandum #5 – Mobility Fee Alternatives*, which included different approaches to a mobility funding program. Based on input from the Committee (and other groups), Tindale Oliver started to prepare a final report for review.

This group also reviewed this draft final report of Mobility Fee Study for Martin County. Sign-in sheets and pictures from these meetings are included later in this section.

- 3. MPO Joint Advisory Committee and MPO Policy Board Meetings and Presentations:** In addition to the Mobility Fee Stakeholder Committee, Tindale Oliver presented the findings of the study to the Martin MPO Joint Advisory Committee and the MPO Policy Board. Of these, **MPO Policy Board** consists of elected officials representing Martin County, the City of Stuart, the Town of Sewall’s Point, and the Village of Indiantown. The MPO Board is supported by several advisory committees that include technical staff and citizen representatives that review information and make recommendations.

Joint Advisory Committee includes the following Committees:

- **Citizen’s Advisory Committee (CAC)**, which consists of 12 members, representing citizens appointed by the MPO Board. This Committee strives to represent the citizens of Martin County and is responsible for providing continuous public input for the MPO decision-making process.
- **Technical Advisory Committee (TAC)**, which includes 14 members, representing municipal governments and other public agencies, such as the School District, FDOT, Martin County Growth Management Department, and the City of Stuart. This Committee serves as a source of wide-ranging expertise for the MPO Board

FINAL REPORT - APPENDIX G

and is responsible for advising the Board on all technical matters, including transportation plans, studies, and implementation programs.

- **Bicycle & Pedestrian Advisory Committee (BPAC)** consists of 16 members. BPAC represents Martin County citizens on all bicycle and pedestrian-related issues. The Committee is responsible for providing input into the MPO decision-making process, which includes reviewing and commenting on transportation needs and issues relating to bicycle routes, sidewalk and other non-motorized mobility facilities.

Study findings described previously were also presented to the MPO Board and Joint Advisory Committee to obtain input and direction. Tindale Oliver prepared PowerPoint presentations to summarize findings and provided a basis for discussion at the meetings. Feedback was documented and considered in the analysis and preparation of deliverables.

- 4. Public Open Houses:** Two public open houses were held during the study to present information on study findings, provide opportunities for the general public to ask questions, and provide opportunities for the public to offer input and suggestions. These public open houses were publicized through the MPO’s and each municipality’s standard public notice procedures, including Constant Contact applications.


Tindale Oliver prepared visual materials for use at the open houses (e.g., display boards and/or PowerPoint presentations with graphs, charts, infographics, etc.) to summarize baseline information (e.g., existing conditions in the county, current funding, summary of projects from existing plans), study methodology and findings, and general recommendations. Due to COVID-19, the second Open House was held in a webinar format. Sign-in sheets and pictures from these meetings are included later in this memorandum.

As discussed previously, the primary purpose of these meetings was to obtain input from stakeholders, elected officials, and others regarding the countywide transportation funding options. Input from these meetings were incorporated into the calculations and the general approach as appropriate, prior to publishing the final report.


FINAL REPORT - APPENDIX G

Mobility Fee Stakeholder Committee Meetings

- Meeting #1 (Aug 19, 2019):


 Martin MPO Mobility/Multimodal Fee Study Mobility Fee Stakeholder Committee Kick-off Meeting August 19, 2019		
Name	Organization/Department	Email Address / Phone Number
Joy Puerta	Martin MPO	jpuerta@Martin.fl.us ; 772-320-3015
Alejo Kamp	Tindale Oliver	nkamp@tindaloliver.com 813-224-8862
Bohner Gomez	Martin MPO	bgomez@martin.fl.us
Henry M. Tack	T-O	813-224-8862 htack@tindaloliver.com
Nicki Van Vorst	GMD	nickiv@martin.fl.us
Samantha Lovelady	GMD	
Michael Weston	Town of Tipton Isb	mweston@TI-MARTIN.fl.us
Tyson Winters	Fox McCusker Sushi Bobison	twinters@fox.mccusker.com larry.hymowitz@dot.state.fl.us 954-777-4663
Larry Hymowitz	FDOT	
Jannica Manning	Martin County	Jmanning@MARTIN.fl.us
Melissa Corbett	Stuart Chamber	melissac@themilcograpp.com

FINAL REPORT - APPENDIX G

 Martin MPO Mobility/Multimodal Fee Study Mobility Fee Stakeholder Committee Kick-off Meeting August 19, 2019		
Name	Organization/Department	Email Address / Phone Number
David Dyess	City of Stuart	dyess@c1.stuart.fl.us
Terry O'Neil	Town of Ocean Breeze	twoneil@tbl.com
Schward		
Lisa Wischer	Martin Co Public Works	lwischer@martin.fl.us 772-223-7945

FINAL REPORT - APPENDIX G

- Meeting #2 (Nov 6, 2019):

 Martin MPO Mobility/Multimodal Fee Mobility Fee Stakeholder Committee Meeting November 6, 2019		
Name	Organization/Department	Email Address / Phone Number
Joy Puente	Martin MPO	jpunte@martin.fl.us
Michael Vertun	Super IS / as	MVertun@ti-ma-ti-fl.us
David Dyess	City of Stuart	dyess@ci.stuart.fl.us
Tyson Waters	Fox McIlwain Both Regional Development Communities	twaters@foxmccluskey.com
Lois Bush	FDOT District Firm	lois.bush@dot.state.fl.us
Elizabeth Levinson	Martin County	
Beth Beltrao	Martin MPO	
LISA WICKSER	MARTIN PUBLIC WORKS	772-223-7945 lwicks@martin.fl.us
Samantha Howelley	GMD	772-288-5664 shove@martin.fl.us
Nicki Bunn Zima	GMD	772-288-5520 nikkiv@martin.fl.us
Jennifer Manning	OMB	Jmanning@martin.fl.us


FINAL REPORT - APPENDIX G

- Meeting Photos:




FINAL REPORT - APPENDIX G

- Meeting #3 (Mar 2, 2020):

 Martin MPO Mobility/Multimodal Fee Mobility Fee Stakeholder Committee Meeting March 2, 2020		
Name	Organization/Department	Email Address / Phone Number
Joy Puerta	MPO	jpuerta@martinfl.us
LARRY WALLACE	FDOT	LARRY.WALLACE@DOT.STATE.FL.US
LARRY HYPNOWITZ	FDOT	Larry.hypnowitz@dot.state.fl.us
David Dyess	Stuart	ddyess@ci.stuart.fl.us
TYSON WATERS	FMB2 - Developer Comm.	twaters@foxmccluskey.com
Shaun Timms	Town of Apalachicola	STREHN@TIZ.MARTIN.FL.US
Samantha Lovelady	Martin Bocc	
Shirley Manning	Martin Bocc	
Michelle Bergus	Town M62	M.Bergus@Swallpoint.org
Chad Rubin	MC GMD	cdubin@martin.fl.us
TERRY DWELZ	OCEAN BREEZE	twowel@tbl.com

FINAL REPORT - APPENDIX G

 Martin MPO Mobility/Multimodal Fee Mobility Fee Stakeholder Committee Meeting March 2, 2020		
Name	Organization/Department	Email Address / Phone Number
Lisa Wichser	Martin Public Works	lwichser@martin.fl.us 772 223-7945
Krista Storey	Martin County Attorney	kstorey@martin.fl.us 772-88-5923
Beth Beltran	Martin MPO	bbeltran@martin.fl.us 772/288-5484
Melissa Corbett	Stuart Chamber	melissac@themulcorgroup.com 772-223-8850
Bolivar Gomez	Martin MPO	bgomez@martin.fl.us / 772-288-5946

FINAL REPORT - APPENDIX G

Open Houses

- Open House #1 (Nov 18, 2019):

SIGN-IN SHEET
 Mobility/Multimodal Fee Study
 Open House
 November 18, 2019

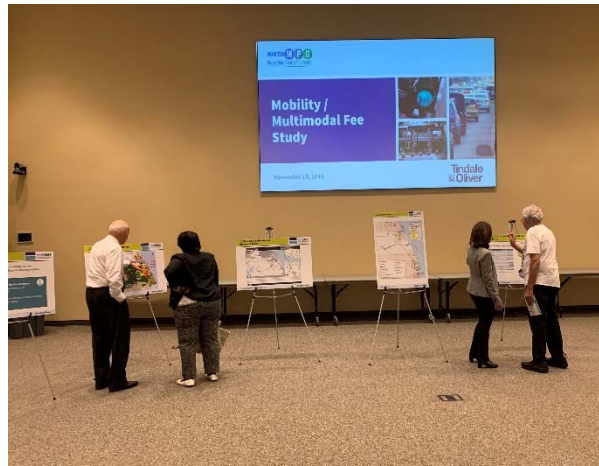
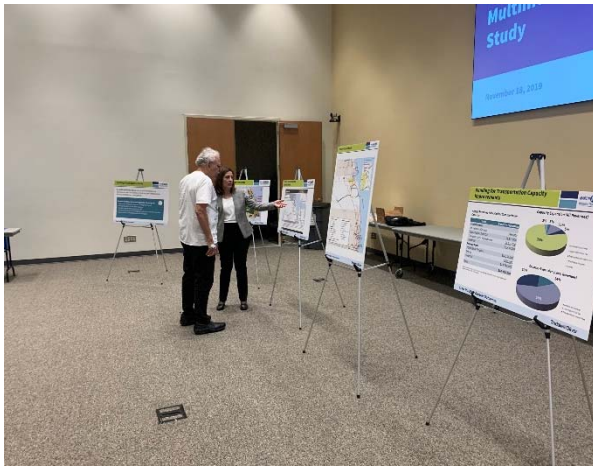


Please note that any information you elect to provide will remain strictly confidential and will not be distributed in any way. Please write legibly.

No.	Name & Contact Information	Name & Contact Information
1	Joy Puerta jpuerta@martin.fl.us	
2	Ricardo Vazquez rvazquez@martin.fl.us	
3	Beth Beltran bbeltran@martin.fl.us	
4	Jill Quigley jqquigley@tindalediver.com	
5	Virgin Kemp vkemp@tridalekoe.com	
6	Steve Trudala strudal@tridalekoe.com	
7	DAVE KAPPELL WINDSTREAM.NET DAVID.KAPPELL@	
8	Bolivar Stone bstone@martin.fl.us	
9	Diana Owens dianaw@live.com	
10	Bernadette Scarfi BScarfi@rsc.edu	
11	Eliot Brown ebrown@ct-eng.com	
12		
13		

FINAL REPORT - APPENDIX G

- Event Photos:




FINAL REPORT - APPENDIX G

- Open House #2 (May 7, 2020):

 <p style="text-align: center;">Martin MPO Mobility/Multimodal Fee Study Virtual Open House May 7, 2020</p>			
First Name	Last Name	Organization/Department	Email Address
Eric	Buetens	Eric Buetens, Atty.	euetens@metrolink.net
EULA	CLARKE	Mrs.	eclarke@ci.stuart.fl.us
Kim	DeLaney	TCRPC	kdelaney@tcrpc.org
Clyde	Dulin	GMD	cdulin@martin.fl.us
Kimberly	Everman	Martin County School District	evermak@martin.k12.fl.us
Michael	Houston	HJA Design Studio	mhouston@hjadstudio.com
Jan	Icyda	BPAC	icyda@bellsouth.net
Thomas	Lanahan	Treasure Coast Regional Planning Council	tlanahan@tcrpc.org
Michael	Meier	City of Stuart	mmeier@ci.stuart.fl.us
Josh	Mills	Martin County CRA	JMills@martin.fl.us
Dylan	OBerry	CAPTEC Engineering	doberry@goCAPTEC.com
Jordan	Pastorius	MC	jpastori@martin.fl.us
Jordan	Pinkston	City of Stuart	jpinkston@ci.stuart.fl.us
Jessica	Seymour	Treasure Coast Regional Planning Council	jseymour@tcrpc.org
Irene	Szedlmayer	Martin County BOCC	izedlma@martin.fl.us
Lisa	Tompson	Martin County Genealogical Society	lisa.tompson@gmail.com
Bill	Whiteford	Team Plan Inc.	ww@teamplaninc.com
Mike	Wolfe	www.brackish-rehab.com	bike@brackish-rehab.com
Melissa	Zolla	Firefly	melissa@fireflyforyou.com
Beth	Beltran	Martin County MPO	bbeltran@martin.fl.us
Bolivar	Gomez	Martin County MPO	bgomez@martin.fl.us

FINAL REPORT - APPENDIX G

- Open House #2 (May 7, 2020), continued:

 Martin MPO Mobility/Multimodal Fee Study Virtual Open House May 7, 2020			
First Name	Last Name	Organization/Department	Email Address
Joy	Puerta	Martin County MPO	jpuerta@martin.fl.us
Ricardo	Vazquez	Martin County MPO	rvazquez@martin.fl.us
Florence	Allen	Martin County MPO	fallen@martin.fl.us

Appendix H
Technical Memorandum #2:
Data Compilation & Review

FINAL REPORT - APPENDIX H



Mobility/Multimodal Fee Study
**Technical
Memorandum #2
Data Compilation &
Review**

October 29, 2019



**Tindale
Oliver**

FINAL REPORT - APPENDIX H

Martin Metropolitan Planning Organization Mobility/Multimodal Fee Study Technical Memorandum 2 Data Compilation & Review

Table of Contents

- I. INTRODUCTION 1
- II. LOCAL CONDITIONS & DEMOGRAPHIC/ECONOMIC TRENDS..... 2
- III. PLANNING & POLICY REVIEW..... 15
- IV. FINANCIAL DATA REVIEW & MOBILITY/MULTIMODAL FEE ELEMENTS 33
- V. SUMMARY OF DATA COLLECTION/REVIEW & PRELIMINARY CONCLUSIONS 40

APPENDIX A: Data Needs Memo

FINAL REPORT - APPENDIX H

I. Introduction

Tindale Oliver has been retained by Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure. Economic, demographic and financial data and a review of the existing planning and policy landscape are critical inputs into this analysis. The initial data needs memorandum is included in Appendix A, which lists local data requested from the MPO and Martin County. These data were supplemented with additional data obtained from various sources. This technical memorandum provides an overview of data that is collected and how this data is being analyzed. The data review includes a quality and accuracy check to identify any considerations to incorporate into the analysis, ensuring the use of most reliable and accurate information. Finally, a summary of initial findings is included at the conclusion of this technical memorandum.

FINAL REPORT - APPENDIX H

II. Local Conditions and Demographic/Economic Trends

As part of the mobility/multimodal fee calculations and transportation funding analysis, it is important to understand economic and demographic conditions in Martin County.

Population and Employment Trends

Population trends and projections are reviewed to gain an understanding of growth levels and develop revenue estimates. As growth levels increase, the need for additional infrastructure and alternative revenue sources to fund this need, such as a mobility/multimodal/impact fee, increases.

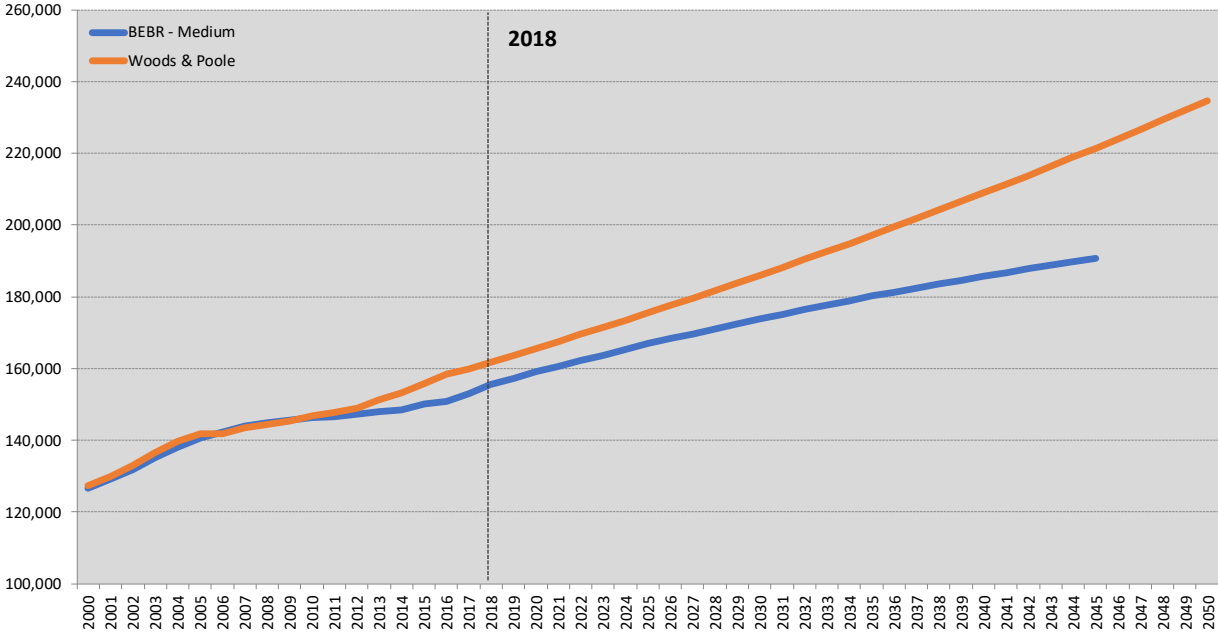
The following sources were reviewed for population and employment data. In terms of population data, the County’s Comprehensive Plan requires use of the State’s Bureau of Economic & Business Research (BEBR) data for population projections; however, information from other sources are shown for reference purposes.

- BEBR
- Woods & Poole Economics, Inc.
- Bureau of Economic Analysis (BEA)
- U.S. Census Bureau
 - o American Community Survey (ACS) 5-year estimates
 - o Census Transportation Planning Products Program (CTPP)
 - o Building Permits Survey
- Martin MPO’s Community Characteristics Report, 2017
- Martin County Residential Demand Analysis, 2018
- Martin County Growth and Development Trends, February 2019
- Treasure Coast Regional Planning Model v4 TAZ data (used in the Long Range Transportation Plan)

Figure 1 illustrates the population projections for Martin County from different data sources. The BEBR medium-level projections estimate a population of 190,800 for 2045, representing an annual average growth rate of 0.76% between 2018 and 2045. The Woods & Poole projections estimate a population of 221,463 for 2045, representing an annual average growth rate of 1.17% between 2018 and 2045.

FINAL REPORT - APPENDIX H

Figure 1 – Population Projections



Source: Bureau of Economic & Business Research, Medium-Level projections, 2019
 Woods & Poole Economics, Inc. Florida State Profile, 2019

Table 1 summarizes the current estimated and projected (2040) population for Martin County from various data sources, including the BEBR-Medium and Woods & Poole Data shown in Figure 1.

Table 1 – Comparison of Population Projections

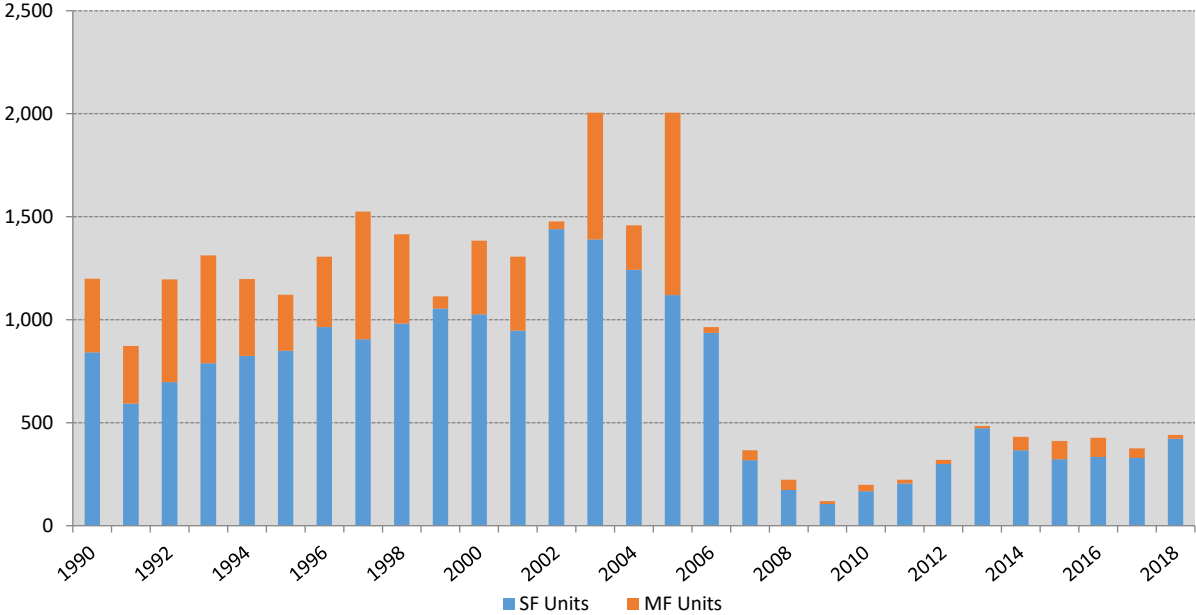
Source	2018 Estimate	2040 Projection	Population Added	Average Annual Increase
BEBR - Low	155,556	161,300	5,744	0.16%
BEBR - Medium	155,556	185,800	30,244	0.81%
BEBR - High	155,556	217,700	62,144	1.54%
Woods & Poole	161,793	208,955	47,162	1.17%
ACS (5-Year Estimates)*	155,719	-	-	-
Growth & Development Trends	155,556	178,077	22,521	0.62%
TCRPM v4**	155,556	183,504	27,948	0.75%

*Estimate is for 2017
 **BEBR estimate is shown for 2018

Figures 2 and 3 illustrate the recent residential permitting in Martin County and the City of Stuart, indicating that most of the permitting is occurring in the unincorporated County.

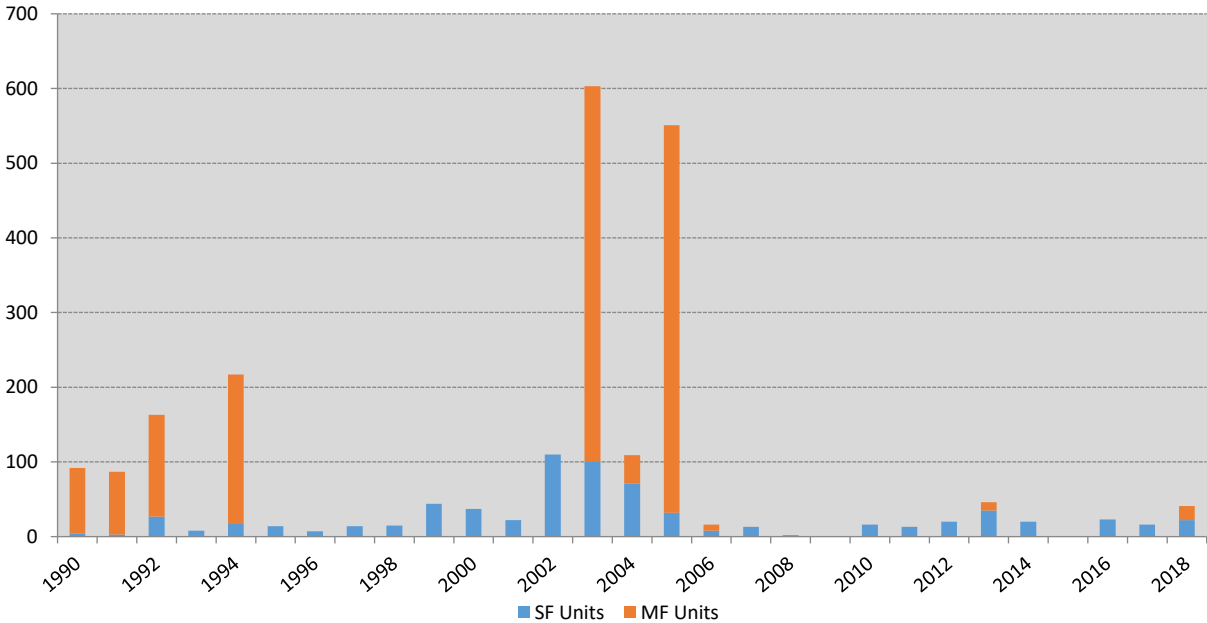
FINAL REPORT - APPENDIX H

Figure 2 – Residential Permitting, Martin County



Source: U.S. Census Bureau, Building Permit Survey

Figure 3 – Residential Permitting, City of Stuart

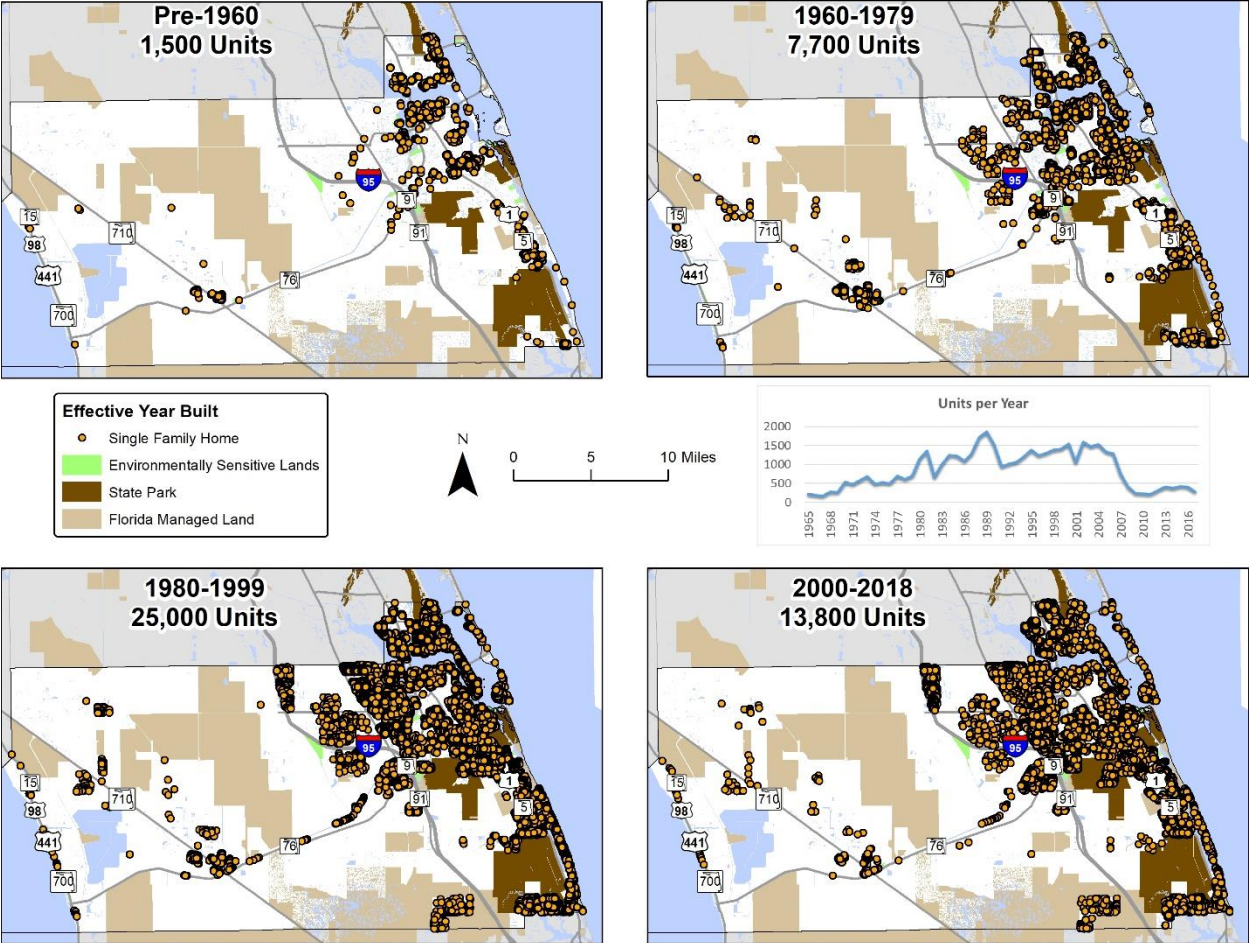


Source: U.S. Census Bureau, Building Permit Survey

FINAL REPORT - APPENDIX H

Map 1 presents the construction of single family homes over time. As expected, the earlier development occurred on the coast, and as the coastline became more built out, the developed started to move to the west.

Map 1 – Single Family Development Trends

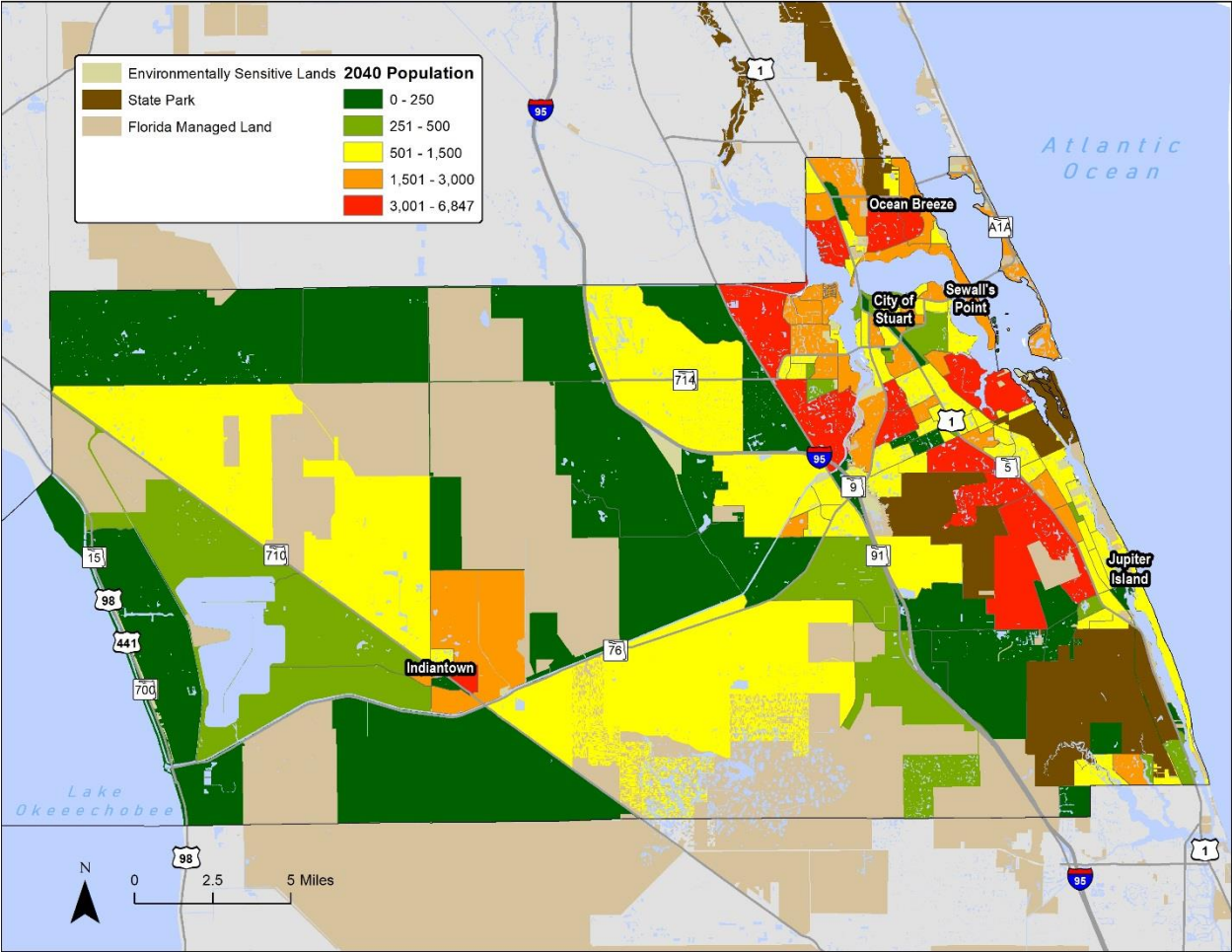


Source: Florida Department of Revenue, Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

Map 2 shows projected population by Traffic Analysis Zone (TAZ); areas along the Atlantic coast are generally anticipated to see higher projected population by zone, as well as zones around Indiantown. The 2040 projected population density by zone (Map 3) shows similar patterns.

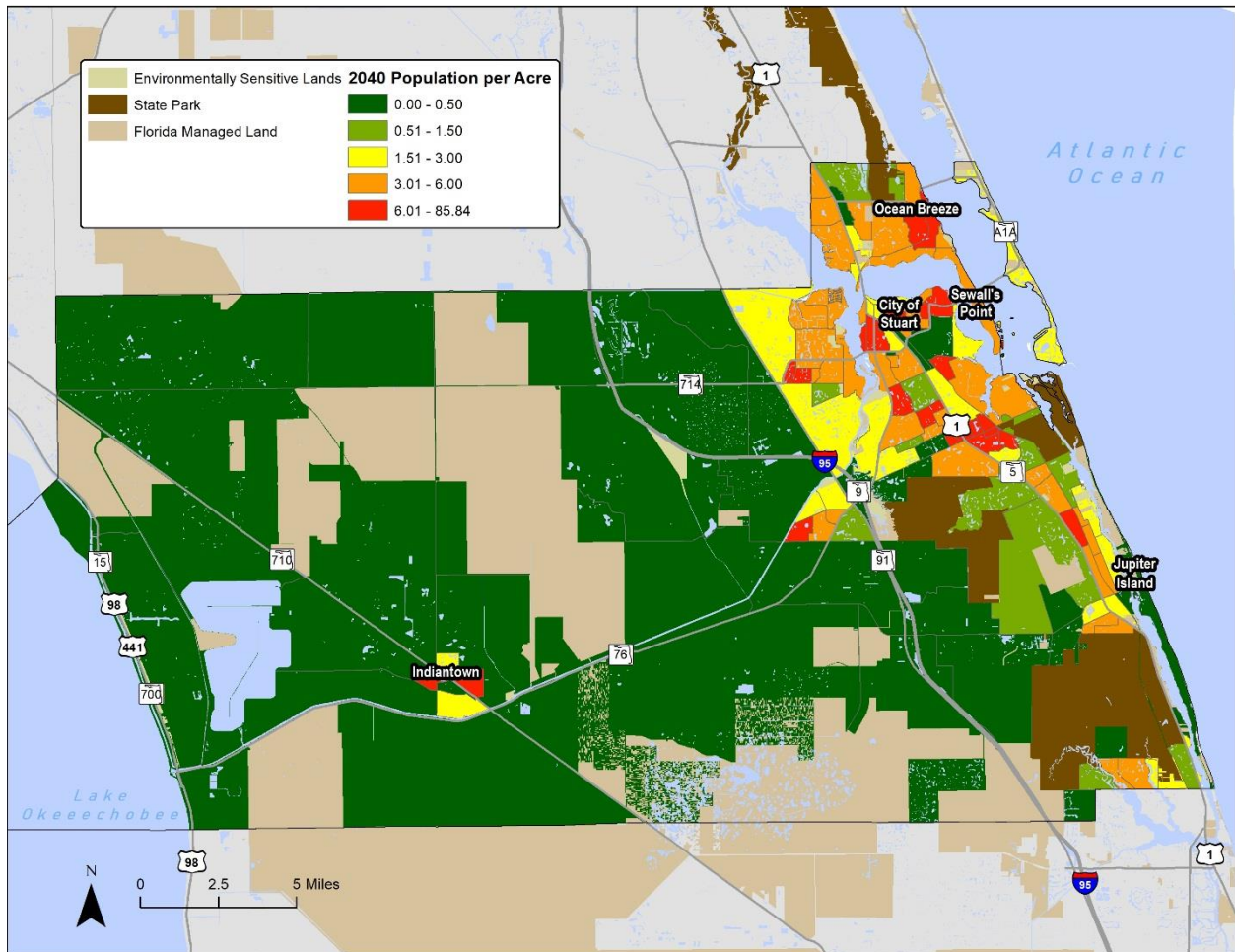
Map 2 – Projected Population by Area (2040)



Source: Treasure Coast Regional Planning Model v4 TAZ data

FINAL REPORT - APPENDIX H

Map 3 – Projected Population Density (2040)

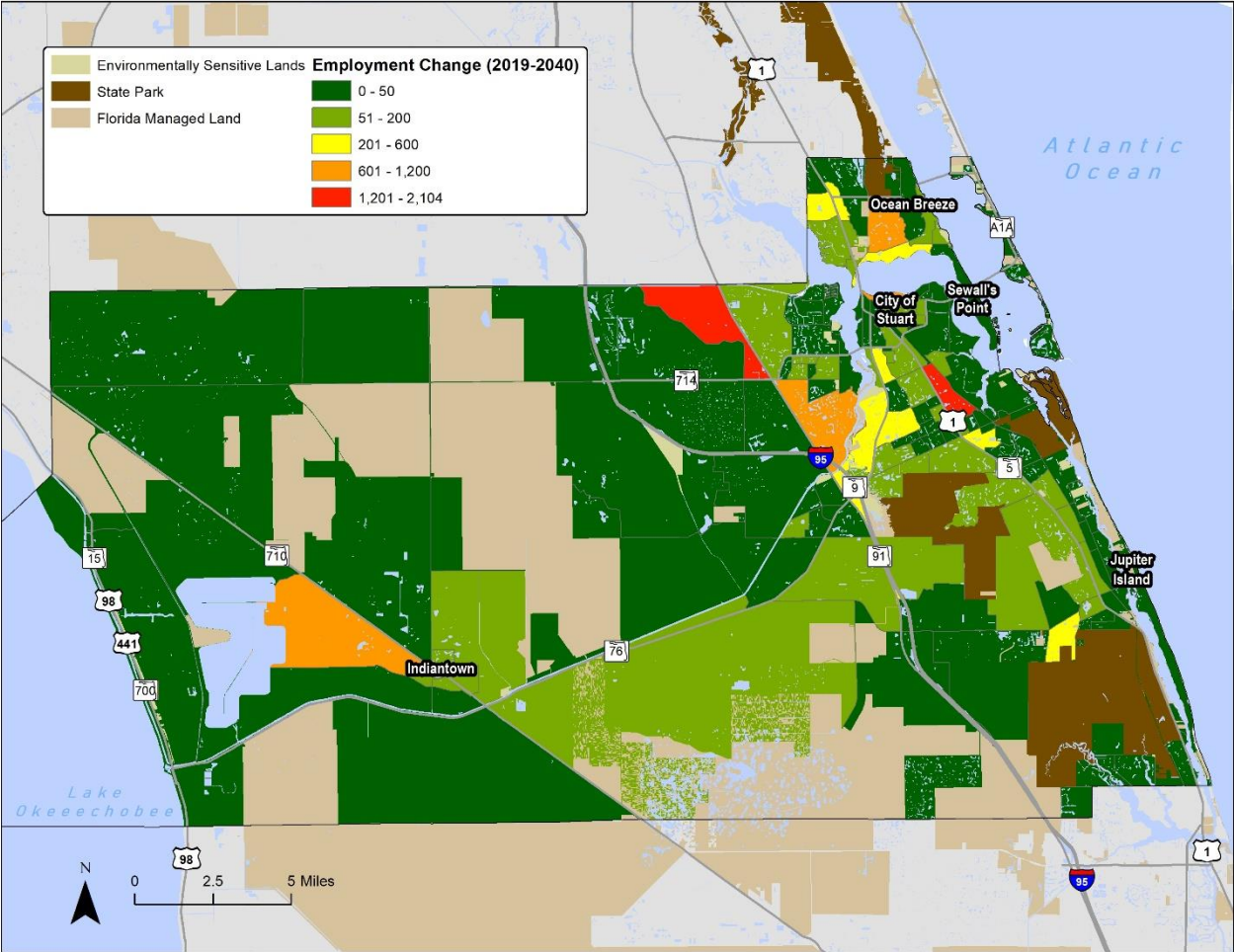


Source: Treasure Coast Regional Planning Model v4 TAZ data

FINAL REPORT - APPENDIX H

Finally, Map 4 presents projected employment levels by geographic area, which follows a similar pattern to the population projections.

Map 4 – Projected Employment Growth by Area



Source: Treasure Coast Regional Planning Model v4 TAZ data, Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

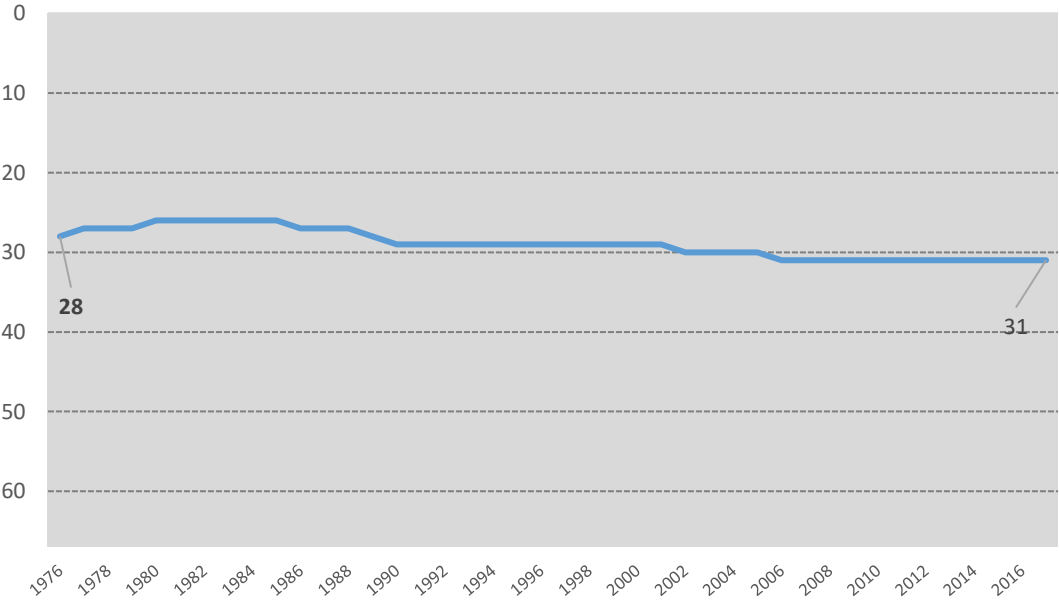
FINAL REPORT - APPENDIX H

Statewide Rankings of Demographic and Economic Variables

The following figures illustrate Martin County’s economic and demographic trends as they relate to the other counties in Florida. For each year of the trend, all Florida counties are ranked from 1 to 67, and Martin County’s position is tracked for several different variables. This review provides an understanding of county’s economic and demographic characteristics both in terms of current conditions and over time, illustrating the evolution of Martin County as compared to the rest of the state of Florida. Primary findings of this review include the following.

- Martin County ranks in the middle of Florida counties in terms of population and maintained this ranking over time. The county’s ranking in terms of employment to population ratio improved over time, indicating more employment opportunities.
- Martin County is a high-income county (ranked 3rd in the state), and wage levels suggested an improvement over time as well.
- Martin County ranks 61st out of 67 counties in terms of median age and maintained this ranking over time.

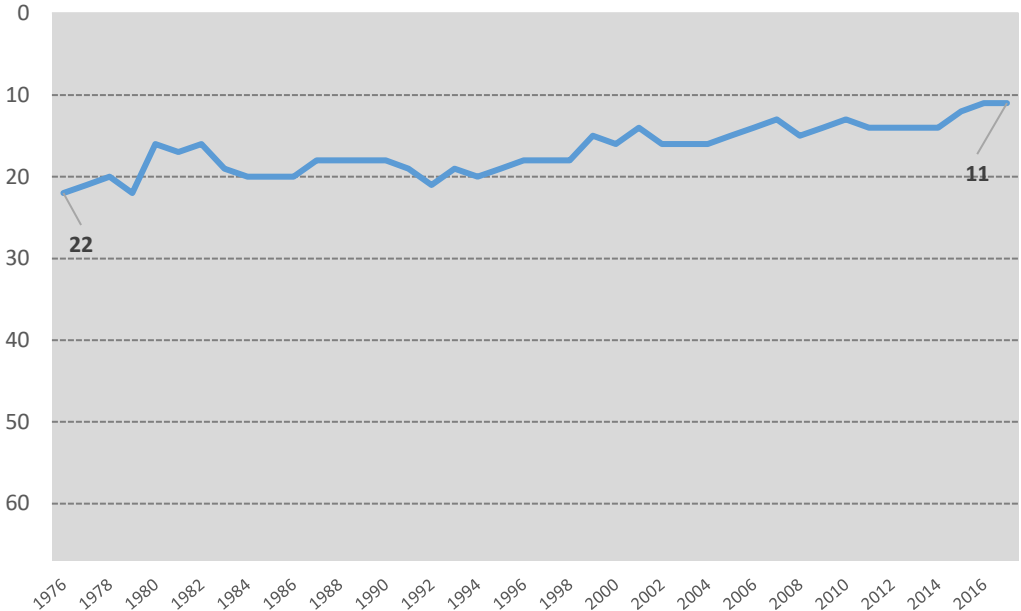
Figure 4 – Historical Population Ranking



Source: Bureau of Economic Analysis and BEBR
Highest population = 1, Lowest population = 67

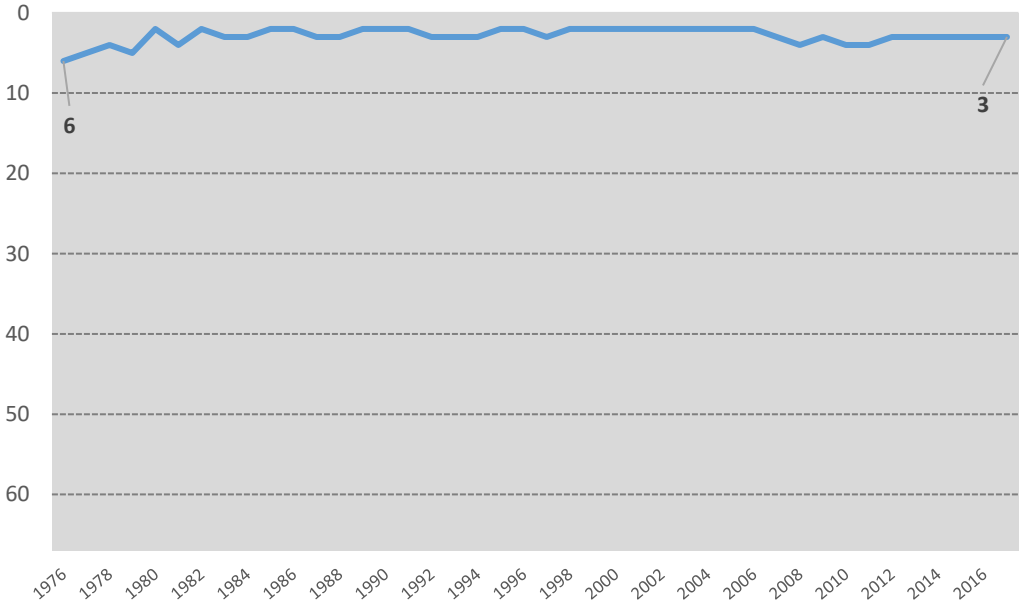
FINAL REPORT - APPENDIX H

Figure 5 – Employment/Population Ranking



Source: Bureau of Economic Analysis (full-time and part-time employment)
 Highest E/P ratio = 1, Lowest E/P ratio = 67

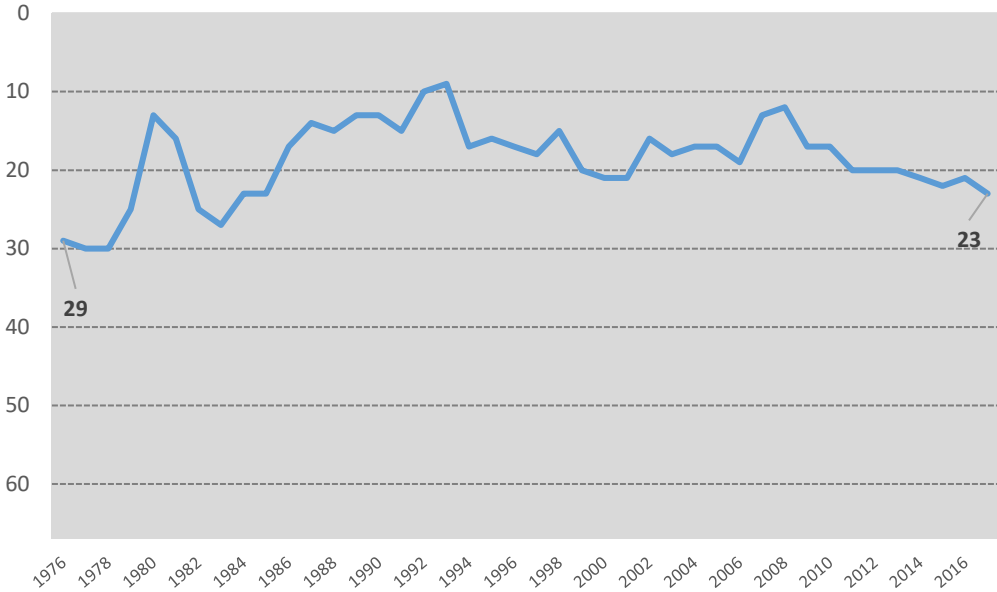
Figure 6 – Income per Capita Ranking



Source: Bureau of Economic Analysis
 Highest Income/Capita = 1, Lowest Income/Capita = 67

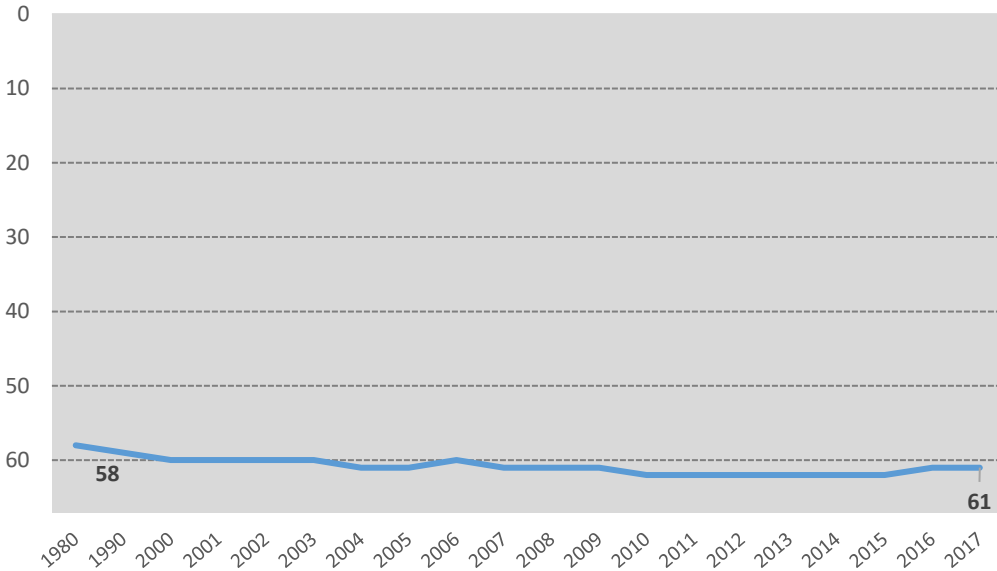
FINAL REPORT - APPENDIX H

Figure 7 – Wage per Job Ranking



Source: Bureau of Economic Analysis
 Highest Wage/Job = 1, Lowest Wage/Job = 67

Figure 8 – Median Age Ranking



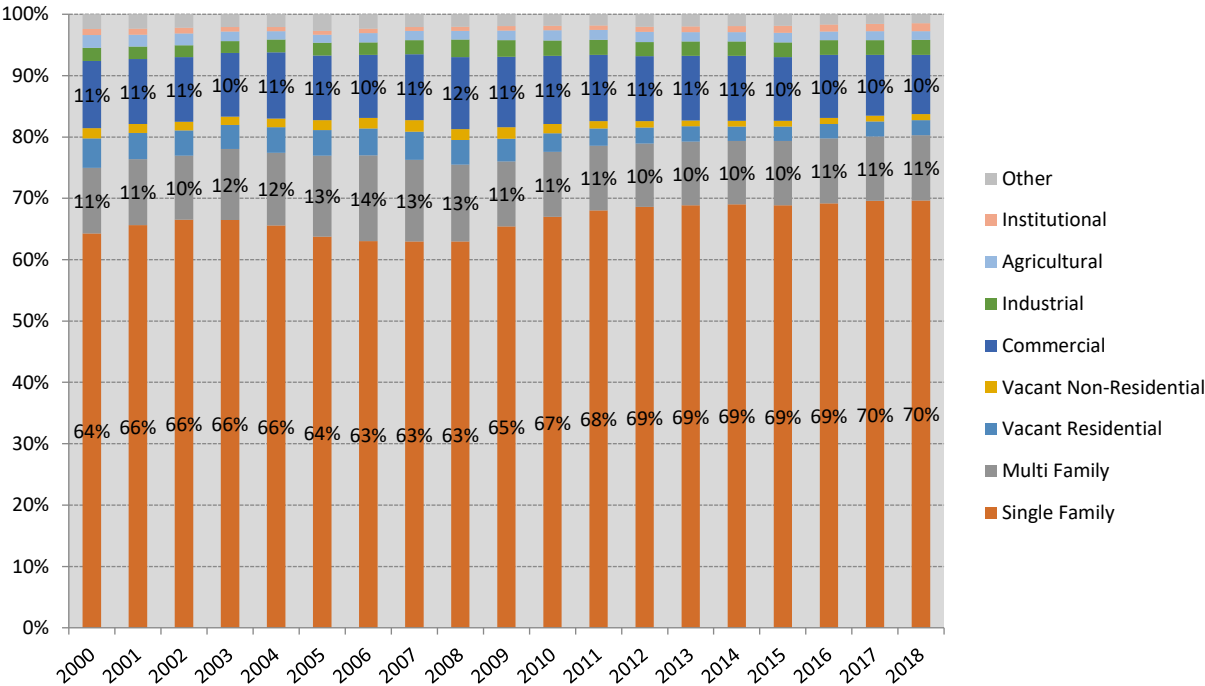
Source: Florida’s Local Government and Financial Information Handbook
 Sales Tax = estimated revenue per 1% of local option sales tax

FINAL REPORT - APPENDIX H

The data in Figures 9 through 11 provide an understanding of tax base distribution of the county as well revenue generation levels. This information will be utilized while reviewing existing and potential transportation revenues and will help to determine more productive revenue options.

Figure 9 presents the tax base allocation by land use category. As shown, residential land uses dominate the tax base, accounting for over 80% of the County’s taxable value and the County has been slowly becoming less diverse.

Figure 9 – Tax Base Allocation, Martin County

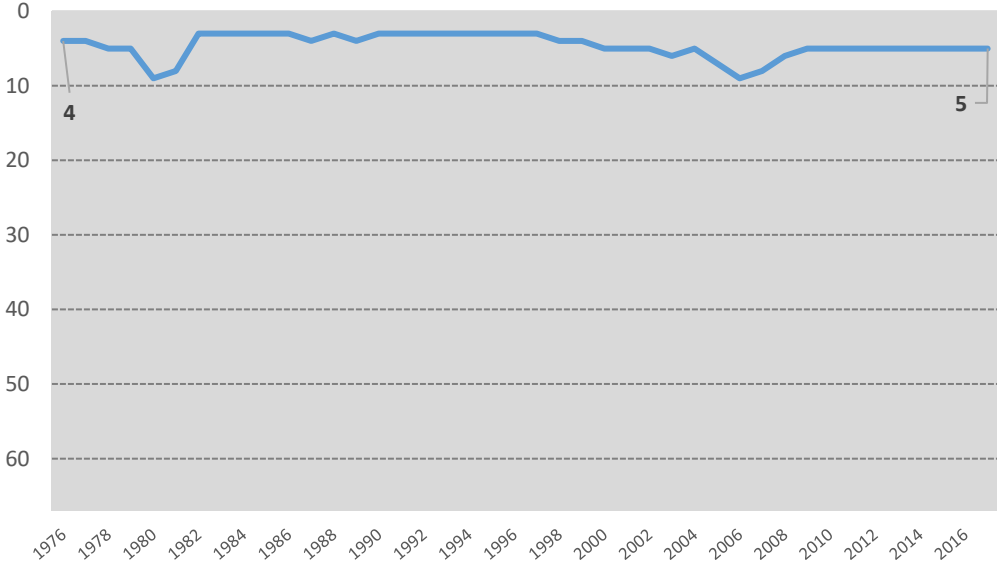


Source: Florida Department of Revenue, Florida Property Valuations and Tax Databook

As shown in Figure 10, Martin County ranks 5th in terms of taxable value per capita, which is mostly a function of waterfront property on the east coast. This suggests that ad valorem tax is a highly productive revenue source, but as the new development occurs in mid-county as well as western parts of the county, this productivity may decline over time.

FINAL REPORT - APPENDIX H

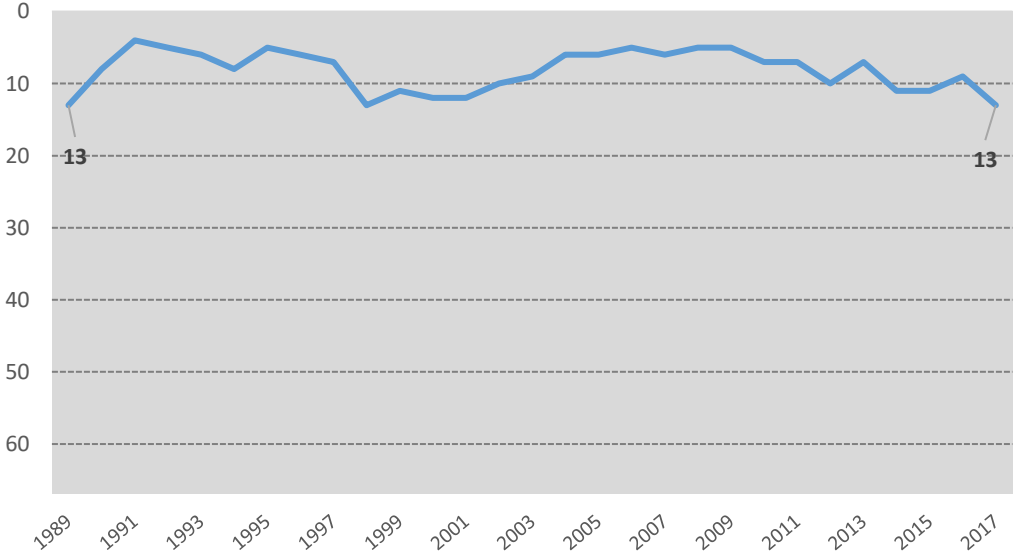
Figure 10 – Taxable Value per Capita Ranking



Source: Florida Property Valuations and Tax Databook, Florida Department of Revenue
 Highest TaxVal/Capita = 1, Lowest TaxVal/Capita = 67

In terms of sales tax revenue per capita, the County ranks 23rd, suggesting that this is also a relatively productive revenue source for Martin County compared to other counties.

Figure 11 – Sales Tax Revenue per Capita Ranking



Source: Florida’s Local Government and Financial Information Handbook
 Sales Tax = estimated revenue per 1% of local option sales tax
 Highest Sales Tax/Capita = 1, Lowest Sales Tax/Capita = 67

FINAL REPORT - APPENDIX H

[Martin MPO's Community Characteristics Report \(2017\)](#)

This report documents 11 planning areas for Martin County. Further discussion with County Growth Management staff indicated that the County is relying less on these area designations for general planning purposes, but still uses them as a basis for the population bulletin. Given this information, these planning areas will be less prioritized in geographic considerations for fee scenarios.

[Martin County Residential Demand Analysis \(2018\)](#)

This analysis helps indicate where the county might accommodate future population growth based on residential demand and supply, which impacts land use and density considerations in studying transportation needs and funding. Based on analysis from 2012 through 2016, the report anticipates the greatest residential demand in its Primary Urban Service district in the eastern part of the county. This finding is consistent with trends shown in Map 1.

FINAL REPORT - APPENDIX H

III. Planning & Policy Review

This section of the memorandum includes a summary of plans, policies, and other documents reviewed to inform and contextualize the mobility/multimodal fee study analysis. The first group involves planning documents with land use and mobility goals, objectives, and policies that can be reflected in the mobility fee structure. The second group includes documents that provide more detailed information on concurrency, which will be reviewed and revised as part of the study.

Planning documents indicating goals, objectives, and policies:

- Martin County Comprehensive Growth Management Plan (last amended Feb 2018)
- Martin MPO Bicycle and Pedestrian Safety Action Plan (2016)
- Martin MPO Bicycle, Pedestrian & Trails Master Plan (2017)
- Martin County Transit Development Plan (2014-2023 Update)
- City of Stuart Comprehensive Plan (2003)
- Town of Ocean Breeze Comprehensive Plan (amended 1990)
- Town of Sewall's Point Comprehensive Plan (1989)
- Town of Jupiter Island Comprehensive Plan (amended 2018)
- Town of Indiantown Comprehensive Plan (2019)

Documents providing additional information related to concurrency:

- Martin County Transportation Proportionate Fair-Share Program (LDC Sections 5.70 - 5.75)
- Martin County Public Facility Analysis (2018)

The remainder of this section provides a description of how each document applies to the study and key takeaways to consider for and/or incorporate into the analysis.

Planning Documents

General takeaways from the review of planning documents include:

- Martin County, City of Stuart, and Town of Ocean Breeze are generally in favor of denser, compact, and mixed-use development (referred to here as “urban style development”) in certain areas (such as targeted redevelopment areas), along with protection of natural resource and vulnerable areas. This finding can be reflected in the fee structure to calculate technical reductions or provide fee incentives for urban style development. The

FINAL REPORT - APPENDIX H

potential for these goals may be moderated by general density, story, and height limitations featured in certain plans such as the Martin County Comprehensive Plan and the City of Stuart Comprehensive Plan.

- Martin County, City of Stuart, and Town of Ocean Breeze also emphasize same development types to promote and potentially incentivize or continue to incentivize through the fee structure or a technical fee reduction, such as affordable housing, green buildings, targeted uses for economic development.
- Notable exceptions to the above are the Town of Jupiter Island and the Town of Sewall’s Point. The Comprehensive Plan of Jupiter Island includes strong language prioritizing single-family residential development, limiting commercial development, and requiring a high level of service for transportation facilities (level of service A). The Town of Sewall’s Point Plan noted the predominance of single-family residential, a housing type anticipated to accommodate future population growth. Significant amounts of future commercial uses were not anticipated given the residential nature of the Town. Analysis of the Town’s Existing Future Land Use in 2017 from Florida Department of Revenue data indicate that the dominance of single-family residential has held since approval of the plan. These land use plans will be less conducive to the urban style development described previously in areas of the other jurisdictions.
- Adequate facilities concurrent with development was a common theme among the County and municipalities. A general point of further discussion is to confirm the relationship between the cities and county in terms of fee collection and capital improvement provision for transportation facilities.
- All the jurisdiction’s Comprehensive Plans had language supporting some degree of multimodal transportation.

[Martin County Comprehensive Growth Management Plan \(last amended Feb 2018\)](#)

The Comprehensive Growth Management Plan (CGMP) provides an important framework of guidance and requirements related to land use, transportation, development, and funding, among many other items. It is critical to understand this framework in approaching a study and creation of fee scenarios tailored to Martin County. The framework also includes language that structures current transportation fee implementation. The following main themes emerged from review of the CGMP. Technical Memorandum 4 documents in more detail the land use and development vision, based on further interviews with County staff.

- **General density restrictions and targeting in urban areas** - density is a key factor that supports multimodal transportation. The CGMP includes general limits on density (15 UPA), stories (4 stories), and heights (40 feet, see Policy 2.1A.1). It also includes language

FINAL REPORT - APPENDIX H

that generally directs density to certain areas, in addition to those noted in the Future Land Use categories. These areas include the urban service districts (Goal 4.7 and related objectives and policies), major urban thoroughfares or urban collector streets (Objective 4.9D), and rural service nodes (Policy 4.13A.8(5)).

- **Natural resource and vulnerable area protection** - in addition to areas targeted for more density, there are also areas targeted for less density or development generally, which will have their own related transportation needs. The CGMP goals include language on environmental resource protection (Goal 4.5, Objective 4.5B), including through programs such as transfer of development rights (TDR, Policy 4.1A.1). Correspondence with County Growth Management staff indicate that no TDR programs have been implemented. Other areas noted for preservation from intense/dense development include agricultural lands (Objective 4.12C) and barrier islands (Policy 8.1E.1) and the Coastal High Hazard Area (Policy 8.2A.2).
- **Urban-style development and redevelopment** - aside from density, the types and mix of land uses and development allowed significantly influence the types of transportation modes that can be supported. The CGMP includes language encouraging development and redevelopment that includes traditional neighborhood development (TND) practices and mixed-use. Redevelopment is encouraged in community redevelopment areas (CRAs, Objective 4.2B) and on brownfields (4.2C). Mixed use development is encouraged in TND areas and CRAs (goal 4.3), formalized in CRA and mixed-use overlays. CRAs are also under consideration to become Transportation Concurrency Exception Areas (TCEAs, as noted in Policy 5.1B.6). The CGMP also includes language addressing areas that are not necessarily in the CRAs, such as evaluating mixed use in commercial areas and adaptive reuse of strip commercial shopping centers (Policy 4.13A.8, Objective 4.10C). In the Transportation Element, the plan affirms multimodal transportation system goals to promote a transportation system friendly to and safe for cyclists and pedestrians (Goal 5.4) and public transportation to reduce reliance on single-occupancy vehicles (Goal 5.5).
- **Adequate facilities and concurrency** - the CGMP includes language assuring adequate capital facilities (Policy 4.7D.2) and enforcing concurrency for transportation concurrency (Policy 2.3B.1). Fiscal feasibility is also noted as a consideration, including fiscal feasibility of concurrency management strategies (Objective 2.4B) and the aim of limiting local tax burdens while funding facilities and services (Objective 2.4A). The plan notes that the general LOS standard is D (5.2.D of Transportation Element), although there are some roadways with a LOS standard of C (Policy 14.1A.4). Initial discussions with County staff indicate that more urbanized areas will have difficulty meeting concurrency standards, resulting in the consideration for TCEAs in certain areas.

FINAL REPORT - APPENDIX H

- **Incentives** – Incentives are a way to address policy aims within a fee structure. An understanding of current policy priorities to potentially encourage and existing incentives, as well as incentive effectiveness and the County’s capacity to implement them, serves as a starting point for adjusting incentives as part of fee scenarios. Currently, the County has a policy to not waive impact fees for projects, yet fees may be bought down with a super-majority of county commissioner votes (Policy 2.4A.4). Discussions with County staff indicate an interest in fee buy-downs, suggesting that the removal of this provision would be appropriate to support the desired future direction on incentives. Additionally, there are certain land uses and development types supported in the GCMP that it can encourage (or continue to encourage) through the fee structure, as well as uses that can be discouraged. The density and urban-style development sections above already indicate potential fee structure considerations, such as higher fees in farming preservation areas or reduced fees for mixed-use development in targeted urban areas. Other development types that are supported in the GCMP that may be considered for incentives or adjusted incentives include:
 - Affordable housing (4.7C.6)– impact fee deferrals and density increases in certain land use designations are already allowed for affordable housing (Policy 6.3.B.c and 6.3.B.d); payment of fees is noted as an option for consideration by the Affordable Housing Advisory Council (Policy 6.1D.3)
 - Congregant housing for farmworkers (Policy 4.12A.6)
 - Development with green building practices (Goal 4.8)
 - Encouraging diverse commercial and target industry development, including industries with stable jobs and high wages (Objective 4.10A, Policy 4.11A.1, 4.11D.1)

While in certain cases a fee reduction may be justified as part of the technical calculation of the fee (e.g., mixed use development can be shown to generate fewer traffic impacts, reducing its fee). This approach is similar but distinct from a policy incentive where fees may be waived or bought down regardless of impacts.

- **Development tracking** - the tracking element of impact fee implementation can heavily influence what policies can be realistically carried out and enforced (e.g., impact fee credit and credit transfers), as well as the degree of effort necessary to administer the fee. The County Comprehensive Plan currently includes references to a residential development tracking system.

FINAL REPORT - APPENDIX H

Martin MPO Bicycle and Pedestrian Safety Action Plan (2016)

Findings from this report indicate the geographic distribution of safety problems in the County for cyclists and pedestrians, indicating geographic issues to address as part of multimodal improvements and potential area-specific structuring of fees. In particular, Map 4-1 showing bicycle and pedestrian crash hot spots indicates that there is a significant number of problem areas clustered in and near the Urban Core area and cities. The goals and objectives emerging from this plan support improving bicycle and pedestrian safety through comprehensive transportation infrastructure expansion, fully integrating bicycling and walking modes into the MPO’s transportation planning process and developing funding strategies for bicycle and pedestrian safety. Many of these aims can be accounted for in the structuring of fee scenarios.

Martin MPO Bicycle, Pedestrian & Trails Master Plan (2017)

The goals of this plan are to support projects that provide a more connected transportation network, including connections to transit and to trails and facilities of other local jurisdictions, that serves all modes inclusive of non-motorized modes and enhances pedestrian and cyclist safety. Additionally, the projects and cost estimates from this report can inform need considerations that are incorporated into fee calculation scenarios.

Martin County Transit Development Plan (2020-2029 Update)

Since its previous TDP, Martin County has implemented notable transit improvements, including the 20x route (known formerly as the Treasure Coast Express in the 2014 TDP) and 30x route from Indiantown to Dixie Highway and SE Adonis Street (not featured in the 2014 plan). The latest TDP update, adopted in August of 2019, indicates that fixed-route and commuter bus transit ridership has increased between 2014 (36,146 in annual ridership) and 2017 (64,883 in annual ridership), according to the National Transit Database. Goals of the plan include service expansion and improved quality, effectiveness, and efficiency. Map 7-1 of the plan shows preliminary transit improvements with new fixed routes, including routes in Downtown Stuart and a connection to West Plan Beach, as well as new mobility on demand services in and around Stuart. Certain strategies, such as providing more pedestrian and bicycle connections to transit (Strategy 1.6), and capital improvements such as transit shelters could provide a basis for improvements creditable under a multi-modal or mobility fee.

Stuart Comprehensive Plan (2003)

Stuart anchors the main urbanized area of Martin County. Understanding the overarching policy framework of the Comprehensive Plan, structuring land use, transportation, and financial approaches, among many other elements, will help with geographic considerations and inter-

FINAL REPORT - APPENDIX H

jurisdictional coordination opportunities for transportation improvements and fees. Key themes emerging from the plan include:

- **General height restrictions** – the Comprehensive Plan includes Policy A5.6 that limits building height to the greater of 45 feet or four stories of occupiable space.
- **Compact development and natural resource preservation**– the Comprehensive Plan includes provisions in support of more compact and mixed-use development patterns to help maintain open space, groundwater recharge areas, and waterfront views (Policy A2.1, A5.1, A6.5, Objective B1 of FLU Element). Approaches include conservation easements, cluster development, and transfer of development rights (Policy A2.1 and Policy A3.4 of FLU Element). There are also development restrictions in the CHHA (Policy B4.2 of FLU Element). Certain future land use categories allow, encourage, and/or require a mix of uses, including the Downtown Redevelopment (which includes the CRA; see also Goal Statement C of FLU Element), Neighborhood/Special District (see Goal Statement F of FLU Element), and East Stuart District. The Plan also calls for an in-lieu parking fee program in the CRA (Policy 16.3 of the Transportation Element). While there are areas where a mix of uses are encouraged, there are also protected residential areas noted in the plan (Policy A1.3 of the Housing Element).
- **Multimodal transportation and reduction of vehicular traffic** – the Comprehensive Plan includes language in support of a bicycle and pedestrian transportation, including in residential areas to reduce vehicular traffic (Policy A6.2 of FLU Element). Objective 5 of the Transportation Element also limits the width of roadway corridors throughout the City to no more than six through lanes and promotes pedestrian mobility in the CRA and other appropriate areas. Objectives 6 and 7 of the Transportation Element generally support a multimodal transportation system inclusive of bicycle, pedestrian, and transit modes; these objectives include requirements for developers to provide related amenities that could be credited as part of a fee program. Further correspondence with City staff indicates that additional capital planning is needed to identify improvements that could be funded by County transportation fee revenues.
- **Adequate facilities and level of service** – the Comprehensive Plan establishes level of service standards to be maintained (Objective B2 of FLU Element, Objective 1 of Transportation Element, Goal Statement A of Capital Improvements Element). There is a TCEA in the urban redevelopment area (with the same boundaries as the CRA, Policy C3.2 of FLU Element).
- **Incentives** – there are several uses or development types currently eligible for incentives of that could be considered for incentives as part of fee scenarios. These include the following mentioned in the Comprehensive Plan:

FINAL REPORT - APPENDIX H

- Mixed-Use development in redevelopment area (Policy C3.13 of FLU Element); Policy 7.5 of the Transportation Element explicitly includes an evaluation of reduced roadway impact fees for mixed-use development.
- Desired economic development (Policy E1.7 of FLU Element)
- Development that provides preferential parking and other facilities for various high-occupancy and transit vehicles and approaches to reducing work-based vehicle trips (Policy 15.4 and Policy 17.1 of Transportation Element); note 17.1 already considers impact fee deferrals yet ties them to employers as opposed to developers.
- Affordable housing – the Comprehensive Plan already includes language to incentivize this development type through density bonuses, land development code regulations, and housing programs (Policy A5.4 of FLU Element and Policies A2.6 and A7.1 of Housing Element); some of these are noted for certain areas, such as the urban and East Stuart Overlay Zone code.
- Green building (Objective A1 of Housing Element)

[Town of Ocean Breeze 2035 Comprehensive Plan \(amended 1990\)](#)

A key consideration in the review of Town of Ocean Breeze’s Comprehensive Plan is the relationship of the City and County in terms of fee collection and capital improvements provision. The Comprehensive Plan also highlights a development vision and development types that may be supported through the County’s transportation impact fee structure.

- **Adequate public facilities and concurrency** – the Comprehensive Plan includes language on providing adequate public facilities with level of service standards, concurrency, and fee collection mentioned (Policies 1.2 in FLU element, Objective 7 in FLU element, and Policy 2.1 in Capital Improvements Element). Several objectives and policies imply that the Town is relying on the County for municipal services, including transportation and roads (Objective 1 and Policy 1.5 of Transportation Element, Policy 1.23 of Intergovernmental Coordination Element, and Policy 1.4 of Capital Improvements Element). The Plan also notes that land development regulations or planned unit development agreements will be used to provide convenient site traffic flow and off-street parking facilities (Policy 1.3 of FLU Element).
- **Promotion of compact and mixed-use development** – the Plan includes general language promoting compact, mixed-use development and discouraging sprawl (Objective 6 of FLU Element, Policy 6.1 of Conservation Element). The Commercial Future Land Use designation of Ocean Breeze West allows commercial and some residential uses with limitations (Policy 9.1 of FLU Element); other use designations are more distinct. There is

FINAL REPORT - APPENDIX H

also language to limit public expenditures in vulnerable areas such as the CHHA yet retain ability to fund maintenance of existing public facilities in this area (Policy 2.7 of Coastal Management Element and Policy 1.5 of Capital Improvements Element).

- **Multimodal transportation** – the Plan includes language supportive of multimodal transportation inclusive of transit (Policies 1.11 and 1.12 of Transportation Element). There is also a maximum of two through lanes placed on roads (Policy 1.2 of Transportation Element).
- **Incentives** – certain development types currently incentivized that could also be considered for mobility/multimodal fee incentives in fee scenarios include:
 - Affordable and senior housing – note that this development types can already receive a density bonus in certain residential designations (Policy 9.1 of FLU Element); the Town also advocates for credits against County impact fees for vacant parcels that previously accommodated residential living units as a means of promoting affordable infill housing (Policy 1.4 of Housing Element).
 - Commercial development with quality design, including multimodal amenity considerations (bicycle racks, bus stops and shelters, etc., Policy 9.1 of FLU Element). Note that certain multimodal amenities could potentially be credited as part of a multimodal or mobility fee scenario.

[Town of Sewall’s Point Comprehensive Plan \(1989\)](#)

Given that this plan dates from 1989, the data and conditions described are dated, yet certain development patterns were confirmed with additional Existing Land Use analysis using Florida Department of Revenue data. At the time of the Plan, the Town was predominantly single-family residential with this residential type anticipated to accommodate future population growth. An analysis of 2017 Existing Land Use indicates that the Town is 82% single-family residential, with 9% vacant land that is also designated as single-family residential. These findings indicate that this land use type is still heavily predominant. The Plan also mentions non-vehicular transportation, but not to the extent of other areas with more of a land use mix; a key item is one of the main State roads in the area, A1A, noted as having a traffic backlog.

Concurrency – the Comprehensive Plan includes language requiring concurrency review for new development and level of service standards (Goal statement and Objective 9 of FLU Element, Policy 4.1 of Transportation Element). One of the major roads is State Road A1A, which has a special level of service (110% of peak hour level of service in July 1990), was noted as having a backlog.

Land use and housing – predominantly single-family residential at the time with private market single-family residential anticipated to meet 100% of the future housing needs; single-family

FINAL REPORT - APPENDIX H

residential has remained the predominant land use type as anticipated by the Plan. The Plan notes high land values, making development expensive. The Town anticipated meeting affordable housing needs through coordination with Martin County and apartment uses for people with special needs (see background information from the Housing and Drainage Elements and Objective 1 of Housing Element). The Plan includes language to monitor and evaluate innovative land development regulations, as well as generally protect natural and historic resources from uncontrolled group (Objectives 3 and 7 of FLU Element).

Transportation – non-vehicular modes are recognized in the Plan to incorporate into the transportation system (Objective 1 of Traffic Circulation Element); one method of having bicycle and pedestrian modes not interfering with existing and projected traffic circulation was to require non-vehicular accessways to new subdivisions (Objective 8 of Traffic Circulation Element).

Town of Jupiter Island Comprehensive Plan (amended 2018)

The review of Jupiter Island’s Comprehensive Plan indicates a priority on protecting single-family residential development styles, although there may be occasions to promote multimodal transportation. Key themes from the review include:

- **Prioritization of single-family residential development** – the vision for the community restricts future residential development to single-family units (with allowances for accessory units) and limits additional commercial development (Goal 01.01.00.00, Policy 01.01.01.06, and Policy 03.01.01.02).
- **Adequate public facilities** – the Plan includes language around adequate facilities and maintain a high level of service – level of service A (Sections 01.01.05.01, 01.01.05.02, 02.01.01.01, 04.01.01.01, and 09.01.02.00).
- **Multimodal transportation** – the Plan includes reference to non-motorized transportation systems, including “The Ramble” pedestrian and bicycle path (Goal 02.01.00.00, Policy 02.0101.02, and Policy 06.01.01.05).
- **Affordable housing** – the Plan indicates that it will address affordable housing through the County and ad valorem taxes paid to County (Policy 03.01.03.02).
- **Protection of natural and historic resources** – this language is found in Goal 05.01.00.00 and includes restricted development where appropriate.

Village of Indiantown Comprehensive Plan (2019)

- **Compact, mixed-use development** – The Plan includes policies to discourage sprawl, promote walkability and compact/mixed-use development, and promote higher densities in the Urban Core (policies associated with Objectives L1.1, L4.2, T1.1, and T1.2; policy L1.2.3; policy L1.3.1; Policy C1.1.4; Policy C4.1.7; and Policy C1.5.3). Policy

FINAL REPORT - APPENDIX H

L6.1.10 establishes a Village Core Mixed Use Future Land use with a maximum density of 20 units per acre.

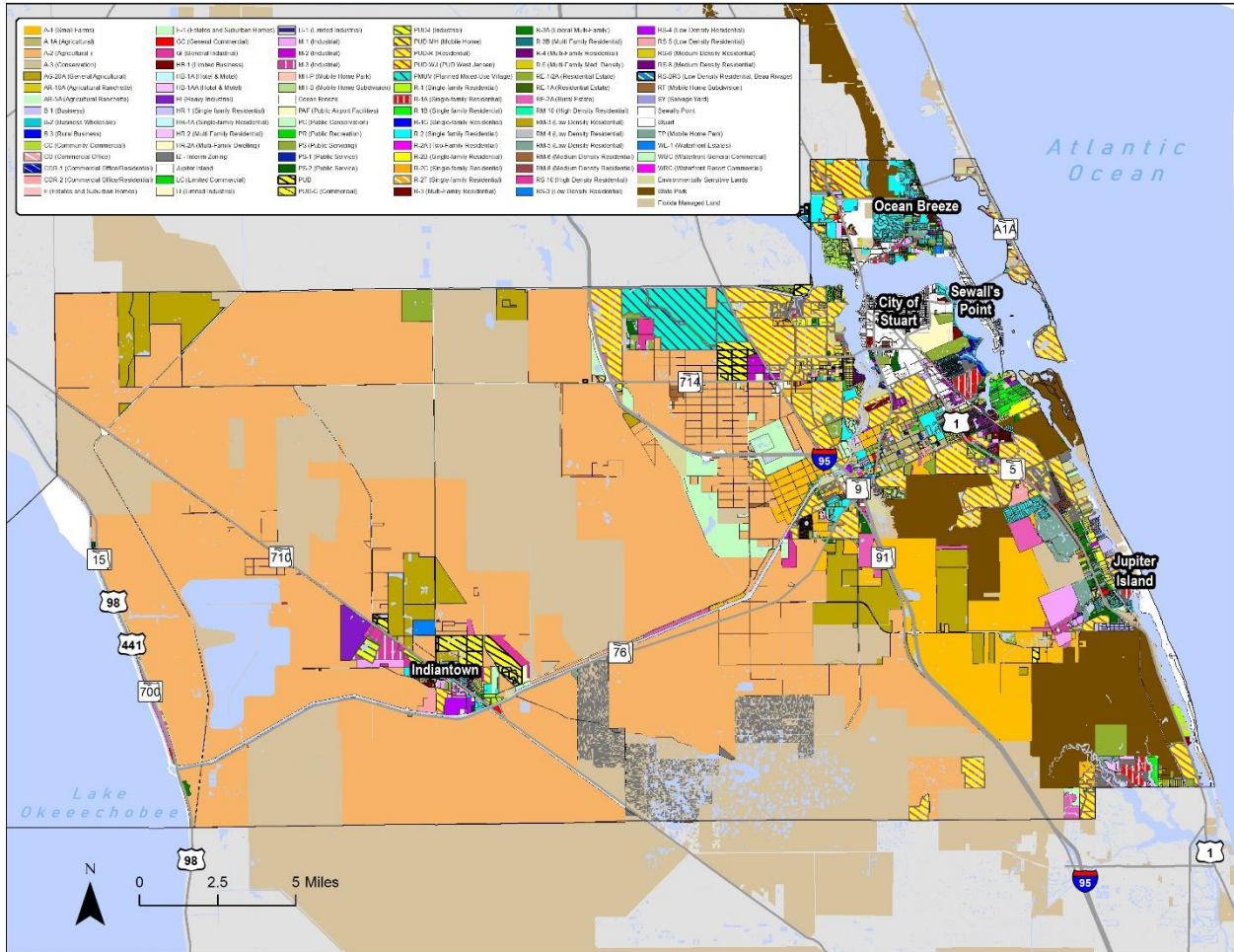
- **Multi-modal transportation** – policies related to Objectives T1.1 and T1.2 and policy CI1.5.2 support multi-modal transportation. Policy T1.2.12 provides direction to coordinate with the MPO on development of a pedestrian/bicycle master plan. Policy T1.4.9 calls for consideration of developing a mobility plan. Policy T1.5.5 requires sidewalks and sidewalk connections as part of all roadway construction projects as appropriate and applicable.
- **Land uses** – currently includes high percentages of industrial (30%), utility (19%), and suburban residential (17%) uses.
- **Affordable housing and housing for special needs**- the Plan includes policies (related to Objective H1.1 and Goal H2) to promote affordable housing. Policies related to housing for residents with special needs are included under Objective H3.1.
- **Green development** – Policy H4.3.3 includes language on fee incentives for green development.
- **Impact review process** – Policy L3.4.2 calls for the developments of an impact-review procedure to evaluate effects of significant development activities.
- **Concurrency and Proportionate Fair-Share** – Concurrency is mentioned in T1.4.4; the proportionate fair-share payment option is included in Policy T1.2.1 and Policy T1.4.4. Level of Service (LOS) standards are stated in Policy T1.4.1 with LOS C for SIS facilities and LOS D for other roads.
- **Impact Fees** – Policy T3.1.2 allows for the adoption of impact or mobility fees.

Related to this analysis, several GIS files were obtained. Examples of maps reviewed and/or developed include:

- Martin County Zoning and Future Land Use Maps
- Boundaries of Urban Service Districts
- Restricted areas (environmentally sensitive land, State parks/managed land, etc.)
- Available vacant land
- Boundaries and location of six CRAs (Rio, Port Salerno, Old Palm City, Jensen Beach, Hobe Sound, and Golden Gate). The shape files for Indiantown and City of Stuart CRA will be requested.
- Location of opportunity zones within the county, which are designed to spur economic development and job creation in distressed communities and may suggest potential locations for mobility/multimodal fee reduction/variations to support development in these areas.

FINAL REPORT - APPENDIX H

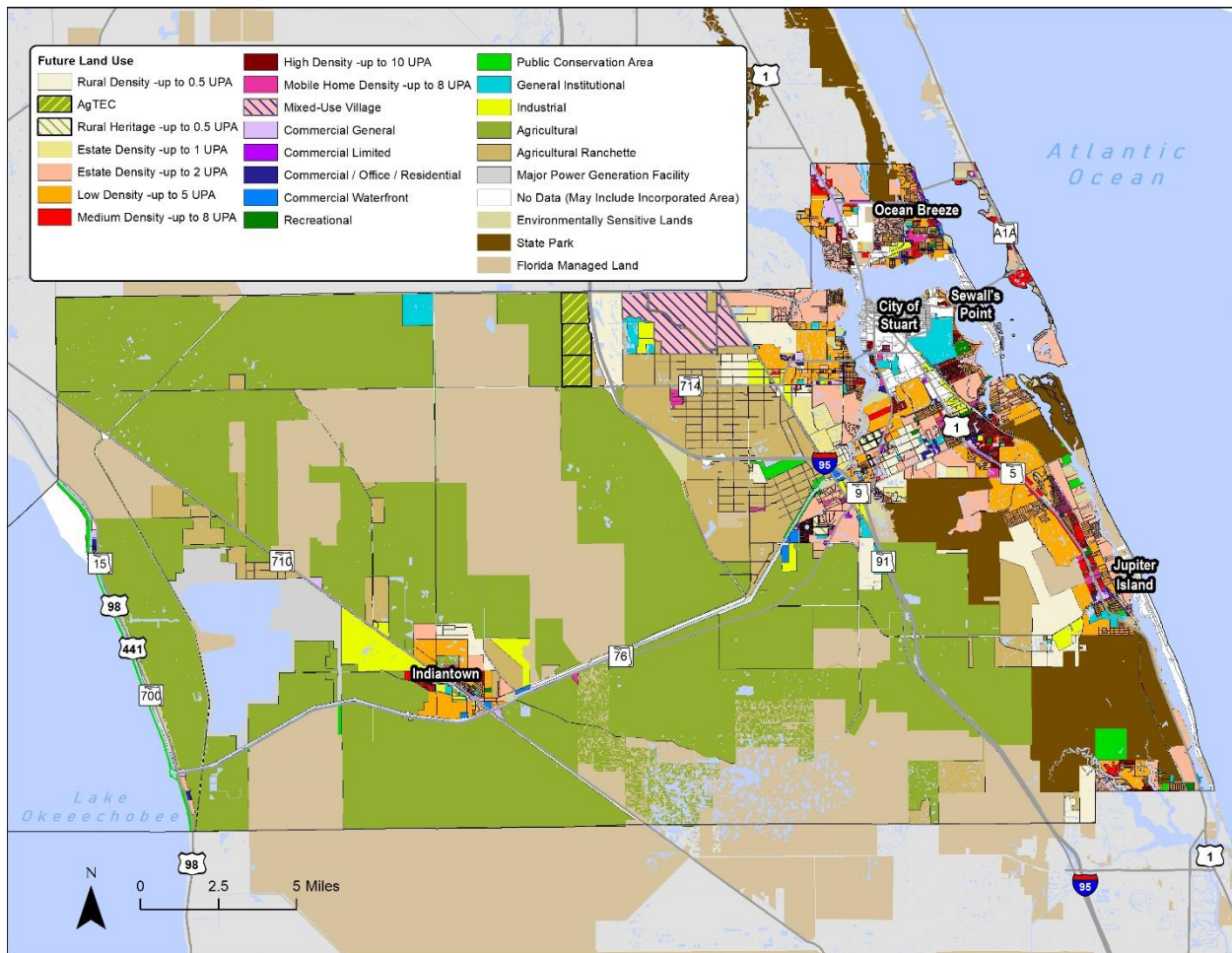
Map 5 – Martin County Zoning



Source: Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

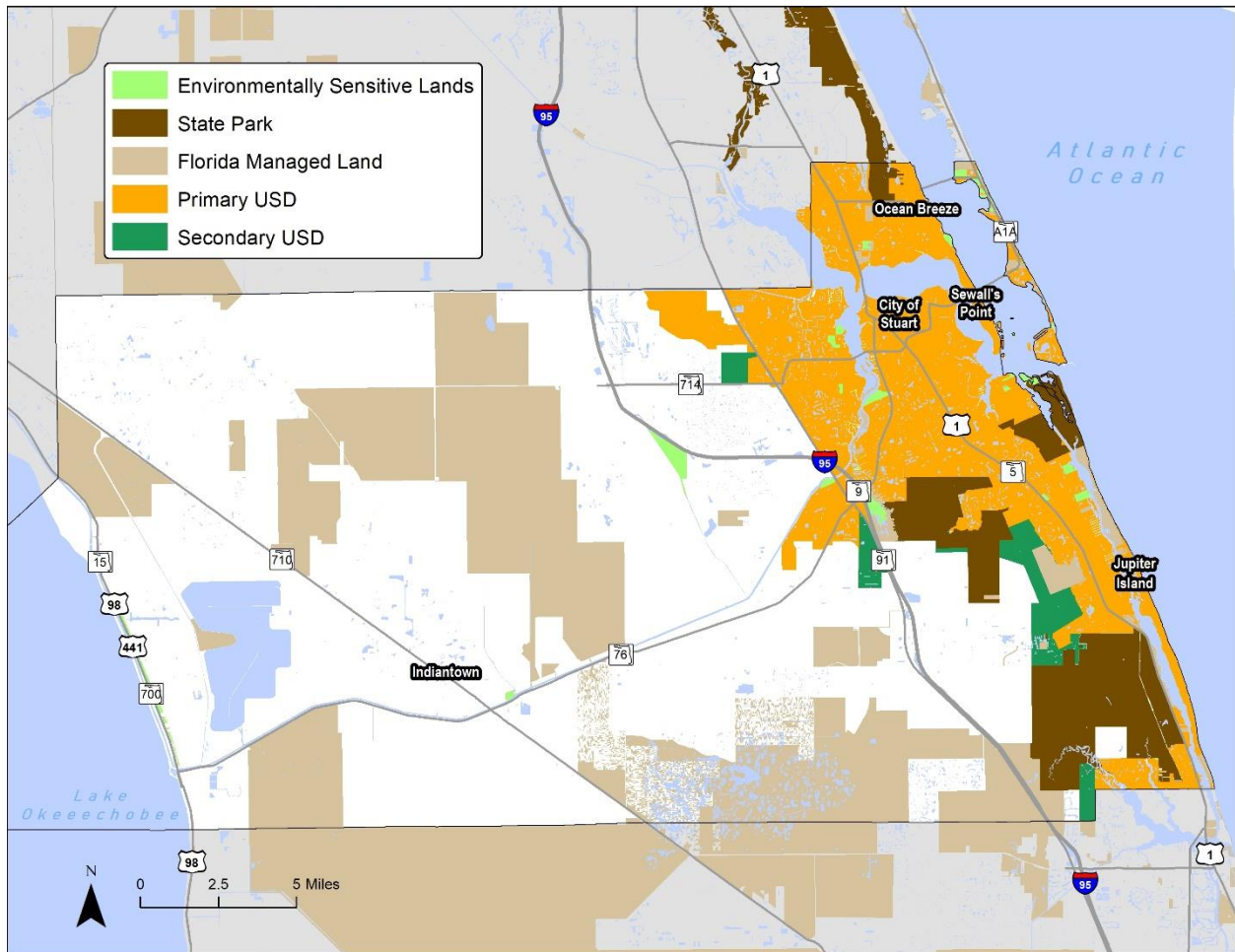
Map 6 – Future Land Use



Source: Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

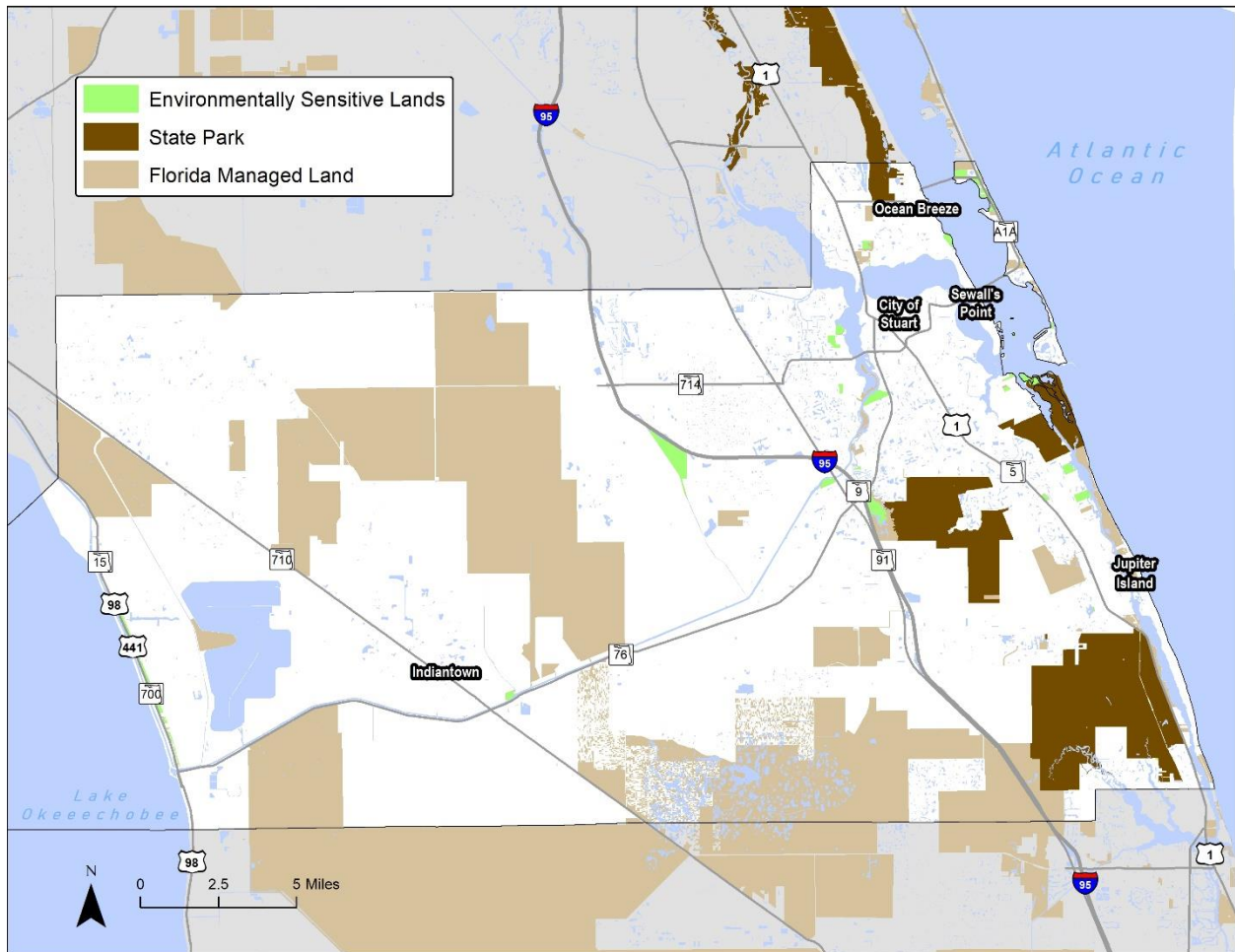
Map 7 – Urban Service Districts



Source: Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

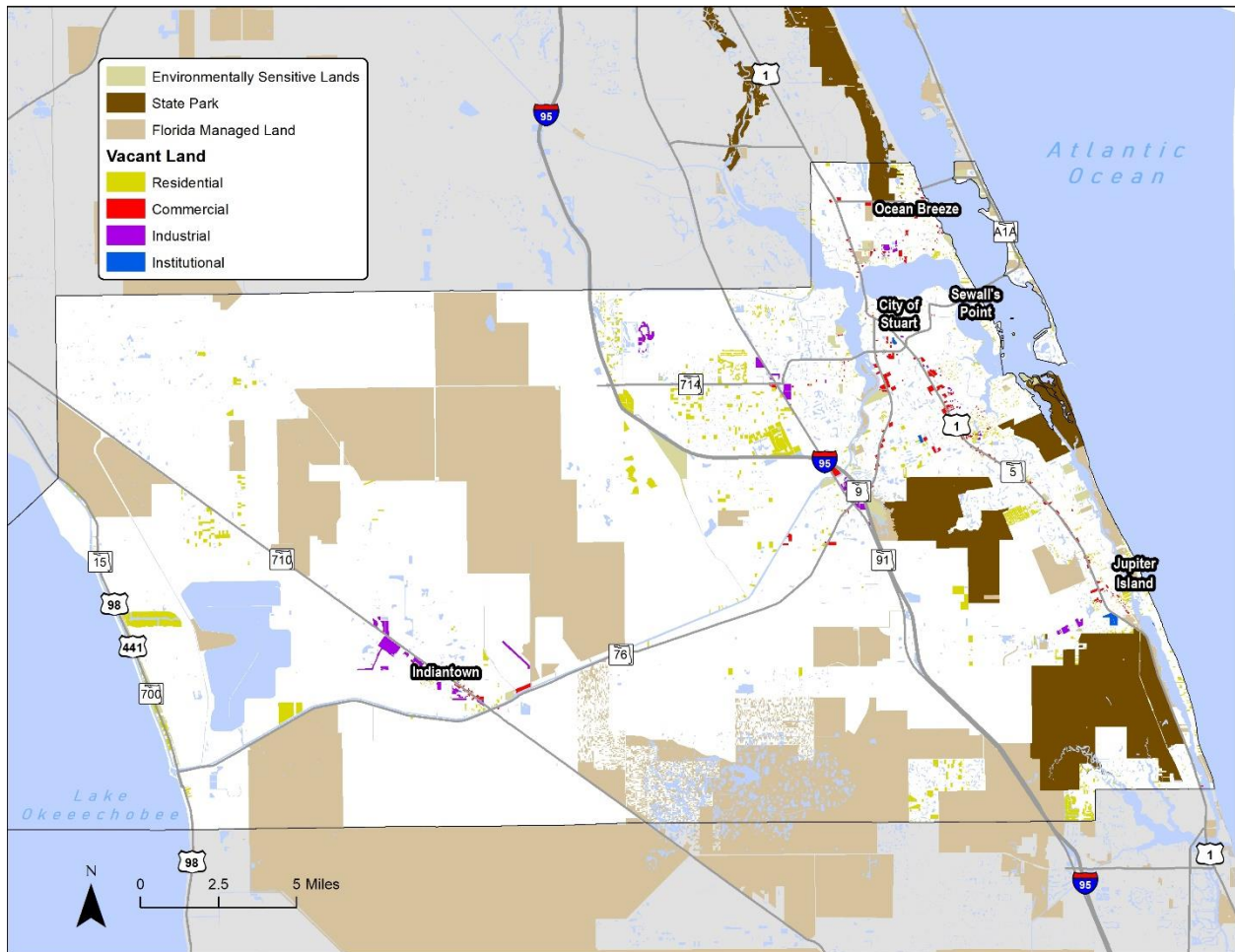
Map 8 – Environmentally Sensitive Lands



Source: Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

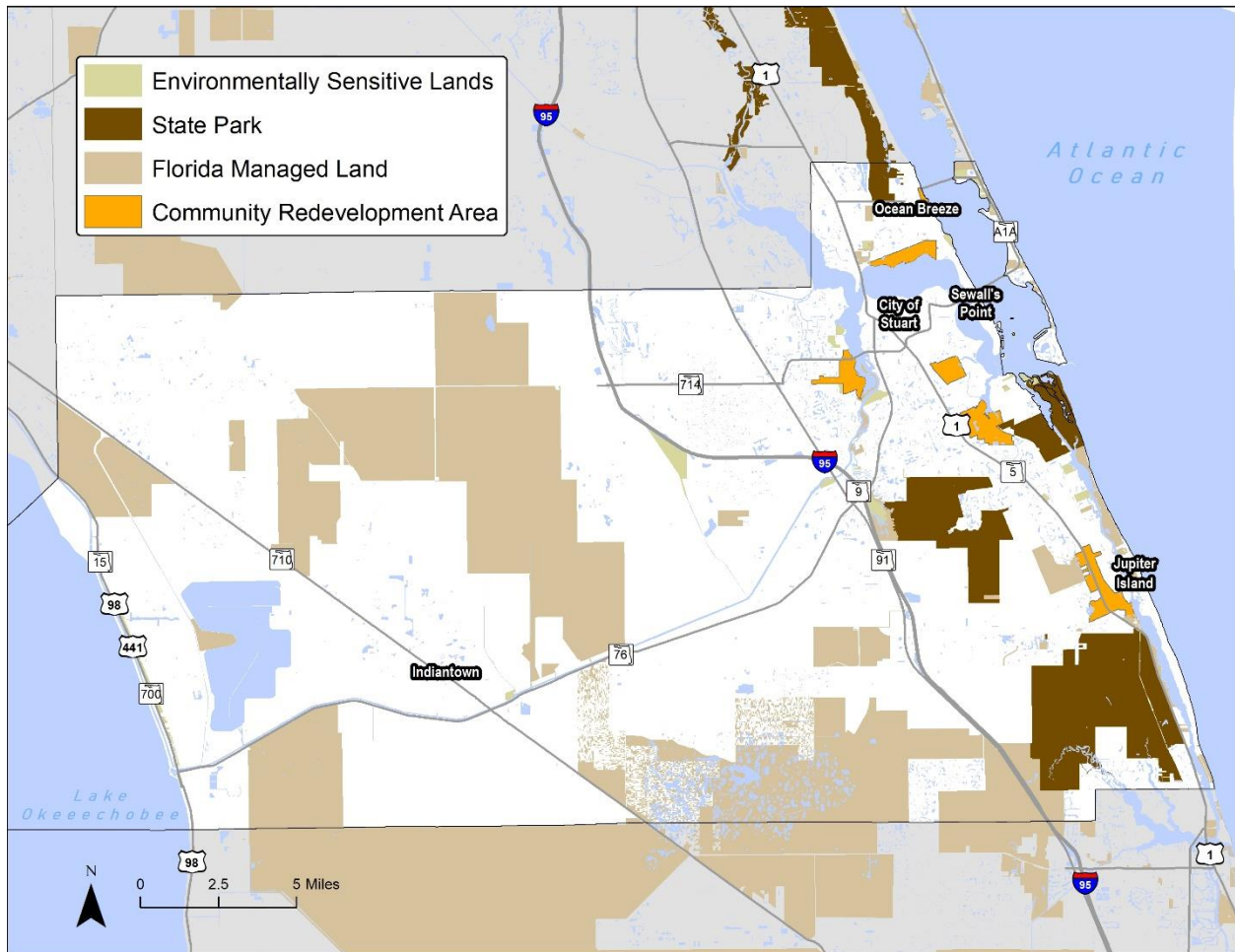
Map 9 – Location of Vacant Land



Source: Florida Department of Revenue, Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

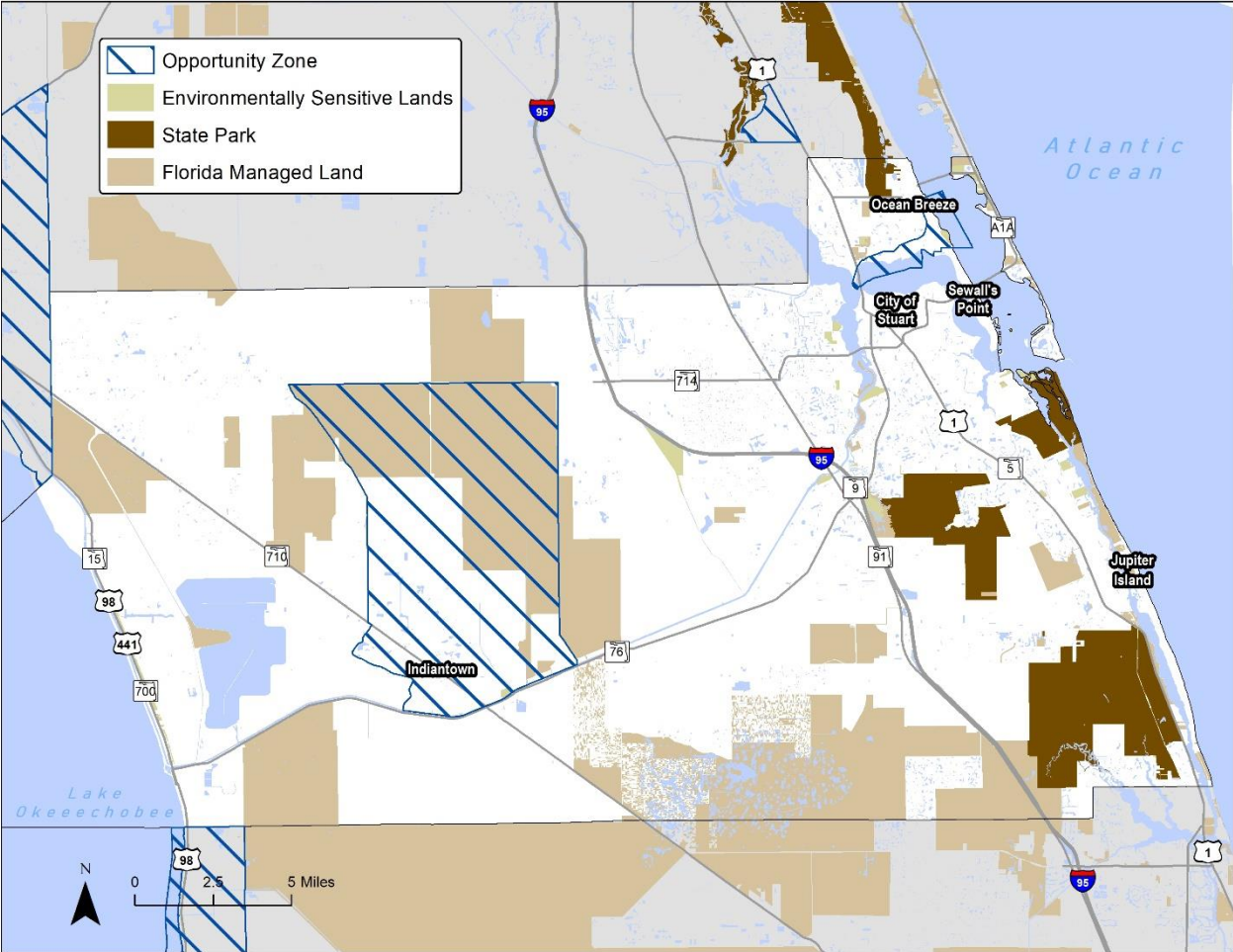
Map 10 – Community Redevelopment Areas



Source: Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

FINAL REPORT - APPENDIX H

Map 11 – Opportunity Zones



Source: U.S. Census Bureau, Florida Department of Environmental Protection, Florida Department of Transportation and Martin County

Concurrency Documents

The review of the following documents provides a basis for discussions on the detailed implementation of current concurrency and transportation fee practices in the County.

[Martin County Transportation Proportionate Fair-Share Program \(LDC Sections 5.70 -5.75\)](#)

A review of the application of proportionate fair share supports an understanding of existing practices in Martin County and the degree of use of different approaches. While the land development code (LDC) includes proportionate fair-share language, discussions with County staff indicate that these provisions have not been recently used. In one case, a proportionate fair-share payment was not allowed due to the roadway failing in terms of LOS prior to the development in question.

FINAL REPORT - APPENDIX H

Martin County Public Facility Analysis (2018)

This document provides an analysis of public facilities for the consideration of an expansion to the Urban Service Districts (distinct from an analysis for a FLUM amendment or for concurrency during site development review). The findings include a list of roadway sections that are predicted to have peak hour directional volumes that exceed generalized service capacity for the five years following the study and the subsequent five-year period. This information will help identify where improvements will be needed to maintain level of service standards. For roadway sections in more urbanized areas, this information may help determine if an allowed decrease in level of service is warranted (similar to the cases where TCEAs are being considered).

FINAL REPORT - APPENDIX H

IV. Financial Data Review & Mobility/Multimodal Fee Elements

This section includes the data collection and analysis of variables needed to develop the base mobility/multimodal fee calculations and address transportation funding in Martin County.

Document Review

In addition to the documents discussed previously, the following data was requested and/or collected:

- Martin County Impact Fee Study (2012)
- Martin County Impact Fee Ordinance (2016)
- Martin County FY 2019 Five Year Capital Improvement Program
- Martin MPO 2040 Long Range Transportation Plan (LRTP)
- Martin County FY 2019 Adopted Budget
- City of Stuart FY 2018 Adopted Budget
- An inventory of classified roadways in Martin County, including state and non-state roads
- City of Stuart Tram Business Plan (2019)

The following provides a brief description of these documents.

Martin County Impact Fee Study (2012) & Ordinance (2016)

The following topics and questions help to clarify aspects of fee implementation to understand practices already used by the County.

- Section IV of study indicates there are two components to the fee – transportation and pedestrian; Ordinance implies that there are fees and accounts for pedestrian and bicycles in Section 6.8.F of Exhibit A (Article 6, Division 1). The County budget and records of impact fee collections indicate that the accounting for impact fee revenues distinguishes between rural road, urban road, and pedestrian/bicycle path impact fees.
- Section IV: while the study indicates in this section that the fee is reduced to 65% for “de minimus” projects within the City of Stuart CRA where Transportation Services are duplicative, further correspondence with City staff indicates that the CRA reduction was replaced by the citywide reduction of the transportation fee (50% for the roadway portion) in the 2018 interlocal agreement between the City and the County. The City also charges its own transportation fee for new development.

FINAL REPORT - APPENDIX H

Martin MPO 2040 Long Range Transportation Plan

This document has been primarily reviewed for planned projects and transportation data that will be considered for fee calculation scenarios, including future mix of projects, capacity levels achieved by planned/programmed projects, etc.

Martin County FY 2019 Adopted Budget

The budget is the most important source of funding and financial information readily available for the County. Understanding available funding sources and their amounts, as well as programmed capital projects in the CIP, is critical to developing fee scenarios. The following includes the initial observations.

- A main focus of the budget was addressing deferred maintenance on facilities: “The focus this year, as in past years, was primarily on the implementation of a comprehensive program to address the County’s deferred maintenance for County infrastructure: roads, bridges, drainage; maintaining county facilities.”
- “The July 1 taxable values are reflecting an overall increase to the County’s tax base of 6.47%.”
- Road infrastructure maintenance is one of the uses of MSTU funds; incorporated areas do not pay the MSTU tax.
- Fixed Asset Replacement Budgets (FARB) include \$324,000 for parking lots and roadways.
- Indiantown was incorporated in 2018. This change does not affect countywide millage rate but affects MSTU millage. The Village can determine if they want to be included in the MSTU for County-provided services including road maintenance.
- The budget notes that 30% of total tax base is exempt from ad valorem taxes. Table 2 shows homesteaded percentages in the county by housing type, based on 2019 Florida Department of Revenue data.
- The countywide millage rate is 6.60 and MSTU rate at 3.36, so the County still has remaining millage towards the 10 mil caps for each.
- The recent infrastructure sales tax effort did not get approved.
- Martin County provides services to 87% of the county. Within the county, many areas have their own character and uniqueness. Areas are defined, and named: Golden Gate, Hobe Sound, Indiantown, Jensen Beach, Palm City, Rio, and Salerno, accordingly. With the exception of Indiantown, each area has a CRA with boundaries established per ordinance for the collection of the tax increment dollars.
- Debt is trending upward (II-2); all debt appears to be specific as opposed to general obligation bonds and a large portion of impact fee revenues is being used to pay off the debt service.

FINAL REPORT - APPENDIX H

- County implemented all 12 cents of local option fuel taxes, the maximum that can be passed at this time.

Table 2 – Share of Residential Units Homesteaded by Housing Type

Unit Type	Total Unit Count	Homesteaded Count	% Homesteaded
Single Family	48,280	36,542	76%
Multi-Family	3,548	1	0%
Condo	14,891	6,060	41%
Mobile Home	2,920	1,514	52%
Misc. Multi-Fam	2,352	832	35%
Total	71,991	44,949	62%

Source: Florida Department of Revenue, 2019

City Stuart 2018 Adopted Budget

The following provide additional notes for consideration in the study:

- Stuart has seen a major reduction in capital outlay.
- The City is not near its millage cap. The adopted rates were 4.5-mils in FY 2018 and 4.7-mils in FY 2019.
- From a review of the budget document, it does not appear that the City uses transportation impact fee revenues extensively.
- The Transportation Maintenance Team maintains the Street Light Inspection Program and FPL streetlight invoices.
- The CRA takes up a large portion of city.

Mobility/Multimodal Fee Development: Demand Component

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

FINAL REPORT - APPENDIX H

Engineers' (ITE) Trip Generation reference report (10th Edition). This database was used to determine trip length, percent new trips, and the trip generation rate for several land uses.

To verify that the trip lengths in the database reflect the average trip lengths in Martin County, a review of the Treasure Coast Regional Planning Model (TCRPM) v4 trip length data is completed. For this review, the countywide average trip lengths, by trip purpose, are extracted from the model data and compared to the trip characteristics database and to the trip length data utilized in other transportation travel demand modeling software.

Conversion of Vehicle-Trips to Person-Trips

For the mobility/multimodal fee, it is necessary to estimate travel in units of person-miles. Vehicle-trips will be converted to person-trips by applying a vehicle-trip to person-trip conversion factor, derived from a review of the transportation model, national survey data, and other jurisdictions in Florida.

Interstate & Toll Facility Adjustment Factor

This variable is 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 TCRPM v.4. A select link analysis was run for all traffic analysis zones located within Martin County in order to differentiate trips with an origin and/or destination within the county versus trips with no origin or destination within the county.

Currently, interstate and toll facilities within the study area include Interstate 95 and the Florida Turnpike. The limited access vehicle-miles of travel (Limited Access VMT) for trips with an origin and/or destination within the County was calculated for the identified limited access facilities. The total VMT was calculated for all trips with an origin and/or destination within the study area for all roads, including limited access facilities.

The I/T discount factor of 20.2% was determined by dividing the total limited access VMT by the total study area VMT (using the 2040 Cost Feasible network). By applying this factor to the VMT for each land use, the reduced VMT is then representative of only the roadways which are funded by mobility/multimodal fees.

FINAL REPORT - APPENDIX H

Mobility/Multimodal Fee Development: Cost and Credit Components

To understand transportation funding in Martin County, the County’s historical and planned transportation capacity program is examined. This review is used to acquire an understanding of existing revenue sources and allocations, types of improvements, and the cost of improvements. This data will be used to calculate cost and credit components of the fee as well as overall transportation funding options in the future.

Martin County FY 2019 Five Year Capital Improvement Program

The Martin County FY 2019 Capital Improvement Plan includes a 5-year plan of funded improvements, including the allocation from each available revenue source. For community development and road projects, the primary funding sources include tax increment financing, grants, ad valorem, FPL Franchise fees, Roads MSTU, gas tax, impact fees and State funds. However, the majority of these funds is allocated to maintenance, operations, and other non-capacity expansion improvements. For purposes of the mobility/multimodal fee calculations, only the portion for capacity expansion is credit eligible:

- Tax Increment Financing ≈ 6% for capacity expansion
- Grants ≈ %3 for capacity expansion
- Ad Valorem ≈ 12% for capacity expansion
- FPL Franchise Fees ≈ 3% for capacity expansion
- Gas Tax ≈ 18% for capacity expansion
 - Martin County currently collects 3 pennies of State fuel tax for local use and all 12 pennies of local option fuel tax
- Impact Fees = 100% for capacity expansion (not credit eligible)
 - Since FY 2009, Martin has averaged approximately \$1 million annually in rural/urban road impact fee revenues
- State Funds = is determined through a more detailed review of FDOT information
 - Historical (10-yr) and future (5-yr) work program expenditures
- Debt Service = The information obtained suggests that all bond proceeds will be used for transportation capacity projects. Debt service is being retired with impact fee and fuel tax revenues.
 - Gas Tax Refunding Revenue Note, Series 2014

Potential Transportation Funding

In addition to the current funding sources, Martin County is eligible to adopt a 1% local option sales tax (specifically, the local government infrastructure surtax) with proceeds available to fund a variety of infrastructure items, including transportation. At a 1% rate, this tax is expected to

FINAL REPORT - APPENDIX H

generate approximately \$34 million, countywide, with about 15% of the revenues going towards the municipalities. This tax may be levied (at 0.5 or 1.0%) pursuant to an ordinance enacted by a majority vote of the county’s governing body and approved by voters in a countywide referendum. Although Martin County placed this tax on referendum recently, it was not approved by the voters. Note that Martin County is NOT eligible to adopt the Charter County and Regional Transportation System Surtax.

As previously mentioned, current transportation impact fee revenues general approximately \$1 million annually. If the calculated rates ultimately resulting from this study are higher, an increase in impact fees revenues can be expected, based on continued population growth projections.

Transportation Cost Analysis

The mobility/multimodal fee calculations include an extensive review of recent transportation costs. Local and statewide data reviewed to increase the sample size.

- No recent county road improvements in Martin County
 - o Identified 39 recent improvements from other Florida counties with a weighted average construction cost of approximately \$2.90 million per lane mile.
- Once recent state road improvement in Martin County
 - o CR 714/Indian St from Turnpike/Martin Downs Blvd to W. of Mapp Rd with a construction cost of approximately \$3.99 million per lane mile.
 - o Identified 75 recent improvements from other Florida counties with a weighted average construction cost of approximately \$3.84 million per lane mile.

For the transit cost element, recent capital costs from the Martin County TDP and the Stuart Tram Business Plan are utilized as part of the cost component.

QA/QC Approach and Outcomes

In most communities, mobility/multimodal fee studies come under intense scrutiny from the development community, other stakeholders, and elected officials. Without specific state statutes governing the calculation of these fees, it is very important to provide recent and accurate data in a clear format. Quality assurance and quality control efforts include, but are not limited to:

- Review of all County transportation planning documentation (budget, comprehensive plan, capital improvement plan, long range transportation plan, etc.).
- Review of recent local trip characteristics studies. Tindale Oliver reviews and incorporates local data, as available, and supplements national data from the Institute of Transportation

FINAL REPORT - APPENDIX H

Engineer's 10th Edition Trip Generation Manual with trip characteristics studies conducted throughout Florida.

- The current regional transportation model is utilized to assess travel distribution by facility type and as a verification of recommended trip lengths by land use.
- Review cost data with MPO staff and compare to statewide data.
- Review of capacities achieved by different types of roadways through an analysis of distribution of travel as well as distribution of LRTP projects.
- Review of current and future estimated funding of transportation infrastructure.

FINAL REPORT - APPENDIX H

V. Summary of Data Collection/Review & Preliminary Conclusions

The data collected and reviewed suggest the following findings as well as areas that are evaluated further as part of Technical Memorandum 4.

1. Demographics and Economic Characteristics

- a. Statewide data and rankings regarding tax revenues and demographics have been reviewed for several variables. The review of this information indicates that:
 - i. Martin County ranks in the middle of 67 counties in terms of its total population and has a below average growth rate.
 - ii. Martin County has above average revenues from both ad valorem and sales taxes on a per capita basis.
 - iii. The County is above average in age, income, and wages.
- b. Residential land uses dominate the tax base, amounting to over 80% of the current tax base.
- c. For population projections, multiple sources were reviewed; however, consistent with the County’s Comprehensive Plan requirements, BEBR medium projections are used.
- d. Projected population and employment growth as well as future residential density levels indicated in the 2040 LRTP are documented. This information combined with other documentation such as the County’s planning areas and Urban Service boundaries are used in the development of fee variations and revenue projections.
- e. Historical development rates, levels and locations have been presented.

2. Land Use

- a. A large portion of the county land mass is Rural Agriculture or Environment preservation.
- b. The urban or more dense development is contained in the eastern portions of the county, primarily east of I 95, and much of this area is associated with the waterfront.
- c. The County has established two opportunity zones.
- d. The County and the cities have created a significant number of Community Redevelopment Areas where mobility/multimodal fee incentives may be established.
- e. The County has established an interest in encouraging mixed-use developments for specific areas, nodes and corridors within the county. These areas need to be confirmed and addressed as part of flexibility in adopting fees that can vary by area, by use and variation of rates of fees by use within priority area.

FINAL REPORT - APPENDIX H

3. Planning Goals and Policy Review

- a. Martin County Concurrency Code has been reviewed and the current policy needs to be clearly summarized and clarified since adoption of a mobility fee has implications on concurrency policies and processes.
- b. The County and the municipalities have varying land use goals and current development conditions. The study methodology will take these differences into consideration while developing the fee variations.
- c. The County has established current achieved level of service for roadway links within the county and this data set and projected volumes will be used to establish future performance and needs.
- d. Martin County MPO has completed several comprehensive multi modal plans, which will also be utilized in the fee development.

4. Financial Data Review

- a. A review of the current revenue sources allocated to transportation capacity expansion is documented, including impact fees.
- b. This review has established the comparative effectiveness of various revenue the County is currently using compared to other counties throughout Florida.
- c. As part of the study, mobility/multimodal fee revenue projections and the role the fee is going to have in meeting future capital funding needs will be documented.

FINAL REPORT - APPENDIX H

Appendix A Data Needs Memo

FINAL REPORT - APPENDIX H

Appendix A: Data Needs Memo

MEMORANDUM

Date: May 28, 2019
To: Joy Puerta, Martin MPO
From: Nilgün Kamp, Tindale Oliver
Subject: Martin MPO Mobility/Multimodal Fee Study – Data Needs

We are excited to start working on the mobility/multimodal fee study for Martin Metropolitan Planning Organization (MPO). This memorandum provides the initial list of data/documents needed for the study. If the MPO is unable to provide any of this information, please indicate as such. Meanwhile, if you have any questions, please feel free to contact us. To stay on the study schedule, please provide these items by July 10th.

1. We collected the following documents. If these are not the final versions, please provide the most current versions.
 - Martin County Comprehensive Growth Management Plan (last amended Feb 2018)
 - Martin MPO Transportation Improvement Program (FY 18/19 – FY 22/23)
 - Martin MPO 2040 Long Range Transportation Plan (December 14, 2015)
 - Martin MPO's Unified Planning Work Program FY 18/19 – FY 19/20
 - Martin County Transit Development Plan (2014-2023)
 - Martin MPO's Bicycle, Pedestrian & Trails Master Plan (December 2017)
 - Martin MPO Bicycle and Pedestrian Safety Action Plan (May 2016)
2. Population, employment and travel growth forecasts, if different than what is included in the 2040 LRTP
3. Most recent versions of municipal Comprehensive Plans (we tried to get these from each jurisdiction's website, but had difficulty accessing it).
4. Roadway, public transit, bicycle and pedestrian construction costs that may be developed as part of the LRTP update process.

FINAL REPORT - APPENDIX H

Requested from the County:

Studies, Documents and General Information

1. Most recent road impact fee study.
 - a. We have the 2012 technical report for roads, public buildings, law enforcement, fire rescue, parks and recreation, and libraries. If this is not the most recent study, please provide.
2. We have the County's FY 2019 Capital Improvement Plan. If this is not the most current document, please provide.
3. Building permit activity over the past 10 years (please provide each year separately). For residential land uses, please provide the number of units (not buildings, but units) and for non-residential land uses, please provide square footage. Please provide this information in an Excel spreadsheet format (if available).
4. Historical impact fee collections and expenditures over the past 10 years for each service area, as applicable. If available, please provide a breakdown of collections from residential versus non-residential land uses. In the case of roads and parks impact fees, please provide this information for each benefit district separately.
5. Estimated interest rate the County is likely to pay if it were to issue a bond today.
6. GIS files including layers for existing/future land use, classified roadway network, fixed-route transit, bus stops/shelters, bicycle and pedestrian facilities (bike lanes, sidewalks, greenways and trails, etc.), impact fee benefit districts, CRA boundaries, and municipal boundaries.
7. County's current economic development policies and impact fee policies (if any) within CRAs.
8. County's current impact fee deferral program for affordable housing (description of the program as well as use of it – i.e., dollar amount of impact fees deferred annually; whether they were collected later, etc.).
9. County's Impact Fee Administrative Manual (if any).
10. County's current impact fee ordinance in Word, if possible.

Roads

Demand Component

1. Copies of any independent impact fee studies that challenged the fee for a specific land use or added a new land use to the fee schedule (if accepted by the County).
2. Any recent trip characteristics studies/traffic studies conducted by Martin County.
3. We have the Treasure Coast Regional Planning Model (TCRPM), version 4. If the County made any modifications to this model or has developed a new model, please provide.

FINAL REPORT - APPENDIX H

Cost Component

1. Detailed cost and project information for any new road construction or lane addition projects completed or bid in the last five years, as well as any future estimates by the County. Please provide a description and location of the project, bid date, construction dates, number of lanes added, length, and cost. The cost should be broken down as PE/design, ROW, construction, construction engineering/inspection (CEI), stormwater/retention, and utility relocation costs. For projects that are not fully completed, please indicate the completed phases.
2. The ROW phase of the project costs should include dates of acquisition, land cost, other related cost (settlement, administrative, etc.).
3. An inventory of existing roadways (preferably in an electronic spreadsheet format), including number of lanes existing today and projected in the Long Range Cost Affordable Plan, type of facility, design characteristics (urban vs. rural), average daily volume today and in the Long Range Cost Affordable Plan, daily capacity today and in the Long Range Cost Affordable Plan, current and projected level of service, level of service standard, and jurisdiction. Please include the FDOT QLOS classifications and capacity estimates for new construction and land addition projects in the latest long range transportation plan (e.g., “State Signalized Arterial, Class I, Urbanized Area”).

Credit Component

1. Historical funding sources and actual project expenditures for County transportation capacity expansion projects (lane additions, new roadways, intersection improvements, new traffic signals, bike lanes/sidewalk construction, etc.). Please provide annual expenditures on transportation capacity expansion for the past five years along with associated funding sources. It would also be beneficial to provide actual project expenditures on an annual basis associated with each project (if available).
2. Planned/programmed capacity addition projects for the next 5 years along with associated revenue sources.
3. If there is any transportation capital project related debt service, please provide project description and debt service schedules showing start and end dates, amounts per year for principal and interest, interest rate, remaining balance, and the revenue source used to pay off the debt service.
4. Amount of reserve funds/fund balances for transportation capital expansion projects (if any).
5. Any contemplated changes to how transportation projects are to be funded in the future versus the past (e.g., new/different funding sources, etc.)

FINAL REPORT - APPENDIX H

Transportation Concurrency

1. The County's transportation concurrency requirements.
2. Active development agreements:
 - a. Size and type of development approved;
 - b. Timing of development;
 - c. Agreement conditions;
 - d. Impact fee credits granted (used vs. outstanding balances); and
 - e. Vesting time period.

Transit Services – This information will need to be obtained both for Marty and Stuart Tram

1. Inventory of transit capital, including buses, bus stops/shelters and associated acreage, related maintenance facilities/buildings. Indicate ownership of each facility.
2. Replacement value of buses, bus stops/shelters, etc.
3. Bus capacity, ridership, headway time and load factor information (by route if available, otherwise systemwide).
4. Cost information for any transit facility or capital equipment purchases made over the past five years.
5. Insurance values of transit facilities.
6. Planned capital expansion projects over next five or more years, including associated funding sources and levels.
7. Actual capital expansion expenditures for the past five years (land, facilities/equipment, debt service, etc.) and associated funding sources and levels.
8. Any bond issues for transit capital capacity expansion projects with an outstanding debt service. Please provide the project description and the debt service schedules showing start and end dates, and amounts per year for principal and interest, interest rate, and the revenue source used to pay off the debt service.
9. Amount of reserve funds and fund balances for capital expansion projects (if any).
10. Any contemplated changes to how transit capital facilities are to be funded in the future versus the past (e.g., new/different funding sources, etc.)

Thank you for your assistance. If you have any questions, please feel free to contact us.

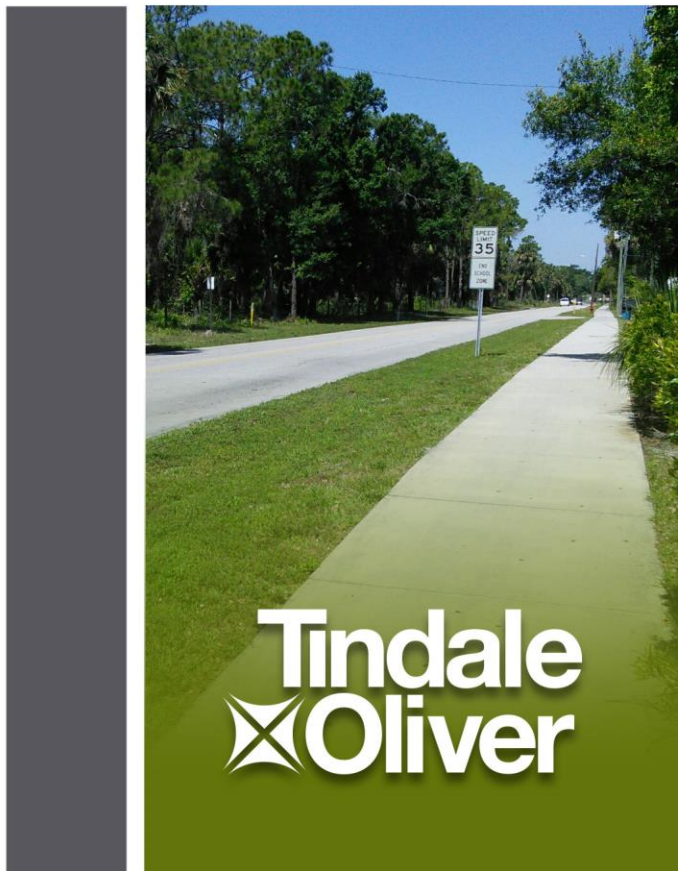
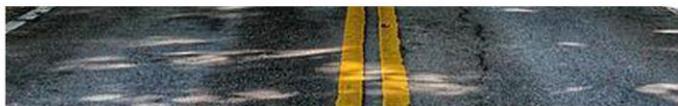
Appendix I
Technical Memorandum #3:
Best Practices

FINAL REPORT - APPENDIX I



Mobility/Multimodal Fee Study Technical Memorandum #3 Best Practices

October 29, 2019



**Tindale
Oliver**

FINAL REPORT - APPENDIX I

Martin Metropolitan Planning Organization Mobility/Multimodal Fee Study Technical Memorandum 3 Best Practices

Table of Contents

I. INTRODUCTION	1
II. LEGAL OVERVIEW	2
III. CASE STUDY SELECTION	5
IV. CASE STUDY FINDINGS.....	8
V. SUMMARY OF FINDINGS.....	28
APPENDIX.....	33

FINAL REPORT - APPENDIX I

I. Introduction

Tindale Oliver has been retained by Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure.

As part of this analysis, Tindale Oliver obtained information on the process other Florida jurisdictions underwent in implementing a multimodal/mobility fee. After the initial review of the program characteristics, maturity of the program as well as each community's economic and demographic characteristics, a subset of these jurisdictions were selected for more detailed case studies to understand best and common practices. These case study counties include:

- Alachua
- Orange
- Osceola
- Pasco
- Sarasota

Section II of this technical memorandum provides an overview of legal considerations with regards to impact fees to help contextualize best practices. Section III discusses how cases were selected; Section IV provides an overview of best and common practices by major themes; and Section V summarizes findings from the analysis.

FINAL REPORT - APPENDIX I

II. Legal Overview

Multimodal or mobility fee technical calculations are governed by the same requirements as impact fees. Impact/mobility fees are a one-time charge to new development with the purposes of constructing new/additional capital facilities needed due to new growth. Revenues from these fees can only be used for new/expanded capital facilities, and not for maintenance, resurfacing, or operations, such as transit operating expenses. The following paragraphs provide further detail on legal requirements for implementing multimodal/mobility fees.

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 Capital Improvement Plans, Capital Improvement Elements, or another planning documents/Master Plans.

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 increases, 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.
- **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

FINAL REPORT - APPENDIX I

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 163.31801(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 funding system, that is not mobility fee-based, must not impose upon new development any responsibility for funding an existing transportation deficiency. Any alternative mobility funding system adopted may not be used to deny, time or phase an application for site plan approval, final subdivision approval, building permits, or the functional equivalent of such approvals provided that the developer agrees to pay for the

FINAL REPORT - APPENDIX I

development's identified transportation impacts via the funding mechanism implemented by the local government.

- **HB 207 in 2019:** Included the following changes to the Impact Fee Act along with additional clarifying language:
 1. Impact fees cannot be collected prior to building permit issuance; and
 2. Impact fee revenues cannot be used to pay debt service for previously approved projects unless the expenditure is reasonably connected to, or has a rational nexus with, the increased impact generated by the new residential and commercial construction.
- **HB 7103 in 2019:** Addressed multiple issues related to affordable housing/linkage fees, impact fees, and building services fees. In terms of impact fees, the bill required that when local governments increase their impact fees, the outstanding impact fee credits for developer contributions should also be increased. This requirement will operate prospectively. This bill also allowed local governments to waive/reduce impact fees for affordable housing projects without having to offset the associated revenue loss.

FINAL REPORT - APPENDIX I

III. Case Study Selection

Given that the existence of mobility fees is relatively new (since 2013), there is a limited number of counties that adopted a mobility fee. Additional counties (and cities) that are interested in flexibility of using revenues for more than roadway improvements, adopted multimodal fees, which allow them to spend revenues on stand-alone new sidewalk and bicycle lane projects, and/or new/additional transit amenities.

Tindale Oliver developed an initial list of potential case studies based on counties that had adopted a mobility or multi-modal fee, including:

- Alachua
- Hillsborough
- Manatee
- Nassau
- Orange
- Osceola
- Pasco
- Pinellas
- Sarasota

Tindale Oliver narrowed the list to five case studies based on economic and demographic data and based on counties with innovative practices or practices providing unique insights, detailed in later sections. Table 1 includes the counties selected for case studies along with certain demographic and economic characteristics. Note that Martin County is somewhat smaller in terms of population than the other counties reviewed here and has a slower growth rate. Although there are other Florida counties that have more similar economic and demographic characteristics to Martin County, they have not implemented a multimodal/mobility fee or do not have a mature program needed for case studies. For example, Orange County shows relatively large differences with Martin in terms of demographic variables but was included in the final case list due to innovative approaches to fees in the county, such as the use of both a multimodal fee and a more traditional roadway impact fee, depending on the geographic sub-area. Table 2 provides a summary of counties that do have a multimodal or mobility fee but were excluded from the detailed case study analysis.

FINAL REPORT - APPENDIX I

Table 1: Demographic Comparison of Martin County & Case Study Counties

Martin & Case Study Jurisdictions	2018 Population	Projected Average Annual Population Growth Rate (2018-2045)	Average Annual Single-Family and Multi-Family Residential Permits (1990-2017)	Average Annual Taxable Value % Split (2000-2018)
Martin	155,560	0.76%	940	Residential: 81% Non-Residential: 19%
Alachua	263,290	0.60%	1,520	Residential: 72% Non-Residential: 28
Orange	1,349,600	1.42%	9,800	Residential: 63% Non-Residential: 37%
Osceola	352,500	2.18%	3,900	Residential: 71% Non-Residential: 29%
Pasco	515,080	1.19%	3,440	Residential: 77% Non-Residential: 23%
Sarasota	417,440	0.96%	3,330	Residential: 83% Non-Residential: 17%

Sources: BEBR, Volume 52, Bulletin 183, April 2019 (Medium-Level Projections); U.S. Census Bureau; Florida Property Valuations and Tax Databook

Note: population and permit figures rounded to the tens place.

FINAL REPORT - APPENDIX I

Table 2: Demographics of Non- Case Study Counties

Non-Case Study Jurisdictions	2018 Population	Projected Average Annual Population Growth Rate (2018-2045)	Average Annual Single-Family and Multi-Family Residential Permits (1990-2017)	Average Annual Taxable Value % Split (Residential/Non-Residential, 2000-2018)
Hillsborough	1,408,860	1.21%	8,990	Residential: 65% Non-Residential: 35%
Manatee	377,830	1.37%	2,960	Residential: 73% Non-Residential: 27%
Nassau	82,750	1.34%	690	Residential: 75% Non-Residential: 25%
Pinellas	970,530	0.38%	2,680	Residential: 74% Non-Residential: 26%

Sources: BEBR, Volume 52, Bulletin 183, April 2019 (Medium-Level Projections); U.S. Census Bureau; Florida Property Valuations and Tax Databook

Note: population and permit figures rounded to the tens place.

FINAL REPORT - APPENDIX I

IV. Case Study Findings

This section summarizes the primary findings of the case studies. Information is grouped into the following themes/categories to assist the reader in understanding approaches each jurisdiction has taken:

- Background
- Fee Levels and Calculations
- Flexibility in Use of Revenues
- Fee Reductions/Incentives
- Developer Contribution Credits
- Concurrency and Proportionate Share Mitigation
- Coordination with Cities and State
- Alternative Funding Considerations

This summary is based primarily on correspondence/discussions with representatives from each jurisdiction, supplemented by information obtained from planning and financial documents, such as Comprehensive Plans, Land Development Codes, fee ordinances, fee studies, the Local Government Financial Information Handbook, and other relevant documentation.

Background

General background on the case study jurisdictions' fees includes the following:

- **Alachua County:**
 - The County originally adopted a transportation impact fee in 2005.
 - The County adopted a mobility fee for its Urban Cluster area in 2011 (entitled the Multi-Modal Transportation Mitigation, MMTM, program). This new fee was phased in over the course of three years (fully in effect by April 15th, 2013). The County retained the roadway-based impact fee provisions outside of the Urban Cluster.
- **Orange County:**
 - The County first adopted a roadway impact fee in 1985 that went into effect in 1986.
 - The County evaluated in its 2012 technical study an option for a multimodal fee in the Alternative Mobility Area (AMA), an area which promotes urban infill,

FINAL REPORT - APPENDIX I

redevelopment, and use of existing public infrastructure. Outside the AMA, the County maintained the roadway impact fee.

- At the preparation of this technical memorandum, Orange County impact fee ordinance is in the process of being amended and the County is exploring the potential of developing a three-tier fee structure (urban, suburban and rural).

- **Osceola County:**

- Osceola County originally implemented a roadway-based transportation impact fee. In 2011, these fees were suspended and then repealed. In 2015, the County adopted a mobility fee, and discontinued concurrency reviews and proportionate share calculations. In 2018, faced with rapid growth and limited funding for transportation projects, the County adopted revised fees that doubled the original mobility fee amounts in an effort to ensure developers pay their fair share of improvement costs. This update also moved the fee collection period from certificate of occupancy to building permit stage.
- The County’s mobility fee related regulations are summarized in Section 17 of its Code of Ordinances.
- The Transportation Element of the Comprehensive Plan establishes a map series with planning horizons for 2025, 2040, and 2080 to guide implementation of future transit, bicycle/pedestrian, and roadway networks through the development review process and coordination with regional agencies. There are requirements for development to have a certain degree of connection to roadways established in this framework. These maps include an alternative roadway classification system that includes designations such as multi-modal corridor, avenue, and boulevard. The Comprehensive Plan also includes elements for sub-areas, such as Northeast District, East of Lake Toho, South Lake Toho, etc. that coordinate with the traditional Comprehensive Plan Future Land Use and Transportation elements.

- **Pasco County:**

- The County initially adopted a transportation impact fee in 1985.
- The County adopted a mobility fee in 2011 and last amended the ordinance and fee schedule in 2018. Pasco County’s mobility fee includes a three-tier system with fees varying in urban, suburban and rural areas. In addition, the County developed incentives for certain land uses, which will be discussed further in this section.

FINAL REPORT - APPENDIX I

- **Sarasota County:**
 - The County adopted a mobility fee with a Comprehensive Plan update in 2015.
 - The fee schedule was amended most recently based on a 2018 study.

Fee Levels & Calculations

The following paragraphs provide a summary of methodology used to develop the fees in each jurisdiction along with a comparison of fee levels.

- **Alachua County:**
 - The MMTM is an improvements-based fee. An area-wide LOS was adopted, with the potential of certain individual segments dropping below LOS D. It was recognized that the mobility fee could allow for more congestion in the urban area.
 - Strategic Intermodal System (SIS) facilities are included in the calculations.
 - The Capital Improvements Plan (CIP) on which improvements are based accounts for major corridor/right-of-way needs.
 - Fees are not indexed annually.
 - Rates vary for several targeted development types, such as traditional neighborhood development (TND), transit-oriented development (TOD), etc.
- **Orange County:**
 - The fee is calculated using a consumption-based methodology.
 - As mentioned previously, the current adopted fees in the AMA are calculated as multimodal transportation impact fees while the fee in the rest of the county are roadway-based.
- **Osceola County:**
 - Osceola County's mobility fee is calculated using a consumption-based methodology.
 - The County has the option to index the mobility fee amount annually based on National Highway Construction Cost Index.
 - A review of the 2015 mobility fee study, 2017 study update, and 2018 fee ordinance indicates that State facilities were not included in the 2015 roadway calculations.
- **Pasco County:**
 - The fee calculation uses a consumption-based methodology. The fee calculations identify portions associated with transit facilities, bicycle/pedestrian facilities, and roadways. A separate amount associated with state SIS roadways is also identified.

FINAL REPORT - APPENDIX I

- Pasco County implemented a Right-of-Way Corridor Preservation Program, which requires the need to show the nexus between the exaction of right-of-way and roadway access, as well as rough proportionality. The County is usually exacting right-of-way on Master Planned Unit Developments (MPUDs). The related ordinance allows for transfer of density to remaining land to account for land lost in corridor due to right-of-way exaction.
- Rough proportionality can be difficult to show since the exaction of right-of-way needed might exceed proportionality to road access. To address this issue, Pasco’s mobility fee schedule shows a “full fee” – the maximum fee that could legally be charged before subsidies/buy-downs are applied; this full fee also includes carrying cost, which Pasco does not currently charge but legally could. The County does not intent to charge the full fee, but the calculated amount provides a fee ceiling that helps address the issue of rough proportionality during any right-of-way negotiations. In cases when the right-of-way exaction is still greater than the full fee, the County either reduces right-of-way exacted or reimburses the developer with a buy-down. However, most right-of-way exactions are within the difference between fee charged and full fee.
- Fee increases are re-evaluated with each update; there is no annual indexing. The need for annual indexing became less crucial when the County adopted its countywide tax increment district to supplement mobility fees; if costs are increasing, the tax increment revenue also tends to increase, which helps offset the cost increases.
- No proportionate fair share language has been retained. During the initial implementation stages, the County allowed developers to opt out of the new mobility fee with timing and phasing system and remain under the old transportation concurrency, proportionate share, and transportation impact fee system, but the right to opt out expired in 2016.
- **Sarasota County:**
 - The fee is calculated using a consumption-based methodology.
 - A review of the 2015 fee study suggests that State facilities were not included in the calculation; the 2018 study focuses primarily on residential fee categories and does not indicate a shift in this methodology.

Table 3 provides a matrix of fees charged to different land uses by jurisdiction.

FINAL REPORT - APPENDIX I

Table 3: Summary of Fee Rates for Selected Land Use Types by Jurisdiction

Development Type	Unit	Alachua ¹	Orange ²	Osceola ³	Pasco ⁴	Sarasota ⁵
Single Family Residential	Dwelling unit (exception: Alachua, per 1,000 sq. ft.)	\$1,851 - \$3,164	\$3,761 - \$3,898	\$4,354 - \$13,761	\$0 - \$10,723	\$1,228 - \$7,184
Multi-Family Residential	Dwelling unit (exception: Alachua, per 1,000 sq. ft.)	\$1,851 - \$3,164	\$1,543 - \$2,524	\$2,656 - \$6,082	\$0 - \$6,736	\$818 - \$3,116
Neighborhood Commercial/Retail	Per 1,000 sq. ft. or sfgla	\$4,938 - \$8,231	\$5,455 - \$5,700	\$3,065 - \$6,128	\$0 - \$9,858	\$2,001 - \$3,811
Small Office	Per 1,000 sq. ft.	\$3,429-\$4,899	\$5,374-5,574	\$1,297-\$2,594	\$0	\$2,272-\$4,327
Warehousing	Per 1,000 sq. ft.	\$0 - \$4,384	\$1,066 - \$1,107	\$1,922 - \$3,843	\$0	\$1,042 - \$1,984

FINAL REPORT - APPENDIX I

Notes:

Single-family residential fee ranges generally excluded any mobile home rates explicitly separated out in the fee schedule.

¹*Rates shown are only for MMTM program in Urban Cluster; rates vary generally by whether a use is TND, TOD, or neither. No distinction is made between single-family and multi-family residential in fee schedule. Neighborhood commercial retail refers here to retail centers of less than 20,000 sq. ft. Small office refers here to office developments of less than \$50,000 sq. ft. Warehousing includes mini-warehousing. MMTM rates received from County staff July 2019.*

²*Multi-family residential includes both rental and owner-occupied unit types. Neighborhood retail here refers to retail of 50,000 sq. ft. or less; “sf gla” refers to square footage of gross leasable area. Small office here refers to office developments of 50,000 sq. ft. or less. Warehousing includes mini-warehousing. Rates are from Article IV of the Orange County Code of Ordinances.*

³*Rates vary by non-mixed-use, mixed-use, and TOD area for each use. Multi-family range includes rental and owner-occupied housing types. Neighborhood Retail here refer to retail that is less than 20,000 sq. ft. Small office here refers to office developments of less than 20,000 sq. ft. Warehousing includes mini-warehousing. Rates as of March 2019.*

⁴*Rates generally vary by district which is determined by characteristics such as degree of urbanization, whether the area is designated TOD, mix of uses, whether the area is a targeted redevelopment area, etc. Single-family residential varies by size and income. Multi-family range includes rental and owner-occupied housing types. Retail at 50,000 sf gla or less is used to represent neighborhood retail. Small office here refers to office developments of 50,000 sq. ft. or less. Warehousing includes active, passive, and mini-warehousing. Rates as of Ordinance 18-48, December 2018.*

⁵*Rates generally vary by whether a land use is in a mixed-use or urban infill area. Single-family residential varies by size and whether it is in the rural area. Multi-family varies by size and includes rental and owner-occupied housing types. Commercial of less than 10,000 sq. ft. signifies neighborhood retail in this case. The rates for office apply to all office development regardless of size. Warehousing includes mini-warehousing. Rates as of April 2018.*

FINAL REPORT - APPENDIX I

Flexibility in Use of Revenues

Both multimodal fees and mobility fees allow for flexibility in the use of revenues on the construction of new stand-alone sidewalks, bicycle facilities, transit amenities, in addition to roadway capacity improvements. Most of the jurisdictions included in this analysis do not establish limits for the portion of funds that can be spent on any given mode in terms of transportation improvements. Findings from individual jurisdictions include the following:

- **Alachua County:**
 - Funds can be used on different modes without having to add roadway capacity. There are no formal funding caps for different modes adopted, but there is some internal guidance.
 - The County has not yet faced the issue of developers asking for credit for site-related requirements, such as site design requirements.
 - A project must be in the CIP to be funded with mobility fees. This provision controls which roadways are funded and addresses roadway classification.
 - The County has not used fees to pay off debt service associated with transportation capacity projects but may consider it.
- **Orange County:**
 - Facilities on which fees can be used throughout the county (Sec. 23-97 of Code of Ordinances):
 - Design and construction plan preparation;
 - Right-of-way acquisition;
 - Construction of new through lanes;
 - Construction of new turn lanes;
 - Construction of new bridges;
 - Construction of new drainage facilities in conjunction with new roadway construction;
 - Purchase and installation of traffic control devices;
 - Construction of new curbs, medians, and shoulders;
 - Conservation area mitigation; and
 - Compensating storage
 - Fee revenues collected in the AMAs can also fund (Sec. 23-97 of Code of Ordinances):
 - Sidewalks (not built as part of construction of a road improvement);
 - Transit shelters;
 - Park and ride lots;
 - Lighting;

FINAL REPORT - APPENDIX I

- Landscaping;
 - Pedestrian bridges;
 - Intelligent Transportation Systems (ITS); and
 - Other mobility improvements
- **Osceola County:**
 - There are two benefit districts.
 - The Code of Ordinances indicates use of funds generally for transportation facilities (note that the fee calculation is based on those facilities identified in the Transportation Element map series in the Comprehensive Plan).
 - As opposed to a specific list of projects, the County seeks improvements that meet general mobility indicators in the Transportation Element of the Comprehensive Plan, which are updated annually. They address how the area is improved, not individual roadways.
 - **Pasco County:**
 - Pasco has three benefit districts (note that these are distinct from urban, suburban, and rural districts used for the fee variation).
 - Funds are spent on projects included in the LRTP. Fees collected for each improvement type (SIS roadways, non-SIS roadways, transit, bicycle/pedestrian) must be spent on each type.
 - The portion of the revenues associated with transit amenities are used for shelters, buses, and park-and-ride. The County does not incorporate regional transit facilities into fees since there is no premium regional transit yet.
 - **Sarasota County:**
 - The County has three benefit districts.
 - Fee can fund all modes, including use for legacy trail projects and trails along rail lines, sidewalks, pathways, etc. The de facto break-down of uses is primarily geared towards roadway facilities, but there is no set allocation for each mode. For non-car modes, the percentage of revenue used is around 2-5%.

Fee Reductions and Incentives

Generally, counties included in the case studies implemented fee reductions in more urbanized areas relative to rural areas to attract new development to where facilities are already available. Other common fee reductions are for transit-oriented development (TOD) or mixed-use development (which often includes traditional neighborhood development or TND) since these types of developments are more efficient and tend to generate fewer trips. Jurisdictions might have a future land use designation for mixed-use development, but also can have

FINAL REPORT - APPENDIX I

regulatory guidelines for new development to qualify as a TOD, TND or mixed-use development. The qualifying development may receive a fee reduction due to a technical calculation showing a reduced impact and/or can be further incentivized through means such as a buy-down program.

Findings from individual jurisdictions include the following:

- **Alachua County:**

- There are discounted rates for TND and TOD (TOD gets the highest discount), which are explicitly distinguished in the fee schedule. These reductions are calculated based on the reduced impact generated by these developments.
- TND and TOD areas are determined by density, mix of uses, and design and development standard requirements (maximum block standards, multi-modal standards, build-to lines, etc.). Additionally, TOD must be located along a planned transit route, as noted in the CIP (the route can also be from longer range plans than the five-year plan). Agreements indicate the transit frequency and increasing LOS that the County will fund in conjunction with development of the TOD area.
- The County had a separate funding for affordable housing incentives, but this was discontinued. The County may in the future consider lower traffic impacts generated by deed restricted units or accessory dwelling units.
- There is up to a 15% discount for advance payments, based on Sec. 407.125.3 of the Code of Ordinances:
 - Payment concurrent with final development plan approval = 15% reduction.
 - Payment concurrent with building permit application = 7.5% reduction.
 - Payment concurrent with final building inspection = 0% reduction

- **Orange County:**

- Urban/rural variation in fee is implemented through the use of the multi-modal fee in the AMA and traditional impact fee outside of these areas.
- At this time, Orange County allows the following impact fee subsidies for affordable housing:
 - Single-family (owner-occupied): 100% discount for households with 50% area median income (AMI) and 75% discount for households with 80% AMI (up to \$15,000 per unit)
 - Multi-family (rental): 25% discount for households with up to 80% AMI (up to \$5,000 per unit)

FINAL REPORT - APPENDIX I

- The County Code of Ordinances (Chapter 23, Article IV) also includes provisions for transportation impact fee deferrals for the following uses:
 - Certified affordable housing
 - New commercial projects with at least \$1 million in building permit value
 - Single-family homes and duplexes
- The Orange County website on Residential Impact Fees also notes an option to defer for multi-family residential of a permit value of at least \$1 million.
- The County does not provide any specific incentives for mixed-use development. The County allows alternative study provisions to be used to address mixed-use development.
- **Osceola County:**
 - There is some fee variation by area defined generally as whether a use is within the Urban Growth Boundary; the fee schedule includes a higher rate for single-family residential outside of the Urban Growth Boundary compared to that inside the boundary.
 - Fees are discounted for TODs (within half-mile of premium transit, such as SunRail) and mixed-use development (note that mixed-use has a Future Land Use designation).
 - The County is not currently incentivizing redevelopment in Community Redevelopment Areas (CRAs) or highway commercial.
- **Pasco County:**
 - Fees vary by areas that are distinct from the benefit districts, with urban areas (corresponding to the Urban Service Area) having the lowest fee, followed by suburban and rural areas. The County is interested in attracting development, especially non-residential development, to the urban areas. The technical calculations that created the fee variation allowed for more congestion in the urban areas, which resulted in lower fees.
 - Industrial, lodging, and office are encouraged and incentivized further.
 - TOD, TND, and mixed-use developments are also subsidized; these are based on a technical reduction to the fee, but also other revenues are used to further incentivize these uses.
 - The West Market area within the urban area has additional incentives built into the mobility fee for redevelopment. In the rest of County, redevelopment projects pay for any increased trips (but the prior use is credited); in the West Market area, redevelopment can occur without paying any fee; no fee differential is paid, regardless of how big the project is. Even infill areas will get

FINAL REPORT - APPENDIX I

only a 75% reduction on their fees as opposed to a full reduction. Pasco County does not buy the infill down to zero so that it can retain an incentive to tear down older existing structures and redevelop.

- Countywide, there is a reduced fee for affordable housing meeting certain requirements.
- The incentives are backfilled primarily with the 2nd local option gas tax and local infrastructure sales tax (Penny for Pasco). In addition, revenues from the countywide tax increment financing are also dedicated to backfill for incentives; however, this revenue sources requires a longer time frame to start generating sufficient revenues.
- **Sarasota County:**
 - The fee rates vary by area with a reduced rate in the Urban Infill Areas; urban corridors considered to have a lower rate since they are used to the maximum extent. Standard county rates apply to less urban areas.
 - There are also fee reductions for mixed-use projects, which are tied to the county’s “2050” projects involving internal capture ideas (less traffic on County roads), as well as general project mix of uses and certain projects using form-based code.
 - Due to limited ability to buy down fees, the County addressed affordability by adding fee tiers for smaller units (e.g., tiny homes and micro-apartments). These lower rates are based on a technical calculation.
 - The County also has a Mobility Fee Mitigation Program. The County collects the fee, but the Economic Development Council (a separate entity from the County) buys it down through a separate fund. The program incentivizes businesses in target industries in certain geographic areas, promoting job creation and projects qualifying as Public Service Construction. The program is not heavily used; in last three years, it has been used perhaps two to three times.

Developer Credits

In most cases, impact fee credits are given for developer contributions that are tied to a county’s Capital Improvement Program or Element or a separate plan such as a Transportation Plan or Comprehensive Plan. Transfer of these credits over time are allowed to varying degrees by all of the counties included in the case studies. Some of the most conservative transfer practices involve transfers within the same property or developer entity. Alternatively, certain jurisdictions allow developers to transfer credits within the same benefit district (quite common), and in some cases only when the improvements for the original property to which

FINAL REPORT - APPENDIX I

credits are tied have been built out. A few cases indicate that credits would retain their original dollar value if fees were to increase, as opposed to being tied to the value of the improvements needed or being indexed over time.

Findings from individual jurisdictions include the following:

- **Alachua County:**
 - The fee rate schedule is locked in when developer provides a creditable contribution, so rate and contribution are based on the original dollar amount even if fee increases.
 - Credits can only be transferred within the same development entity and the same fee district due to tracking issues.
 - There is no time limit to use credits.
- **Orange County:**
 - Orange County has practices related to fee credits, such as transfers allowed within benefit districts and right-of-way being creditable as long as it creates capacity exceeding that right-of-way attributable to the development's impacts.
- **Osceola County:**
 - Improvements to the transportation facilities and reconstruction projects featured in the Transportation Element map series are creditable.
 - In the case of Osceola County, the project does not need to be within the 5-year Capital Improvements Plan.
 - Developer credits do not expire.
 - There are limitations to selling credits. This issue is part of the developer agreement in the transferability section. A developer must use all credits within a project prior to selling. At that point, the developer can only transfer credits within the same benefit district and must show they have excess credits available (as stated within Sec. 17-45 of the Code of Ordinances).
- **Pasco County:**
 - The structure of collecting and expending fees by facility type (SIS roadway, non-SIS roadway, transit, bicycle/pedestrian) also applies to providing developer credits. If a developer provides a certain type of facility, the County allows for credits accordingly for the related portions of the mobility fee as opposed to the entire mobility fee amount.
 - If developers are not actively using their credits for 20 years, the credits expire. If credits are actively being used, there is no time limit. This provision helps clear credits from the records. The 20-year timeframe was chosen to be conservative.

FINAL REPORT - APPENDIX I

- The development must be fully built out and use associated credits before they can be transferred elsewhere or sold in cases where credits exceed the impact fee payments. This limitation reduces adverse impacts to the CIP funding. Developers can transfer remaining credits outside the site within the same benefit district. If the improvement is shown to benefit multiple districts, then the credits can be transferred to multiple districts (requires a special analysis). Typically, it is rare for a developer to do a project spanning multiple districts since these scale large projects are led more by the county or state. The County has also allowed credits to be shared between two adjacent developments. Developers find a positive aspect to this approach because it protects credit values by reducing the competition when selling credits.
- **Sarasota County:**
 - Mobility fee requires developers to cover their basic needs in terms of transportation improvements. They receive credits or reimbursements via the development agreement for building beyond the basic need. A large number of development agreements have reimbursement or credit clauses, tracked in building permit process and GIS.
 - The County generally keeps credit transfers tied to the main development, so if a development fails, credits can be used on the same property. The benefit district is typically not used as a boundary for transfers given the difficulties in tracking; this practice has only been done when the development entity was the same for projects involved in the transfer.
 - Credits are based on dollar value and are not adjusted over time or if fees are increased. Cost estimates are based on date of construction.
 - Projects must be in the CIP to be eligible for reimbursement. If a project is added, another project must be removed, or funding reduced. It is helpful to have a public process for discussion on policy impacts of a decision. A project in both city and county jurisdictions is handled by an interlocal agreements, and the improvement must be in both the city and county CIP.

Concurrency & Proportionate Share Mitigation

Consistent with requirements of the State law, jurisdictions that adopted a mobility fee ceased the development review/concurrency and proportionate share calculations for the development's impact. While some of the counties completely stopped this process, others are using it on a limited basis. In the case of most jurisdictions that adopted a multimodal fee, the

FINAL REPORT - APPENDIX I

development review process is not altered. Findings from individual jurisdictions include the following:

- **Alachua County:**
 - No concurrency review or proportionate share provisions apply inside the Urban Cluster where the mobility fee applies.
 - There is current consideration of removing concurrency requirements for the rural area from the Comprehensive Plan, but the Comprehensive Plan will still require development in rural areas seeking a land use amendment to develop a capital improvements plan. Currently, the Comprehensive Plan includes provisions for certain new rural residential subdivisions with more than 100 lots to adopt a Comprehensive Plan amendment with a special area study that addresses factors such as traffic impacts and community services. Zoning is less of an issue since there are restrictions on large zoning upgrades outside the Urban Cluster area.

- **Orange County:**
 - The County adopted a Transportation Concurrency Exception Area (TCEA) for the AMA (see Sec. 30-506 of the Code of Ordinances). This language references applicable Comprehensive Plan provisions for TCEAs, Objective T2.3 and related policies. These policies include requirements for special transportation studies within an AMA and use of mobility strategies found in Section 30, Article XII of the Cod of Ordinances. However, after a period of review for non-roadway-based improvements, the County discontinued this practice due to concerns from the development community, primarily related to the unpredictability of the program. At this time, the County is in the process of updating its concurrency program.
 - The County did reject a higher impact project in the AMA despite the fact that it was a TCEA because of traffic and incompatibility issues.
 - Although the County’s current review process focuses primarily on the availability of capacity, the Development Review Committee provides development review that includes safety considerations.

- **Osceola County:**
 - The County discontinued all transportation concurrency review in 2013; upon adoption of the mobility fee. Under the current policies, land use and zoning changes do not require concurrency.

FINAL REPORT - APPENDIX I

- **Pasco County:**
 - When the mobility fee was adopted, the County created a Concurrency Exception Area but continued to review development that required changes in timing or phasing of development that impacted transportation infrastructure. The County adopted the fee in 2011, before the state proportionate share calculation was altered.
 - After 2011, the County analyzed whether to continue with the new proportionate share calculation and found its fees would always exceed dollar amount generated by the proportionate share calculations. Given the lack of revenue and the cumbersome nature of proportionate share application, the County decided to eliminate the concurrency review system.
 - An issue arose regarding how to address land use amendments or rezonings when there were no improvements programmed in the CIP and improvements for these projects were considered to be premature. The County's goal was to make sure additional density and development was approved with an analysis to ensure infrastructure plans were in place; however, the County also wanted to streamline non-discretionary approvals.
 - The County decided that non-discretionary approvals (where all discretionary items have been approved) could rely on a pay-and-go system, even for subdivisions that require platting. The County required developments asking a rezoning and land use changes to complete traffic studies, although there were still some exemptions under the mobility fee structure. These exemptions include targeted land uses. For example, because office, industrial, hotel uses are considered targeted land uses to be incentivized, even if there is a capacity problem, they are exempt from any type of concurrency review, and the County will buy down the fee. These uses still need to do access management. Timing and phasing changes thus mostly affect residential/retail uses asking for change of use and more density. This analysis is used as a basis to negotiate with the developer. To summarize, even though concurrency is eliminated, the County has not given up the ability to condition, time, phase discretionary approvals where there are failures.
 - Mobility fees and credits have generally covered costs of improvements needed.
 - In 2013, HB 319 was passed that set limits on the timing and phasing of certain types of development. Pasco County helped craft the legislation, which refers only to non-discretionary approval types in terms of the limitations. Since Pasco

FINAL REPORT - APPENDIX I

County's timing and phasing review process addresses discretionary approvals, it is consistent with the State legislation.

- Correspondence with Pasco County highlighted that these types of approvals can still have timing and phasing requirements despite recent legislation limiting the ability of conduct concurrency review related to timing and phasing of new development (see 163.3180 of Florida Statutes).
- **Sarasota County:**
 - The County removed certain concurrency requirements when it adopted its mobility fee in 2015 and by 2019, removed all provisions related to roads in concurrency ordinance. The decision to remove concurrency stemmed from an interpretation of legal requirements and a policy decision. A form of review still exists for large-scale projects requiring Comprehensive Plan amendments.
 - The County also approved fiscal neutrality regulations for certain types of planned developments in the Urban/Suburban and Village/Open Space Resource Management Areas. These regulations help ensure that these developments pay for cost of additional local government services and infrastructure needed to serve the developments at or above the Level of Service standards (see Sec. 11.2.14a of Code of Ordinances).
 - A review of the County's Code of Ordinances as of August 2019 shows references to proportionate fair share payments (Sec. 70-103, Exhibit A of Chapter 94, Article VII) while input from County staff indicates that this system was primarily used during the period when formal concurrency was in effect.

Coordination with Cities and State

Sarasota County is the only case study county to collect its fee in at least one municipality. Pasco County noted that cities did not opt into the fee primarily because they did not want to earmark money for subsidies according to the County's method. Several case studies allow for the use of fee revenues on State roadways. Findings from individual jurisdictions include the following:

- **Alachua County:**
 - The fee is not collected within city limits.
 - There are no restrictions on use of fee revenues on State roads. The County has done some intersection projects involving state roads.
- **Orange County:**
 - Fees are not collected in cities.

FINAL REPORT - APPENDIX I

- The County has used fee revenues to fund improvements on the SIS network for intersections, adding lanes, etc.
- **Osceola County:**
 - Cities have their own fees and they opted out of the County fee. A case-by-case decision is made on how fees are collected for projects spanning multiple jurisdictions.
 - Fees are not used on state roads (SIS system).
- **Pasco County:**
 - The County uses its fee on the SIS system. The calculation is based on percentage of trips using the interstate system. This helps delineate what percentage the County is willing to fund on SIS projects. In other words, the cost-share on state projects for County is limited to the portion of the fee for SIS.
 - The County has attempted to coordinate with cities, but so far none of the cities opted in. Cities of Zephyrhills and Dade City have their own impact fees. These cities were primarily concerned about earmarking money for subsidies/buy downs. Given the limited growth in the cities, the County was not concerned about the loss of revenue.
- **Sarasota County:**
 - There is some coordination with cities. Correspondence with the County indicates an agreement with North Port; recent impact fee documents indicate additional agreements with Venice and Long Boat Key.

Alternative Funding Considerations

Table 4 shows funding sources used by jurisdictions included in this memorandum to support transportation improvements and maintenance (a check mark indicates when a city is using a particular source). The findings indicate that no multimodal or mobility fee is operating in isolation to fund transportation systems. Other funding sources include fuel taxes, infrastructure sales tax, Municipal Service Taxing Units (MSTUs), Municipal Service Benefit Units (MSBUs), and dedicated ad valorem tax for transportation.

The following provides additional information on tax increment financing in Community Redevelopment Areas (CRA), Transportation Improvement Districts, and other transportation funding sources shown in Table 4. Note that Martin County funding sources include multiple CRAs and MSTU funding (a more detailed analysis of Martin County's transportation funding will be included in Technical Memorandum #4):

FINAL REPORT - APPENDIX I

- **Alachua County:**
 - Alachua County has a Transportation Improvement District program to reimburse developers who build above and beyond what is required by their impacts. The details of the requirements are specified in the developer agreements.
 - Although used infrequently, special assessment districts have been used for improvements such as road resurfacing and chip seal.
- **Orange County:**
 - International Drive CRA – the redevelopment plan includes proposed pedestrian, roadway, and transit improvements.
 - I-Drive MSTU – potential revenues uses include transit and other transportation improvements.
 - Current discussions are taking place on a local option sales tax for transportation.
- **Osceola County:**
 - The County set up a countywide tax increment system and allocated the tax increments associated with new growth (as opposed to the value of existing property increasing) to pay for transportation capacity projects. It is our understanding that this revenue sources has been slow to generate revenues.
 - E192 Community Redevelopment Area – the redevelopment plan includes a capital project for premium transit in the long-term.
- **Pasco County:**
 - Countywide tax increment is allocated to fund transportation. There are also tax increment financing available in the Lacochee/Trilby redevelopment area and the Villages of Pasadena Hills for needed transportation improvements.
 - The countywide tax increment, local option motor fuel tax, and a portion of the Penny for Pasco sales tax were intended for use to buy down fees; the County has not had to use the tax increment yet to cover buy-downs (the other two sources cover the funding need).
- **Sarasota County:**
 - Siesta Key Public Improvement District MSTU – this source funds maintenance of municipal services and essential facilities (including pedestrian safety and mobility improvements, see Chapter 110, Article XVI of Code of Ordinances).
 - Englewood CRA - the redevelopment plan includes projects to expand, enhance, and/or encourage sidewalks, bicycle lanes, trails transit, and a ferry.

FINAL REPORT - APPENDIX I

Table 4: Major Transportation Capital Funding Sources by Jurisdiction

Jurisdiction	Local Option Fuel Tax Rate (pennies)	Charter County and Regional Transportation System Surtax Rate	Local Government Infrastructure Surtax Rate	TIF/CRA Districts	Other
Martin	12	Not Eligible	0%	✓	✓
Alachua	12	0%	0.5%		✓
Orange	6	0%	0%	✓	✓
Osceola	12	0%	1%	✓	✓
Pasco	12	0%	1%	✓	
Sarasota	12	0%	1%	✓	✓

Sources: 2018 Local Government Financial Information Handbook; County policy/budget review and correspondence with staff

FINAL REPORT - APPENDIX I

Initial Program Results & Other General Takeaways

As mentioned previously, mobility fees in Florida are relatively new and there has not been sufficient time to observe significant results. However, the following paragraphs summarize available results from each jurisdiction.

Alachua County:

- Alachua County experienced an increase in TND and TOD levels, which may have been due additional flexibility provided in the Comprehensive Plan of commercial development in residential areas and TND requirements for projects of a certain size.
- Originally, the County adopted provisions where an agreement had to be made to participate in the MMTM program, which was found to be cumbersome.

Orange County:

- Orange County's attempt to apply proportionate share provisions to the AMA in terms of non-roadway review/requirements was not successful because the process was viewed as cumbersome and unclear by the development community. The County is in the process of updating its concurrency review process.

Osceola County:

- Staff does not attribute development patterns or shifts to the fee; they consider these as stemming more from the private market.
- One of the biggest issues is how to administer the mobility fee ordinance. Osceola County had suspended its transportation impact fees until the mobility fee was implemented. The tasks of the current Transportation Department, prior to its recent creation, were managed through the Planning Department. Reviews were completed on a case-by-case basis without a standard approach and 100% credit was given for all development. County Staff now has improved operating guidelines and are currently working on a standard operating procedure (SOP) for implementing the mobility fee.

Pasco County:

- Pasco County's robust buy-down system allows the Board of County Commissioners to reflect policy decisions in the implementation of mobility fee.
- Pasco County reported achieving more efficient land use patterns and increases in the incentivized land uses (more mixed-use, office, hotel developments, fewer gated subdivisions, etc.). Redevelopment has been a bit slower. Of course, the County recognized that all these trends are influenced by others factors as well.
- Pasco County at first did not earmark enough transportation revenues for operations and maintenance from funds that are also being used to buy down the mobility fee. In 2011, the County adopted a local option gas tax to be able to maintain fee subsidies and have sufficient funding for operations and maintenance.

FINAL REPORT - APPENDIX I

V. Summary of Findings

This section provides a summary of key findings.

- **Use of concurrency:** while counties that implemented mobility fees ceased concurrency practice, development review practices that include timing and phasing provisions can still be maintained for discretionary development approvals such as those requiring land use and zoning changes.
- **Range of rates:** the case study counties showed the following range of rates for their mobility or multi-modal fee areas (note that this range excludes where Pasco and Alachua Counties completely reduced fees to \$0 for certain uses):
 - Single-Family Residential: \$1,228-\$13,761 per unit (1,851-\$3,164 per sq. ft. for Alachua County)
 - Neighborhood commercial: \$2,001 - \$8,231 per 1,000 sq. ft.
 - Small Office: \$1,297-\$5,574 per 1,000 sq. ft.
- **Incentives by geographic area:** four out of five the case study counties included fee structures to create some form of urban/rural variation in fee with lower fees in urban areas.
- **Incentives for mixed-use/TND/TOD:** four out of five case study counties include reductions for mixed-use, TND, or TOD.
- **Incentives for single, targeted uses:** two out of five case study counties provided incentives, whether in the form of fee buy-downs or deferrals, for specific targeted uses, such as industrial, office, commercial of a certain value, or certain housing types.
- **Flexibility of revenue use:** the mobility and multi-modal fees increased flexibility of use of revenues for the case study counties. In some cases, jurisdictions placed limits on spending on each mode.
- **Other funding sources:** all the case study counties use other forms of transportation funding, such as fuel taxes, local option sales tax, ad valorem revenues, tax increment revenues, or MSTUs, to supplement impact fees.

Table 5 provides a more detailed summary of findings from the review in terms of general requirements, how calculations are made, incentives or technical fee reductions offered, and other administrative practices. A check mark indicates where the items in the table headers are employed in some fashion and/or to some degree. These designations are based on the findings from Section IV, where more details and caveats may be found. For items that were not able to

FINAL REPORT - APPENDIX I

be determined from the policy review and correspondence with staff by the time of this report writing, a “U” is used to indicate undetermined information.

FINAL REPORT - APPENDIX I

Table 5: Summary of Best/Common Practices in the Application of Mobility/Multi-Modal Fees

Jurisdiction	Fee Type	Charter County	Concurrency /Traffic Review Process	Calculations	
				Consumption vs Needs Basis (C/NE)	SIS included in Calculation
Alachua- MMTM program	Mobility	✓		NE	✓
Orange- Multi-Modal Fee in AMA	Multi-Modal	✓		C	
Osceola	Mobility	✓		C	
Pasco	Mobility		✓	C	✓
Sarasota	Mobility	✓	✓	C	

FINAL REPORT - APPENDIX I

Table 5: Summary of Best/Common Practices in the Application of Mobility/Multi-Modal Fees (Continued)

Jurisdiction	Technical Fee Reductions and Incentives							Other Administrative Practices						
	Urban/Rural Variation	Redevelopment Area	TOD	TND/Mixed-Use	Single-Use Type Policy Incentive	Affordable Housing	Other Incentive	Creditable Improvements Required to be in a Plan	Credit Transfers	Credit Expiration	Credit Value Indexed /Ratio to Fee Maintained Over Time	ROW Creditable	Fee Collection in at Least One City	Expenditure on State Roads
Alachua-MMTM program	✓ ¹		✓	✓			✓	✓	✓		✓	✓		✓
Orange-Multi-Modal Fee in AMA	✓ ²				✓	✓		U ³	U ³	³	U ³	U ³		✓
Osceola	✓		✓	✓				✓	✓		U	✓		
Pasco	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓		✓
Sarasota	✓	✓		✓		✓	✓	✓	✓				✓	U

FINAL REPORT - APPENDIX I

Notes:

¹*Variation due to use of more traditional roadway impact fee requirements outside of the Urban Cluster area; mobility fee applies within the Urban Cluster.*

²*Urban/rural variation due to the multi-modal fee within the AMAs and a traditional roadway impact fee outside of these areas.*

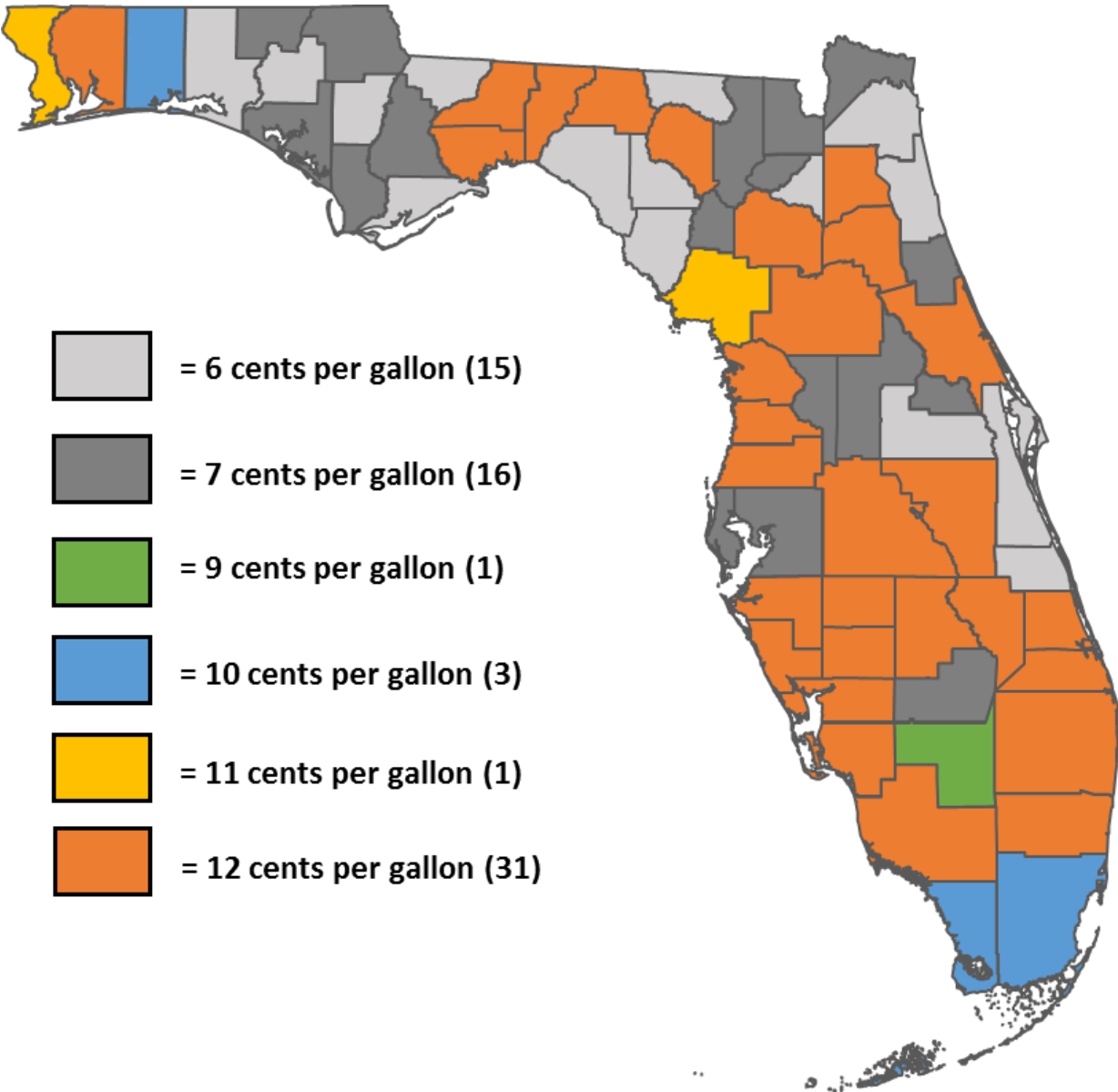
³*Orange County is in the process of updating its concurrency program.*

FINAL REPORT - APPENDIX I

Appendix

Local Discretionary Infrastructure Sales and Motor Fuel Taxes – Adoptions Statewide

Local Option Motor Fuel Taxes Adopted by County, FY 2018

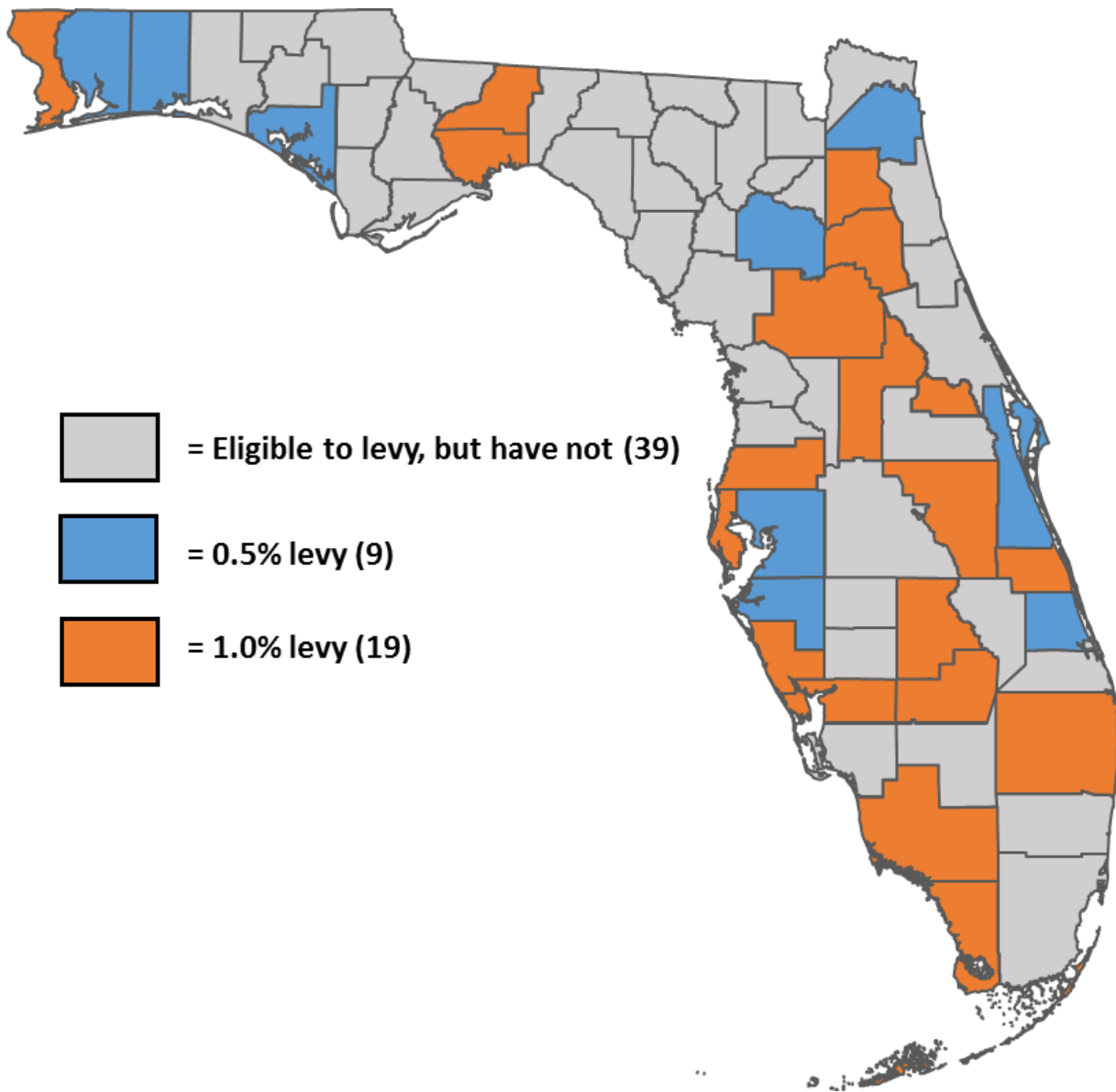


Source: 2018 Local Government Financial Information Handbook

Note: This map **does not reflect** November 2018 adoptions.

FINAL REPORT - APPENDIX I

Local Government Infrastructure Surtaxes Adopted by County, FY 2018



Source: 2018 Local Government Financial information Handbook

Note: This map *reflects* November 2018 adoptions.

Appendix J
Technical Memorandum #4:
Goals & Objectives and Geographic District Areas

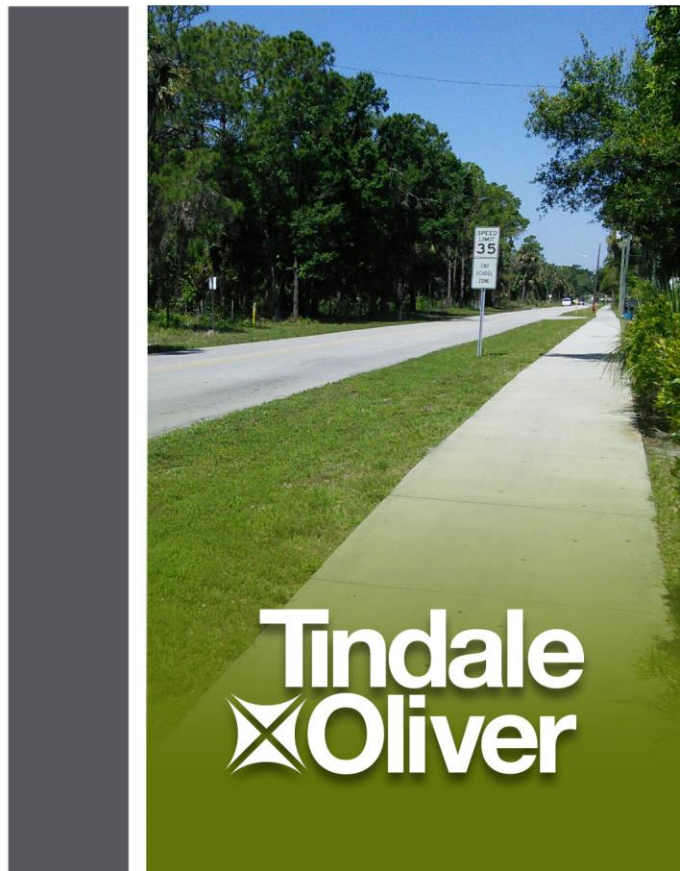
FINAL REPORT - APPENDIX J



Mobility/Multimodal Fee Study Technical Memorandum #4

Goals/Objectives & Geographic
District Areas

December 23, 2019



**Tindale
Oliver**

FINAL REPORT - APPENDIX J

Martin Metropolitan Planning Organization Mobility/Multimodal Fee Study Technical Memorandum 4 Goals/Objectives & Geographic District Areas

Table of Contents

- I. INTRODUCTION 1
- II. GOAL 1: RESPOND TO LAND USE & GROWTH MANAGEMENT GOALS 2
- III. GOAL 2: PROVIDE FLEXIBILITY IN USE OF REVENUES..... 5
- IV. GOAL 3: ESTABLISH GEOGRAPHIC FEE VARIATIONS 6
- V. GOAL 4: ESTABLISH FEE VARIATION FOR TARGETED LAND USES AND CRAS/OPPORTUNITY ZONES 15
- VI. GOAL 5: DEVELOP A FULLY FUNDED TRANSPORTATION PROGRAM 19
 - Transportation Needs 19
 - Transportation Capacity Projects..... 20
 - Transportation Funding..... 20
- VII. GOAL 6: UPDATE THE CONCURRENCY & DEVELOPMENT REVIEW PROCESS..... 27
- VIII. SUMMARY OF FINDINGS..... 30

FINAL REPORT - APPENDIX J

I. Introduction

Tindale Oliver has been retained by Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure.

This technical memorandum outlines the overall study goals identified as part of this process. These goals include the following:

1. The fee structure should be responsive to Martin County’s and each municipality’s land use and growth management goals.
2. The fee structure should incorporate flexibility in terms ability to spend revenues on multiple modes.
3. The fee structure should consider variations by geographic areas to reflect general needs and achieved levels of service by each area.
4. The fee structure should consider variations for targeted land uses to help accomplish land use and funding goals.
5. The study should identify the necessary revenue sources to fully fund the additional transportation capacity needs in Martin County.
6. The County’s development review process should be consistent with the proposed funding program.

Each of these goals are reviewed in the following sections with supporting information from the economic, demographic and financial data analysis, review of policy documents, input from representatives of the County and the municipalities, and spatial and quantitative analysis along with strategies to meet the identified goals.

FINAL REPORT - APPENDIX J

II. Goal 1: Respond to Land Use & Growth Management Goals

To ensure that the mobility/multimodal fee structure is responsive to Martin County and its municipalities' land and growth management goals, Tindale Oliver reviewed several economic and demographic trends in each jurisdiction.

Table 1 includes demographic and land use information for the unincorporated county and municipalities. This data indicates the following:

- Based on the permitting data, new growth is taking place primarily in unincorporated county, followed by the City of Stuart.
- The remaining cities are either built out or otherwise are not seeing much development activity. As such, the fee levels and structure do not impact these jurisdictions. If these jurisdictions start experiencing significant levels of redevelopment, impact fee revenues may become important once again.
- In the case of the City of Stuart, although the City continues to experience growth, there are a limited number of roadway lane addition projects, and as such, a mobility/multimodal fee would be beneficial by allowing the City to use revenues on new/additional sidewalks, bicycle lanes, and/or transit amenities.
- There are 680 acres that are zoned vacant developable in Indiantown, approximately 580 acres in unincorporated county, and 385 acres in the City of Stuart, which reflect future development potential. In addition, approximately 50% of land area in both unincorporated Martin County (22,540 acres) and the Village of Indiantown (4,470 acres) consists of agricultural zoning. Although currently agricultural, through necessary land use and zoning changes, the potential for development to occur on this land remains a possibility as other vacant parcels are built upon.
- Approximately 80% of the tax base for unincorporated Martin County comes from residential land uses, which is not uncommon for counties; however, it does indicate a lack of diversity within the tax base.

It is our understanding that Martin County is interested in exploring fee variations based on degree of urbanization. There are certain limits in the Comprehensive Plan and Future Land Use designations that may minimize the amount of variability related to high density development. First, Comprehensive Plan Policy 2.1A.1 generally limits density in the county to 15 units per acre (UPA) and heights to four stories and 40 feet in height. Moreover, the areas in the County where

FINAL REPORT - APPENDIX J

maximum densities can be attained are limited. Mixed-use development in Community Redevelopment Areas (CRAs) and developments in the High Density designation with the affordable housing density bonus can reach maximum densities of 15 UPA; however, a limited geographic area is designated as High Density (approximately 1% of the county land after Agricultural and Conservation designations are removed). Adjustments to CRAs and mixed-use area in the Comprehensive Plan and Land Development Regulations (LDR, see Section V) will still allow for a maximum density of 15 UPA in the CRA Center Future Land Use designation. Fee variations by geographic area will be discussed further under Goal 3.

FINAL REPORT - APPENDIX J

Table 1 - Demographic and Land Use Information for Martin County and Municipalities

County/ Municipality	^c 2018 Population	^b Projected Average Annual Population Growth Rate (2018- 2045)	^a Average Annual Single- Family and Multi-Family Residential Permits (2013-2018)	^a Estimated Acreage and Parcels Zoned Vacant	^a % Vacant Acreage	^a Estimated Agricultural Acreage	^a % Agricultural Acreage	^a Existing Tax Base Distribution	^a Existing Square Footage Distribution
Unincorporated Martin County	129,360	0.76%	390	Acres: 578 Parcels: 483	1%	22,540	49%	Res: 83% Other: 17%	Res: 82% Other: 18%
City of Stuart	16,430	n/a	20	Acres: 385 Parcels: 306	10%	36	1%	Res: 45% Other: 55%	Res: 48% Other: 52%
Town of Jupiter Island	830	n/a	11	Acres: 76 Parcels: 84	7%	-	-	Res: 99% Other: 1%	Res: 93% Other: 7%
Town of Ocean Breeze	160	n/a	-	Acres: 22 Parcels: 144	21%	-	-	Res: 19% Other: 81%	¹ Res: 0% Other: 100%
Town of Sewall's Point	2,080	n/a	7	Acres: 58 Parcels: 67	9%	-	-	Res: 98% Non-Res: 2%	Res: 96% Non-Res: 4%
Village of Indiantown	6,710	n/a	-	Acres: 680 Parcels: 374	8%	4,470	51%	Res: 31% Other: 69%	Res: 53% Other: 47%

Source: ^a Florida Department of Revenue, 2018; ^b BEBR, Volume 52, Bulletin 183, April 2019 (Medium-Level Projections); ^c U.S. Census Bureau.

¹ The Town of Ocean Breeze is comprised of a commercially owned mobile home park and a small number of retail commercial parcels. Due to the commercial nature of the mobile home park, the square footage is not calculated within the Florida Department of Revenue's parcel data.

Note: Population is rounded to the tens place.

FINAL REPORT - APPENDIX J

III. Goal 2: Provide Flexibility in Use of Revenues

The goal of implementing a mobility/multimodal fee that allows for funding various modes of transportation as opposed to primarily roadway capacity is supported by the County and many municipal Comprehensive Plan policies and potential projects. The County’s current transportation impact fee also includes a bicyclist/pedestrian component. A mobility/multimodal fee continues to incorporate this flexibility to allow jurisdictions to use funding for stand-alone sidewalk and bicycle lane projects, shared use paths as well as transit amenities on functionally classified roadways. The following includes a summary of individual jurisdictions’ goals that support this characteristic.

Martin County

General transportation goals identified through document review and discussions with County staff include:

- Promoting multi-modal transportation, including biking, walking, and transit; and
- Increasing flexibility of revenue spending in terms of mode.

Municipalities

Several municipalities have policies that support or management and staff that expressed interest to some degree in multimodal transportation. These municipalities include the City of Stuart, Town of Ocean Breeze, Village of Indiantown, and Town of Sewall’s Point. The City of Stuart representatives indicated that additional capital planning would be needed to identify multimodal improvements. The Town of Ocean Breeze indicated that there is an opportunity for multi-modal improvements along West End Boulevard in the Downtown area. The Town of Jupiter Island is completely built out and does not anticipate nor has a desire to explore funding for major capital expansions of roadways, sidewalk/bicycle lanes, or transit improvements, due to limited space. The Town’s focus is maintenance of existing facilities.

FINAL REPORT - APPENDIX J

IV. Goal 3: Establish Geographic Fee Variations

In addition to the flexibility of funding multiple modes, this study evaluated whether different fee structures may be appropriate within subareas of the county. As shown in the following maps the more developed portions of the county are located within the urban service boundary (USB) while the remaining parts are mostly rural. More specifically, the following maps are included:

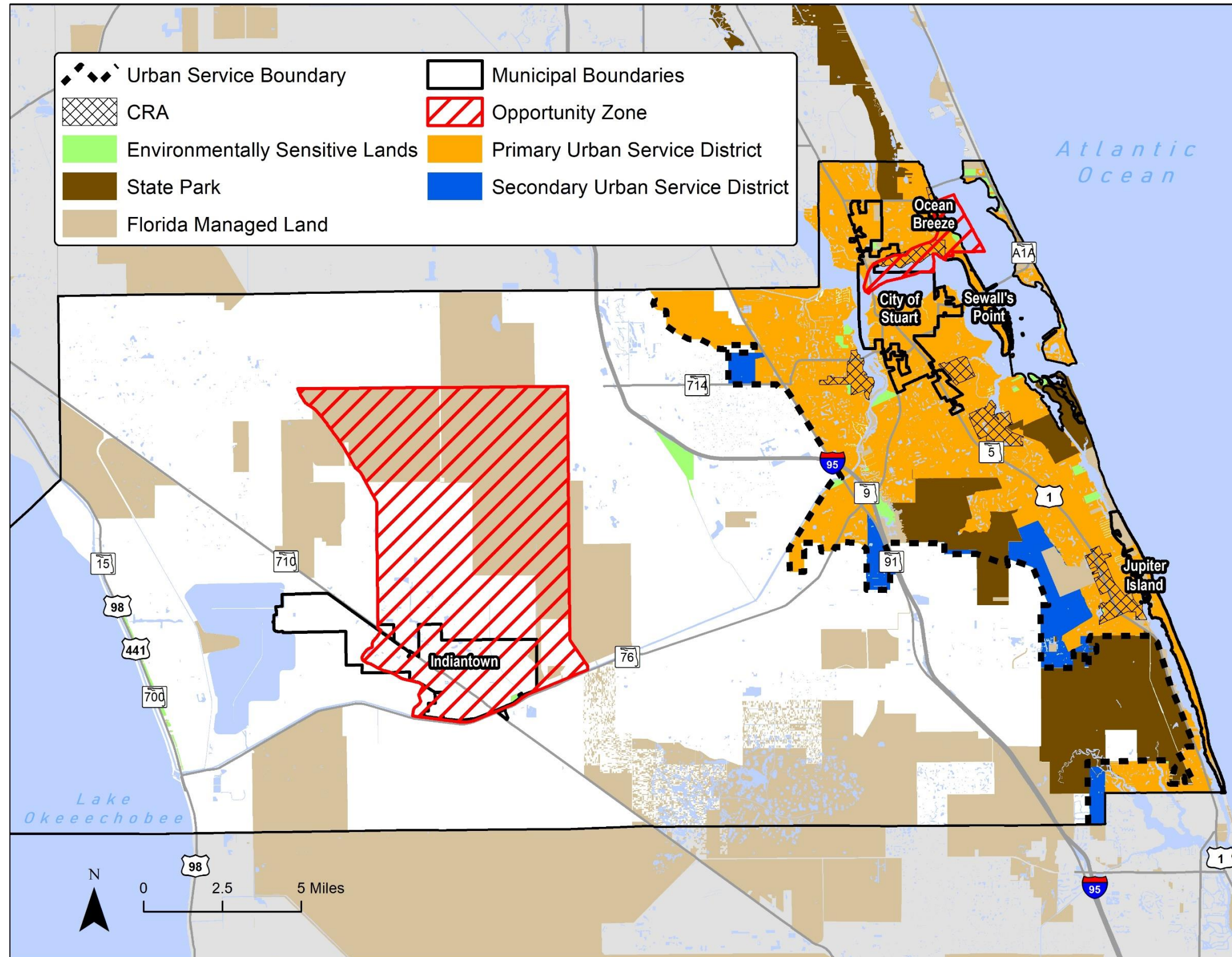
- Map 1 presents the location of municipalities, existing USB, and State owned/managed land and/or environmental land that is not likely to be developed. As presented, most of the development is within the USB. Map 1 also includes the Community Redevelopment Areas.
- Map 2 includes density levels based on existing land use characteristics, which supports the fact that rural area has limited density while more dense areas are located within the USB.
- Map 3 shows the population density per acre in urban/suburban vs. rural area. As shown, the density in the urban area is three times the density exhibited in the rural area.
- Map 4 presents the location of pedestrian and bicycle crashes, which are primarily within the USB as well, indicating that the mix of land uses available in this area results in a higher level of non-auto travel. A mobility/multimodal fee that can be used for stand-alone bicycle lanes/amenities and sidewalks would be beneficial in this area.
- Map 5 presents the County's and State's transportation network and current achieved LOS in each district. As shown, the rural district is enjoying better travel conditions, measured in terms of speed of travel. When travel conditions are measured in terms of volume to capacity (V/C) ratios, the rural area averages a V/C ratio of 0.32 while the urban area averages 0.59, suggesting still efficient travel conditions, but more congestion in the urban area. A V/C of 0.32 suggests an average speed of higher than 35 miles per hour while a V/C of 0.59 suggests an average speed of 28 miles per hour to 35 miles per hour.
- Map 6 shows the 2040 Long Range Transportation Plans Cost Feasible Plan improvements. As shown, all County funded (motorized) improvements are located within the urban service boundary.
- Map 7 shows the proposed fee district boundaries which divides the county into two areas: rural and urban. The urban area includes the current USB boundary with the remaining area comprise the rural district. In the case of Indiantown, it may be appropriate to use the urban rate even though the Village is located in rural fee district.

Based on information provided in this section, options available for Martin County and the municipalities include the following:

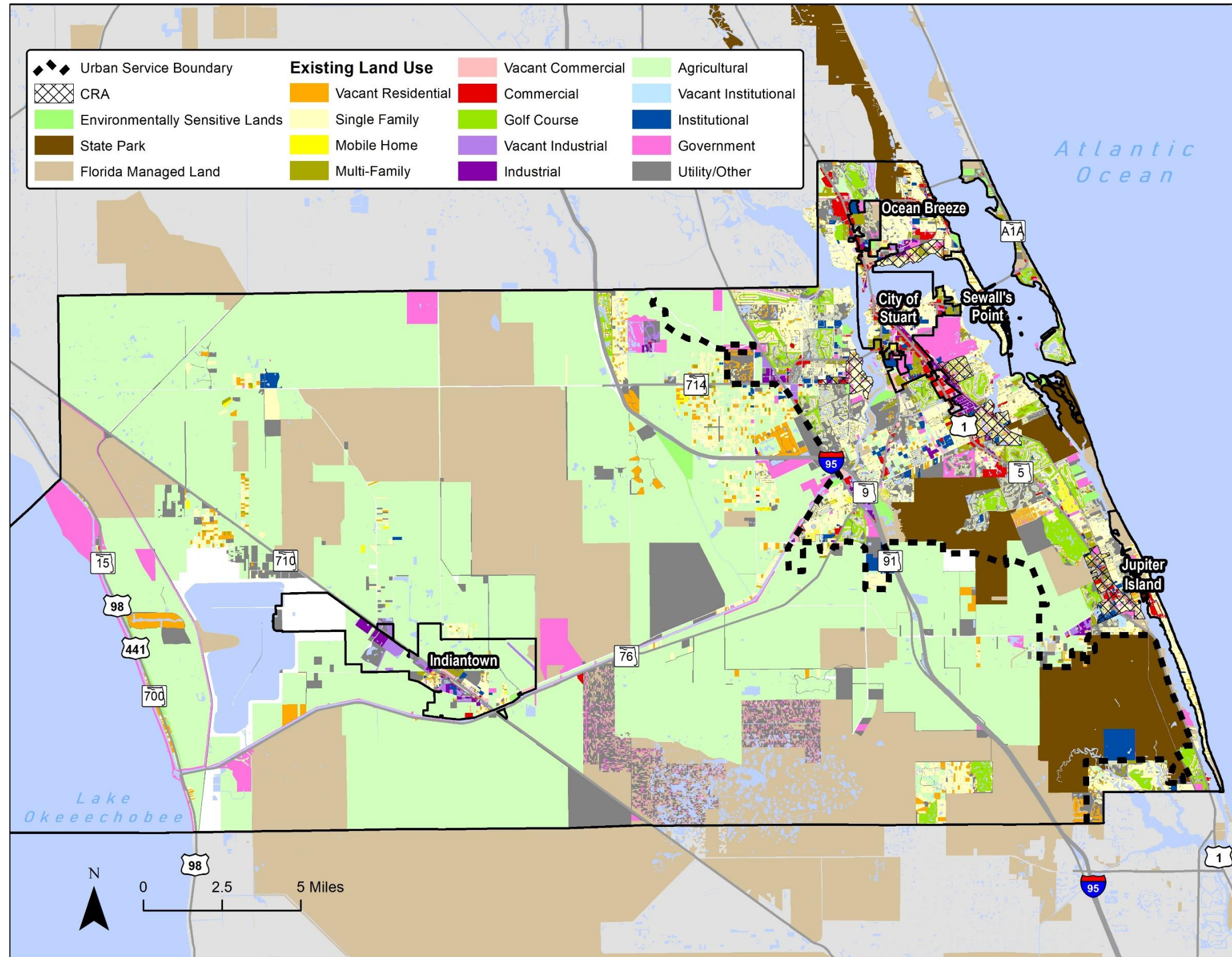
FINAL REPORT - APPENDIX J

- A countywide mobility/multimodal fee versus a mobility/multimodal fee in the urban area while a roadway impact fee in the rural area. This would reflect the limited multimodal needs in the rural area and a greater need for regional connectivity through roadway improvements that would connect this area to the urbanized section of the county.
- The fee differential where the fee would be higher in the rural area, reflecting higher LOS measured in terms of better travel conditions in the rural area. This approach may help encourage development toward the urban area where transportation facilities are available, and therefore, moderating future County investment needed.
- Due to the limited development levels, fee exemption in the municipalities of Jupiter Island, Ocean Breeze and Sewall's Point could be a consideration. Similarly, fees in CRAs and/or Opportunity Zones may be reduced.

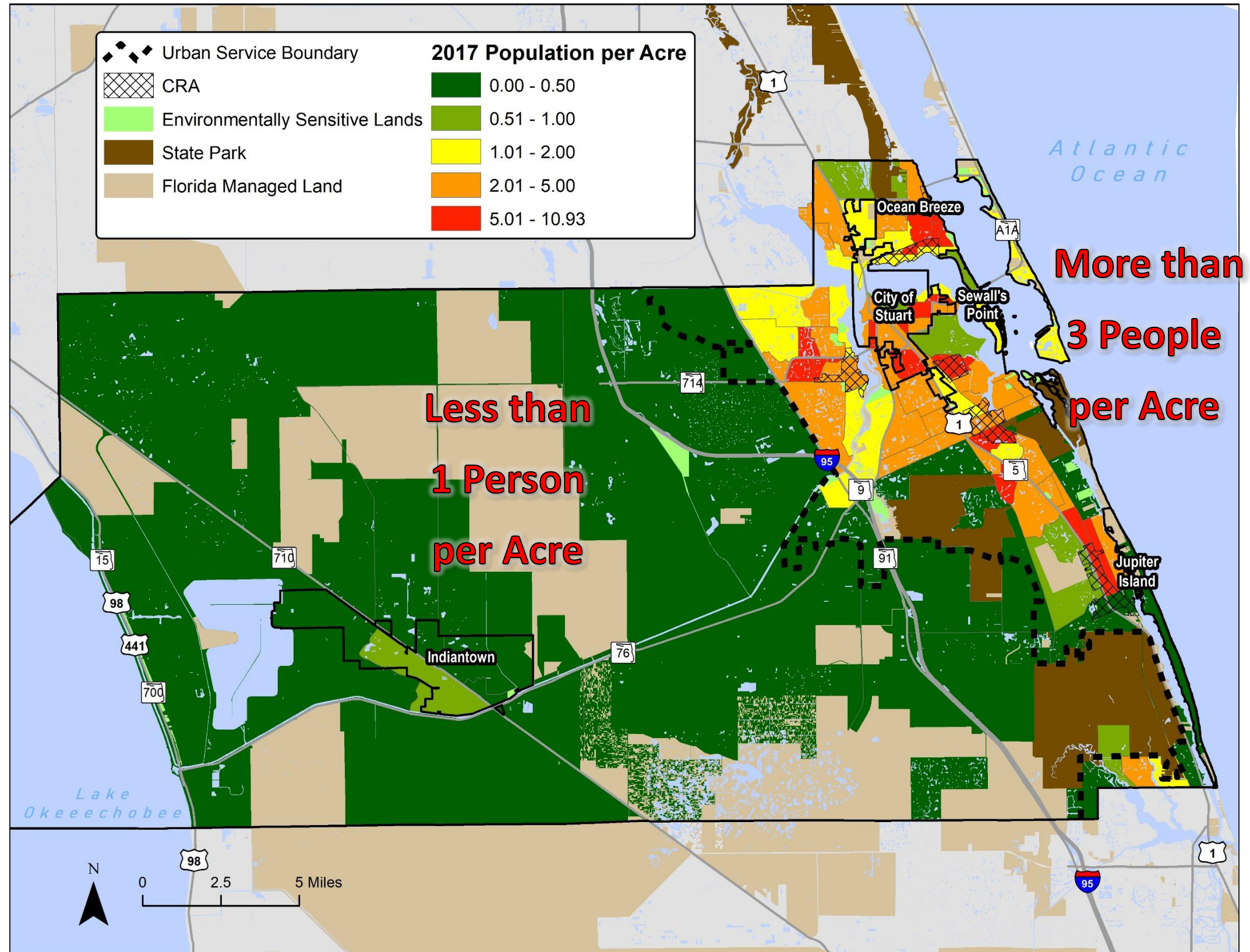
Map 1 – Martin County USB, Municipalities, and CRAs



Map 2 - Existing Land Use



Map 3 - Population Density by Subarea



Map 4 - Bicycle and Pedestrian Crashes

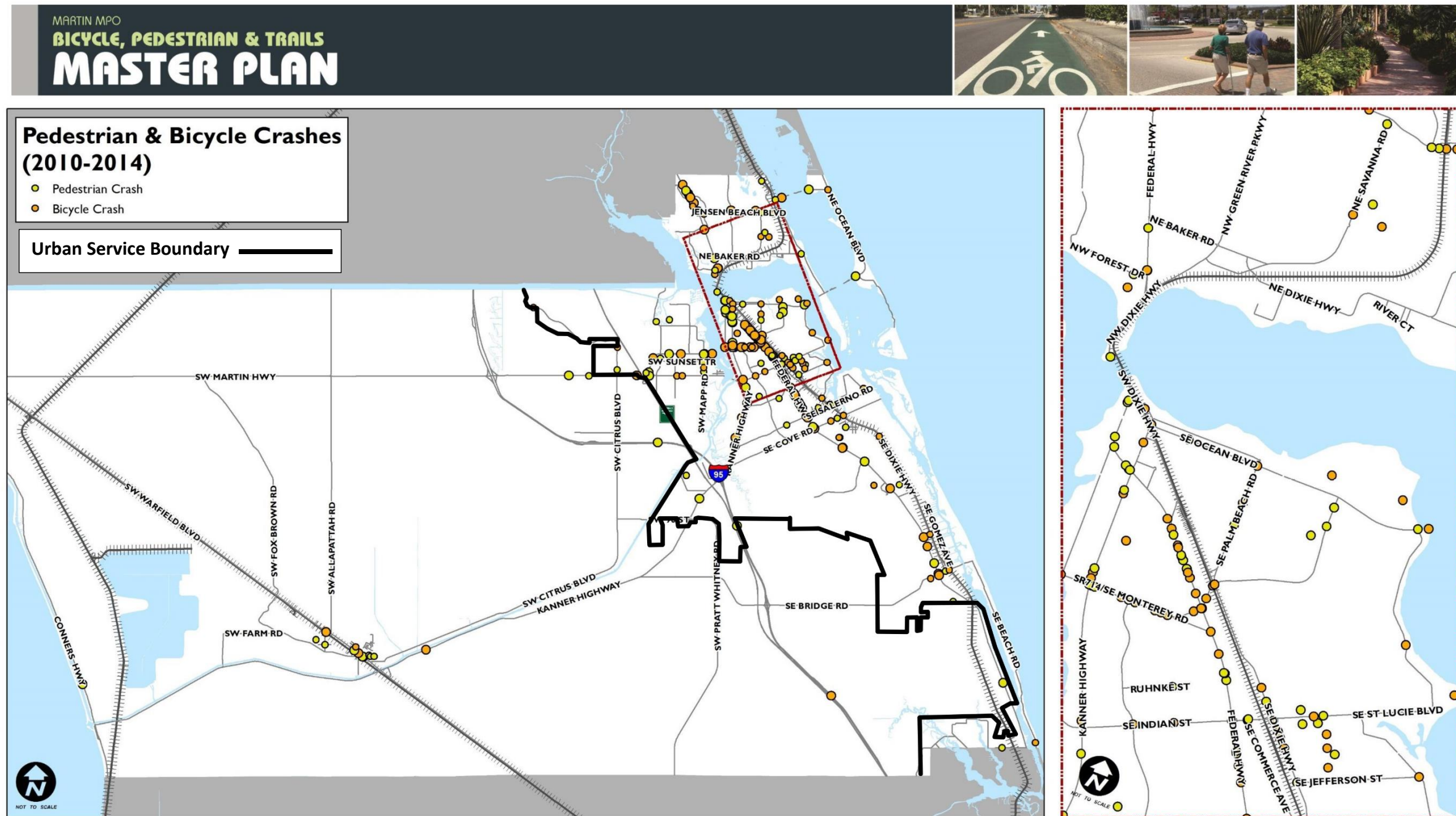
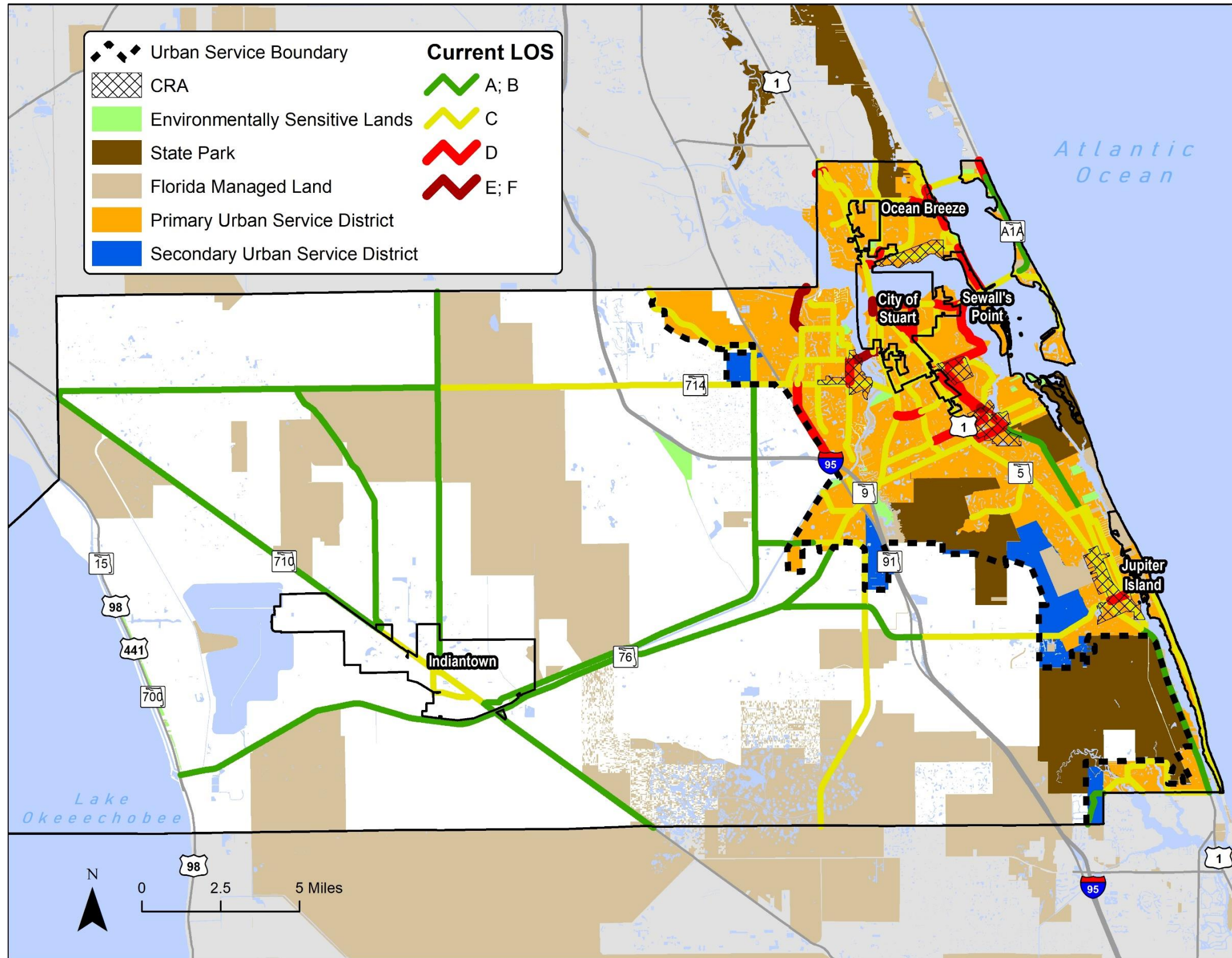


Figure 2-5. Pedestrian & Bicycle Crashes (2010-2014)

Source: FDOT Unified Basemap Depository (UBR)

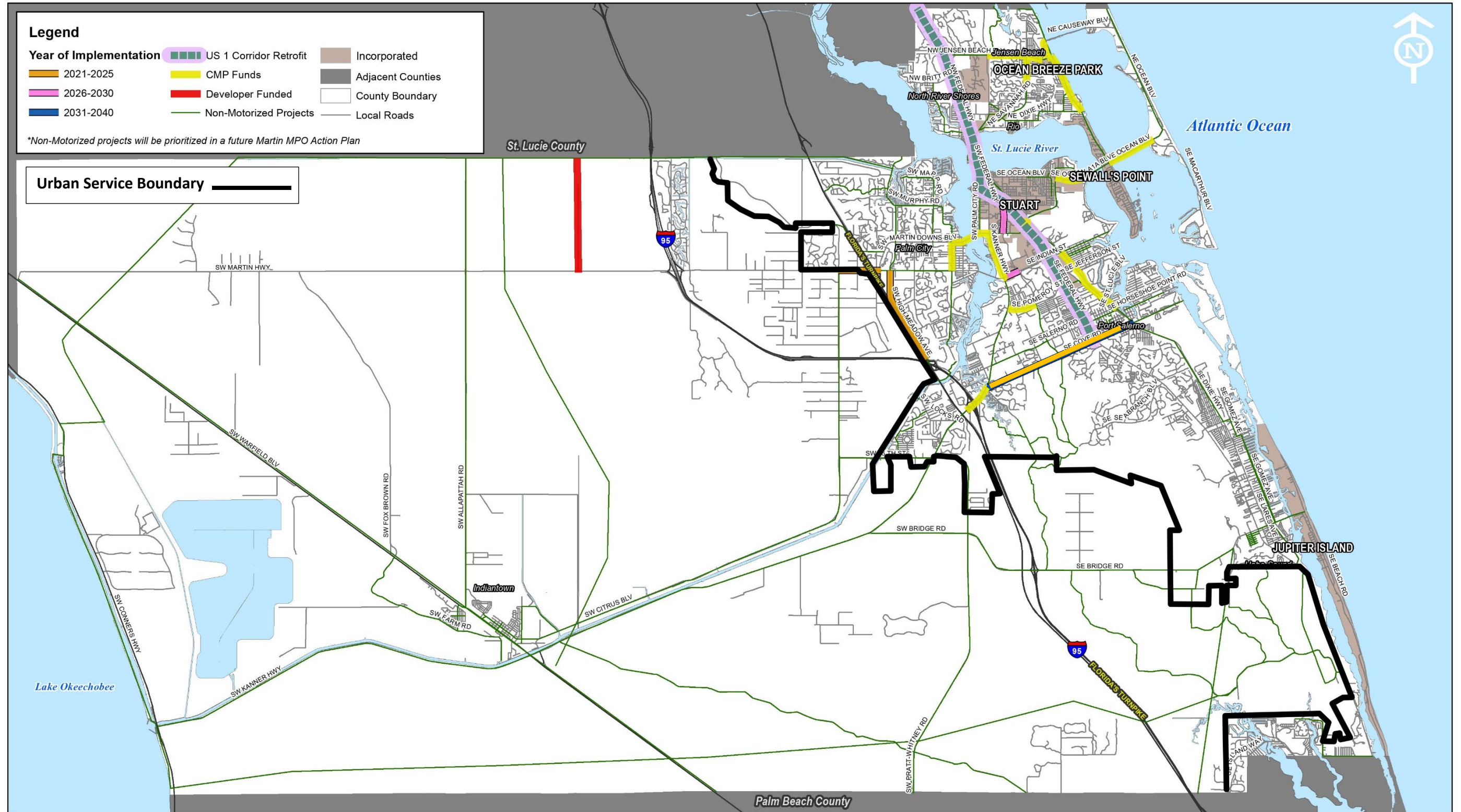
The locations of pedestrian and bicycle related crashes are provided in Figure 2-5. These crashes include both FDOT on-system and off-system crashes from 2010 – 2014. Crash clusters are shown in the eastern urbanized area of Stuart and Port Salerno. A significant cluster in Indiantown was also observed. There was a total of 110 pedestrian crashes and 142 bicycle crashes reported between 2010 – 2014. Of those crashes, 13 pedestrian crashes were reported to be fatal and 3 bicycle related crashes were fatal. It should be noted that many of the bicycle crash locations that occurred in the urbanized area of Martin County correspond to short gaps (typically less than ¼ mile in length) between existing on-road bicycle facilities.

Map 5 - Transportation Level of Service



FINAL REPORT - APPENDIX J

Map 6 – 2040 LRTP: Multi-Modal Cost Feasible Plan



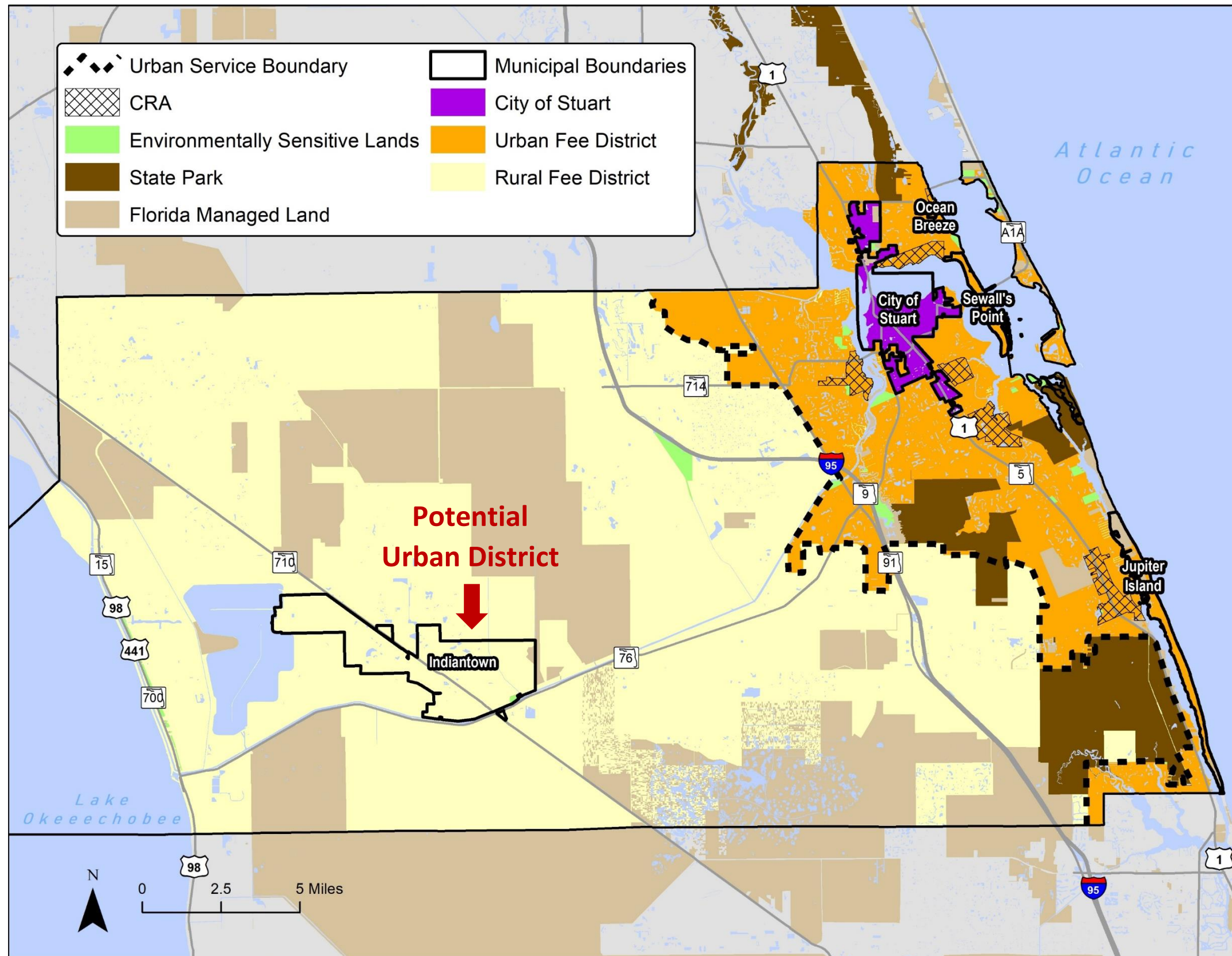
Kimley»Horn

MARTIN
MPO

MovingMartinForward
Connectivity. Mobility. Livability.

0 5 10 Miles

Map 7 - Proposed Mobility/Multimodal Fee Districts



FINAL REPORT - APPENDIX J

V. Goal 4: Establish Fee Variation for Targeted Land Uses and CRAs/Opportunity Zones

The mobility/multimodal fee should consider variations to support compact and mixed-use development, and desired or needed land use and development types, such as affordable housing and target industries. This goal is supported by the County policies as well as policies of several of the municipalities.

Martin County

- **Redevelopment and infill in CRAs**– The County staff expressed a desire to exempt fees in the CRAs to encourage development in these areas. There is also interest in incentivizing adaptive reuse of buildings and property.
- **Mixed-use** – Mixed-use development is currently primarily allowed in the CRAs, yet the CRAs are having trouble attracting mixed-use development. The County is in the process of revising its Comprehensive Plan and Land Development Regulations (LDRs) to eliminate the mixed-use and redevelopment overlays (the Comprehensive Plan and LDRs, respectively) and create two Future Land Use designations for CRAs (CRA Center and CRA Neighborhood) that will designate the entire CRA Center areas as mixed-use, allowing both mixed-use developments approved as a single project and mixed-use “patterns” with a mix of uses within walking distance developing incrementally over time.
- **Opportunity Zone in Indiantown area**– supplement existing tax incentives in this Opportunity Zone with fee incentives to promote development. The opportunity zone in the Ocean Breeze area overlaps with the CRA.
- **Affordable housing** – the County is interested in promoting affordable housing and has several initiatives in place to address this issue. Currently the County has a program to defer impact fees for certain affordable units and allows density bonuses in Medium Density and High Density areas for affordable housing developments (although as noted previously, the area with these designations is limited). The CRAs and County also own land on which they are interested in developing affordable housing. Impact fee reductions would add to the existing incentives. The recently approved House Bill 7103 allows local governments reduce or waive impact fees for affordable housing without having to buy it down, which provides greater flexibility.

FINAL REPORT - APPENDIX J

- **Targeted industries** – Sec. 3.83 of the LDRs currently defines use categories for life science, technology, and research (LSTAR) and targeted industries business (TIB). These uses include bioscience uses, as well as other intellectual and knowledge-based industry sectors. Additional target uses are identified in Sec. 10.1.B.18 and are eligible for expedited review:

Targeted businesses mean those uses as described on the State of Florida Targeted Industries List as produced and as updated by Enterprise Florida, Inc., and/or other State of Florida designated entity for economic development. Targeted businesses typically include: manufacturing facilities, finance and insurance services, wholesale trades, information industries, professional, scientific and technical services, management services, and administrative and support services.

Additional specific objectives to consider in terms of industry incentives include job creation and promotion of marine, aviation, and hospitality (specifically breweries) industries.

City of Stuart

- **Compact, mixed-use development** – the Comprehensive Plan includes provisions that generally support this type of development.
- **Redevelopment area** – the City of Stuart formerly had a fee reduction in the CRA, yet this reduction was replaced by a citywide reduction approved through the 2018 interlocal agreement with the County.
- **Affordable housing** – the Comprehensive Plan includes language to incentivize this type of development, yet City management and staff noted that it has been difficult to measure and incentivize affordable housing; what it is typically experiencing is redevelopment of lots towards more numerous and smaller units, which may support housing supply and affordability.

Town of Jupiter Island

- **Single-family residential development** - the vision from the Town’s Comprehensive Plan focuses on single-family residential development, and the Town is generating very little development requiring payment of the impact fees.
- **Affordable housing coordination with the County** - the Town’s Comprehensive Plan indicates that it will address affordable housing through coordination with Martin County and ad valorem taxes paid to the County (Policy 03.01.03.02).

FINAL REPORT - APPENDIX J

Town of Ocean Breeze

- **Support for mixed-use and large single-use development** - there is some general language in the Comprehensive Plan supporting compact and mixed-use development; the current development pattern of the 100 acres making up the town include a resort area, a mobile home/manufactured home area being redeveloped, a single-family home development that is underway, and a shopping plaza where the Town would consider mixed-use development (but there has been limited interest from the development owners up to this point).

Town of Sewall’s Point

- **Single-family residential development** - the Town Comprehensive Plan indicates that the Town’s land use at the time is predominantly single-family residential with private market single-family residential anticipated to meet 100% of the future housing needs. The plan notes high land values, making development expensive.
- **Affordable housing coordination with the County** - the Town Comprehensive Plan indicated that the Town anticipated meeting affordable housing needs through coordination with Martin County and apartment uses for people with special needs.

Village of Indiantown

- **Urban Core development** - goals, objectives, and policies in the Comprehensive Plan generally support more compact development, including higher densities in the Urban Core.
- **Green development and affordable housing** - the Comprehensive Plan includes policies to promote green development and affordable housing.

The following strategies are available to achieve the goal of fee variations by targeted land uses outlined in this section:

- **Travel Characteristics** - if it can be demonstrated that a given land use or an area generates less travel due to certain characteristics, it is appropriate to apply a reduced fee instead of the countywide average. Examples would be a mixed-use development that result in lower trip generation due to the proximity of uses. Another example is low/moderate income housing, which tends to generate fewer trips.
- **De-minimis Impact** - if the uses that are being discounted are permitted infrequently such that revenues generated from these groups are considered de-minimis (less than 5% of total fee revenues), it is possible to provide the discount without jeopardizing the

FINAL REPORT - APPENDIX J

transportation improvements programs. This approach can be applied to a targeted land use, such as industrial or high wage office, etc. as well as to an area, such as a CRA.

- **Buy-down Option** - the County and/or the municipalities have the option to buy down the mobility/multimodal fees for targeted land uses with general taxes or other non-impact fee funding. As mentioned previously, in the case of affordable housing, HB 7103 allowed jurisdictions to buy down fees without having to backfill the associated impact fee revenues.

FINAL REPORT - APPENDIX J

VI. Goal 5: Develop a Fully Funded Transportation Program

One of the important goals of the study is to identify revenue sources necessary to fully fund the transportation needs in Martin County. This section reviews the projects identified in the CIPs and the Long Range Transportation Plan and provides a summary of available as well as potential revenue sources.

Transportation Needs

Martin County has several planning documents illustrating transportation needs and recommended improvements. A brief summary of these plans is provided below. In some instances, the same future improvement may be included in multiple planning documents.

Martin County’s FY 2019-2023 adopted CIP identifies planned transportation-related improvements including:

- Tax Increment Projects Located Primarily in CRAs = \$7.4 million. Projects include parking initiatives, “safe routes to schools” sidewalks, pedestrian and bike trails, and other neighborhood improvements. In the future, some of these revenues could also be used to buy down mobility/multimodal fees to incentivize targeted land uses, if desired.
- Roads = \$151.1 million. Projects include road resurfacing, sidewalks, bike lanes, road re-alignments, multi-modal pathways, lane addition improvements, intersection improvements, etc.
- Public Transportation = \$2.3 million. Projects include bus acquisition and design/build of a transit facility.

Martin County’s FY 2020-2029 Transit Development Plan (Marty on the Move) identifies planned transit-related improvements including:

- Maintaining existing fixed-route, commuter, and paratransit service (\$28.0 million)
- Replacement of vehicles, new transit technology, and bus stop infrastructure (\$5.9 million)

Martin County MPO’s Bicycle, Pedestrian, & Trails Master Plan identifies \$60.6 million of recommended improvements including:

- Shared Use Paths
- Bicycle facilities – buffered bike lanes, bike lanes, bike boxes, sharrows

FINAL REPORT - APPENDIX J

- Sidewalk facilities – sidewalks, midblock crossings, pedestrian bridges

Martin County MPO’s 2040 Long Range Transportation Plan (Moving Martin Forward) has identified several cost feasible plan projects, including:

- New road and lane addition improvements (\$174 million)
- Bicycle and pedestrian facilities (\$51 million). Some of these projects are also included in the Bicycle, Pedestrian, & Trails Master Plan.
- Congestion management and maintenance (\$36 million)
- Transit improvements (\$90 million, YOE)

Transportation Capacity Projects

Table 2 provides a summary of transportation capacity expansion needs identified in the documents that were discussed previously. Because the documents have varying time frames, projected costs were converted to annual figures, and the time frames were indicated in the footnotes. Based on this information, transportation capacity project costs are estimated at \$22.5 million per year for the next 7 years. By 2026, the debt service will be paid off, which will enable the County to direct this dollar amount to additional projects.

Table 2
Annual Transportation Capacity Project Cost Estimates

Item	Capacity Expansion
Roadway Improvements ⁽¹⁾	\$19,932,000
Roadway Debt Service ⁽²⁾	\$2,578,000
Bike/Pedestrian Improvements ⁽³⁾	\$2,917,000
Transit ⁽⁴⁾	<u>\$585,000</u>
Total	\$22,510,000

1) Source: 2040 LRTP, Cost Feasible Plan. Costs indexed to present day values
 2) Source: Martin County Budget Department, through 2026
 3) Source: Martin MPO Bicycle, Pedestrian & Trails Master Plan, 2021-2040
 4) Source: Martin County FY 2020-2029 Transit Development Plan

Transportation Funding

As detailed in the Martin County FY 2019 Adopted Budget and FY 2019 Capital Improvement Plan, the transportation program is funded by a variety of revenue sources. The following provides a summary of primary funding sources that are being used in Martin County.

FINAL REPORT - APPENDIX J

Local Funding

Fuel Taxes

In addition to the three cents of state levied fuel tax for local use, County governments are authorized to levy up to 12 cents of local option fuel tax. Currently, Martin County has levied all 12 available pennies, with the BOCC retaining approximately 87% of the revenues and the municipalities receiving the remaining 13%. Most of the revenues from fuel taxes are used for maintenance/resurfacing projects. Martin County also uses a portion for debt service payments on bonds used to fund roadway capacity projects and for intersection improvements. Details of state fuels taxes for local use and the local option fuel taxes are listed below:

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% of this tax to Counties after withholding amounts pledged for debt service on bonds issued pursuant to provisions of the State Constitution for road and bridge purposes.
- The 20% 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.
- public safety activities, maintenance, and operation of transportation facilities.

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.

FINAL REPORT - APPENDIX J

- Counties are not required to share the proceeds of this tax with their municipalities.

4. 1st Local Option Tax (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)

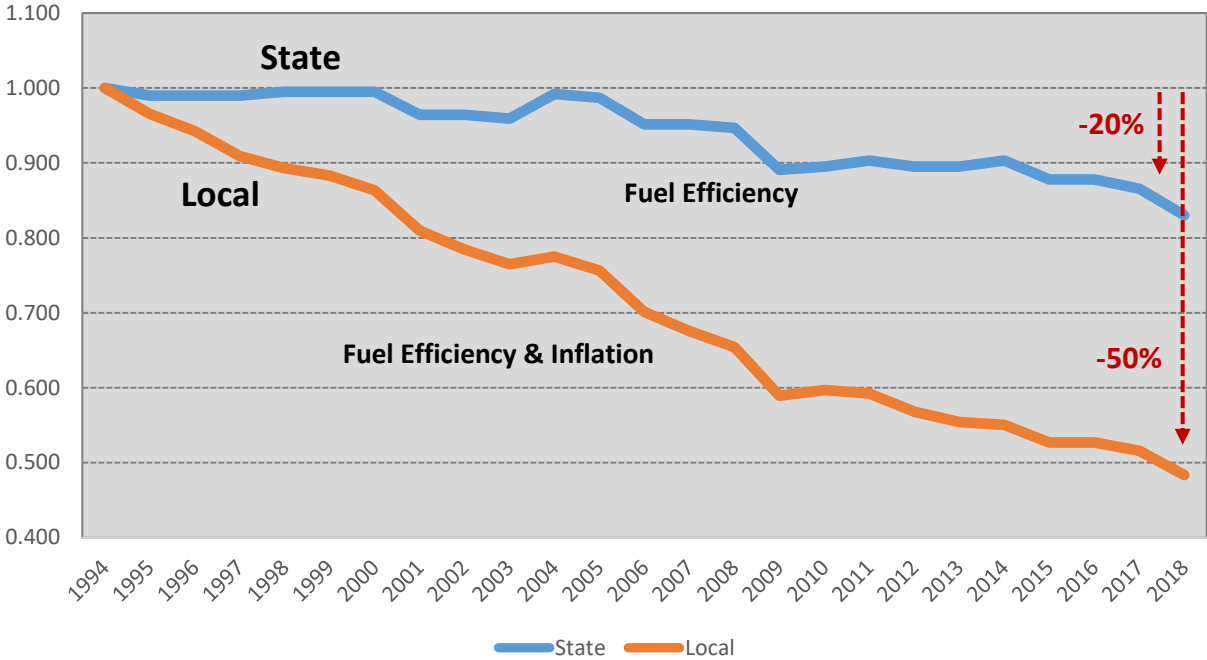
- Tax applies to every net gallon of motor and diesel fuel sold within a county.
- Proceeds may be used to fund transportation expenditures needed to meet requirements of the capital improvements element of an adopted Local Government Comprehensive Plan.
- Proceeds are distributed to a county and its 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 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 2018-19 data represent projected fuel tax distributions to Martin County for the current fiscal year. For FY 2018-19, Martin County and its municipalities are estimated to receive approximately \$12.6 million for 15 pennies of fuel tax (3 pennies of state fuel tax for local use and 12 pennies of local option fuel tax).

While a brief look at local fuel tax revenues shows increased collections each year, this is due mainly to population growth. Figure 1 illustrates the declining value of a penny of fuel tax over the past 25 years. In addition to revenue loss due to increases in vehicle fuel efficiency, local option fuel taxes are not indexed annually. Therefore, a local penny of fuel tax adopted in 1994 is worth less than 50% of its original value today. State fuel taxes that are indexed are only subject to the revenue loss due to increased fuel efficiency, as seen in Figure 1. In other words, although fuel taxes represent a dedicated revenue source, they are ineffective in funding rising cost of transportation projects.

FINAL REPORT - APPENDIX J

Figure 1 – Value of a Penny Fuel Tax



General Fund/Ad Valorem Revenues

The general fund is the primary operating fund of the County and is primarily made up of ad valorem tax revenues (70%). As shown in the five-year CIP, Martin County allocates approximately \$20 million of General Fund revenues for roadway operations, maintenance and capacity improvements. Of this, only 12% of the funds are planned for capacity expansion improvements with the remaining portion allocated for operations and maintenance improvements. As shown in the current TDP, approximately \$756,000 of General Fund revenues are dedicated to transit operations.

In addition to General Fund revenues, Martin County has a Roads Municipal Service Taxing Unit (MSTU) that generates funds for roadway operations and maintenance improvements. MSTUs are taxing entities established by ordinance to provide a mechanism to assess ad valorem taxes for specific services or projects benefitting residents in a defined geographic area. Currently, the County has a Road Maintenance Unincorporated Area MSTU with a FY 2019 adopted millage rate of 0.3038. As shown in the CIP, revenues are programmed for resurfacing and neighborhood restoration projects and this MSTU generates approximately \$3.4 million per year.

Martin County also has several Community Redevelopment Areas (CRAs) that utilize ad valorem revenues. Funding for the CRAs is provided through tax increment financing. For each established CRA area, the dollar value of all real property in the CRA is “frozen” as of a fixed date

FINAL REPORT - APPENDIX J

and any future tax revenues resulting from increases in real property value (referred to as the “increment”) is deposited into a CRA trust fund and dedicated to the redevelopment area. All expenditures must be made in accordance with Board policies and procedures. As indicated in the CIP, all CRAs in Martin County generate a total of approximately \$1.1 million of revenues, annually.

Transportation Impact Fees

For several years, Martin County has collected transportation impact fees to help fund capacity expansion improvements. Impact fees are a one-time fee collected from new development and the revenues are restricted to capacity-expansion improvements such as new road construction, lane addition improvements, intersection improvements, etc. Over the past 10 years, the County has average just over \$1.0 million of transportation impact fee revenues, annually. Currently, all impact fee revenues are dedicated to debt service repayment of the County’s gas tax refunding revenue note, series 2014.

Grants

As detailed in the CIP, the County receives over \$5.2 million a year in grant revenues. These revenues are primarily used to fund non-capacity expansion roadway improvements.

Franchise Fees

Martin County participates in a non-compete franchise agreement with Florida Power and Light (FP&L). Under this agreement, the County receives 6% of the revenues from FP&L electricity customers. These revenues are distributed to the County and restricted to maintenance/repair/reconstruction of existing roads, drainage, and bridges. As indicated in the five-year CIP, this accounts for over \$7.5 million annually in revenues.

Farebox Revenues

This revenue source is generated from riders of the transit service, which averages \$100,000 annually. Revenues are used for transit operating expenses.

Federal/State Funding

Martin County also receives federal and state revenues which are utilized for a variety of transportation-related improvements. A review of the County’s historical and future work program indicate that the County spends approximately \$11.0 million per year on roadway capacity expansion projects and approximately \$450,000 per year on bicycle/pedestrian facility improvements. For transit improvements, Martin County is expected to receive approximately

FINAL REPORT - APPENDIX J

\$1.4 million per year from Section 5307, Section 5310, Section 5311, Section 5339, FDOT State Block Grants, and FDT Transit Corridor Grants.

Potential Revenue Sources

Local Option Sales Tax

Nine separate local discretionary sales surtaxes, also known as local option sales taxes, are currently authorized in law and represent potential revenue sources for county governments. These local discretionary sales surtaxes apply to all transactions subject to the state tax imposed on sales, use, services, rentals, admissions, and other authorized transactions.

Currently, Martin County has not adopted any of the available local option sales taxes. While not eligible for the Charter County and Regional Transportation System Surtax or the Small County Surtax, the County is eligible for up to 1% of the Local Government Infrastructure Surtax. Generally, proceeds must be expended to finance, plan, and construct infrastructure, acquire land for public recreation, conservation, or protection of natural resources. It is estimated that a 1% sales tax would generate approximately \$34.0 million annually, with the BOCC retaining over \$28.7 million (84%). Unlike local option fuel taxes, local option sales tax revenues account for inflation.

Table 3 provides a summary of revenue sources available for capacity projects. As shown, the Federal/State contributions comprise 80% of total available revenues. At the local level, primary revenue sources are fuel taxes and impact fee dollars, which make up 86% of total local funding available for capacity projects. Current adopted transportation impact fees generate approximately \$1 million per year, or 30% of local dollars available for capacity. Changes to the fee levels have the potential to significantly increase revenues available for capacity projects. Fee schedule options and associated revenue estimates will be provided as part of Technical Memorandum 5.

FINAL REPORT - APPENDIX J

Table 3

Annual Revenues Allocated for Transportation Capacity

Item	Capacity Expansion
Local Revenues	
Ad Valorem - General ⁽¹⁾	\$480,000
Local Option Fuel Tax ⁽²⁾	\$1,937,000
Transportation Impact Fees ⁽³⁾	<u>\$1,016,000</u>
Subtotal (Local)	\$3,433,000
Federal/State Revenues	
FDOT Work Program ⁽⁴⁾	\$14,157,000
Section 5307 & 5339 ⁽⁵⁾	<u>\$585,000</u>
Subtotal (Federal/State)	\$14,742,000
Total	\$18,175,000

- 1) Source: FY 2019 CIP, expenditures are for “dirt road paving”
- 2) Source: FY 2019 CIP and the Martin County Budget Department
- 3) Source: Martin County Budget Department
- 4) Source: FDOT Work Program for Martin County, FY 2015-2024
- 5) Source: Martin County FY 2020-2029 Transit Development Plan

FINAL REPORT - APPENDIX J

VII. Goal 6: Update the Concurrency & Development Review Process

As part of this study, potential changes to the County’s and Municipalities’ current development review processes should be developed. Adoption of a mobility fee triggers certain restrictions in the development review process while the County can continue with its current system with some possible modifications under a roadway-based or a multimodal fee.

Martin County

A general consideration for the County in terms of its fee is whether to retain traditional concurrency with the option for some enhancements or remove concurrency with the option to retain certain timing and phasing provisions for discretionary development approvals. Currently, the County provides a positive or negative evaluation of adequate public roadway facilities after determining if there are facilities in place, programmed, or planned to absorb the additional impacts of a land use amendment. The following lists key items of current County practices to consider and potentially address through fee scenarios developed in Technical Memorandum 5:

- **Traffic impact review for re-zonings** - the County currently does not review re-zonings for traffic impacts, only land use amendments and site plans; analysis is typically based on the most intensive scenario of what can be built.
- **Timing to address negative transportation impact evaluations** - the County may approve a land use amendment without having transportation impacts and concurrency needs addressed prior to the approval. Additionally, Article 5 of the Land Development Code includes language that allows a preliminary development order lasting two years from date of approval may be used to define the period during which a development can solve a transportation concurrency constraint and reach a positive transportation impact evaluation.
- **CRA areas, cities, and concurrency exceptions** - County CRAs are reaching capacity limits, which has led the County Commission to adopt Transportation Concurrency Exception Areas (TCEAs) in the CRAs in its new Chapter 18.
- **Proportionate fair-share** - the County has used proportionate fair-share provisions very rarely; for more recent projects reviewed by staff and legal consultants where a proportionate fair-share payment was considered, findings indicated that impacted roadways had existing deficiencies that could not be included in the calculation of project

FINAL REPORT - APPENDIX J

impact, leading to the conclusion that these projects were not required to pay a proportionate fair-share payment.

Municipalities

As discussed previously in Section II, demographic and geographic analysis, findings from a review of plans and policies documented in Technical Memorandum 2, and discussions with municipal staff indicate that most cities are built out and not anticipating major growth/intensification of development or they are not currently experiencing a concurrency issue. Jupiter Island and Sewall's Point are relatively small and focused on single-family residential. Ocean Breeze has one 45-acre development presently only partially built out that may generate future revenues. The City of Stuart management and staff noted the City is not currently experiencing concurrency and capacity issues. Based on these findings, the municipalities are not a major focus for concurrency considerations.

Legislative Considerations

Chapter 163 of Florida Statutes contains provisions on concurrency. Concurrency requirements have undergone changes in recent years; SB 360 in 2009 created Transportation Concurrency Exception Areas for "dense urban land areas" and other urbanized areas. HB 7207 in 2011 removed transportation facilities from the concurrency requirement on a statewide basis; HB 319 in 2013 amended section 163.3180 to include the following language:

Any alternative mobility funding system adopted may not be used to deny, time, or phase an application for site plan approval, plat approval, final subdivision approval, building permits, or the functional equivalent of such approvals provided that the developer agrees to pay for the development's identified transportation impacts via the funding mechanism implemented by the local government.

However, this did not disallow for timing and phasing mechanisms applied to development with discretionary approvals such as land use amendments and re-zonings.

The following strategies relate to these concurrency considerations:

- **Evaluate fee types in terms of generally retaining or removing concurrency standards** – Legislative language allows local governments to maintain concurrency for transportation/multimodal impact fees, but defines how the associated proportionate share amounts should be calculated. Under the State formula, proportionate share revenues are severely limited. In the case of mobility fees, if the local government chooses to repeal the concurrency, the legislation does not disallow a review of new

FINAL REPORT - APPENDIX J

development for timing and phasing provisions, such as land use amendments and/or rezoning that allows additional density.

- ***Review of the County's existing concurrency system*** – If Martin County chooses to continue to maintain the concurrency review for land use and plan amendments, it would be beneficial to review/revise the current procedures to ensure they are effective in evaluating land use and zoning amendments in maintaining the transportation system performance in Martin County.

FINAL REPORT - APPENDIX J

VIII. Summary of Findings

This memorandum provided a summary of study goals and fee structures/options that would address these goals. Key findings related to the fee structure include the following:

- Martin County is a moderate growth county with favorable travel conditions. These conditions and growth levels will provide the County with a reasonable time frame to address future transportation needs that are likely to be created through new growth.
- The County is more urbanized on the eastern side along the coast with limited roadway capacity needs in the cities and CRAs. In these areas, the flexibility offered by a mobility/multimodal fee would be useful. The western rural part of the county is likely to have roadway capacity project needs when this area starts to develop and the need to provide regional connectivity increases. In this area, a roadway-based fee may be appropriate.
- The travel conditions, measured in terms of travel speed, are better in the rural area compared to the urban area. This differential allows the County to charge a higher fee in the rural area, if desired. A lower fee in the urban area would help encourage development toward the area where the infrastructure is already in place.
- The County has the option to revise its current development review and concurrency process for land use and plan amendments or eliminate concurrency requirements. Regardless of the fee type, it will be important for the County to review its current procedures to ensure an effective process that help maintain the transportation system performance.
- In terms of transportation capacity funding, the current primary revenue source is the Federal/State funding. At the local levels, the primary revenue sources are impact fees, generating 30% of available revenues, and local option fuel taxes. For the next seven years, transportation impact fee revenues are mostly being used to pay for debt service; however, they will be available for other projects after that. In addition, changes to the fee levels have the potential to significantly increase revenues available for capacity projects. The primary potential revenue source available to the County is the local option infrastructure sales tax, which is used by several communities for transportation capacity needs.

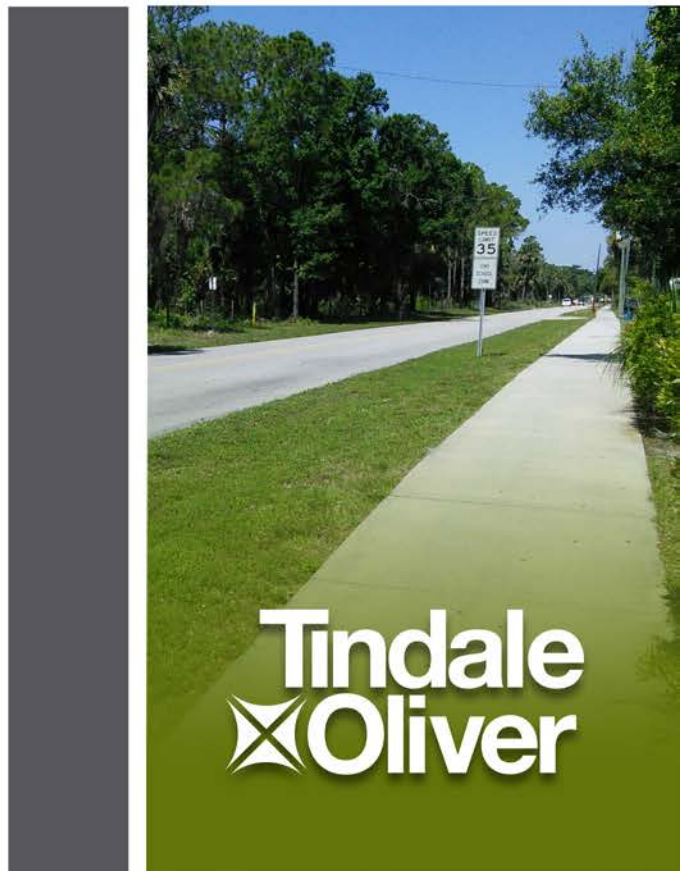
Appendix K
Technical Memorandum #5:
Mobility Fee Alternatives

FINAL REPORT - APPENDIX K



Mobility/Multimodal Fee study
Technical
Memorandum #5
Mobility Fee Alternatives

March 31, 2020



Tindale
Oliver

FINAL REPORT - APPENDIX K

Martin Metropolitan Planning Organization Mobility/Multimodal Fee Study Technical Memorandum 5

Table of Contents

- I. INTRODUCTION 1
- II. OVERVIEW OF LEGAL REQUIREMENTS..... 2
- III. MOBILITY/MULTIMODAL FEE CALCULATIONS 5
 - Demand Component 6
 - Cost Component..... 7
 - Credit Component..... 15
 - Calculated Mobility/Multimodal Fee Schedule 17
- IV. FINANCIAL PLANNING ANALYSIS 23
- V. DEVELOPMENT REVIEW PROCESS..... 34
- VI. SUMMARY OF FINDINGS 43

Appendices:

- Appendix A: Demand Component Calculations
- Appendix B: Cost Component Calculations
- Appendix C: Credit Component Calculations
- Appendix D: Geographic Variation
- Appendix E: Mobility/Multimodal Fee Schedules

FINAL REPORT - APPENDIX K

I. Introduction

Tindale Oliver has been retained by Martin Metropolitan Planning Organization (MPO) to prepare a study that would develop Mobility/Multimodal Fee scenarios that will adequately fund capital transportation improvements of multiple modes, including roads, sidewalks, bicycle lanes, transit amenities, and other similar infrastructure.

This technical memorandum provides alternative mobility/multimodal fee structures for considerations and evaluates these options in terms of several financial planning and legal criteria.

FINAL REPORT - APPENDIX K

II. Overview of Legal Requirements

Florida Statutes require that mobility/multimodal fees follow the same legal requirements as impact fees. In Florida, legal requirements related to impact fees have primarily been established through case law since the 1980's. Impact fees must comply with the "dual rational nexus" test, which requires that they:

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

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

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

- **HB 227 in 2009:** The Florida legislation statutorily clarified that in any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the requirements of state legal precedent or the Impact Fee Act and that the court may not use a deferential standard.
- **SB 360 in 2009:** Allowed fees to be decreased without the 90-day notice period required to increase the fees and purported to change the standard of legal review associated with impact fees. SB 360 also required the Florida Department of Community Affairs (now the Department of Economic Opportunity) and Florida Department of Transportation (FDOT) to conduct studies on "mobility fees," which were completed in 2010.
- **HB 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 163.31801 (5)(f), Florida Statutes, including:

FINAL REPORT - APPENDIX K

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.

- **HB 207 in 2019:** Included the following changes to the Impact Fee Act along with additional clarifying language:
 1. Impact fees cannot be collected prior to building permit issuance; and
 2. Impact fee revenues cannot be used to pay debt service for previously approved projects unless the expenditure is reasonably connected to, or has a rational nexus with, the increased impact generated by the new residential and commercial construction.
- **HB 7103 in 2019:** Addressed multiple issues related to affordable housing/linkage fees, impact fees, and building services fees. In terms of impact fees, the bill required that when local governments increase their impact fees, the outstanding impact fee credits for developer contributions should also be increased. This requirement will operate

FINAL REPORT - APPENDIX K

prospectively. This bill also allowed local governments to waive/reduce impact fees for affordable housing projects without having to offset the associated revenue loss.

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 based upon the specific benefit to the user related to a given infrastructure type and is not established for the primary purpose of generating revenue for the general benefit of the community, 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.

The fee options developed in this memorandum comply with all of the legal requirements.

FINAL REPORT - APPENDIX K

III. Mobility/Multimodal Fee Calculations

This section of the memorandum includes data and analysis completed to calculate the mobility/multimodal fee options for the consideration of Martin MPO, Martin County and the municipalities. Several options, such as countywide fees vs. fee variation by geographic area as well as a “roadway ONLY” impact fee in the rural section of the County are included in this section.

Methodology

The methodology used for the mobility/multimodal study follows a consumption-based 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 the transportation network.

Under this methodology, the fees assess a proportionate share cost for the entire transportation network in the county, including classified City, County and State roadways, with the exception of local/neighborhood roads and interstate highways/toll facilities. Generally, neighborhood roads are the obligation of the developer and are part of the site/subdivision approvals. Interstate highways and toll facilities tend to be funded with earmarked State and Federal funds.

Included in this document is the necessary support material used in the calculation of the mobility/multimodal fee. The general equation used to compute the mobility/multimodal fee for a given land use is:

$$\text{[Demand x Cost]} - \text{Credit} = \text{Fee}$$

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 mobility/multimodal 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 dollars per person-mile of transportation capacity added.

The “credit” is an estimate of future non-mobility/multimodal fee revenues generated by new development that are allocated to provide transportation capacity expansion. The

FINAL REPORT - APPENDIX K

mobility/multimodal fee is considered to be an “up front” payment for a portion of the cost of building a lane/person-mile of capacity that is directly related to the amount of capacity consumed by each unit of land use contained in the 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 fees where a new development activity must be reasonably assured that they are not being charged twice for the same level of service.

It should be noted that, consistent with the State Impact Fee Act requirements, the information used to develop the mobility/multimodal fee schedule was based on the most recent and localized data available.

Demand Component

The amount of road system consumed by a unit of new land development is calculated using the following variables and is a measure of the vehicle miles of new travel a unit of development places on the existing roadway system:

- Number of gross daily trips generated
- Average length of those trips
- Proportion of travel that is new travel, rather than travel that is already traveling on the transportation system and is captured by new development
- Interstate/toll facility adjustment factor
- Vehicle-trip to person-trip factor

As part of this update, the trip characteristics variables were obtained primarily 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 A. This database was used to determine trip length, percent new trips, and trip rate for some land uses.

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, mobility/multimodal fees are not used to pay for these improvements and the portion of travel occurring on the interstate/toll facility system is usually eliminated from the total travel for each use.

FINAL REPORT - APPENDIX K

To calculate the interstate and toll (I/T) facility adjustment factor, the loaded highway network file was generated for the Treasure Coast Regional Planning Model (TCRPM v4). A select link analysis was run for all traffic analysis zones located within Martin County in order to differentiate trips with an origin and/or destination within the county versus trips with no origin or destination within the county.

Currently, interstate and toll facilities in Martin County include I-95 and the Florida Turnpike. The limited access vehicle-miles of travel (Limited Access VMT) for trips with an origin and/or destination within the county was calculated for the identified limited access facilities. The total Martin County VMT was calculated for all trips with an origin and/or destination within the county for all roads, including limited access facilities.

The I/T adjustment factor of 20.2 percent was determined by dividing the total limited access VMT by the total countywide VMT. By applying this factor to the total county VMT, the reduced VMT is then representative of only the roadways which are funded by mobility/multimodal fees. Appendix A, Table A-1 provides further detail on this calculation.

Conversion of Vehicle-Trips to Person-Trips

In the case of the mobility/multimodal 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 1.30. This value was derived from a review of the TCRPM v4. Given that a large portion of travel occurs via automobile, this approach is found to be reasonable.

Land Use Changes

Land uses included in the fee schedule are based on the Martin County’s current transportation impact fee schedule. However, as part of this update study, several land uses were revised/added/removed to reflect the most recent data on demand variables. A full listing on the land uses in the mobility/multimodal fee schedule is included in Appendix E.

Cost Component

Cost information from Martin County, other Florida Counties, and the Florida Department of Transportation (FDOT) was reviewed to develop a unit cost for all phases involved in the construction of one lane-mile of roadway capacity. In addition, cost information for bicycle/pedestrian and transit facilities was reviewed and included in the cost component calculations for the mobility/multimodal fee rates. The following sections summarize the

FINAL REPORT - APPENDIX K

methodology and findings of the total unit cost analysis for all modes of travel. Appendix B provides the data and other support information utilized in these analyses.

County Roadway Cost

This section examines the right-of-way (ROW), construction and other cost components associated with county roads with respect to transportation capacity expansion improvements in Martin County. For this purpose, recent 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 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 county roads were estimated at 11 percent of construction phase costs based on a review of recently completed and ongoing transportation impact fee studies throughout Florida. Additional detail is included in Appendix B, Table B-1.

CEI costs for county roads were estimated at nine (9) percent of construction phase costs based on a review of recently completed and ongoing transportation impact fee studies throughout Florida. Additional detail is included in Appendix B, Table B-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. With no recent local data available, ROW cost estimates were developed based on the ROW-to-construction ratios observed in recently completed and ongoing transportation impact fee studies throughout Florida. The ratios from these studies ranged from 26 percent to 60 percent, with an average of 41 percent. For purposes of the Martin County impact fee calculation, a factor of 40 percent was estimated. Additional detail is provided in Appendix B, Table B-2.

Construction

The construction cost for county roads was based on a review of local and statewide projects. For local improvements, data provided by County staff, the Capital Improvement Program (CIP), and the Martin Metropolitan Planning Organization’s (MPO) Long Range Transportation Plan (LRTP) were all reviewed. Local costs from staff included seven recent county road

FINAL REPORT - APPENDIX K

improvements, but no travel lane additions. Therefore, these improvements were not utilized for the roadway construction cost estimate.

In addition, the County’s FY 2020 Capital Improvement Plan and 2040 Long Range Transportation Plan (Cost Feasible Plan) were reviewed. Although these documents included lane addition projects, figures did not appear to include all related cost and were not separated for various phases. Given this limited local information, recent improvements from other counties in Florida were reviewed. This review included approximately 139 lane miles of lane addition and new road construction improvements with a weighted average cost per added lane mile of approximately \$2.80 million. Additional detail is provided in Appendix B, Table B-3.

Based on this review, a county roadway cost of **\$2.80 million** per lane mile was used in the mobility/multimodal fee calculation for county roads.

As shown in Table 1, the weighted average county roadway construction cost was calculated at approximately \$2.80 million per lane mile, with a total weighted average cost of \$4.48 million per lane mile for county roadways.

Table 1
Estimated Total Cost per Lane Mile
for County Roads

Cost Type	County Roads
Design ⁽¹⁾	\$308,000
Right-of-Way ⁽²⁾	\$1,120,000
Construction ⁽³⁾	\$2,800,000
CEI ⁽⁴⁾	\$252,000
Total Cost	\$4,480,000

1) Design is estimated at 11% of construction costs
 2) Right-of-Way is estimated at 40% of construction costs
 3) Source: Appendix B, Table B-4
 4) CEI is estimated at 9% of construction costs
 Note: All figures rounded to nearest \$000

State Roadway Cost

This section examines the right-of-way, construction and other cost components associated with state roads with respect to transportation capacity expansion improvements in Martin County. For this purpose, recent data from state roadway projects bid in Martin County and throughout Florida and the FDOT’s Long Range Estimates were used to identify and provide supporting cost

FINAL REPORT - APPENDIX K

data for state improvements. The cost for each roadway capacity-expansion project was separated into four phases: design, CEI, ROW, and construction.

Design and CEI

Design and CEI costs for state roads were each 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 B, Tables B-1 (design) and B-5 (CEI).

Right-of-Way

Given the limited data on ROW costs for state roads in Martin County, ROW cost estimates were developed based on the ROW-to-construction ratios observed in recently completed and ongoing transportation impact fee studies throughout Florida. The ratios from these studies ranged from 32 percent to 60 percent, with an average of 43 percent. For purposes of the Martin County impact fee calculation, a factor of 40 percent was estimated. Additional detail is provided in Appendix B, Table B-2.

Construction

The construction cost for state roads was based on a review of local and statewide projects. For local improvements, data provided by County staff, the Capital Improvement Program (CIP), the MPO's Long Range Transportation Plan (LRTP), and recent FDOT bid tabs were all reviewed. Local costs from staff included one recent improvement, but no travel lane additions. Therefore, this improvement was not utilized for the roadway construction cost estimate.

Similar to county roadway costs, the County's FY 2020 Capital Improvement Plan and 2040 Long Range Transportation Plan (Cost Feasible Plan) were reviewed. Although these documents included lane addition projects, figures did not appear to include all related cost and were not separated for various phases.

A review of FDOT bid tabs for recent state road capacity improvements in Martin County identified two improvements, as shown in Appendix B, Table B-4:

- CR 714/Indian St from Turnpike/Martin Downs Blvd to W. of Mapp Rd
- Kanner Hwy (SR 76) from S. of Pratt Whitney Rd (CR 711) to SW Jack James Dr

These improvements ranged from approximately \$3.32 million per lane mile to \$3.99 million per lane mile for construction, with a weighted average of approximately \$3.65 million per lane mile. To increase the sample size, these costs were compared to costs for state road improvements for

FINAL REPORT - APPENDIX K

several other jurisdiction throughout the state. Considering 76 improvements with over 436 lane miles from other counties and the two local improvements, the weighted average cost per lane mile for state road construction is approximately \$3.84 million per lane mile. Appendix B, Table B-4 provides a detailed description of the projects analyzed. Based on this review, a state roadway construction cost of **\$3.70 million** per lane mile was used in the mobility/multimodal fee calculation.

As shown in Table 2, the state roadway construction cost was calculated at approximately \$3.70 million per lane mile, with a total cost of \$5.99 million per lane mile for state roadways.

Table 2
Cost per Lane Mile for State Roads

Cost Type	State Roads
Design ⁽¹⁾	\$407,000
Right-of-Way ⁽²⁾	\$1,480,000
Construction ⁽³⁾	\$3,700,000
CEI ⁽⁴⁾	\$407,000
Total Cost	\$5,994,000

- 1) Design is estimated at 11% of construction costs
 - 2) Right-of-Way is estimated at 40% of construction costs
 - 3) Source: Appendix B, Table B-4
 - 4) CEI is estimated at 11% of construction costs
- Note: All figures rounded to nearest \$000

[Summary of Costs \(Blended Cost Analysis\)](#)

The weighted average cost per lane mile for county and state roads is presented in Table 3. The resulting weighted average cost of approximately \$5.54 million per lane mile was utilized as the unit cost input in the calculation of the mobility/multimodal fee schedule. The weighted average cost per lane mile includes county and state roads and is based on weighting the lane miles of roadway improvements in the Martin MPO’s 2040 Long Range Transportation Plan.

It should be noted that the cost estimates developed for this impact fee study reflect a large sample size from several communities over the last several years. When compared to the smaller sample of improvements observed over the last two to three years, the data and estimates used in this study represent a conservative approach. Additionally, these estimates account for Martin County’s suburban/rural nature, which tends to moderate roadway costs compared to some of the larger, more urbanized counties that are experiencing higher construction and land acquisition costs.

FINAL REPORT - APPENDIX K

Table 3
Estimated Cost per Lane Mile for
County and State Roadway Projects in Martin County

Cost Type	County Roads ⁽¹⁾	State Roads ⁽²⁾	City/County & State Roads ⁽³⁾
Design	\$308,000	\$407,000	\$377,000
Right-of-Way	\$1,120,000	\$1,480,000	\$1,372,000
Construction	\$2,800,000	\$3,700,000	\$3,430,000
CEI	\$252,000	\$407,000	\$361,000
Total Cost	\$4,480,000	\$5,994,000	\$5,540,000
Lane Mile Distribution ⁽⁴⁾	30%	70%	100%

- 1) Source: Table 1
- 2) Source: Table 2
- 3) Lane mile distribution (Item 4) multiplied by the design, ROW, construction, and CEI phase costs by jurisdiction to develop a weighted average cost per lane mile
- 4) Source: Appendix B, Table B-6; Items (e) and (f)

Person-Miles of Capacity Added per Lane Mile

An additional component of the mobility/multimodal fee equation is the capacity added per lane mile (also known as the maximum service volume added per lane mile) of roadway constructed. To calculate the vehicle-miles of capacity (VMC) per lane mile of constructed future roadway, an analysis of the MPO’s Long Range Transportation Plan’s Cost Feasible Plan was conducted to summarize improvements that will be built in Martin County in the future. As shown in Table 4, the VMC was then converted to person-miles of capacity (PMC) using the person-trip factor (1.30 persons per vehicle) previously discussed.

FINAL REPORT - APPENDIX K

Table 4
Weighted Average Capacity Added per Lane Mile

Source	Lane Mile Added ⁽¹⁾	Vehicle-Miles of Capacity Added ⁽¹⁾	VMC Added per Lane Mile ⁽²⁾
County Roads	13.67	165,351	12,096
State Roads	31.68	496,672	15,678
Total	45.35	662,023	
Weighted Average VMC Added per Lane Mile⁽³⁾			14,600
Vehicle-Trip to Person-Trip Factor ⁽⁴⁾			1.30
Weighted Average PMC Added per Lane Mile⁽⁵⁾			18,980

- 1) Source: Appendix B, Table B-6 (adjusted distribution)
- 2) Vehicle-miles of capacity added (Item 2) divided by lane mile added (Item 1)
- 3) Total vehicles miles of capacity added for city/county and state roads (Item 2) divided by the total lane miles added (Item 1)
- 4) Source: Based on a review of the TCRPM v4 transportation model
- 5) VMC added per lane mile (Item 3) multiplied by the vehicle-trip to person-trip factor (Item 4)

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 3 and 4, the cost and capacity for roadways in Martin County have been calculated based on typical roadway improvements.

The cost per PMC figure is used in the mobility/multimodal 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 \$292 of capacity is consumed.

Table 5
Cost per Person-Mile of Capacity Added (Roadways)

Source	Cost per Lane Mile ⁽¹⁾	Average PMC Added per Lane Mile ⁽²⁾	Cost per PMC ⁽³⁾
County/State Rds	\$5,540,000	18,980	\$291.89

- 1) Source: Table 3
- 2) Source: Table 4
- 3) Cost per lane mile (Item 1) divided by average VMC/PMC added per lane mile (Item 2)

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 small role in the urban travel scheme, they do not have a significant effect on evaluating the costs of providing for multimodal

FINAL REPORT - APPENDIX K

transportation. However, bike and pedestrian facilities are important and provide a source of travel for those who cannot drive or cannot afford 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 multimodal reasons and are estimated at less than five percent of the total roadway cost. Thus, the costs of these facilities on major roads are included in the mobility/multimodal fee. The mobility/multimodal 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 Martin County was based on information from the Marty Transit Development Plan (TDP). 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 difference between constructing a lane mile of roadway (for cars only) versus constructing a roadway with transit is not significant. The roadway with transit cost per PMC is approximately 3.13 percent higher per lane mile than the cost to simply construct a road without transit amenities. Therefore, for the mobility/multimodal fee calculation, the cost per PMC of approximately \$292 is representative of the cost to provide transportation capacity for all modes of travel. Additional information regarding the transit capital cost calculation is included in Appendix B, Table B-8.

FINAL REPORT - APPENDIX K

Credit Component

Capital Improvement Credit

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 that is measured in terms of travel, non-impact fee dollars are converted to gas tax equivalency.

County

As show in Table 6, Martin County spends \$1.2 million annually, the equivalent of 1.4 pennies, on mobility/multimodal capacity-expansion projects funded with non-impact fee revenues. This includes bus acquisition costs associated with the Marty transit service. In addition, the County allocates an equivalent cash credit of 1.7 pennies for debt service associated with transportation capacity improvements.

State

As show in Table 6, State expenditures on state roads were reviewed, and a credit for the mobility/multimodal capacity-expansion portion attributable to state projects was estimated (excluding expenditures on limited access facilities). This review, which included 11 years of historical expenditures, as well as 5 years of planned expenditures, indicated that FDOT spending amounts to \$12.5 million per year and generates an equivalent gas tax credit of 15.0 pennies annually. In the case of a roadway-based fee, this credit would decrease to 13.2 pennies. The use of a 16-year period for developing a State credit results in a reasonably stable cash credit for Martin County, since it accounts for the volatility in FDOT spending in the county over short time periods.

In summary, for mobility/multimodal improvements, Martin County allocates approximately 3.1 pennies (including debt), and FDOT is spending gas tax revenues at an average of 15.0 equivalent pennies for state transportation projects in Martin County. A total credit of 18.1 pennies was included in the mobility/multimodal fee calculation to recognize future capital revenues that are expected to be generated by new development from all non-mobility/multimodal fee revenues.

FINAL REPORT - APPENDIX K

Table 6
Summary of Capital Improvement Credits

Credit	Average Annual Expenditures	Value per Penny ⁽⁴⁾	Equivalent Pennies per Gallon ⁽⁵⁾
County Revenue ⁽¹⁾	\$1,206,352	\$834,176	\$0.014
County Debt ⁽²⁾	\$1,443,573	\$834,176	\$0.017
State Revenue ⁽³⁾	<u>\$12,509,311</u>	\$834,176	<u>\$0.150</u>
Total	\$15,159,236		\$0.181

- 1) Source: Appendix C, Table C-2
- 2) Source: Appendix C, Table C-3
- 3) Source: Appendix C, Table C-4
- 4) Source: Appendix C, Table C-1
- 5) Average annual expenditures divided by value per penny (Item 6) divided by 100

Present Worth Variables

Facility Life

The facility life used in the mobility 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 2.5 percent was used in the mobility/multimodal fee calculation based on information obtained from Martin County.

Fuel Efficiency

The fuel efficiency (i.e., the average miles traveled per gallon of fuel consumed) of the fleet of motor vehicles was estimated using the quantity of gasoline consumed by travel associated with a particular land use. Appendix C, Table C-8 documents the calculation of the 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.

$$Fuel\ Efficiency = \sum VMT_{Roadway\ Type} \div \sum \left(\frac{VMT_{Vehicle\ Type}}{MPG_{Vehicle\ Type}} \right)_{Roadway\ Type}$$

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)

FINAL REPORT - APPENDIX K

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 appropriately accounts for the existing fleet mix of traffic on non-interstate roadways. The VMT and average fuel efficiency data were obtained from the most recent *Highway Statistics 2017* (Federal Highway Administration). Based on the calculation completed in Appendix C, Table C-8, the fuel efficiency rate to be used in the updated mobility fee equation is 18.92 miles per gallon.

Effective Days per Year

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

Calculated Mobility/Multimodal Impact Fee Schedule

The mobility/multimodal fee calculations for each land use are included in Appendix E, 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 E illustrates the following:

- Demand component variables (trip rate, trip length, percent new trips, and person-trip factor)
- Total impact cost
- Annual capital improvement credit
- Present value of the capital improvement credit
- Net mobility/multimodal fee
- Current Martin County transportation impact fee
- Percent difference between the calculated fee and the current fee

It should be noted that the net mobility/multimodal fee illustrated in Appendix E is not necessarily a recommended fee, but instead represents a technically documented impact fee per unit of land use that could be charged in Martin County.

FINAL REPORT - APPENDIX K

For clarification purposes, it may be useful to walk through the calculation of the fee for one of the land use categories. In the following example, the net mobility/multimodal fee rate is calculated for the single-family residential land use category (ITE LUC 210) using information from the fee schedules included in Appendix E. For each land use category, the following equations are utilized to calculate the net impact fee:

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

Where:

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

Capital Improvement Credit = Present Value (Annual Gas Tax), given a 2.5% interest rate & a 25-year facility life

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

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 (1,000-2,499 sf) land use category:

- *Trip Rate* = the average daily trip generation rate, in vehicle-trips/day (7.48)
- *Assessable Trip Length* = the actual average trip length for the category, in vehicle-miles (6.62)
- *Total Trip Length* = the assessable trip length plus an adjustment factor of half a mile, which is added to the trip length to account for the fact that gas taxes are collected for travel on all roads including local roads (6.62 + 0.50 = 7.12)
- *% New Trips* = adjustment factor to account for trips that are already on the roadway (100%)
- *Divide by 2* = the total daily miles of travel generated by a particular category (i.e., rate*length*% new trips) is divided by two to prevent the double-counting of travel generated among land use codes since every trip has an origin and a destination
- *Interstate/Toll Facility Adjustment Factor* = adjustment factor to account for the travel demand occurring on interstate highways and/or toll facilities (20.2%)
- *Person-Trip Factor* = Converts vehicle-miles of travel to person-miles of travel (1.30)

FINAL REPORT - APPENDIX K

- *Cost per Added Lane Mile* = Unit cost to construct one lane mile of roadway, in \$/lane-mile (\$5,540,000)
- *Average Person-Capacity Added per Lane Mile* = vehicle-capacity added per lane mile (14,600) multiplied by the person-trip factor (1.30) = 18,980 person-miles of capacity
- *Cost per Person-Mile of Capacity* = unit of vehicle-miles or person-miles of capacity consumed per unit of development. Cost per added lane mile divided by the average capacity added per lane mile (\$5,540,000 / 18,980 = \$291.89)
- *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 (\$0.181)
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (18.92)
- *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 2.5% interest and a 25-year facility life, the uniform series present worth factor is 18.4244

Mobility/Multimodal Fee Calculation

Using these inputs, a mobility/multimodal fee can be calculated for the single-family residential (1,000-2,499 sf) detached land use category in the following manner:

Countywide, V/C 1.00 (Table E-1)

Total Impact Cost = $([7.48 * 6.62 * 1.0] / 2) * (1 - 0.202) * 1.30 * (\$291.89) = \$7,497$

Annual Cap. Improv. Credit = $([7.48 * 7.12 * 1.0] / 2) * 365 * (\$0.181 / 18.92) = \$93$

Capital Improvement Credit = $\$93 * 18.4244 = \$1,713$

Net Mobility/Multimodal Fee = $\$7,497 - \$1,713 = \mathbf{\$5,784}$

Mobility/Multimodal Fee Scenarios

Currently, Martin County charges a transportation impact fee throughout the entire County, which includes separate dollar amounts for roads versus pedestrian facilities. As part of this update, options for fee variation by geographic area were developed that can be implemented based on County policy. Table 7 presents a range for mobility/multimodal fee rates which are based on volume-to-capacity (V/C) ratios in urban vs. rural fee areas. Of these, urban fee district follows the Urban Service Boundary (USB) and includes Indiantown, while the remaining parts of the county are included in the Rural Fee District. Appendix D provides a detailed explanation of methodology used for fee variation and the geographic subareas.

FINAL REPORT - APPENDIX K

Additionally, the fees presented in this report represent “mobility/multimodal” impact fee rates. If the County wishes to only charge for “roads”, the calculated rates will increase approximately five to ten percent.

Mobility/Multimodal Fee Comparison

As part of the work effort in developing Martin County mobility/multimodal fee program, a comparison of calculated fees to mobility/multimodal/roadway impact fee schedules adopted in other jurisdictions was completed, as shown in Table 8.

It should be noted that the 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 variations in costs, credits and travel demand, land use categories included in the fee schedule, etc.

Table 7
Calculated Mobility/Multimodal Fee Rates for Martin County – All Scenarios

ITE LUC	Land Use	Unit	Mobility/Multimodal		
			Countywide or Urban ONLY		Rural
			V/C 1.00	V/C 0.80	V/C 0.60
RESIDENTIAL:					
210	Single Family (Detached) - Very Low Income	du	\$3,335	\$4,417	\$6,221
	Single Family (Detached) - Low Income	du	\$4,066	\$5,387	\$7,587
	Single Family (Detached) - Less than 750 sf	du	\$4,516	\$5,977	\$8,412
	Single Family (Detached) - 750 to 999 sf	du	\$5,332	\$7,061	\$9,942
	Single Family (Detached) - 1,000 to 2,499 sf	du	\$5,784	\$7,658	\$10,782
	Single Family (Detached) - 2,500 sf and greater	du	\$6,885	\$9,118	\$12,839
220	Multi-Family (Low-Rise, 1-2 Levels)	du	\$4,325	\$5,738	\$8,093
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	\$3,224	\$4,275	\$6,025
240	Mobile Home Park	du	\$2,222	\$2,948	\$4,158
254	Assisted Living	bed	\$652	\$870	\$1,234
LODGING:					
310	Hotel	room	\$2,680	\$3,548	\$4,994
320	Motel	room	\$1,290	\$1,714	\$2,420
RECREATION:					
411	Public Park	acre	\$418	\$555	\$783
416	RV Park	site	\$870	\$1,152	\$1,622
420	Marina	boat berth	\$1,677	\$2,220	\$3,126
430	Golf Course	hole	\$21,140	\$27,991	\$39,410
444	Movie Theater	1,000 sf	\$17,091	\$22,866	\$32,489
490	Tennis Court	court	\$16,321	\$21,640	\$30,506
491	Racquet/Tennis Club	1,000 sf	\$11,067	\$14,677	\$20,693
492	Health/Fitness Club	1,000 sf	\$19,390	\$25,712	\$36,248
INSTITUTIONS:					
520	Elementary School (Private)	1,000 sf	\$5,910	\$7,866	\$11,127
522	Middle School (Private)	1,000 sf	\$6,115	\$8,137	\$11,506
530	High School (Private)	1,000 sf	\$4,798	\$6,384	\$9,029
540	Junior/Community College (Private)	1,000 sf	\$14,084	\$18,651	\$26,262
550	University/College (Private)	1,000 sf	\$18,128	\$24,001	\$33,788
560	Place of Worship	1,000 sf	\$2,819	\$3,745	\$5,287
565	Day Care Center	1,000 sf	\$8,187	\$10,971	\$15,610
590	Library	1,000 sf	\$27,297	\$36,143	\$50,887
732	Post Office	1,000 sf	\$30,462	\$40,390	\$56,937
MEDICAL:					
610	Hospital	1,000 sf	\$6,465	\$8,560	\$12,052
620	Nursing Home	1,000 sf	\$1,727	\$2,307	\$3,272
OFFICE:					
710	Office	1,000 sf	\$5,366	\$7,113	\$10,024
720	Medical Office 10,000 sq ft or less	1,000 sf	\$13,694	\$18,149	\$25,575
720	Medical Office greater than 10,000 sq ft	1,000 sf	\$19,603	\$25,982	\$36,614
RETAIL:					
820	Retail/Shopping Center	1,000 sfgla	\$8,503	\$11,347	\$16,088
840/841	New/Used Auto Sales	1,000 sf	\$10,337	\$13,718	\$19,353
851	Convenience Market - 24 hrs	1,000 sf	\$50,078	\$67,522	\$96,594
880/881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	\$7,754	\$10,383	\$14,765
SERVICES:					
911	Bank/Savings Walk-In	1,000 sf	\$7,577	\$10,121	\$14,360
912	Bank/Savings Drive-In	1,000 sf	\$13,092	\$17,489	\$24,818
931	Quality Restaurant	1,000 sf	\$23,735	\$31,608	\$44,730
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	\$63,906	\$85,622	\$121,815
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	\$8,323	\$11,168	\$15,910
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	\$9,939	\$13,336	\$18,997
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	\$11,162	\$14,975	\$21,330
947	Self-Service Car Wash	service bay	\$7,283	\$9,748	\$13,857
INDUSTRIAL:					
110	General Industrial	1,000 sf	\$2,729	\$3,619	\$5,101
140	Manufacturing	1,000 sf	\$2,156	\$2,861	\$4,036
150	Warehousing	1,000 sf	\$953	\$1,265	\$1,785
151	Mini-Warehouse	1,000 sf	\$544	\$727	\$1,030

Source: Appendix E, Tables E-1 through E-3

FINAL REPORT - APPENDIX K

Table 8
Mobility/Multimodal/Roadway Impact Fee Rate Comparison

Land Use	Unit ⁽²⁾	Martin County				Palm Beach County ⁽⁷⁾	St. Lucie County MAINLAND ⁽⁸⁾	Brevard County ⁽⁹⁾	Indian River County ⁽¹⁰⁾	Highlands County ⁽¹¹⁾	Collier County ⁽¹²⁾	Charlotte County ⁽¹³⁾	Hernando County ⁽¹⁴⁾	Osceola County NON-MXD ⁽¹⁵⁾
		Multimodal V/C 1.00 ⁽³⁾	Multimodal V/C 0.80 ⁽⁴⁾	Multimodal V/C 0.60 ⁽⁵⁾	Existing ⁽⁶⁾									
Date of Last Update		2019	2019	2019	2012	2012	2019	2000	2014	2006	2015	2014	2013	2017
Assessed Portion of Calculated ⁽¹⁾		100%	100%	100%	100%	n/a	100%	100%	100%/45%	25%	100%	49%	22%	100%
Residential:														
Single Family (2,000 sf)	du	\$5,784	\$7,658	\$10,782	\$2,815	\$7,281	\$5,015	\$4,353	\$4,248	\$1,649	\$7,444	\$2,907	\$1,269	\$8,706
Non-Residential:														
General Industrial	1,000 sf	\$2,729	\$3,619	\$5,101	\$1,857	\$1,522	\$1,078	n/a	\$1,206	\$1,166	\$4,584	\$1,847	\$806	\$3,843
Office (50,000 sq ft)	1,000 sf	\$5,366	\$7,113	\$10,024	\$2,198	\$3,418	\$3,634	\$5,058	\$1,916	\$3,095	\$8,605	\$3,475	\$1,516	\$5,480
Retail (100,000 sq ft)	1,000 sfgla	\$8,503	\$11,347	\$16,088	\$5,183	\$9,831	\$7,553	\$5,270	\$2,862	\$2,455	\$13,774	\$4,616	\$1,884	\$22,397
Bank w/Drive-Thru	1,000 sf	\$13,092	\$17,489	\$24,818	\$6,841	\$19,056	\$3,411	\$23,331	\$6,219	\$11,232	\$21,254	\$9,737	\$2,100	\$10,370
Fast Food w/Drive-Thru	1,000 sf	\$63,906	\$85,622	\$121,815	\$15,693	\$30,702	\$3,411	\$35,791	\$20,459	\$25,202	\$96,567	\$32,359	\$17,397	\$13,465

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

2) Du = dwelling unit

3) Source: Appendix E, Table E-1

4) Source: Appendix E, Table E-2

5) Source: Appendix E, Table E-3

6) Source: Martin County Adopted Impact Fee Schedule, includes both the roadway and pedestrian facility amounts

7) Source: Palm Beach County Administrations Division

8) Source: St. Lucie County Planning & Development Services Department. Mainland district fee rates are shown. "Retail/Trade 0 to 8,000 sq ft" rate is shown for Bank and Fast Food land uses

9) Source: Brevard County Planning & Development Department

10) Source: Indian River County Planning Division. Residential fees were adopted at 100% and non-residential fees were adopted at 45% of the full calculated impact fee rates

11) Source: Highlands County Code of Ordinances, Section 13-28. Impact fee moratorium currently in effect

12) Source: Collier County Capital Project Planning, Impact Fees, and Program Management Division

13) Source: Charlotte County Community Development Department

14) Source: Hernando County Planning & Development Department

15) Source: Osceola County Community Development Department. Non-Mixed Use fee rates are shown. "Warehouse" rate is shown for Light Industrial land use

FINAL REPORT - APPENDIX K

IV. Financial Planning Analysis

This section reviews the calculated mobility/multimodal fee in terms of several financial variables, including:

- Adequacy of funding to build necessary multimodal capital infrastructure improvements.
- Sustainability of the revenue source to meet the capital costs, including interest and inflation.
- Equitability in terms of allocation of costs between private and public sectors as well as user groups and County stakeholders through provision of incentives for affordable housing, economic targets that would attract high wage jobs and/or diversify the tax base revenues, among others.
- Administrative manageability in terms of ease of coordination and implementation and associated costs.
- Financial market acceptability for bond market acceptance.

Adequacy of Funding

The Martin MPO’s 2040 Long Range Transportation Plan lays out a detailed funding structure for the County’s 2040 Cost Feasible Plan. As shown in the LRTP, future transportation improvements will be funded with federal/state contributions, local revenue (including fuel tax and impact fees) and developer funds. Projected local revenue levels in the LRTP (published in 2014) include:

**Table 9
2040 LRTP Local Source Revenue Projections (2021-2040)**

Revenue Source (2021-2040)	Total	Annual	Typical Uses
Fuel Tax: 1st Local Option Fuel Tax (6 cents)	\$88,260,000	\$4,413,000	Operations & Maintenance
Fuel Tax: 2nd Local Option Fuel Tax (5 cents)	\$66,190,000	\$3,309,500	Capital
Fuel Tax: 9th Cent (1 cent)	\$17,790,000	\$889,500	Operations & Maintenance
Fuel Tax: Constitutional (2 cents)	\$39,420,000	\$1,971,000	Operations & Maintenance
Fuel Tax: County (1 cent)	\$17,790,000	\$889,500	Operations & Maintenance
Impact Fees	<u>\$62,000,000</u>	<u>\$3,100,000</u>	Capital
Total - Fuel Tax and Impact Fees	\$291,450,000	\$14,572,500	-
Total - Fuel Tax	\$229,450,000	\$11,472,500	-
Total - Capital	\$128,190,000	\$6,409,500	-

Source: Martin MPO 2040 LRTP, Table 8-2

The current local fuel tax revenue levels are presented in Appendix C, Table C-1 and are expected to generate approximately \$12.51 million for FY 2019/2020. As shown in Table 9, approximately 70 percent of fuel tax revenues are allocated to operations and maintenance, leaving the remaining 30 percent (or approximately \$3.3 million per year) for capacity projects. As will be discussed

FINAL REPORT - APPENDIX K

further in the next section, fuel taxes are not indexed and are an ineffective revenue source to fund rising cost of transportation. Similar to Martin County, most jurisdictions are able to cover only their operating/maintenance costs with fuel tax revenues.

While the 2040 LRTP projects impact fee revenues at approximately \$3.10 million a year, actual collections over the past several years averaged only \$1.00 million. This reduction reflects a slower rate of permitting and growth occurring during these initial years. It may also partially be due to any outstanding developer credits. However, depending on the County’s decisions regarding this mobility/multimodal fee study, the fee revenue levels can be significantly altered. The fee scenarios included in this report can result in revenues ranging from two to five times higher than current annual collections.

In addition to fuel taxes and impact fees, Martin County has a Roads Municipal Service Taxing Unit (MSTU) that generates funds for roadway operations and maintenance improvements. MSTUs are taxing entities established by ordinance to provide a mechanism to assess ad valorem taxes for specific services or projects benefitting residents in a defined geographic area. Currently, the County has a Road Maintenance Unincorporated Area MSTU with a FY 2020 adopted millage rate of 0.3125 and estimated revenues of \$4.57 million. As shown in the CIP, revenues are currently programmed for resurfacing and neighborhood restoration projects but they could be re-allocated to help fund capital projects in the future.

Sustainability

Mobility/multimodal fees tend to be sustainable during growth periods. If there is no growth, a community’s needs for additional capital infrastructure is reduced along with mobility/multimodal fee revenues. In this sense, mobility/multimodal fees are self-correcting and sustainable.

Local Option Fuel Tax

Martin County adopted all available local option fuel taxes. As discussed previously in Technical Memorandum 4, fuel tax revenues have been declining over time due to fuel efficiency and inability to index the rate that is charged on a per gallon basis. Although this is a dedicated revenue source for transportation projects, it is proven to be ineffective and not sustainable. Figure 1 illustrates the declining value of a penny of fuel tax over the past 25 years. In addition to revenue loss due to increases in vehicle fuel efficiency, local option fuel taxes are not indexed annually. Therefore, a local penny of fuel tax adopted in 1994 is worth less than 50 percent of its original value today. State fuel taxes that are indexed are only subject to the revenue loss due to increased fuel efficiency, as seen in Figure 1. In other words, although fuel taxes represent a dedicated revenue

FINAL REPORT - APPENDIX K

source, they are not a sustainable revenue source in funding rising cost of transportation projects.

Figure 1 – Value of a Penny Fuel Tax

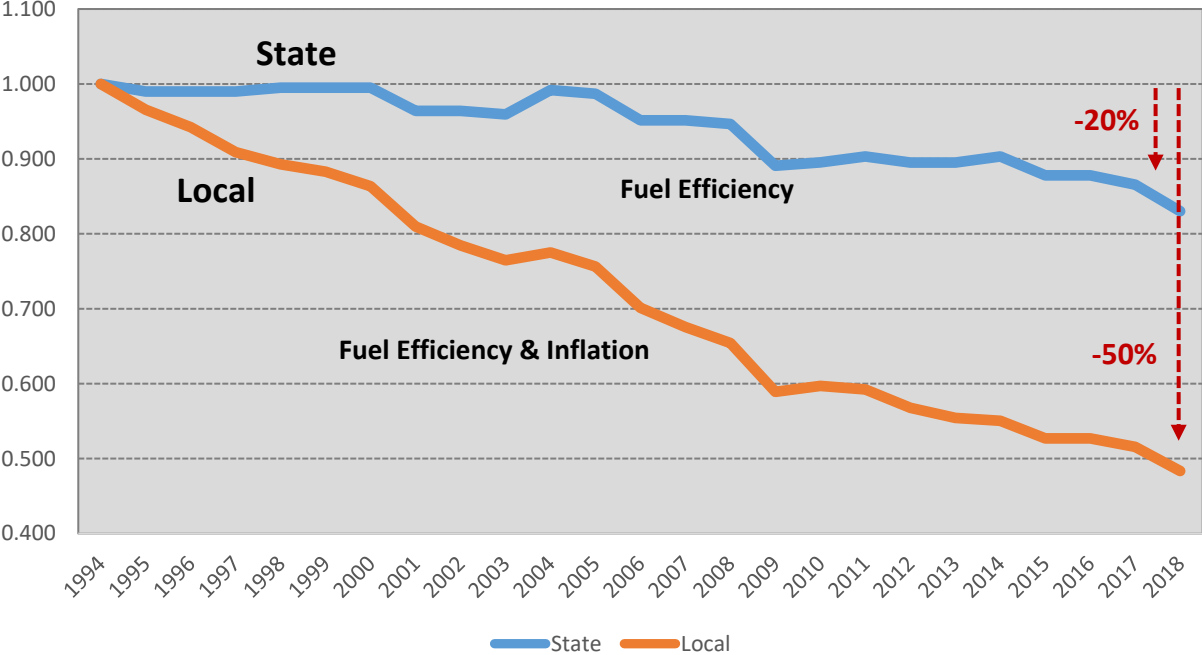
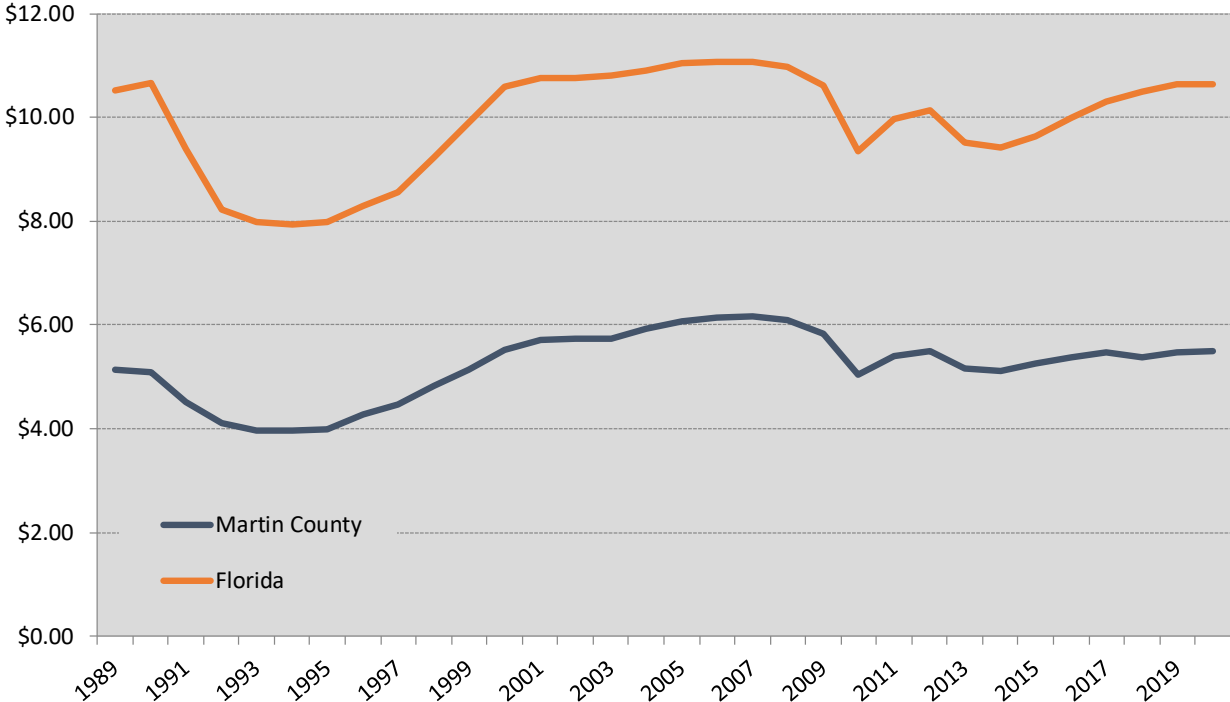


Figure 2 illustrates the change in the value of a 1-cent fuel tax (per capita) in Martin County versus the entire state of Florida. As shown, the value per capita in Martin County has slightly increased while the value per capita in all of Florida has slightly decreased since 1990. Since 1990, the gross value of 1-cent of local option fuel tax in the County has increased by approximately 1.8 percent annually, while population has increased at 1.6 percent annually. Therefore, the increase in value per capita has averaged 0.2 percent over the last 30 years.

The current value of a 1-cent fuel tax in Martin County is approximately \$5.50 per capita, which is comparable to other Florida counties of similar size and higher than the statewide average of \$4.60 per capita. However, the statewide data shows that more urbanized counties with higher population levels tend to have lower revenue per capita. For example, while some of the rural counties located in the Florida Panhandle generate \$25 per capita to \$45 per capita from 1-cent fuel tax, this figure decreases to \$3 per capita to \$4 per capita in urbanized and densely populated counties, such as Broward and Miami-Dade. Therefore, as Martin County continues to grow and become more urbanized, the fuel tax is likely to generate less revenue per capita.

FINAL REPORT - APPENDIX K

Figure 2 – Fuel Tax per Capita Growth



Ad Valorem Tax

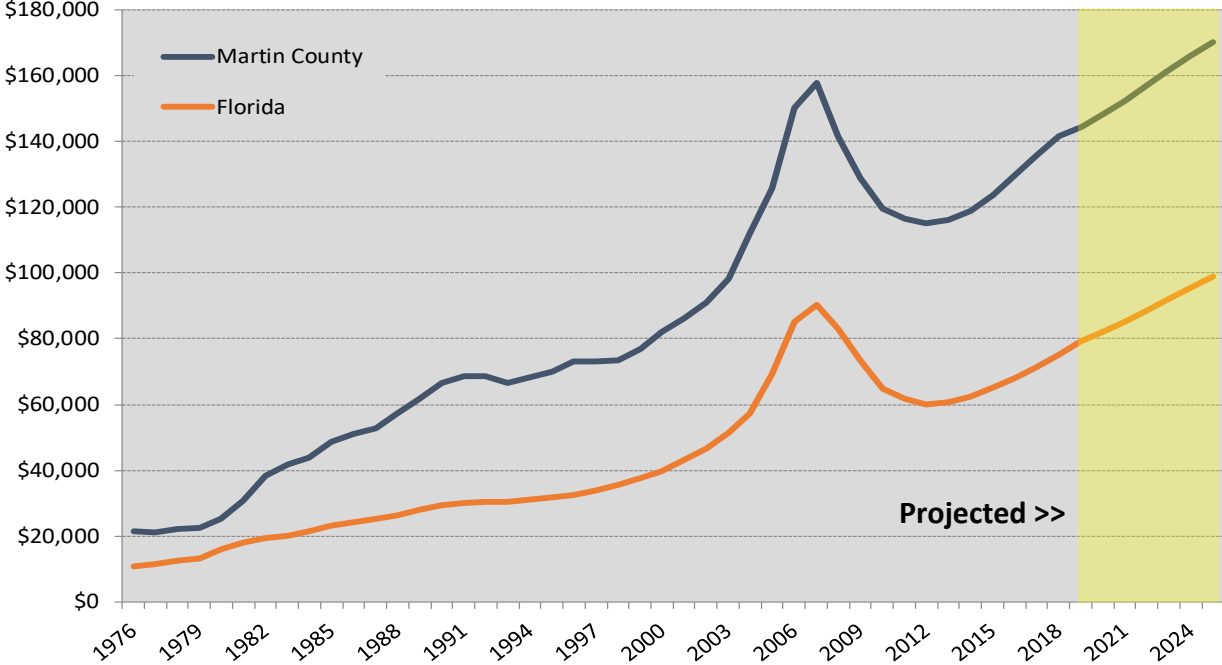
Ad valorem tax-based revenues tend to fluctuate with economic cycles and are depending on the local economy and market more than some of the other revenue sources, such as infrastructure sales tax. As the ad valorem tax base becomes more diversified, the fluctuations are better moderated. Approximately 83 percent of Martin County’s current tax base consists of residential properties while only 17 percent of non-residential properties. The information from the Property Appraiser database indicates that 76 percent of structures are comprised of residential land uses and 24 percent are non-residential. This suggest that residential property values are increasing at a faster rate than non-residential properties. As was discussed in Technical Memorandum 3, in some communities, the distribution of tax base is closer to 60 percent to 70 percent residential properties with the balance comprised of non-residential land uses. Providing incentives to types of development that would help diversify the tax base is likely to both enhance the tax base and result in a more sustainable revenue source.

As shown in Figure 3, the taxable value in Martin County has shown significant growth since the late seventies. The County continues to maintain a high taxable value per capita, ranking 5th out of 67 counties in the state at approximately \$143,000 per person. Since 1990, the gross taxable value of the County has increased by approximately 4.5 percent annually, while population has increased at 1.6 percent annually. Therefore, the increase in values has averaged 2.9 percent over the last

FINAL REPORT - APPENDIX K

30 years. This high value per capita and increasing values net of population growth make ad valorem taxes one of the more sustainable revenue sources.

Figure 3 – Taxable Value per Capita Growth



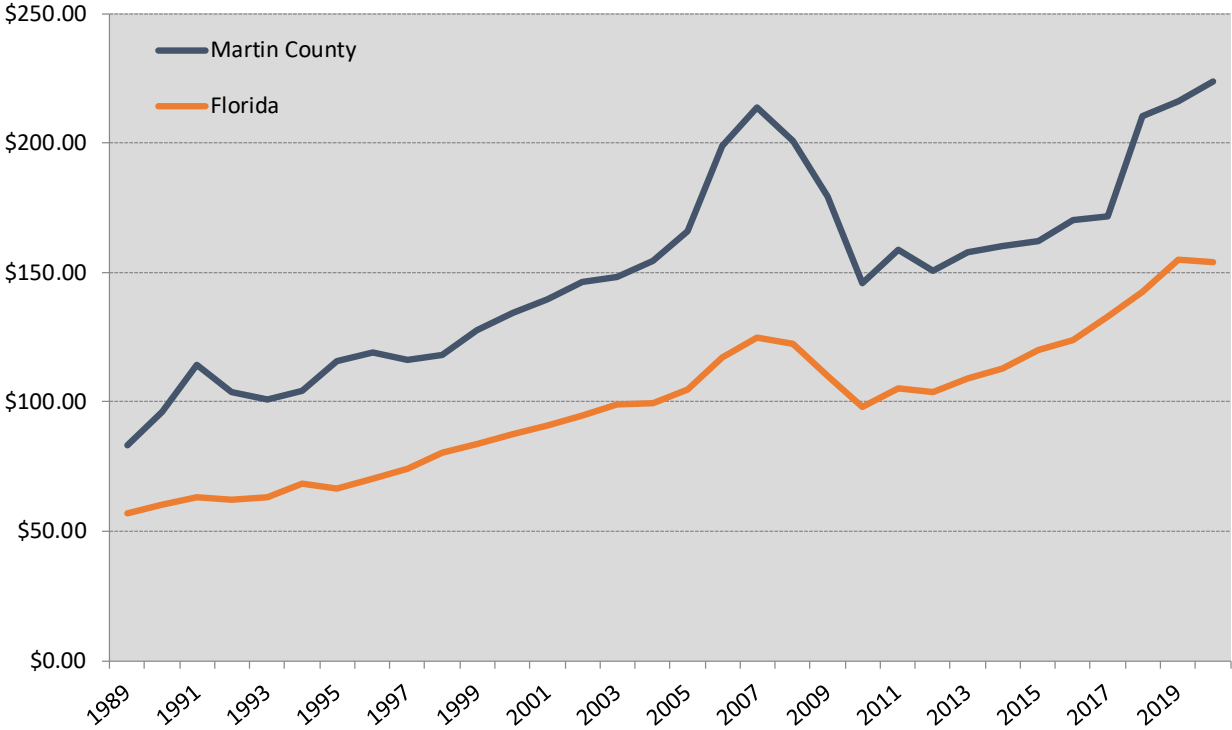
Local Option Sales Tax

Although currently not collected in Martin County, local option sales tax tends to be a strong revenue generator and one of the most sustainable revenue sources. This is partially because it is paid by not only the residents but also the visitors/tourists, which moderates its dependence on the local economy. Based on information from other communities in Florida, non-resident spending is estimated to account for 20 percent to 60 percent of a community’s sales tax revenues.

As shown in Figure 4, sales tax per capita in Martin County has shown significant growth over time, tracking higher than the state average. In addition, the County has surpassed several other counties, moving from 13th to 7th out of 67 counties in the state in terms of sales tax per capita, at approximately \$222 per person. Since 1990, the gross value of the one percent sales tax increased by approximately 4.9 percent annually, while population has increased at 1.6 percent annually. Therefore, the increase in values has averaged 3.3 percent over the last 30 years. This net value increase along with contributions from visitors make the sales tax one of the most sustainable revenue sources.

FINAL REPORT - APPENDIX K

Figure 4 – Sales Tax per Capita Growth



Equitability

To achieve an equitable program as well as one that provides incentives consistent with the County’s and municipalities economic development and growth management goals, there are several options available.

Local governments have the ability to adopt mobility/multimodal/impact fees at a reduced rate when the reduction is applied to all land uses. Care should be given when discounting fees for select land uses and/or areas to ensure those who paid the full fee receive the associated benefit. If the discount results in a compromise of facilities that would have been built with full fees, the equity among land uses is jeopardized. **However, HB 7103 that was signed by the Governor following the 2019 legislative session allowed local governments to waive/reduce fees for affordable housing projects without having to offset the revenues.**

For all other residential and non-residential land uses, the fees can be reduced for select land uses and/or geographic subareas under the following conditions:

- **Travel Characteristics:** If it can be demonstrated that a given land use or an area generates less travel due to certain characteristics, it is appropriate to apply a reduced fee instead of the countywide average. Examples would be an urban service district or a

FINAL REPORT - APPENDIX K

downtown core with limited parking and a mix of land uses that result in lower vehicle miles of travel. Another example is low/moderate income housing, which tends to generate fewer trips. The fee schedules in Appendix E include this option.

- ***De-minimis Impact:*** If the uses that are being discounted are permitted infrequently such that revenues generated from these groups are considered de-minimis, it is possible to provide the discount without jeopardizing the jurisdiction's transportation improvements program. As a general industry standard, if the revenues from these land uses comprise less than 5 percent of total impact fee revenues generated in a jurisdiction, the land use is considered de-minimis. When using this methodology, it is important for the County and/or municipalities to set up a monitoring system to track revenue generation levels annually.
- ***Economic Growth Methodology:*** Tindale Oliver developed an economic growth approach that accounts for the County's growth rate and revenues generated by the existing population that are dedicated to transportation capacity. This model identifies level of additional discounts that can be offered through revenues generated by the existing development while maintaining the County's transportation improvements program funded with mobility/multimodal fee revenues.

In addition to these methods, the County and municipalities have the option to buy down the fees with additional taxes and/or other non-impact fee revenue sources. The following paragraphs provide examples of potential incentives/discounts based on discussions during the public meetings to date.

Affordable Housing

From a technical perspective, smaller homes occupied by lower income households generate fewer trips. Given this, it is possible to incorporate this tiering into the fee schedules. As shown in Appendix E, for households with incomes at 50 percent to 80 percent of the Area Median Income, this approach results in fee levels that are lower than all other categories of single family homes and up to 40 percent lower than the fee for a 2,000-square foot single family home. This fee differential moderates the cost for affordable housing.

As mentioned previously, HB 7103 provided the flexibility to discount affordable housing as a policy decision. HB 7103 defines qualifying units as "housing that is affordable, as defined in section 420.9071, Florida Statutes." F.S. section 420.9071 provides the following definitions:

- Section 420.9071 (2) "Affordable" means that monthly rents or monthly mortgage payments including taxes and insurance do not exceed 30 percent of that amount

FINAL REPORT - APPENDIX K

which represents the percentage of the median annual gross income for the households as indicated in subsection (19), subsection (20), or subsection (28).

These subsections provide definitions for very low to moderate income families, with incomes ranging from less than 50 percent of the area median income to 120 percent of the area median income.

Mixed Use Development

Travel characteristics of mixed-use development suggest a higher internal capture rate and fewer trips when various land uses are located in close proximity with the correct design standards (including connectivity of uses) to support each other and reduce travel. Industry models used to measure internal capture suggest that to the extent travel distribution from each land use within the mixed-use development is balanced, the level of internal capture increases. When one land use is dominant, internal capture percentage decreases. For example, when residential development generates more than 60 percent of trips and 80 percent of VMT, the resulting internal capture is negligible. On the other hand, a mix of at least three different uses, with none of the uses generating more than 50 percent of travel, result in higher levels of internal capture.

Appendix A provides further detail on industry research and practices as well as mixed-use development characteristics needed to achieve high internal capture and a sensitivity analysis.

Geographic Area Discounts

As indicated during discussions with Martin County and the City of Stuart, there is a general interest in reducing fees in the Community Redevelopment Areas (CRAs). There are seven CRAs in Martin County: one is in the City of Stuart and remaining six are in unincorporated county. The fees can be reduced through the following mechanisms.

De-minimis Impact

As discussed previously, if the development levels are limited and revenue generated in the CRAs amount to less than five percent of future mobility/multimodal fee revenues, the County and the City of Stuart have the flexibility of reducing the fees. Tindale Oliver reviewed the information available through the Property Appraiser database on “year built” since 2010. This analysis suggested that there is very limited multi-family and non-residential activity in the CRAs. Most of the construction is in the form of single family. Even the single family homes built per year are limited compared to total single family permitting countywide. The table below provides this information. Given this limited activity, the fees in these areas can be reduced as a policy decision without impacting service levels.

FINAL REPORT - APPENDIX K

Table 11

Recent Residential Parcels Added (2010-2018) – Community Redevelopment Areas

CRA	Single Family/ Mobile Home	Multi-Family	Commercial/ Industrial	Total
Golden Gate	7	0	0	7
Hobe Sound	32	0	1	33
Jensen Beach	0	0	2	2
Old Palm City	40	0	4	44
Port Salerno	27	0	3	30
Rio	11	0	0	11
Stuart	<u>19</u>	<u>0</u>	<u>11</u>	<u>30</u>
Total	136	0	21	157
CRA (Avg. Annual)	15	0	2	17
Countywide (Avg. Annual)	346	10	122	478
CRA / Countywide⁽¹⁾	4%	0%	2%	4%

Source: Florida Department of Revenue

1) Average annual CRA parcels added divided by the average annual Countywide parcels added (17/478 = 4%)

If the County and/or the City use this approach to provide discounts within the CRA, it is important to track associated revenue loss to ensure the loss does not exceed the threshold of five (5) percent.

Targeted Industries

In addition to the de-minimis permitting approach, fees can be bought down for targeted/contributing industries and/or targeted areas through an evaluation of revenues dedicated to transportation capacity compared to the County’s projected growth rate.

As mentioned previously, the economic growth approach takes into account the existing development’s ability to absorb new growth and calculates the levels of possible policy discounts without reducing the level-of-service used in the calculated mobility/multimodal impact fee.

In addition to impact/mobility/multimodal fees, other revenue sources such as fuel tax, ad valorem tax, etc. are also being used to fund the transportation system in the county. In terms of the economic growth calculations, it is important to note the following:

- The economic growth strategy calculations are based on the future estimated fuel tax and other non-impact fee funding toward transportation capital capacity projects in Martin County, excluding any funding dedicated toward paying the debt service since this dollar amount cannot be available for absorbing the growth.

FINAL REPORT - APPENDIX K

- Based on the projections obtained from the University of Florida, Bureau of Business and Economic Research (BEBR), an average annual growth rate of 0.8 percent is estimated for Martin County through 2045. This growth rate is considered a moderate growth level.
- Although impact fee calculations already account for the portion of non-impact/mobility/multimodal fee revenue that is generated by new development, a larger portion of the revenue is generated by existing population and can be treated as a “buy-down” fund. In other words, as long as the County limits the buy-down amount to the level of non-impact fee investment into the transportation infrastructure, the equity requirements of impact fee will be met. Once the County decides on fee levels, more precise discount levels can be developed to refine these initial figures.
- Given that any impact fee discount results in revenue loss, it is recommended that the discounts are applied to select land uses consistent with the County’s and municipalities’ Comprehensive Plans and economic development goals and policies. Examples would be high wage creating jobs, industries/sectors important to well-being of the residents (such as housing, education, safety, etc.).

It is important that the County track the impact fee discount amounts and compare them to the non-impact fee capacity funding programmed in the five-year Capital Improvement Plan to ensure that the discounted amounts do not exceed funding provided by other sources. This process should be documented in an annual report.

Administrative Manageability

Martin County already has an impact fee program and the County has a process in place for assessing and collecting the fee, as well as allocating the revenues between the existing benefit districts. A transition to a mobility/multimodal fee will require the initial set-up of a separate fund to keep mobility/multimodal revenues separate from any remaining funds in the current impact fee account. The remaining funds from the current transportation impact fee should be spent in the same manner as they currently are, while newly collected mobility/multimodal fees can be used for bike/ped, transit, and roadway improvements within each benefit district. Once the existing transportation impact fee funds are expended, these accounts will no longer be needed.

Martin County already engages in certain best practices regarding fee administration, such as requiring creditable improvements to be in the Capital Improvement Plan or cost-feasible plan to obtain credit. The following are additional recommendations to explore, based on best practices findings documented in Technical Memorandum 3:

FINAL REPORT - APPENDIX K

- Establish an expiration timeframe for inactive impact fee credits. Twenty years is a conservative timeframe to use.
- Establish indexing mechanisms for fees and credit values to mitigate large increases resulting from less regular fee studies and resulting fee schedule updates. Note that HB 7103 approved in 2019 required that when local governments increase their impact fees, the outstanding impact fee credits for developer contributions should also be increased.
- Adjust the current credit tracking approach as needed to support these recommendations and recent legislation, and any resulting additional complexity.

Financial Market Acceptability

Like any other impact fees, mobility/multimodal fees are typically used as a secondary pledge for bond issuance. This is because this revenue source varies with growth levels and is not as dependable as ad valorem taxes or sales tax during low growth periods. As discussed previously, HB 207 included certain language related to use of impact fees for debt service payments and stated the following: *“The local government may not use revenues generated by the impact fee to pay existing debt or for previously approved projects unless the expenditure is reasonably connected to, or has a rational nexus with, the increased impact generated by the new residential or commercial construction.”*

Given this requirement, it is important for the County and municipalities to clearly document the projects funded with existing or upcoming bond issues to demonstrate the portions used for capacity expansion.

FINAL REPORT - APPENDIX K

V. Development Review Process

Whether the County maintains its current transportation impact fee structure or moves to a mobility or multimodal fee, the recent legislative changes to the development review process are likely to affect the County’s current concurrency review process. This section provides the key considerations related to two main approaches relative to the provision of adequate transportation facilities: (1) a traditional concurrency approach and (2) a mobility fee approach, the main alternative to concurrency for development timing and phasing. Figures 5 and 6 at the end of this section show when certain concurrency/proportionate share and timing/phasing controls apply under the two models, as well as separate site plan review controls for site-specific transportation impacts, relative to the general stages of the development review process and based on the State legislation. The County can evaluate these options for further consideration.

The 1985 Growth Management Act included statewide concurrency management requirements to ensure that new development was coordinated with the provision of adequate public facilities. Since the Act, concurrency has undergone several evolutions; the most notable of these changes occurred with the adoption of HB 7207 in 2011, which repealed State-mandated concurrency for transportation facilities, yet maintained certain requirements and guidance if a jurisdiction retained concurrency, including requirements for use of a proportionate share payment for traffic impacts in-lieu of constructing facilities to mitigate impacts. Additional notable changes occurred with the adopted of HB 319 in 2013, which expanded certain proportionate share requirements to development orders and added provisions related to alternative transportation funding systems such as mobility fees. The following paragraphs provide further detail.

Concurrency, Proportionate Share, and Impact Fee Model

Concurrency standards are the traditional method of ensuring adequate public facilities based on adopted level of service (LOS) standards. Proportionate share is a tool often available for new developments to meet traditional concurrency requirements by paying a fee based on a site-specific impact analysis (excluding existing deficiencies) as opposed to constructing necessary improvements to mitigate impacts if there is a lack of capacity available based on the adopted LOS standards. In many instances, State statute requires the use of proportionate share if the applicant offers to enter into a binding proportionate share agreement. A more detailed discussion and additional key takeaways are provided below.

- Due to the proportionate share calculation method adopted in State statutes as part of HB 7207 in 2011, **proportionate share calculations tend to generate relatively low fees. While impact fees can help generate additional revenue, they are generally collected later in the development process than proportionate share payments. Proportionate**

FINAL REPORT - APPENDIX K

share payment amounts may also be partially managed by adjusting aspects of the traffic impact analysis and payment calculation.

Impact fees are typically charged using a countywide average fee for general impacts to the transportation system as opposed to the site-specific impacts used in the proportionate share calculation. While proportionate share payments may be collected upfront during the development review process, collection of impact fees may not be required to occur earlier than the date of issuance of the building permit for the property that is subject to the fee (Florida Statutes Section 163.31801(3)(e)). In some jurisdictions, impact fees are collected up through the issuance of the Certificate of Occupancy. As a result, local governments are not able to collect the necessary money upfront in the development process to help provide the needed facilities. Some jurisdictions incentivize the early payment of these fees to address this issue. Additionally, options may exist to adjust how proportionate share payments are analyzed and calculated to increase resulting payments. These approaches may include adjusting the adopted LOS standards for roadways or reducing the threshold at which size of traffic impacts are exempted from payments as part of a traffic impact analysis.

- **The payment responsibilities for small developments may be eased through the use of exemptions from proportionate share requirements based on the size of the development and the adopted share of the full impact fee rate.**

Proportionate share requirements may overly burden small developments due to the time and effort required to undertake a proportionate share calculation and the amount of payment that may be required. These aspects can be managed by eliminating proportionate share requirements upfront for small developments based on their size (as opposed to size of traffic impacts on roadways as determined during a traffic impact analysis).

- **Under a traditional concurrency system, the required use of proportionate share (if offered by the applicant) by State statute is not triggered at the land use amendment stage but at later stages in the development review process such as re-zonings and development agreements.**

HB 7207 passed in 2011 and HB 319 passed in 2013 introduced requirements for when jurisdictions must accept proportionate share payments. FL Statutes Sec. 163.3180(5)(h)1 indicates the following (emphasis added): “local governments that continue to implement a transportation concurrency system must allow an applicant for a *DRI [development of regional impact] development order, development agreement,*

FINAL REPORT - APPENDIX K

rezoning, or other land use development permit to satisfy transportation concurrency requirements of the local comprehensive plan, the local government’s concurrency management system, and s. 380.06, when applicable, if the applicant in good faith offers to enter into a binding agreement to pay for or construct its proportionate share of required improvements in a manner consistent with State statutes and the proportionate-share contribution or construction is sufficient to accomplish one or more mobility improvements that will benefit a regionally significant transportation facility.”

Martin County conducts a generalized analysis of the public facility needs resulting from land use amendment approvals. However, final determination of concurrency is done during final site plan review. On occasion, the creation of Comprehensive Plan policies creating a new future land use designation may include language regarding the use of development agreements for future development that may occur in the new designation.

- **Applicants may not be charged for existing deficiencies; some have interpreted this requirement to mean excluding deficient roadways entirely from proportionate share calculations, while others interpreted this requirement as excluding just the existing deficiency that is local governments’ responsibility.**

Florida statutes section 163.3180(5)(h)2 indicates the following: “an applicant shall not be held responsible for the additional cost of reducing or eliminating deficiencies. If any road is determined to be transportation deficient without the project traffic under review, the costs of correcting that deficiency shall be removed from the project’s proportionate share calculation and the necessary transportation improvements to correct that deficiency shall be considered to be in place for purposes of the proportionate share calculation.”

Certain interpretations of this statute may involve excluding deficient roadways entirely, while a more reasonable interpretation is for a jurisdiction to calculate its share of improvements to address existing deficiencies, remove that share from calculations, and then seek payment for private developments’ share for overage of the Level of Service standard requiring a payment. These shares would also depend on whether a jurisdiction’s share is calculated to attain the minimum capacity for the adopted LOS standard or if additional capacity is funded within the adopted LOS standards range. It is recommended to document all needed improvements in the cost feasible plan of the Long

FINAL REPORT - APPENDIX K

Range Transportation Plan (as well as shorter term capital plans, such as the local Capital Improvement Plan, as appropriate based on the timeframe).

Mobility Fee Model

Mobility fees serve as a transportation funding alternative that does not rely on traditional concurrency and proportionate share payments. Generally, this system is “pay-and-go” for development, helping streamline approval, although there are jurisdictions taking certain opportunities in the development review process to conduct traffic analyses and use them as a basis to deny, time, or phase development. This timing and phasing control is generally applied to approvals where additional entitlements may be sought, such as land use amendments and re-zonings. The following provides more detailed takeaways regarding this approach.

- **Florida Statutes do not explicitly prohibit the use of alternative mobility funding systems to deny, time, or phase development at the land use amendment and rezoning phases. As a result, some jurisdictions with mobility fee systems have traffic analyses to time and phase development during these development phases.**

Florida Statutes section 163.3180(5)(i) indicates that if a local government elects to repeal transportation concurrency, it is encouraged to adopt an alternative mobility funding system that uses one or more of the tools and techniques identified in State statutes. Any alternative mobility funding system adopted may not be used to deny, time, or phase an application for site plan approval, plat approval, final subdivision approval, building permits, or the functional equivalent of such approvals provided that the developer agrees to pay for the development’s identified transportation impacts via the funding mechanism implemented by the local government.

This alternative approach thus limits the use of denial, timing, and phasing controls to approvals that may involve additional entitlements, including those at land use amendments and re-zoning. It restricts this ability to deny, time, or phase development for several approval types that include by-right approvals (these approvals are typically when proportionate share calculations apply to development agreements under traditional concurrency). As a result, it can help streamline processing of by-right approvals relative to traditional concurrency yet uses more general impacts to the transportation network as a basis for payments, potentially diminishing the link to immediate impacts that can be challenging for political or transportation planning reasons. Where transportation analysis is required of developments seeking land use and zoning amendments, these analyses will be based on more general development

FINAL REPORT - APPENDIX K

programs since more specific programs are created during site planning and platting phases.

- **Pasco County provides an illuminating example of the application of a mobility fee model.**
 - Pasco County’s land development code (sec. 901.12) provides details, summarized below, of the application of transportation analysis and timing and phasing as part of a mobility fee.
 - Transportation analysis is generally required for Future Land Use (FLU) Map amendments, re-zonings, and amendments to DRIs and Master Planned Unit Developments (MPUDs). The County is also allowed to use its Transportation Analysis standards to evaluate other developments not approved by right, such as conditional uses and special exceptions, to evaluate transportation system impacts if the development exceeds thresholds for Neighborhood Commercial designations or where the increase in gross trips is less than 50 peak hour trips. Regardless of the analysis used, needed future transportation corridors identified through the County’s Highway Vision Plan are assessed and identified.
 - Amendments to the FLU Map undergo a transportation needs assessment in addition to the transportation analysis, except in the case of conflict zoning where a property has zoning which permits more trips than provided for under the FLU Map. This assessment involves the following applied in order as necessary:
 - Impact determination compares the existing and proposed net-peak-hour, external trips to determine the degree of impact to the road network. If the net peak hour external trips of the project traffic are less than or equal to the nonexempt net-peak-hour, external trips from existing entitlements, the analysis stops.
 - Otherwise, the future scenario is analyzed with the MPO's adopted LRTP and the County’s Comprehensive Plan.
 - If failures occur, (1) appropriate improvements to accommodate future project traffic are identified, and/or (2) appropriate reductions in proposed density/intensity increases in terms of net-peak-hour trips are identified.
 - Re-zonings, amendments to DRIs and MPUDs, and FLU Map amendments associated with conflict zonings shall undergo timing and phasing analysis in addition to the transportation analysis. The timing and phasing analysis includes the following applied in order as necessary:
 - Impact determination compares the existing and proposed net-peak-hour, external trips to determine the degree of impact to the road network. If

FINAL REPORT - APPENDIX K

the net-peak-hour, external trips of the existing entitlements are greater than or equal to the nonexempt net-peak-hour, external trips from proposed entitlements, no additional analysis is necessary.

- If there is a net increase in peak-hour, external trips, the future scenario is evaluated. The future scenario is the analysis of existing traffic, plus reasonable background traffic and project traffic at build-out on the committed network. If no failure occurs, the analysis stops.
 - In circumstances where there is a failure, the future scenario is evaluated including any improvements where construction is fully funded in the FDOT’s Five-Year Transportation Improvement Plan and the County’s Five-Year Capital Improvement Plan. If no failure occurs, the analysis stops.
 - Where there is still a failure, the analysis continues with inclusion of any cost-affordable improvements from the MPO’s adopted LRTP and the Comprehensive Plan.
- For all locations estimated to fail, the analysis identifies when each failure is expected as a fraction of development trips associated with nonexempt on-site land use quantities and the estimated year of the failure. If possible, the analysis identifies improvements necessary to accommodate trips for the additional nonexempt entitlements requested. These improvements may include new interchanges, overpasses, and/or roadways identified in the Comprehensive Plan or Land Development Code.
 - Exemptions from these standards apply in the following cases:
 - The increase in gross trips is less than 50 peak hour trips, AM or PM, whichever is higher, provided the access is not on a roadway with a known Level of Service deficiency.
 - FLU Map amendments and re-zonings for many office, employment, and industrial districts are exempt, as well as government, office, hotel, industrial, and TOD of certain Planned Developments/Planned Unit Developments, consistent with the County’s economic development goals.
 - The increased number of trips is from Transfer of Development Rights.
 - Unexpired DRIs and MPUDs which do not propose to eliminate or delay the timing of their existing road construction obligations or increase gross AM or PM peak hour trips, whichever is higher, beyond the threshold permitted by County code.
 - Requests to eliminate or delay site-access improvements or substandard road improvements; however, such requests may be subject to additional review via other code requirements.

FINAL REPORT - APPENDIX K

- Requests to use statutorily authorized extensions.
- Government buildings.
- Existing entitlements.

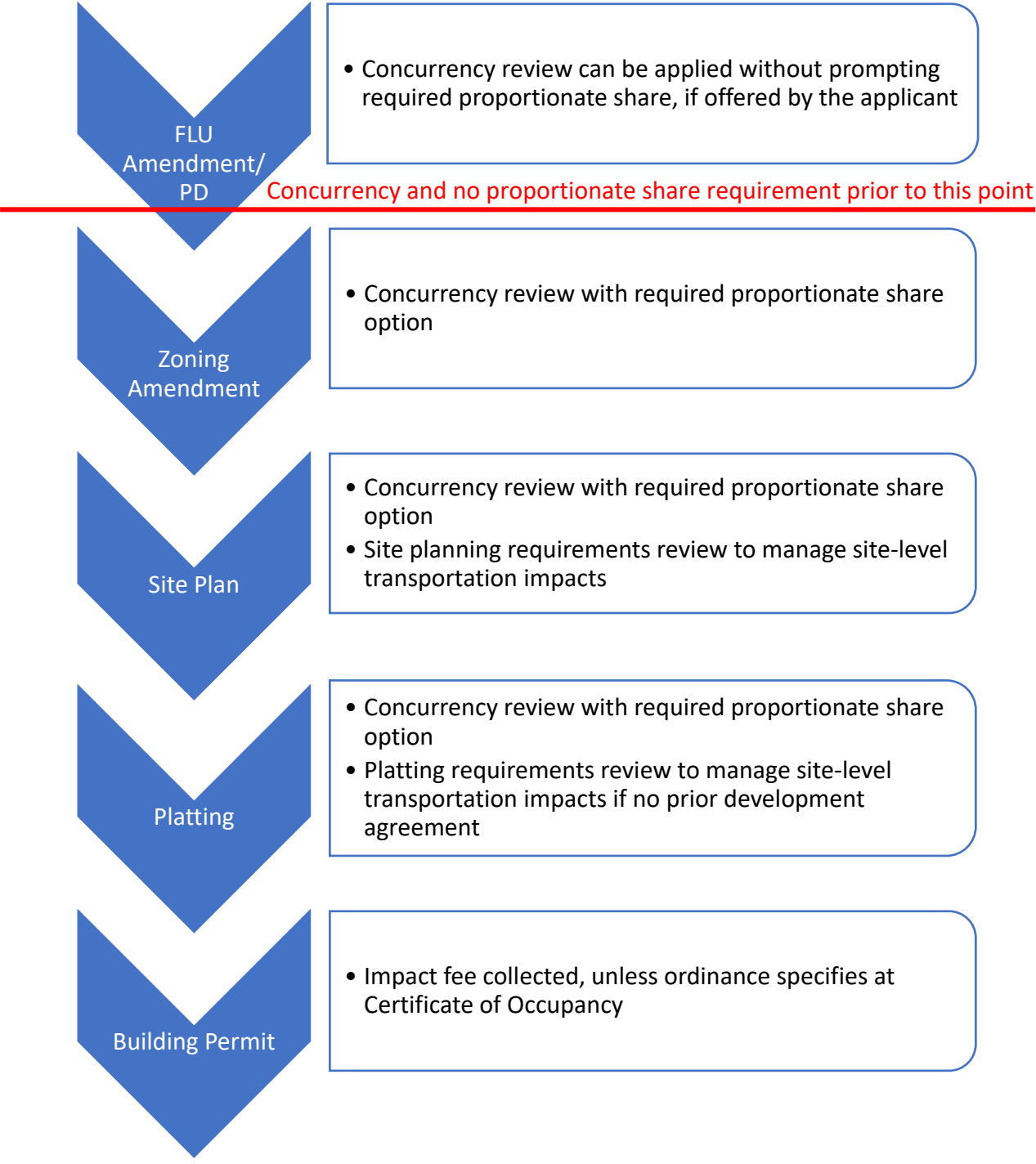
Site Plan Review Controls

Regardless of whether a jurisdiction retains traditional concurrency and proportionate share or adopts an alternative funding and timing/phasing system such as a mobility fee, it can still rely on site planning requirements to manage certain site-specific transportation impacts. Impacts that may be managed at this stage of the process include those related to site access, thresholds for signalization, and queuing space. Certain impacts may be managed at the plat review stage if there is no prior development agreement. Note that site plan review provides a management tool that is distinct from concurrency and fee processes and requirements.

As mentioned previously, Figures 5 and 6 illustrate when certain concurrency/proportionate share and timing/phasing controls apply under the two models discussed in this section, as well as separate site plan review controls for site-specific transportation impacts, relative to the general stages of the development review process and based on the State legislation. The County can evaluate these options for further consideration.

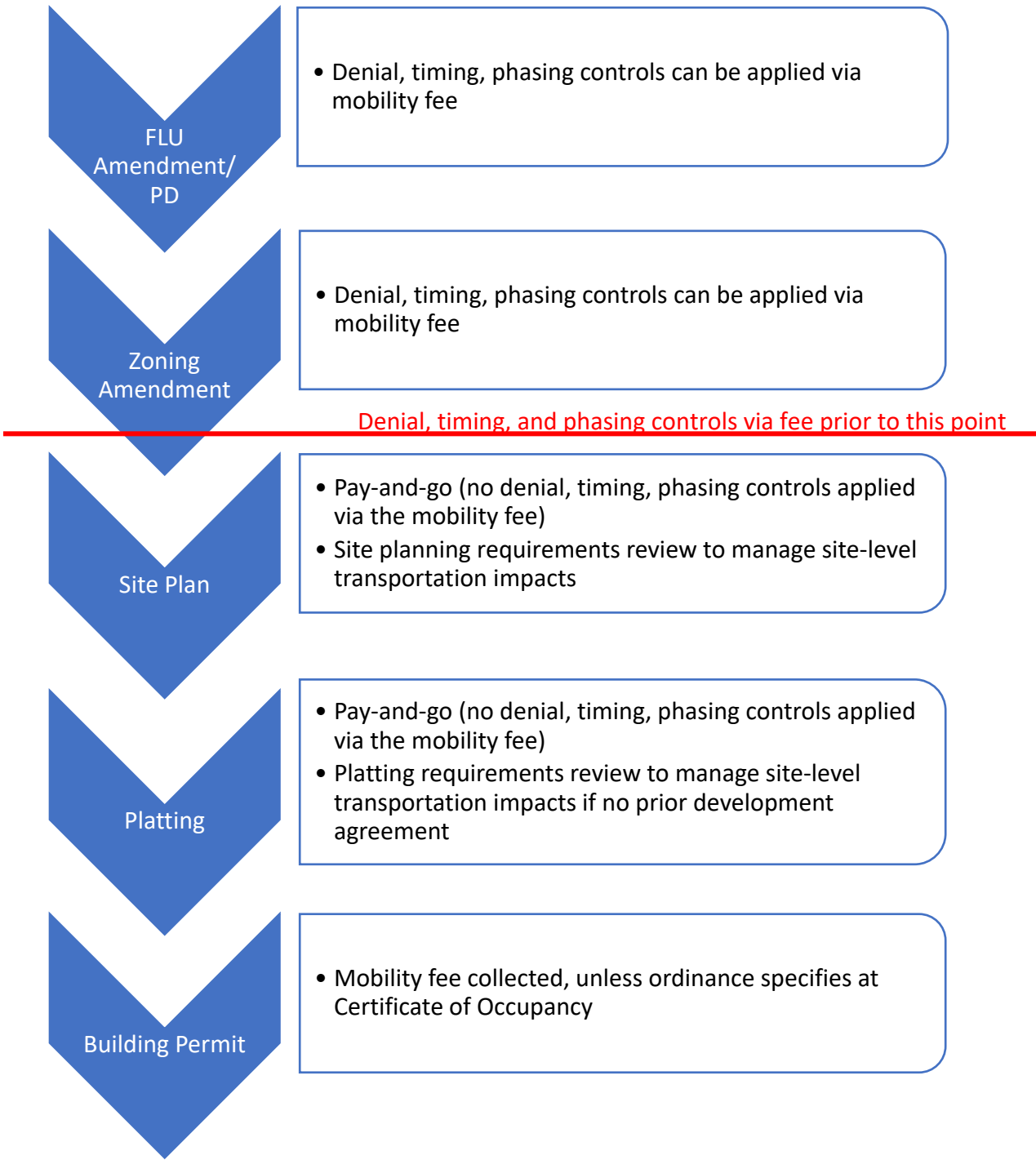
FINAL REPORT - APPENDIX K

Figure 5 - Applicability of Concurrency Controls/Proportionate Share Requirements and Site Review Controls Relative to Development Review Stages



FINAL REPORT - APPENDIX K

Figure 6 – Applicability of Denial/Timing/Phasing Controls Via Mobility Fee Model Relative to Development Review Stages



FINAL REPORT - APPENDIX K

VI. Summary of Findings

This memorandum included potential tools to develop a fee program that aligns with the local growth management and economic development goals. More specifically, the following information and analysis are included in this technical memorandum:

- Mobility/multimodal fee calculations and associated data and analysis.
- Multiple options for varying the fee by geographic area, for targeted land uses and subareas.
- An evaluation of proposed options under several financial and legal criteria.
- Discussion of development review process, associated legal requirements, and best practices.

Based on input from the MPO, County and municipalities, these calculations will be further refined to develop the final report.

FINAL REPORT - APPENDIX K

Appendix A Demand Component Calculations

FINAL REPORT - APPENDIX K

Appendix A: Demand Component

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

Interstate & Toll Facility Adjustment Factor

Table A-1 presents the interstate and toll facility adjustment factor used in the calculation of the mobility/multimodal fee. This variable is based on data from the Treasure Coast Regional Planning Model, specifically the 2040 projected vehicle-miles of travel, accounting for roadway improvements included in the 2040 Long Range Transportation Plan. It should be noted that the adjustment factor excludes all external-to-external trips, which represent traffic that goes through Martin County, but does not necessarily stop in the county. This traffic is excluded from the analysis since it does not come from development within the county. The I/T adjustment factor is used to reduce the VMT that the impact fee charges for each land use.

**Table A-1
Interstate/Toll Facility Adjustment Factor**

Roadway	VMT (2040)	% VMT
Interstate/Toll Facilities	843,080	20.2%
Other Roads	3,322,073	79.8%
Total (All Roads)	4,165,153	100.0%
Total (Interstate/Toll Roads)	843,080	20.2%

Source: Treasure Coast Regional Planning Model (TCRPM) v4, base year 2010, future year Cost Feasible 2040
Excludes EE Travel

Single Family Residential Trip Generation Rate Tiering

As part of this study, the single family residential trip generation rate tiering is included to reflect a four-tier analysis to ensure equity by the size of a home. To facilitate this, an analysis is completed on the comparative relationship between housing size and household travel behavior. In addition, an analysis is completed on the travel behavior of low income households. This analysis utilizes data from the 2017 National Household Travel Survey (NHTS) and the 2017 American Housing Survey (AHS) to examine overall trip-making characteristics of households in the United States.

Table A-2 presents the trip characteristics being utilized in the proposed mobility/multimodal impact fee schedule for the single family (detached) land use. The 2017 NHTS database is used

FINAL REPORT - APPENDIX K

to assess average annual household vehicle miles of travel (VMT) for various annual household income levels. In addition, the 2017 AHS database is 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 completed simply to provide a linking mechanism between household VMT from the NHTS and housing unit size from the AHS.

Table A-2
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 for LUC 210 included in this Appendix

The results of the NHTS and AHS analyses are included in Tables A-3 through A-5. First, the data shown in Table A-3 presents the average income in the U.S. for families/households living in the three housing tiers. As shown, the average income for housing units between 1,500 square feet and 2,499 square feet in size (\$70,622) is higher than the overall average income for the U.S. (\$59,840). Table A-4 presents the median household income levels for low and very low income levels in Martin County. Next, as shown in Table A-5, annual average household VMT is calculated from the NHTS database for a number of different income levels and ranges related to the resulting AHS income data from Table A-3 and the Martin County SHIP definitions for low income (<\$51,500) and very low income (<\$32,200).

Table A-3
Annual Income by Housing Size

2017 AHS Average Income Data by Housing Size	Annual Income ⁽¹⁾
Less than 750 sf	\$35,510
750 to 999 sf	\$42,511
1,000 to 2,499 sf	\$63,641
1,500 to 2,499 sf	\$70,622
2,500 sf or more	\$87,984
Average of All Houses	\$59,840

Source: American Housing Survey for the United States in 2017

1) Weighted average of annual income for each tier

FINAL REPORT - APPENDIX K

Table A-4
Martin County SHIP Definitions

Martin County SHIP Definitions	
Median Income	\$59,500
Low Income ⁽¹⁾	\$51,500
Very Low Income ⁽²⁾	\$32,200

Source: Florida Housing Finance Corporation, 2019 Income Limits; SHIP (4 person household)
 1) Defined as 80% of the median income
 2) Defined as 50% of the median income

To calculate a corresponding trip rate for the new tiers it is necessary to rely on comparative ratios. As an example, consider the \$35,510 annual income category. First, it is determined that the average annual household VMT for this income level is 14,678 miles. This figure is compared to the overall average annual VMT per household in the U.S. and normalized to the average of the \$59,840 (18,493 miles) category to derive a ratio of 0.794 as shown in Table A-5. This figure is then normalized to the \$70,622 (19,713 miles) category, as this tier corresponds to the average trip generation rate of 7.81 presented in Table A-2, resulting in a ratio of 0.747.

Next, the normalized ratio is applied to the daily VMT for the average single family housing unit size (less than 750 sf) to generate a daily VMT of 38.62 for the new tier, as shown in Table A-6. This daily VMT figure is then divided by the proposed assessable trip length of 6.62 miles to obtain a typical trip rate of 5.83 trips per day.

Table A-5
NHTS Annual VMT by Income Category

2017 NHTS Travel Data by Annual HH Income	Annual VMT/HH	Days	Daily VMT	Ratio to Mean	Normalized to 1.063
Average of \$16,100	10,880	365	29.81	0.588	0.553
Average of \$25,750	13,279	365	36.38	0.718	0.675
Average of \$35,510	14,678	365	40.21	0.794	0.747
Average of \$42,511	17,383	365	47.62	0.940	0.884
Total (All Homes)	18,493	365	50.67	1.000	
Average of \$63,641	18,834	365	51.60	1.018	0.958
Average of \$70,622	19,713	366	53.86	1.063	1.000
Average of \$87,984	22,430	365	61.45	1.213	1.141

Source: 2017 National Household Travel Survey Database, Federal Highway Administration

FINAL REPORT - APPENDIX K

Table A-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>				
Very Low Income	4.32	6.62	28.59	0.553
Low Income	5.27	6.62	34.90	0.675
Less than 750 sf	5.83	6.62	38.62	0.747
750 to 999 sf	6.90	6.62	45.70	0.884
1,000 to 2,499 sf	7.48	6.62	49.53	0.958
1,500 to 2,499 sf	7.81	6.62	51.70	1.000
2,500 sf or more	8.91	6.62	58.99	1.141

- 1) Daily VMT (Item 3) divided by assessable trip length (Item 2) for each tiered single family land use category
- 2) Source: Table A-2
- 3) Ratio to the mean (Item 4) divided by total daily VMT for the 1,500 to 2,499 sf tier for each tiered single family land use category
- 4) Source: Table A-5

Table A-7 illustrates the tiered mobility/multimodal fee schedule.

Table A-7
Net Mobility/Multimodal Fee by Single Family Land Use Tier

Impact of Tiering on Fee Schedule	Trip Rate ⁽¹⁾	Assessable Trip Length	Daily VMT	Net Fee ⁽²⁾
<i>Single Family (Detached)</i>				
Very Low Income	4.32	6.62	28.59	\$3,335
Low Income	5.27	6.62	34.90	\$4,066
Less than 750 sf	5.83	6.62	38.62	\$4,516
750 to 999 sf	6.90	6.62	45.70	\$5,332
1,000 to 2,499 sf	7.48	6.62	49.53	\$5,784
2,500 sf or more	8.91	6.62	58.99	\$6,885

- 1) Source: Table A-4
- 2) Source: Appendix E, Table E-1

FINAL REPORT - APPENDIX K

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/multi-modal/mobility 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 an 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 together to increase the sample size and provide a more valid estimate of the average number of trips generated per unit of development. If no Florida Studies data is available, only TGR data from the ITE reference report is used in the fee calculation.

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

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

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

FINAL REPORT - APPENDIX K

Land Use 151: Mini-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	6	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
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	6.00	-	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	Average Trip Length:		6.79	
					Weighted Average Trip Length:	6.62
					Weighted Average Trip Generation Rate:	7.81

FINAL REPORT - APPENDIX K

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		19				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/Assisted Living 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	Oct-89	58	40	-	9am-5pm	3.40	69.0	-	Tindale Oliver
Total Size	272		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			

Land Use 310: Hotel

Location	Size (Rooms)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	174	Aug-89	134	106	12.50	7-11a/3-7p	6.30	79.0	62.21	Tindale Oliver
Pinellas Co, FL	114	Oct-89	30	14	7.30	12-7p	6.20	47.0	21.27	Tindale Oliver
Orange Co, FL	123	1997	-	-	6.32	-	-	-	-	Orange County
Orange Co, FL	120	1997	-	-	5.27	-	-	-	-	Orange County
Orange Co, FL	146	1997	-	-	7.61	-	-	-	-	Orange County
Orange Co, FL	252	1997	-	-	5.63	-	-	-	-	Orange County
Orange Co, FL	172	1997	-	-	6.36	-	-	-	-	Orange County
Orange Co, FL	170	1997	-	-	6.06	-	-	-	-	Orange County
Orange Co, FL	128	1997	-	-	6.10	-	-	-	-	Orange County
Orange Co, FL	200	1997	-	-	4.56	-	-	-	-	Orange County
Orange Co, FL	112	1998	-	-	2.78	-	-	-	-	Orange County
Orange Co, FL	130	1998	-	-	9.12	-	-	-	-	Orange County
Orange Co, FL	106	1998	-	-	7.34	-	-	-	-	Orange County
Orange Co, FL	98	1998	-	-	7.32	-	-	-	-	Orange County
Orange Co, FL	120	1998	-	-	5.57	-	-	-	-	Orange County
Orange Co, FL	70	1999	-	-	1.85	-	-	-	-	Orange County
Orange Co, FL	123	1999	-	-	4.81	-	-	-	-	Orange County
Orange Co, FL	123	1999	-	-	3.70	-	-	-	-	Orange County
Orange Co, FL	211	2000	-	-	2.23	-	-	-	-	Orange County
Orange Co, FL	144	2000	-	-	7.32	-	-	-	-	Orange County
Orange Co, FL	105	2001	-	-	5.25	-	-	-	-	Orange County
Orange Co, FL	891	2005	-	-	5.69	-	-	-	-	Orange County
Orange Co, FL	1,584	2005	-	-	5.88	-	-	-	-	Orange County
Orange Co, FL	210	2006	-	-	4.88	-	-	-	-	Orange County
Orange Co, FL	1,499	2006	-	-	4.69	-	-	-	-	Orange County
Orange Co, FL	144	-	-	-	4.74	-	-	-	-	Orange County
Orange Co, FL	148	-	-	-	7.61	-	-	-	-	Orange County
Orange Co, FL	160	-	-	-	6.19	-	-	-	-	Orange County
Orange Co, FL	130	-	-	-	4.29	-	-	-	-	Orange County
Orange Co, FL	130	-	-	-	3.40	-	-	-	-	Orange County
Orange Co, FL	144	-	-	-	7.66	-	-	-	-	Orange County
Orange Co, FL	100	-	-	-	7.37	-	-	-	-	Orange County
Orange Co, FL	190	-	-	-	4.71	-	-	-	-	Orange County
Orange Co, FL	1,501	2011	-	-	3.50	-	-	-	-	Tindale Oliver
Orange Co, FL	174	2011	-	-	7.03	-	-	-	-	Tindale Oliver
Orange Co, FL	238	2014	-	-	4.05	-	-	-	-	Tindale Oliver
Total Size	10,184		36	164			Average Trip Length: 6.25			
ITE	876		6				Weighted Average Trip Length: 6.26			
Blended total	11,060						Weighted Percent New Trip Average: 66.3			

Weighted Average Trip Generation Rate: 5.31
ITE Average Trip Generation Rate: 8.36
Blend of FL Studies and ITE Average Trip Generation Rate: 5.55

FINAL REPORT - APPENDIX K

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						
ITE	654		6							
							Average Trip Length:	3.93		
							Weighted Average Trip Length:	4.34		
									Weighted Percent New Trip Average:	76.6

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						
ITE	6		1							
Blended total	26									
							Average Trip Length:	2.30		
							Weighted Average Trip Length:	2.22		
									Weighted Percent New Trip Average:	87.8

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	-	-	-	94.0	-	Kimley-Horn & Associates
Total Size			1	33						
ITE	37		8							
							Average Trip Length:	n/a		
									Percent New Trip Average:	94.0

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		3	301						
ITE	135.0		27							
Blended total	150.6									
							Average Trip Length:	2.20		
							Weighted Average Trip Length:	2.03		
									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						
ITE	480		3							
Blended total	600									
							Average Trip Length:	2.59		
							Weighted Average Trip Length:	2.59		
									Weighted Percent New Trip Average:	89.0

Land Use 710: General Office Building

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sarasota Co, FL	14.3	Jun-93	14	14	46.85	-	11.30	-	529.41	Sarasota County
Gwinnett Co, GA	98.0	Dec-92	-	-	4.30	-	5.40	-	-	Street Smarts
Gwinnett Co, GA	180.0	Dec-92	-	-	3.60	-	5.90	-	-	Street Smarts
Pinellas Co, FL	187.0	Oct-89	431	388	18.49	7a-5p	6.30	90.0	104.84	Tindale Oliver
St. Petersburg, FL	262.8	Sep-89	291	274	-	7a-5p	3.40	94.0	-	Tindale Oliver
Total Size	742.1		5	736						
ITE	11,286.0		66							
							Average Trip Length:	6.46		
							Weighted Average Trip Length:	5.15		
									Weighted Percent New Trip Average:	92.3

LUC 720: Small Medical/Dental Office Building: 10,000 sf or Less

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

FINAL REPORT - APPENDIX K

Land Use 720: Medical-Dental Office Building

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	33	26	-	-	6.00	79.0	-	Kimley-Horn & Associates
Palm Harbor, FL	14.6	Oct-89	104	76	33.98	9a-5p	6.30	73.0	156.27	Tindale Oliver
St. Petersburg, FL	-	Nov-89	34	30	57.20	9a-4p	1.20	88.0	-	Tindale Oliver
Hernando Co, FL	58.4	May-96	390	349	28.52	9a-6p	6.47	89.5	165.09	Tindale Oliver
Hernando Co, FL	28.0	May-96	202	189	49.75	9a-6p	6.06	93.8	282.64	Tindale Oliver
Charlotte Co, FL	11.0	Oct-97	-	186	49.50	9a-5p	4.60	92.1	209.67	Tindale Oliver
Charlotte Co, FL	28.0	Oct-97	-	186	31.00	9a-5p	3.60	81.6	91.04	Tindale Oliver
Charlotte Co, FL	30.4	Oct-97	-	324	39.80	9a-5p	3.30	83.5	109.68	Tindale Oliver
Citrus Co, FL	38.9	Oct-03	-	168	32.26	8-6p	6.80	97.1	213.03	Tindale Oliver
Citrus Co, FL	10.0	Nov-03	-	340	40.56	8-630p	6.20	92.4	232.33	Tindale Oliver
Citrus Co, FL	5.3	Dec-03	-	20	29.36	8-5p	5.25	95.2	146.78	Tindale Oliver
Orange Co, FL	50.6	2009	-	-	26.72	-	-	-	-	Orange County
Orange Co, FL	23.5	2010	-	-	16.58	-	-	-	-	Tindale Oliver

Total Size 298.6
 ITE 672.0
 Blended total 970.6

Total # Interviews 13
 # Trip Length Interviews 763
 Average Trip Length: 5.07
 Weighted Average Trip Length: 5.55

Weighted Percent New Trip Average: 88.9

Average Trip Generation Rate: 32.59
 ITE Average Trip Generation Rate: 34.80
 Blend of FL Studies and ITE Average Trip Generation Rate: 34.12

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	VMT	Source
Tampa, FL	-	Mar-86	527	348	-	-	-	66.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	170	-	-	-	1.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	354	269	-	-	-	76.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	144	-	-	-	2.50	-	-	Kimley-Horn & Associates
St. Petersburg, FL	1,192.0	Aug-89	384	298	-	11a-7p	3.60	78.0	-	Tindale Oliver
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	-	8.50	84.0	192.78	Street Smarts
Sarasota Co, FL	110.0	Jun-93	58	58	122.14	-	3.20	-	-	Sarasota County
Sarasota Co, FL	146.1	Jun-93	65	65	51.53	-	2.80	-	-	Sarasota County
Sarasota Co, FL	157.5	Jun-93	57	57	79.79	-	3.40	-	-	Sarasota County
Sarasota Co, FL	191.0	Jun-93	62	62	66.79	-	5.90	-	-	Sarasota County
Hernando Co, FL	107.8	May-96	608	331	77.60	9a-6p	4.68	54.5	197.85	Tindale Oliver
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

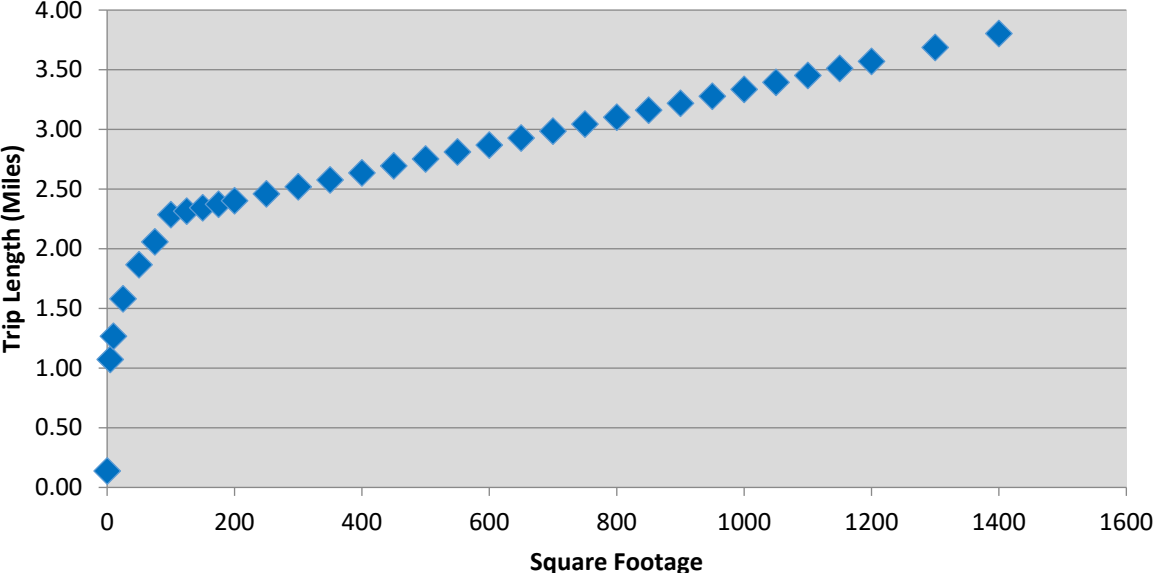
Total # Interviews 35

Trip Length Interviews 7,536

Average Trip Length: 2.66

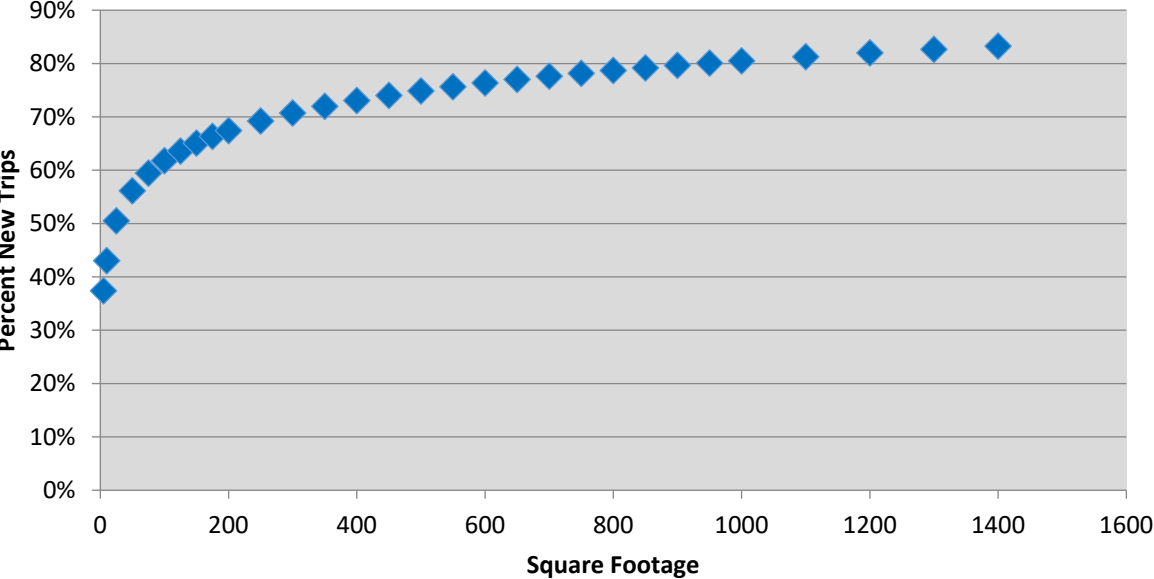
FINAL REPORT - APPENDIX K

Figure A-1
Retail/Shopping Center (LUC 820) – Florida Curve Trip Length Regression



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

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



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

FINAL REPORT - APPENDIX K

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	VMT	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		10	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 851: 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
Tampa, FL	-	Mar-86	80	-	-	-	1.10	-	-	Kimley-Horn & Associates
Largo, FL	2.5	8/15/25/89	171	116	634.80	-	1.20	68.0	518.00	Tindale Oliver
Clearwater, FL	2.5	Aug-89	237	64	690.80	-	1.60	27.0	298.43	Tindale Oliver
Clearwater, FL	2.1	Nov-89	143	50	635.24	24hr.	1.60	35.0	355.73	Tindale Oliver
Marion Co, FL	2.5	Jun-91	94	43	787.20	48hrs.	1.52	46.2	552.80	Tindale Oliver
Marion Co, FL	2.5	Jun-91	74	20	714.00	48hrs.	0.75	27.0	144.59	Tindale Oliver
Collier Co, FL	-	Aug-91	146	36	-	-	2.53	24.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	148	38	-	-	1.08	25.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	148	84	-	-	1.11	56.8	-	Tindale Oliver
Gwinnett Co, GA	2.9	12/13-18/92	-	-	-	-	2.30	48.0	-	Street Smarts
Gwinnett Co, GA	3.2	12/13-18/92	-	-	-	-	-	37.0	-	Street Smarts
Total Size	18.2		11	1,241	Average Trip Length: 1.48					
ITE	24.0		8		Weighted Average Trip Length: 1.52					
Blended total	42.2				Weighted Percent New Trip Average:		41.3			
	36.1				Weighted Average Trip Generation Rate:			694.30		
					ITE Average Trip Generation Rate:			762.28		
					Blend of FL Studies and ITE Average Trip Generation Rate:			739.50		

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	VMT	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	VMT	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			

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	VMT	Source
Tampa, FL	-	Mar-86	77	-	-	-	2.40	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	211	-	-	-	-	54.0	-	Kimley-Horn & Associates
Clearwater, FL	0.4	Aug-89	113	52	-	9a-6p	5.20	46.0	-	Tindale Oliver
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		14	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		

FINAL REPORT - APPENDIX K

Land Use 931: Low-Turnover (Quality) Restaurant

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	76	62	-	-	2.10	82.0	-	Kimley-Horn & Associates
St. Petersburg, FL	7.5	Oct-89	177	154	-	11a-2p/4-8p	3.50	87.0	-	Tindale Oliver
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		3	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					
					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		18	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 944: Gasoline/Service Station

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		2	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		4	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					

Mixed-Use Internal Capture Sensitivity Analysis

There are several models that measure travel reduction achieved by mixed-use development:

- Historically, the ITE model has been the primary model used to quantify internal capture. ITE groups land uses into three categories:
 - Residential;
 - Office; and
 - Retail.

Internal capture calculations focus on trip reduction, especially between residential and retail uses. The data is available for weekday P.M. peak hour, midday, and "daily," which

FINAL REPORT - APPENDIX K

is based on data collection between noon and 6:30 PM. ITE calculations fail to capture much of the interaction between residential and office land uses. Compared to raw data used for verification, ITE method error rate is about one-half.

- Several publications by National Cooperative Highway Research Program (NCHRP) made improvements to the original ITE approach, which were summarized in the NCHRP 684. This improved estimate method was developed based on existing survey data from prior studies plus three pilot data collection surveys for this study.
 - Although the model developed as part of NCHRP 684 continued to focus on trip reduction, three land uses were added: restaurant, hotel, and cinema. These resulted for a higher internal capture percentage. **The authors caution users to limit their applications to these six uses, and that the model was not tested for any additional land uses.** The model should only be used for development up to 300 acres.
 - NCHRP Report 684 also added weekday A.M. peak hour and created a land use classification structure that would permit disaggregation of the six land uses to more detailed categories should enough data become available.
 - The NCHRP report included the **effects of proximity (convenient walking distance) between interacting land uses to represent both compactness and design.** The report states that several planners and architects recommend ¼-mile or longer walking distances. However, developers contacted for the study reported that acceptable walking distances range from 600 feet to 1,000 feet. The study found that when the major uses were within a convenient (e.g., covered walkways, etc.) and short walking distance, the capture rate increased.
 - This method reduced the estimation error by half compared to the original ITE method, resulting in an error rate of about one-fourth of the raw trip generation rates.
- Since the late 1980s, there have been numerous studies of various census and regional travel survey databases, limited site data collection, and studies and surveys of related travel and development characteristics that could contribute useful material for developing an improved estimation technique. Internal trip capture rates found in this research vary widely depending on conditions and land uses, but for developments with major commercial components, capture rates typically reached up to more than 30 percent. For mixed-use neighborhoods and small communities, internal capture reached 50 percent and even higher.

FINAL REPORT - APPENDIX K

- Another widely used approach is a policy determined flat percentage reduction in external trips. Such percentages are established by local planning, zoning, or transportation engineering officials for use in transportation impact analyses (TIAs) prepared to support applications for zoning, subdivision, site plan approval, or access permits. The percentages are typically arbitrarily selected and tend to range from 5 percent to 25 percent, with 10 percent being most commonly used discount factor.

Table A-8 provides a summary of some of these studies and resulting internal capture levels.

**Table A-8
Comparison of Mixed-Use Models**

Source	Reference	Range of Internal Capture
Research Studies		
ITE 2nd Edition	Institute of Transportation Engineers Handbook, 2nd Ed.	5-25%
NCHRP 684/ITE 3rd Edition	National Cooperative Highway Research Program	28-41%
EPX MXD Model v4.0	EPA, Fehr & Peers	8-28%
ITE 1998 surveys (origins)	NCHRP 684, PDF pg 19	0-53%
ITE 1998 surveys (destinations)	NCHRP 684, PDF pg 19	0-37%
Districtwide TGR Study, FDOT, District IV, March 1995	NCHRP 684, PDF pg 20	28-41%
FDOT Trip Characteristics Study of MXDs, FDOT, District IV, March 1993	NCHRP 684, PDF pg 21 (Table 8)	7-62%
Trip Generation for MXDs, Technical Committee Report, Colorado-Wyoming Section, ITE, January 1986	NCHRP 684, PDF pg 23	25%
Brandermill PUD Traffic Generation Study, Technical Report, JHK & Associates, Alexandria, Virginia, June 1984	NCHRP 684, PDF pg 23	45-55%
Kittelson & Associates, Crocker Center, Mizner Park, Galleria	NCHRP 684, PDF pg 25	38-41%
Mehara and Keller	NCHRP 684, PDF pg 25	0-40%
Local Government Practices		
Transportation Impact Analyses (ITE Method)	NCHRP 684, PDF pg 11	5-25%

As mentioned previously, internal capture levels of a mixed-use development are dependent on the combination of uses as well as their connectivity and design. Tables A-8 through A-10 present a sensitivity analysis for internal capture that includes developments of all levels, in terms of both units of development and percent of travel. Observations include:

FINAL REPORT - APPENDIX K

- When single family units dominate the overall development (generating over 60 percent of trips or over 80 percent of vehicle miles of travel (VMT)), there does not seem to be any substantial internal capture.
- In cases where there are three or more uses with some level of activity, the internal capture improves. The internal capture rate is higher when travel generated by each land use is balanced (e.g., no one land use exceeds 50 percent of trips).
- Availability of retail (including restaurants) is important in achieving high levels of internal capture.
- Travel demand characteristics used in the standard impact fee calculations evolved over time to recognize reduction in travel due to the availability of multiple uses at a regional level.
- Any additional internal capture that is attributed to a mixed-use development needs to be due to the increase in pedestrian travel as well as travel within the development. Some of the variables that will determine the level internal capture include:
 - Scale of development;
 - Complementary land uses;
 - Proximity and connectivity between each pair of land uses, especially the layout of the land uses relative to each other; and
 - Other characteristics such as proximity to transit and pedestrian access within and around the site.
- Industry models used to measure internal capture suggest that to the extent travel distribution from each land use within the mixed-use development is balanced, the level of internal capture increases. When one land use is dominant, internal capture percentage decreases. For example, when residential development generates more than 60 percent of trips and 80 percent of VMT, the resulting internal capture is negligible. On the other hand, a mix of at least three different uses, with none of the uses generating more than 50 percent of travel, result in higher levels of internal capture.

As previously mentioned, the NCHRP model does not account for proximity of uses, density, and other design elements. It is recommended that potential mixed-use developments include elements of connectivity, promote walkability between land uses, and include access to other travel modes (transit, bike lanes, etc.) when possible. These factors, along with a balanced mix of uses, will yield the most favorable internal capture rates.

Depending on the scale of potential future developments, it may be difficult to achieve reasonable walkability and enhanced trip capture. By focusing on smaller, inter-connected areas,

FINAL REPORT - APPENDIX K

developers can work towards creating a truly “mixed-use” community. The sensitivity analysis in Tables A-9 through A-11 provide general guidelines that can be applied to future development in order to achieve the best balance of uses.

FINAL REPORT - APPENDIX K

Table A-9
Comparison of Mixed-Use Internal Capture

Scenario	Single Family DU's	Hotel Rooms	Retail Sq Ft	Office Sq Ft	Restaurant Sq Ft	AM Peak Hr: IC %	PM Peak Hr: IC %	Average Internal Capture %	Trip Distribution				
									Single Family	Hotel	Retail	Office	Restaurant
Scenario #1.01	50	50	10,000	10,000	2,000	19%	29%	24%	20%	15%	33%	24%	8%
Scenario #1.02	50	60	10,000	10,000	2,000	18%	29%	24%	20%	17%	32%	23%	8%
Scenario #1.03	50	75	10,000	10,000	2,000	18%	28%	23%	19%	20%	31%	22%	8%
Scenario #1.04	50	90	10,000	10,000	2,000	17%	27%	22%	18%	23%	30%	22%	8%
Scenario #1.05	50	120	10,000	10,000	2,000	15%	26%	21%	17%	28%	28%	20%	7%
Scenario #1.06	50	200	10,000	10,000	2,000	13%	22%	18%	15%	38%	24%	17%	6%
Scenario #1.07	50	300	10,000	10,000	2,000	10%	19%	15%	12%	47%	20%	15%	5%
Scenario #1.08	50	400	10,000	10,000	2,000	9%	17%	13%	11%	54%	18%	13%	4%
Scenario #1.09	50	500	10,000	10,000	2,000	8%	15%	12%	10%	59%	16%	11%	4%
Scenario #1.10	50	600	10,000	10,000	2,000	7%	14%	11%	9%	63%	14%	10%	4%
Scenario #1.11	50	50	20,000	10,000	2,000	19%	27%	23%	17%	12%	44%	20%	7%
Scenario #1.12	50	50	50,000	10,000	2,000	18%	22%	20%	12%	9%	59%	15%	5%
Scenario #1.13	50	50	80,000	10,000	2,000	16%	18%	17%	10%	7%	66%	12%	4%
Scenario #1.14	50	50	100,000	10,000	2,000	15%	16%	16%	9%	7%	69%	11%	4%
Scenario #1.15	50	50	300,000	10,000	2,000	10%	9%	10%	5%	4%	82%	6%	2%
Scenario #1.16	50	50	500,000	10,000	2,000	8%	7%	8%	4%	3%	87%	5%	2%
Scenario #1.17	50	50	1,000,000	10,000	2,000	6%	4%	5%	3%	2%	91%	3%	1%
Scenario #1.18	50	50	2,000,000	10,000	2,000	4%	3%	4%	2%	1%	94%	2%	1%
Scenario #1.19	50	50	3,000,000	10,000	2,000	3%	2%	3%	1%	1%	95%	2%	1%
Scenario #1.20	50	50	10,000	20,000	2,000	20%	28%	24%	19%	14%	31%	29%	8%
Scenario #1.21	50	50	10,000	50,000	2,000	19%	26%	23%	16%	12%	26%	39%	7%
Scenario #1.22	50	50	10,000	80,000	2,000	19%	24%	22%	14%	10%	23%	46%	6%
Scenario #1.23	50	50	10,000	100,000	2,000	18%	23%	21%	13%	10%	22%	50%	5%
Scenario #1.24	50	50	10,000	300,000	2,000	13%	15%	14%	8%	6%	13%	70%	3%
Scenario #1.25	50	50	10,000	500,000	2,000	9%	11%	10%	6%	4%	10%	78%	2%
Scenario #1.26	50	50	10,000	1,000,000	2,000	6%	7%	7%	4%	3%	6%	86%	2%
Scenario #1.27	50	50	10,000	2,000,000	2,000	3%	4%	4%	2%	2%	3%	92%	1%
Scenario #1.28	50	50	10,000	3,000,000	2,000	3%	3%	3%	2%	1%	2%	94%	1%
Scenario #1.29	50	50	10,000	10,000	5,000	22%	36%	29%	18%	13%	29%	21%	18%
Scenario #1.30	50	50	10,000	10,000	7,000	22%	40%	31%	17%	12%	27%	20%	24%
Scenario #1.31	50	50	10,000	10,000	10,000	19%	43%	31%	15%	11%	25%	18%	31%
Scenario #1.32	50	50	10,000	10,000	15,000	16%	45%	31%	13%	10%	22%	16%	40%
Scenario #1.33	50	50	10,000	10,000	30,000	10%	40%	25%	9%	7%	15%	11%	57%
Scenario #1.34	50	50	10,000	10,000	50,000	7%	32%	20%	7%	5%	11%	8%	69%
Scenario #1.35	50	50	10,000	10,000	100,000	4%	20%	12%	4%	3%	7%	5%	82%
Scenario #1.36	50	50	10,000	10,000	200,000	2%	11%	7%	2%	2%	4%	3%	90%
Scenario #1.37	50	50	10,000	10,000	400,000	1%	6%	4%	1%	1%	2%	1%	95%
Scenario #1.38	50	60	20,000	20,000	5,000	25%	32%	29%	14%	12%	37%	22%	15%
Scenario #1.39	50	75	50,000	50,000	7,000	28%	27%	28%	9%	10%	45%	23%	13%
Scenario #1.40	50	90	80,000	80,000	10,000	28%	26%	27%	7%	9%	46%	23%	15%
Scenario #1.41	50	120	100,000	100,000	15,000	28%	27%	28%	6%	10%	44%	22%	18%
Scenario #1.42	50	200	300,000	300,000	30,000	28%	23%	26%	3%	8%	46%	26%	18%
Scenario #1.43	50	300	500,000	500,000	50,000	28%	23%	26%	2%	8%	43%	26%	21%
Scenario #1.44	50	400	1,000,000	1,000,000	100,000	28%	24%	26%	1%	6%	40%	28%	24%
Scenario #1.45	50	500	2,000,000	2,000,000	200,000	27%	25%	26%	1%	4%	37%	30%	28%
Scenario #1.46	50	600	3,000,000	3,000,000	400,000	23%	30%	27%	0%	3%	31%	28%	37%
Scenario #1.47	50	50	3,000,000	3,000,000	400,000	65%	27%	46%	0%	0%	32%	29%	38%
Scenario #1.48	50	600	10,000	3,000,000	400,000	18%	11%	15%	1%	5%	1%	41%	53%
Scenario #1.49	50	600	3,000,000	10,000	400,000	6%	33%	20%	1%	5%	43%	1%	51%
Scenario #1.50	50	600	3,000,000	3,000,000	2,000	14%	7%	11%	1%	5%	50%	44%	0%

Notes:

- Each scenario includes a different mix of dwelling units, hotel rooms and non-residential development.
- Using the ITE 9th Edition handbook, AM and PM Peak Hour trip generation rates are applied to each land use and each development scenario. This results in the total AM and PM Peak Hour trips. Using the direction distribution provided in the ITE handbook, the “entering” and “exiting” trips are determined.
- The resulting trips are entered into the NCHRP internal capture model which outputs the internal capture percentages for both AM and PM Peak Hour.
- The average internal capture shown in the tab above reflects the average of the AM and PM Peak Hour internal capture.
- The trip distribution illustrates the proportion of trip that is attributed to each land use in each scenario. The scenarios which include a balanced distribution of trip tend to yield higher internal capture.

FINAL REPORT - APPENDIX K

Table A-10
Comparison of Mixed-Use Internal Capture

Scenario	Single Family DU's	Hotel Rooms	Retail Sq Ft	Office Sq Ft	Restaurant Sq Ft	AM Peak Hr: IC %	PM Peak Hr: IC %	Average Internal Capture %	Trip Distribution				
									Single Family	Hotel	Retail	Office	Restaurant
Scenario #2.01	1,000	50	10,000	10,000	2,000	5%	11%	8%	79%	4%	9%	6%	2%
Scenario #2.02	1,000	60	10,000	10,000	2,000	5%	11%	8%	79%	4%	8%	6%	2%
Scenario #2.03	1,000	75	10,000	10,000	2,000	5%	11%	8%	78%	5%	8%	6%	2%
Scenario #2.04	1,000	90	10,000	10,000	2,000	5%	11%	8%	77%	6%	8%	6%	2%
Scenario #2.05	1,000	120	10,000	10,000	2,000	5%	11%	8%	76%	8%	8%	6%	2%
Scenario #2.06	1,000	200	10,000	10,000	2,000	5%	11%	8%	72%	12%	8%	6%	2%
Scenario #2.07	1,000	300	10,000	10,000	2,000	5%	10%	8%	68%	17%	7%	5%	2%
Scenario #2.08	1,000	400	10,000	10,000	2,000	4%	10%	7%	65%	21%	7%	5%	2%
Scenario #2.09	1,000	500	10,000	10,000	2,000	4%	9%	7%	62%	25%	7%	5%	2%
Scenario #2.10	1,000	600	10,000	10,000	2,000	4%	9%	7%	59%	28%	6%	5%	2%
Scenario #2.11	1,000	50	20,000	10,000	2,000	6%	13%	10%	76%	4%	13%	6%	2%
Scenario #2.12	1,000	50	50,000	10,000	2,000	7%	17%	12%	68%	3%	21%	5%	2%
Scenario #2.13	1,000	50	80,000	10,000	2,000	6%	19%	13%	64%	3%	27%	5%	2%
Scenario #2.14	1,000	50	100,000	10,000	2,000	6%	20%	13%	61%	3%	30%	5%	2%
Scenario #2.15	1,000	50	300,000	10,000	2,000	5%	25%	15%	46%	2%	47%	4%	1%
Scenario #2.16	1,000	50	500,000	10,000	2,000	5%	27%	16%	39%	2%	55%	3%	1%
Scenario #2.17	1,000	50	1,000,000	10,000	2,000	4%	22%	13%	30%	1%	66%	2%	1%
Scenario #2.18	1,000	50	2,000,000	10,000	2,000	3%	16%	10%	21%	1%	75%	2%	1%
Scenario #2.19	1,000	50	3,000,000	10,000	2,000	3%	12%	8%	17%	1%	80%	1%	0%
Scenario #2.20	1,000	50	10,000	20,000	2,000	6%	11%	9%	78%	4%	8%	8%	2%
Scenario #2.21	1,000	50	10,000	50,000	2,000	7%	11%	9%	75%	4%	8%	12%	2%
Scenario #2.22	1,000	50	10,000	80,000	2,000	8%	11%	10%	72%	3%	8%	15%	2%
Scenario #2.23	1,000	50	10,000	100,000	2,000	8%	11%	10%	70%	3%	8%	17%	2%
Scenario #2.24	1,000	50	10,000	300,000	2,000	9%	10%	10%	57%	3%	6%	32%	2%
Scenario #2.25	1,000	50	10,000	500,000	2,000	7%	9%	8%	49%	2%	5%	42%	1%
Scenario #2.26	1,000	50	10,000	1,000,000	2,000	5%	7%	6%	37%	2%	4%	57%	1%
Scenario #2.27	1,000	50	10,000	2,000,000	2,000	4%	5%	5%	25%	1%	3%	71%	1%
Scenario #2.28	1,000	50	10,000	3,000,000	2,000	3%	4%	4%	19%	1%	2%	78%	1%
Scenario #2.29	1,000	50	10,000	10,000	5,000	7%	13%	10%	77%	4%	8%	6%	5%
Scenario #2.30	1,000	50	10,000	10,000	7,000	7%	15%	11%	75%	4%	8%	6%	7%
Scenario #2.31	1,000	50	10,000	10,000	10,000	8%	18%	13%	73%	4%	8%	6%	10%
Scenario #2.32	1,000	50	10,000	10,000	15,000	9%	21%	15%	70%	3%	7%	5%	14%
Scenario #2.33	1,000	50	10,000	10,000	30,000	11%	24%	18%	61%	3%	7%	5%	25%
Scenario #2.34	1,000	50	10,000	10,000	50,000	13%	26%	20%	53%	3%	6%	4%	35%
Scenario #2.35	1,000	50	10,000	10,000	100,000	15%	26%	21%	39%	2%	4%	3%	52%
Scenario #2.36	1,000	50	10,000	10,000	200,000	9%	18%	14%	26%	1%	3%	2%	68%
Scenario #2.37	1,000	50	10,000	10,000	400,000	5%	11%	8%	15%	1%	2%	1%	81%
Scenario #2.38	1,000	60	20,000	20,000	5,000	9%	16%	13%	72%	4%	12%	7%	5%
Scenario #2.39	1,000	75	50,000	50,000	7,000	13%	21%	17%	61%	4%	19%	10%	6%
Scenario #2.40	1,000	90	80,000	80,000	10,000	15%	25%	20%	54%	4%	23%	11%	7%
Scenario #2.41	1,000	120	100,000	100,000	15,000	18%	28%	23%	49%	5%	24%	12%	10%
Scenario #2.42	1,000	200	300,000	300,000	30,000	24%	35%	30%	32%	5%	32%	18%	13%
Scenario #2.43	1,000	300	500,000	500,000	50,000	27%	39%	33%	24%	6%	34%	21%	16%
Scenario #2.44	1,000	400	1,000,000	1,000,000	100,000	30%	38%	34%	16%	5%	35%	24%	21%
Scenario #2.45	1,000	500	2,000,000	2,000,000	200,000	28%	34%	31%	10%	4%	34%	27%	26%
Scenario #2.46	1,000	600	3,000,000	3,000,000	400,000	24%	35%	30%	6%	3%	30%	26%	34%
Scenario #2.47	1,000	50	3,000,000	3,000,000	400,000	63%	33%	48%	7%	0%	30%	27%	35%
Scenario #2.48	1,000	600	10,000	3,000,000	400,000	20%	14%	17%	9%	4%	1%	37%	48%
Scenario #2.49	1,000	600	3,000,000	10,000	400,000	9%	39%	24%	9%	4%	40%	1%	47%
Scenario #2.50	1,000	600	3,000,000	3,000,000	2,000	13%	14%	14%	10%	5%	45%	40%	0%

Notes:

- Each scenario includes a different mix of dwelling units, hotel rooms and non-residential development.
- Using the ITE 9th Edition handbook, AM and PM Peak Hour trip generation rates are applied to each land use and each development scenario. This results in the total AM and PM Peak Hour trips. Using the direction distribution provided in the ITE handbook, the “entering” and “exiting” trips are determined.
- The resulting trips are entered into the NCHRP internal capture model which outputs the internal capture percentages for both AM and PM Peak Hour.
- The average internal capture shown in the tab above reflects the average of the AM and PM Peak Hour internal capture.
- The trip distribution illustrates the proportion of trip that is attributed to each land use in each scenario. The scenarios which include a balanced distribution of trip tend to yield higher internal capture.

FINAL REPORT - APPENDIX K

Table A-11
Comparison of Mixed-Use Internal Capture

Scenario	Single Family DU's	Hotel Rooms	Retail Sq Ft	Office Sq Ft	Restaurant Sq Ft	AM Peak Hr: IC %	PM Peak Hr: IC %	Average Internal Capture %	Trip Distribution				
									Single Family	Hotel	Retail	Office	Restaurant
Scenario #3.01	5,000	50	10,000	10,000	2,000	1%	3%	2%	95%	1%	2%	2%	1%
Scenario #3.02	5,000	60	10,000	10,000	2,000	1%	3%	2%	94%	1%	2%	2%	1%
Scenario #3.03	5,000	75	10,000	10,000	2,000	1%	3%	2%	94%	1%	2%	2%	1%
Scenario #3.04	5,000	90	10,000	10,000	2,000	1%	3%	2%	94%	2%	2%	2%	1%
Scenario #3.05	5,000	120	10,000	10,000	2,000	1%	3%	2%	93%	2%	2%	2%	1%
Scenario #3.06	5,000	200	10,000	10,000	2,000	1%	3%	2%	92%	3%	2%	2%	1%
Scenario #3.07	5,000	300	10,000	10,000	2,000	1%	4%	3%	91%	5%	2%	2%	1%
Scenario #3.08	5,000	400	10,000	10,000	2,000	1%	4%	3%	89%	6%	2%	2%	1%
Scenario #3.09	5,000	500	10,000	10,000	2,000	1%	4%	3%	88%	8%	2%	1%	1%
Scenario #3.10	5,000	600	10,000	10,000	2,000	1%	4%	3%	87%	9%	2%	1%	1%
Scenario #3.11	5,000	50	20,000	10,000	2,000	1%	4%	3%	93%	1%	3%	2%	1%
Scenario #3.12	5,000	50	50,000	10,000	2,000	2%	6%	4%	91%	1%	6%	2%	1%
Scenario #3.13	5,000	50	80,000	10,000	2,000	2%	7%	5%	89%	1%	8%	2%	1%
Scenario #3.14	5,000	50	100,000	10,000	2,000	2%	7%	5%	88%	1%	9%	1%	1%
Scenario #3.15	5,000	50	300,000	10,000	2,000	3%	11%	7%	80%	1%	18%	1%	0%
Scenario #3.16	5,000	50	500,000	10,000	2,000	3%	14%	9%	75%	1%	23%	1%	0%
Scenario #3.17	5,000	50	1,000,000	10,000	2,000	3%	17%	10%	66%	1%	32%	1%	0%
Scenario #3.18	5,000	50	2,000,000	10,000	2,000	3%	21%	12%	55%	1%	43%	1%	0%
Scenario #3.19	5,000	50	3,000,000	10,000	2,000	3%	23%	13%	49%	1%	49%	1%	0%
Scenario #3.20	5,000	50	10,000	20,000	2,000	1%	3%	2%	94%	1%	2%	2%	1%
Scenario #3.21	5,000	50	10,000	50,000	2,000	2%	3%	3%	93%	1%	2%	3%	1%
Scenario #3.22	5,000	50	10,000	80,000	2,000	2%	4%	3%	92%	1%	2%	4%	1%
Scenario #3.23	5,000	50	10,000	100,000	2,000	2%	4%	3%	91%	1%	2%	5%	1%
Scenario #3.24	5,000	50	10,000	300,000	2,000	3%	5%	4%	86%	1%	2%	11%	1%
Scenario #3.25	5,000	50	10,000	500,000	2,000	3%	5%	4%	81%	1%	2%	15%	0%
Scenario #3.26	5,000	50	10,000	1,000,000	2,000	3%	5%	4%	72%	1%	2%	25%	0%
Scenario #3.27	5,000	50	10,000	2,000,000	2,000	3%	5%	4%	60%	1%	1%	38%	0%
Scenario #3.28	5,000	50	10,000	3,000,000	2,000	3%	4%	4%	52%	1%	1%	46%	0%
Scenario #3.29	5,000	50	10,000	10,000	5,000	2%	4%	3%	94%	1%	2%	2%	1%
Scenario #3.30	5,000	50	10,000	10,000	7,000	2%	5%	4%	93%	1%	2%	2%	2%
Scenario #3.31	5,000	50	10,000	10,000	10,000	2%	5%	4%	93%	1%	2%	2%	3%
Scenario #3.32	5,000	50	10,000	10,000	15,000	2%	6%	4%	91%	1%	2%	2%	4%
Scenario #3.33	5,000	50	10,000	10,000	30,000	3%	8%	6%	88%	1%	2%	1%	8%
Scenario #3.34	5,000	50	10,000	10,000	50,000	4%	10%	7%	84%	1%	2%	1%	12%
Scenario #3.35	5,000	50	10,000	10,000	100,000	7%	12%	10%	74%	1%	2%	1%	22%
Scenario #3.36	5,000	50	10,000	10,000	200,000	10%	15%	13%	61%	1%	1%	1%	36%
Scenario #3.37	5,000	50	10,000	10,000	400,000	14%	18%	16%	45%	0%	1%	1%	53%
Scenario #3.38	5,000	60	20,000	20,000	5,000	2%	5%	4%	92%	1%	3%	2%	1%
Scenario #3.39	5,000	75	50,000	50,000	7,000	4%	7%	6%	88%	1%	6%	3%	2%
Scenario #3.40	5,000	90	80,000	80,000	10,000	5%	10%	8%	84%	2%	8%	4%	2%
Scenario #3.41	5,000	120	100,000	100,000	15,000	6%	12%	9%	81%	2%	9%	4%	4%
Scenario #3.42	5,000	200	300,000	300,000	30,000	11%	19%	15%	68%	3%	15%	8%	6%
Scenario #3.43	5,000	300	500,000	500,000	50,000	15%	24%	20%	59%	3%	18%	11%	9%
Scenario #3.44	5,000	400	1,000,000	1,000,000	100,000	20%	31%	26%	46%	3%	22%	16%	13%
Scenario #3.45	5,000	500	2,000,000	2,000,000	200,000	25%	37%	31%	33%	3%	25%	20%	19%
Scenario #3.46	5,000	600	3,000,000	3,000,000	400,000	27%	44%	36%	24%	3%	24%	22%	28%
Scenario #3.47	5,000	50	3,000,000	3,000,000	400,000	57%	41%	49%	24%	0%	25%	22%	29%
Scenario #3.48	5,000	600	10,000	3,000,000	400,000	23%	19%	21%	31%	3%	1%	28%	37%
Scenario #3.49	5,000	600	3,000,000	10,000	400,000	16%	48%	32%	30%	3%	30%	1%	36%
Scenario #3.50	5,000	600	3,000,000	3,000,000	2,000	10%	23%	17%	33%	3%	33%	30%	0%

Notes:

- Each scenario includes a different mix of dwelling units, hotel rooms and non-residential development.
- Using the ITE 9th Edition handbook, AM and PM Peak Hour trip generation rates are applied to each land use and each development scenario. This results in the total AM and PM Peak Hour trips. Using the direction distribution provided in the ITE handbook, the “entering” and “exiting” trips are determined.
- The resulting trips are entered into the NCHRP internal capture model which outputs the internal capture percentages for both AM and PM Peak Hour.
- The average internal capture shown in the tab above reflects the average of the AM and PM Peak Hour internal capture.
- The trip distribution illustrates the proportion of trips that is attributed to each land use in each scenario. The scenarios which include a balanced distribution of trips tend to yield higher internal capture.

FINAL REPORT - APPENDIX K

Appendix B Cost Component Calculations

FINAL REPORT - APPENDIX K

Appendix B: Cost Component

This appendix presents the detailed calculations for the cost component of the mobility/multimodal fee update. Backup data and assumptions are provided for all cost variables, including:

- Design
- Right-of-Way
- Construction
- Construction engineering/inspection
- Roadway capacity
- Transit capital costs

Design

County Roadways

The design cost factor for county roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the design-to-construction cost ratios from previously completed impact studies throughout Florida. For county roadways from throughout Florida, the design factors ranged from 10 percent to 14 percent with a weighted average of 11 percent. For purposes of this study, the design cost for county roads is estimated at 11 percent of the construction cost per lane mile. Table B-1 provides additional information.

State Roadways

The design cost factor for state roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the design-to-construction cost ratios for state road unit costs in previously completed transportation impact studies throughout Florida. For state roadways, the design factors ranged from 10 percent to 11 percent, with a weighted average of 11 percent. For purposes of this study, the design cost for state roads is estimated at 11 percent of the construction cost per lane mile. Table B-1 provides further detail.

FINAL REPORT - APPENDIX K

Table B-1
Design Cost Factor for County and State Roads – Recent Impact Fee Studies

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		Design	Constr.	Design Ratio	Design	Constr.	Design Ratio
2012	Osceola	\$371,196	\$2,651,400	14%	\$313,258	\$2,847,800	11%
2012	Orange	\$264,000	\$2,400,000	11%	-	-	n/a
2012	City of Orlando	\$288,000	\$2,400,000	12%	\$319,000	\$2,900,000	11%
2012	City of Sarasota	\$240,000	\$2,400,000	10%	\$286,000	\$2,600,000	11%
2013	Hernando	\$198,000	\$1,980,000	10%	\$222,640	\$2,024,000	11%
2013	Charlotte	\$220,000	\$2,200,000	10%	\$240,000	\$2,400,000	10%
2014	Indian River	\$159,000	\$1,598,000	10%	\$196,000	\$1,776,000	11%
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
2018	City of Tampa	\$403,000	\$3,100,000	13%	-	-	n/a
2018	City of Hallandale Beach	\$171,000	\$1,710,000	10%	\$337,000	\$3,060,000	11%
2018	City of Oviedo	\$319,000	\$2,900,000	11%	-	-	n/a
2018	Collier	\$385,000	\$3,500,000	11%	\$385,000	\$3,500,000	11%
Average		\$259,905	\$2,345,863	11%	\$286,575	\$2,642,817	11%

Source: Recent impact fee studies conducted throughout Florida

FINAL REPORT - APPENDIX K

Right-of-Way

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

County Roadways

For impact fee purposes, the ROW cost for county roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the ROW-to-construction cost ratios from previously completed impact studies throughout Florida. For county roadways throughout Florida, the ROW factors ranged from 26 percent to 60 percent with a weighted average of 41 percent. For purposes of this study, the ROW cost for county roads is estimated at 40 percent of the construction cost per lane mile. Table B-2 provides additional information.

State Roadways

Similar to county roads, the ROW cost of state roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the ROW-to-construction cost ratios from previously completed impact studies throughout Florida. For state roadways throughout Florida, the ROW factors ranged from 32 percent to 60 percent with a weighted average of 43 percent. For purposes of this study, the ROW cost for state roads is estimated at 40 percent of the construction cost per lane mile. Table B-2 provides further detail.

FINAL REPORT - APPENDIX K

Table B-2
Right-of-Way Cost Factor for County and State Roads – Recent Impact Fee Studies

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		ROW	Constr.	ROW Ratio	ROW	Constr.	ROW Ratio
2012	Osceola	\$1,087,074	\$2,651,400	41%	\$1,167,598	\$2,847,800	41%
2012	Orange	\$1,080,000	\$2,400,000	45%	-	-	n/a
2012	City of Orlando	\$1,080,000	\$2,400,000	45%	\$1,305,000	\$2,900,000	45%
2012	City of Sarasota	\$620,000	\$2,400,000	26%	\$1,144,000	\$2,600,000	44%
2013	Hernando	\$811,800	\$1,980,000	41%	\$890,560	\$2,024,000	44%
2013	Charlotte	\$1,034,000	\$2,200,000	47%	\$1,128,000	\$2,400,000	47%
2014	Indian River	\$656,000	\$1,598,000	41%	\$781,000	\$1,776,000	44%
2015	Collier	\$863,000	\$2,700,000	32%	\$863,000	\$2,700,000	32%
2015	Brevard	\$708,000	\$2,023,000	35%	\$1,006,000	\$2,785,000	36%
2015	Sumter	\$945,000	\$2,100,000	45%	\$1,127,000	\$2,505,000	45%
2015	Marion	\$1,001,000	\$1,668,000	60%	\$1,236,000	\$2,060,000	60%
2015	Palm Beach	\$721,000	\$1,759,000	41%	\$1,333,000	\$3,029,000	44%
2016	Hillsborough	\$1,448,000	\$2,897,000	50%	\$1,448,000	\$2,897,000	50%
2017	St. Lucie	\$990,000	\$2,200,000	45%	\$1,395,000	\$3,100,000	45%
2017	Clay	\$954,000	\$2,385,000	40%	-	-	n/a
2018	Collier	\$1,208,000	\$3,500,000	35%	\$1,208,000	\$3,500,000	35%
Average		\$950,430	\$2,303,838	41%	\$1,131,930	\$2,635,317	43%

Source: Recent impact fee studies conducted throughout Florida

FINAL REPORT - APPENDIX K

Construction

To determine the average construction cost per lane mile for roadway capacity-expansion in Martin County, recent project costs provided by staff, the Capital Improvement Program, and the MPO's 2040 Long Range Transportation Plan were reviewed. Although these documents included lane addition projects, figures did not appear to include all related cost and were not separated for various phases. Therefore, no local data roadway construction cost data was available for the mobility/multimodal fee calculation.

County Roadways

With limited local data, a review of recently bid projects (from 2012 to 2018) throughout the state of Florida was conducted. As shown in Table B-3, a total of 30 projects from 12 different counties were identified with a weighted average cost of approximately \$2.80 million per lane mile. Of these improvements, seven (7) project were located in FDOT District 4, averaging approximately \$3.34 million per lane mile. Based on this review, a county roadway cost of \$2.80 million per lane mile was used in the mobility/multimodal fee calculation.

FINAL REPORT - APPENDIX K

Table B-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	
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 (CR 35A) 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	S. of SR 40	N. of Peruvian Ln	2012	Bid	2 to 4	Urban	0.89	2	1.78	\$5,276,057	\$2,964,077	
Palm Beach	4	Jog Rd	N. of SR 710	N. of Florida's Turnpike	2012	Bid	0 to 4	Urban	0.70	4	2.80	\$3,413,874	\$1,219,241	
Palm Beach	4	West Atlantic Ave	W. of Lyons Rd	Starkey Rd	2012	Bid	2 to 4	Urban	0.80	2	1.60	\$8,818,727	\$5,511,704	
Palm Beach	4	60th St N & SR 7 Ext.	E. of Royal Palm Beach Blvd	SR 7	2012	Bid	0 to 2	Urban	1.50	2	3.00	\$3,821,404	\$1,273,801	
Brevard	5	Babcock St	S. of Foundation Park Blvd	Malabar Rd	2013	Bid	2 to 4	Urban	12.40	2	24.80	\$56,000,000	\$2,258,065	
Collier	1	Collier Blvd (CR 951)	Golden Gate Blvd	Green Blvd	2013	Bid	4 to 6	Urban	2.00	2	4.00	\$17,122,640	\$4,280,660	
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	
Collier	1	Golden Gate Blvd	Wilson Blvd	Desoto Blvd	2014	Bid	2 to 4	Urban	2.40	2	4.80	\$16,003,504	\$3,334,063	
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	\$6,166,000	\$2,202,143	
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	
Lake	5	N Hancock Rd Ext.	Old 50	Gatewood Dr	2014	Bid	0/2 to 4	Urban	1.50	2/4	5.00	\$8,185,574	\$1,637,115	
Polk	1	CR 655 & CR 559A	Pace Rd & N of CR 559A	N of CR 559A & SR 599	2014	Bid	2 to 4	Urban	2.60	2	5.20	\$10,793,552	\$2,075,683	
Volusia	5	Howland Blvd	Courtland Blvd	N of SR 415	2014	Bid	2 to 4	Urban	2.08	2	4.16	\$11,110,480	\$2,670,788	
Hillsborough	7	Citrus Park Extension	Sheldon Dr	Countryway Blvd	2015	Bid	0 to 4	Urban	2.70	4	10.80	\$46,942,585	\$4,346,536	
Polk	1	Ernie Caldwell Blvd	Pine Tree Tr	US 17/92	2015	Bid	0 to 4	Urban	2.41	4	9.64	\$19,535,391	\$2,026,493	
Volusia	5	LPGA Blvd	Jimmy Ann Dr/Grand Reserve	Derbyshire Rd	2016	Bid	2 to 4	Urban	0.68	2	1.36	\$3,758,279	\$2,763,440	
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	
Volusia	5	Howland Blvd	Providence Blvd	Elkcam Blvd	2017	Bid	2 to 4	Urban	2.15	2	4.30	\$10,850,000	\$2,523,256	
Volusia	5	Orange Camp Rd	MLK Blvd	I-4 in DeLand	2017	Bid	2 to 4	Urban	0.75	2	1.50	\$10,332,000	\$6,888,000	
Lake	5	CR 466A, Ph. IIIA	Poinsettia Ave	Century Ave	2018	Bid	2 to 4	Urban	0.42	2	0.84	\$3,062,456	\$3,645,781	
Hillsborough	7	Van Dyke Rd	Suncoast Pkwy	Whirley Ave	2018	Estimate	2 to 4	Urban	2.05	2	4.10	\$20,000,000	\$4,878,049	
Total										Count:	30	139.02	\$389,576,169	\$2,802,303
District 4 ONLY										Count:	7	21.34	\$71,199,297	\$3,336,424

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

FINAL REPORT - APPENDIX K

State Roadways

A review of construction cost data for recent state roadway capacity expansion projects identified two (2) improvements in Martin County:

- CR 714/Indian St from Turnpike/Martin Downs Blvd to E. of Mapp Rd
- Kanner Hwy from S. of Pratt Whitney Rd (CR 711) to SW Jack James Dr

As shown in Table B-4, these improvements had a weighted average construction cost of approximately \$3.65 million, ranging from \$3.32 million to \$3.99 million per lane mile.

In addition to local data, a review of recently bid projects located throughout the state of Florida was conducted. As shown in Table B-4, a total of 76 projects from 33 different counties were identified with a weighted average cost of approximately \$3.84 million per lane mile (all improvements are urban-design). The FDOT District 7 Long Range Estimates¹ were also reviewed and provided an average construction cost of approximately \$4.23 million per lane mile.

Based on this review, a state roadway cost of \$3.70 million per lane mile was used in the mobility/multimodal fee calculation for state roads.

¹ This data was not available for FDOT District 4

FINAL REPORT - APPENDIX K

**Table B-4
Construction Cost – State Road Improvements from Martin County and Other Jurisdictions throughout Florida**

County	District	Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Collier	1	SR 84 (Davis Blvd)	E. of Santa Barbara Blvd	W. of Radio Rd	2012	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	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	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	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	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	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	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	0 to 2	Urban	3.14	2	6.28	\$13,231,111	\$2,106,865
Hendry	1	SR 80	Birchwood Pkwy	Dalton Lane	2012	2 to 4	Urban	5.00	2	10.00	\$12,855,092	\$1,285,509
Hendry	1	SR 80	CR 833	US 27	2012	2 to 4	Urban	2.90	2	5.80	\$8,117,039	\$1,399,489
Lee	1	SR 739	Winkler Ave	Hanson St	2012	0 to 6	Urban	1.34	6	8.04	\$14,025,932	\$1,744,519
Seminole	5	SR 434	I-4	Rangeline Rd	2012	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	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	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	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	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	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	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	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	2 to 4	Sub-Urb	1.81	2	3.62	\$15,758,965	\$4,353,305
Lee	1	US 41 Business	Littleton Rd	SR 739	2013	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	2 to 4	Urban	3.80	2	7.60	\$22,773,660	\$2,996,534

FINAL REPORT - APPENDIX K

Table B-5 (continued)

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

County	District	Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
Seminole	5	SR 46	Mellonville Ave	E. of SR 415	2016	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	4 to 6	Urban	2.35	2	4.70	\$27,752,000	\$5,904,681
Palm Beach	4	SR 80	W. of Lion County Safari Rd	Forest Hill Blvd	2018	4 to 6	Urban	7.20	2	14.40	\$32,799,566	\$2,277,748
Wakulla	3	SR 369 (US 19)	N. of SR 267	Leon Co. Line	2018	2 to 4	Urban	2.24	2	4.48	\$15,646,589	\$3,492,542
St. Lucie	4	SR 713 (Kings Hwy)	S. of SR 70	SR 9 (I-95) Overpass	2018	2 to 4	Urban	3.42	2	6.84	\$45,162,221	\$6,602,664
Citrus	7	SR 55 (US 19)	W. Jump Ct	CR 44 (W Fort Island Tr)	2018	4 to 6	Urban	4.81	2	9.62	\$50,444,444	\$5,243,705
Miami-Dade	6	SR 847 (NW 47th Ave)	SR 860 (NW 183rd St)	N. of NW 199th St	2018	2 to 4	Urban	1.31	2	2.62	\$18,768,744	\$7,163,643
Miami-Dade	6	SR 847 (NW 47th Ave)	N. of NW 199th St and S of NW 203 St	Premier Pkwy and N of S Snake CR Canal	2018	2 to 4	Urban	1.09	2	2.18	\$10,785,063	\$4,947,277
Hillsborough	7	CR 580 (Sam Allen Rd)	W. of SR 39 (Paul Buchman Hwy)	E. of Park Rd	2018	2 to 4	Urban	2.02	2	4.04	\$23,444,444	\$5,803,080
Orange	5	SR 414 (Maitland Blvd)	E. of I-4	E. of CR 427 (Maitland Ave)	2018	4 to 6	Urban	1.39	2	2.78	\$7,136,709	\$2,567,162
Sarasota	1	SR 45A (US 41) (Venice Bypass)	Center Rd	Gulf Coast Blvd	2018	4 to 6	Urban	1.19	2	2.38	\$15,860,000	\$6,663,866
Martin	4	Kanner Hwy	S. of Pratt Whitney Rd (CR 711)	SW Jack James Dr	2019	2 to 4	Urban	1.94	2	3.88	\$12,892,089	\$3,322,703
Hernando	7	CR 578 (County Line Rd)	Suncoast Pkwy	US 41 @ Ayers Rd	2019	0 to 4	Urban	1.49	4	5.96	\$20,155,312	\$3,381,764
Seminole	5	SR 46	Orange Blvd	N. Oregon St (Wekiva Section 7B)	2019	4 to 6	Urban	1.30	2	2.60	\$17,848,966	\$6,864,987
Miami-Dade	6	SR 997 (Krome Ave)	SW 312 St	SW 232nd St	2019	2 to 4	Urban	3.64	2	7.28	\$30,374,141	\$4,172,272
Duval	2	Jax National Cemetery Access Rd	Lannie Rd	Arnold Rd	2019	0 to 2	Urban	3.26	2	6.52	\$11,188,337	\$1,716,003
Pasco	7	SR 52	W. of Suncoast Pkwy	E. of SR 45 (US 41)	2019	4 to 6	Urban	4.64	2	9.28	\$45,307,439	\$4,882,267
Total								Count:	78	443.67	\$1,701,723,030	\$3,835,560
Martin County ONLY								Count:	2	7.62	\$27,828,046	\$3,651,975
Total, Excluding Martin County								Count:	76	436.05	\$1,673,894,984	\$3,838,768
District 4 ONLY								Count:	12	49.10	\$224,340,311	\$4,569,049
District 4 ONLY, Excluding Martin County								Count:	10	41.48	\$196,512,265	\$4,737,518

Source: Florida Department of Transportation Bid Tabs

FINAL REPORT - APPENDIX K

Construction Engineering/Inspection

County Roadways

The CEI cost factor for county roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the CEI-to-construction cost ratios from previously completed impact studies throughout Florida. For county roadways from throughout Florida, the CEI factors ranged from three (3) percent to 17 percent with a weighted average of nine (9) percent. For purposes of this study, the CEI cost for county roads is estimated at nine (9) percent of the construction cost per lane mile. Table B-5 provides additional information.

State Roadways

The CEI cost factor for state roads was estimated as a percentage of the construction cost per lane mile. Due to limited local data, this factor was determined through a review of the CEI-to-construction cost ratios for state road unit costs in previously completed transportation impact studies throughout Florida. For state roadways, the CEI factors ranged from 10 percent to 11 percent, with a weighted average of 11 percent. For purposes of this study, the CEI cost for state roads is estimated at 11 percent of the construction cost per lane mile. Table B-5 provides additional information.

FINAL REPORT - APPENDIX K

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

Year	County	County Roadways (Cost per Lane Mile)			State Roadways (Cost per Lane Mile)		
		CEI	Constr.	CEI Ratio	CEI	Constr.	CEI Ratio
2012	Osceola	\$265,140	\$2,651,400	10%	\$313,258	\$2,847,800	11%
2012	City of Sarasota	\$216,000	\$2,400,000	9%	\$286,000	\$2,600,000	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
2018	Collier	\$315,000	\$3,500,000	9%	\$385,000	\$3,500,000	11%
Average		\$207,596	\$2,290,100	9%	\$3,698,898	\$34,313,800	11%

Source: Recent impact fee studies conducted throughout Florida

FINAL REPORT - APPENDIX K

Roadway Capacity

As shown in Table B-6, the average capacity per lane mile was based on the projects in the Martin MPO's 2040 Long Range Transportation Needs Plan. This listing of projects reflects the mix of improvements that will yield the vehicle-miles of capacity (VMC) that will be built in Martin County. The 2040 LRTP list was published in 2014 with projected impact fee revenues averaging \$3.1 million per year. Based on recent collection data provided by Martin County, the transportation impact fees are only generating approximately \$1.1 million per year. As detailed in the LRTP, the impact fee revenues make up half of the future capital funding and the 2nd local option fuel taxes account for the other half. With impact fee revenues generating less than projected annual revenues, the cost feasible improvements will not have sufficient funding. Therefore, for mobility/multimodal fee calculation purposes, the lane miles of projected County road improvements were reduced by 1/3 to account for this potential funding shortfall. The resulting weighted average capacity per lane mile of 14,600 was used in the impact fee calculation.

FINAL REPORT - APPENDIX K

Table B-6

Martin MPO 2040 Long Range Transportation Plan: Moving Martin Forward – Cost Feasible Plan

Owner	Description	From	To	Improvement	Length	Lanes Added	Lane Miles Added	Section Design*	Initial Capacity	Future Capacity	Added Capacity	Vehicle Miles of Capacity Added	VMC Added per Lane Mile	
Cost Feasible Plan														
State	SR 714 (Martin Hwy)	CR 76A (Citrus Blvd)	Martin Downs Blvd	Widen from 2 to 4 Lanes	0.88	2	1.76	Urban	17,700	39,800	22,100	19,448	11,050	
County	CR 713 (High Meadow Ave)	I-95	CR 714 (Martin Hwy)	Widen from 2 to 4 Lanes	2.64	2	5.28	Urban	24,200	65,600	41,400	109,296	20,700	
County	Indian St	SR 76 (Kanner Hwy)	Willoughby Blvd	Widen from 4 to 6 Lanes	0.45	2	0.90	Urban	35,820	53,910	18,090	8,141	9,046	
County	Willoughby Blvd	Monterey Rd	SR 5 (US 1)	New 2-Lane Road	0.84	2	1.68	Urban	0	15,930	15,930	13,381	7,965	
County	Cove Rd	SR 76 (Kanner Hwy)	US 1	Widen from 2 to 4 Lanes	3.20	2	6.40	Urban	15,930	35,820	19,890	63,648	9,945	
County	Cove Rd	US 1	CR A1A	Widen from 2 to 4 Lanes	1.12	2	2.24	Urban	13,320	29,160	15,840	17,741	7,920	
County	Village Pkwy Ext.	Martin Hwy	St. Lucie County Line	New 4-Lane Road	1.00	4	4.00	Urban	0	35,820	35,820	35,820	8,955	
SIS Needs Plan														
State	SR 710 (Warfield Blvd)	Martin Powerplant	CR 609 (Allapattah Rd)	Widen from 2 to 4 Lanes	8.82	2	17.64	Urban	8,400	40,300	31,900	281,358	15,950	
State	SR 710 (Warfield Blvd)	Okeechobee/Martin Co. Line	Martin Powerplant	Widen from 2 to 4 Lanes	6.14	2	12.28	Urban	8,400	40,300	31,900	195,866	15,950	
Total (All Roads):							52.18					744,699	14,272	
County Roads:							20.50			39% (a)			248,027	12,099
State Roads:							31.68			61% (b)			496,672	15,678
New Road Construction:							5.68			11% (c)			49,201	8,662
Lane Addition:							46.50			89% (d)			695,498	14,957
Adjusted Distribution ⁽¹⁾														
County Roads:							13.67			30% (e)			165,351	12,096
State Roads:							31.68			70% (f)			496,672	15,678
												VMC Added per Lane Mile:	14,600	

Source: Martin MPO 2040 Long Range Transportation Cost Feasible Plan

1) Given that transportation impact fee revenues collected have been one third of what was estimated in the 2040 LRTP, the associated County road lane miles (and vehicle-miles of capacity added) projected in 2040 LRTP were reduced by approximately 1/3.

FINAL REPORT - APPENDIX K

Transit Capital Costs

In the case of mobility/multimodal fees, 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 B-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. An optimistic load factor of 30 percent was assumed for the transit model, resulting in a conservative approach.

Next, Table B-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 19-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 B-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 B-8) 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 two (2) percent and five (5) percent.

FINAL REPORT - APPENDIX K

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 Martin MPO's 2040 Long Range Transportation Cost Feasible Plan. As shown, the plan calls for a 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 3.13 percent. Essentially, adding transit does not have a significant effect on 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 B-7 and B-8 assumes that transit-miles and road-miles will be added to the system at the same rate. If the County builds more transit-miles, this would increase the bus traffic on existing roads, adding more stops, higher stop frequency, and create 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 3.13 percent change calculated in Table B-8 would increase to approximately 6.26 percent. The annual construction figures for transit-miles and road-miles should be tracked by the County and adjusted for in subsequent mobility/multimodal fee update studies.

FINAL REPORT - APPENDIX K

Table B-7

Mobility/Multimodal Cost per Person-Mile of Capacity

Input	Local Transit	
Transit Person-Miles of Capacity Calculation		
Vehicle Capacity ⁽¹⁾	42	1) Source: Local transit is assumed to have 30 seats with a 40 percent standing room capacity equivalent
Number of Vehicles (20% fleet margin) ⁽²⁾	4	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⁾	12	3) Source: Assumption based on current Marty routes
Cycles/Hour (aka Peak Vehicles) ⁽⁴⁾	2.00	4) Headway time (Item 6) divided by 60
Cycles per Day ⁽⁵⁾	24	5) Service span (Item 3) multiplied by the cycles/hour (Item 4)
Headway Time (minutes) ⁽⁶⁾	30	6) Source: Assumption based on current Marty routes
Speed (mph) ⁽⁷⁾	15	7) Source: Integrated National Transit Database Analysis System (INTDAS). 6-yr average
Round Trip Length (miles) ⁽⁸⁾	19.0	8) Source: Average trip length of current Marty routes
Cycle Time (minutes) ⁽⁹⁾	76	9) Round trip length (Item 8) divided by speed (Item 7) multiplied by 60
Total Person-Miles of Capacity ⁽¹⁰⁾	19,152	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⁾	5,746	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⁾	\$480,512	15) Source: 2019 Marty Transit Development Plan (2020-2029)
Simple Bus Stop ⁽¹⁶⁾	\$10,300	16) Source: 2019 Marty Transit Development Plan (2020-2029)
Sheltered Bus Stop ⁽¹⁷⁾	\$36,000	17) Source: 2019 Marty Transit Development Plan (2020-2029)

FINAL REPORT - APPENDIX K

Table B-8

Mobility/Multimodal Fee: Transit Component Model

Item	New Road Construction		Lane Additions	
	Roadway	Transit	Roadway	Transit
Roadway Characteristics:				
Roadway Cost per Mile ⁽¹⁾	\$11,080,000		\$11,080,000	
Roadway Segment Length (miles) ⁽²⁾	19.0		19.0	
Roadway Segment Cost ⁽³⁾	\$210,520,000	PMC	\$210,520,000	PMC
Average Capacity Added (per mile) ⁽⁴⁾	29,200	37,960	29,200	37,960
VMC/PMC Added (entire segment) ⁽⁵⁾	554,800	721,240	554,800	721,240
Roadway Cost per VMC/PMC ⁽⁶⁾	\$379.45	\$291.89	\$379.45	\$291.89
Transit Capacity:				
Adjustment for Bus Blockage ⁽⁷⁾	3.2%	-	1.6%	-
VMC/PMC Added (transit deduction) ⁽⁸⁾	17,754	23,080	8,877	11,540
VMC/PMC Added (less transit deduction) ⁽⁹⁾	537,046	698,160	545,923	709,700
PMC Added (transit addition ONLY) ⁽¹⁰⁾		5,746		5,746
Net PMC Added (transit effect included) ⁽¹¹⁾		703,906		715,446
Road/Transit Cost per PMC (Road Capital) ⁽¹²⁾		\$299.07		\$294.25
Transit Infrastructure:				
Buses Needed ⁽¹³⁾	4	\$1,922,048	4	\$1,922,048
Stops per mile (both sides of street) ⁽¹⁴⁾	3	\$1,174,200	3	\$1,174,200
Shelters per mile (both sides of street) ⁽¹⁵⁾	1	\$1,368,000	1	\$1,368,000
Total infrastructure ⁽¹⁶⁾		\$4,464,248		\$4,464,248
Multi-Modal Cost per PMC:				
Road/Transit Cost per PMC ⁽¹⁷⁾		\$305.42		\$300.49
Percent Change ⁽¹⁸⁾		4.64%		2.95%
Weighted Multi-Modal Cost per PMC:				
Lane Mile Distribution ⁽¹⁹⁾		11%		89%
Weighted Roadway Cost per PMC ⁽²⁰⁾		\$32.11		\$259.78
Weighted Road/Transit Cost per PMC ⁽²¹⁾		\$33.60		\$267.44
Weighted Average Multi-Modal Cost per PMC:				
Weighted Average Roadway Cost per PMC (new road construction and lane additions) ⁽²²⁾				\$291.89
Weighted Average Road/Transit Cost per PMC (new road construction and lane additions) ⁽²³⁾				\$301.04
Percent Change ⁽²⁴⁾				3.13%

Source:

- 1) Source: Table 3, adjusted to cost "per mile"
- 2) Source: Average length of Marty route
- 3) Roadway cost per mile (Item 1) multiplied by the roadway segment length (Item 2)
- 4) Source: Table 4, 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 1.30 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 B-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 B-7, Item 2) multiplied by the vehicle cost (see Table B-7, Item 15)
- 14) Stops per mile (3) multiplied by the roadway segment length (Item 2) multiplied by the cost per stop (Table B-7, Item 16)
- 15) Shelters per mile (1) multiplied by the roadway segment length (Item 2) multiplied by the cost per shelter (Table B-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: Appendix B, Table B-6, Items (c) and (d). Lane mile distribution of new road construction versus lane addition
- 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)

FINAL REPORT - APPENDIX K

Appendix C Credit Component Calculations

FINAL REPORT - APPENDIX K

Appendix C: Credit Component

This appendix presents the detailed calculations for the credit component. Currently, in addition to the capital support that ultimately results from State fuel tax revenue, Martin County also receives financial benefit from several other funding sources. Of these, the fuel taxes collected in Martin 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 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 (6¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county.

FINAL REPORT - APPENDIX K

- 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 (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 ratio, or by using a formula contained in the Florida Statutes.

Each year, the Florida Legislature's Office of Economic and Demographic Research 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 2019-20 data represent projected fuel tax distributions to Martin County for the current fiscal year. In the table, the fuel tax revenue data are used to calculate the value per penny (per gallon of fuel) that should be used to estimate the "equivalent pennies" of other revenue sources. Table C-1 shows the distribution per penny for each of the fuel levies, and then the calculation of the weighted average for the value of a penny of fuel tax. The weighting procedure takes into account the differing amount of revenues generated for the various types of gas tax revenues. The weighted average figure of approximately \$834,000 estimates the annual revenue that one penny of gas tax generates in Martin County.

FINAL REPORT - APPENDIX K

Table C-1
Estimated Fuel Tax Distributions Allocated to Capital Program of
Martin County & Municipalities, FY 2019-20⁽¹⁾

Tax	Amount of Levy per Gallon	Total Distribution	Distribution per Penny
Constitutional Fuel Tax	\$0.02	\$1,990,850	\$995,425
County Fuel Tax	\$0.01	\$875,825	\$875,825
9th Cent Fuel Tax	\$0.01	\$898,706	\$898,706
1st Local Option (1-6 cents)	\$0.06	\$5,056,332	\$842,722
2nd Local Option (1-5 cents)	\$0.05	\$3,690,926	\$738,185
Total	\$0.15	\$12,512,639	
Weighted Average per Penny⁽²⁾			\$834,176

1) Source: Florida Legislature’s Office of Economic and Demographic Research; Local Government Financial Information Handbook
 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

A revenue credit for the annual expenditures on transportation capacity expansion projects in Martin County is presented below. The components of the credit are as follows:

- County “cash” funding
- County debt service
- State funding

The annual expenditures from each revenue source are converted to gas tax pennies to be able to create a connection between travel by each land use and tax revenue contributions.

County “Cash” Funding

As shown in Table C-2, when capacity funding for multi-modal projects is considered, Martin County uses 1.4 equivalent pennies from non-impact fee funding for projects such as new road construction, lane additions, transit lanes, sidewalks, bike lanes, and intersection improvements. Note that CIP projects using State funds are detailed in the “State Funding” section of this appendix.

FINAL REPORT - APPENDIX K

Table C-2
County Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽²⁾	Equivalent Pennies ⁽³⁾
Martin County CIP FY 2020-2024 ⁽¹⁾	\$6,031,759	5	\$834,176	\$0.014
Total				\$0.014

- 1) Source: Table C-5
- 2) Source: Table C-1
- 3) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) multiplied by 0.01

In addition, the County allocates an equivalent credit of 1.7 pennies for debt service associated with the Gas Tax Refunding Revenue Note, Series 2014, as shown in Table C-3. This credit is given for only the non-impact fee portion used for transportation capacity-expansion improvements. For the mobility/multimodal fee calculation, it was assumed that all debt funds are allocated to transportation capacity-expansion improvements.

Table C-3
County Debt Service Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽²⁾	Equivalent Pennies ⁽³⁾
Gas Tax Refunding Revenue Note, Series 2014 ⁽¹⁾	\$10,179,114	7	\$834,176	\$0.017
Total				\$0.017

- 1) Source: Table C-6
- 2) Source: Table C-1
- 3) Cost of projects divided by number of years divided by revenue from 1 penny (Item 4) multiplied by 0.01

State Funding

In the calculation of the equivalent pennies of gas tax from the State, expenditures on transportation capacity expansion spanning a 16-year period (from FY 2009 to FY 2024) were reviewed. This period represents past FDOT Work Program expenditures from FY 2009-2019 and also includes the projected FDOT Work Program expenditures from 2020 to 2024. From these, a list of improvements was developed, including lane additions, new road construction, intersection improvements, interchanges, traffic signal projects, sidewalks, bike lanes, transit, and other capacity-addition projects. The use of a 16-year period, for purposes of developing a State credit for mobility/multimodal capacity expansion projects, results in a stable credit, as it accounts for the volatility in FDOT spending in the county over short periods of time.

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

- FY 2009-2014 work plan equates to 8.9 pennies
- FY 2015-2019 work plan equates to 26.3 pennies

FINAL REPORT - APPENDIX K

- FY 2020-2024 work plan equates to 10.9 pennies

The combined weighted average over the 16-year period of state expenditure for capacity-adding mobility/multimodal projects results in a total of 15.0 equivalent pennies. Table C-4 documents this calculation. The specific projects that were used in the equivalent penny calculations are summarized in Table C-7.

Table C-4
State Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny ⁽⁴⁾	Equivalent Pennies ⁽⁵⁾
Projected Work Program (FY 2020-2024) ⁽¹⁾	\$45,633,794	5	\$834,176	\$0.109
Historical Work Program (FY 2015-2019) ⁽²⁾	\$109,784,519	5	\$834,176	\$0.263
Historical Work Program (FY 2009-2014) ⁽³⁾	<u>\$44,730,661</u>	<u>6</u>	\$834,176	\$0.089
Total	\$200,148,974	16	\$834,176	\$0.150

1) Source: Table C-7
 2) Source: Table C-7
 3) Source: Table C-7
 4) Source: Table C-1
 5) Cost of projects divided by number of years divided by revenue from 1 penny (Item 4) multiplied by 0.01

FINAL REPORT - APPENDIX K

Table C-5

Martin County Capital Improvement Program, FY 2020

Project #	Project Name	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
Public Transportation							
TBD	Bus Acquisition (Replacement & Expansion)	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$2,250,000
Roads							
101603	Salerno Rd - SE Cable Dr Turn Lane	\$302,744	\$0	\$0	\$0	\$0	\$302,744
101105	Ocean Blvd Sidewalk	\$0	\$0	\$0	\$500,000	\$0	\$500,000
101778	Urban Service District Dirt Road Paving	\$0	\$0	\$0	\$350,000	\$350,000	\$700,000
101104	NW Dixie Highway Sidewalk	\$404,015	\$0	\$0	\$0	\$0	\$404,015
1016	Intersection Improvements	\$375,000	\$375,000	\$375,000	\$375,000	\$375,000	\$1,875,000
Total - Mobility/Multimodal		\$1,531,759	\$825,000	\$825,000	\$1,675,000	\$1,175,000	\$6,031,759

Source: Martin County

Table C-6

Martin County Gas Tax Refunding Revenue Note, Series 2014

Year	Principal	Interest	Total Debt Service
FY 2020	\$2,234,000	\$184,745	\$2,418,745
FY 2021	\$2,284,000	\$320,119	\$2,604,119
FY 2022	\$2,334,000	\$269,642	\$2,603,642
FY 2023	\$2,386,000	\$218,061	\$2,604,061
FY 2024	\$2,439,000	\$165,330	\$2,604,330
FY 2025	\$2,493,000	\$111,428	\$2,604,428
FY 2026	\$2,549,000	\$56,333	\$2,605,333
Total	\$16,719,000	\$1,325,658	\$18,044,658
Non-Impact Fee Portion (56%)			\$10,105,008
Payments Remaining			7
Annual Average Payment			\$1,443,573

Source: Martin County

FINAL REPORT - APPENDIX K

Table C-7
Martin County FDOT Work Program

Item	Item Description	Work Mix Description	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	FY 2024	Total
230978-2	CR-714/INDIAN ST FROM TPK/MARTIN DOWNS BV TO W. OF MAPP ROAD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$1,115,597	\$756,314	\$17,898,762	\$142,212	\$858,860	\$85,310	\$567	\$569	\$0	\$0	\$0	\$0	\$0	\$20,858,191
230978-3	CR-714/INDIAN ST FROM E. OF KANNER HIGHWAY TO E. OF WILLOUGHBY BLVD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$39,764	\$318	\$38	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,120
404741-1	MARTIN CO JPA SIGNAL MAINTENANCE & OP ON SHS	TRAFFIC SIGNALS	\$92,572	\$96,622	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$189,194
409700-2	MARTIN CO SIGNAL SYS ENHANCED OPERATIONS	TRAFFIC SIGNAL UPDATE	\$134,000	\$136,000	\$143,000	\$144,814	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$557,814
413493-1	MARTIN COUNTY SECTION 5307 FORMULA FUNDS	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$947,902	\$972,027	\$897,195	\$0	\$4,676,700	\$905,000	\$905,000	\$905,000	\$905,000	\$905,000	\$905,000	\$12,018,824
413733-1	MARTIN MPO SECTION 5303 TRANSIT PLANNING	PTO STUDIES	\$44,156	\$0	\$60,428	\$122,748	\$59,316	\$36,071	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$322,719
413733-2	MARTIN MPO SECTION "5305D" TRANSIT PLANNING	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$161,821	\$65,710	\$66,663	\$68,470	\$65,390	\$0	\$0	\$0	\$0	\$0	\$428,054
413733-3	MARTIN MPO SECTION "5305D" TRANSIT PLANNING	PTO STUDIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,570	\$53,117	\$51,570	\$51,570	\$207,827
416140-1	FERNDALE AVENUE FROM GARDEN STREET TO IRIS STREET	SIDEWALK	\$34,595	\$2,607	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37,202
419252-2	SR-710/WARFIELD BL FR MARTIN FPL PWR PLANT TO CR609/SW ALLAPATTAH RD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$1,505,414	\$282,914	\$75,766	\$164,870	\$96,770	\$15,043	\$941,939	\$462,105	\$30,903	\$0	\$0	\$0	\$0	\$3,575,724
419344-1	SR-710/WARFIELD BLVD FROM MARTIN/OKEE CO/LINE TO CR-609/ALLAPATTAH RD	PD&E/EMO STUDY	\$71,563	\$60,387	\$64,444	\$31,801	\$2,503	\$2,481	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$233,179
419348-2	SR-710/WARFIELD BLVD FROM EAST OF SR-76 TO PBC/MARTIN CO LINE	PD&E/EMO STUDY	\$2,375	\$1,059	\$21,371	\$541	\$18,267	\$14,225	\$87	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57,925
419348-3	SR-710/WARFIELD BLVD FROM CR-609/ALLAPATTAH RD TO EAST OF SR-76	PD&E/EMO STUDY	\$705,667	\$53,414	\$36,518	\$29,168	\$23,093	\$22,395	\$1,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$871,605
419669-1	WILLOUGHBY BLVD FROM SR-714/MONTEREY RD TO SR-5/US-1 FEDERAL HWY	NEW ROAD CONSTRUCTION	\$0	\$0	\$0	\$0	\$81,991	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,991
419669-3	WILLOUGHBY BLVD FROM SR-714/MONTEREY RD TO SR-5/US-1 FEDERAL HWY	PD&E/EMO STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$505,000	\$4,565,000	\$15,000	\$5,085,000
422641-1	SR-76/KANNER HWY FROM WEST OF CR-711 TO EAST OF COVE ROAD	ADD LANES & RECONSTRUCT	\$1,256,123	\$40,292	\$23,944	\$18,162	\$18,691	\$5,466	\$783	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,363,461
422641-2	SR-76/KANNER HWY FROM S OF CR-711/PRATT WHITNEY RD TO SW JACK JAMES DR	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$521	\$121,319	\$178,792	\$108,404	\$0	\$79,952	\$14,709,119	\$836,285	\$10,260	\$10,530	\$0	\$0	\$0	\$16,055,182
422641-3	SR-76/KANNER HWY FROM LOST RIVER ROAD TO MONTEREY ROAD	ADD LANES & RECONSTRUCT	\$0	\$0	\$8,874	\$2,521,609	\$261,100	\$141,035	\$23,534,425	\$4,900,150	\$2,640,970	\$145,157	\$436,525	\$0	\$0	\$0	\$0	\$0	\$34,589,845
423262-1	MARTIN COUNTY ATMS	ADV TRAVELER INFORMATION SYSTM	\$500,000	\$478,174	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$978,174
423529-1	MARTIN CO WIDE BUS SHELTERS @ 4 LOCATIONS	PUBLIC TRANSPORTATION SHELTER	\$0	\$400,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$400,000
423865-1	PALM TRAN PARK & RIDE LOT	PARK AND RIDE LOTS	\$1,085,351	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,085,351
425263-2	SEABRANCH EAST COAST GREENWAY, FROM SE GRAFTON AVE TO SEABRANCH PRESER	BIKE LANE/SIDEWALK	\$0	\$208,157	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$208,157
425263-3	SEABRANCH EAST COAST GREENWAY FROM SEABRANCH PRESERVE TO PECK LAKE PK	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$583,893	\$1,021	\$5,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$590,314
425773-1	SR-5/US-1 FROM N. OF WESTMORELAND TO ST LUCIE CO/LINE	SIDEWALK	\$0	\$17,921	\$765	\$14,477	\$67,402	\$78	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,643
426252-1	SR-707 FROM 320FT S OF NW WRIGHT BLVD TO 320 FT N OF NW WRIGHT BLVD	ADD RIGHT TURN LANE(S)	\$0	\$155,410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155,410
426402-2	ARRA SECTION 5307 MARTIN CO PORT ST. LUCIE UZA	CAPITAL FOR FIXED ROUTE	\$0	\$1,199,564	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,199,564
427394-1	INDIAN RIVER DRIVE FR INDIAN RIVERSIDE PK N TO DIXIE HWY INTERSECTION	SIDEWALK	\$0	\$156,597	\$1,489	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$158,086
427395-1	POINCIANA GARDENS FROM US-1/SE POINCIANA LN TO SE LONGVIEW	SIDEWALK	\$0	\$83,533	\$599	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$84,132
427396-1	RUHNKE STREET FROM WILLOUGHBY BLVD TO ASTER LANE	SIDEWALK	\$0	\$104,118	\$788	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$104,906
427397-1	SE COMMERCE AVENUE FROM INDIAN STREET TO MONROE STREET	SIDEWALK	\$0	\$149,517	\$16,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,026
427664-1	PALM CITY CRA SIDEWALKS	SIDEWALK	\$0	\$0	\$0	\$2,375	\$149,774	\$2,943	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155,092
427803-1	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPS ON SHS	TRAFFIC SIGNALS	\$0	\$0	\$106,957	\$113,314	\$116,513	\$117,848	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$454,632
427803-2	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPERATIONS ON STATE HWY SYSTEM	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$124,260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$124,260
427803-3	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPS ON STATE HWY SYSTEM	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$228,456	\$331,125	\$341,873	\$356,200	\$364,822	\$0	\$0	\$0	\$0	\$1,622,476
427803-5	MARTIN COUNTY JPA SIGNAL MAINTENANCE & OPS ON STATE HWY SYSTEM	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$374,705	\$384,858	\$395,249	\$407,107	\$1,561,919
431646-1	CR-707/DIXIE HWY FR. SOUTH OF FLORIDA ST. TO NORTH OF SE 5TH ST.	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$909	\$282,042	\$1,922	\$128	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$285,001
431649-1	CR-A1A/SE DIXIE HWY. FROM US-1 TO SATURN STREET	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$1,717	\$355,534	\$7,673	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$364,924
431730-1	INDIANTOWN CONNECTOR SIDEWALKS	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$2,596	\$689,818	\$4,399	\$3,420	\$1,517	\$0	\$0	\$0	\$0	\$0	\$0	\$701,750
432705-1	SR-710/SW WARFIELD BLVD. FROM E. OF SR-76 TO PALM BEACH/MARTIN CO LINE	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$1,111,636	\$56,515	\$1,261,198	\$31,490,825	\$983,950	\$6,320,297	\$0	\$0	\$0	\$0	\$0	\$41,224,421
432707-1	SR-710/BELINE HWY FROM MP 2.0 TO W. OF SW FOX BROWN RD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$581,013	\$7,795,676	\$109,321	\$159,827	\$145,678	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$8,791,540
433170-1	BAKER RD IMPROVEMENTS FROM NW GREEN RIVER PARKWAY TO SE BRAILLE PLACE	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$1,328	\$3,891	\$358,337	\$90,282	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$453,838
433349-1	SR-A1A AT SEWALL'S POINT ROAD	TRAFFIC SIGNAL UPDATE	\$0	\$0	\$0	\$0	\$0	\$0	\$23,097	\$31,268	\$597,362	\$60,241	\$0	\$0	\$0	\$0	\$0	\$0	\$711,968
434377-1	NEW FREEDOM VOLUNTEER R DRIVER PROGRAM MARTIN COUNTY	PURCHASE VEHICLES/EQUIPMENT	\$0	\$0	\$0	\$0	\$136,565	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$136,565
434661-1	MARTIN COUNTY SECTION 5339 CAPITAL FOR BUS & BUS FACILITIES	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$97,545	\$97,572	\$97,900	\$0	\$234,128	\$98,000	\$98,000	\$98,000	\$98,000	\$98,000	\$1,017,145
435137-1	SR-714/MARTIN DOWNS AT CITRUS BLVD	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$151	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$151
435413-1	MAPP RD. FROM SW MARTIN HIGHWAY TO MARTIN DOWNS BLVD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,221	\$276,898	\$880	\$3,953	\$0	\$0	\$0	\$0	\$0	\$284,952
435727-1	MARTIN COUNTY SECTION 5316 JARC GRANT	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$94,622	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$94,622
436861-1	SE KINDRED STREET/SE JOHNSON AVE FROM SOUTH COLORADO TO SR-5/US-1	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,019	\$358,143	\$26,007	\$2,442	\$0	\$0	\$0	\$0	\$0	\$387,611
436869-1	SR-A1A FROM EAST OF LYONS BRIDGE TO SR-732/JENSEN BEACH BLVD	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$370,259	\$124,322	\$677,717	\$0	\$0	\$0	\$0	\$0	\$1,172,298
436870-1	SR-714/SW MARTIN HWY FROM CITRUS BLVD TO SW MARTIN DOWNS BLVD	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$428,872	\$2,086,200	\$623,579	\$1,316,444	\$1,032,397	\$22,448,282	\$0	\$0	\$0	\$27,935,774
436967-1	SR-5/US-1 NORTH OF NW BRITT ROAD	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$190,995	\$2,553	\$25,106	\$0	\$489,406	\$0	\$0	\$0	\$708,060
438125-1	CR-708/SE BRIDGE ROAD FROM SE FLORA AVE TO SE PLANDOME DR	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,015	\$308,777	\$7,000	\$0	\$0	\$0	\$0	\$0	\$0	\$316,792
438345-2	SR-5/US-1 @ SW JOAN JEFFERSON WAY	TRAFFIC ENGINEERING STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$407,724	\$19,781	\$3,000	\$0	\$335,000	\$0	\$0	\$0	\$765,505
438346-1	SR-714/SE MONTEREY RD FROM KINGSWOOD TER TO EAST OCEAN BLVD	TRAFFIC ENGINEERING STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$103,000	\$0	\$350,000	\$0	\$0	\$0	\$453,000
438346-2	SE OCEAN BLVD FROM WEST OF SE HOSPITAL AVE TO SE PALM BEACH ROAD	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$0	\$532,697	\$0	\$537,697
438524-1	MARTIN COUNTY SERVICE DEVELOPMENT STUART- TRAM PURCHASE	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,000
439979-1	PORT SALERNO ELEMENTARY SIDEWALKS VARIOUS LOCATIONS	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$433,024	\$0	\$0	\$0	\$0	\$438,024
440020-1	NW DIXIE HWY FROM NORTH OF WRIGHT BLVD TO SOUTH OF GREEN RIVER PKWY	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$337,799	\$0	\$0	\$0	\$0	\$342,799
441567-1	SE FLORIDA ST. FROM SE JOHNSON AVE. TO CR-707/DIXIE HWY	SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$0	\$318,240	\$0	\$0	\$0	\$323,240
441699-1	CR-713/HIGH MEADOW AVE FROM I-95 TO CR-714/MARTIN HWY	ADD LANES & RECONSTRUCT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$505,000	\$2,000,000	\$0	\$2,505,000
441700-1	COVE ROAD FROM SR-76/KANNER HIGHWAY TO SR-5/US-1	PD&E/EMO STUDY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$505,000	\$2,500,000	\$0	\$3,005,000
442367-1	MARTIN COUNTY NEW FIXED ROUTE - CAPITAL	CAPITAL FOR FIXED ROUTE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000
444345-1	NW DIXIE HIGHWAY FR S OF SE GREEN RIVER PRKWAY TO SE GREEN RIVER PKWY	BIKE LANE/SIDEWALK	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$389,298	\$0	\$0	\$0	\$394,298
444415-1	SR-5/US-1 AT BAKER RD	INTERSECTION IMPROVEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$420,000	\$10,000	\$0	\$430,000
444416-1	SR-5/US-1 AT NW NORTH RIVER SHORES BLVD	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$270,000	\$10,000	\$0	\$280,000
444417-1	SR-5/US-1 AT NW SUNSET BLVD	TRAFFIC SIGNALS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$270,000	\$10,000	\$0	\$280,000
Total - Mobility/Multimodal																			

FINAL REPORT - APPENDIX K

Table C-8

Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel

Travel			
Vehicle Miles of Travel (VMT) @			
	22.3	6.5	
Other Arterial Rural	320,839,000,000	46,784,000,000	367,623,000,000
Other Rural	302,342,000,000	31,207,000,000	333,549,000,000
Other Urban	1,566,682,000,000	95,483,000,000	1,662,165,000,000
Total	2,189,863,000,000	173,474,000,000	2,363,337,000,000

Percent VMT	
@ 22.3 mpg	@ 6.5 mpg
87%	13%
91%	9%
94%	6%
93%	7%

Fuel Consumed			
	Gallons @ 22.3 mpg	Gallons @ 6.5 mpg	
Other Arterial Rural	14,387,399,103	7,197,538,462	21,584,937,565
Other Rural	13,557,937,220	4,801,076,923	18,359,014,143
Other Urban	70,254,798,206	14,689,692,308	84,944,490,514
Total	98,200,134,529	26,688,307,693	124,888,442,222

Total Mileage and Fuel	
2,363,337	miles (millions)
124,888	gallons (millions)
18.92	mpg

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2017*, Section V, Table VM-1
 Annual Vehicle Distance Traveled in Miles and Related Data - 2017 by Highway Category and Vehicle Type
<http://www.fhwa.dot.gov/policyinformation/statistics.cfm>

FINAL REPORT - APPENDIX K

Table C-9
Annual Vehicle Distance Travelled in Miles and Related Data – 2017⁽¹⁾
By Highway Category and Vehicle Type

Published March 2019										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	
2017	Motor-Vehicle Travel: (millions of vehicle-miles)									
2017	Interstate Rural	142,445	1,128	1,775	44,928	10,103	52,171	187,373	62,274	252,550
2017	Other Arterial Rural	228,664	2,661	2,109	92,175	16,814	29,970	320,839	46,784	372,393
2017	Other Rural	213,923	2,728	1,986	88,419	16,563	14,644	302,342	31,207	338,262
2017	All Rural	585,032	6,517	5,870	225,522	43,480	96,785	810,554	140,265	963,206
2017	Interstate Urban	400,339	2,596	2,628	99,803	18,617	43,228	500,142	61,844	567,210
2017	Other Urban	1,235,430	11,036	8,730	331,253	54,006	41,478	1,566,682	95,483	1,681,932
2017	All Urban	1,635,769	13,632	11,358	431,056	72,622	84,705	2,066,824	157,328	2,249,142
2017	Total Rural and Urban ⁽⁵⁾	2,220,801	20,149	17,227	656,578	116,102	181,490	2,877,378	297,593	3,212,347
2017	Number of motor vehicles registered ⁽²⁾	193,672,370	8,715,204	983,231	56,880,878	9,336,998	2,892,218	250,553,248	12,229,216	272,480,899
2017	Average miles traveled per vehicle	11,467	2,312	17,521	11,543	12,435	62,751	11,484	24,335	11,789
2017	Person-miles of travel ⁽⁴⁾ (millions)	3,709,919	23,382	365,220	1,106,303	116,102	181,490	4,816,223	297,593	5,502,417
2017	Fuel consumed (thousand gallons)	91,712,165	458,429	2,350,323	37,466,749	15,599,855	30,363,561	129,178,914	45,963,416	177,951,081
2017	Average fuel consumption per vehicle (gallons)	474	53	2,390	659	1,671	10,498	516	3,758	653
2017	Average miles traveled per gallon of fuel consumed	24.2	44.0	7.3	17.5	7.4	6.0	22.3	6.5	18.1
<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.</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 wheelbase.</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) Starting with 2009 VM-1, vehicle occupancy is estimated by the FHWA from the 2009 National Household Travel Survey (NHTS) and the annual R.L. Polk Vehicle registration data; 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>										

FINAL REPORT - APPENDIX K

Appendix D Geographic Variation

FINAL REPORT - APPENDIX K

Appendix D: Geographic Variation

Currently, Martin County charges a transportation impact fee throughout the entire County. As part of this update, several options for fee variation by geographic area were developed. This appendix provides a detailed explanation of the approach used for these alternative mobility/multimodal impact fee rate scenarios.

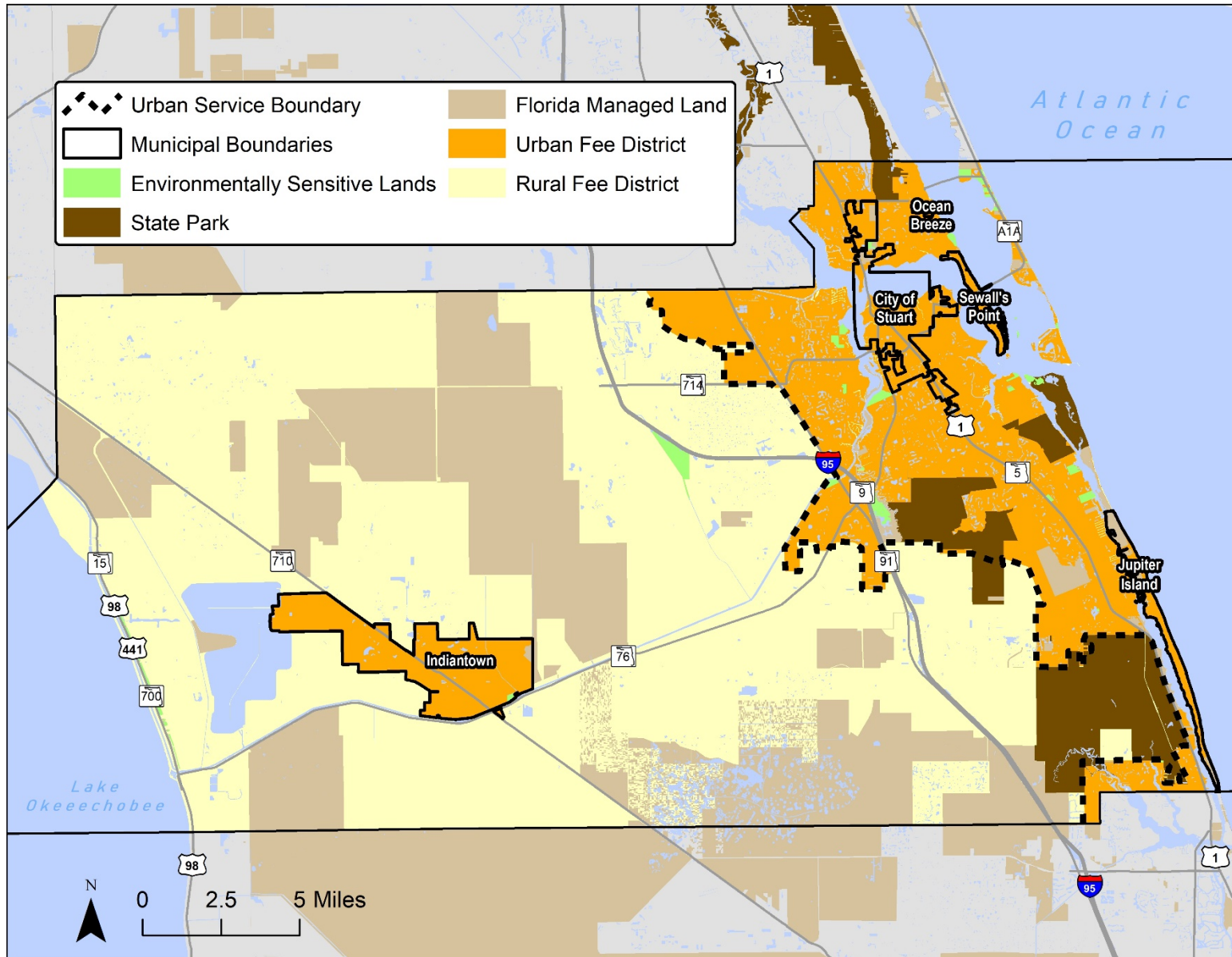
A consumption-based impact fee rate is based on the adopted level of service (LOS) standards, which are exception standards, requiring no road to be in worse travel condition than the adopted standard. Consistent with the methodology used by many Florida jurisdictions, transportation/mobility/multimodal fee calculations use adopted LOS standard as a countywide average, which suggests half the roads will be worse than the adopted standard and the other half will be better. However, in many cases, the actual countywide average LOS is better than the adopted standard. In other words, under the current methodology, even with the full impact fee, unless local governments use other revenue sources, the current achieved LOS for the system will deteriorate and more congestion will be experienced. As such, the standard methodology used for mobility/multimodal fees results in revenue levels that slow down the degradation of the system but do not generate sufficient revenues to maintain the existing conditions when they are better than the adopted LOS standard.

When the current system performance conditions are better than the adopted standards, local governments have the option to base the fees on achieved LOS or at least to a LOS level that is in between. This approach was also supported by HB 319, when the bill allowed for adoption of an area-wide LOS not dependent on any single road segment function. The LOS for each road segment correlates to the volume-to-capacity (V/C) ratio. The V/C ratio measures the number of vehicles on the road versus the number of vehicles that the road can handle based on its functional classification (arterial, collector, freeway, etc.) and design characteristics (number of lanes, signal spacing, etc.). A low V/C ratio suggests less congestion and delay and better average speed/performance.

In terms of geographic variation, the “urban fee district” is defined as the part of the county within the urban service boundary (USB) and the Village of Indiantown. Similar to the USB, Indiantown’s roadway network experiences higher levels of congestion and lower average travel speeds than roadways outside of the urban service area. In addition, Indiantown’s Comprehensive Plan supports compact development and higher densities compared to unincorporated county outside the USB. The “rural fee district” is composed of the remainder of the County. Map D-1 illustrates the proposed fee districts.

FINAL REPORT - APPENDIX K

Map D-1: Proposed Mobility/Multimodal Impact Fee Assessment Zones



FINAL REPORT - APPENDIX K

The current achieved V/C ratios are as follows:

- Countywide \approx 0.54
- Proposed Urban Fee District \approx 0.59
- Proposed Rural Fee District \approx 0.30

As shown in Table D-1, the average speed is estimated for a range of V/C ratios. For example, while the average speed in the urban area is declining toward 28 miles per hour, the V/C ratio in the rural fee district suggests average speed levels of 35 miles per hour or higher.

**Table D-1
V/C Ratio Reference**

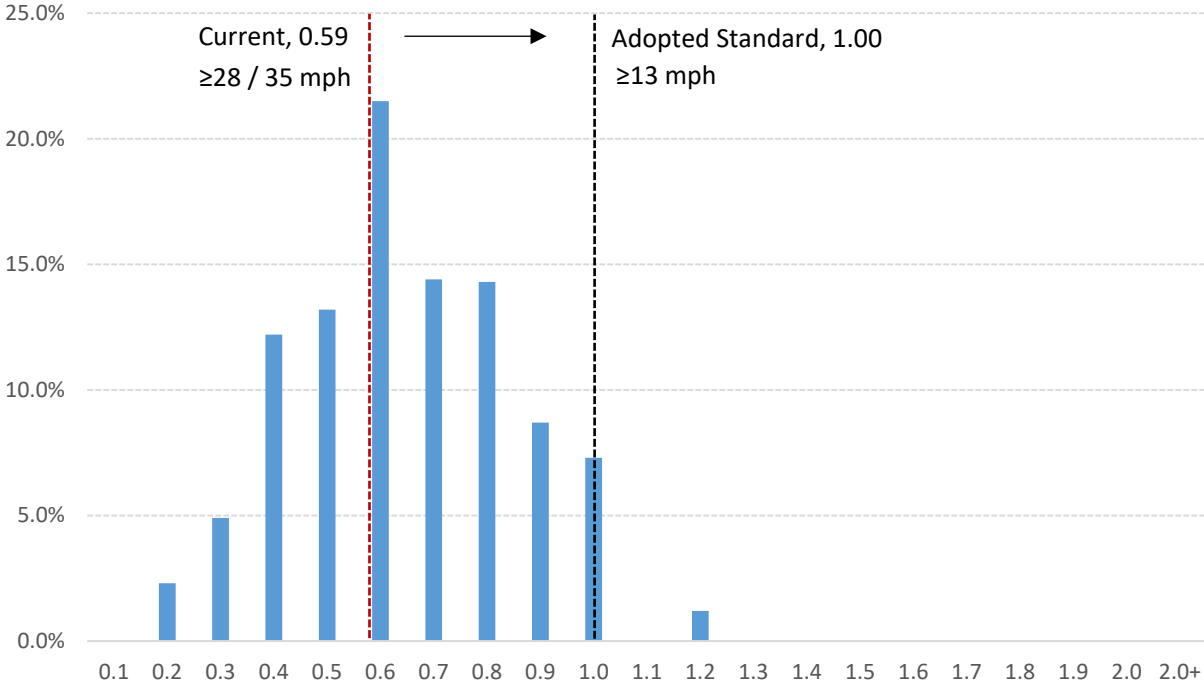
LOS	V/C	Avg Speed
A - Free Flow	0.00 to 0.60	\geq 35
B - Reasonable unimpede operations	0.61 to 0.70	\geq 28
C - Stable operations	0.71 to 0.80	\geq 22
D - Approaching unstable operations	0.81 to 0.90	\geq 17
E - Significant intersection approach delays	0.91 to 1.00	\geq 13
F - Extremely low speeds, high delay	$>$ 1.00	$<$ 13

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, 1994

Figures D-1 and D-2 illustrate the distribution of roadway VMT based on each road segments current V/C ratio. Figure D-1 illustrates all of those segments within the urban fee district and Figure D-2 illustrates those segments within the rural fee district.

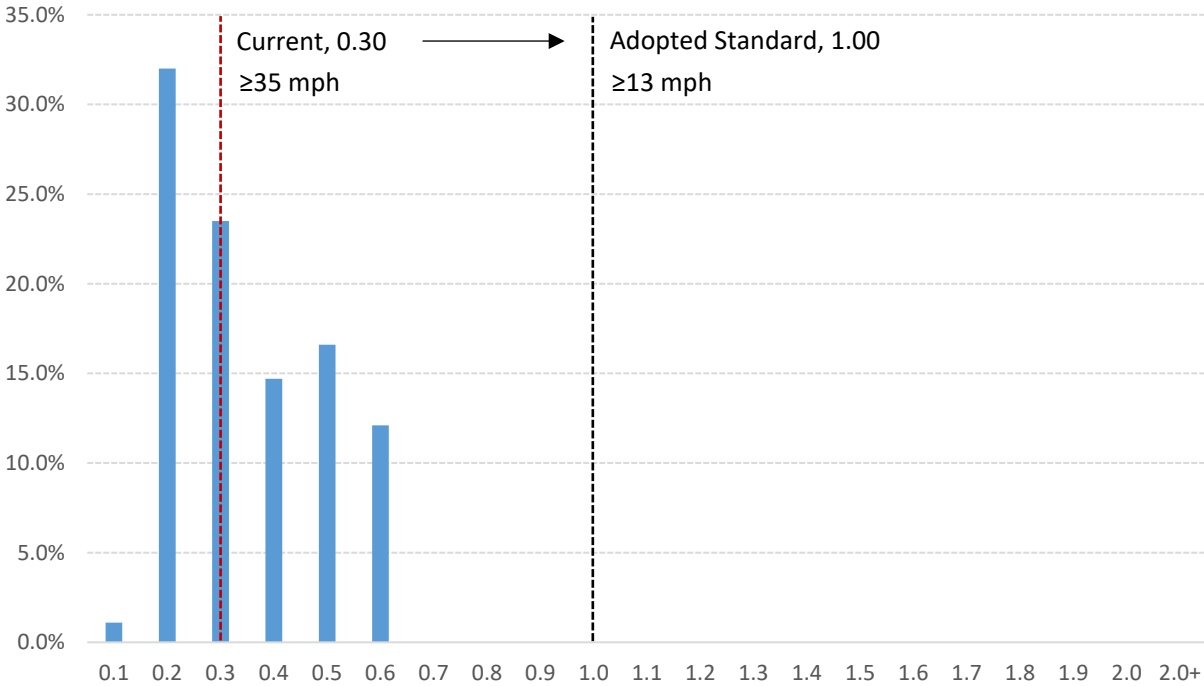
FINAL REPORT - APPENDIX K

Figure D-1: Percent of VMT by V/C Ratio (Urban Fee District)



Source: Martin County 2018 Roadway Inventory

Figure D-2: Percent of VMT by V/C Ratio (Rural Fee District)



Source: Martin County 2018 Roadway Inventory

FINAL REPORT - APPENDIX K

Table D-2 presents several different combinations that could be implemented to increase or decrease the fee differential between subareas.

**Table D-2
Differential Fee Rate Scenarios**

Fee District	Current		Future	
	V/C	Avg. Speed	V/C	Avg. Speed
Scenario #1				
Urban	0.59	≥35 mph	1.00	≥13mph
Rural	0.30	≥35 mph	1.00	≥13mph
Scenario #2				
Urban	0.59	≥35 mph	1.00	≥13mph
Rural	0.30	≥35 mph	0.80	≥22mph
Scenario #3				
Urban	0.59	≥35 mph	1.00	≥13mph
Rural	0.30	≥35 mph	0.60	≥35 mph
Scenario #4				
Urban	0.59	≥35 mph	0.80	≥22mph
Rural	0.30	≥35 mph	0.80	≥22mph
Scenario #5				
Urban	0.59	≥35 mph	0.80	≥22mph
Rural	0.30	≥35 mph	0.60	≥35 mph

Table D-2 Notes:

- Scenario #1
 - o Mobility/multimodal fees adopted at the current LOS standard. Average travel speed will decrease over time.
- Scenario #2
 - o Urban rates adopted at the current LOS standard. Average travel speed will decrease over time.
 - o Rural rates adopted at a 0.80 V/C, resulting in higher rates to maintain higher LOS. Average travel speed will decrease over time, but not as rapidly as Scenario #1
- Scenario #3
 - o Urban rates adopted at the current LOS standard. Average travel speed will decrease over time.
 - o Rural rates adopted at a 0.60 V/C, resulting in higher rates to maintain higher LOS. Although average speed will decrease over time, it will remain above 35 mph.
- Scenario #4
 - o Mobility/multimodal fees adopted at a 0.80 V/C. Average travel speed will decrease over time, but not as rapidly as Scenario #1.
- Scenario #5
 - o Urban rates adopted at a 0.80 V/C, resulting in higher rates to maintain higher LOS. Average travel speed will decrease over time, but not as rapidly as Scenario #1.
 - o Rural rates adopted at a 0.60 V/C, resulting in higher rates to maintain higher LOS. Although average speed will decrease over time, it will remain above 35 mph.

FINAL REPORT - APPENDIX K

Depending on the level of fee variation desired, the person-miles of capacity would be adjusted using the proposed V/C ratios:

- Mobility/Multimodal Fee, V/C of 1.00 = $18,980 * 1.00 = \mathbf{18,980}$
- Mobility/Multimodal Fee, V/C of 0.80 = $18,980 * 0.80 = \mathbf{15,184}$
- Mobility/Multimodal Fee, V/C of 0.60 = $18,980 * 0.60 = \mathbf{11,388}$
 - o The 0.60 V/C option is NOT recommended for the urban fee district

Appendix E, Tables E-1 through E-3 provide detailed fee calculations for each land use in the County's impact fee schedule and for each V/C option shown above.

FINAL REPORT - APPENDIX K

Appendix E
Mobility/Multimodal Fee Schedules

FINAL REPORT - APPENDIX K

Appendix E: Mobility/Multimodal Fee Schedules

This appendix provides mobility/multimodal fee schedules. In addition, the fee schedules are provided varying levels of services as potential options. More specifically, the following tables are included:

Urban Fee District or Countywide:

- Table E-1: Mobility/Multimodal Fee, V/C of 1.00
- Table E-2: Mobility/Multimodal Fee, V/C of 0.80

Rural Fee District Only:

- Table E-3: Mobility/Multimodal Fee, V/C of 0.60

Based on input from the MPO, County and municipalities, these options will be refined and reduced.

FINAL REPORT - APPENDIX K

Table E-1
Mobility/Multimodal Fee Schedule – V/C 1.00

		Equivalent Gasoline Tax \$\$ per gallon to capital: \$0.181 Facility life (years): 25 Interest rate: 2.50%		County Revenues: \$0.031 State Revenues: \$0.150		Unit Cost per Lane Mile: \$5,540,000 Average PMC per Lane Mile: 18,980 Fuel Efficiency: 18.92 mpg Effectivedays per year: 365		Interstate/Toll Facility Adjustment Factor: 20.2% Cost per PMC: \$291.89										
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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
RESIDENTIAL:																		
210	Single Family (Detached) - Very Low Income; Annual HH Income less than 50% SHIP Definition	du	4.32	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	11.41	1.30	14.83	\$4,330	\$54	\$995	\$3,335	\$2,268	47%
	Single Family (Detached) - Low Income; Annual HH Income between 50-80% SHIP Definition	du	5.27	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	13.92	1.30	18.10	\$5,282	\$66	\$1,216	\$4,066	\$2,268	79%
	Single Family (Detached) - Less than 750 sf	du	5.83	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	15.40	1.30	20.02	\$5,843	\$72	\$1,327	\$4,516	\$2,268	99%
	Single Family (Detached) - 750 to 999 sf	du	6.90	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	18.23	1.30	23.70	\$6,916	\$86	\$1,584	\$5,332	\$2,293	133%
	Single Family (Detached) - 1,000 to 2,499 sf	du	7.48	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	19.76	1.30	25.69	\$7,497	\$93	\$1,713	\$5,784	\$2,815	106%
	Single Family (Detached) - 2,500 sf and greater	du	8.91	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	23.53	1.30	30.59	\$8,930	\$111	\$2,045	\$6,885	\$4,063	70%
220	Multi-Family (Low-Rise, 1-2 Levels)	du	7.32	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	14.90	1.30	19.37	\$5,652	\$72	\$1,327	\$4,325	\$2,293	89%
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	5.44	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	11.07	1.30	14.39	\$4,200	\$53	\$976	\$3,224	\$2,293	41%
240	Mobile Home Park	du	4.17	FL Studies	4.60	5.10	FL Studies	100%	n/a	7.65	1.30	9.95	\$2,904	\$37	\$682	\$2,222	\$2,268	-2%
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253 (Appendix A)	72%	Same as LUC 253 (Appendix A)	2.30	1.30	2.99	\$873	\$12	\$221	\$652	\$283	131%
LODGING:																		
310	Hotel	room	5.55	Blend ITE 10th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	9.15	1.30	11.90	\$3,472	\$43	\$792	\$2,680	\$2,159	24%
320	Motel	room	3.35	ITE 10th Edition	4.34	4.84	FL Studies	77%	FL Studies	4.47	1.30	5.81	\$1,695	\$22	\$405	\$1,290	\$2,159	-40%
RECREATION:																		
411	Public Park	acre	0.78	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	1.44	1.30	1.87	\$547	\$7	\$129	\$418	\$527	-21%
416	RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 210	2.97	1.30	3.86	\$1,128	\$14	\$258	\$870	\$1,110	-22%
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	5.73	1.30	7.45	\$2,174	\$27	\$497	\$1,677	\$715	135%
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	72.22	1.30	93.89	\$27,404	\$340	\$6,264	\$21,140	\$8,219	157%
444	Movie Theater	1,000 sf	78.09	ITE 10th Edition	2.22	2.72	FL Studies	88%	FL Studies	60.87	1.30	79.13	\$23,097	\$326	\$6,006	\$17,091	\$10,141	69%
490	Tennis Court	court	30.32	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	56.07	1.30	72.89	\$21,277	\$269	\$4,956	\$16,321	\$7,138	129%
491	Racquet/Tennis Club ⁽⁴⁾	1,000 sf	19.70	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Same as LUC 942	38.05	1.30	49.47	\$14,439	\$183	\$3,372	\$11,067	\$3,152	251%
492	Health/Fitness Club ⁽⁴⁾	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	FL Studies	66.64	1.30	86.63	\$25,286	\$320	\$5,896	\$19,390	\$4,610	321%
INSTITUTIONS:																		
520	Elementary School (Private)	1,000 sf	19.52	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁵⁾	20.62	1.30	26.81	\$7,826	\$104	\$1,916	\$5,910	\$1,770	234%

FINAL REPORT - APPENDIX K

Table E-1 (continued)
Mobility/Multimodal Fee Schedule – V/C 1.00

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
INSTITUTIONS:																		
522	Middle School (Private)	1,000 sf	20.17	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted) ⁽⁵⁾	21.31	1.30	27.70	\$8,086	\$107	\$1,971	\$6,115	\$1,695	261%
530	High School (Private)	1,000 sf	14.07	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	90%	Based on LUC 710	16.72	1.30	21.74	\$6,346	\$84	\$1,548	\$4,798	\$1,758	173%
540	Junior/Community College (Private)	1,000 sf	20.25	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	48.14	1.30	62.58	\$18,266	\$227	\$4,182	\$14,084	-	-
550	University/College (Private)	1,000 sf	26.04	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	61.90	1.30	80.47	\$23,489	\$291	\$5,361	\$18,128	-	-
560	Place of Worship	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	9.76	1.30	12.69	\$3,703	\$48	\$884	\$2,819	\$1,347	109%
565	Day Care Center	1,000 sf	49.63	Blend ITE 10th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	29.35	1.30	38.16	\$11,135	\$160	\$2,948	\$8,187	\$2,686	205%
590	Library	1,000 sf	72.05	ITE 10th Edition	6.62	7.12	Same as LUC 210	49%	Estimate Based on Orange County Report	93.25	1.30	121.23	\$35,385	\$439	\$8,088	\$27,297	\$4,675	484%
732	Post Office	1,000 sf	103.94	ITE 10th Edition	5.15	5.65	Same as LUC 710	49%	Estimate Based on Orange County Report	104.65	1.30	136.05	\$39,711	\$502	\$9,249	\$30,462	\$4,404	592%
MEDICAL:																		
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	22.09	1.30	28.72	\$8,381	\$104	\$1,916	\$6,465	\$2,133	203%
620	Nursing Home	1,000 sf	6.64	ITE 10th Edition	2.59	3.09	FL Studies	89%	FL Studies	6.11	1.30	7.94	\$2,317	\$32	\$590	\$1,727	\$725	138%
OFFICE:																		
710	Office	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	FL Studies	92%	FL Studies	18.41	1.30	23.93	\$6,987	\$88	\$1,621	\$5,366	\$2,198	144%
720	Medical Office 10,000 sq ft or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	46.97	1.30	61.06	\$17,821	\$224	\$4,127	\$13,694	\$5,281	159%
720	Medical Office greater than 10,000 sq ft	1,000 sf	34.12	Blend ITE 10th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	67.25	1.30	87.43	\$25,517	\$321	\$5,914	\$19,603	\$5,281	271%
RETAIL:																		
820	Retail/Shopping Center	1,000 sfgla	37.75	ITE 10th Edition	2.69	3.19	Appendix A: Fig. A-1 (450k sfgla)	74%	Appendix A: Fig. A-2 (450k sfgla)	29.98	1.30	38.97	\$11,377	\$156	\$2,874	\$8,503	\$5,183	64%
840/841	New/Used Auto Sales	1,000 sf	24.58	Blend ITE 10th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	35.64	1.30	46.33	\$13,524	\$173	\$3,187	\$10,337	\$7,071	46%
851	Convenience Market - 24 hrs	1,000 sf	739.50	Blend ITE 10th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	183.88	1.30	239.04	\$69,774	\$1,069	\$19,696	\$50,078	\$13,556	269%
880/881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	104.37	Blend ITE 10th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	27.72	1.30	36.04	\$10,518	\$150	\$2,764	\$7,754	\$1,763	340%
SERVICES:																		
911	Bank/Savings Walk-In ⁽⁴⁾	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	26.82	1.30	34.87	\$10,175	\$141	\$2,598	\$7,577	\$6,241	21%
912	Bank/Savings Drive-In	1,000 sf	102.66	Blend ITE 10th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	46.35	1.30	60.26	\$17,588	\$244	\$4,496	\$13,092	\$6,841	91%
931	Quality Restaurant	1,000 sf	86.03	Blend ITE 10th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	82.99	1.30	107.89	\$31,492	\$421	\$7,757	\$23,735	\$10,571	125%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Blend ITE 10th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	228.92	1.30	297.60	\$86,863	\$1,246	\$22,957	\$63,906	\$15,693	307%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	FL Studies	23%	FL Studies	29.99	1.30	38.99	\$11,381	\$166	\$3,058	\$8,323	\$3,266	155%

FINAL REPORT - APPENDIX K

Table E-1 (continued)
Mobility/Multimodal Fee Schedule – V/C 1.00

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
SERVICES:																		
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	35.81	1.30	46.55	\$13,587	\$198	\$3,648	\$9,939	\$3,266	204%
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	40.19	1.30	52.25	\$15,252	\$222	\$4,090	\$11,162	\$3,266	242%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 10th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	25.99	1.30	33.79	\$9,862	\$140	\$2,579	\$7,283	\$9,570	-24%
INDUSTRIAL:																		
110	General Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	9.38	1.30	12.19	\$3,558	\$45	\$829	\$2,729	\$1,857	47%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.43	1.30	9.66	\$2,819	\$36	\$663	\$2,156	\$1,045	106%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	3.29	1.30	4.28	\$1,248	\$16	\$295	\$953	\$1,314	-28%
151	Mini-Warehouse	1,000 sf	1.49	Blend ITE 10th & FL Studies	3.51	4.01	Average of LUC 710 & LUC 820 (50k sq ft)	92%	Same as LUC 710	1.92	1.30	2.50	\$728	\$10	\$184	\$544	\$827	-34%

- 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) Source: Martin County Adopted Impact Fee Schedule. Residential 801-1,100 sf is shown for LUC 220, 221, 222. Residential 800 or less sf is shown for LUC 240. Office <100,000 sf is shown for LUC 710. Retail 100,000-199,999 sf is shown for LUC 820. Gasoline w/Conv. Market is shown for LUC 944, 945, 960
- 3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR. Then, the daily TGR 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 ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
- 5) 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 elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents on their way to another destination

FINAL REPORT - APPENDIX K

Table E-2
Mobility/Multimodal Fee Schedule – V/C 0.80

		Equivalent Gasoline Tax \$\$ per gallon to capital: \$0.181 Facility life (years): 25 Interest rate: 2.50%		County Revenues: \$0.031 State Revenues: \$0.150		Unit Cost per Lane Mile: \$5,540,000 Average PMC per Lane Mile: 15,184 Fuel Efficiency: 18.92 mpg Effectivedays per year: 365		Interstate/Toll Facility Adjustment Factor: 20.2% Cost per PMC: \$364.86										
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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
RESIDENTIAL:																		
210	Single Family (Detached) - Very Low Income; Annual HH Income less than 50% SHIP Definition	du	4.32	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	11.41	1.30	14.83	\$5,412	\$54	\$995	\$4,417	\$2,268	95%
	Single Family (Detached) - Low Income; Annual HH Income between 50-80% SHIP Definition	du	5.27	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	13.92	1.30	18.10	\$6,603	\$66	\$1,216	\$5,387	\$2,268	138%
	Single Family (Detached) - Less than 750 sf	du	5.83	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	15.40	1.30	20.02	\$7,304	\$72	\$1,327	\$5,977	\$2,268	164%
	Single Family (Detached) - 750 to 999 sf	du	6.90	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	18.23	1.30	23.70	\$8,645	\$86	\$1,584	\$7,061	\$2,293	208%
	Single Family (Detached) - 1,000 to 2,499 sf	du	7.48	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	19.76	1.30	25.69	\$9,371	\$93	\$1,713	\$7,658	\$2,815	172%
	Single Family (Detached) - 2,500 sf and greater	du	8.91	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	23.53	1.30	30.59	\$11,163	\$111	\$2,045	\$9,118	\$4,063	124%
220	Multi-Family (Low-Rise, 1-2 Levels)	du	7.32	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	14.90	1.30	19.37	\$7,065	\$72	\$1,327	\$5,738	\$2,293	150%
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	5.44	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	11.07	1.30	14.39	\$5,251	\$53	\$976	\$4,275	\$2,293	86%
240	Mobile Home Park	du	4.17	FL Studies	4.60	5.10	FL Studies	100%	n/a	7.65	1.30	9.95	\$3,630	\$37	\$682	\$2,948	\$2,268	30%
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253 (Appendix A)	72%	Same as LUC 253 (Appendix A)	2.30	1.30	2.99	\$1,091	\$12	\$221	\$870	\$283	208%
LODGING:																		
310	Hotel	room	5.55	Blend ITE 10th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	9.15	1.30	11.90	\$4,340	\$43	\$792	\$3,548	\$2,159	64%
320	Motel	room	3.35	ITE 10th Edition	4.34	4.84	FL Studies	77%	FL Studies	4.47	1.30	5.81	\$2,119	\$22	\$405	\$1,714	\$2,159	-21%
RECREATION:																		
411	Public Park	acre	0.78	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	1.44	1.30	1.87	\$684	\$7	\$129	\$555	\$527	5%
416	RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 210	2.97	1.30	3.86	\$1,410	\$14	\$258	\$1,152	\$1,110	4%
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	5.73	1.30	7.45	\$2,717	\$27	\$497	\$2,220	\$715	211%
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	72.22	1.30	93.89	\$34,255	\$340	\$6,264	\$27,991	\$8,219	241%
444	Movie Theater	1,000 sf	78.09	ITE 10th Edition	2.22	2.72	FL Studies	88%	FL Studies	60.87	1.30	79.13	\$28,872	\$326	\$6,006	\$22,866	\$10,141	126%
490	Tennis Court	court	30.32	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	56.07	1.30	72.89	\$26,596	\$269	\$4,956	\$21,640	\$7,138	203%
491	Racquet/Tennis Club	1,000 sf	19.70	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Same as LUC 942	38.05	1.30	49.47	\$18,049	\$183	\$3,372	\$14,677	\$3,152	366%
492	Health/Fitness Club	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	FL Studies	66.64	1.30	86.63	\$31,608	\$320	\$5,896	\$25,712	\$4,610	458%
INSTITUTIONS:																		
520	Elementary School (Private)	1,000 sf	19.52	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted)	20.62	1.30	26.81	\$9,782	\$104	\$1,916	\$7,866	\$1,770	344%

FINAL REPORT - APPENDIX K

Table E-2 (continued)
Mobility/Multimodal Fee Schedule – V/C 0.80

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
INSTITUTIONS:																		
522	Middle School (Private)	1,000 sf	20.17	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted)	21.31	1.30	27.70	\$10,108	\$107	\$1,971	\$8,137	\$1,695	380%
530	High School (Private)	1,000 sf	14.07	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	90%	Based on LUC 710	16.72	1.30	21.74	\$7,932	\$84	\$1,548	\$6,384	\$1,758	263%
540	Junior/Community College (Private)	1,000 sf	20.25	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	48.14	1.30	62.58	\$22,833	\$227	\$4,182	\$18,651	-	-
550	University/College (Private)	1,000 sf	26.04	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	61.90	1.30	80.47	\$29,362	\$291	\$5,361	\$24,001	-	-
560	Place of Worship	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	9.76	1.30	12.69	\$4,629	\$48	\$884	\$3,745	\$1,347	178%
565	Day Care Center	1,000 sf	49.63	Blend ITE 10th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	29.35	1.30	38.16	\$13,919	\$160	\$2,948	\$10,971	\$2,686	309%
590	Library	1,000 sf	72.05	ITE 10th Edition	6.62	7.12	Same as LUC 210	49%	Estimate Based on Orange County Report	93.25	1.30	121.23	\$44,231	\$439	\$8,088	\$36,143	\$4,675	673%
732	Post Office	1,000 sf	103.94	ITE 10th Edition	5.15	5.65	Same as LUC 710	49%	Estimate Based on Orange County Report	104.65	1.30	136.05	\$49,639	\$502	\$9,249	\$40,390	\$4,404	817%
MEDICAL:																		
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	22.09	1.30	28.72	\$10,476	\$104	\$1,916	\$8,560	\$2,133	301%
620	Nursing Home	1,000 sf	6.64	ITE 10th Edition	2.59	3.09	FL Studies	89%	FL Studies	6.11	1.30	7.94	\$2,897	\$32	\$590	\$2,307	\$725	218%
OFFICE:																		
710	Office	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	FL Studies	92%	FL Studies	18.41	1.30	23.93	\$8,734	\$88	\$1,621	\$7,113	\$2,198	224%
720	Medical Office 10,000 sq ft or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	46.97	1.30	61.06	\$22,276	\$224	\$4,127	\$18,149	\$5,281	244%
720	Medical Office greater than 10,000 sq ft	1,000 sf	34.12	Blend ITE 10th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	67.25	1.30	87.43	\$31,896	\$321	\$5,914	\$25,982	\$5,281	392%
RETAIL:																		
820	Retail/Shopping Center	1,000 sfgla	37.75	ITE 10th Edition	2.69	3.19	Appendix A: Fig. A-1 (450k sfgla)	74%	Appendix A: Fig. A-2 (450k sfgla)	29.98	1.30	38.97	\$14,221	\$156	\$2,874	\$11,347	\$5,183	119%
840/ 841	New/Used Auto Sales	1,000 sf	24.58	Blend ITE 10th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	35.64	1.30	46.33	\$16,905	\$173	\$3,187	\$13,718	\$7,071	94%
851	Convenience Market - 24 hrs	1,000 sf	739.50	Blend ITE 10th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	183.88	1.30	239.04	\$87,218	\$1,069	\$19,696	\$67,522	\$13,556	398%
880/ 881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	104.37	Blend ITE 10th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	27.72	1.30	36.04	\$13,147	\$150	\$2,764	\$10,383	\$1,763	489%
SERVICES:																		
911	Bank/Savings Walk-In	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	26.82	1.30	34.87	\$12,719	\$141	\$2,598	\$10,121	\$6,241	62%
912	Bank/Savings Drive-In	1,000 sf	102.66	Blend ITE 10th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	46.35	1.30	60.26	\$21,985	\$244	\$4,496	\$17,489	\$6,841	156%
931	Quality Restaurant	1,000 sf	86.03	Blend ITE 10th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	82.99	1.30	107.89	\$39,365	\$421	\$7,757	\$31,608	\$10,571	199%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Blend ITE 10th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	228.92	1.30	297.60	\$108,579	\$1,246	\$22,957	\$85,622	\$15,693	446%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	FL Studies	23%	FL Studies	29.99	1.30	38.99	\$14,226	\$166	\$3,058	\$11,168	\$3,266	242%

FINAL REPORT - APPENDIX K

Table E-2 (continued)
Mobility/Multimodal Fee Schedule – V/C 0.80

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
SERVICES:																		
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	35.81	1.30	46.55	\$16,984	\$198	\$3,648	\$13,336	\$3,266	308%
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	40.19	1.30	52.25	\$19,065	\$222	\$4,090	\$14,975	\$3,266	359%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 10th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	25.99	1.30	33.79	\$12,327	\$140	\$2,579	\$9,748	\$9,570	2%
INDUSTRIAL:																		
110	General Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	9.38	1.30	12.19	\$4,448	\$45	\$829	\$3,619	\$1,857	95%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.43	1.30	9.66	\$3,524	\$36	\$663	\$2,861	\$1,045	174%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	3.29	1.30	4.28	\$1,560	\$16	\$295	\$1,265	\$1,314	-4%
151	Mini-Warehouse	1,000 sf	1.49	Blend ITE 10th & FL Studies	3.51	4.01	Average of LUC 710 & LUC 820 (50k sq ft)	92%	Same as LUC 710	1.92	1.30	2.50	\$911	\$10	\$184	\$727	\$827	-12%

- 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) Source: Martin County Adopted Impact Fee Schedule. Residential 801-1,100 sf is shown for LUC 220, 221, 222. Residential 800 or less sf is shown for LUC 240. Office <100,000 sf is shown for LUC 710. Retail 100,000-199,999 sf is shown for LUC 820. Gasoline w/Conv. Market is shown for LUC 944, 945, 960
- 3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR. Then, the daily TGR 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 ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
- 5) 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 elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents on their way to another destination

FINAL REPORT - APPENDIX K

**Table E-3
Mobility/Multimodal Fee Schedule – V/C 0.60**

		Equivalent Gasoline Tax \$\$ per gallon to capital: \$0.181 Facility life (years): 25 Interest rate: 2.50%	County Revenues: \$0.031 State Revenues: \$0.150		Unit Cost per Lane Mile: \$5,540,000 Average PMC per Lane Mile: 11,388 Fuel Efficiency: 18.92 mpg Effectivedays per year: 365		Interstate/Toll Facility Adjustment Factor: 20.2% Cost per PMC: \$486.48											
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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
RESIDENTIAL:																		
210	Single Family (Detached) - Very Low Income; Annual HH Income less than 50% SHIP Definition	du	4.32	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	11.41	1.30	14.83	\$7,216	\$54	\$995	\$6,221	\$2,268	174%
	Single Family (Detached) - Low Income; Annual HH Income between 50-80% SHIP Definition	du	5.27	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	13.92	1.30	18.10	\$8,803	\$66	\$1,216	\$7,587	\$2,268	235%
	Single Family (Detached) - Less than 750 sf	du	5.83	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	15.40	1.30	20.02	\$9,739	\$72	\$1,327	\$8,412	\$2,268	271%
	Single Family (Detached) - 750 to 999 sf	du	6.90	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	18.23	1.30	23.70	\$11,526	\$86	\$1,584	\$9,942	\$2,293	334%
	Single Family (Detached) - 1,000 to 2,499 sf	du	7.48	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	19.76	1.30	25.69	\$12,495	\$93	\$1,713	\$10,782	\$2,815	283%
	Single Family (Detached) - 2,500 sf and greater	du	8.91	FL Studies (NHTS, AHS, Census)	6.62	7.12	FL Studies	100%	n/a	23.53	1.30	30.59	\$14,884	\$111	\$2,045	\$12,839	\$4,063	216%
220	Multi-Family (Low-Rise, 1-2 Levels)	du	7.32	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	14.90	1.30	19.37	\$9,420	\$72	\$1,327	\$8,093	\$2,293	253%
221	Multi-Family (Mid-Rise, 3-10 Levels)	du	5.44	ITE 10th Edition	5.10	5.60	FL Studies (LUC 220/221/222)	100%	n/a	11.07	1.30	14.39	\$7,001	\$53	\$976	\$6,025	\$2,293	163%
240	Mobile Home Park	du	4.17	FL Studies	4.60	5.10	FL Studies	100%	n/a	7.65	1.30	9.95	\$4,840	\$37	\$682	\$4,158	\$2,268	83%
254	Assisted Living	bed	2.60	ITE 10th Edition	3.08	3.58	Same as LUC 253 (Appendix A)	72%	Same as LUC 253 (Appendix A)	2.30	1.30	2.99	\$1,455	\$12	\$221	\$1,234	\$283	337%
LODGING:																		
310	Hotel	room	5.55	Blend ITE 10th & FL Studies	6.26	6.76	FL Studies	66%	FL Studies	9.15	1.30	11.90	\$5,786	\$43	\$792	\$4,994	\$2,159	131%
320	Motel	room	3.35	ITE 10th Edition	4.34	4.84	FL Studies	77%	FL Studies	4.47	1.30	5.81	\$2,825	\$22	\$405	\$2,420	\$2,159	12%
RECREATION:																		
411	Public Park	acre	0.78	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	1.44	1.30	1.87	\$912	\$7	\$129	\$783	\$527	49%
416	RV Park ⁽³⁾	site	1.62	ITE 10th Edition (Adjusted)	4.60	5.10	Same as LUC 240	100%	Same as LUC 210	2.97	1.30	3.86	\$1,880	\$14	\$258	\$1,622	\$1,110	46%
420	Marina	boat berth	2.41	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	5.73	1.30	7.45	\$3,623	\$27	\$497	\$3,126	\$715	337%
430	Golf Course	hole	30.38	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	72.22	1.30	93.89	\$45,674	\$340	\$6,264	\$39,410	\$8,219	380%
444	Movie Theater	1,000 sf	78.09	ITE 10th Edition	2.22	2.72	FL Studies	88%	FL Studies	60.87	1.30	79.13	\$38,495	\$326	\$6,006	\$32,489	\$10,141	220%
490	Tennis Court	court	30.32	ITE 10th Edition	5.15	5.65	Same as LUC 710	90%	Based on LUC 710	56.07	1.30	72.89	\$35,462	\$269	\$4,956	\$30,506	\$7,138	327%
491	Racquet/Tennis Club	1,000 sf	19.70	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	Same as LUC 942	38.05	1.30	49.47	\$24,065	\$183	\$3,372	\$20,693	\$3,152	557%
492	Health/Fitness Club	1,000 sf	34.50	ITE 10th Edition (Adjusted)	5.15	5.65	Same as LUC 710	94%	FL Studies	66.64	1.30	86.63	\$42,144	\$320	\$5,896	\$36,248	\$4,610	686%
INSTITUTIONS:																		
520	Elementary School (Private)	1,000 sf	19.52	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted)	20.62	1.30	26.81	\$13,043	\$104	\$1,916	\$11,127	\$1,770	529%

FINAL REPORT - APPENDIX K

Table E-3 (continued)
Mobility/Multimodal Fee Schedule – V/C 0.60

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
INSTITUTIONS:																		
522	Middle School (Private)	1,000 sf	20.17	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	80%	Based on LUC 710 (adjusted)	21.31	1.30	27.70	\$13,477	\$107	\$1,971	\$11,506	\$1,695	579%
530	High School (Private)	1,000 sf	14.07	ITE 10th Edition	3.31	3.81	50% of LUC 210: Tavel Demand Model	90%	Based on LUC 710	16.72	1.30	21.74	\$10,577	\$84	\$1,548	\$9,029	\$1,758	414%
540	Junior/Community College (Private)	1,000 sf	20.25	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	48.14	1.30	62.58	\$30,444	\$227	\$4,182	\$26,262	-	-
550	University/College (Private)	1,000 sf	26.04	ITE 10th Edition	6.62	7.12	Same as LUC 210	90%	Based on LUC 710	61.90	1.30	80.47	\$39,149	\$291	\$5,361	\$33,788	-	-
560	Place of Worship	1,000 sf	6.95	ITE 10th Edition	3.91	4.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	9.76	1.30	12.69	\$6,171	\$48	\$884	\$5,287	\$1,347	293%
565	Day Care Center	1,000 sf	49.63	Blend ITE 10th & FL Studies	2.03	2.53	FL Studies	73%	FL Studies	29.35	1.30	38.16	\$18,558	\$160	\$2,948	\$15,610	\$2,686	481%
590	Library	1,000 sf	72.05	ITE 10th Edition	6.62	7.12	Same as LUC 210	49%	Estimate Based on Orange County Report	93.25	1.30	121.23	\$58,975	\$439	\$8,088	\$50,887	\$4,675	989%
732	Post Office	1,000 sf	103.94	ITE 10th Edition	5.15	5.65	Same as LUC 710	49%	Estimate Based on Orange County Report	104.65	1.30	136.05	\$66,186	\$502	\$9,249	\$56,937	\$4,404	1193%
MEDICAL:																		
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	22.09	1.30	28.72	\$13,968	\$104	\$1,916	\$12,052	\$2,133	465%
620	Nursing Home	1,000 sf	6.64	ITE 10th Edition	2.59	3.09	FL Studies	89%	FL Studies	6.11	1.30	7.94	\$3,862	\$32	\$590	\$3,272	\$725	351%
OFFICE:																		
710	Office	1,000 sf	9.74	ITE 10th Edition	5.15	5.65	FL Studies	92%	FL Studies	18.41	1.30	23.93	\$11,645	\$88	\$1,621	\$10,024	\$2,198	356%
720	Medical Office 10,000 sq ft or less	1,000 sf	23.83	FL Studies	5.55	6.05	FL Studies	89%	FL Studies	46.97	1.30	61.06	\$29,702	\$224	\$4,127	\$25,575	\$5,281	384%
720	Medical Office greater than 10,000 sq ft	1,000 sf	34.12	Blend ITE 10th & FL Studies	5.55	6.05	FL Studies	89%	FL Studies	67.25	1.30	87.43	\$42,528	\$321	\$5,914	\$36,614	\$5,281	593%
RETAIL:																		
820	Retail/Shopping Center	1,000 sf	37.75	ITE 10th Edition	2.69	3.19	Appendix A: Fig. A-1 (450k sf)	74%	Appendix A: Fig. A-2 (450k sf)	29.98	1.30	38.97	\$18,962	\$156	\$2,874	\$16,088	\$5,183	210%
840/841	New/Used Auto Sales	1,000 sf	24.58	Blend ITE 10th & FL Studies	4.60	5.10	FL Studies	79%	FL Studies	35.64	1.30	46.33	\$22,540	\$173	\$3,187	\$19,353	\$7,071	174%
851	Convenience Market - 24 hrs	1,000 sf	739.50	Blend ITE 10th & FL Studies	1.52	2.02	FL Studies	41%	FL Studies	183.88	1.30	239.04	\$116,290	\$1,069	\$19,696	\$96,594	\$13,556	613%
880/881	Pharmacy/Drug Store with & without Drive-Thru	1,000 sf	104.37	Blend ITE 10th & FL Studies	2.08	2.58	FL Studies	32%	FL Studies	27.72	1.30	36.04	\$17,529	\$150	\$2,764	\$14,765	\$1,763	738%
SERVICES:																		
911	Bank/Savings Walk-In	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	2.96	Same as LUC 912	46%	Same as LUC 912	26.82	1.30	34.87	\$16,958	\$141	\$2,598	\$14,360	\$6,241	130%
912	Bank/Savings Drive-In	1,000 sf	102.66	Blend ITE 10th & FL Studies	2.46	2.96	FL Studies	46%	FL Studies	46.35	1.30	60.26	\$29,314	\$244	\$4,496	\$24,818	\$6,841	263%
931	Quality Restaurant	1,000 sf	86.03	Blend ITE 10th & FL Studies	3.14	3.64	FL Studies	77%	FL Studies	82.99	1.30	107.89	\$52,487	\$421	\$7,757	\$44,730	\$10,571	323%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Blend ITE 10th & FL Studies	2.05	2.55	FL Studies	58%	FL Studies	228.92	1.30	297.60	\$144,772	\$1,246	\$22,957	\$121,815	\$15,693	676%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.90	2.40	FL Studies	23%	FL Studies	29.99	1.30	38.99	\$18,968	\$166	\$3,058	\$15,910	\$3,266	387%

FINAL REPORT - APPENDIX K

Table E-3 (continued)
Mobility/Multimodal Fee Schedule – V/C 0.60

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 Multi-Modal Cost	Annual Capital Impr. Tax	Capital Improvement Credit	Net Mobility/Multimodal Fee	Current Impact Fee ⁽²⁾	% Change
SERVICES:																		
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	35.81	1.30	46.55	\$22,645	\$198	\$3,648	\$18,997	\$3,266	482%
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.90	2.40	Same as LUC 944	23%	Same as LUC 944	40.19	1.30	52.25	\$25,420	\$222	\$4,090	\$21,330	\$3,266	553%
947	Self-Service Car Wash	service bay	43.94	Blend ITE 10th & FL Studies	2.18	2.68	FL Studies	68%	FL Studies	25.99	1.30	33.79	\$16,436	\$140	\$2,579	\$13,857	\$9,570	45%
INDUSTRIAL:																		
110	General Industrial	1,000 sf	4.96	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	9.38	1.30	12.19	\$5,930	\$45	\$829	\$5,101	\$1,857	175%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	7.43	1.30	9.66	\$4,699	\$36	\$663	\$4,036	\$1,045	286%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.15	5.65	Same as LUC 710	92%	Same as LUC 710	3.29	1.30	4.28	\$2,080	\$16	\$295	\$1,785	\$1,314	36%
151	Mini-Warehouse	1,000 sf	1.49	Blend ITE 10th & FL Studies	3.51	4.01	Average of LUC 710 & LUC 820 (50k sq ft)	92%	Same as LUC 710	1.92	1.30	2.50	\$1,214	\$10	\$184	\$1,030	\$827	25%

- 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) Source: Martin County Adopted Impact Fee Schedule. Residential 801-1,100 sf is shown for LUC 220, 221, 222. Residential 800 or less sf is shown for LUC 240. Office <100,000 sf is shown for LUC 710. Retail 100,000-199,999 sf is shown for LUC 820. Gasoline w/Conv. Market is shown for LUC 944, 945, 960
- 3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR. Then, the daily TGR 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 ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
- 5) 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 elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents on their way to another destination

Tindale Oliver

