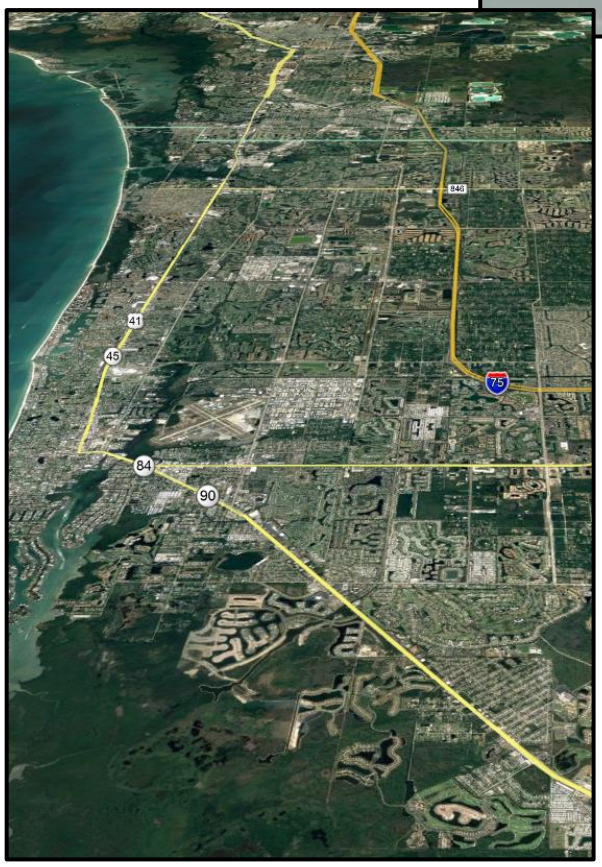
Collier County Road Impact Fee Update Study

Final Report
October 14, 2019



Prepared for:

Collier County Growth Management Division, Planning & Regulation
2800 North Horseshoe Drive
Naples, Florida 34104
ph (239) 252-2400

Prepared by:

Tindale Oliver
1000 N. Ashley Dr., #400
Tampa, Florida 33602
ph (813) 224-8862
fax (813) 226-2106
E-mail: nkamp@tindaleoliver.com
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Collier County
Road Impact Fee Update Study

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Introduction

Collier County is continuing to experience population growth, with a projected countywide increase of 175,000 persons by 2045, resulting in an average annual growth rate of 1.3%. This continuing growth requires additional capital facilities. Collier County's Road Impact Fee Ordinance was originally adopted in January 1985 to assist the County in providing adequate transportation facilities for expected growth. The fee was last updated in 2015. In accordance with the County's impact fee ordinance requirements and to reflect most recent and localized data, the County retained Tindale Oliver to update the technical study that will be the basis for the updated fee schedule. The figures calculated in this study represent the technically defensible level of impact fees that the County could charge; however, the Board of County Commissioners may choose to discount the fees as a policy decision.

This study is based on information obtained from Collier County and other sources, as indicated, through November of 2018.

Methodology

The methodology used for the road impact fee study continues to follow a consumption-based impact fee approach in which new development is charged based upon the proportion of vehicle-miles of travel (VMT) that each unit of new development is expected to consume of a lane mile of roadway network.

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

[Demand x Cost] – Credit = Fee

The "demand" for travel placed on a transportation system is expressed in units of Vehicle-Miles of Travel (daily vehicle-trip generation rate x the trip length x the percent new trips [of total trips]) for each land use contained in the impact fee schedule. Trip generation represents the average daily rates since new development consumes trips on a daily basis.

The "cost" of building new capacity typically is expressed in units of dollars per vehicle-mile of roadway capacity.

The "credit" is an estimate of future non-impact fee revenues generated by new development that are allocated to provide roadway capacity expansion. The impact fee is considered to be an "up front" payment for a portion of the cost of building a vehicle-mile of capacity that is directly related to the amount of capacity consumed by each unit of land use contained in the impact fee schedule, that is not paid for by future tax revenues generated by the new development activity. These credits are required under the supporting case law for the calculation of impact fees where a new development activity must be reasonably assured that they are not being charged twice for the same level of service. More specifically, the input variables used in the fee equation are as follows:

Demand Variables:

- Trip generation rate
- Trip length
- Trip length adjustment factor
- Percent new trips

Cost Variables:

- Roadway cost per lane-mile
- Roadway capacity added per lane mile constructed

Credit Variables:

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

Legal Overview

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 (if needed) and a list of capacity-

adding projects included in the County's Capital Improvement Plan, Capital Improvement Element, or another planning document/Master Plan.

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

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

- **HB 227 in 2009: The Florida legislation statutorily clarified that in any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the requirements of state legal precedent or the Impact Fee Act and that the court may not use a deferential standard.**
- **SB 360 in 2009:** Allowed fees to be decreased without the 90-day notice period required to increase the fees and purported to change the standard of legal review associated with impact fees. SB 360 also required the Florida Department of Community Affairs (now the Department of Economic Opportunity) and Florida Department of Transportation (FDOT) to conduct studies on "mobility fees," which were completed in 2010.
- **HB 7207 in 2011:** Required a dollar-for-dollar credit, for purposes of concurrency compliance, for impact fees paid and other concurrency mitigation required.
- **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.
- **HB 207 in 2019:** Included the following changes to the Impact Fee Act along with additional clarifying language:
    - Impact fees cannot be collected prior to building permit issuance; and
    - 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 applicable here.

Impact Fee Definition

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

Impact Fee vs. Tax

- An impact fee is generally regarded as a regulatory function established 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.

This technical report has been prepared to support legal compliance with existing case law and statutory requirements.

Demand Component

Travel Demand

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

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

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

Additional Land Uses

As part of this update study, the following land uses were revised/added to the County's fee schedule to better reflect type of uses being developed in Collier County.

<u>Assisted Living Facility/Retirement Home/Independent Living</u>

The current road impact fee schedule includes "retirement community/age-restricted single-family" and "assisted living facility (ALF)" land uses. Due to updates to ITE 10th Edition and to better align with the type of uses that are being developed in Collier County, these uses were re-organized as the following:

- **LUC 251: Retirement Community (detached), measured per "dwelling unit"**
- **LUC 252: Retirement Community (attached), measured per "dwelling unit"**
- **LUC 254: Assisted Living, measured per "bed"**

Fast Casual Restaurant

This land use is new to ITE 10th Edition and will be added to the Collier County road impact fee schedule.

- **LUC 930: Fast Casual Restaurant, measured per 1,000 sq ft**. This land use is a sit-down restaurant with no wait staff or table service. Customers typically order off a menu board, pay for food before the food is prepared and seat themselves. The menu generally contains higher quality, made-to-order food items with fewer frozen or processed ingredients than fast food restaurants. The average size of the surveyed sites is approximately 3,000 square feet.

Fast Food with Drive-Thru with Two Meals

The current road impact fee schedule includes single "fast food w/drive-thru" land use, but does differentiate between those that are open 24 hours a day and offer three meals vs. those that offer only two meals. A new land use has been added to the schedule to reflect the reduced travel demand associated with fast food restaurants that offer only two meals.

- **LUC 934.1: Fast Food w/Drive-Thru with Two Meals**

Trip generation rate, trip length, and percent new trips data were based local trip characteristics studies completed in Collier County in 2011.

Interstate & Toll Facility Adjustment Factor

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

To calculate the interstate and toll (I/T) facility adjustment factor, the loaded highway network file was generated for the District 1 Regional Planning Model (D1RPM v1.0.3). A select zone analysis was run for all traffic analysis zones located within the Collier County in order to differentiate trips with an origin and/or destination within the county versus trips that simply passed through the county.

The analysis reviewed trips on all interstate and toll facilities within Collier County, including, Interstate 75 and Alligator Alley (toll portion of I-75). The limited access vehicle-miles of travel

(Limited Access VMT) for county-generated trips with an origin and/or destination within county was calculated for the identified limited access facilities. Next, the total VMT was calculated for all county-generated trips with an origin and/or destination within Collier County for all roads, including limited access facilities.

The I/T adjustment factor of 14.4 percent was determined by dividing the total limited access VMT by the total County VMT. Total County VMT reduced by this factor is representative of only the roadways that are eligible to be funded with road impact fee revenues. Appendix A, Table A-1 provides further detail on this calculation.

State Road Adjustment Factor

This variable was used to adjust the trip length for each land use to reflect the portion of the trip that occurs on non-state roadway facilities. To calculate this adjustment factor, the 2040 VMT distribution was calculated using D1RPM v1.0.3 projections. Appendix A, Table A-2 provides further detail on this calculation.

Cost Component

Cost information from Collier County and other counties in Florida was reviewed to develop a unit cost for all phases involved in the construction of one lane-mile of roadway capacity. 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 Collier County. In addition to local data, bid data for recently completed/ongoing projects and recent construction bid data from roadway projects throughout Florida were used to supplement the cost data for county roadway improvements. The cost for each roadway capacity project was separated into six components: design, right-of-way (ROW), construction, construction engineering/inspection (CEI), mitigation, and urban overpass costs.

Design and CEI

Design costs for county roads were estimated at 11 percent of construction phase costs based on a review of recent road/transportation impact fee studies throughout Florida. Additional detail is provided 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 recent road/transportation impact fee studies throughout Florida. Additional detail is provided in Appendix B, Table B-8.

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. The ROW acquisition data from four recent projects in Collier County was reviewed:

- Golden Gate Blvd from Wilson Blvd to E. of 18th St N
- Collier Blvd from Green Blvd to Golden Gate Blvd
- Golden Gate Blvd from W. of 20th St SE to E. of Everglades Blvd
- Vanderbilt Beach Rd Extension from Collier Blvd to 16th St NE

The ROW costs for these improvements were then grouped as “low” cost or “high” cost

depending on the geographical location and weighted by the distribution of lane miles in the 2040 LRTP. This distribution indicates that 71 percent of planned improvements will be constructed in "low" ROW cost areas (rural area) and 29 percent of improvements will be constructed in "high" ROW cost areas (urban and transitioning areas). Urban and transitioning areas include west county (City of Naples) and extending into the Golden Gate area. Rural areas include Immokalee and east county. As shown in Appendix B, Tables B-2 and B-3, the resulting ROW cost was approximately $1.67 million per lane mile. This estimate suggests a significant increase (95 percent) since the last technical study due primarily to the location of projects in the last study vs. this study as well as a small sample size.

To supplement this analysis, a review of changes in the market value of all property in Collier County was reviewed. As reported by the Florida Department of Revenue, the value of properties increased by approximately 40 percent between 2014 and 2018. To update the ROW cost, the calculated cost per lane mile from the previous study ($863,000) was indexed using the value increase observed over the past four years (approximately 40 percent). This index results in a ROW cost of approximately $1.21 million per lane mile, which represents a conservative estimate that accounts for the fluctuations in cost due to the location of projects and small sample sizes. Additional detail is provided in Appendix B, Table B-4.

Construction Cost

The construction cost for county roads was based on recently completed projects and future estimates in Collier County and in other communities in Florida. A review of construction cost data for improvement Collier County since 2012 identified six capacity expansion projects:

- Golden Gate Blvd from Wilson Blvd to E. of 18th St N
- Collier Blvd from Green Blvd to Golden Gate Blvd
- Golden Gate Blvd from W. of 20th St SE to E. of Everglades Blvd
- Vanderbilt Beach Rd Extension from Collier Blvd to 16th St NE
- Vanderbilt Beach Rd Extension from US 41 to E. of Goodlette-Frank Rd
- Airport Rd from Vanderbilt Beach Rd to Immokalee Rd

The costs for these improvements ranged from approximately $2.90 million to $5.60 million per lane mile with a weighted average cost of $3.57 million per lane mile. Additional detail is provided in Appendix B, Table B-6.

In addition to local projects, recent improvements from other counties throughout Florida were reviewed to increase the sample size. This review included over 156 lane miles of lane addition

and new road construction improvements completed between 2012 and 2018 with a weighted average cost of approximately $2.73 million per lane mile. This cost has been increasing during more recent years. Additional data is provided in Appendix B, Table B-7.

Based on a review of these data sets, a construction cost estimate of **$3.50 million** per lane mile is used in the impact fee calculation for urban design (curb & gutter) improvements. Based on discussions with County staff, it is anticipated that all the lane miles that the County will construct in the future will have urban design characteristics.

Mitigation

Mitigation cost estimates were developed based on cost data received for two recent projects in Collier County:

- Golden Gate Blvd from Wilson Blvd to E. of 18th St N
- Collier Blvd (CR 951) from Golden Gate Blvd to Green Blvd

The costs for these projects ranged from $22,000 to $117,000 with a weighted average cost of approximately $74,000 per lane mile. It should be noted that both of these projects are located outside of the Panther Consultation Area (PCA) of Collier County. Historically, projects within the PCA have commanded a higher mitigation cost per lane mile than those projects outside of the area. Therefore, the use of $74,000 for the county road cost represents a conservative estimate. Additional detail is provided in Appendix, Table B-9.

Urban Overpass

Urban overpass cost estimates were developed based on cost data received for three planned improvements in Collier County:

- Immokalee Rd & Randall Blvd
- US 41 (SR 90) Tamiami Tr East @ Collier Blvd (CR 951)
- Immokalee Rd & Collier Blvd

The total cost of these improvements was then divided by the total lane miles of county needs projects in the 2040 Long Range Transportation Plan, resulting in a cost of approximately $523,000 per lane mile. Additional detail is provided in Appendix B, Table B-10.

Table 1 summarizes the county road cost estimates for county roads while Table 2 provides a comparison to the cost estimates used to calculate the current Collier County road impact fee rates. As shown, the cost estimate is approximately 30 percent higher than last study.

Table 1

Estimated Total Cost per Lane Mile for County Roads

Cost Phase	Cost per Lane Mile
Design[1]	$385,000
Right-of-Way[2]	$1,208,000
Construction[3]	$3,500,000
CEI[4]	$315,000
Mitigation[5]	$74,000
Urban Overpass[6]	$523,000
Total Cost	**$6,005,000**

1) Design is estimated at 11% of construction costs.
2) Source: Based on a review of local projects (Appendix B, Table B-3) and taxable value increases countywide (Appendix B, Table B-4)
3) Source: Based on a review of local projects (Appendix B, Table B-6) and statewide capacity expansion projects (Appendix B, Table B-7)
4) CEI is estimated at 9% of construction costs
5) Source: Appendix B, Table B-9
6) Source: Appendix B, Table B-10

Note: All figures rounded to nearest $000

Table 2

Total Cost per Lane Mile Comparison for County Roads

Cost Phase	Cost per Lane Mile (2015)[1]	Cost per Lane Mile (Updated)[2]	% Change
Design	$270,000	$385,000	43%
Right-of-Way	$863,000	$1,208,000	40%
Construction	$2,700,000	$3,500,000	30%
CEI	$270,000	$315,000	17%
Mitigation	$74,000	$74,000	0%
Urban Overpass	$390,000	$523,000	34%
Total Cost	**$4,567,000**	**$6,005,000**	**31%**

1) Source: *Collier County Transportation Impact Fee Update Study*, January 2015
2) Source: Table 1

Vehicle-Miles of Capacity per Lane Mile

An additional component of the roadway impact fee equation is the capacity added per lane-mile of roadway constructed. The VMC is an estimate of capacity added per lane mile, for city/county roadway improvements in the Collier County 2040 LRTP. As shown in Table 3, each lane mile will add approximately 8,500 vehicles. Additional detail is provided in Appendix B, Table B-11.

Table 3

Weighted Average Vehicle-Miles of Capacity per Lane Mile

Road Type	Lane Miles Added[1]	Vehicle-Miles of Capacity Added[2]	VMC Added per Lane Mile[3]
County Roads	240.60	2,052,799	**8,500**

1) Source: Appendix B, Table B-11
2) Source: Appendix B, Table B-11
3) Vehicle-miles of capacity added (Item 2) divided by lane miles added (Item 1), rounded to nearest 00

Cost per Vehicle-Mile of Capacity

The roadway cost per unit of development is assessed based on the cost per vehicle-mile of capacity. As shown in Table 4, based on information presented in Tables 1 and 3, the cost per VMC for travel within the county is approximately **$706**.

The cost per VMC figure is used in the road impact fee calculation to determine the total cost per unit of development based on vehicle-miles of travel consumed. For each vehicle-mile of travel that is added to the county roadway system, approximately $706 of capacity is consumed. As shown, the cost estimate is approximately 54 percent higher than last study.

Table 4

Average Cost per Vehicle-Mile of Capacity Added

Source	Cost per Lane Mile[1]	Average VMC Added per Lane Mile[2]	Cost per VMC[3]
County Roads	$6,005,000	8,500	**$706.47**

1) Source: Table 1
2) Source: Table 3
3) Average VMC added per lane mile (Item 2) divided by cost per lane mile (Item 1)

Credit Component

Capital Improvement Credit

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

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

County Credit

A review of the County's FY 2019-2023 Annual Update and Inventory Report (AUIR) Transportation Work Program was conducted, indicating that a combination of impact fees, fuel tax revenues, and grants are used to fund roadway capacity expansion. Based on this review, Collier County allocates an equivalent of 4.7 pennies for the portion of fuel tax and grant revenues dedicated to roadway capacity expansion improvements.

Additionally, the County is using gas tax revenues to retire debt service used to fund roadway capacity expansion improvements. The fuel tax dedication for Series 2012 and Series 2014 bonds totals approximately 8.7 pennies of additional county credit. As shown in Table 5, a total fuel tax equivalent revenue credit of 13.4 pennies as given for county expenditures.

Due to the recent adoption of a one-percent local government infrastructure surtax in November 2018, an additional credit scenario was developed to account for the planned expenditures of the future sales tax revenue. This scenario assumes that the sales tax will be renewed after its initial seven year adoption and that a large portion will continue to be allocated for transportation capacity. As shown in Table 5, the sales tax credit adds an additional 9.7 pennies of equivalent pennies to the County revenues, bringing the total to 14.4 pennies.

In summary, Collier County contributes 13.4 pennies, annually, to roadway capacity expansion. A total credit of 13.4 pennies was included in the roadway impact fee calculation to recognize

the future capital revenues that are expected to be generated by new development from all non-impact fee revenues. When the sales tax is considered, the credit increases to 23.1 pennies.

Table 5

Equivalent Pennies of Gas Tax Revenue

Credit	Average Annual Expenditures	Value per Penny[4]	Equivalent Pennies per Gallon[5]
Excluding Local Government Infrastructure Surtax			
County Revenues[1]	$7,897,400	$1,675,465	$0.047
County Debt Service[2]	$14,517,552	$1,675,465	$0.087
Total	**$22,414,952**		**$0.134**
Including Local Government Infrastructure Surtax			
County Revenues[3]	$24,183,114	$1,675,465	$0.144
County Debt Service[2]	$14,517,552	$1,675,465	$0.087
Total	**$38,700,666**		**$0.231**

1) Source: Appendix C, Table C-2
2) Source: Appendix C, Table C-3
3) Source: Appendix C, Tables C-2 and C-4
4) Source: Appendix C, Table C-1
5) Average annual expenditures divided by the value per penny (Item 4) divided by 100

Present Worth Variables

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

- Interest Rate: This is the discount rate at which gasoline tax revenues might be bonded. It is used to compute the present value of the gasoline taxes generated by new development. The discount rate of 4.0 percent was used in the impact fee calculation based on interest rates on recent bonds issued by Collier 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-10 documents the calculation of fuel efficiency value based on the following equation, where "VMT" is vehicle miles of travel and "MPG" is fuel efficiency in terms of miles per gallon.

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

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 reflects the existing fleet mix of traffic on non-interstate roadways. The VMT and average fuel efficiency data were obtained from the most recent Federal Highway Administration's *Highway Statistics 2016*. Based on the calculation completed in Appendix C, Table C-8, the fuel efficiency rate to be used in the updated impact fee equation is 18.74 miles per gallon.

Effective Days per Year

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

Calculated Road Impact Fee Schedule

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

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

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

For clarification purposes, it may be useful to walk through the calculation of an impact fee for one of the land use categories. In the following example, the net impact fee is calculated for the single-family residential detached land use category (ITE LUC 210) using information from the impact fee schedules included in Appendix D. For each land use category, the following equations are utilized to calculate the net impact fee:

Net Impact Fee = Total Impact Cost – Capital Improvement Credit

Where:

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

Capital Improvement Credit = Present Value (Annual Capital Improvement Credit), given 4.0% interest rate & a 25-year facility life

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

Each of the inputs has been discussed previously in this document; however, for purposes of this example, brief definitions for each input are provided in the following paragraphs, along with the actual inputs used in the calculation of the fee for the single-family detached residential land use category (<4,000 sq. ft.):

- *Trip Rate* = the average daily trip generation rate, in vehicle-trips/day (7.37)
- *Assessable Trip Length* = the average trip length on collector roads or above, for the category, in vehicle-miles (5.88) (excluding local neighborhood roads)
- *Trip Length Adjustment Factor* = used to adjust the trip length for travel occurring on non-state roads (71%)
- *Adjusted Trip Length* = the assessable trip length multiplied by the trip length adjustment factor (5.88 * 71% = 4.17)
- *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 (4.17 + 0.50 = 4.67)
- *% New Trips* = adjustment factor to account for trips that are already on the roadway (100%)
- *Divide by 2* = the total daily miles of travel generated by a particular category (i.e., rate*length*% new trips) is divided by two to prevent the double-counting of travel generated between two land use codes since every trip has an origin and a destination
- *Interstate/Toll Facility Adjustment Factor* = discount factor to account for travel demand occurring on interstate highways and/or toll facilities (14.4%)
- *Cost per Lane* Mile = unit cost to construct one lane mile of roadway, in $/lane-mile ($6,005,000)
- *Average Capacity Added per Lane* Mile = represents the average daily traffic on one travel lane at capacity for one lane mile of roadway, in vehicles/lane-mile/day (8,500)
- Cost *per Vehicle-Mile of Capacity* = unit of vehicle-miles of capacity consumed per unit of development ($706.47)
- *Present Value* = calculation of the present value of a uniform series of cash flows, gas tax payments in this case, given an interest rate, “i,” and a number of periods, “n;” for 4.00% interest and a 25-year facility life, the uniform series present worth factor is 15.6221
- *Effective Days per Year* = 365 days
- *$/Gallon to Capital* = the amount of equivalent gas tax revenue per gallon of fuel that is used for capital improvements, in $/gallon (excluding sales tax = $0.134, including sales tax = $0.231)
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (18.74)

Road Impact Fee Calculation

Using these inputs, a net impact fee can be calculated for the single-family residential detached (<4,000 sf) land use category as follows:

Road Impact Fee (excluding sales tax):

Total Impact Cost = ([7.37 * 4.17 * 1.0] /2) * (1 - 0.144) * ($706.47) = **$9,293**

Annual Cap. Improv. Credit = ([7.37 * 4.67 * 1.0] /2) * 365 * ($0.134 /18.74) = $45
Capital Improvement Credit = $45 * 15.6221 = $703

Net Impact Fee = $9,293 – $703 = **$8,590**

Road Impact Fee (including sales tax):

Total Impact Cost = ([7.37 * 4.17 * 1.0] /2) * (1 - 0.144) * ($706.47) = **$9,293**

Annual Cap. Improv. Credit = ([7.37 * 4.67 * 1.0] /2) * 365 * ($0.231 /18.74) = $77
Capital Improvement Credit = $77 * 15.6221 = $1,203

Net Impact Fee = $9,293 – $1,203 = **$8,090**

Road Impact Fee Comparison

As part of the work effort in developing Collier County's road impact fee program, a comparison of calculated fees to road/transportation impact fee schedules adopted in other jurisdictions was completed, as shown in Table 6.

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

Table 6

Road/Transportation Impact Fee Comparison

Land Use	Unit[2]	Collier County Calculated No Sales Tax[3]	Collier County Calculated w/Sales Tax[4]	Collier County Existing[5]	Polk County[6]	Pasco County[7]	Lake County[8]	Lee County[9]	Charlotte County[10]	Martin County[11]	Indian River County[12]	Marion County[13]	Manatee County[14]	Sarasota County[15]	Brevard County[16]	Miami-Dade County[17]
Date of Last Update		**2019**	**2019**	2015	2015	2014	2013	2015	2013	2012	2014	2015	2015	2015	2000	2006
Adoption Percentage[1]		**100%**	**100%**	100%	100%	100%	70%	45%	40%	100%	100%/45%	11-20%	90%	100%	100%	100%
Residential:																
Single Family (2,000 sf)	du	**$8,590**	**$8,090**	$7,444	$2,155	$8,570	$2,706	$4,498	$2,389	$2,815	$4,248	$1,397	$5,636	$4,734	$4,353	$9,464
Non-Residential:																
Light Industrial	1,000 sf	**$4,865**	**$4,584**	$5,700	$666	$0	$1,505	$1,521	$1,518	$1,857	$1,206	$428	$2,471	$1,984	$0	$3,821
Office (50,000 sq ft)	1,000 sf	**$9,152**	**$8,605**	$10,249	$2,237	$0	$2,623	$3,426	$2,856	$2,198	$1,916	$676	$3,911	$4,327	$5,058	$15,420
Retail (125,000 sq ft)	1,000 sf	**$14,758**	**$13,774**	$14,354	$3,808	$7,051	$3,080	$5,164	$3,793	$5,183	$2,862	$1,014	$9,993	$9,365	$5,270	$20,071
Bank w/Drive-Thru	1,000 sf	**$22,817**	**$21,254**	$28,961	$3,808	$14,384	$3,080	$11,511	$8,003	$6,841	$6,219	$2,260	$9,993	$8,598	$23,331	$25,014
Fast Food w/Drive-Thru	1,000 sf	**$112,365**	**$104,272**	$96,567	$3,808	$46,712	$3,080	$22,010	$26,595	$15,693	$20,459	$2,803	$9,993	$17,867	$35,791	$50,346

1) Represents the portion of the maximum calculated fee for each respective county that is actually charged. Fees may have been lowered/raised through indexing or policy discounts. Does not account for moratoriums/suspensions
2) Du = dwelling unit
3) Source: Appendix D, Table D-1
4) Source: Appendix D, Table D-2
5) Source: Collier County Growth Management Division, Planning and Regulation. Road impact fees shown were adopted at 100 percent in 2015 and have since been indexed.
6) Source: Polk County Land Development Department. Retail/Commercial rate is applied to bank and fast food restaurant uses
7) Source: Pasco County Planning and Development Department. Mobility fee rates for the "Suburban" district are shown
8) Source: Lake County Office of Planning and Zoning. Rates for "South Benefit District" are shown
9) Source: Lee County Community Development Department, Building & Permitting Services
10) Source: Charlotte County Community Development Department, Planning & Zoning
11) Source: Martin County Growth Management Department
12) Source: Indian River County Planning Division
13) Source: Marion County Growth Services Department. Quality Restaurant rate is shown for Fast Food w/Drive-Thru
14) Source: Manatee County Administration Department. Average of four districts. Commercial/Shopping Center rate is applied to Bank and Fast Food Restaurant land uses.
15) Source: Sarasota County Planning & Development Services Department. Bank w/Drive-Thru land use is charged "per drive-thru lane."
16) Source: Brevard County Planning & Development Department.
17) Source: Miami-Dade County Development Services Division. Fees shown are the "non-urban infill" rates. Impact fee rates shown reflect phasing and indexing applied since adoption in 2006.

Road Impact Fee Benefit Districts

As part of the update of the road impact fee program, the existing impact fee benefit districts (illustrated in Map 1) were reviewed. To charge impact fees, the County must meet one of the dual rational nexus tests of proof of benefit to fee-paying development by ensuring that funds collected are spent on eligible capital improvements projects. Establishing benefit districts enhances this proof, showing a close connection to the fee-payer and their resulting benefit, by restricting revenues to specific areas of the County where the fee is collected. Benefit district boundaries are typically influenced by geographic (i.e., lakes and rivers) or man-made boundaries/barriers (i.e., roads, highways, municipal limits) which in some way restrict traffic.

District Boundaries

Currently, Collier County has eight road impact fee districts. Within these districts, Collier County charges the same roadway impact fee rate, except for Districts 7 and 8, where no fee is charged. Revenues collected in each district are placed into separate funds and can only be used to fund improvements within the corresponding benefit district. For example, revenues collected in District 2 are placed into an individual account and are only eligible to fund roadway capacity improvements within District 2. However, exceptions are made for projects that span multiple adjacent districts[1]. In those cases, funds from the two adjacent districts can both be used on the improvement. The use of benefit districts restricts the impact fee funds to a smaller area with the intent of providing a direct benefit (via new road construction, lane additions, intersection improvements, etc.) to the fee payer.

In regard to the geographic boundaries of the districts, no changes are recommended to the existing districts. As shown in Table 7, impact fee revenues collected in Districts 1, 2, 4, and 6 are all close-to or above 20 percent of total road impact fee revenues. Development in District 5 is expected to pick up with the ongoing development of the Immokalee area while District 3 (City of Naples) is built-out with little room for new development, explaining the low revenue generation. However, because this District's boundaries correspond to the city limits, no boundary changes are recommended. If the City annexes additional land in the future, the District 3 boundary should be expanded to capture this additional area. Based on a review of the revenue collection levels, municipal & geographical boundaries, and discussions with County staff, it is recommended that the current boundaries are maintained.

[1] Collier County Code of Ordinances, Section 74-203 (b)

Table 7

Road Impact Fee Revenues by District

Year	District 1 N. Naples	District 2 GG City	District 3 Naples	District 4 S. Naples/Marco	District 5 Immokalee	District 6 GG Estates	Total
FY 1993	$2,321,742	$1,163,364	$82,468	$402,663	$97,173	$863,259	**$4,930,669**
FY 1994	$2,744,801	$1,214,704	$115,869	$1,613,960	$189,868	$594,532	**$6,473,734**
FY 1995	$3,276,365	$1,521,121	$830,082	$811,176	$202,380	$557,716	**$7,198,840**
FY 1996	$2,810,839	$0	$200	$934,620	$77,723	$639,302	**$4,462,684**
FY 1997	$3,808,509	$2,007,956	$167,908	$865,108	$48,136	$745,656	**$7,643,273**
FY 1998	$4,167,168	$2,230,155	$63,698	$1,340,218	$72,635	$1,094,907	**$8,968,781**
FY 1999	$5,871,701	$3,406,219	$836,929	$950,243	$126,200	$1,646,388	**$12,837,680**
FY 2000	$5,778,945	$5,197,577	$539,488	$1,352,513	$131,817	$2,048,342	**$15,048,682**
FY 2001	$7,749,833	$4,511,417	$705,128	$1,544,623	$142,014	$2,558,992	**$17,212,007**
FY 2002	$7,735,213	$4,571,497	$554,868	$1,689,156	$264,819	$2,802,035	**$17,617,588**
FY 2003	$7,888,912	$4,901,994	$728,860	$4,218,999	$408,194	$3,396,842	**$21,543,801**
FY 2004	$15,174,057	$9,134,434	$552,884	$11,734,663	$199,847	$14,583,554	**$51,379,439**
FY 2005	$17,751,614	$11,882,408	$1,490,545	$14,385,927	$1,872,243	$11,144,818	**$58,527,555**
FY 2006	$13,213,937	$9,538,309	$560,954	$15,168,598	$4,468,762	$8,621,745	**$51,572,305**
FY 2007	$13,598,462	$20,155,638	$2,078,329	$12,673,929	$4,928,468	$16,001,882	**$69,436,707**
FY 2008	$14,748,470	$3,185,621	$750,668	$4,042,934	$2,804,124	$2,520,900	**$28,052,716**
FY 2009	$1,917,401	$2,426,745	-$125,590	$7,567,178	$181,984	$795,430	**$12,763,149**
FY 2010	$992,673	$2,398,827	$0	$3,209,026	$831,426	$4,841,052	**$12,273,005**
FY 2011	$639,635	$1,112,445	-$61,285	$2,153,551	$233,830	$1,523,791	**$5,601,968**
FY 2012	$2,406,382	$297,230	$115,747	$5,128,168	$1,621,702	-$1,108,015	**$8,461,215**
FY 2013	$1,240,684	$588,898	$0	$3,755,034	$412,290	$220,830	**$6,217,736**
FY 2014	$2,169,998	$1,047,911	$245,144	$4,785,319	$1,088,877	$605,410	**$9,942,660**
FY 2015	$3,906,462	$921,304	$810,145	$2,374,816	$1,164,597	$1,685,489	**$10,862,813**
FY 2016	$5,671,025	$3,290,503	$187,474	$5,148,218	$1,048,531	$2,915,399	**$18,261,149**
FY 2017	$5,937,727	$2,208,132	$206,225	$4,086,585	$1,532,470	$4,682,168	**$18,653,307**
FY 2018	$4,344,426	$1,918,757	$0	$2,836,945	$567,000	$2,035,060	**$11,702,187**
Total	**$157,866,979**	**$100,833,166**	**$11,436,739**	**$114,774,170**	**$24,717,110**	**$88,017,484**	**$497,645,648**
%	31.6%	20.3%	2.3%	23.1%	5.0%	17.7%	100.0%

Source: Collier County Transportation Engineering Department

Impact Fee Revenue Use Across Districts

As previously mentioned, for certain projects, revenues from adjacent districts can be pooled together. Although this approach creates some flexibility, it requires an evaluation of each project on a case-by-case basis and does not recognize regional roads that benefit multiple districts. Given this, Tindale Oliver identified regional roads in the county, which is discussed further in the following subsection.

Regional Roads

For purposes of the benefit districts analysis, "regional roads" refer to corridors which serve a significant portion of the county and are essential to moving traffic across or through the County, rather than serving as connectors to larger roads. From an impact fee perspective, improvements to these corridors provide benefit to all districts, whether they are located within or adjacent to

every transportation district because they are major connectors across the county (east-west or north-south, etc.). As such, it is appropriate that future capacity improvements to the corridors classified as "regional" would be eligible for funding from all the impact fee districts in Collier County. The process for classifying regional roads is based primarily on the model trip lengths and traffic volumes along major roadways. Corridors with long lengths and high volumes suggest that these roads as significant regional roads.

Model Trip Length Validation

The initial regional roads analysis was included as part of the previous impact fee update study[2]. As previously mentioned, this list was determined through a review of model trip lengths, traffic volumes, and discussions with County staff. The initial list of regional roads included:

- US 41 (Tamiami Trail)
- Collier Boulevard
- Oil Well Road
- Camp Keais Road
- Immokalee Road

Since the time of the previous impact fee report, several other segments have been examined for potential re-classification as a "regional road" for impact fee purposes. The following segments were deemed to serve the entire county and have been added to the regional roads network:

- Logan/Santa Barbara Boulevard from County Line to Rattlesnake Hammock Road
    - Contingent upon the completion of the extension north to Bonita Beach Rd in Lee County[3]
- Vanderbilt Beach Road from Collier Boulevard to Desoto Boulevard
    - Contingent upon the completion of the planned extension east to Desoto Blvd[4]

Table 8 presents the full list of designated "regional roads."

[2] Collier County Transportation Impact Fee Update Study, January 2015
[3] Classification of Logan/Santa Barbara Boulevard, May 2016
[4] Impact Fee Funding for Transportation Capacity Projects, June 2018

Table 8

Regional Roads in Collier County

Description	From	To
US 41 (Tamiami Trail)	Lee County Line	Miami-Dade County Line
Collier Boulevard	Immokalee Road	Marco Island Bridge
Oil Well Road	Immokalee Road	Camp Keais Road
Camp Keais Road	Immokalee Road	Oil Well Road
Immokalee Road	US 41 (Tamiami Trail)	Camp Keais Road
Logan/Santa Barbara Boulevard	Lee County Line	Rattlesnake Hammock Road
Vanderbilt Beach Road	Collier Boulevard	Desoto Boulevard

As part of this update study the model trip lengths of all regional roads were re-examined to verify that they still meet the criteria for the "regional" classification. For travel demand, the FDOT District 1 Regional Planning Model (D1RPM v1.0.3) was used. Major arterial roadways within the county were divided into multiple segments. A "select-link" analysis was conducted on each of these segments using the existing 2010 scenario of the D1RPM. A select-link analysis determines the characteristics of the travel demand of a particular link in the model network. It allows the origin and destination of the traffic traveling on the analyzed link to be identified. For example, it measures the trip length of every car that passes by a specific point on a specific road. The select link analysis was used in order to determine the amount and route of traffic traveling on the county's major arterial roadways. The multiple select-link analysis allowed the studied roadways to be evaluated to determine the total projected volume and trip length along the corridor.

As shown on Map 1, all regional corridors have higher than average trip lengths, determined through the select link analysis. The average trip length countywide is approximately 8.6 miles, while the corridors identified on Map 1 range from 7.3 miles to 54.7 miles, with trip lengths increasing as the select links move further away from the City of Naples and the urban core. These relatively longer trip lengths indicate that drivers are utilizing these specific corridors for long distance trips across Collier County. Collier Boulevard is the County's primary north-south connector, while Immokalee Road and Oil Well Road provide east-west connections for the northern part of the county.

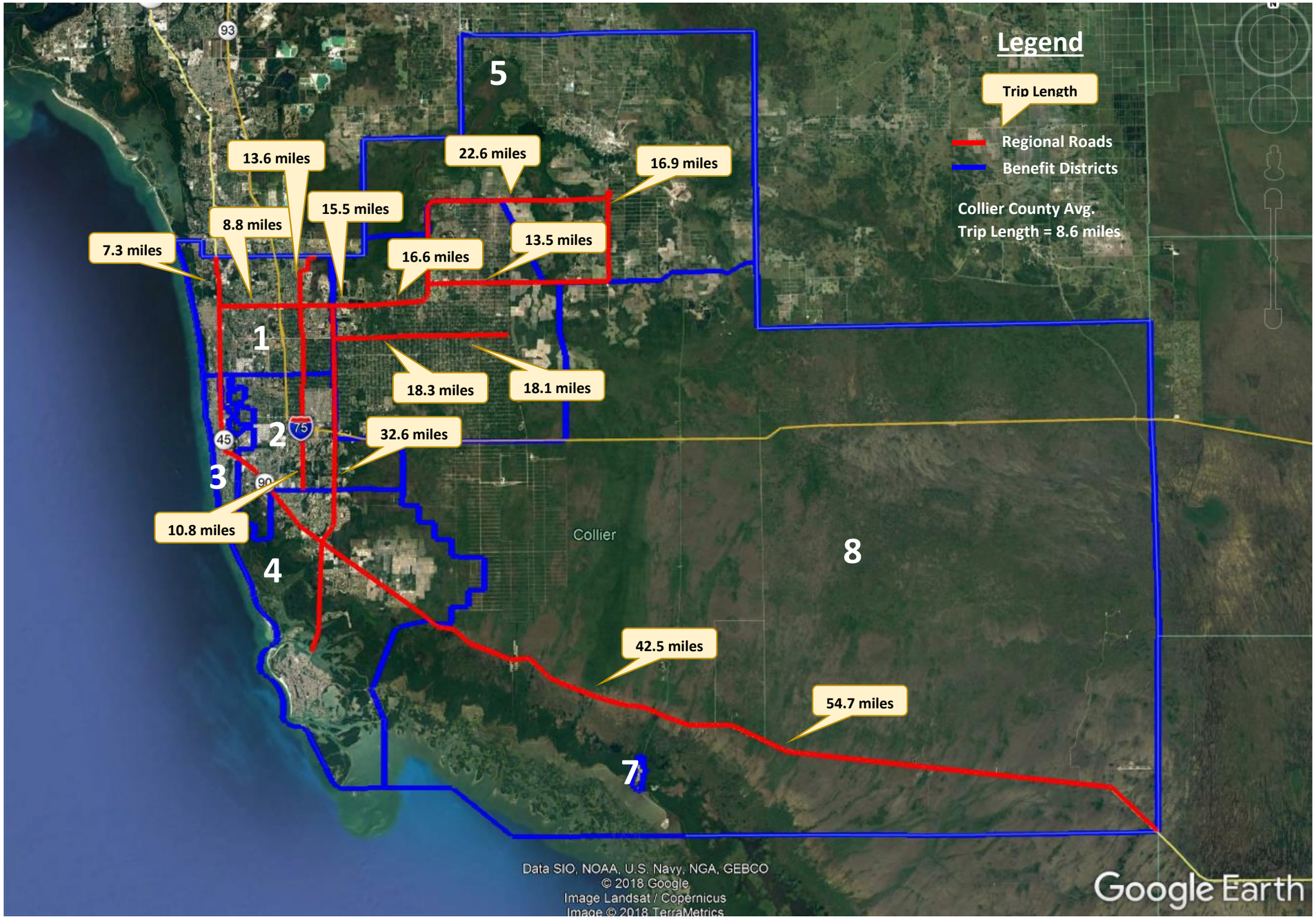
Benefit Districts Recommendations

Based on a review of geographic barriers, historical impact fee revenue, travel, and traffic volume, it is recommended that Collier County continues forward with the existing benefit district alignments. Additionally, identified "regional roads" should be eligible for impact fee

funding from any benefit district, even if the improvement is not located within or adjacent to a funding district.

The travel demand and traffic characteristics of these corridors highlight their importance in moving traffic and connecting neighborhoods throughout the entire county. It is recommended that in future updates Collier County continue to monitor travel and traffic along major corridors to confirm this list of regional roads as well as to identify any additional regional-type roadways that may emerge.

Map 1 – Collier County "Regional Roads"



Sidewalk Construction In-Lieu Payment

This section includes a summary of recent sidewalk construction cost data from Collier County. As shown in Table 9, recent stand-alone sidewalk construction projects averaged approximately $818,000 per mile of construction. When compared to the FDOT District 7[5] LRE, which provided costs for 5' wide sidewalk ($507,548 per mile, both sides, including design, construction and CEI), the local projects indicate a higher cost. However, local projects included in Table 9 are stand-alone construction, which is expected to cost more than building a sidewalk as part of a corresponding roadway improvement.

Table 9

Collier County Sidewalk Construction Costs

Project	Length	Design	Construction	CEI	Total Cost	Total Cost per Mile
East Naples 16-6599	0.65	$97,597	$269,818	$95,821	$463,236	$712,671
Livingston Rd 13-6164	0.25	$34,845	$222,491	$0	$257,336	$1,029,344
New Market 15-6484	2.20	$159,545	$1,468,940	$188,092	$1,816,577	$825,717
Total	**3.10**	**$291,987**	**$1,961,249**	**$283,913**	**$2,537,149**	**$818,435**

Source: Collier County Transportation Engineering Department

Currently, for new development along a County-maintained roadway, Collier County collects an in-lieu fee of **$9.92** per square foot. Assuming a 5' width and a sidewalk on both sides of the road, this equates to approximately $524,000 per mile ($9.92 x 5 ft width x 5,280 ft x 2 sides of road), which is consistent with the FDOT LRE figures.

Given that the roadway cost considered in impact fee calculations tends to include sidewalk construction, it is recommended that in cases when a new development either builds a sidewalk on the County's classified, non-local roadways or pays an in-lieu fee, this amount should be subtracted from the development's impact fee amount.

[5] Similar data for District 1 was not available

Appendix A
Demand Component

Appendix A: Demand Component

This appendix presents the detailed calculations for the demand component of the road impact fee study.

Interstate & Toll Facility Adjustment Factor

Table A-1 presents the interstate and toll facility adjustment factor used in the calculation of the road impact fee. This variable is based on data from the District 1 Regional Planning Model v1.0.3), specifically the 2040 projected vehicle-miles of travel of all county-generated trips on all in-county roadways. It should be noted that the adjustment factor excludes all external-to-external trips, which represent traffic that goes through Collier 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

Facility Type	Total	
	VMT	%
Interstate/Toll	1,831,685	**14.4%**
Other Roads	10,929,656	85.6%
Total	**12,761,341**	**100.0%**

Source: D1RPM v1.0.3, 2040

Trip Length Adjustment Factor

Table A-2 presents the trip length adjustment factor for non-state roads used in the calculation of the road impact fee. This variable is based on data from the District 1 Regional Planning Model v1.0.3), specifically the 2040 projected vehicle-miles of travel of all county-generated trips on all in-county roadways.

Table A-2

Trip Length Adjustment Factor

Facility Type	Total	
	VMT	%
Non-State Roads	7,004,055	**71%**
State Roads	2,871,737	29%
Total	**9,875,792**	**100%**

Source: D1RPM v1.0.3, 2040

Florida Studies Trip Characteristics Database

The Florida Studies Trip Characteristics Database includes over 200 studies on 40 different residential and non-residential land uses collected over the last 25 years. Data from these studies include trip generation, trip length, and percent new trips for each land use. This information has been used in the development of impact fees and the creation of land use plan category trip characteristics for communities throughout Florida and the U.S.

Tindale Oliver estimates trip generation rates for all land uses in a roadway impact fee schedule using data from studies in the Florida Studies Database and the Institute of Transportation Engineers' (ITE) *Trip Generation* reference report (10th edition). In instances, when both ITE *Trip Generation* reference report (10th edition) and Florida Studies trip generation rate (TGR) data are available for a particular land use, the data is typically blended to increase the sample size and provide a more valid estimate of the average number of trips generated per unit of development. If no Florida Studies data is available, only TGR data from the ITE reference report is used in the fee calculation.

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

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

The percent new trip variable is based on assigning each trip collected through the origin-destination survey process a trip type (primary, secondary, diverted, and captured). The percent new trip variable is then calculated as 1 minus the percentage of trips that are captured.

Land Use 151: Mini-Warehouse

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Orange Co, FL	89.6	2006	-	-	1.23	-	-	-	-	Orange County
Orange Co, FL	84.7	2006	-	-	1.39	-	-	-	-	Orange County
Orange Co, FL	93.0	2006	-	-	1.51	-	-	-	-	Orange County
Orange Co, FL	107.0	2007	-	-	1.45	-	-	-	-	Orange County
Orange Co, FL	77.0	2009	-	-	2.18	-	-	-	-	Tindale Oliver
Orange Co, FL	93.7	2012	-	-	1.15	-	-	-	-	Tindale Oliver
Total Size	545.0	5					**Average Trip Length:**	**n/a**		
ITE	780.0	15					**Weighted Average Trip Length:**	**n/a**		
Blended total	1,325.0						Weighted Percent New Trip Average:	-		

Weighted Average Trip Generation Rate: 1.47
ITE Average Trip Generation Rate: 1.51
Blend of FL Studies and ITE Average Trip Generation Rate: 1.49

Land Use 210: Single Family - Detached

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Gwinnett Co, GA	-	12/13-18/92	-	-	5.80	-	5.40	-	31.32	Street Smarts
Gwinnett Co, GA	-	12/13-18/92	-	-	5.40	-	6.10	-	32.94	Street Smarts
Sarasota Co, FL	76	Jun-93	70	70	10.03	-	6.00	-	60.18	Sarasota County
Sarasota Co, FL	79	Jun-93	86	86	9.77	-	4.40	-	42.99	Sarasota County
Sarasota Co, FL	135	Jun-93	75	75	8.05	-	5.90	-	47.50	Sarasota County
Sarasota Co, FL	152	Jun-93	63	63	8.55	-	7.30	-	62.42	Sarasota County
Sarasota Co, FL	193	Jun-93	123	123	6.85	-	4.60	-	31.51	Sarasota County
Sarasota Co, FL	97	Jun-93	33	33	13.20	-	3.00	-	39.60	Sarasota County
Sarasota Co, FL	282	Jun-93	146	146	6.61	-	8.40	-	55.52	Sarasota County
Sarasota Co, FL	393	Jun-93	207	207	7.76	-	5.40	-	41.90	Sarasota County
Hernando Co, FL	76	May-96	148	148	10.01	9a-6p	4.85	-	48.55	Tindale Oliver
Hernando Co, FL	128	May-96	205	205	8.17	9a-6p	6.03	-	49.27	Tindale Oliver
Hernando Co, FL	232	May-96	182	182	7.24	9a-6p	5.04	-	36.49	Tindale Oliver
Hernando Co, FL	301	May-96	264	264	8.93	9a-6p	3.28	-	29.29	Tindale Oliver
Charlotte Co, FL	135	Oct-97	230	-	5.30	9a-5p	7.90	-	41.87	Tindale Oliver
Charlotte Co, FL	142	Oct-97	245	-	5.20	9a-5p	4.10	-	21.32	Tindale Oliver
Charlotte Co, FL	150	Oct-97	160	-	5.00	9a-5p	10.80	-	54.00	Tindale Oliver
Charlotte Co, FL	215	Oct-97	158	-	7.60	9a-5p	4.60	-	34.96	Tindale Oliver
Charlotte Co, FL	257	Oct-97	225	-	7.60	9a-5p	7.40	-	56.24	Tindale Oliver
Charlotte Co, FL	345	Oct-97	161	-	7.00	9a-5p	6.60	-	46.20	Tindale Oliver
Charlotte Co, FL	368	Oct-97	152	-	6.60	9a-5p	5.70	-	37.62	Tindale Oliver
Charlotte Co, FL	383	Oct-97	516	-	8.40	9a-5p	5.00	-	42.00	Tindale Oliver
Charlotte Co, FL	441	Oct-97	195	-	8.20	9a-5p	4.70	-	38.54	Tindale Oliver
Charlotte Co, FL	1,169	Oct-97	348	-	6.10	9a-5p	8.00	-	48.80	Tindale Oliver
Collier Co, FL	90	Dec-99	91	-	12.80	8a-6p	11.40	-	145.92	Tindale Oliver
Collier Co, FL	400	Dec-99	389	-	7.80	8a-6p	6.40	-	49.92	Tindale Oliver
Lake Co, FL	49	Apr-02	170	-	6.70	7a-6p	10.20	-	68.34	Tindale Oliver
Lake Co, FL	52	Apr-02	212	-	10.00	7a-6p	7.60	-	76.00	Tindale Oliver
Lake Co, FL	126	Apr-02	217	-	8.50	7a-6p	8.30	-	70.55	Tindale Oliver
Pasco Co, FL	55	Apr-02	133	-	6.80	8a-6p	8.12	-	55.22	Tindale Oliver
Pasco Co, FL	60	Apr-02	106	-	7.73	8a-6p	8.75	-	67.64	Tindale Oliver
Pasco Co, FL	70	Apr-02	188	-	7.80	8a-6p	6.03	-	47.03	Tindale Oliver
Pasco Co, FL	74	Apr-02	188	-	8.18	8a-6p	5.95	-	48.67	Tindale Oliver
Pasco Co, FL	189	Apr-02	261	-	7.46	8a-6p	8.99	-	67.07	Tindale Oliver
Marion Co, FL	102	Apr-02	167	-	8.02	7a-6p	5.10	-	40.90	Kimley-Horn & Associates
Marion Co, FL	105	Apr-02	169	-	7.23	7a-6p	7.22	-	52.20	Kimley-Horn & Associates
Marion Co, FL	124	Apr-02	170	-	6.04	7a-6p	7.29	-	44.03	Kimley-Horn & Associates
Marion Co, FL	132	Apr-02	171	-	7.87	7a-6p	7.00	-	55.09	Kimley-Horn & Associates
Marion Co, FL	133	Apr-02	209	-	8.04	7a-6p	4.92	-	39.56	Kimley-Horn & Associates
Citrus Co, FL	111	Oct-03	273	-	8.66	7a-6p	7.70	-	66.68	Tindale Oliver
Citrus Co, FL	231	Oct-03	155	-	5.71	7a-6p	4.82	-	27.52	Tindale Oliver
Citrus Co, FL	306	Oct-03	146	-	8.40	7a-6p	3.94	-	33.10	Tindale Oliver
Citrus Co, FL	364	Oct-03	345	-	7.20	7a-6p	9.14	-	65.81	Tindale Oliver
Citrus Co, FL	374	Oct-03	248	-	12.30	7a-6p	6.88	-	84.62	Tindale Oliver
Lake Co, FL	42	Dec-06	122	-	11.26	-	5.56	-	62.61	Tindale Oliver
Lake Co, FL	51	Dec-06	346	-	18.22	-	9.46	-	172.36	Tindale Oliver
Lake Co, FL	59	Dec-06	144	-	12.07	-	10.79	-	130.24	Tindale Oliver
Lake Co, FL	90	Dec-06	194	-	9.12	-	5.78	-	52.71	Tindale Oliver
Lake Co, FL	239	Dec-06	385	-	7.58	-	8.93	-	67.69	Tindale Oliver
Hernando Co, FL	232	Apr-07	516	-	8.02	7a-6p	8.16	-	65.44	Tindale Oliver
Hernando Co, FL	95	Apr-07	256	-	8.08	7a-6p	5.88	-	47.51	Tindale Oliver
Hernando Co, FL	90	Apr-07	338	-	7.13	7a-6p	5.86	-	41.78	Tindale Oliver
Hernando Co, FL	58	Apr-07	153	-	6.16	7a-6p	8.39	-	51.68	Tindale Oliver
Collier Co, FL	74	Mar-08	503	-	12.81	7a-6p	3.05	-	39.07	Tindale Oliver
Collier Co, FL	97	Mar-08	512	-	8.78	7a-6p	11.29	-	99.13	Tindale Oliver
Collier Co, FL	315	Mar-08	1,347	-	6.97	7a-6p	6.55	-	45.65	Tindale Oliver
Collier Co, FL	42	Mar-08	314	-	9.55	7a-6p	10.98	-	104.86	Tindale Oliver
Total Size	10,380	55	13,130					**Weighted Average Trip Generation Rate:**		**7.81**

Single Family Trip Length Analysis - Collier County

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Collier Co, FL	770	Dec-99	175	-	-	8a-6p	4.96	-	-	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
Total Size	1,260	55	655				**Average Trip Length:**	**7.59**		
							Weighted Average Trip Length:	**5.88**		

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

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Sarasota Co, FL	212	Jun-93	42	42	5.78	-	5.20	-	30.06	Sarasota County
Sarasota Co, FL	243	Jun-93	36	36	5.84	-	-	-	-	Sarasota County
Marion Co, FL	214	Apr-02	175	175	6.84	-	4.61	-	31.53	Kimley-Horn & Associates
Marion Co, FL	240	Apr-02	174	174	6.96	-	3.43	-	23.87	Kimley-Horn & Associates
Marion Co, FL	288	Apr-02	175	175	5.66	-	5.55	-	31.41	Kimley-Horn & Associates
Marion Co, FL	480	Apr-02	175	175	5.73	-	6.88	-	39.42	Kimley-Horn & Associates
Marion Co, FL	500	Apr-02	170	170	5.46	-	5.94	-	32.43	Kimley-Horn & Associates
Lake Co, FL	250	Dec-06	135	135	6.71	-	5.33	-	35.76	Tindale Oliver
Lake Co, FL	157	Dec-06	265	265	13.97	-	2.62	-	36.60	Tindale Oliver
Lake Co, FL	169	Dec-06	212	-	8.09	-	6.00	-	48.54	Tindale Oliver
Lake Co, FL	226	Dec-06	301	-	6.74	-	2.17	-	14.63	Tindale Oliver
Hernando Co, FL	312	Apr-07	456	-	4.09	-	5.95	-	24.34	Tindale Oliver
Hernando Co, FL	176	Apr-07	332	-	5.38	-	5.24	-	28.19	Tindale Oliver
Orange Co, FL	364	Nov-13	-	-	9.08	-	-	-	-	Orange County
Orange Co, FL	108	Aug-14	-	-	5.51	-	-	-	-	Orange County
Hernando Co, FL	31	May-96	31	31	6.12	9a-6p	4.98	-	30.48	Tindale Oliver
Hernando Co, FL	128	May-96	128	128	6.47	9a-6p	5.18	-	33.51	Tindale Oliver
Pasco Co, FL	229	Apr-02	198	198	4.77	9a-6p	-	-	-	Tindale Oliver
Pasco Co, FL	248	Apr-02	353	353	4.24	9a-6p	3.53	-	14.97	Tindale Oliver
Total Size	4,575			**Average Trip Length:**			**4.27**			
Total Size (TL)	3,631			**Weighted Average Trip Length:**			**5.10**			

Land Use 240: Mobile Home Park

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Marion Co, FL	67	Jul-91	22	22	5.40	48hrs.	2.29	-	12.37	Tindale Oliver
Marion Co, FL	82	Jul-91	58	58	10.80	24hr.	3.72	-	40.18	Tindale Oliver
Marion Co, FL	137	Jul-91	22	22	3.10	24hr.	4.88	-	15.13	Tindale Oliver
Sarasota Co, FL	996	Jun-93	181	181	4.19	-	4.40	-	18.44	Sarasota County
Sarasota Co, FL	235	Jun-93	100	100	3.51	-	5.10	-	17.90	Sarasota County
Marion Co, FL	188	Apr-02	147	-	3.51	24hr.	5.48	-	19.23	Kimley-Horn & Associates
Marion Co, FL	227	Apr-02	173	-	2.76	24hr.	8.80	-	24.29	Kimley-Horn & Associates
Marion Co, FL	297	Apr-02	175	-	4.78	24hr.	4.76	-	22.75	Kimley-Horn & Associates
Hernando Co, FL	1,892	May-96	425	425	4.13	9a-6p	4.13	-	17.06	Tindale Oliver
Total Size	4,121	9	1,303			**Average Trip Length:**	**4.84**			
						Weighted Average Trip Length:	**4.60**			
								Weighted Average Trip Generation Rate:		**4.17**

Land Use 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.	3.28	-	8.07	Tindale Oliver
Total Size	208	1				**Average Trip Length:**	**3.28**			
ITE	486	6				**Weighted Average Trip Length:**	**3.28**			
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	21	164				**Average Trip Length:**	-		
ITE	876	6					**Weighted Average Trip Length:**	-		
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 310/320: Hotel/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	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
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	510						**Average Trip Length:**	**4.86**		
							Weighted Average Trip Length:	**5.42**		

Land Use 444: Movie Theater

Location	Size (Screens)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	8	Oct-89	151	116	113.10	2p-8p	2.70	77.0	235.13	Tindale Oliver
Pinellas Co, FL	12	Sep-89	122	116	63.40	2p-8p	1.90	95.0	114.44	Tindale Oliver
Total Size	20	2	273				**Average Trip Length:**	**2.30**		
ITE	6	1					**Weighted Average Trip Length:**	**2.22**		
Blended total	26									

Weighted Percent New Trip Average: 87.8

Weighted Average Trip Generation Rate: 83.28

ITE Average Trip Generation Rate: 220.00

Blend of FL Studies and ITE Average Trip Generation Rate: 114.83

Land Use 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		301				**Average Trip Length:**	**2.20**		
							Weighted Average Trip Length:	**2.03**		

Weighted Percent New Trip Average: 73.2

Land Use 620: Nursing Home

Location	Size (Beds)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Lakeland, FL	120	Mar-90	74	66	2.86	11a-4p	2.59	89.0	6.59	Tindale Oliver
Total Size	120	1	74			**Average Trip Length:**	**2.59**			
ITE	480	3				**Weighted Average Trip Length:**	**2.59**			
Blended total	600									

Weighted Percent New Trip Average: 89.0

Weighted Average Trip Generation Rate: 2.86

ITE Average Trip Generation Rate: 3.06

Blend of FL Studies and ITE Average Trip Generation Rate: 3.02

Land Use 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	11	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 770: Business Park

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Collier Co, FL	14.1	May-99	-	55	33.48	8a-6p	3.60	72.7	87.62	Tindale Oliver
Collier Co, FL	66.0	May-99	-	43	11.53	8a-6p	5.70	79.0	51.92	Tindale Oliver
Collier Co, FL	211.1	May-99	-	284	17.91	8a-6p	5.40	93.0	89.94	Tindale Oliver
Total Size	291.2	3				**Average Trip Length:**	**4.90**			
ITE	6,288.0	16				**Weighted Average Trip Length:**	**5.38**			
Blended total	6,579.2									

Weighted Percent New Trip Average: 88.8

Weighted Average Trip Generation Rate: 17.22

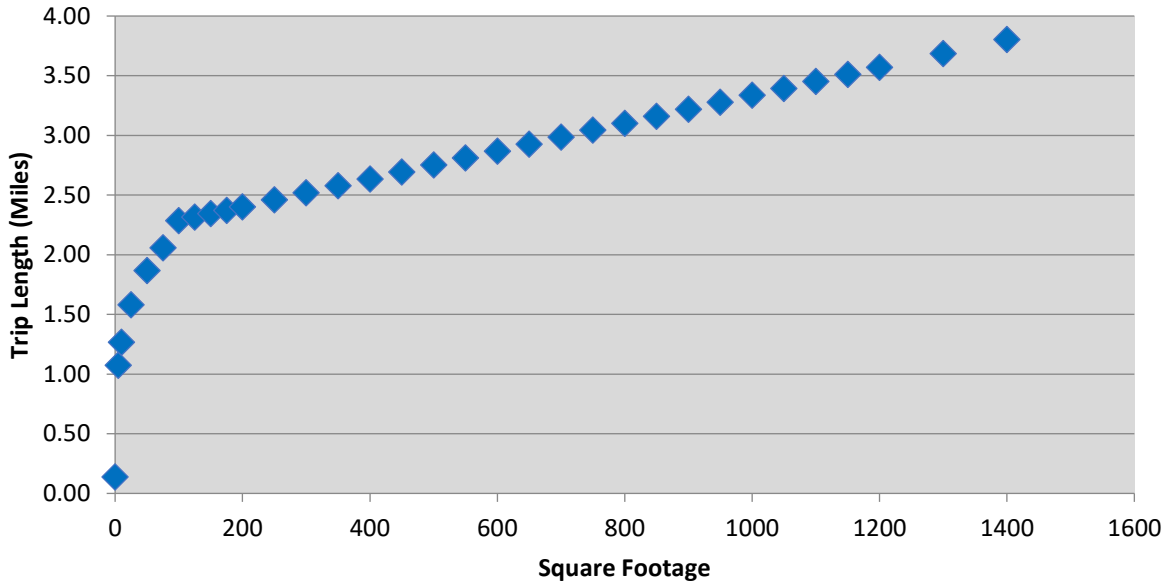
ITE Average Trip Generation Rate: 12.44

Blend of FL Studies and ITE Average Trip Generation Rate: 12.65

Land Use 820: Shopping Center

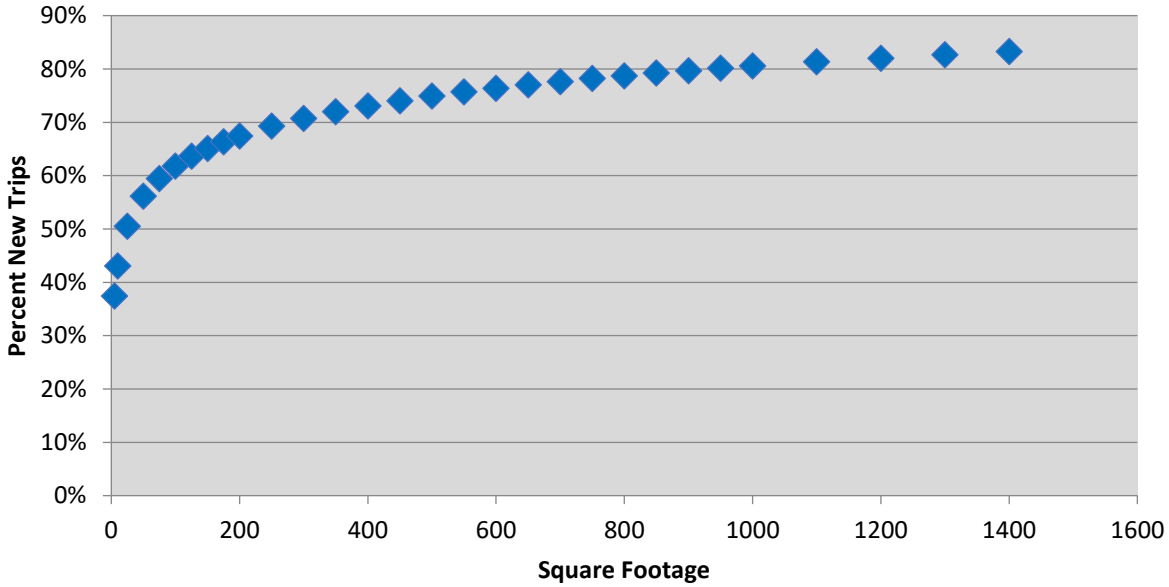
Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	527	348	-	-	-	66.0	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	170	-	-	-	1.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	354	269	-	-	-	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		7,536			Average Trip Length:	2.66			

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



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

Figure A-2
Shopping Center/Retail (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	8	288	**Average Trip Length:**	**4.60**	
ITE (840)	648.0	18		**Weighted Average Trip Length:**	**4.60**	
ITE (841)	28.0	14		Weighted Percent New Trip Average:	78.5	
Blended total	1,294.0			Weighted Average Trip Generation Rate:		21.04
				ITE Average Trip Generation Rate (LUC 840):		27.84
				ITE Average Trip Generation Rate (LUC 841):		27.06
				Blend of FL Studies and ITE Average Trip Generation Rate:		**24.58**

Land Use 850: Supermarket

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Palm Harbor, FL	62.0	Aug-89	163	62	106.26	9a-4p	2.08	56.0	123.77	Tindale Oliver

Total Size	62.0	1	163	**Average Trip Length:**	**2.08**	
ITE	170.0	5		**Weighted Average Trip Length:**	**2.08**	
Blended total	232.0			Weighted Percent New Trip Average:	56.0	
				Weighted Average Trip Generation Rate:		106.26
				ITE Average Trip Generation Rate:		106.78
				Blend of FL Studies and ITE Average Trip Generation Rate:		**106.64**

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	7	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
Pompano Beach, FL	58.5	Jun-06	31	140	3.70	9a-6p	4.38	89.2	16.21	Nunner Group - Collier County
Stuart, FL	100.0	Jun-06	198	154	6.50	9a-6p	3.14	79.4	20.41	Nunner Group - Collier County
Boca Raton, FL	19.1	Jun-06	198	108	11.00	9a-6p	4.36	74.5	47.96	Nunner Group - Collier County

Total Size	209.5		132	**Average Trip Length:**	**4.78**
	177.6			**Weighted Average Trip Length:**	**4.05**
ITE	779.0	19		Weighted Percent New Trip Average:	77.8
Blended total	956.60			Average Trip Generation Rate:	6.06
				ITE Average Trip Generation Rate:	6.30
				Blend of FL Studies and ITE Average Trip Generation Rate:	**6.26**

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	9	1,407	**Average Trip Length:**	**2.38**
ITE	147.0	21		**Weighted Average Trip Length:**	**2.46**
Blended total	172.2			Weighted Percent New Trip Average:	46.2
	149.7			Weighted Average Trip Generation Rate:	246.66
				ITE Average Trip Generation Rate:	100.03
				Blend of FL Studies and ITE Average Trip Generation Rate:	**102.66**

Land Use 931: 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	2	313	**Average Trip Length:**	**2.80**
ITE	90.0	10		**Weighted Average Trip Length:**	**3.14**
Blended total	105.5			Weighted Percent New Trip Average:	76.7

Land Use 932: High-Turnover (Sit-Down) Restaurant

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Hernando Co, FL	6.2	1996	242	175	187.51	9a-6p	2.76	72.5	375.00	Tindale Oliver
Hernando Co, FL	8.2	1996	154	93	102.71	9a-6p	4.15	60.2	256.43	Tindale Oliver
St. Petersburg, FL	5.0	1989	74	68	132.60	1130-7p	2.00	92.0	243.98	Tindale Oliver
Kenneth City, FL	5.2	1989	236	176	127.88	4p-730p	2.30	75.0	220.59	Tindale Oliver
Pasco Co, FL	5.2	2002	114	88	82.47	9a-6p	3.72	77.2	236.81	Tindale Oliver
Pasco Co, FL	5.8	2002	182	102	116.97	9a-6p	3.49	56.0	228.77	Tindale Oliver
Orange Co, FL	5.0	1996	-	-	135.68	-	-	-	-	Orange County
Orange Co, FL	9.7	1996	-	-	132.32	-	-	-	-	Orange County
Orange Co, FL	11.2	1998	-	-	18.76	-	-	-	-	Orange County
Orange Co, FL	7.0	1998	-	-	126.40	-	-	-	-	Orange County
Orange Co, FL	4.6	1998	-	-	129.23	-	-	-	-	Orange County
Orange Co, FL	7.4	1998	-	-	147.44	-	-	-	-	Orange County
Orange Co, FL	6.7	1998	-	-	82.58	-	-	-	-	Orange County
Orange Co, FL	11.3	2000	-	-	95.33	-	-	-	-	Orange County
Orange Co, FL	7.2	2000	-	-	98.06	-	-	-	-	Orange County
Orange Co, FL	11.4	2001	-	-	91.67	-	-	-	-	Orange County
Orange Co, FL	5.6	2001	-	-	145.59	-	-	-	-	Orange County
Orange Co, FL	5.5	-	-	-	100.18	-	-	-	-	Orange County
Orange Co, FL	11.3	-	-	-	62.12	-	-	-	-	Orange County
Orange Co, FL	10.4	-	-	-	31.77	-	-	-	-	Orange County
Orange Co, FL	5.9	-	-	-	147.74	-	-	-	-	Orange County
Orange Co, FL	8.9	2008	-	-	52.69	-	-	-	-	Orange County
Orange Co, FL	9.7	2010	-	-	105.84	-	-	-	-	Orange County
Orange Co, FL	9.5	2013	-	-	40.46	-	-	-	-	Orange County
Orange Co, FL	11.0	2015	-	-	138.39	-	-	-	-	Orange County
Total Size	194.9	21	1,102				**Average Trip Length:**	**3.07**		
ITE	250.0	50					**Weighted Average Trip Length:**	**3.17**		
Blended total	444.9						Weighted Percent New Trip Average:	70.8		

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

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	61	-	-	-	2.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	306	-	-	-	-	65.0	-	Kimley-Horn & Associates
Pinellas Co, FL	2.20	Aug-89	81	48	502.80	11a-2p	1.70	59.0	504.31	Tindale Oliver
Pinellas Co, FL	4.30	Oct-89	456	260	660.40	1 day	2.30	57.0	865.78	Tindale Oliver
Tarpon Springs, FL	-	Oct-89	233	114	-	7a-7p	3.60	49.0	-	Tindale Oliver
Marion Co, FL	1.60	Jun-91	60	32	962.50	48hrs.	0.91	53.3	466.84	Tindale Oliver
Marion Co, FL	4.00	Jun-91	75	46	625.00	48hrs.	1.54	61.3	590.01	Tindale Oliver
Collier Co, FL	-	Aug-91	66	44	-	-	1.91	66.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	118	40	-	-	1.17	33.9	-	Tindale Oliver
Hernando Co, FL	5.43	May-96	136	82	311.83	9a-6p	1.68	60.2	315.27	Tindale Oliver
Hernando Co, FL	3.13	May-96	168	82	547.34	9a-6p	1.59	48.8	425.04	Tindale Oliver
Orange Co, FL	8.93	1996	-	-	377.00	-	-	-	-	Orange County
Lake Co, FL	2.20	Apr-01	376	252	934.30	-	2.50	74.6	1742.47	Tindale Oliver
Lake Co, FL	3.20	Apr-01	171	182	654.90	-	-	47.8	-	Tindale Oliver
Lake Co, FL	3.80	Apr-01	188	137	353.70	-	3.30	70.8	826.38	Tindale Oliver
Pasco Co, FL	2.66	Apr-02	100	46	283.12	9a-6p	-	46.0	-	Tindale Oliver
Pasco Co, FL	2.96	Apr-02	486	164	515.32	9a-6p	2.72	33.7	472.92	Tindale Oliver
Pasco Co, FL	4.42	Apr-02	168	120	759.24	9a-6p	1.89	71.4	1024.99	Tindale Oliver
Total Size	48.8	13	4,463				**Average Trip Length:**	**2.11**		
ITE	201.0	67					**Weighted Average Trip Length:**	**2.05**		
Blended total	249.8						Weighted Percent New Trip Average:	57.9		
	34.0							Weighted Average Trip Generation Rate:		530.19
								ITE Average Trip Generation Rate:		470.95
								Blend of FL Studies and ITE Average Trip Generation Rate:		**482.53**

Land Use 942: Automobile Care Center

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	5.5	Sep-89	34	30	37.64	9a-5p	2.40	88.0	79.50	Tindale Oliver
Jacksonville, FL	2.3	2/3-4/90	124	94	-	9a-5p	3.07	76.0	-	Tindale Oliver
Jacksonville, FL	2.3	2/3-4/90	110	74	-	9a-5p	2.96	67.0	-	Tindale Oliver
Jacksonville, FL	2.4	2/3-4/90	132	87	-	9a-5p	2.32	66.0	-	Tindale Oliver
Lakeland, FL	5.2	Mar-90	24	14	-	9a-4p	1.36	59.0	-	Tindale Oliver
Lakeland, FL	-	Mar-90	54	42	-	9a-4p	2.44	78.0	-	Tindale Oliver
Orange Co, FL	25.0	Nov-92	41	39	-	2-6p	4.60	-	-	LCE, Inc.
Orange Co, FL	36.6	-	-	-	15.17	-	-	-	-	Orange County
Orange Co, FL	7.0	-	-	-	46.43	-	-	-	-	Orange County
Total Size	86.2	6	519				**Average Trip Length:**	**2.74**		
ITE	102.0	6					**Weighted Average Trip Length:**	**3.62**		
Blended total	188.2						Weighted Percent New Trip Average:	72.2		

Land Use 944/945: 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	-	23.0	-	Tindale Oliver
Collier Co, FL	-	Aug-91	168	40	-	-	1.01	23.8	-	Tindale Oliver
Total Size	0.6	1	238				**Average Trip Length:**	**1.01**		
ITE (vfp)	144.0	18					**Weighted Average Trip Length:**	**1.01**		
							Weighted Percent New Trip Average:	23.0		

Land Use 947: Self-Service Car Wash

Location	Size (Bays)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	10	Nov-89	111	84	-	8am-5pm	2.00	76.0	-	Tindale Oliver
Clearwater, FL	-	Nov-89	177	108	-	10am-5pm	1.30	61.0	-	Tindale Oliver
Collier Co, FL	11	Dec-09	304	-	30.24	-	2.50	57.0	-	Tindale Oliver
Collier Co, FL	8	Jan-09	186	-	22.75	-	1.96	72.0	-	Tindale Oliver
Total Size	29	3	778			**Average Trip Length:**	**1.94**			
Total Size (TGR)	19	2				**Weighted Average Trip Length:**	**2.18**			
ITE	5	1				Weighted Percent New Trip Average:		67.7		
Blended total	24							Weighted Average Trip Generation Rate:		27.09
								ITE Average Trip Generation Rate:		108.00
								Blend of FL Studies and ITE Average Trip Generation Rate:		**43.94**

Land Use N/A: Specialty Retail Center

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Collier Co, FL	12.0	May-99	-	13	19.70	8a-6p	3.70	75.0	54.67	Tindale Oliver
Collier Co, FL	12.0	May-99	-	146	127.50	8a-6p	2.24	84.3	240.76	Tindale Oliver
Total Size	24.0	3				**Average Trip Length:**	**2.97**			
ITE	100.0	4				**Weighted Average Trip Length:**	**2.97**			
Blended total	124.0					Weighted Percent New Trip Average:		79.7		
								Weighted Average Trip Generation Rate:		73.60
								ITE Average Trip Generation Rate (9th Edition):		44.32
								Blend of FL Studies and ITE Average Trip Generation Rate:		**49.99**

Land Use N/A: Dance Studio

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Collier Co, FL	7.000	Jul-08	-	-	30.29	-	-	-	-	Tindale Oliver
Collier Co, FL	20.48	Jul-08	-	-	17.19	-	-	-	-	Tindale Oliver
Collier Co, FL	8.705	Jul-08	-	-	23.89	-	-	-	-	Tindale Oliver
Total Size	36.2	3				**Average Trip Length:**	**n/a**			
						Weighted Average Trip Length:	**n/a**			
								Weighted Average Trip Generation Rate:		**21.33**

Single Family Residential Trip Generation Rate Tiering

As part of this study, the single family residential trip generation rate tiering was included to reflect a tiering analysis to ensure equity by the size of a home. To facilitate this, an analysis was completed on the comparative relationship between housing size and household travel behavior. This analysis utilized data from the 2009 National Household Travel Survey (NHTS) and the 2015 American Housing Survey (AHS) to examine overall trip-making characteristics of households in the United States.

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

Table A-3

Calculated Single Family Trip Characteristics

Calculated Values Excluding Tiering	Trip Rate	Assessable Trip Length*	Daily VMT
Single Family (Detached)	7.81	5.88	45.92

Source: Florida Studies TCS Database, Land Use 210: Single Family Residential
*Does not include the trip length adjustment factor

The results of the NHTS and AHS analyses are included in Tables A-4 and A-5. First, the data shown in Table A-4 indicates that the average income in the U.S. for families/households living in housing units smaller than 4,000 square feet in size ($61,444) is lower than the overall average income for the U.S. ($62,419). In Table A-5, annual average household VMT was calculated from the NHTS database for several different income levels and ranges related to the resulting AHS income data in Table A-4.

Table A-4

Annual Income by Housing Size

2017 AHS Average Income Data by Housing Size	Annual Income[(1)]
Less than 4,000 sf	$61,444
1,500 to 2,499 sf	$70,622
4,000 sf or more	$90,886
Average of All Houses	$62,419

Source: American Housing Survey for the United State in 2017
1) Weighted average of annual income for each tier

Table A-5

NHTS VMT Annual VMT by Income Category

2017 NHTS Travel Data by Annual HH Income	Annual VMT/HH	Days	Daily VMT	Ratio to Mean	Normalized to 1.055
Total (All Homes)	18,684	365	51.19	1.000	-
Average of $61,444	18,612	365	50.99	0.996	0.944
Average of $70,622	19,713	365	54.01	1.055	1.000
Average of $90,886	22,703	365	62.20	1.215	1.152

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

To calculate a corresponding trip rate for the new tiers it was necessary to rely on comparative ratios. As an example, consider the $61,444 annual income category. First, it was determined that the average annual household VMT for this income level is 18,612 miles. This figure was than compared to the overall average annual VMT per household in the U.S. and normalized to the average of the $70,622 (19,713 miles) category to derive a ratio of 0.944. It should be noted

that the $70,622 (1,500-2,499 sq ft) category is not an impact fee tier, but rather the average homes size that corresponds with the Florida Studies data shown in Table A-3.

Next, the normalized ratio was applied to the daily VMT for the average single family housing unit size (less than 4,000 sq ft) to generate a daily VMT of 43.35 for the tier, as shown in Table A-6. This daily VMT figure was then divided by the proposed assessable trip length of 5.88 miles to obtain a trip generation rate of 7.37 trips per day.

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)				
Less than 4,000 sf	**7.37**	5.88	43.35	0.944
1,500 to 2,499 sf	**7.81**	5.88	45.92	1.000
4,000 sf or larger	**9.00**	5.88	52.90	1.152

1) Daily VMT (Item 3) divided by assessable trip length (Item 2) for each tier
2) Source: Table A-3
3) Ratio to the mean (Item 4) multiplied by the total daily VMT for the 1,500 to 2,499 sq tier
4) Source: Table A-5

Table A-7 illustrates the impact that the trip generation rate tiers for the single family (detached) land use have on the County's calculated roadway impact fee rate.

Table A-7

Net Impact Fee by Single Family Land Use Tier

Impact of Tiering on Fee Schedule	Trip Rate[(1)]	Assessable Trip Length[(2)]	Daily VMT[(3)]	Net Fee[(2)]
Single Family (Detached)				
Less than 4,000 sf	**7.37**	5.88	43.35	**$8,590**
4,000 sf or larger	**9.00**	5.88	52.90	**$10,489**

1) Source: Table A-6, Item 1
2) Source: Appendix D, Table D-1

Demand Variable Changes

Since the last demand component update in 2015, the trip generation rate (TGR), trip length (TL), and percent new trips (PNT) has changed for several land uses. Tables A-8 through A-11 present the change in each variable for each land use for the 2019 update.

Table A-8

Percent Change in Gross VMT of Impact Fee Land Uses

ITE LUC	Land Use	Unit	GVMT 2015	GVMT 2019	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) <4,000 sf	du	22.49	21.67	-3.6%	TGR update, see Table A-9
	Single Family (Detached) 4,000 sf and more	du	27.11	26.46	-2.4%	TGR update, see Table A-9
220	Multi-Family Housing (Low-Rise, 1-2 floors)	du	16.83	18.67	10.9%	TGR update, see Table A-9
221	Multi-Family Housing (Mid-Rise, 3-10 floors)	du	10.71	13.87	29.5%	TGR update, see Table A-9
222	Multi-Family Housing (High-Rise, >10 floors)	du	14.69	11.35	-22.7%	TGR update, see Table A-9
231	Mid-Rise Residential w/1st floor Commercial	du	-	8.77	-	New land use
232	High-Rise Residential w/1st floor Commercial	du	-	5.13	-	New land use
240	Mobile Home Park	du	9.59	9.59	0.0%	No change
251	Retirement Community (detached)	du	8.46	9.49	12.2%	TGR update, see Table A-9
252	Retirement Community (attached)	du	8.46	5.46	-35.5%	TGR & TL update, see Tables A-9 and A-10
254	Assisted Living	bed	2.48	2.42	-2.4%	TGR, TL & PNT update, see Tables A-9, A-10, and A-11
	LODGING:					
310	Hotel	room	11.38	9.93	-12.7%	TGR update, see Table A-9
311	All Suites Hotel	room	8.76	7.98	-8.9%	TGR update, see Table A-9
320	Motel	room	9.41	5.60	-40.5%	TGR update, see Table A-9
	RECREATION:					
416	Campground/RV Park	site	3.73	3.73	0.0%	No change
420	Marina	berth	7.83	6.38	-18.5%	TGR update, see Table A-9
430	Golf Course	18 holes	642.68	546.29	-15.0%	TGR update, see Table A-9
n/a	Bundled Golf Course	18 holes	192.81	163.89	-15.0%	TGR update, see Table A-9
444	Movie Theater	screen	104.16	112.17	7.7%	TGR update, see Table A-9
n/a	Dance Studio/Gym	1,000 sf	25.34	25.34	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	2.22	2.22	0.0%	TGR & TL update, see Tables A-9 and A-10
522	Middle/Junior High School (Private)	student	3.13	2.50	-20.1%	TGR, TL & PNT update, see Tables A-9, A-10, and A-11
530	High School (Private)	student	3.31	2.69	-18.7%	TGR & TL update, see Tables A-9 and A-10
540	University/Junior College (7,500 or fewer students) (Private)	student	5.29	5.29	0.0%	No change
550	University/Junior College (more than 7,500 students) (Private)	student	3.97	3.97	0.0%	No change
560	Church	seat	1.07	0.77	-28.0%	TGR & TL update, see Tables A-9 and A-10
565	Day Care Center	student	3.25	3.03	-6.8%	TGR update, see Table A-9
	MEDICAL:					
610	Hospital	1,000 sf	29.93	24.58	-17.9%	TGR & PNT update, see Tables A-9 and A-11
620	Nursing Home	bed	3.18	3.48	9.4%	TGR update, see Table A-9
	OFFICE:					
710	General Office	1,000 sf	26.11	23.07	-11.6%	TGR update, see Table A-9
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	58.85	58.85	0.0%	No change
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	85.75	84.27	-1.7%	TGR update, see Table A-9
770	Business Park (Flex-Space)	1,000 sf	30.29	30.29	0.0%	No change
	RETAIL:					
820	Retail 6,000 sfgla or less	1,000 sfgla	18.90	16.39	-13.3%	TGR update, see Table A-9
	Retail 6,001-25,000 sfgla	1,000 sfgla	34.19	29.64	-13.3%	TGR update, see Table A-9
	Retail greater than 25,000 sfgla	1,000 sfgla	41.66	37.57	-9.8%	TGR, TL & PNT update, see Tables A-9, A-10, and A-11
840/841	New/Used Auto Sales	1,000 sf	51.33	44.66	-13.0%	TGR update, see Table A-9
849	Tire Superstore	service bay	25.52	25.52	0.0%	No change
850	Supermarket	1,000 sf	60.21	62.11	3.2%	TGR update, see Table A-9
851	Convenience Market, 24 hrs	1,000 sf	224.10	230.43	2.8%	TGR update, see Table A-9
862	Home Improvement Superstore	1,000 sf	23.38	23.38	0.0%	No change
880/881	Pharmacy with & w/o Drive-Thru	1,000 sf	31.94	34.73	8.7%	TGR update, see Table A-9
890	Furniture Store	1,000 sf	8.26	9.89	19.7%	TGR update, see Table A-9
	SERVICES:					
911	Bank/Savings Walk-In	1,000 sf	68.63	33.60	-51.0%	TGR update, see Table A-9
912	Bank/Savings Drive-In	1,000 sf	90.15	58.09	-35.6%	TGR update, see Table A-9
930	Fast Casual Restaurant	1,000 sf	-	187.37	-	New land use
931	Low-Turnover Restaurant	seat	3.46	3.14	-9.2%	TGR update, see Table A-9
932	High-Turnover Restaurant	seat	5.44	4.92	-9.6%	TGR update, see Table A-9
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	303.79	286.86	-5.6%	TGR update, see Table A-9
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	-	264.40	-	New land use
941	Quick Lube	service bay	33.41	33.41	0.0%	No change
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	18.27	19.98	9.4%	TGR update, see Table A-9
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	18.27	23.85	30.5%	TGR update, see Table A-9
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	18.27	26.77	46.5%	TGR update, see Table A-9
947	Self-Service Car Wash	service bay	32.57	32.57	0.0%	No change
948	Automated Car Wash	1,000 sf	104.66	105.25	0.6%	TGR update, see Table A-9
n/a	Luxury Auto Sales	1,000 sf	33.25	33.25	0.0%	No change
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	17.25	12.28	-28.8%	TGR update, see Table A-9
140	Manufacturing	1,000 sf	9.45	9.73	3.0%	TGR update, see Table A-9
150	Warehousing	1,000 sf	8.81	4.31	-51.1%	TGR update, see Table A-9
151	Mini-Warehouse	1,000 sf	3.07	2.41	-21.5%	TGR & TL update, see Tables A-9 and A-10
n/a	Mine	1,000 cy	0.07	0.07	0.0%	No change

- Gross VMT = TGR * TL * PNT / 2
- Individual variables are shown in Tables A-9 through A-11

Table A-9

Percent Change in Trip Generation Rate of Impact Fee Land Uses

ITE LUC	Land Use	Unit	TGR 2015	TGR 2019	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) <4,000 sf	du	7.65	7.37	-3.7%	Updated tiering to AHS 2017 & NHTS 2017
	Single Family (Detached) 4,000 sf and more	du	9.22	9.00	-2.4%	Updated tiering to AHS 2017 & NHTS 2017
220	Multi-Family Housing (Low-Rise, 1-2 floors)	du	6.60	7.32	10.9%	Re-alignment of multi-family land uses in ITE 10th Edition
221	Multi-Family Housing (Mid-Rise, 3-10 floors)	du	4.20	5.44	29.5%	Re-alignment of multi-family land uses in ITE 10th Edition
222	Multi-Family Housing (High-Rise, >10 floors)	du	5.76	4.45	-22.7%	Re-alignment of multi-family land uses in ITE 10th Edition
231	Mid-Rise Residential w/1st floor Commercial	du	-	3.44	-	New land use
232	High-Rise Residential w/1st floor Commercial	du	-	2.01	-	New land use
240	Mobile Home Park	du	4.17	4.17	0.0%	No change
251	Retirement Community (detached)	du	3.12	3.50	12.2%	Updated TGR in ITE 10th Edition
252	Retirement Community (attached)	du	3.12	3.33	6.7%	New land use, previously "attached" units assessed as LUC 251
254	Assisted Living	bed	2.25	2.60	15.6%	Unit change, update to ITE 10th Edition
	LODGING:					
310	Hotel	room	6.36	5.55	-12.7%	Additional FL Studies added and updated TGR in ITE 10th Edition
311	All Suites Hotel	room	4.90	4.46	-9.0%	Updated TGR in ITE 10th Edition
320	Motel	room	5.63	3.35	-40.5%	Updated TGR in ITE 10th Edition
	RECREATION:					
416	Campground/RV Park	site	1.62	1.62	0.0%	No change
420	Marina	berth	2.96	2.41	-18.6%	Updated TGR in ITE 10th Edition
430	Golf Course	18 holes	643.32	546.84	-15.0%	Updated TGR in ITE 10th Edition
n/a	Bundled Golf Course	18 holes	193.00	164.05	-15.0%	Updated TGR for LUC 430 in ITE 10th Edition (Bundled = 30%)
444	Movie Theater	screen	106.63	114.83	7.7%	Updated TGR in ITE 10th Edition
n/a	Dance Studio/Gym	1,000 sf	21.33	21.33	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	1.29	1.89	46.5%	Updated TGR in ITE 10th Edition
522	Middle/Junior High School (Private)	student	1.62	2.13	31.5%	Updated TGR in ITE 10th Edition
530	High School (Private)	student	1.71	2.03	18.7%	Updated TGR in ITE 10th Edition
540	University/Junior College (7,500 or fewer students) (Private)	student	2.00	2.00	0.0%	No change
550	University/Junior College (more than 7,500 students) (Private)	student	1.50	1.50	0.0%	No change
560	Church	seat	0.61	0.44	-27.9%	Updated TGR in ITE 10th Edition
565	Day Care Center	student	4.38	4.09	-6.6%	Updated TGR in ITE 10th Edition
	MEDICAL:					
610	Hospital	1,000 sf	13.22	10.72	-18.9%	Updated TGR in ITE 10th Edition
620	Nursing Home	bed	2.76	3.02	9.4%	Updated TGR in ITE 10th Edition
	OFFICE:					
710	General Office	1,000 sf	11.02	9.74	-11.6%	Updated TGR in ITE 10th Edition, removal of sq ft tiers
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	23.83	23.83	0.0%	No change
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	34.72	34.12	-1.7%	Update to ITE 10th
770	Business Park (Flex-Space)	1,000 sf	12.65	12.65	0.0%	No change
	RETAIL:					
820	Retail 6,000 sfgla or less	1,000 sfgla	86.56	75.05	-13.3%	Updated TGR in ITE 10th Edition
	Retail 6,001-25,000 sfgla	1,000 sfgla	86.56	75.05	-13.3%	Updated TGR in ITE 10th Edition
	Retail greater than 25,000 sfgla	1,000 sfgla	28.46	37.75	32.6%	Updated TGR in ITE 10th Edition, reduction of sq ft tiers
840/841	New/Used Auto Sales	1,000 sf	28.25	24.58	-13.0%	Update to ITE 10th Edition and merging of LUC 840 & 841
849	Tire Superstore	service bay	30.55	30.55	0.0%	No change
850	Supermarket	1,000 sf	103.38	106.64	3.2%	Updated TGR in ITE 10th Edition
851	Convenience Market, 24 hrs	1,000 sf	719.18	739.50	2.8%	Updated TGR in ITE 10th Edition
862	Home Improvement Superstore	1,000 sf	30.74	30.74	0.0%	No change
880/881	Pharmacy with & w/o Drive-Thru	1,000 sf	95.96	104.37	8.8%	Updated TGR in ITE 10th Edition for LUC 880 & 881
890	Furniture Store	1,000 sf	5.23	6.26	19.7%	Updated TGR in ITE 10th Edition
	SERVICES:					
911	Bank/Savings Walk-In	1,000 sf	121.30	59.39	-51.0%	Update to peak hour-to-daily conversion calculation
912	Bank/Savings Drive-In	1,000 sf	159.34	102.66	-35.6%	Updated TGR in ITE 10th Edition
930	Fast Casual Restaurant	1,000 sf	-	315.17	-	New land use
931	Low-Turnover Restaurant	seat	2.86	2.60	-9.1%	Updated TGR in ITE 10th Edition
932	High-Turnover Restaurant	seat	4.83	4.37	-9.5%	Updated TGR in ITE 10th Edition
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	511.00	482.53	-5.6%	Updated TGR in ITE 10th Edition
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	-	409.25	-	New land use
941	Quick Lube	service bay	40.00	40.00	0.0%	No change
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	157.33	172.01	9.3%	Re-alignment of gas station w/ conv. land uses in ITE 10th Edition
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	157.33	205.36	30.5%	Re-alignment of gas station w/ conv. land uses in ITE 10th Edition
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	157.33	230.52	46.5%	Re-alignment of gas station w/ conv. land uses in ITE 10th Edition
947	Self-Service Car Wash	service bay	43.94	43.94	0.0%	No change
948	Automated Car Wash	1,000 sf	141.20	142.00	0.6%	Updated TGR in ITE 10th Edition
n/a	Luxury Auto Sales	1,000 sf	16.30	16.30	0.0%	No change
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	6.97	4.96	-28.8%	Updated TGR in ITE 10th Edition
140	Manufacturing	1,000 sf	3.82	3.93	2.9%	Updated TGR in ITE 10th Edition
150	Warehousing	1,000 sf	3.56	1.74	-51.1%	Updated TGR in ITE 10th Edition
151	Mini-Warehouse	1,000 sf	2.15	1.49	-30.7%	Updated TGR in ITE 10th Edition
n/a	Mine	1,000 cy	0.01	0.01	0.0%	No change

- See Appendix D for additional information

Table A-10

Percent Change in Assessable Trip Length of Impact Fee Land Uses

ITE LUC	Land Use	Unit	TL 2015	TL 2019	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) <4,000 sf	du	5.88	5.88	0.0%	No change
	Single Family (Detached) 4,000 sf and more	du	5.88	5.88	0.0%	No change
220	Multi-Family Housing (Low-Rise, 1-2 floors)	du	5.10	5.10	0.0%	No change
221	Multi-Family Housing (Mid-Rise, 3-10 floors)	du	5.10	5.10	0.0%	No change
222	Multi-Family Housing (High-Rise, >10 floors)	du	5.10	5.10	0.0%	No change
231	Mid-Rise Residential w/1st floor Commercial	du	-	5.10	-	New land use
232	High-Rise Residential w/1st floor Commercial	du	-	5.10	-	New land use
240	Mobile Home Park	du	4.60	4.60	0.0%	No change
251	Retirement Community (detached)	du	5.42	5.42	0.0%	No change
252	Retirement Community (attached)	du	5.42	3.28	-39.5%	Updated to reflect Florida Studies for "attached" communities
254	Assisted Living	bed	3.08	2.59	-15.9%	Updated to use the TL for LUC 620, previously used LUC 253 (App. A)
	LODGING:					
310	Hotel	room	5.42	5.42	0.0%	No change
311	All Suites Hotel	room	5.42	5.42	0.0%	No change
320	Motel	room	4.34	4.34	0.0%	No change
	RECREATION:					
416	Campground/RV Park	site	4.60	4.60	0.0%	No change
420	Marina	berth	5.88	5.88	0.0%	No change
430	Golf Course	18 holes	2.22	2.22	0.0%	Same as LUC 444
n/a	Bundled Golf Course	18 holes	2.22	2.22	0.0%	Same as LUC 444
444	Movie Theater	screen	2.22	2.22	0.0%	No change
n/a	Dance Studio/Gym	1,000 sf	2.97	2.97	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	4.30	2.94	-31.6%	updated to use 50% of LUC 210 per review of travel demand models
522	Middle/Junior High School (Private)	student	4.30	2.94	-31.6%	updated to use 50% of LUC 210 per review of travel demand models
530	High School (Private)	student	4.30	2.94	-31.6%	updated to use 50% of LUC 210 per review of travel demand models
540	University/Junior College (7,500 or fewer students) (Private)	student	5.88	5.88	0.0%	No change
550	University/Junior College (more than 7,500 students) (Private)	student	5.88	5.88	0.0%	No change
560	Church	seat	3.90	3.91	0.3%	Updated to use the midpoint of office and retail (App. A)
565	Day Care Center	student	2.03	2.03	0.0%	No change
	MEDICAL:					
610	Hospital	1,000 sf	5.88	5.88	0.0%	No change
620	Nursing Home	bed	2.59	2.59	0.0%	No change
	OFFICE:					
710	General Office	1,000 sf	5.15	5.15	0.0%	No change
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	5.55	5.55	0.0%	No change
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	5.55	5.55	0.0%	No change
770	Business Park (Flex-Space)	1,000 sf	5.38	5.38	0.0%	No change
	RETAIL:					
820	Retail 6,000 sfgla or less	1,000 sfgla	1.12	1.12	0.0%	No change
	Retail 6,001-25,000 sfgla	1,000 sfgla	1.58	1.58	0.0%	No change
	Retail greater than 25,000 sfgla	1,000 sfgla	3.57	2.69	-24.6%	Reduction of retail tiers, TL tied to avg size (450k sfgla) from ITE 10th
840/841	New/Used Auto Sales	1,000 sf	4.60	4.60	0.0%	No change
849	Tire Superstore	service bay	2.32	2.32	0.0%	No change
850	Supermarket	1,000 sf	2.08	2.08	0.0%	No change
851	Convenience Market, 24 hrs	1,000 sf	1.52	1.52	0.0%	No change
862	Home Improvement Superstore	1,000 sf	2.34	2.34	0.0%	No change
880/881	Pharmacy with & w/o Drive-Thru	1,000 sf	2.08	2.08	0.0%	No change
890	Furniture Store	1,000 sf	4.05	4.05	0.0%	No change
	SERVICES:					
911	Bank/Savings Walk-In	1,000 sf	2.46	2.46	0.0%	No change
912	Bank/Savings Drive-In	1,000 sf	2.46	2.46	0.0%	No change
930	Fast Casual Restaurant	1,000 sf	-	2.05	-	New land use
931	Low-Turnover Restaurant	seat	3.14	3.14	0.0%	No change
932	High-Turnover Restaurant	seat	3.17	3.17	0.0%	No change
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	2.05	2.05	0.0%	No change
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	-	2.19	-	New land use
941	Quick Lube	service bay	2.32	2.32	0.0%	No change
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	1.01	1.01	0.0%	No change
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	1.01	1.01	0.0%	No change
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	1.01	1.01	0.0%	No change
947	Self-Service Car Wash	service bay	2.18	2.18	0.0%	No change
948	Automated Car Wash	1,000 sf	2.18	2.18	0.0%	No change
n/a	Luxury Auto Sales	1,000 sf	4.80	4.80	0.0%	No change
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	5.38	5.38	0.0%	No change
140	Manufacturing	1,000 sf	5.38	5.38	0.0%	No change
150	Warehousing	1,000 sf	5.38	5.38	0.0%	No change
151	Mini-Warehouse	1,000 sf	3.10	3.51	13.2%	Updated to use the midpoint of office and retail <50k sq ft (1.87)
n/a	Mine	1,000 cy	14.82	14.82	0.0%	No change

- See Appendix D for additional information
- Trip length values do not include the trip length adjustment factor

Table A-11

Percent Change in Percent New Trips of Impact Fee Land Uses

ITE LUC	Land Use	Unit	PNT 2015	PNT 2019	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) <4,000 sf	du	100%	100%	0.0%	No change
	Single Family (Detached) 4,000 sf and more	du	100%	100%	0.0%	No change
220	Multi-Family Housing (Low-Rise, 1-2 floors)	du	100%	100%	0.0%	No change
221	Multi-Family Housing (Mid-Rise, 3-10 floors)	du	100%	100%	0.0%	No change
222	Multi-Family Housing (High-Rise, >10 floors)	du	100%	100%	0.0%	No change
231	Mid-Rise Residential w/1st floor Commercial	du	-	100%	-	New land use
232	High-Rise Residential w/1st floor Commercial	du	-	100%	-	New land use
240	Mobile Home Park	du	100%	100%	0.0%	No change
251	Retirement Community (detached)	du	100%	100%	0.0%	No change
252	Retirement Community (attached)	du	100%	100%	0.0%	No change
254	Assisted Living	bed	72%	72%	0.5%	Slight change due to rounding issue
	LODGING:					
310	Hotel	room	66%	66%	0.0%	No change
311	All Suites Hotel	room	66%	66%	0.0%	No change
320	Motel	room	77%	77%	0.0%	No change
	RECREATION:					
416	Campground/RV Park	site	100%	100%	0.0%	No change
420	Marina	berth	90%	90%	0.0%	No change
430	Golf Course	18 holes	90%	90%	0.0%	No change
n/a	Bundled Golf Course	18 holes	90%	90%	0.0%	No change
444	Movie Theater	screen	88%	88%	0.0%	No change
n/a	Dance Studio/Gym	1,000 sf	80%	80%	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	80%	80%	0.0%	No change
522	Middle/Junior High School (Private)	student	90%	80%	-11.1%	Updated to be the same as LUC 520
530	High School (Private)	student	90%	90%	0.0%	No change
540	University/Junior College (7,500 or fewer students) (Private)	student	90%	90%	0.0%	No change
550	University/Junior College (more than 7,500 students) (Private)	student	90%	90%	0.0%	No change
560	Church	seat	90%	90%	0.0%	No change
565	Day Care Center	student	73%	73%	0.0%	No change
	MEDICAL:					
610	Hospital	1,000 sf	77%	78%	1.3%	Updated to use the midpoint of LUC 310 and LUC 720
620	Nursing Home	bed	89%	89%	0.0%	No change
	OFFICE:					
710	General Office	1,000 sf	92%	92%	0.0%	No change
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	89%	89%	0.0%	No change
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	89%	89%	0.0%	No change
770	Business Park (Flex-Space)	1,000 sf	89%	89%	0.0%	No change
	RETAIL:					
820	Retail 6,000 sfgla or less	1,000 sfgla	39%	39%	0.0%	No change
	Retail 6,001-25,000 sfgla	1,000 sfgla	50%	50%	0.0%	No change
	Retail greater than 25,000 sfgla	1,000 sfgla	82%	74%	-9.8%	Reduction of retail tiers, PNT tied to avg size (450k sfgla) from ITE 10th
840/841	New/Used Auto Sales	1,000 sf	79%	79%	0.0%	No change
849	Tire Superstore	service bay	72%	72%	0.0%	No change
850	Supermarket	1,000 sf	56%	56%	0.0%	No change
851	Convenience Market, 24 hrs	1,000 sf	41%	41%	0.0%	No change
862	Home Improvement Superstore	1,000 sf	65%	65%	0.0%	No change
880/881	Pharmacy with & w/o Drive-Thru	1,000 sf	32%	32%	0.0%	No change
890	Furniture Store	1,000 sf	78%	78%	0.0%	No change
	SERVICES:					
911	Bank/Savings Walk-In	1,000 sf	46%	46%	0.0%	No change
912	Bank/Savings Drive-In	1,000 sf	46%	46%	0.0%	No change
930	Fast Casual Restaurant	1,000 sf	-	58%	-	New land use
931	Low-Turnover Restaurant	seat	77%	77%	0.0%	No change
932	High-Turnover Restaurant	seat	71%	71%	0.0%	No change
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	58%	58%	0.0%	No change
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	-	59%	-	New land use
941	Quick Lube	service bay	72%	72%	0.0%	No change
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	23%	23%	0.0%	No change
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	23%	23%	0.0%	No change
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	23%	23%	0.0%	No change
947	Self-Service Car Wash	service bay	68%	68%	0.0%	No change
948	Automated Car Wash	1,000 sf	68%	68%	0.0%	No change
n/a	Luxury Auto Sales	1,000 sf	85%	85%	0.0%	No change
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	92%	92%	0.0%	No change
140	Manufacturing	1,000 sf	92%	92%	0.0%	No change
150	Warehousing	1,000 sf	92%	92%	0.0%	No change
151	Mini-Warehouse	1,000 sf	92%	92%	0.0%	No change
n/a	Mine	1,000 cy	97%	97%	0.0%	No change

- See Appendix D for additional information

Appendix B
Cost Component

Appendix B: Cost Component

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

- Design
- Right-of-Way
- Construction
- CEI
- Mitigation
- Urban Overpass
- Roadway Capacity

Design

The design cost factor for county roads was estimated as a percentage of the construction cost per lane mile. This factor was determined based on a review of design-to-construction cost ratios from previously completed road/transportation impact fee studies throughout Florida. As shown in Table B-1, recent design factors ranged from 8 to 14 percent with a weighted average of 11 percent. For purposes of this study, the design cost for county roads was calculated at 11 percent of the construction cost per lane mile.

Table B-1

Design Cost Factor for County Roads – Recent Impact Fee Studies

Year	Study	County Roadways (Cost per Lane Mile)		
		Design	Constr.	Ratio
2012	Osceola	$371,196	$2,651,400	14%
2012	Orange	$264,000	$2,400,000	11%
2013	Hernando	$198,000	$1,980,000	10%
2013	Charlotte	$220,000	$2,200,000	10%
2014	Indian River	$159,000	$1,598,000	10%
2015	Collier	$270,000	$2,700,000	10%
2015	Brevard	$242,000	$2,023,000	12%
2015	Sumter	$210,000	$2,100,000	10%
2015	Marion	$167,000	$1,668,000	10%
2015	Palm Beach	$224,000	$1,759,000	13%
2016	Hillsborough	$348,000	$2,897,000	12%
2016	St. Lucie	$220,000	$2,200,000	10%
2017	Clay	$239,000	$2,385,000	10%
2018	Orange	$203,000	$2,542,000	8%
Average		**$238,228**	**$2,221,671**	**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 are necessary to have sufficient cross-section width to widen an existing road or, in the case of new construction, build a new road.

A review of ROW data for county roadway capacity expansion improvements identified two recently completed and two recently bid expansion improvements:

- Golden Gate Blvd from Wilson Blvd to E. of 18th St N
- Collier Blvd from Green Blvd to Golden Gate Blvd
- Golden Gate Blvd from W. of 10th St SE to E. of Everglades Blvd
- Vanderbilt Beach Rd Ext. from Collier Blvd to 16th St NE

Due to variation in the cost per lane mile for these projects based on geographical location, the improvements were grouped into “high” and “low” cost per lane mile categories. The “high” ROW category included improvements along Collier Blvd and Vanderbilt Beach Rd Extension, while “low” improvements were located along Golden Gate Blvd.

To determine a single weighted average cost per lane mile for the impact fee calculation, the "high" and "low" ROW costs were blended together based on the ROW designation of all capacity expansion improvements listed in the 2040 Long Range Transportation Plan. Improvements located in rural areas were designated as "low" while improvements in urban or transitioning areas were designated as "high". Urban and transitioning areas include west county (City of Naples) and extending into the Golden Gate area. Rural areas include Immokalee and east county. Table B-2 details the specific improvements used to calculate the high and low ROW costs and Table B-3 details the weighted average calculation. Additionally, Table B-11 provides the project-by-project ROW designation for all roadway capacity expansion improvements in the LRTP.

As calculated, the $1.67 million per lane mile represents a significant increase (94 percent) since the last study. To supplement this analysis, a review of the recent changes in the just/market value of all property in Collier County was conducted. As shown in Table B-4, the value of properties increased by approximately 40 percent between 2014 and 2018. To update the ROW cost for the impact fee calculation, the figure calculated in the previous study ($863,000 per lane mile) was indexed using the value increase observed since this study (40 percent). This index results in a ROW cost of approximately $1.21 million per lane mile, which represents a conservative estimate, accounting for the fluctuations in cost due to the location of projects and the small sample size.

Table B-2

Right-of-Way Acquisitions and Estimates – County Roads

Description	From	To	Area	Lane Miles	Right-of-Way Cost	ROW Cost per Lane Mile
Completed Projects						
Golden Gate Blvd	Wilson Blvd	E. of 18th St N	Low	4.80	$4,444,170	$925,869
Collier Blvd	Green Blvd	Golden Gate Blvd	High	4.00	$5,938,850	$1,484,713
Future Projects						
Golden Gate Blvd	W. of 20th St SE	E. of Everglades Blvd	Low	2.88	$4,920,550	$1,708,524
Vanderbilt Beach Rd Ext.	Collier Blvd	16th St NE	High	14.00	$44,002,000	$3,143,000
Total				**25.68**	**$59,305,570**	**$2,309,407**
Low Cost Area				**7.68**	**$9,364,720**	**$1,219,365**
High Cost Area				**18.00**	**$49,940,850**	**$2,774,492**

Source: Collier County Transportation Engineering Department

Table B-3

Right-of-Way Cost Calculation

ROW Cost Rates	LRTP ROW Distribution[(1)]	ROW Cost per Lane Mile[(2)]	Weighted Avg. ROW[(3)]
Low Cost ROW	71%	$1,219,365	$865,749
High Cost ROW	29%	$2,774,492	$804,603
Weighted Average Cost per Lane Mile			**$1,670,352**
Weighted Average Cost per Lane Mile (Rounded)			**$1,670,000**

1) Source: Table B-11
2) Source: Table B-2
3) ROW cost per lane mile (Item 2) multiplied by the LRTP ROW designation distribution (Item 1) to develop a weighted average cost per lane mile

Table B-4

Just/Market Value Change – Real, Personal and Centrally Assessed Property

Year	Just/Market Value	% Change
2014	$81,260,298,470	-
2015	$90,995,640,578	11.98%
2016	$102,025,075,579	12.12%
2017	$108,865,945,366	6.71%
2018	$112,378,569,611	3.23%
2014-2018		**38.29%**

Source: Florida Property Valuations and Tax Databook

Table B-5

ROW Cost Factor for County Roads – Recent Impact Fee Studies

Year	Study	County Roadways (Cost per Lane Mile)		
		ROW	Constr.	Ratio
2012	Osceola	$1,087,074	$2,651,400	41%
2012	Orange	$1,080,000	$2,400,000	45%
2013	Hernando	$811,800	$1,980,000	41%
2013	Charlotte	$1,034,000	$2,200,000	47%
2014	Indian River	$656,000	$1,598,000	41%
2015	Collier	$863,000	$2,700,000	32%
2015	Brevard	$708,000	$2,023,000	35%
2015	Sumter	$945,000	$2,100,000	45%
2015	Marion	$1,001,000	$1,668,000	60%
2015	Palm Beach	$721,000	$1,759,000	41%
2016	Hillsborough	$1,448,000	$2,897,000	50%
2016	St. Lucie	$990,000	$2,200,000	45%
2017	Clay	$954,000	$2,385,000	40%
2018	Orange	$1,200,000	$3,000,000	40%
Average		**$964,205**	**$2,254,386**	**43%**

Source: Recent impact fee studies conducted throughout Florida

Construction

The construction cost for county roads (curb & gutter, urban section design) was based on local projects and the cost of recent projects in other communities in Florida. A review of local construction cost data from recent years identified two recent bids and four future project estimates:

- Golden Gate Blvd from Wilson Blvd to E. of 18th St N (2014 bid)
- Collier Blvd from Green Blvd to Golden Gate Blvd (2013 bid)
- Golden Gate Blvd from W. of 20th St SE to E. of Everglades Blvd

- Vanderbilt Beach Rd Ext. from Collier Blvd to 16th St NE
- Vanderbilt Beach Rd Ext. from US 41 to E. of Goodlette-Frank Rd
- Airport Rd from Vanderbilt Beach Rd to Immokalee Rd

Costs for these local improvements ranged from $2.9 million to $5.6 million per lane mile with a weighted average cost of $3.6 million per lane mile (Table B-6).

In addition to local improvements, recent bids/completed projects from other communities throughout Florida were reviewed to increase the sample size of data. This review included approximately 157 lane miles of improvements across 12 different counties, averaging $2.7 million per lane mile.

As show in Table B-7 and Figure B-1, the average cost per lane mile has been steadily increasing in the past few years, far exceeding the average over the entire time period ($2.7 million). Figure B-1 illustrates the range of construction costs per year as well as providing the annual average of the entire sample (excluding the Collier projects).

Figure B-2 goes a step further, providing two different trend lines based on the set of statewide data (excluding Collier projects). The "reduction of sample" trend shows how costs have been increasing in more recent years by starting with the average of all projects (from 2012 to 2018) and then gradually removing an earlier year of additional sample data. Conversely, the "cumulative sample" shows how each additional year of cost data has impacted the weighted average as the sample size has increased. As shown, the use of past seven years of data moderates recent cost increases as the early years (2012 and 2013) had significantly more improvements at lower costs.

Based on a review of the local projects, statewide projects, and the various trends, a construction of **$3.5 million per lane mile** for county roads (curb & gutter) is utilized for the road impact fee calculation. This figure is influenced heavily by the local project data and is also consistent with the statewide data observed over the past several years, providing a reasonable estimate for planning purposes.

Table B-6

Local Roadway Construction Costs – County Roads

Description	From	To	Bid Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction/ Design/CEI Cost	Cost per Lane Mile	Construction Cost (80%)[1]	Construction Cost per Lane Mile
Completed Projects												
Golden Gate Blvd	Wilson Blvd	E. of 18th St N	2014	2 to 4	Urban	2.40	2	4.80	$20,004,380	$4,167,579	$16,003,504	$3,334,063
Collier Blvd	Green Blvd	Golden Gate Blvd	2013	4 to 6	Urban	2.00	2	4.00	$21,403,300	$5,350,825	$17,122,640	$4,280,660
Future Projects												
Golden Gate Blvd	W. of 20th St SE	E. of Everglades Blvd	Est.	2 to 4	Urban	1.44	2	2.88	$20,165,450	$7,001,892	$16,132,360	$5,601,514
Vanderbilt Beach Rd Ext.	Collier Blvd	16th St NE	Est.	4 to 6	Urban	7.00	2	14.00	$54,858,000	$3,918,429	$43,886,400	$3,134,743
Vanderbilt Beach Rd Ext.	US 41	E. of Goodlette-Frank Rd	Est.	4 to 6	Urban	0.92	2	1.84	$9,700,000	$5,271,739	$7,760,000	$4,217,391
Airport Rd	Vanderbilt Beach Rd	Immokalee Rd	Est.	4 to 6	Urban	2.00	2	4.00	$14,520,000	$3,630,000	$11,616,000	$2,904,000
Total								**31.52**	**$140,651,130**	**$4,462,282**	**$112,520,904**	**$3,569,826**

Source: Collier County Transportation Engineering Department

1) Cost figures from County staff included construction/design/CEI as a single cost item. To estimate the portion solely allocated to construction, the cost was reduced by 20 percent (11 percent for design and 9 percent for CEI) based on the average ratios observed statewide, presented in Tables B-1 and B-8

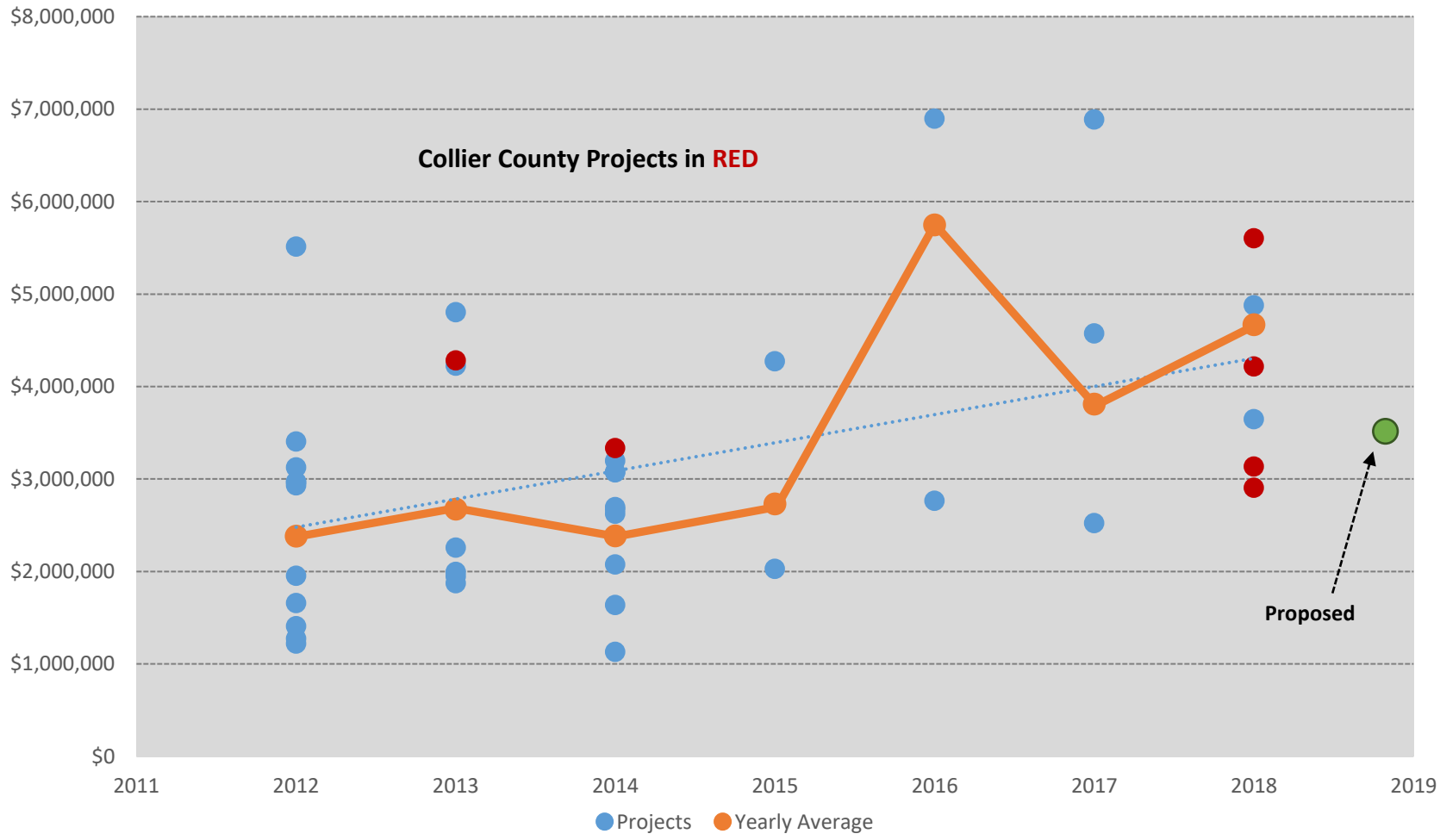
Table B-7

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 (CR35A) Ph. II	Galloway Rd	Duff Rd	2012	Bid	2 to 4	Urban	3.00	2	6.00	$17,813,685	$2,968,948
Polk	1	Bartow Northern Connector Ph. I	US 98	US 17	2012	Bid	0 to 4	Urban	2.00	4	8.00	$11,255,736	$1,406,967
Volusia	5	Tymber Creek Rd	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
Orange	5	Clarcona-Ocoee Rd	Ocoee-Apopka Rd	Hiawassee Rd	2012	Bid	2 to 4	Urban	5.08	2	10.16	$19,831,058	$1,951,876
Orange	5	John Young Pkwy	SR 528	FL Turnpike	2012	Bid	4 to 6	Urban	2.34	2	4.68	$13,722,494	$2,932,157
Orange	5	Econlockhatchee Tr	SR 408	SR 50	2012	Bid	2 to 4	Urban	1.38	2	2.76	$8,621,445	$3,123,712
Brevard	5	Babcock St	S. of Foundation Park Blvd	Malabar Rd	2013	Bid	2 to 4	Urban	12.40	2	24.80	$56,000,000	$2,258,065
Marion	5	SW 110th St	US 41	SW 200th Ave	2013	Bid	0 to 2	Urban	0.11	2	0.22	$438,765	$1,994,386
Marion	5	NW 35th St	NW 35th Avenue Rd	NW 27th Ave	2013	Bid	0 to 4	Urban	0.50	4	4.60	$8,616,236	$1,873,095
Marion	5	NW 35th St	NW 27th Ave	US 441	2013	Bid	2 to 4	Urban	1.30	2			
Sumter	5	C-466A, Ph. III	US 301 N	Powell Rd	2013	Bid	2 to 3/4	Urban	1.10	2	2.20	$4,283,842	$1,947,201
Orange	5	Rouse Rd	Lake Underhill	Corporate Blvd	2013	Bid	2 to 4	Urban	4.15	2	8.30	$35,075,000	$4,225,904
Orange	5	Lake Underhill	Goldenrod Rd	Chickasaw Tr	2013	Bid	2 to 4	Urban	0.69	2	1.38	$6,629,620	$4,804,072
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
Sarasota	1	Bee Ridge Rd	Mauna Loa Blvd	Iona Rd	2014	Bid	2 to 4	Urban	2.68	2	5.36	$14,066,523	$2,624,351
St. Lucie	4	W Midway Rd (CR 712)	Selvitz Rd	South 25th St	2014	Bid	2 to 4	Urban	1.00	2	2.00	$6,144,000	$3,072,000
Orange	5	CR 535 Seg. F	Overstreet Rd	Fossick Rd	2014	Bid	2 to 4	Urban	0.60	2	1.20	$3,836,448	$3,197,040
Orange	5	Wetherbee Rd	Balcombe Rd	Orange Ave	2014	Bid	2 to 4	Urban	1.50	2	3.00	$9,234,873	$3,078,291
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	Turkey Creek Rd	Dr. MLK Blvd	Sydney Rd	2014	Bid	2 to 4	Urban	1.40	2	2.80	$3,166,000	$1,130,714
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
Orange	5	International Dr	N Westwood Blvd	S Westwood Blvd	2015	Bid	4 to 6	Urban	2.20	2	4.40	$18,802,148	$4,273,215
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
Orange	5	Reams Rd	Delmar Ave	Taborfield Ave	2017	Bid	2 to 4	Urban	0.60	2	1.20	$5,487,872	$4,573,227
Lake	5	CR 466A, Ph. IIIA	Poinsettia Ave	Centruy Ave	2018	Bid	2 to 4	Urban	0.42	2	0.84	$3,062,456	$3,645,781
Hillsborough	7	Van Dyke	Suncoast Pkwy	Whirley	2018	Estimate	2 to 4	Urban	2.05	2	4.10	$20,000,000	$4,878,049
Total									**Count:**	**36**	**156.50**	**$427,748,398**	**$2,733,217**

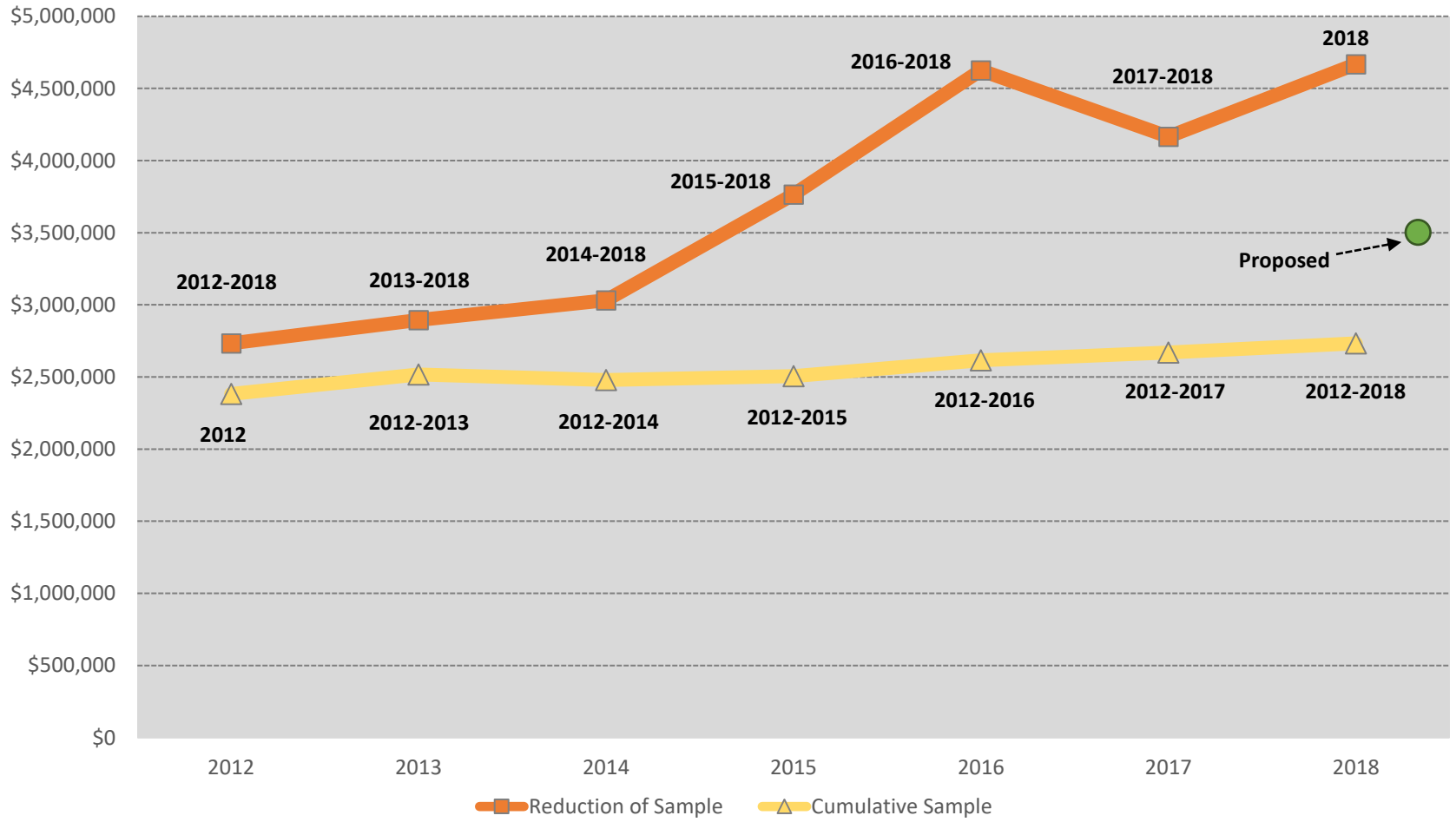
Source: Data obtained from each respective county (Building and Public Works Departments)

Figure B-1
Construction Costs – County Roads



Source: Table B-5 for projects (red dots) and Table B-6 for statewide projects (blue dots)

Figure B-2
Construction Cost Trend – County Roads

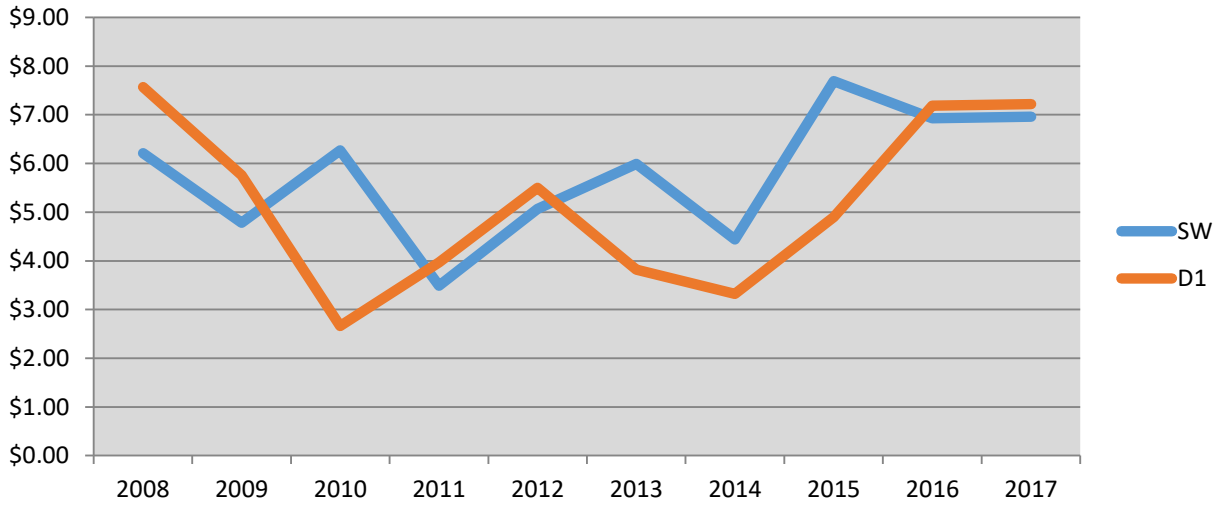


Source: Table B-6

- Reduction of Sample = as trend line progresses an additional year of historical data is removed
- Cumulative Sample = as trend line progresses as additional year of data is added to the sample

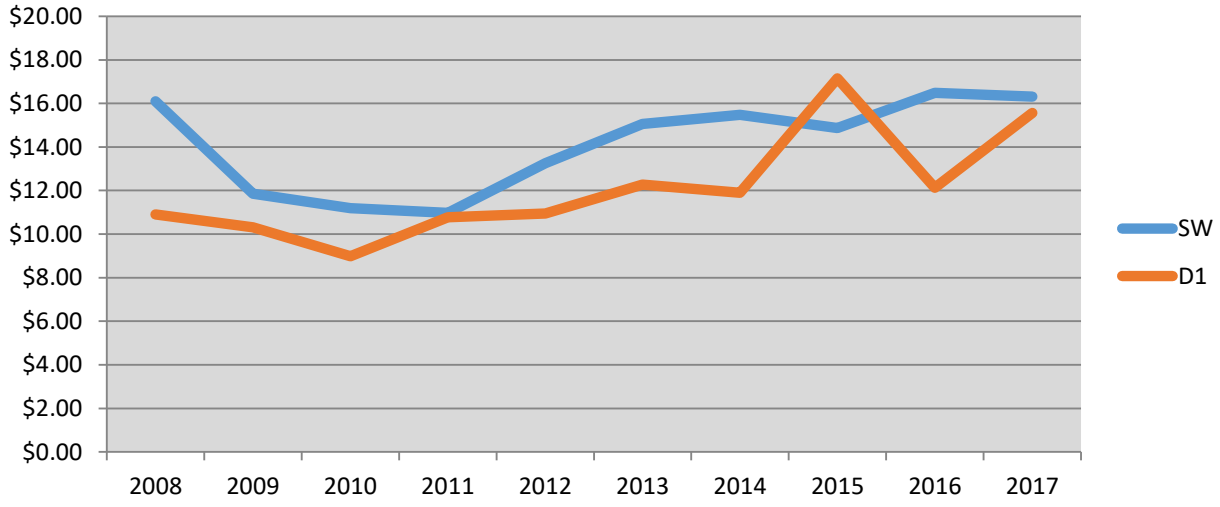
Figures B-3 through B-7 illustrate the recent change in units cost for earthwork, base, steel, asphalt, and concrete for both District 1 and statewide. Each of these graphs indicates that costs are recovering since the crash in 2009/10, which is consistent with trends observed in the County's construction costs.

Figure B-3
FDOT Earthwork Cost Trend



Source: Cost Trends by Fiscal Year for Major Pay Item Groups, July 2007 thru July 2017, FDOT Program Management Office

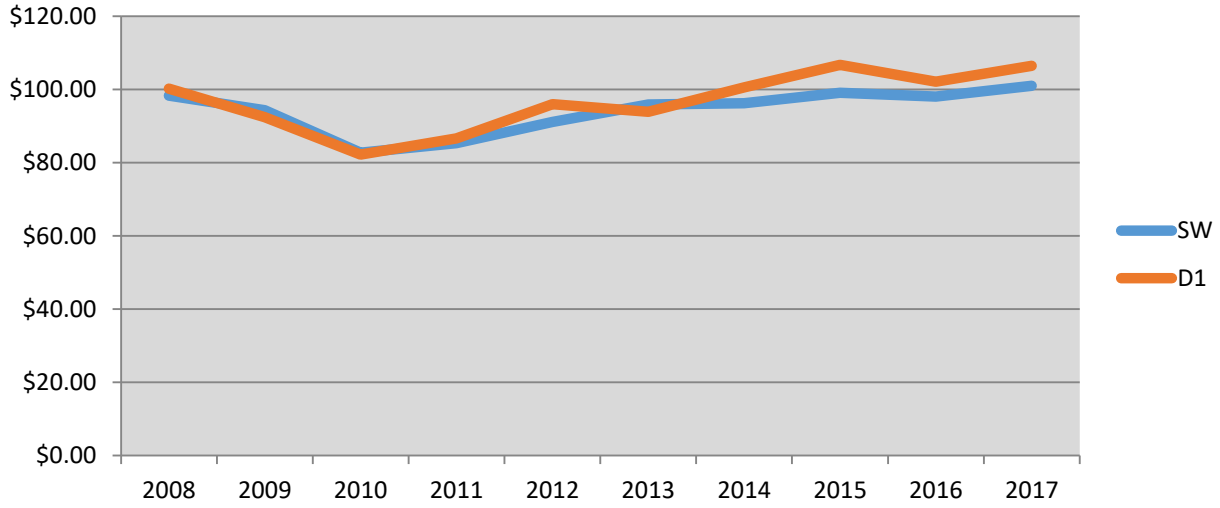
Figure B-4
FDOT Base Cost Trend



Source: Cost Trends by Fiscal Year for Major Pay Item Groups, July 2007 thru July 2017, FDOT Program Management Office

Figure B-5

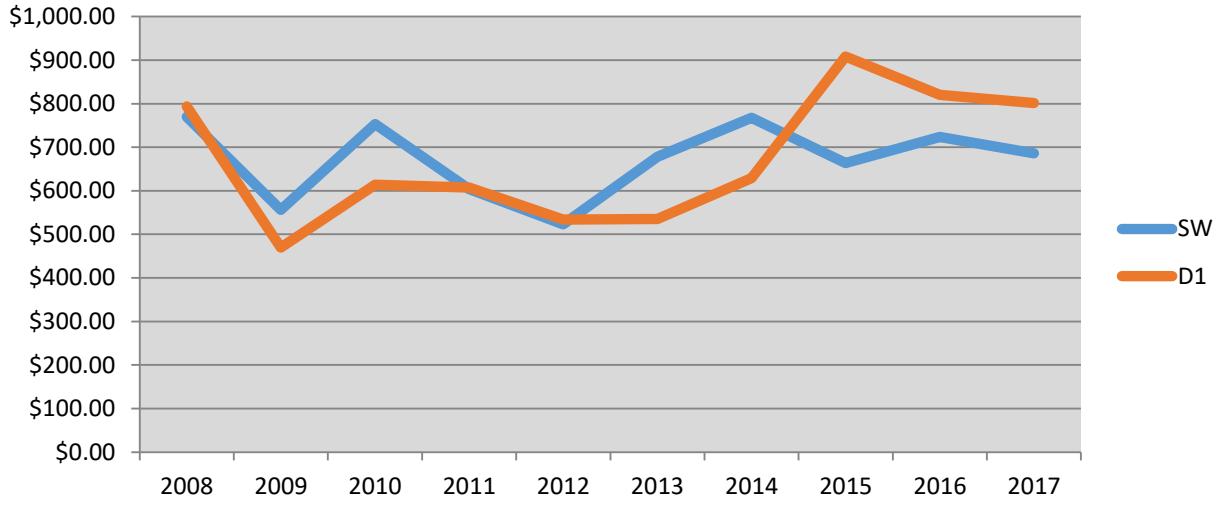
FDOT Asphalt Cost Trend



Source: Cost Trends by Fiscal Year for Major Pay Item Groups, July 2007 thru July 2017, FDOT Program Management Office

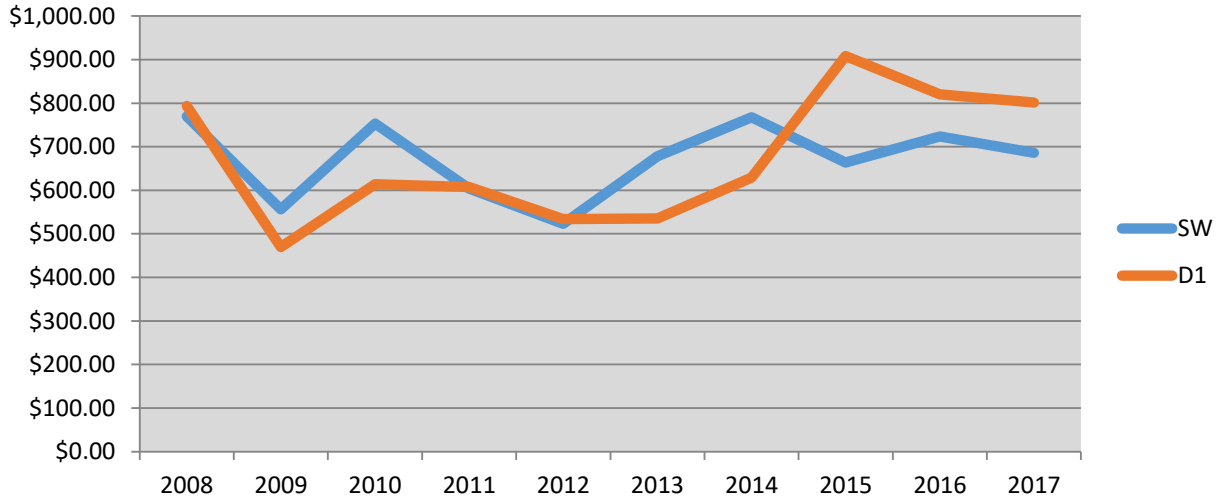
Figure B-6

FDOT Concrete Cost Trend



Source: Cost Trends by Fiscal Year for Major Pay Item Groups, July 2007 thru July 2017, FDOT Program Management Office

Figure B-7
FDOT Steel Cost Trend



Source: Cost Trends by Fiscal Year for Major Pay Item Groups, July 2007 thru July 2017, FDOT Program Management Office

Construction Engineering/Inspection

The CEI cost factor for county roads was estimated as a percentage of the construction cost per lane mile. This factor was determined based on a review of CEI-to-construction cost ratios from previously completed road/transportation impact fee studies throughout Florida. As shown in Table B-8, recent CEI factors ranged from 3 percent to 17 percent with a weighted average of 9 percent. For purposes of this study, the CEI cost for county roads was calculated at 9 percent of the construction cost per lane mile.

Table B-8

CEI Cost Factor for County Roads – Recent Impact Fee Studies

Year	Study	County Roadways (Cost per Lane Mile)		
		CEI	Constr.	Ratio
2012	Osceola	$265,140	$2,651,400	10%
2013	Hernando	$178,200	$1,980,000	9%
2013	Charlotte	$220,000	$2,200,000	10%
2014	Indian River	$143,000	$1,598,000	9%
2015	Collier	$270,000	$2,700,000	10%
2015	Brevard	$344,000	$2,023,000	17%
2015	Sumter	$147,000	$2,100,000	7%
2015	Marion	$50,000	$1,668,000	3%
2015	Palm Beach	$108,000	$1,759,000	6%
2016	Hillsborough	$261,000	$2,897,000	9%
2016	St. Lucie	$198,000	$2,200,000	9%
2017	Clay	$191,000	$2,385,000	8%
Average		**$197,945**	**$2,180,117**	**9%**

Source: Recent impact fee studies conducted throughout Florida

Mitigation

Mitigation cost estimates were developed based on cost data received for two recent projects in Collier County:

- Golden Gate Blvd from Wilson Blvd to E. of 18th St N
- Collier Blvd (CR 951) from Golden Gate Blvd to Green Blvd

Both segments are located outside of the Panther Consultation Area (PCA), which, historically, tend to have higher costs than non-PCS mitigation. As shown in Table B-9, the weighted average cost per lane mile for the two county roads projects is approximately $74,000 per lane mile.

Table B-9

Mitigation Costs – County Roads

Panther Consultation Area	Proj. #	Description	From	To	Feature	Lanes Added	Mitigation Cost	Project Length (Miles)	Lane Miles Added	Mitigation Cost per Lane Mile
N	60040	Golden Gate Blvd	Wilson Blvd	E. of 18th St N	2 to 4	2	$562,115	2.40	4.80	$117,107
N	68056	Collier Blvd (CR 951)	Golden Gate Blvd	Green Blvd	4 to 6	2	$88,060	2.00	4.00	$22,015
-		**Total**					**$650,175**	**4.40**	**8.80**	**$73,884**

Source: Collier County Transportation Engineering Department

Urban Overpass

The urban overpass cost estimate was based on four planned improvements along county roads in Collier County. These projects are estimated to have a total cost of $126 million, as shown in Table B-10. This total was then divided by the total lane miles of county road capacity improvements in the Needs Plan from the 2040 Long Range Transportation Plan (Table B-11) to develop an urban overpass cost per lane mile. The resulting cost of approximately $523,000 per lane mile is used in the road impact fee calculation.

Table B-10

Urban Overpass Costs – County Roads

Urban Overpass	Status	Cost[1]
Immokalee Rd & Randall Blvd	CF Plan; 2026-2030	$54,000,000
US 41 (SR 90) Tamiami Tr East @ Collier Blvd (CR 951)	Unfunded	$35,957,477
Immokalee Rd & Collier Blvd	Unfunded	$35,957,477
Total Urban Overpass Cost		**$125,914,954**
Total 2040 Needs Plan (Cost Feasible/Unfunded) Lane Miles Added[2]		240.60
Total Urban Overpass Cost per Lane Mile[3]		**$523,000**

1) Source: Collier County Transportation Engineering Department
2) Source: Table B-11
3) Total urban overpass cost divided by the Needs Plan LRTP lane miles (Item 2), rounded to thousands

Roadway Capacity

As shown in Table B-11, the average capacity per lane miles was based on the projects in the Collier County 2040 Long Range Transportation's cost feasible and unfunded roadway projects lists. The listing of projects reflects the mix of improvements that will yield the vehicle-miles of capacity (VMC) that will be built in Collier County. The resulting weighted average capacity per lane mile of approximately 8,500 was used in the road impact fee calculation.

Table B-11

Collier County 2040 Long Range Transportation Plan – Needs Plan

Reference	County/ State	Facility	From	To	Project Type	ROW Area	Project Length	# of Existing Lanes	# of Future Lanes	Lane Miles Added	Initial Capacity	Future Capacity	Added Capacity	Vehicle-Miles of Capacity Added	VMC Added per Lane Mile
Cost Feasible Projects															
12	County	Old US 41	US 41 (SR 45)	Lee/Collier Line	Lane Addition, 2 to 4	High	1.50	2	4	3.00	15,930	35,820	19,890	29,835	9,945
5	County	CR 951 (Collier Blvd)	Golden Gate Canal	Green Blvd	Lane Addition, 4 to 6	High	2.00	4	6	4.00	35,820	53,910	18,090	36,180	9,045
14a	County	Vanderbilt Beach Rd	CR 951 (Collier Blvd)	8th St	Expand from 0 & 2 Lanes to 2 & 3 lanes	High	6.00	0	2	12.00	0	12,780	12,780	76,680	6,390
40	County	Airport Pulling Rd	Vanderbilt Beach Rd	Immokalee Rd	Lane Addition, 4 to 6	High	2.00	4	6	4.00	29,160	45,000	15,840	31,680	7,920
25	County	Oil Well Rd/CR 858	Everglades Blvd	Oil Well Grade Rd	Lane Addition, 2 to 4	Low	3.90	2	4	7.80	14,580	31,950	17,370	67,743	8,685
16	County	Randall Blvd	8th St	Oil Well Rd/Everglades	Lane Addition, 2 to 6	Low	6.00	2	6	24.00	14,580	31,950	17,370	104,220	4,343
20	County	Immokalee Rd	Camp Keais Rd	Carver St	Lane Addition, 2 to 4	Low	2.50	2	4	5.00	23,100	52,400	29,300	73,250	14,650
56	County	Benfield Rd	City Gate Blvd North	Lords Way	New Construction, 0 to 2 (4-lane footprint)	Low	3.90	0	2	7.80	0	23,100	23,100	90,090	11,550
29	County	Wilson Blvd/Black Burn Rd	Wilson Blvd	End of Haul Rd	New Construction, 0 to 2 (4-lane footprint)	Low	2.60	0	2	5.20	0	13,320	13,320	34,632	6,660
13	County	Vanderbilt Beach Rd Ext.	8th St	Desoto	New Construction, 0 to 2 (4-lane footprint)	Low	4.70	0	2	9.40	0	12,780	12,780	60,066	6,390
51	County	Wilson Blvd	Golden Gate Blvd	Immokalee Rd	Lane Addition, 2 to 4	Low	3.30	2	4	6.60	13,320	29,160	15,840	52,272	7,920
73	County	Little League Rd Ext.	SR 82	Westclox St	New Construction, 0 to 2	Low	3.70	0	2	7.40	0	15,930	15,930	58,941	7,965
14b	County	Vanderbilt Beach Rd Ext.	CR 951 (Collier Blvd)	8th St	Add 3 Remaining Lanes	Low	6.00	2	6	24.00	12,780	41,220	28,440	170,640	7,110
34	County	Camp Keais Rd	Immokalee Rd	Pope John Paul Blvd	Lane Addition, 2 to 4	Low	2.60	2	4	5.20	23,100	52,400	29,300	76,180	14,650
36	County	Vanderbilt Beach Rd	Airport Rd	US 41	Lane Addition, 4 to 6	High	2.10	4	6	4.20	35,820	53,910	18,090	37,989	9,045
32	County	Immokalee Rd (CR 846)	SR 29	Airpark Blvd	Land Addition, 2 to 4	High	0.40	2	4	0.80	23,100	52,400	29,300	11,720	14,650
Unfunded Needs															
17	County	Green Blvd Ext./16th Ave SW	23rd St SW	Wilson Blvd Ext.	New Construction, 0 to 2	Low	2.90	0	2	5.80	0	15,930	15,930	46,197	7,965
23	County	Green Blvd Ext./16th Ave SW	CR 951 (Collier Blvd)	23rd St SW	New Construction, 0 to 4	High	2.10	0	4	8.40	0	35,820	35,820	75,222	8,955
26	County	Everglades Blvd	Golden Gate Blvd	Vanderbilt Beach Rd Ext.	Lane Addition, 2 to 4	Low	2.20	2	4	4.40	12,780	27,360	14,580	32,076	7,290
27	County	CR 951 Ext.	Heritage Bay Entrance	Lee/Collier Line	New Construction, 0 to 2	High	2.50	0	2	5.00	0	15,930	15,930	39,825	7,965
31	County	Goodlette-Frank Rd	Orange Blossom Dr	Vanderbilt Beach Rd Ext.	Lane Addition, 4 to 6	High	0.90	4	6	1.80	35,820	53,910	18,090	16,281	9,045
37	County	Goodlette-Frank Rd	Vanderbilt Beach Rd	Immokalee Rd	Lane Addition, 2 to 4	High	1.80	2	4	3.60	15,930	35,820	19,890	35,802	9,945
38	County	Logan Blvd	Green Blvd	Pine Ridge Rd	Lane Addition, 4 to 6	High	2.60	4	6	5.20	35,820	53,910	18,090	47,034	9,045
39	County	Green Blvd Ext./16th Ave SW	Wilson Blvd Ext.	Everglades Blvd	New Construction, 0 to 2	Low	3.90	0	2	7.80	0	15,930	15,930	62,127	7,965
42	County	Santa Barbara Blvd	Painted Leaf Ln	Green Blvd	Lane Addition, 4 to 6	High	1.70	4	6	3.40	35,820	53,910	18,090	30,753	9,045
44	County	Logan Blvd	Vanderbilt Beach Rd	Immokalee Rd	Lane Addition, 2 to 4	High	2.10	2	4	4.20	15,930	35,820	19,890	41,769	9,945
45	County	Everglades Blvd	I-75 (SR 93)	Golden Gate Blvd	Lane Addition, 2 to 4	Low	5.30	2	4	10.60	12,780	27,360	14,580	77,274	7,290
47	County	Logan Blvd	Pine Ridge Rd	Vanderbilt Beach Rd	Lane Addition, 2 to 4	High	2.10	2	4	4.20	15,930	35,820	19,890	41,769	9,945
48	County	Green Blvd	Santa Barbara/Logan Blvd	Sunshine Blvd	Lane Addition, 2 to 4	High	1.00	2	4	2.00	15,930	35,820	19,890	19,890	9,945
49	County	Oil Well Rd/CR 858	Ave Maria Entrance	Camp Keias Rd	Lane Addition, 2 to 6	Low	1.00	2	6	4.00	12,780	41,220	28,440	28,440	7,110
50	County	Everglades Blvd	Vanderbilt Beach Rd Ext.	S of Oil Well Rd	Lane Addition, 2 to 4	Low	2.20	2	4	4.40	12,780	27,360	14,580	32,076	7,290
52	County	Everglades Blvd	Oil Well Rd	Immokalee Rd	Lane Addition, 2 to 4	Low	5.00	2	4	10.00	23,100	52,400	29,300	146,500	14,650
53	County	Orange Blossom Dr	Airport Pulling Rd	Livingston Rd	Lane Addition, 2 to 4	High	0.70	2	4	1.40	14,580	31,950	17,370	12,159	8,685
54	County	Westclox St Ext.	Little League Rd	W of Carson Rd	New Construction, 0 to 2	High	0.90	0	2	1.80	0	15,930	15,930	14,337	7,965
55	County	Benfield Rd	US 41 (SR 90)	Rattlesnake-Hammock Ext.	New Construction, 0 to 2	Low	4.50	0	2	9.00	0	23,100	23,100	103,950	11,550
58	County	Camp Keais Rd	Oil Well Rd	Pope John Paul Blvd	Lane Addition, 2 to 4	Low	2.60	2	4	5.20	23,100	52,400	29,300	76,180	14,650
68	County	Golden Gate Blvd	Everglades Blvd	Desoto Blvd	Lane Addition, 2 to 4	Low	2.00	2	4	4.00	12,780	27,360	14,580	29,160	7,290
70	County	Keane Ave	Inez Rd	Wilson Blvd Ext.	New Construction, 0 to 2	Low	2.00	0	2	4.00	0	15,930	15,930	31,860	7,965
Total:									**Total:**	**240.60**				**2,052,799**	**8,532**
ROW (Low):									**ROW (Low):**	**171.60**	**71%**			**1,453,874**	**8,472**
ROW (High):									**ROW (High):**	**69.00**	**29%**			**598,925**	**8,680**

Sources: Collier County 2040 Long Range Transportation Plan

Appendix C
Credit Component

Appendix C: Credit Component

This appendix presents the detailed calculations for the credit component. County fuel taxes that are collected in Collier County are listed below, along with a few pertinent characteristics of each.

1. Constitutional Fuel Tax (2¢/gallon)

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

2. County Fuel Tax (1¢/gallon)

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

3. Ninth-Cent Fuel Tax (1¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county.
- Proceeds may be used to fund transportation expenditures.
- To accommodate statewide equalization, this tax is automatically levied on diesel fuel in every county, regardless of whether a County is levying the tax on motor fuel at all.
- Counties are not required to share the proceeds of this tax with their municipalities.

4. 1st Local Option Tax (up to 6¢/gallon)

- Tax applies to every net gallon of motor and diesel fuel sold within a county.
- Proceeds may be used to fund transportation expenditures.

- To accommodate statewide equalization, all six cents are automatically levied on diesel fuel in every county, regardless of whether a county is levying the tax on motor fuel at all or at the maximum rate.
- Proceeds are distributed to a county and its municipalities according to a mutually agreed upon distribution ratio, or by using a formula contained in the Florida Statutes.

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

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

Each year, the Florida Legislature's Office of Economic and Demographic Research (EDR) produces the *Local Government Financial Information Handbook*, which details the estimated local government revenues for the upcoming fiscal year. Included in this document are the estimated distributions of the various fuel tax revenues for each county in the state. The 2018-19 data represent projected fuel tax distributions to Collier County for the current fiscal year. 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 fuel taxes. It is estimated that approximately $1.68 million of annual revenue will be generated for the County from one penny of fuel tax in Collier County.

Table C-1

Estimated Fuel Tax Distribution Allocated to Capital Programs for Collier County & Municipalities, FY 2018-19[1]

Tax	Amount of Levy per Gallon	Total Distribution	Distribution per Penny
Constitutional Fuel Tax	$0.02	$4,606,831	$2,303,416
County Fuel Tax	$0.01	$2,034,546	$2,034,546
9th Cent Fuel Tax	$0.01	$1,705,570	$1,705,570
1st Local Option (1-6 cents)	$0.06	$9,577,469	$1,596,245
2nd Local Option (1-5 cents)	$0.05	$7,207,560	$1,441,512
Total	**$0.15**	**$25,131,976**	
Weighted Average per Penny[2]			**$1,675,465**

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

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

Capital Improvement Credit

For the calculated impact fee, the capital improvement credit includes capacity-expansion expenditures for roadway improvements in Collier County.

County Capital Project Funding

A review of the County's FY 2019-2023 Annual Update and Inventory Report (AUIR) Transportation Work Program indicates that a combination of fuel tax revenues, impact fees, and grants are used to fund transportation capacity expansion improvements. As shown in Table C-2, Collier County allocates approximately an equivalent of 4.7 pennies for non-impact fee revenues dedicated to capacity expansion projects such as new road construction, lane additions, and intersection improvements. The fuel tax credit in Table C-2 does not include the portion of fuel tax revenues being used to repay debt service.

Table C-2

County Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[2]	Equivalent Pennies[3]
Grant Revenues[1]	$5,500,000	5	$1,675,465	$0.007
Fuel Tax Revenues[2]	$33,987,000	5	$1,675,465	$0.041
Total	**$39,487,000**	**5**	**$1,675,465**	**$0.047**

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) divided by 100

As previously mentioned, the County is currently using fuel tax revenues to retire debt of the Series 2012 and Series 2014 Fuel Tax Bond Issues that are being used to fund capacity expansion improvements. As shown in Table C-3, a credit of 8.7 pennies is allocated toward outstanding debt service in Collier County.

Table C-3

County Debt Service Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[3]	Equivalent Pennies[4]
Fuel Tax Bond Issue, Series 2012[1]	$19,363,150	5	$1,675,465	$0.023
Fuel Tax Bond Issue, Series 2014[2]	$74,514,454	7	$1,675,465	$0.064
Total	**$93,877,604**			**$0.087**

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

In November 2018, the County adopted a one-percent local government infrastructure surtax. The tax went into effect January 1, 2019 with revenues available to tangible capital projects. The tax is designed to expire after seven years, but may expire earlier is the revenue goal of $490 million is met. There is potential for an extension via another voter referendum. As shown in Table C-4, based on the preliminary project list, approximately $114 million will be allocated for transportation capacity expansion:

- Airport Rd from Vanderbilt Beach Rd to Immokalee Rd, $4 million
- Pine Ridge, Livingston & Whippoorwill intersection, $23 million
- Triangle Blvd roundabouts, $6 million

- Randall Blvd & Immokalee intersection, $7 million
- Vanderbilt Beach Rd Extension to the East, $74 million

For impact fee credit purposes it is assumed that the sales tax will be renewed for at least 25 years and that the annual contributions to capacity expansion will remain at this initial level. As shown in Table C-4, a credit of 9.7 pennies is given for the local government infrastructure surtax. This report includes scenarios excluding and including this recently adopted revenue source.

Table C-4

County Local Option Sales Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[2]	Equivalent Pennies[3]
Local Govt Infrastructure Surtax Revenues[1]	$114,000,000	7	$1,675,465	**$0.097**

1) Source: Collier County Infrastructure Surtax Citizen Committee; collieronecenttax.com
2) Source: Table C-1
3) Cost of projects divided by number of years divided by revenue from 1 penny (Item 3) divided by 100

Tables C-5 through C-9 provide additional backup detail for the summaries included previously in this report and in Appendix C, Tables C-1 through C-4.

Table C-5

Collier County – AUIR Summary

AUIR	Expenditures & Revenues
Work Program Expenditures	
Total - Capacity Expansion Projects[1]	$136,120,000
Revenues available to fund capacity expansion (new projects)	
- Impact Fees (including interest & fund balance)	$96,633,000
- Grant Funds	$5,500,000
- Fuel Tax (including interest & fund balance)	$111,075,000
- Fuel Tax Fund 313 (carry forward)	$7,066,000
Total	**$220,274,000**
Revenues used to fund capacity expansion (new projects)	
- Impact Fees (including interest & fund balance)	$96,633,000
- Grant Funds (used to fund capacity expansion projects)	$5,500,000
- Fuel Tax (includes General Fund transfer)	$33,987,000
- Fuel Tax (used to fund debt service)[2]	$66,585,189
Total	**$202,705,189**
Revenues available to fund non-capacity improvements	
- Fuel Tax	$17,568,812

1) Source: FY 2019 – FY 2023 5-Year Work Program; AUIR
2) Source: Total debt service for FY 2019-2023 for Series 2012 Bond (Table C-6) and Series 2014 Bond (Table C-7)

Table C-6

Collier County – Gas Tax Bond, Series 2012

Year	Principal	Interest	Total Debt Service
FY 2019	$3,120,000	$749,650	$3,869,650
FY 2020	$3,280,000	$593,650	$3,873,650
FY 2021	$3,445,000	$429,650	$3,874,650
FY 2022	$3,615,000	$257,400	$3,872,400
FY 2023	$3,760,000	$112,800	$3,872,800
Total	**$17,220,000**	**$2,143,150**	**$19,363,150**
Payments Remaining			**5**
Annual Average Payment			**$3,872,630**

Source: Collier County Budget Department

Table C-7

Collier County – Gas Tax Bond, Series 2014

Year	Principal	Interest	Total Debt Service
FY 2019	$7,710,000	$1,791,944	$9,501,944
FY 2020	$7,890,000	$1,584,545	$9,474,545
FY 2021	$8,070,000	$1,372,304	$9,442,304
FY 2022	$8,260,000	$1,155,221	$9,415,221
FY 2023	$8,455,000	$933,027	$9,388,027
FY 2024	$12,965,000	$705,587	$13,670,587
FY 2025	$13,265,000	$356,829	$13,621,829
Total	**$66,615,000**	**$7,899,454**	**$74,514,454**
Payments Remaining			**7**
Annual Average Payment			**$10,644,922**

Source: Collier County Budget Department

Table C-8

Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel

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

Percent VMT

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

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

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

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2016* , Section V, Table VM-1
Annual Vehicle Distance Traveled in Miles and Related Data - 2016 by Highway Category and Vehicle Type
http://www.fhwa.dot.gov/policyinformation/statistics.cfm

Table C-9

Annual Vehicle Distance Travelled in Miles and Related Data – 2016[1]

By Highway Category and Vehicle Type

Published December 2017 — TABLE VM-1

YEAR	ITEM	LIGHT DUTY VEHICLES SHORT WB[2]	MOTOR-CYCLES	BUSES	LIGHT DUTY VEHICLES LONG WB[2]	SINGLE-UNIT TRUCKS[3]	COMBINATION TRUCKS	SUBTOTALS		ALL MOTOR VEHICLES
								ALL LIGHT VEHICLES[2]	SINGLE-UNIT 2-AXLE 6-TIRE OR MORE AND COMBINATION TRUCKS	
	Motor-Vehicle Travel: (millions of vehicle-miles)									
2016	Interstate Rural	139,460	1,095	1,740	44,086	9,905	50,430	**183,546**	**60,335**	246,716
2016	Other Arterial Rural	226,036	2,633	2,116	91,655	16,371	28,794	**317,691**	**45,164**	367,605
2016	Other Rural	212,457	2,856	1,946	90,026	15,563	12,375	**302,483**	**27,939**	335,224
2016	All Rural	577,954	6,583	5,802	225,768	41,839	91,599	803,721	133,439	949,545
2016	Interstate Urban	392,838	2,939	2,542	99,523	18,555	41,991	**492,361**	**60,546**	558,388
2016	Other Urban	1,220,973	10,923	8,006	332,663	52,944	40,966	**1,553,636**	**93,910**	1,666,475
2016	All Urban	1,613,810	13,862	10,548	432,186	71,499	82,958	2,045,997	154,456	2,224,863
2016	Total Rural and Urban[5]	2,191,764	20,445	16,350	657,954	113,338	174,557	2,849,718	287,895	3,174,408
2016	Number of motor vehicles registered[2]	192,774,508	8,679,380	976,161	54,870,473	8,746,518	2,752,043	247,644,981	11,498,561	268,799,083
2016	Average miles traveled per vehicle	11,370	2,356	16,749	11,991	12,958	63,428	11,507	25,037	11,810
2016	Person-miles of travel[4] (millions)	3,045,205	22,022	346,610	878,994	113,338	174,557	3,924,199	287,895	4,580,725
2016	Fuel consumed (thousand gallons)	91,487,810	465,802	2,225,795	37,818,755	15,338,479	29,554,641	129,306,565	44,893,120	176,891,283
2016	Average fuel consumption per vehicle (gallons)	475	54	2,280	689	1,754	10,739	522	3,904	658
2016	Average miles traveled per gallon of fuel consumed	24.0	43.9	7.3	17.4	7.4	5.9	**22.0**	**6.4**	17.9

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

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

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

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

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

Appendix D
Calculated Road Impact Fee Schedule

Appendix D: Calculated Road Impact Fee Schedule

This appendix presents the detailed fee calculations for each land use in the Collier County road impact fee schedule.

Table D-1 presents the calculated road impact fee rates for Collier County, excluding a revenue credit for the recently adopted local government infrastructure surtax.

Table D-2 presents the calculated road impact fee rates for Collier County, including a revenue credit for the recently adopted local government infrastructure surtax. This scenario calculates lower impact fee rates due to the availability of an additional revenue source to pay for roadway capacity expansion improvements.

Table D-1

Collier County – Calculated Road Impact Fee Schedule (Excluding Sales Tax Credit)

	Gasoline Tax										Unit Cost per Lane Mile:	$6,005,000				Interstate/Toll Facility Adjustment Factor:	14.4%	
	$$ per gallon to capital:	$0.134									Average VMC per Lane Mile:	8,500				Cost per PMC:	$706.47	
	Facility life (years):	25									Fuel Efficiency:	18.74 mpg						
	Interest rate:	4.00%									Effectivedays per year:	365						

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Trip Length Adjustment Factor	Adjusted Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	RESIDENTIAL:																	
210	Single Family (Detached) - Less than 4,000 sf	du	7.37	Appendix A: Table A-5	5.88	0.71	4.17	4.67	Appendix A: LUC 210	100%	n/a	13.15	$9,293	$45	$703	**$8,590**	$7,444	15%
	Single Family (Detached) - 4,000 sf and greater	du	9.00	Appendix A: Table A-5	5.88	0.71	4.17	4.67	Appendix A: LUC 210	100%	n/a	16.06	$11,348	$55	$859	**$10,489**	$8,959	17%
220	Multi-Family Housing (Low-Rise, 1-2 floors)	du	7.32	ITE 10th Edition	5.10	0.71	3.62	4.12	Appendix A: LUC 220/221/222	100%	n/a	11.34	$8,012	$39	$609	**$7,403**	$5,542	34%
221	Multi-Family Housing (Mid-Rise, 3-10 floors)	du	5.44	ITE 10th Edition	5.10	0.71	3.62	4.12	Appendix A: LUC 220/221/222	100%	n/a	8.43	$5,955	$29	$453	**$5,502**	$5,542	-1%
222	Multi-Family Housing (High-Rise, >10 floors)	du	4.45	ITE 10th Edition	5.10	0.71	3.62	4.12	Appendix A: LUC 220/221/222	100%	n/a	6.89	$4,871	$24	$375	**$4,496**	$3,532	27%
231	Mid-Rise Residential w/1st floor Commercial	du	3.44	ITE 10th Edition	5.10	0.71	3.62	4.12	Same as LUC 220	100%	n/a	5.33	$3,765	$18	$281	**$3,484**	n/a	n/a
232	High-Rise Residential w/1st floor Commercial[3]	du	2.01	ITE 10th Edition (Adjusted)	5.10	0.71	3.62	4.12	Same as LUC 220	100%	n/a	3.11	$2,200	$11	$172	**$2,028**	n/a	n/a
240	Mobile Home Park	du	4.17	Appendix A: LUC 240	4.60	0.71	3.27	3.77	Appendix A: LUC 240	100%	n/a	5.84	$4,123	$21	$328	**$3,795**	$3,146	21%
251	Retirement Community (detached)	du	3.50	Appendix A: LUC 251	5.42	0.71	3.85	4.35	Appendix A: LUC 251	100%	n/a	5.77	$4,074	$20	$312	**$3,762**	$2,788	35%
252	Retirement Community (attached)	du	3.33	Appendix A: LUC 252	3.28	0.71	2.33	2.83	Appendix A: LUC 252	100%	n/a	3.32	$2,346	$12	$187	**$2,159**	$2,788	-23%
254	Assisted Living	bed	2.60	ITE 10th Edition	2.59	0.71	1.84	2.34	Same as LUC 620	72%	Appendix A: LUC 253	1.47	$1,042	$6	$94	**$948**	n/a	n/a
	LODGING:																	
310	Hotel	room	5.55	Appendix A: LUC 310	5.42	0.71	3.85	4.35	Appendix A: LUC 310/320	66%	Appendix A: LUC 310	6.04	$4,264	$21	$328	**$3,936**	$3,760	5%
311	All Suites Hotel	room	4.46	ITE 10th Edition	5.42	0.71	3.85	4.35	Same as LUC 310	66%	Same as LUC 310	4.85	$3,427	$17	$266	**$3,161**	$2,900	9%
320	Motel	room	3.35	ITE 10th Edition	4.34	0.71	3.08	3.58	Appendix A: LUC 320	77%	Appendix A: LUC 320	3.40	$2,402	$12	$187	**$2,215**	$3,086	-28%
	RECREATION:																	
416	Campground/RV Park[4]	site	1.62	ITE 10th Edition (Adjusted)	4.60	0.71	3.27	3.77	Same as LUC 240	100%	Same as Residential Land Uses	2.27	$1,602	$8	$125	**$1,477**	$1,226	20%
420	Marina	boat berth	2.41	ITE 10th Edition	5.88	0.71	4.17	4.67	Same as LUC 210	90%	Based on LUC 710	3.87	$2,735	$13	$203	**$2,532**	$2,593	-2%
430	Golf Course	18 holes	546.84	ITE 10th Edition (Adjusted)	2.22	0.71	1.58	2.08	Same as LUC 444	90%	Based on LUC 710	332.82	$235,124	$1,336	$20,871	**$214,253**	$205,266	4%
n/a	Bundled Golf Course[5]	18 holes	164.05	Same as LUC 430 (Adjusted to 30%)	2.22	0.71	1.58	2.08	Same as LUC 444	90%	Based on LUC 710	99.84	$70,536	$401	$6,264	**$64,272**	$61,587	4%
444	Movie Theater	screen	114.83	Blend ITE 10th & Florida Studies	2.22	0.71	1.58	2.08	Appendix A: LUC 444	88%	Appendix A: LUC 444	68.33	$48,276	$274	$4,280	**$43,996**	$33,271	32%
n/a	Dance Studios/Gym	1,000 sf	21.33	Appendix A: LUC N/A Dance Studio	2.97	0.71	2.11	2.61	Appendix A: LUC N/A Specialty Retail	80%	Appendix A: LUC N/A Specialty Retail	15.41	$10,887	$58	$906	**$9,981**	$8,204	22%
	INSTITUTIONS:																	
520	Elementary School (Private)	student	1.89	ITE 10th Edition	2.94	0.71	2.09	2.59	50% of LUC 210 based on Transp. Modeling	80%	Based on LUC 710 (adjusted)[5]	1.35	$956	$5	$78	**$878**	$729	20%
522	Middle/Junior High School (Private)	student	2.13	ITE 10th Edition	2.94	0.71	2.09	2.59	50% of LUC 210 based on Transp. Modeling	80%	Based on LUC 710 (adjusted)[5]	1.52	$1,077	$6	$94	**$983**	$1,028	-4%
530	High School (Private)	student	2.03	ITE 10th Edition	2.94	0.71	2.09	2.59	50% of LUC 210 based on Transp. Modeling	90%	Based on LUC 710	1.63	$1,155	$6	$94	**$1,061**	$1,085	-2%
540/ 550	University/Junior College (7,500 or fewer students) (Private)	student	2.00	ITE Regression Analysis	5.88	0.71	4.17	4.67	Same as LUC 210	90%	Based on LUC 710	3.21	$2,270	$11	$172	**$2,098**	$1,748	20%
	University/Junior College (more than 7,500 students) (Private)	student	1.50	ITE Regression Analysis	5.88	0.71	4.17	4.67	Same as LUC 210	90%	Based on LUC 710	2.41	$1,702	$8	$125	**$1,577**	$1,311	20%
560	Church	seat	0.44	ITE 10th Edition	3.91	0.71	2.78	3.28	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	0.47	$333	$2	$31	**$302**	$348	-13%
565	Day Care Center	student	4.09	ITE 10th Edition	2.03	0.71	1.44	1.94	Appendix A: LUC 565	73%	Appendix A: LUC 565	1.84	$1,300	$8	$125	**$1,175**	$1,026	15%

Table D-1 (continued)

Collier County – Calculated Road Impact Fee Schedule (Excluding Sales Tax Credit)

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Trip Length Adjustment Factor	Adjusted Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	MEDICAL:																	
610	Hospital	1,000 sf	10.72	ITE 10th Edition	5.88	0.71	4.17	4.67	Same as LUC 210	78%	Midpoint of LUC 310 & LUC 720	14.92	$10,543	$51	$797	**$9,746**	$9,889	-1%
620	Nursing Home	bed	3.02	Appendix A: LUC 620	2.59	0.71	1.84	2.34	Appendix A: LUC 620	89%	Appendix A: LUC 620	2.12	$1,495	$8	$125	**$1,370**	$1,031	33%
	OFFICE:																	
710	General Office	1,000 sf	9.74	ITE 10th Edition	5.15	0.71	3.66	4.16	Appendix A: LUC 710	92%	Appendix A: LUC 710	14.04	$9,917	$49	$765	**$9,152**	$10,249	-11%
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	23.83	Appendix A: LUC 720 Small Medical/Dental	5.55	0.71	3.94	4.44	Appendix A: LUC 720	89%	Appendix A: LUC 720	35.76	$25,267	$123	$1,922	**$23,345**	$19,443	20%
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	34.12	Appendix A: LUC 720	5.55	0.71	3.94	4.44	Appendix A: LUC 720	89%	Appendix A: LUC 720	51.21	$36,177	$176	$2,749	**$33,428**	$28,313	18%
770	Business Park (Flex-Space)	1,000 sf	12.65	Appendix A: LUC 770	5.38	0.71	3.82	4.32	Appendix A: LUC 770	89%	Appendix A: LUC 770	18.41	$13,004	$63	$984	**$12,020**	$9,989	20%
	RETAIL:																	
820	Retail 6,000 sfgla or less[6]	1,000 sfgla	75.05	ITE 10th equation	1.12	0.71	0.80	1.30	Appendix A: Fig. A-1 (6k sq ft)	39%	Appendix A: Fig. A-2 (6k sq ft)	10.02	$7,080	$50	$781	**$6,299**	$5,697	11%
	Retail 6,001-25,000 sfgla[6]	1,000 sfgla	75.05	ITE 10th equation	1.58	0.71	1.12	1.62	Appendix A: Fig. A-1 (25k sq ft)	50%	Appendix A: Fig. A-2 (25k sq ft)	17.99	$12,708	$79	$1,234	**$11,474**	$10,676	7%
	Retail greated than 25,000 sfgla[6]	1,000 sfgla	37.75	ITE 10th edition	2.69	0.71	1.91	2.41	Appendix A: Fig. A-1 (450k sq ft)	74%	Appendix A: Fig. A-2 (450k sq ft)	22.84	$16,133	$88	$1,375	**$14,758**	$14,354	3%
840/ 841	New/Used Auto Sales	1,000 sf	24.58	Appendix A: LUC 840/841	4.60	0.71	3.27	3.77	Appendix A: LUC 840/841	79%	Appendix A: LUC 840/841	27.18	$19,200	$96	$1,500	**$17,700**	$16,878	5%
849	Tire Superstore	service bay	30.55	ITE 10th Edition	2.32	0.71	1.65	2.15	Mid-Point of LUC 944 and LUC 942 (App. A)	72%	Same as LUC 942 (Appendix A)	15.53	$10,974	$62	$969	**$10,005**	$8,178	22%
850	Supermarket	1,000 sf	106.64	Appendix A: LUC 850	2.08	0.71	1.48	1.98	Appendix A: LUC 850	56%	Appendix A: LUC 850	37.83	$26,724	$154	$2,406	**$24,318**	$19,163	27%
851	Convenience Market (24 hour)	1,000 sf	739.50	Appendix A: LUC 851	1.52	0.71	1.08	1.58	Appendix A: LUC 851	41%	Appendix A: LUC 851	140.15	$99,011	$625	$9,764	**$89,247**	$69,707	28%
862	Home Improvement Superstore	1,000 sf	30.74	ITE 10th Edition	2.34	0.71	1.66	2.16	Appendix A: Fig. A-1 (150k sq ft)	65%	Appendix A: Fig. A-2 (150k sq ft)	14.20	$10,029	$56	$875	**$9,154**	$7,483	22%
880/ 881	Pharmacy with & without Drive-Thru	1,000 sf	104.37	Appendix A: LUC 880/881	2.08	0.71	1.48	1.98	Appendix A: LUC 880/881	32%	Appendix A: LUC 880/881	21.16	$14,946	$86	$1,343	**$13,603**	$10,165	34%
890	Furniture Store	1,000 sf	6.26	Appendix A: LUC 890	4.05	0.71	2.88	3.38	Appendix A: LUC 890	78%	Appendix A: LUC 890	6.02	$4,252	$22	$344	**$3,908**	$2,706	44%
	SERVICES:																	
911	Bank/Savings Walk-In[7]	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	0.71	1.75	2.25	Same as LUC 912	46%	Same as LUC 912	20.46	$14,456	$80	$1,250	**$13,206**	$22,038	-40%
912	Bank/Savings Drive-In	1,000 sf	102.66	Appendix A: LUC 912	2.46	0.71	1.75	2.25	Appendix A: LUC 912	46%	Appendix A: LUC 912	35.37	$24,988	$139	$2,171	**$22,817**	$28,961	-21%
930	Fast Casual Restaurant	1,000 sf	315.17	ITE 10th Edition	2.05	0.71	1.46	1.96	Same as LUC 934	58%	Same as LUC 934	114.23	$80,698	$468	$7,311	**$73,387**	n/a	n/a
931	Low-Turnover Restaurant	seat	2.60	ITE 10th Edition	3.14	0.71	2.23	2.73	Appendix A: LUC 931	77%	Appendix A: LUC 931	1.91	$1,350	$7	$109	**$1,241**	$1,130	10%
932	High-Turnover Restaurant	seat	4.37	ITE 10th Edition	3.17	0.71	2.25	2.75	Appendix A: LUC 932	71%	Appendix A: LUC 932	2.99	$2,111	$11	$172	**$1,939**	$1,758	10%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Appendix A: LUC 934	2.05	0.71	1.46	1.96	Appendix A: LUC 934	58%	Appendix A: LUC 934	174.88	$123,550	$716	$11,185	**$112,365**	$96,567	16%
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	409.25	Local Studies (2011)	2.19	0.71	1.55	2.05	Local Studies (2011)	59%	Local Studies (2011)	160.18	$113,165	$646	$10,092	**$103,073**	n/a	n/a
941	Quick Lube	service bay	40.00	ITE 10th Edition	2.32	0.71	1.65	2.15	Mid-Point of LUC 944 & LUC 942 (App. A)	72%	Same as LUC 942 (Appendix A)	20.34	$14,369	$81	$1,265	**$13,104**	$10,697	23%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.01	0.71	0.72	1.22	Appendix A: LUC 944/945	23%	Appendix A: LUC 944/945	12.19	$8,613	$63	$984	**$7,629**	n/a	n/a
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.01	0.71	0.72	1.22	Appendix A: LUC 944/945	23%	Appendix A: LUC 944/945	14.56	$10,283	$75	$1,172	**$9,111**	n/a	n/a
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.01	0.71	0.72	1.22	Same as LUC 945	23%	Same as LUC 945	16.34	$11,543	$84	$1,312	**$10,231**	n/a	n/a
947	Self-Service Car Wash	service bay	43.94	Appendix A: LUC 947	2.18	0.71	1.55	2.05	Appendix A: LUC 947	68%	Appendix A: LUC 947	19.82	$14,004	$80	$1,250	**$12,754**	$10,395	23%
948	Automated Car Wash[8]	1,000 sf	142.00	ITE 10th Edition (Adjusted)	2.18	0.71	1.55	2.05	Same as LUC 947	68%	Same as LUC 947	64.06	$45,255	$258	$4,030	**$41,225**	$33,398	23%

Table D-1 (continued)

Collier County – Calculated Road Impact Fee Schedule (Excluding Sales Tax Credit)

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Trip Length Adjustment Factor	Adjusted Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	SERVICES:																	
n/a	Luxury Auto Sales	1,000 sf	16.30	Independent Studies	4.80	0.71	3.41	3.91	Independent Studies	85%	Independent Studies	20.22	$14,286	$71	$1,109	**$13,177**	$10,947	20%
	INDUSTRIAL:																	
110	General Light Industrial	1,000 sf	4.96	ITE 10th Edition	5.38	0.71	3.82	4.32	Same as LUC 770	92%	Same as LUC 710	7.46	$5,271	$26	$406	**$4,865**	$5,700	-15%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.38	0.71	3.82	4.32	Same as LUC 770	92%	Same as LUC 710	5.91	$4,176	$20	$312	**$3,864**	$3,122	24%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.38	0.71	3.82	4.32	Same as LUC 770	92%	Same as LUC 710	2.62	$1,849	$9	$141	**$1,708**	$2,904	-41%
151	Mini-Warehouse	1,000 sf	1.49	Appendix A: LUC 151	3.51	0.71	2.49	2.99	Midpoint of LUC 710 & LUC 820 (<25k sq ft)	92%	Same as LUC 710	1.46	$1,032	$5	$78	**$954**	$999	-5%
n/a	Mine[9]	1,000 cy	0.01	Local Studies	14.82	0.71	10.52	11.02	Local Studies	97%	Local Studies	0.04	$26	-	$12	**$14**	$8	75%

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: Collier County Capital Project Planning, Impact Fees, and Program Management Division. Residential Condo/Townhouse rate shown for LUC 231; High-Rise Condo (3+ stories) rate shown for LUC 232; Retirement Community/Age-Restricted Single Family rate shown for LUC 215 and LUC 252; Office 6,001-100,000 sf rate shown for LUC 710; Retail 100,001-150,000 sfgla rate shown for LUC 820 greater than 25,000 sfgla; Gas/Service Station with or w/o Car Wash rate shown for LUC 944, LUC 945, and LUC 960
3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by the ratio of Daily to PM Peak Hour for LUC 231 to approximate a daily TGR
4) The ITE 10th Edition trip generation rate was adjusted to reflect the average occupancy rate of 60 percent based on data provided by the Florida Association of RV Parks and Campgrounds
5) The TGR for bundled golf course is estimated at 30 percent of the TGR for LUC 430
6) The trip generation rates recommended for retail are based off a 50,000 sfgla development for tiers 0-6,000 and 6,001-25,000 and based on 450,000 sfgla for the >25,000 sfgla option
7) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by the ratio of Daily to PM Peak Hour for LUC 912 to approximate a daily TGR
8) 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
9) The mines land use impact fee rate was calculated using and I/T adjustment factor if 27.3% and a fuel efficiency value of 6.2 gallons per mile based on the 2009 Collier County Mines Trip Characteristics Study, Tindale Oliver

Table D-2

Collier County – Calculated Road Impact Fee Schedule (Including Sales Tax Credit)

	Gasoline Tax										Unit Cost per Lane Mile:	$6,005,000				Interstate/Toll Facility Adjustment Factor:	14.4%	
	$$ per gallon to capital:	$0.231									Average VMC per Lane Mile:	8,500				Cost per PMC:	$706.47	
	Facility life (years):	25									Fuel Efficiency:	18.74 mpg						
	Interest rate:	4.00%									Effectivedays per year:	365						

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Trip Length Adjustment Factor	Adjusted Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	RESIDENTIAL:																	
210	Single Family (Detached) - Less than 4,000 sf	du	7.37	Appendix A: Table A-5	5.88	0.71	4.17	4.67	Appendix A: LUC 210	100%	n/a	13.15	$9,293	$77	$1,203	**$8,090**	$7,444	9%
	Single Family (Detached) - 4,000 sf and greater	du	9.00	Appendix A: Table A-5	5.88	0.71	4.17	4.67	Appendix A: LUC 210	100%	n/a	16.06	$11,348	$95	$1,484	**$9,864**	$8,959	10%
220	Multi-Family Housing (Low-Rise, 1-2 floors)	du	7.32	ITE 10th Edition	5.10	0.71	3.62	4.12	Appendix A: LUC 220/221/222	100%	n/a	11.34	$8,012	$68	$1,062	**$6,950**	$5,542	25%
221	Multi-Family Housing (Mid-Rise, 3-10 floors)	du	5.44	ITE 10th Edition	5.10	0.71	3.62	4.12	Appendix A: LUC 220/221/222	100%	n/a	8.43	$5,955	$50	$781	**$5,174**	$5,542	-7%
222	Multi-Family Housing (High-Rise, >10 floors)	du	4.45	ITE 10th Edition	5.10	0.71	3.62	4.12	Appendix A: LUC 220/221/222	100%	n/a	6.89	$4,871	$41	$641	**$4,230**	$3,532	20%
231	Mid-Rise Residential w/1st floor Commercial	du	3.44	ITE 10th Edition	5.10	0.71	3.62	4.12	Same as LUC 220	100%	n/a	5.33	$3,765	$32	$500	**$3,265**	n/a	n/a
232	High-Rise Residential w/1st floor Commercial[3]	du	2.01	ITE 10th Edition (Adjusted)	5.10	0.71	3.62	4.12	Same as LUC 220	100%	n/a	3.11	$2,200	$19	$297	**$1,903**	n/a	n/a
240	Mobile Home Park	du	4.17	Appendix A: LUC 240	4.60	0.71	3.27	3.77	Appendix A: LUC 240	100%	n/a	5.84	$4,123	$35	$547	**$3,576**	$3,146	14%
251	Retirement Community (detached)	du	3.50	Appendix A: LUC 251	5.42	0.71	3.85	4.35	Appendix A: LUC 251	100%	n/a	5.77	$4,074	$34	$531	**$3,543**	$2,788	27%
252	Retirement Community (attached)	du	3.33	Appendix A: LUC 252	3.28	0.71	2.33	2.83	Appendix A: LUC 252	100%	n/a	3.32	$2,346	$21	$328	**$2,018**	$2,788	-28%
254	Assisted Living	bed	2.60	ITE 10th Edition	2.59	0.71	1.84	2.34	Same as LUC 620	72%	Appendix A: LUC 253	1.47	$1,042	$10	$156	**$886**	n/a	n/a
	LODGING:																	
310	Hotel	room	5.55	Appendix A: LUC 310	5.42	0.71	3.85	4.35	Appendix A: LUC 310/320	66%	Appendix A: LUC 310	6.04	$4,264	$36	$562	**$3,702**	$3,760	-2%
311	All Suites Hotel	room	4.46	ITE 10th Edition	5.42	0.71	3.85	4.35	Same as LUC 310	66%	Same as LUC 310	4.85	$3,427	$29	$453	**$2,974**	$2,900	3%
320	Motel	room	3.35	ITE 10th Edition	4.34	0.71	3.08	3.58	Appendix A: LUC 320	77%	Appendix A: LUC 320	3.40	$2,402	$21	$328	**$2,074**	$3,086	-33%
	RECREATION:																	
416	Campground/RV Park[4]	site	1.62	ITE 10th Edition (Adjusted)	4.60	0.71	3.27	3.77	Same as LUC 240	100%	Same as Residential Land Uses	2.27	$1,602	$14	$219	**$1,383**	$1,226	13%
420	Marina	boat berth	2.41	ITE 10th Edition	5.88	0.71	4.17	4.67	Same as LUC 210	90%	Based on LUC 710	3.87	$2,735	$23	$359	**$2,376**	$2,593	-8%
430	Golf Course	18 holes	546.84	ITE 10th Edition (Adjusted)	2.22	0.71	1.58	2.08	Same as LUC 444	90%	Based on LUC 710	332.82	$235,124	$2,303	$35,978	**$199,146**	$205,266	-3%
n/a	Bundled Golf Course[5]	18 holes	164.05	Same as LUC 430 (Adjusted to 30%)	2.22	0.71	1.58	2.08	Same as LUC 444	90%	Based on LUC 710	99.84	$70,536	$691	$10,795	**$59,741**	$61,587	-3%
444	Movie Theater	screen	114.83	Blend ITE 10th & Florida Studies	2.22	0.71	1.58	2.08	Appendix A: LUC 444	88%	Appendix A: LUC 444	68.33	$48,276	$473	$7,389	**$40,887**	$33,271	23%
n/a	Dance Studios/Gym	1,000 sf	21.33	Appendix A: LUC N/A Dance Studio	2.97	0.71	2.11	2.61	Appendix A: LUC N/A Specialty Retail	80%	Appendix A: LUC N/A Specialty Retail	15.41	$10,887	$100	$1,562	**$9,325**	$8,204	14%
	INSTITUTIONS:																	
520	Elementary School (Private)	student	1.89	ITE 10th Edition	2.94	0.71	2.09	2.59	50% of LUC 210 based on Transp. Modeling	80%	Based on LUC 710 (adjusted)[5]	1.35	$956	$9	$141	**$815**	$729	12%
522	Middle/Junior High School (Private)	student	2.13	ITE 10th Edition	2.94	0.71	2.09	2.59	50% of LUC 210 based on Transp. Modeling	80%	Based on LUC 710 (adjusted)[5]	1.52	$1,077	$10	$156	**$921**	$1,028	-10%
530	High School (Private)	student	2.03	ITE 10th Edition	2.94	0.71	2.09	2.59	50% of LUC 210 based on Transp. Modeling	90%	Based on LUC 710	1.63	$1,155	$11	$172	**$983**	$1,085	-9%
540/ 550	University/Junior College (7,500 or fewer students) (Private)	student	2.00	ITE Regression Analysis	5.88	0.71	4.17	4.67	Same as LUC 210	90%	Based on LUC 710	3.21	$2,270	$19	$297	**$1,973**	$1,748	13%
	University/Junior College (more than 7,500 students) (Private)	student	1.50	ITE Regression Analysis	5.88	0.71	4.17	4.67	Same as LUC 210	90%	Based on LUC 710	2.41	$1,702	$14	$219	**$1,483**	$1,311	13%
560	Church	seat	0.44	ITE 10th Edition	3.91	0.71	2.78	3.28	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	0.47	$333	$3	$47	**$286**	$348	-18%
565	Day Care Center	student	4.09	ITE 10th Edition	2.03	0.71	1.44	1.94	Appendix A: LUC 565	73%	Appendix A: LUC 565	1.84	$1,300	$13	$203	**$1,097**	$1,026	7%

Table D-2 (continued)

Collier County – Calculated Road Impact Fee Schedule (Including Sales Tax Credit)

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Trip Length Adjustment Factor	Adjusted Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	MEDICAL:																	
610	Hospital	1,000 sf	10.72	ITE 10th Edition	5.88	0.71	4.17	4.67	Same as LUC 210	78%	Midpoint of LUC 310 & LUC 720	14.92	$10,543	$88	$1,375	**$9,168**	$9,889	-7%
620	Nursing Home	bed	3.02	Appendix A: LUC 620	2.59	0.71	1.84	2.34	Appendix A: LUC 620	89%	Appendix A: LUC 620	2.12	$1,495	$14	$219	**$1,276**	$1,031	24%
	OFFICE:																	
710	General Office	1,000 sf	9.74	ITE 10th Edition	5.15	0.71	3.66	4.16	Appendix A: LUC 710	92%	Appendix A: LUC 710	14.04	$9,917	$84	$1,312	**$8,605**	$10,249	-16%
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	23.83	Appendix A: LUC 720 Small Medical/Dental	5.55	0.71	3.94	4.44	Appendix A: LUC 720	89%	Appendix A: LUC 720	35.76	$25,267	$212	$3,312	**$21,955**	$19,443	13%
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	34.12	Appendix A: LUC 720	5.55	0.71	3.94	4.44	Appendix A: LUC 720	89%	Appendix A: LUC 720	51.21	$36,177	$303	$4,733	**$31,444**	$28,313	11%
770	Business Park (Flex-Space)	1,000 sf	12.65	Appendix A: LUC 770	5.38	0.71	3.82	4.32	Appendix A: LUC 770	89%	Appendix A: LUC 770	18.41	$13,004	$109	$1,703	**$11,301**	$9,989	13%
	RETAIL:																	
820	Retail 6,000 sfgla or less[6]	1,000 sfgla	75.05	ITE 10th equation	1.12	0.71	0.80	1.30	Appendix A: Fig. A-1 (6k sq ft)	39%	Appendix A: Fig. A-2 (6k sq ft)	10.02	$7,080	$86	$1,343	**$5,737**	$5,697	1%
	Retail 6,001-25,000 sfgla[6]	1,000 sfgla	75.05	ITE 10th equation	1.58	0.71	1.12	1.62	Appendix A: Fig. A-1 (25k sq ft)	50%	Appendix A: Fig. A-2 (25k sq ft)	17.99	$12,708	$137	$2,140	**$10,568**	$10,676	-1%
	Retail greated than 25,000 sfgla[6]	1,000 sfgla	37.75	ITE 10th edition	2.69	0.71	1.91	2.41	Appendix A: Fig. A-1 (450k sq ft)	74%	Appendix A: Fig. A-2 (450k sq ft)	22.84	$16,133	$151	$2,359	**$13,774**	$14,354	-4%
840/ 841	New/Used Auto Sales	1,000 sf	24.58	Appendix A: LUC 840/841	4.60	0.71	3.27	3.77	Appendix A: LUC 840/841	79%	Appendix A: LUC 840/841	27.18	$19,200	$165	$2,578	**$16,622**	$16,878	-2%
849	Tire Superstore	service bay	30.55	ITE 10th Edition	2.32	0.71	1.65	2.15	Mid-Point of LUC 944 and LUC 942 (App. A)	72%	Same as LUC 942 (Appendix A)	15.53	$10,974	$106	$1,656	**$9,318**	$8,178	14%
850	Supermarket	1,000 sf	106.64	Appendix A: LUC 850	2.08	0.71	1.48	1.98	Appendix A: LUC 850	56%	Appendix A: LUC 850	37.83	$26,724	$266	$4,155	**$22,569**	$19,163	18%
851	Convenience Market (24 hour)	1,000 sf	739.50	Appendix A: LUC 851	1.52	0.71	1.08	1.58	Appendix A: LUC 851	41%	Appendix A: LUC 851	140.15	$99,011	$1,078	$16,841	**$82,170**	$69,707	18%
862	Home Improvement Superstore	1,000 sf	30.74	ITE 10th Edition	2.34	0.71	1.66	2.16	Appendix A: Fig. A-1 (150k sq ft)	65%	Appendix A: Fig. A-2 (150k sq ft)	14.20	$10,029	$97	$1,515	**$8,514**	$7,483	14%
880/ 881	Pharmacy with & without Drive-Thru	1,000 sf	104.37	Appendix A: LUC 880/881	2.08	0.71	1.48	1.98	Appendix A: LUC 880/881	32%	Appendix A: LUC 880/881	21.16	$14,946	$149	$2,328	**$12,618**	$10,165	24%
890	Furniture Store	1,000 sf	6.26	Appendix A: LUC 890	4.05	0.71	2.88	3.38	Appendix A: LUC 890	78%	Appendix A: LUC 890	6.02	$4,252	$37	$578	**$3,674**	$2,706	36%
	SERVICES:																	
911	Bank/Savings Walk-In[7]	1,000 sf	59.39	ITE 10th Edition (Adjusted)	2.46	0.71	1.75	2.25	Same as LUC 912	46%	Same as LUC 912	20.46	$14,456	$138	$2,156	**$12,300**	$22,038	-44%
912	Bank/Savings Drive-In	1,000 sf	102.66	Appendix A: LUC 912	2.46	0.71	1.75	2.25	Appendix A: LUC 912	46%	Appendix A: LUC 912	35.37	$24,988	$239	$3,734	**$21,254**	$28,961	-27%
930	Fast Casual Restaurant	1,000 sf	315.17	ITE 10th Edition	2.05	0.71	1.46	1.96	Same as LUC 934	58%	Same as LUC 934	114.23	$80,698	$806	$12,591	**$68,107**	n/a	n/a
931	Low-Turnover Restaurant	seat	2.60	ITE 10th Edition	3.14	0.71	2.23	2.73	Appendix A: LUC 931	77%	Appendix A: LUC 931	1.91	$1,350	$12	$187	**$1,163**	$1,130	3%
932	High-Turnover Restaurant	seat	4.37	ITE 10th Edition	3.17	0.71	2.25	2.75	Appendix A: LUC 932	71%	Appendix A: LUC 932	2.99	$2,111	$19	$297	**$1,814**	$1,758	3%
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	Appendix A: LUC 934	2.05	0.71	1.46	1.96	Appendix A: LUC 934	58%	Appendix A: LUC 934	174.88	$123,550	$1,234	$19,278	**$104,272**	$96,567	8%
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	409.25	Local Studies (2011)	2.19	0.71	1.55	2.05	Local Studies (2011)	59%	Local Studies (2011)	160.18	$113,165	$1,114	$17,403	**$95,762**	n/a	n/a
941	Quick Lube	service bay	40.00	ITE 10th Edition	2.32	0.71	1.65	2.15	Mid-Point of LUC 944 & LUC 942 (App. A)	72%	Same as LUC 942 (Appendix A)	20.34	$14,369	$139	$2,171	**$12,198**	$10,697	14%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 10th Edition	1.01	0.71	0.72	1.22	Appendix A: LUC 944/945	23%	Appendix A: LUC 944/945	12.19	$8,613	$109	$1,703	**$6,910**	n/a	n/a
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	205.36	ITE 10th Edition	1.01	0.71	0.72	1.22	Appendix A: LUC 944/945	23%	Appendix A: LUC 944/945	14.56	$10,283	$130	$2,031	**$8,252**	n/a	n/a
960	Gas Station w/Convenience Market 3,000+ sq ft	fuel pos.	230.52	ITE 10th Edition	1.01	0.71	0.72	1.22	Same as LUC 945	23%	Same as LUC 945	16.34	$11,543	$146	$2,281	**$9,262**	n/a	n/a
947	Self-Service Car Wash	service bay	43.94	Appendix A: LUC 947	2.18	0.71	1.55	2.05	Appendix A: LUC 947	68%	Appendix A: LUC 947	19.82	$14,004	$138	$2,156	**$11,848**	$10,395	14%
948	Automated Car Wash[8]	1,000 sf	142.00	ITE 10th Edition (Adjusted)	2.18	0.71	1.55	2.05	Same as LUC 947	68%	Same as LUC 947	64.06	$45,255	$445	$6,952	**$38,303**	$33,398	15%

Table D-2 (continued)

Collier County – Calculated Road Impact Fee Schedule (Including Sales Tax Credit)

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Trip Length Adjustment Factor	Adjusted Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	SERVICES:																	
n/a	Luxury Auto Sales	1,000 sf	16.30	Independent Studies	4.80	0.71	3.41	3.91	Independent Studies	85%	Independent Studies	20.22	$14,286	$122	$1,906	**$12,380**	$10,947	13%
	INDUSTRIAL:																	
110	General Light Industrial	1,000 sf	4.96	ITE 10th Edition	5.38	0.71	3.82	4.32	Same as LUC 770	92%	Same as LUC 710	7.46	$5,271	$44	$687	**$4,584**	$5,700	-20%
140	Manufacturing	1,000 sf	3.93	ITE 10th Edition	5.38	0.71	3.82	4.32	Same as LUC 770	92%	Same as LUC 710	5.91	$4,176	$35	$547	**$3,629**	$3,122	16%
150	Warehousing	1,000 sf	1.74	ITE 10th Edition	5.38	0.71	3.82	4.32	Same as LUC 770	92%	Same as LUC 710	2.62	$1,849	$16	$250	**$1,599**	$2,904	-45%
151	Mini-Warehouse	1,000 sf	1.49	Appendix A: LUC 151	3.51	0.71	2.49	2.99	Midpoint of LUC 710 & LUC 820 (<25k sq ft)	92%	Same as LUC 710	1.46	$1,032	$9	$141	**$891**	$999	-11%
n/a	Mine[9]	1,000 cy	0.01	Local Studies	14.82	0.71	10.52	11.02	Local Studies	97%	Local Studies	0.04	$26	-	$12	**$14**	$8	75%

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: Collier County Capital Project Planning, Impact Fees, and Program Management Division. Residential Condo/Townhouse rate shown for LUC 231; High-Rise Condo (3+ stories) rate shown for LUC 232; Retirement Community/Age-Restricted Single Family rate shown for LUC 215 and LUC 252; Office 6,001-100,000 sf rate shown for LUC 710; Retail 100,001-150,000 sfgla rate shown for LUC 820 greater than 25,000 sfgla; Gas/Service Station with or w/o Car Wash rate shown for LUC 944, LUC 945, and LUC 960
3) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by the ratio of Daily to PM Peak Hour for LUC 231 to approximate a daily TGR
4) The ITE 10th Edition trip generation rate was adjusted to reflect the average occupancy rate of 60 percent based on data provided by the Florida Association of RV Parks and Campgrounds
5) The TGR for bundled golf course is estimated at 30 percent of the TGR for LUC 430
6) The trip generation rates recommended for retail are based off a 50,000 sfgla development for tiers 0-6,000 and 6,001-25,000 and based on 450,000 sfgla for the >25,000 sfgla option
7) The ITE 10th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by the ratio of Daily to PM Peak Hour for LUC 912 to approximate a daily TGR
8) 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
9) The mines land use impact fee rate was calculated using and I/T adjustment factor if 27.3% and a fuel efficiency value of 6.2 gallons per mile based on the 2009 Collier County Mines Trip Characteristics Study, Tindale Oliver