Collier County Road Impact Fee Update Study

Final Report
October 8, 2025

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Introduction

With a population of approximately 400,000, Collier County is continuing to experience growth. The County ranks 19th out of 67 Florida counties with a projected increase of almost 100,000 persons by 2050. In terms of residential permitting, Collier County ranks 19th out of Florida counties with an average of 4,200 new units per year over the past three years. 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 2019. In accordance with the County's impact fee ordinance requirements and to reflect most recent and localized data, Collier County retained Benesch to update the technical study that will be the basis for the updated fee schedule. This report serves as the technical study to support the calculation of the updated impact fees. All data and support material used in this analysis are incorporated by reference as set forth in this document.

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.

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.

Under this methodology, the fees assess a proportionate share cost for a portion of the transportation network in the county, including classified City and County roadways, excluding state roads, local/neighborhood roads and interstate highways/toll facilities. Generally, neighborhood roads are the obligation of the developer and are part of the site/subdivision approvals. Toll facilities are funded by toll revenues through Florida Turnpike Enterprise or local toll authorities and interstate highways are funded with earmarked federal and statewide strategic intermodal systems funds and planned for at the state level with minimal local input and limited or no local funding.

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 factors
- 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 and a list of capacity-adding projects included in the County's Annual Update of Inventory Report (AUIR) and 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. In fact, which it was initially adopted, the Act largely codified requirements and standards common to the practice already.

However, the Legislature has amended the Impact Fee Act numerous times since 2006, significantly affecting the impact fee practice in Florida. For this reason, a summary of the key legislative changes since 2006 is provided:

- **HB 227 in 2009:** 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 Commerce) 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 163.3180(5)(f), Florida Statutes, including:
    - Adoption of long-term strategies to facilitate development patterns that support multi-modal solutions, including urban design, and appropriate land use mixes, including intensity and density.
    - Adoption of an area-wide level of service not dependent on any single road segment function.
    - Exempting or discounting impacts of locally desired development, such as development in urban areas, redevelopment, job creation, and mixed use on the transportation system.
    - Assigning secondary priority to vehicle mobility and primary priority to ensuring a safe, comfortable, and attractive pedestrian environment, with convenient interconnection to transit.
    - Establishing multi-modal level of service standards that rely primarily on non-vehicular modes of transportation where existing or planned community design will provide adequate level of mobility.
    - Reducing impact fees or local access fees to promote development within urban areas, multi-modal transportation districts, and a balance of mixed-use development in certain areas or districts, or for affordable or workforce housing.

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

- **HB 207 in 2019:** Included the following changes to the Impact Fee Act along with additional clarifying language:
    - 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 was to operate prospectively; however, HB 337 that was signed in 2021 deleted this clause and making all outstanding credits eligible for this adjustment. This bill also allowed local governments to waive/reduce impact fees for affordable housing projects without having to offset the associated revenue loss.
- **SB 1066 in 2020:** Added language allowing impact fee credits to be assignable and transferable at any time after establishment from one development or parcel to another that is within the same impact fee zone or impact fee district or that is within an adjoining impact fee zone or district within the same local government jurisdiction, and which receives benefit from the improvement or contribution that generated the credits. In addition, added language indicating any new/increased impact fee not being applicable to current or pending permit applications submitted prior to the effective date of an ordinance or resolution imposing new/increased fees.
- **HB 1339 in 2020:** Required reporting of various impact fee related data items within the annual financial audit report submitted to the Department of Financial Services.
- **HB 337 in 2021:** Placed limits on the amount and frequency of fee increases but also included a clause to exceed these restrictions if the local governments can demonstrate extraordinary circumstances, hold two public workshops discussing these circumstances and the increases are approved by two-thirds of the governing body.
- **HB 479 in 2024:** Required interlocal agreements between counties and municipalities when both entities collect a transportation impact fee. Placed limits on timing of impact fee study completion and adoption and data used in the studies.
- **SB 1080 in 2025**: Signed in 2025, this bill disallows the use of the extraordinary circumstances clause unless the local government has increased its fees within the past five years. It requires a unanimous vote of the governing body for fee increases above the 50-percent limit. Although the bill became effective on October 1, 2025, these two clauses will become effective on January 1, 2026.

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

<u>Impact Fee Definition</u>

- 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.
- Examples of impact fee eligible projects include new road construction, lane addition projects, turn lane additions and intersection improvements.

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 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:

- Trip characteristics surveys conducted throughout Florida (Florida Studies Database), including 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.
- Institute of Transportation Engineers' (ITE) Trip Generation reference report (12th Edition), which is used primarily for trip generation rates.

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 or through toll revenues. As mentioned previously, generally, 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 2045 loaded highway network[1] file was generated for the District 1 Regional Planning Model (D1RPM v2). 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.

[1] The "loaded highway network" refers to the final travel demand model roadway network with all traffic volumes assigned (or loaded) to each model roadway link

The analysis reviewed trips on all interstate and toll facilities within Collier County, including, Interstate 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 20.8 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 exclude the portion of the travel that occurs on state roadway facilities. To calculate this adjustment factor, the 2045 VMT distribution was calculated using D1RPM v2 projections, which estimated that 26 percent of the travel in Collier County is handled by State roads. Appendix A, Table A-2 provides further detail on this calculation.

Land Use Updates

As part of this update study, the following land uses were revised/added to the County's fee schedule to better reflect types of new development projects being permitted in Collier County.

<u>Multi-Family Tiering</u>

The ITE 12th Edition Trip Generation reference report made adjustments to certain residential categories. Based on these adjustments, the multi-family tiering (by floor) was changed. The updated configurations are as follows:

- Multi-Family (Low-Rise, 1-3 floors); per dwelling unit;
- Multi-Family (Mid-Rise, 4-10 floors); per dwelling unit; and
- Multi-Family (High-Rise, >10 floors); per dwelling unit.

In addition to the land use re-alignments, the unit of measure for the following uses has been updated:

- Movie Theater; from per "screen" to per "1,000 square feet";
- Church; from per "seat" to per "1,000 square feet";
- Day Care Center; from per "student" to per "1,000 square feet";

- Nursing Home; from per “bed” to per “1,000 square feet”;
- Tire Superstore; from per “service bay” to per “1,000 square feet”;
- Low-Turnover Restaurant; from per “seat” to per “1,000 square feet”; and
- High-Turnover (Sit-Down) Restaurant; from per “seat” to per “1,000 square feet.”

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/on-going 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/major intersection costs.

Design and CEI

The design and CEI cost factors for county roads are estimated as a percentage of the construction cost per lane mile. These factors were determined based on a review of cost ratios from local projects (Design≈10 percent in Collier County) and data from other jurisdictions throughout Florida (Design ≈11 percent; CEI ≈9 percent). For purposes of this study, the design cost for county roads is estimated at **10 percent** of the construction cost per lane mile and CEI cost is estimated at **nine (9) percent** of the construction cost per lane mile. Additional details are provided in Appendix B, Tables B-1 and B-2 for design cost and Table B-7 for CEI cost.

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. As part of this analysis, the most recent ROW acquisition data for Vanderbilt Beach Road Extension project (Phase I from Weber Blvd to 16th St NE) was reviewed.

The ROW for this improvement was acquired over several years, as far back as 2006. Each acquisition was then indexed to current dollars resulting in a 71-percent ROW-to-construction cost ratio. Given the dated nature of those early acquisitions, a second analysis was prepared, which considered only recent acquisition costs (2020+) for this ratio. ROW acquired since 2020 was separated from the total ROW costs and indexed to present day dollars using recent trends

in just value per acre for vacant land in Collier County. With these adjustments applied, the ROW-to-construction factor for the Vanderbilt Beach Road Extension was calculated at 47 percent. Additional details are provided in Appendix B, Table B-3.

In addition to local data, the ROW-to-construction cost ratios from other jurisdictions throughout Florida were reviewed to validate and support the local data. The ROW factors ranged from 10 percent to 60 percent. Additional details are provided in Appendix B, Table B-4.

Based on this data and input from Collier County, the ROW cost for county roads is estimated at **45 percent** of the construction cost per lane mile.

Construction Cost

The construction cost for county roads was based on recently completed projects and future estimates in Collier County and in other jurisdictions in Florida. A review of recent transportation projects in Collier County identified four capacity expansion projects:

- Veteran's Memorial Blvd from E. of Livingston Rd to New High School
- Whippoorwill Ln from Pine Ridge Rd to Livingston Rd
- Vanderbilt Beach Rd Ph. II from US 41 to E. of Goodlette-Frank Rd
- Wilson Blvd from Golden Gate Blvd to Immokalee Rd

The costs for these improvements ranged from approximately $1.4 million per lane mile to $6.4 million per lane mile. The construction cost for new roadway projects averaged $1.5 million per lane mile while cost of lane addition improvements averaged $6.3 million per lane mile. Given this cost differential, a weighted average cost was calculated based on the percentage of new construction versus lane addition projects in the 2045 LRTP Needs Plan, which resulted in $3.8 million per lane mile. Additional details are provided in Appendix B, Table B-5.

In addition to local projects, recent improvements from other counties throughout Florida were reviewed to increase the sample size. This review included over 185 lane miles of lane addition and new road construction improvements completed between 2014 and 2023 with a weighted average cost of approximately $3.5 million per lane mile. Additional details are provided in Appendix B, Table B-6.

Based on local projects, a construction cost estimate of **$3.8 million** per lane mile is used in the impact fee calculation for urban design (curb & gutter) improvements. Based on discussions with Collier County, it is anticipated that all future roadways are likely to have urban design

characteristics.

Mitigation

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

- Goodland Drive from San Marco Road to Harbor Place
- Vanderbilt Beach Road Extension from Collier Blvd to 16th St NE

The costs for these projects ranged from $34,000 per lane mile to $133,000 per lane mile with a weighted average cost of approximately **$38,000 per lane mile**, which is used in the road impact fee calculation. Additional details are provided in Appendix B, Table B-8.

Urban Overpass/Major Intersections

Urban overpass/major intersection cost estimates were developed based on cost data received for eight on-going/planned improvements in Collier County:

- US 41 (SR 90) Tamiami Trail East @ Goodlette-Frank Road
- Immokalee Road @ Livingston Road
- Immokalee Road @ I-75
- Immokalee Road @ Logan Blvd
- Golden Gate Pkwy @ Livingston Road
- US 41 @ Collier Blvd
- Pine Ridge Road @ Livingston Road
- Pine Ridge Road @ I-75

The total cost of these improvements was then divided by the total lane miles of county road needs projects in the 2045 Long Range Transportation Plan, resulting in a cost of approximately **$544,000 per lane mile**. Additional details are provided in Appendix B, Table B-9.

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 county road cost estimate is approximately 11 percent higher than last study.

Table 1

Estimated Total Cost per Lane Mile for County Roads

Cost Phase	Cost per Lane Mile
Design[1]	$380,000
Right-of-Way[2]	$1,710,000
Construction[3]	$3,800,000
CEI[4]	$342,000
Mitigation[5]	$38,000
Urban Overpass/Major Intersection[6]	$544,000
Total Cost	**$6,814,000**

1) Design is estimated at 10% of construction costs
2) ROW is estimated at 45% of construction costs
3) Source: Appendix B, Table B-5
4) CEI is estimated at 9% of construction costs
5) Source: Appendix B, Table B-8
6) Source: Appendix B, Table B-9

Note: All figures rounded to nearest $000

Table 2

Total Cost per Lane Mile Comparison for County Roads

Cost Phase	Cost per Lane Mile (2019)[1]	Cost per Lane Mile (2024)[2]	% Change (2019-2024)
Design	$385,000	$380,000	-1%
Right-of-Way	$1,208,000	$1,710,000	42%
Construction	$3,500,000	$3,800,000	9%
CEI	$315,000	$342,000	9%
Mitigation	$74,000	$38,000	-49%
Urban Overpass/Major Intersection	$523,000	$544,000	4%
Total Cost	**$6,005,000**	**$6,814,000**	**13%**

1) Source: *Collier County Road Impact Fee Update Study*, October 2019
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 vehicle-miles of capacity (VMC) is an estimate of capacity added per lane mile for county roadway improvements in the Collier County 2045 LRTP. As shown in Table 3, each lane mile will add approximately 9,300 VMC. Additional details are provided in Appendix B, Table B-10.

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	247.38	2,297,839	**9,300**

1) Source: Appendix B, Table B-10
2) Source: Appendix B, Table B-10
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 **$733**.

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 $718 of capacity is consumed.

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	$6,814,000	9,300	**$732.69**

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 allocated to roadway capacity expansion projects (excluding impact fee funds). This section summarizes the credit calculations for non-impact fee contributions. Additional details are provided in Appendix C.

The present value of the portion of non-impact fee revenues generated by new development over a 25-year period that is expected to fund 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.

<u>County Credit</u>

A review of the County's historical expenditures and FY 2024-2028 Annual Update and Inventory Report (AUIR) Transportation Work Program indicated that a combination of impact fees, fuel tax revenues, sales tax revenues, and grants are used to fund roadway capacity expansion. Although Collier County allocated some funding from the local government infrastructure surtax, this tax was repealed on December 31, 2023 and there are no plans to re-instate. Given this, no credit is provided for the surtax. The review of other available revenue sources indicated that Collier County allocates an equivalent of 4.3 pennies for the portion of fuel tax and grant revenues toward 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 revenues allocated for Series 2014 bond totals approximately an equivalent of 7.2 pennies of additional county credit. As shown in Table 5, a total fuel tax equivalent revenue credit of 11.5 pennies is incorporated into impact fee calculations for County expenditures.

Table 5

Equivalent Pennies of Gas Tax Revenue

Credit	Average Annual Expenditures	Value per Penny[3]	Equivalent Pennies per Gallon[4]
County Revenues[1]	$8,209,080	$1,889,072	$0.043
County Debt Service[2]	$13,646,208	$1,889,072	$0.072
Total	**$21,855,288**		**$0.115**

1) Source: Appendix C, Table C-2
2) Source: Appendix C, Table C-3
3) Source: Appendix C, Table C-1
4) 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 3.7 percent was used in the impact fee calculation based on information provided 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-7 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 2022* (updated February 2024). Based on the calculation completed in Appendix C, Table C-7, the fuel efficiency rate to be used in the updated impact fee equation is 19.47 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 use categories 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 presented in Appendix D, which includes the major land use categories and the impact fees for the individual land uses. 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, the following presents the calculation steps of the net impact fee 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 Road Impact Cost – Capital Improvement Credit

Where:

Total Road Impact Cost = ([Trip Rate × 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 3.7% 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 (7.30)
- *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 (74%)
- *Adjusted Trip Length* = the assessable trip length multiplied by the trip length adjustment factor (5.88 * 74% = 4.35)
- *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 (4.35 + 0.50 = 4.85)
- *% 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 (20.8%)
- *Cost per Lane* Mile = unit cost to construct one lane mile of roadway, in $/lane-mile ($6,814,000)
- *Average Capacity Added per Lane* Mile = represents the average daily traffic on one travel lane at capacity for one lane mile of roadway, in vehicles/lane-mile/day (9,300)
- Cost *per Vehicle-Mile of Capacity* = unit of vehicle-miles of capacity consumed per unit of development ($6,814,000/ 9,300 = $732.69)
- *Present Value* = calculation of the present value of a uniform series of cash flows, gas tax payments in this case, given an interest rate, “i,” and a number of periods, “n;” for 3.70% interest and a 25-year facility life, the uniform series present worth factor is 16.1295
- *Effective Days per Year* = 365 days
- *$/Gallon to Capital* = the amount of equivalent gas tax revenue per gallon of fuel that is used for capital improvements, in $/gallon ($0.115)
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (19.47)

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:

Total Impact Cost = ([7.30 * 4.35 * 1.0] /2) * (1 - 0.208) * ($732.69) = **$9,214**

Annual Cap. Improv. Credit = ([7.30 * 4.85 * 1.0] /2) * 365 * ($0.115 /19.47) = $38
Capital Improvement Credit = $38 * 16.1295 = $613

Net Impact Fee = $9,214 – $613 = **$8,601**

Table 6 presents the full calculated rates for all land uses as well as the maximum allowable rates pursuant to F.S. 163.31801 rate caps.

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 7.

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

Calculated Road Impact Fee Rates

ITE LUC	Land Use	Unit	Current Road Impact Fee[1]	Calculated Road Impact Fee[2]	F.S. 163.31801 Maximum Impact Fee[3]
	RESIDENTIAL:				
210	Single Family (Detached) - Less than 4,000 sf	du	$8,090	$8,601	$8,601
	Single Family (Detached) - 4,000 sf and greater	du	$9,864	$9,980	$9,980
220	Multi-Family Housing (Low-Rise, 1-3 floors)	du	$6,950	$6,487	$6,487
221	Multi-Family Housing (Mid-Rise, 4-10 floors)	du	$5,174	$4,656	$4,656
222	Multi-Family Housing (High-Rise, >10 floors)	du	$4,230	$4,129	$4,129
231	Mid-Rise Residential w/Ground-Floor Commercial	du	$3,265	$4,174	$4,174
232	High-Rise Residential w/Ground-Floor Commercial	du	$1,903	$2,191	$2,191
240	Mobile Home Park	du	$3,576	$3,824	$3,824
251	Retirement Community - Detached (Single Family)	du	$3,543	$3,775	$3,775
252	Retirement Community - Attached (Multi-Family)	du	$2,018	$1,961	$1,961
254	Assisted Living Facility	bed	$886	$1,532	$1,329
	LODGING:				
310	Hotel	room	$3,702	$3,819	$3,819
311	All Suites Hotel	room	$2,974	$3,153	$3,153
320	Motel	room	$2,074	$2,241	$2,241
	RECREATION:				
416	Campground/RV Park	site	$1,383	$961	$961
420	Marina	boat berth	$2,376	$2,561	$2,561
430	Golf Course	hole	$11,064	$12,137	$12,137
n/a	Bundled Golf Course	hole	$3,319	$3,643	$3,643
445	Movie Theater	1,000 sf	$32,973	$31,792	$31,792
n/a	Dance Studio/Gymnastics	1,000 sf	$9,325	$10,086	$10,086
	INSTITUTIONS:				
520	Elementary School (Private)	student	$815	$1,068	$1,068
522	Middle/Junior High School (Private)	student	$921	$977	$977
525	High School (Private)	student	$983	$1,023	$1,023
540/550	University/Junior College (7,500 or fewer students) (Private)	student	$1,973	$2,127	$2,127
	University/Junior College (more than 7,500 students) (Private)	student	$1,483	$1,591	$1,591
560	Church	1,000 sf	$2,157	$4,797	$3,235
565	Day Care Center	1,000 sf	$12,433	$12,546	$12,546
	MEDICAL:				
610	Hospital	1,000 sf	$9,168	$9,824	$9,824
620	Nursing Home	1,000 sf	$2,848	$3,089	$3,089
	OFFICE:				
710	General Office	1,000 sf	$8,605	$7,431	$7,431
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	$21,955	$23,597	$23,597
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	$31,444	$32,791	$32,791
770	Business Park (Flex-Space)	1,000 sf	$11,301	$11,253	$11,253
	RETAIL:				
822	Retail 6,000 sfgla or less	1,000 sfgla	$5,737	$4,630	$4,630
822	Retail 6,001 to 40,000 sfgla	1,000 sfgla	$10,568	$7,616	$7,616
821	Retail 40,001 to 150,000 sfgla	1,000 sfgla	$13,774	$14,312	$14,312
820	Retail greater than 150,000 sfgla	1,000 sfgla	$13,774	$14,449	$14,449
840/841	New/Used Auto Sales	1,000 sf	$16,622	$17,833	$17,833
849	Tire Superstore	1,000 sf	$6,218	$6,754	$6,754
850	Supermarket	1,000 sf	$22,569	$21,423	$21,423
851	Convenience Market (24 hour)	1,000 sf	$82,170	$56,884	$56,884
862	Home Improvement Superstore	1,000 sf	$8,514	$9,168	$9,168
880/881	Pharmacy with & without Drive-Thru	1,000 sf	$12,618	$13,583	$13,583
890	Furniture Store	1,000 sf	$3,674	$3,933	$3,933
	SERVICES:				
911	Bank/Savings w/out Drive-Thru	1,000 sf	$12,300	$12,786	$12,786
912	Bank/Savings w/Drive-Thru	1,000 sf	$21,254	$22,912	$22,912
930	Fast Casual Restaurant	1,000 sf	$68,107	$53,184	$53,184
931	Low-Turnover Restaurant	1,000 sf	$30,013	$40,800	$40,800
932	High-Turnover (Sit-Down) Restaurant	1,000 sf	$40,026	$45,586	$45,586
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	$104,272	$109,225	$109,225

Table 6 (continued)

Calculated Road Impact Fee Rates

ITE LUC	Land Use	Unit	Current Road Impact Fee[1]	Calculated Road Impact Fee[2]	F.S. 163.31801 Maximum Impact Fee[3]
	SERVICES:				
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	$95,762	$104,590	$104,590
941	Quick Lube	service bay	$12,198	$13,260	$13,260
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	$6,910	$7,754	$7,754
945	Gas Station w/Convenience Market 2,000-2,999 sq ft	fuel pos.	$8,252	$9,350	$9,350
	Gas Station w/Convenience Market 3,000 sq ft or more	fuel pos.	$9,262	$9,350	$9,350
947	Self-Service Car Wash	service bay	$11,848	$11,385	$11,385
948	Automated Car Wash	1,000 sf	$38,303	$74,205	$57,454
n/a	Luxury Auto Sales	1,000 sf	$12,380	$13,303	$13,303
	INDUSTRIAL:				
110	General Light Industrial	1,000 sf	$4,584	$3,567	$3,567
140	Manufacturing	1,000 sf	$3,629	$4,230	$4,230
150	Warehousing	1,000 sf	$1,599	$1,562	$1,562
151	Mini-Warehouse	1,000 sf	$891	$886	$886
n/a	Mine/Commercial Excavation	1,000 cy	$14	$28	$21

1) Source: Source: Collier County Capital Project Planning, Impact Fees, and Program Management Division
2) Source: Appendix D, Table D-1
3) Per Florida Statute 163.31801 impact fee rates cannot be increased by more than 50%

Table 7

Road/Transportation Impact Fee Comparison

Land Use	Unit[2]	Collier County		Lee County[5]	Palm Beach County[6]	Polk County[7]			Pasco County[8]			Lake County[9]		Charlotte County[10]
		Calculated[3]	Current Adopted[4]			District A	District B	District C	Urban	Suburban	Rural	NE/Wekiva/ South/North/ Cental	West	
Date of Last Update		**2025**	**2019**	2015	2022	2024	2024	2024	2021	2021	2021	2022	2022	2021
Adoption Percentage[1]		**100%**	**100%**	52.5%	Varies - SFR @95%	100%	100%	100%	100%	100%	100%	95%	26%	100%
Residential:														
Single Family (2,000 sf)	du	**$8,601**	**$8,090**	$5,248	$5,597	$4,103	$4,000	$3,185	$6,567	$9,646	$11,030	$4,905	$1,342	$6,289
Non-Residential:														
Light Industrial	1,000 sf	**$3,567**	**$4,584**	$1,775	$2,170	$639	$624	$497	$0	$0	$0	$1,972	$540	$2,783
Office (50,000 sq ft)	1,000 sf	**$7,431**	**$8,605**	$3,997	$4,871	$4,069	$3,969	$3,160	$0	$0	$0	$4,481	$1,226	$5,228
Retail (125,000 sq ft)	1,000 sf	**$14,312**	**$13,774**	$6,025	$7,907	$6,157	$6,002	$4,778	$8,462	$10,577	$13,220	$5,238	$1,434	$7,509

Land Use	Unit[2]	Collier County		Manatee County[11]	Sarasota County[12]			Miami-Dade County[13]			
		Calculated[3]	Current Adopted[4]		Urban Infill	West of I-75	East of I-75	Zone 1	Zone 2	Zone 3	Zone 4
Date of Last Update		**2025**	**2019**	2025	2022	2022	2022	2023	2023	2023	2023
Adoption Percentage[1]		**100%**	**100%**	100%	100%	100%	100%	100%	100%	100%	100%
Residential:											
Single Family (2,000 sf)	du	**$8,601**	**$8,090**	$19,768	$2,074	$3,372	$4,636	$9,633	$9,275	$10,179	$10,625
Non-Residential:											
Light Industrial	1,000 sf	**$3,567**	**$4,584**	$8,059	$701	$1,162	$1,737	$4,944	$4,760	$5,225	$5,453
Office (50,000 sq ft)	1,000 sf	**$7,431**	**$8,605**	$17,953	$1,955	$3,240	$4,845	$17,610	$16,954	$18,607	$19,422
Retail (125,000 sq ft)	1,000 sf	**$14,312**	**$13,774**	$26,660	$4,466	$6,972	$8,941	$11,982	$11,537	$12,661	$13,216

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: Collier County Capital Project Planning, Impact Fees, and Program Management Division
5) Source: Lee County Community Development Department
6) Source: Palm Beach County Administration Division. Fees were adopted in compliance with the 50% fee increase limit per F.S. 163.31801.Fees shown are effective January 1, 2026.
7) Source: Polk County Land Development Department.
8) Source: Pasco County Planning and Development Department.
9) Source: Lake County Office of Planning and Zoning. Fees were adopted in compliance with the 50% fee increase limit per F.S. 163.31801.Fees shown are effective October 1, 2026.
10) Source: Charlotte County Community Development Department
11) Source: Manatee County, Development Services. Fees adopted in compliance with the 50% limit phasing requirements per F.S. 163.31801. Fees shown reflect fully phased-in fees effective January 1, 2028.
12) Source: Sarasota County Planning & Development Services Department
13) Source: Miami-Dade County Zoning Department

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. One of the dual rational nexus test requirements is the proof of benefit to fee-paying development by ensuring that funds collected are spent on eligible capital improvements projects that benefit the fee payers. 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) that 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[2]. In those cases, funds from the two adjacent districts can both be used for the improvement. The establishment 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 8, 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 picking with the on-going 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 and municipal and geographical boundaries, it is recommended that the current boundaries are maintained.

[2] Collier County Code of Ordinances, Section 74-203 (a)

Table 8

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 2013	$1,240,684	$588,898	$92,357	$3,903,897	$412,290	$220,830	**$6,458,956**
FY 2014	$2,169,998	$1,047,911	$245,144	$4,901,467	$1,092,370	$605,410	**$10,062,300**
FY 2015	$3,906,462	$923,682	$810,145	$2,524,126	$1,164,597	$1,685,489	**$11,014,501**
FY 2016	$5,671,025	$3,290,503	$257,659	$5,449,590	$1,048,531	$2,915,399	**$18,632,707**
FY 2017	$6,024,515	$2,208,132	$556,345	$4,270,044	$1,532,470	$4,682,168	**$19,273,674**
FY 2018	$8,752,533	$3,802,869	$241,412	$7,571,809	$1,289,761	$4,920,881	**$26,579,265**
FY 2019	$6,577,304	$5,879,639	$690,940	$5,169,181	$1,826,503	$8,162,193	**$28,305,760**
FY 2020	$5,093,752	$5,126,954	$513,291	$3,010,955	$1,522,187	$6,564,057	**$21,831,196**
FY 2021	$4,312,986	$6,080,816	$233,123	$5,714,446	$2,191,347	$7,828,394	**$26,361,112**
FY 2022	$5,784,183	$3,046,766	$115,629	$6,202,411	$4,441,645	$11,379,598	**$30,970,232**
Total	**$49,533,442**	**$31,996,170**	**$3,756,045**	**$48,717,926**	**$16,521,701**	**$48,964,419**	**$199,489,703**
%	24.8%	16.1%	1.9%	24.4%	8.3%	24.5%	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, Benesch 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 data obtained from the travel demand model on 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 2015 impact fee update study[3]. As previously mentioned, this list was determined through a review of model trip lengths, traffic volumes, and discussions with Collier County. 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 Road in Lee County[4]
- Vanderbilt Beach Road from US 41 (Tamiami Trail) to Everglades Boulevard
  - Contingent upon the completion of the planned extension east to Everglades Blvd[5]

Table 9 presents the full list of designated "regional roads."

Table 9

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 Rd
Vanderbilt Beach Road	US 41 (Tamiami Trail)	Everglades Boulevard

[3] Collier County Transportation Impact Fee Update Study, January 2015
[4] Classification of Logan/Santa Barbara Boulevard, May 2016
[5] Classification of Vanderbilt Beach Road, May 2023

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 v2) 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 2045 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.

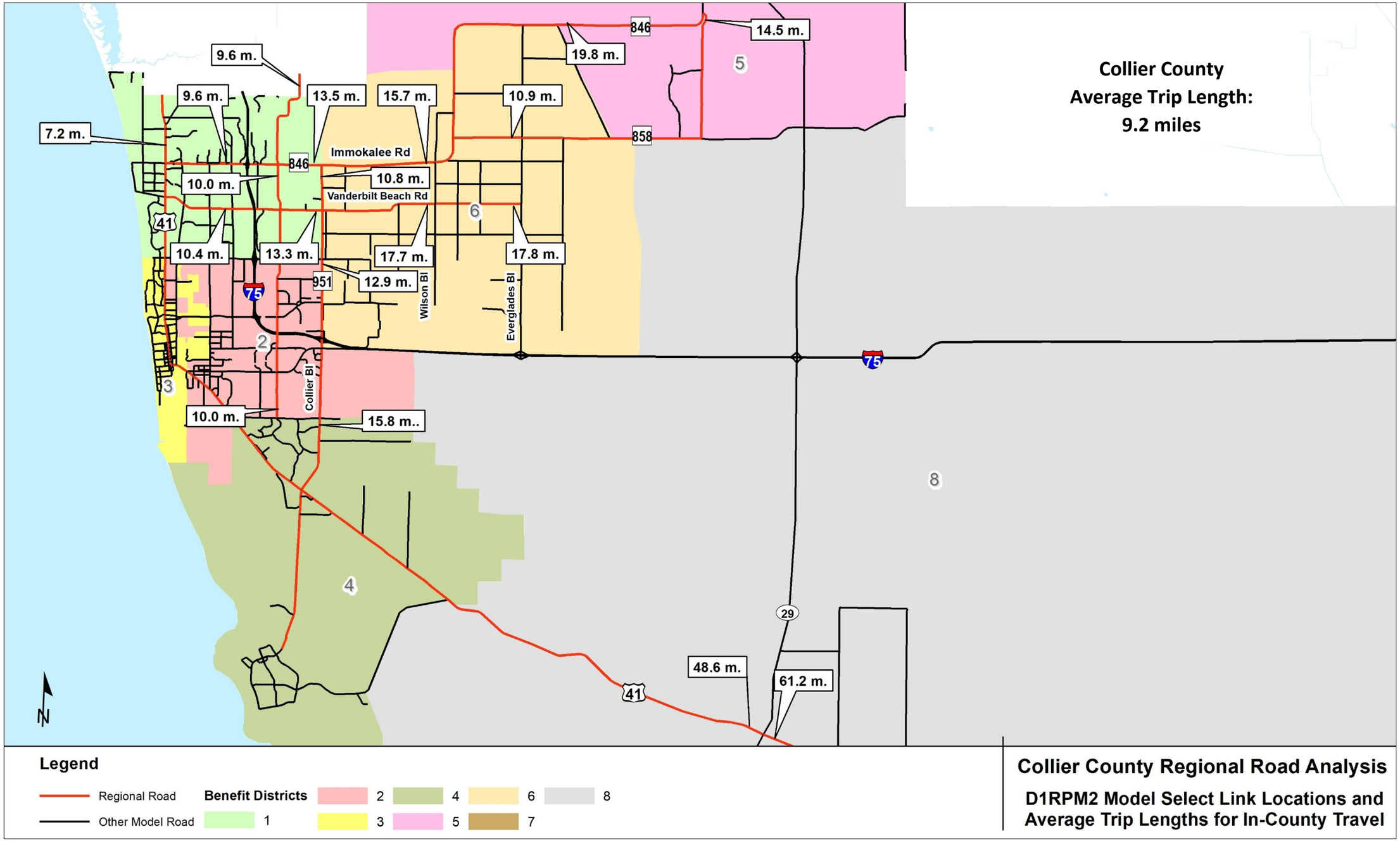
As shown on Map 1, all regional corridors (with the exception of the northern portion of US 41) have higher than average trip lengths, determined through the select link analysis. The average trip length countywide is approximately 9.2 miles, while the corridors identified on Map 1 range from 7.2 miles to 61.2 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"



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 v2), specifically the 2045 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	2,190,723	**20.8%**
Other Roads	8,324,965	79.2%
Total	**10,515,688**	**100.0%**

Source: D1RPM v2, 2045

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 v2), specifically the 2045 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	6,134,439	74%
State Roads	2,190,526	**26%**
Total	**8,324,965**	**100%**

Source: D1RPM v2, 2045

Florida Studies Trip Characteristics Database

The Florida Studies Trip Characteristics Database includes approximately 345 studies on 40 different residential and non-residential land uses collected over the last 30 years. Data from these studies include trip generation, trip length, and percent new trips for each land use. This information has been used in the development of impact/multi-modal/mobility fees and the creation of land use plan category trip characteristics for communities throughout Florida and the U.S.

Benesch estimates trip generation rates for all land uses in an impact fee schedule using data from studies in the Florida Studies Database and the Institute of Transportation Engineers' (ITE) *Trip Generation* reference report (12th edition). In instances, when both ITE *Trip Generation* reference report (12th edition) and Florida Studies trip generation rate (TGR) data are available for a particular land use, the data is typically blended together to increase the sample size and provide a more valid estimate of the average number of trips generated per unit of development. If no Florida Studies data is available, only TGR data from the ITE reference report is used in the fee calculation.

The trip generation rate for each respective land use is calculated using machine counts that record daily traffic into and out of the site studied. The traffic count hoses or video cameras 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. Benesch has published an article entitled, *Measuring Travel Characteristics for Transportation Impact Fees*, ITE Journal, April 1991, on the data collection methodology for trip characteristics studies.

Table A-3

Land Use 150: Warehouse

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Polk Co, FL	319.8	2024	-	-	7.34	-	-	-	-	Benesch
Polk Co, FL	969.2	2024	-	-	1.20	-	-	-	-	Benesch
Polk Co, FL	431.4	2024	-	-	1.59	-	-	-	-	Benesch
Polk Co, FL	2285.2	2024	-	-	1.77	-	-	98.0	-	Benesch
Polk Co, FL	839.2	2024	-	-	1.77	-	20.47	97.0	-	Benesch
Polk Co, FL	308.2	2024	-	-	5.78	-	-	-	-	Benesch
Polk Co, FL	297.6	2024	-	-	1.34	-	-	-	-	Benesch
Polk Co, FL	420.0	2024	-	-	2.92	-	-	-	-	Benesch
Polk Co, FL	200.2	2024	-	-	2.48	-	-	-	-	Benesch
Total Size	6,070.8	9					**Average Trip Length:**	**20.47**		
ITE	44,874.0	81					**Weighted Average Trip Length:**	**20.47**		
Blended total	50,944.8									

Weighted Percent New Trip Average: 97.7

Weighted Average Trip Generation Rate: 2.25

ITE Average Trip Generation Rate: 1.38

Blend of FL Studies and ITE Average Trip Generation Rate: 1.48

Table A-4

Land Use 151: Mini-Warehouse

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Orange Co, FL	89.6	2006	-	-	1.23	-	-	-	-	Orange County
Orange Co, FL	84.7	2006	-	-	1.39	-	-	-	-	Orange County
Orange Co, FL	93.0	2006	-	-	1.51	-	-	-	-	Orange County
Orange Co, FL	107.0	2007	-	-	1.45	-	-	-	-	Orange County
Orange Co, FL	77.0	2009	-	-	2.18	-	-	-	-	Tindale Oliver
Orange Co, FL	93.7	2012	-	-	1.15	-	-	-	-	Tindale Oliver
Total Size	545.0	6					**Average Trip Length:**	**n/a**		
ITE	704.0	11					**Weighted Average Trip Length:**	**n/a**		
Blended total	1,249.0									

Weighted Percent New Trip Average: -

Weighted Average Trip Generation Rate: 1.47

ITE Average Trip Generation Rate: 1.29

Blend of FL Studies and ITE Average Trip Generation Rate: 1.37

Table A-5

Land Use 210: Single Family - Detached

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

Table A-6

LUC 220/221/222: Multi-Family/Apartment

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
Total Size	3,467	13	2,648				**Average Trip Length:**			**4.91**
							Weighted Average Trip Length:			**5.21**

Table A-7

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**

Table A-8

Land Use 251: 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	10,166	17					**Weighted Average Trip Length:**	**5.42**		
Blended total	19,643									

Weighted Average Trip Generation Rate: 2.75
ITE Average Trip Generation Rate: 4.16
Blend of FL Studies and ITE Average Trip Generation Rate: **3.48**

Table A-9

Land Use 252: 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: 3.25
Blend of FL Studies and ITE Average Trip Generation Rate: **3.01**

Table A-10

Land Use 253: Congregate Care Facility

Location	Size / Units	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Park, FL	72	Aug-89	25	19	3.50	9am-5pm	2.20	79.0	7.70	Tindale Oliver
Palm Harbor, FL	200	Oct-89	58	40	-	9am-5pm	3.40	69.0	-	Tindale Oliver
Total Size	272	2	83				**Average Trip Length:**	**2.80**		
ITE	330	2					**Weighted Average Trip Length:**	**3.08**		
Blended total	602						Weighted Percent New Trip Average:	71.6		

Table A-11

Land Use 310: Hotel

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

Total Size	10,184	36	164	**Average Trip Length:**	**6.25**
ITE	286	2		**Weighted Average Trip Length:**	**6.26**
Blended total	10,470				

Weighted Percent New Trip Average: 66.3

Weighted Average Trip Generation Rate: 5.31

ITE Average Trip Generation Rate: 5.84

Blend of FL Studies and ITE Average Trip Generation Rate: 5.33

Table A-12

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

Table A-13

Land Use 310/320: Hotel/Motel

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	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 (Motel)
Pinellas Co, FL	54	Oct-89	32	22	-	12p-7p	3.80	69.0	-	Tindale Oliver (Motel)
Pinellas Co, FL	120	Oct-89	26	22	-	2p-7p	5.20	84.6	-	Tindale Oliver (Motel)

Total Size (TL/PNT)	510.0			**Average Trip Length:**	**4.86**
				Weighted Average Trip Length:	**5.42**

Table A-14

Land Use 445: Movie Theater

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	24.7	Oct-89	151	116	113.10	2p-8p	2.70	77.0	235.13	Tindale Oliver
Pinellas Co, FL	34.0	Sep-89	122	116	63.40	2p-8p	1.90	95.0	114.44	Tindale Oliver

Total Size	58.7	2	273	**Average Trip Length:**	**2.30**
ITE	28.0	1		**Weighted Average Trip Length:**	**2.24**
Blended total	86.7				

Weighted Percent New Trip Average: 87.4

Weighted Average Trip Generation Rate: 84.31

ITE Average Trip Generation Rate: 78.09

Blend of FL Studies and ITE Average Trip Generation Rate: 82.30

Table A-15

Land Use 565: Day Care Center

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Pinellas Co, FL	5.6	Aug-89	94	66	66.99	7a-6p	1.90	70.0	89.10	Tindale Oliver
Pinellas Co, FL	10.0	Sep-89	179	134	66.99	7a-6p	2.10	75.0	105.51	Tindale Oliver
Tampa, FL	-	Mar-86	28	25	-	-	2.60	89.0	-	Kimley-Horn & Associates
Total Size	15.6	3	301			**Average Trip Length:**	**2.20**			
ITE	105.0	21				**Weighted Average Trip Length:**	**2.03**			
Blended total	120.6					Weighted Percent New Trip Average:		73.2		

Weighted Average Trip Generation Rate: 66.99
ITE Average Trip Generation Rate: 39.30
Blend of FL Studies and ITE Average Trip Generation Rate: 42.89

Table A-16

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		

Table A-17

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
		5	736			**Average Trip Length:**	**6.46**			
						Weighted Average Trip Length:	**5.15**			
						Weighted Percent New Trip Average:		92.3		

Table A-18

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**

Table A-19

Land Use 720: Medical-Dental Office Building

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	33	26	-	-	6.00	79.0	-	Kimley-Horn & Associates
Palm Harbor, FL	14.6	Oct-89	104	76	33.98	9a-5p	6.30	73.0	156.27	Tindale Oliver
St. Petersburg, FL	-	Nov-89	34	30	57.20	9a-4p	1.20	88.0	-	Tindale Oliver
Hernando Co, FL	58.4	May-96	390	349	28.52	9a-6p	6.47	89.5	165.09	Tindale Oliver
Hernando Co, FL	28.0	May-96	202	189	49.75	9a-6p	6.06	93.8	282.64	Tindale Oliver
Charlotte Co, FL	11.0	Oct-97	-	186	49.50	9a-5p	4.60	92.1	209.67	Tindale Oliver
Charlotte Co, FL	28.0	Oct-97	-	186	31.00	9a-5p	3.60	81.6	91.04	Tindale Oliver
Charlotte Co, FL	30.4	Oct-97	-	324	39.80	9a-5p	3.30	83.5	109.68	Tindale Oliver
Citrus Co, FL	38.9	Oct-03	-	168	32.26	8-6p	6.80	97.1	213.03	Tindale Oliver
Citrus Co, FL	10.0	Nov-03	-	340	40.56	8-630p	6.20	92.4	232.33	Tindale Oliver
Citrus Co, FL	5.3	Dec-03	-	20	29.36	8-5p	5.25	95.2	146.78	Tindale Oliver
Orange Co, FL	50.6	2009	-	-	26.72	-	-	-	-	Orange County
Orange Co, FL	23.5	2010	-	-	16.58	-	-	-	-	Tindale Oliver
Total Size	298.6	13	763			**Average Trip Length:**	**5.07**			
ITE	176.0	16				**Weighted Average Trip Length:**	**5.55**			
Blended total	474.6					Weighted Percent New Trip Average:		88.9		

Average Trip Generation Rate: 32.59
ITE Average Trip Generation Rate: 34.03
Blend of FL Studies and ITE Average Trip Generation Rate: 33.13

Table A-20

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	892.0	4					**Weighted Average Trip Length:**	**5.38**		
Blended total	1,183.2						Weighted Percent New Trip Average:	88.8		

Weighted Average Trip Generation Rate:	17.22
ITE Average Trip Generation Rate:	9.97
Blend of FL Studies and ITE Average Trip Generation Rate:	**11.75**

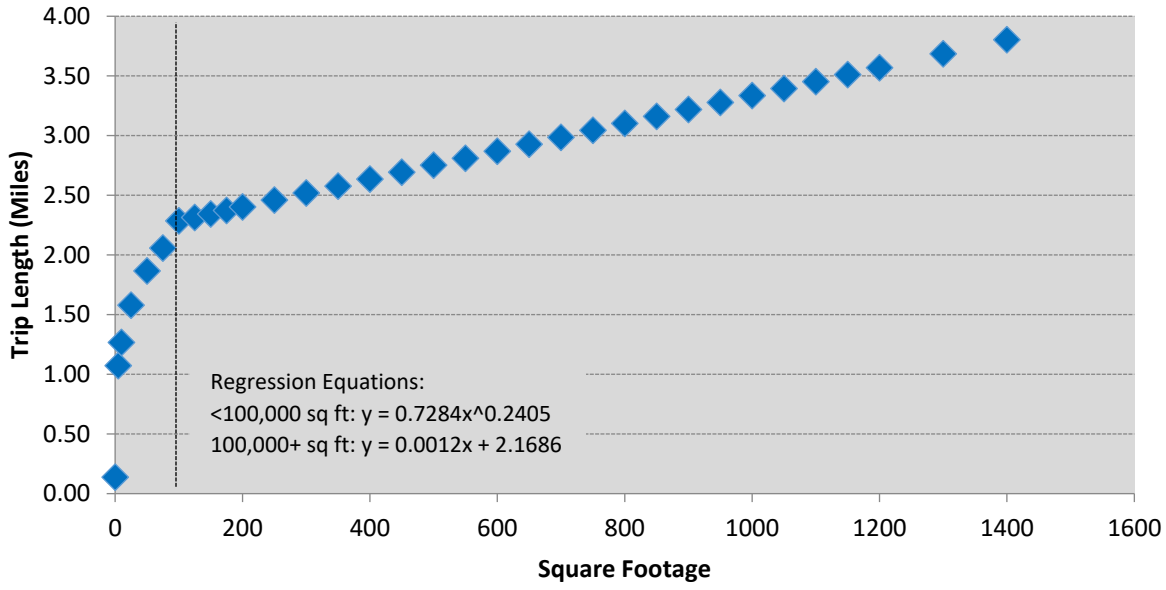
Table A-21

Land Use 820/821/822: Retail/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.
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
			30	6,346			**Average Trip Length:**	**2.71**		

Figure A-1

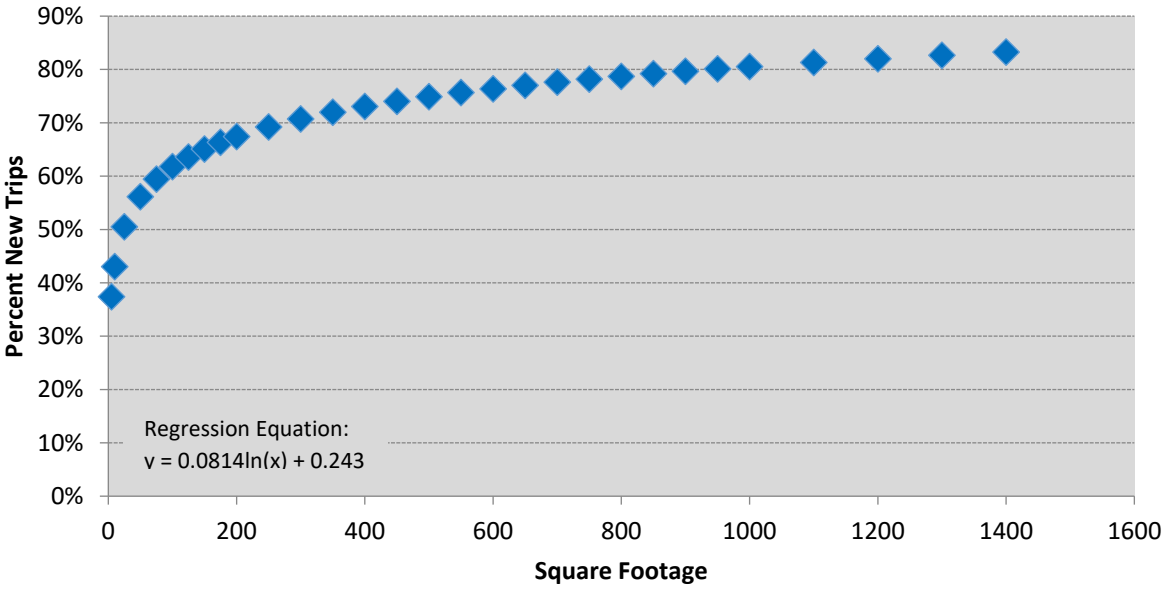
LUC 820-822: Retail/Shopping Center – Florida Curve Trip Length Regression



Source: Regression analysis based on FL Studies data for LUC 820. This curve, along with the average development size presented in the ITE 12th Edition Handbook, was used to estimate the trip length for retail uses

Figure A-2

LUC 820-822: Retail/Shopping Center – Florida Curve Percent New Trips Regression



Source: Regression analysis based on FL Studies data for LUC 820. This curve, along with the average development size presented in the ITE 12th Edition Handbook, was used to estimate the percent new trips for retail uses

Table A-22

Land Use 840/841: New/Used Automobile Sales

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
St.Petersburg, FL	43.0	Oct-89	152	120	-	9a-5p	4.70	79.0	-	Tindale Oliver
Clearwater, FL	43.0	Oct-89	136	106	29.40	9a-5p	4.50	78.0	103.19	Tindale Oliver
Orange Co, FL	13.8	1997	-	-	35.75	-	-	-	-	Orange County
Orange Co, FL	34.4	1998	-	-	23.45	-	-	-	-	Orange County
Orange Co, FL	66.3	2001	-	-	28.50	-	-	-	-	Orange County
Orange Co, FL	39.1	2002	-	-	10.48	-	-	-	-	Orange County
Orange Co, FL	116.7	2003	-	-	22.18	-	-	-	-	Orange County
Orange Co, FL	51.7	2007	-	-	40.34	-	-	-	-	L-TEC
Orange Co, FL	36.6	-	-	-	15.17	-	-	-	-	Orange County
Orange Co, FL	216.4	2008	-	-	13.45	-	-	-	-	Orange County

Total Size	618.0	10	288	**Average Trip Length:**	**4.60**	
ITE (840)	648.0	18		**Weighted Average Trip Length:**	**4.60**	
ITE (841)	28.0	14		Weighted Percent New Trip Average:	78.5	
Blended total	1,294.0			Weighted Average Trip Generation Rate:		21.04
				ITE Average Trip Generation Rate (LUC 840):		27.84
				ITE Average Trip Generation Rate (LUC 841):		27.06
				Blend of FL Studies and ITE Average Trip Generation Rate:		**24.58**

Table A-23

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	1,113.0	21		**Weighted Average Trip Length:**	**2.08**	
Blended total	1,175.0			Weighted Percent New Trip Average:	56.0	
				Weighted Average Trip Generation Rate:		106.26
				ITE Average Trip Generation Rate:		92.29
				Blend of FL Studies and ITE Average Trip Generation Rate:		**93.03**

Table A-24

Land Use 851: Convenience Store

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

Total Size	12.1	11	1,241	**Average Trip Length:**	**1.39**	
ITE	15.0	5		**Weighted Average Trip Length:**	**1.07**	
Blended total	27.1			Weighted Percent New Trip Average:	40.8	
	27.1			Weighted Average Trip Generation Rate:		694.30
				ITE Average Trip Generation Rate:		651.94
				Blend of FL Studies and ITE Average Trip Generation Rate:		**670.85**

Table A-25

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)	221.0	17		Weighted Percent New Trip Average:	32.4	
Blended total	325.2			Average Trip Generation Rate:		103.03
				ITE Average Trip Generation Rate (LUC 880):		90.08
				ITE Average Trip Generation Rate (LUC 881):		107.20
				Blend of FL Studies and ITE Average Trip Generation Rate:		**103.23**

Table A-26

Land Use 890: Furniture/Flooring 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	5	132	**Average Trip Length:**	**4.78**	
	177.6			**Weighted Average Trip Length:**	**4.05**	
ITE	275.0	11		Weighted Percent New Trip Average:	77.8	
Blended total	452.60			Average Trip Generation Rate:		6.06
				ITE Average Trip Generation Rate:		6.32
				Blend of FL Studies and ITE Average Trip Generation Rate:		**6.22**

Table A-27

Land Use 912: Drive-In Bank

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	77	-	-	-	2.40	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	211	-	-	-	-	54.0	-	Kimley-Horn & Associates
Clearwater, FL	0.4	Aug-89	113	52	-	9a-6p	5.20	46.0	-	Tindale Oliver
Largo, FL	2.0	Sep-89	129	94	-	-	1.60	73.0	-	Tindale Oliver
Seminole, FL	4.5	Oct-89	-	-	-	-	-	-	-	Tindale Oliver
Marion Co, FL	2.3	Jun-91	69	29	-	24hr.	1.33	42.0	-	Tindale Oliver
Marion Co, FL	3.1	Jun-91	47	32	-	24hr.	1.75	68.1	-	Tindale Oliver
Marion Co, FL	2.5	Jul-91	57	26	-	48hrs.	2.70	45.6	-	Tindale Oliver
Collier Co, FL	-	Aug-91	162	96	-	24hr.	0.88	59.3	-	Tindale Oliver
Collier Co, FL	-	Aug-91	116	54	-	-	1.58	46.6	-	Tindale Oliver
Collier Co, FL	-	Aug-91	142	68	-	-	2.08	47.9	-	Tindale Oliver
Hernando Co, FL	5.4	May-96	164	41	-	9a-6p	2.77	24.7	-	Tindale Oliver
Marion Co, FL	2.4	Apr-02	70	-	-	24hr.	3.55	54.6	-	Kimley-Horn & Associates
Marion Co, FL	2.7	May-02	50	-	246.66	24hr.	2.66	40.5	265.44	Kimley-Horn & Associates
Total Size	25.2	14	1,407				**Average Trip Length:**	**2.38**		
ITE	120.0	20					**Weighted Average Trip Length:**	**2.46**		
Blended total	145.2						Weighted Percent New Trip Average:	46.2		
	122.7							Weighted Average Trip Generation Rate:		246.66
								ITE Average Trip Generation Rate:		98.85
								Blend of FL Studies and ITE Average Trip Generation Rate:		**102.09**

Table A-28

Land Use 931: Fine Dining Restaurant

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	76	62	-	-	2.10	82.0	-	Kimley-Horn & Associates
St. Petersburg, FL	7.5	Oct-89	177	154	-	11a-2p/4-8p	3.50	87.0	-	Tindale Oliver
Clearwater, FL	8.0	Oct-89	60	40	110.63	10a-2p/5-9p	2.80	67.0	207.54	Tindale Oliver
Total Size	15.5	3	313				**Average Trip Length:**	**2.80**		
ITE	35.0	5					**Weighted Average Trip Length:**	**3.14**		
Blended total	50.5						Weighted Percent New Trip Average:	76.7		
	43.0							Weighted Average Trip Generation Rate:		110.63
								ITE Average Trip Generation Rate:		79.03
								Blend of FL Studies and ITE Average Trip Generation Rate:		**84.91**

Table A-29

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	25	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		
								Weighted Average Trip Generation Rate:		98.67
								ITE Average Trip Generation Rate:		103.75
								Blend of FL Studies and ITE Average Trip Generation Rate:		**101.53**

Table A-30

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

Location	Size (1,000 sf)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Tampa, FL	-	Mar-86	61	-	-	-	2.70	-	-	Kimley-Horn & Associates
Tampa, FL	-	Mar-86	306	-	-	-	-	65.0	-	Kimley-Horn & Associates
Pinellas Co, FL	2.20	Aug-89	81	48	502.80	11a-2p	1.70	59.0	504.31	Tindale Oliver
Pinellas Co, FL	4.30	Oct-89	456	260	660.40	1 day	2.30	57.0	865.78	Tindale Oliver
Tarpon Springs, FL	-	Oct-89	233	114	-	7a-7p	3.60	49.0	-	Tindale Oliver
Marion Co, FL	1.60	Jun-91	60	32	962.50	48hrs.	0.91	53.3	466.84	Tindale Oliver
Marion Co, FL	4.00	Jun-91	75	46	625.00	48hrs.	1.54	61.3	590.01	Tindale Oliver
Collier Co, FL	-	Aug-91	66	44	-	-	1.91	66.7	-	Tindale Oliver
Collier Co, FL	-	Aug-91	118	40	-	-	1.17	33.9	-	Tindale Oliver
Hernando Co, FL	5.43	May-96	136	82	311.83	9a-6p	1.68	60.2	315.27	Tindale Oliver
Hernando Co, FL	3.13	May-96	168	82	547.34	9a-6p	1.59	48.8	425.04	Tindale Oliver
Orange Co, FL	8.93	1996	-	-	377.00	-	-	-	-	Orange County
Lake Co, FL	2.20	Apr-01	376	252	934.30	-	2.50	74.6	1742.47	Tindale Oliver
Lake Co, FL	3.20	Apr-01	171	182	654.90	-	-	47.8	-	Tindale Oliver
Lake Co, FL	3.80	Apr-01	188	137	353.70	-	3.30	70.8	826.38	Tindale Oliver
Pasco Co, FL	2.66	Apr-02	100	46	283.12	9a-6p	-	46.0	-	Tindale Oliver
Pasco Co, FL	2.96	Apr-02	486	164	515.32	9a-6p	2.72	33.7	472.92	Tindale Oliver
Pasco Co, FL	4.42	Apr-02	168	120	759.24	9a-6p	1.89	71.4	1024.99	Tindale Oliver
Total Size	48.8	18	4,463				**Average Trip Length:**	**2.11**		
ITE	204.0	68					**Weighted Average Trip Length:**	**2.05**		
Blended total	252.8						Weighted Percent New Trip Average:	57.9		
	34.0							Weighted Average Trip Generation Rate:		530.19
								ITE Average Trip Generation Rate:		448.12
								Blend of FL Studies and ITE Average Trip Generation Rate:		**463.96**

Table A-31

Land Use 934.1 : Fast Food Restaurant with Drive-Through Window; 2 Meals ONLY

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	1.75	Dec-10	-	-	395.67	-	1.58	70.7	441.80	Nunner Engineering
Collier Co, FL	2.44	Dec-10	-	-	414.17	-	2.67	47.7	527.70	Nunner Engineering
Collier Co, FL	2.40	Dec-10	-	-	414.17	-	2.15	62.5	556.54	Nunner Engineering
Total Size	6.6						**Average Trip Length:**	**2.13**		
							Weighted Average Trip Length:	**2.19**		
							Weighted Percent New Trip Average:	59.2		
								Weighted Average Trip Generation Rate:		409.25

Table A-32

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	9	519				**Average Trip Length:**	**2.74**		
ITE	7.0	1					**Weighted Average Trip Length:**	**3.62**		
Blended total	93.2						Weighted Percent New Trip Average:	72.2		

Table A-33

Land Use 944: Convenience Store/Gas 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	-	-	-	23.0	-	Tindale Oliver
Collier Co, FL	-	Aug-91	168	40	-	-	1.01	23.8	-	Tindale Oliver
Total Size	0.6	2	238				**Average Trip Length:**	**1.01**		
ITE	48						**Weighted Average Trip Length:**	**1.01**		
ITE	5						Weighted Percent New Trip Average:	23.0		

Land Use 945: Convenience Store/Gas Station - Combined

ITE	48	Conv. Store 2,000 to 3,999 sf:		211.05
ITE	20	Conv. Store 4,000 to 5,499 sf:		203.49
ITE	23	Conv. Store 5,500 to 10,000 sf:		203.35
	91	**Blend of ITE Average Trip Generation Rates for Convenience Store/Gas Station 2,000+ sf:**		**207.44**

Table A-34

Land Use 947: Self-Service Car Wash

Location	Size (Bays)	Date	Total # Interviews	# Trip Length Interviews	Trip Gen Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Largo, FL	10	Nov-89	111	84	-	8am-5pm	2.00	76.0	-	Tindale Oliver
Clearwater, FL	-	Nov-89	177	108	-	10am-5pm	1.30	61.0	-	Tindale Oliver
Collier Co, FL	11	Dec-09	304	-	30.24	-	2.50	57.0	-	Tindale Oliver
Collier Co, FL	8	Jan-09	186	-	22.75	-	1.96	72.0	-	Tindale Oliver
Total Size	29	4	778			**Average Trip Length:**	**1.94**			
Total Size (TGR)	19	2				**Weighted Average Trip Length:**	**2.18**			
ITE	28	4						Weighted Percent New Trip Average:	67.7	
Blended total	47									

Weighted Average Trip Generation Rate:	27.09
ITE Average Trip Generation Rate (adjusted):	46.90
Blend of FL Studies and ITE Average Trip Generation Rate:	**38.89**

Table A-35

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	100.0							Weighted Percent New Trip Average:	79.7	

Table A-36

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 2022 National Household Travel Survey (NHTS) and the 2021 American Housing Survey (AHS) to examine overall trip-making characteristics of households in the United States.

Table A-37 presents that trip characteristics being utilized in the calculated road impact fee schedule for the single family (detached) land use. The 2022 NHTS database was used to assess average annual household vehicle miles of travel (VMT) for various annual household income levels. In addition, the 2021 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-37

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: Appendix A, Table A-5

*Does not include the trip length adjustment factor

The results of the NHTS and AHS analyses are included in Tables A-38 and A-39. First, the data shown in Table A-38 indicates that the average income in the U.S. for families/households living in housing units smaller than 4,000 square feet in size ($65,290) is lower than the overall average income for the U.S. ($66,289). In Table A-39, 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-38.

Table A-38

Annual Income by Housing Size

2021 AHS Average Income Data by Housing Size	Annual Income[(1)]
Less than 4,000 sf	$65,290
1,500 to 2,499 sf	$74,416
4,000 sf or more	$93,443
Average of All Houses	$66,289

Source: American Housing Survey for the United States in 2021

1) Weighted average of annual income for each tier

Table A-39

NHTS VMT Annual VMT by Income Category

2022 NHTS Travel Data by Annual HH Income	Annual VMT/HH	Days	Daily VMT	Ratio to Mean	Normalized to 1.061
Total (All Homes)	15,545	365	42.59	1.000	-
Average of $65,290	15,428	365	42.27	0.992	0.935
Average of $74,416	16,496	365	45.19	1.061	1.000
Average of $93,443	17,885	365	49.00	1.151	1.085

Source: 2022 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 $65,290 annual income category. First, it was determined that the average annual household VMT for this income level is 15,428 miles. This figure was then compared to the overall average annual VMT per household in the U.S. and normalized to the average of the $74,416 (16,496 miles) category to derive a ratio of 0.992. It should be noted

that the $74,416 (1,500-2,499 square feet) category is not an impact fee tier, but rather the average home size that corresponds with the Florida Studies data shown in Table A-37.

Next, the normalized ratio was applied to the daily VMT for the average single family housing unit size (less than 4,000 square feet) to generate a daily VMT of 42.94 for the tier, as shown in Table A-40. This daily VMT figure was then divided by the assessable trip length of 5.88 miles to obtain a trip generation rate of 7.30 trips per day.

Table A-40

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	**7.30**	5.88	42.94	0.935
1,500 to 2,499 sf	**7.81**	5.88	45.92	1.000
4,000 sf or larger	**8.47**	5.88	49.82	1.085

1) Daily VMT (Item 3) divided by assessable trip length (Item 2) for each tier
2) Source: Table A-37
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-39

Table A-41 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-41

Net Impact Fee by Single Family Land Use Tier

Impact of Tiering on Fee Schedule	Trip Rate[(1)]	Assessable Trip Length[(2)]	Daily VMT	Net Fee[(3)]
Single Family (Detached)				
Less than 4,000 sf	**7.30**	5.88	42.94	**$8,601**
4,000 sf or larger	**8.47**	5.88	49.82	**$9,980**

1) Source: Table A-40, Item 1
2) Source: Table A-37
3) Source: Appendix D, Table D-1

Demand Variable Changes

Since the last demand component update in 2019, the trip generation rate (TGR), trip length (TL), and percent new trips (PNT) has changed for several land uses. Tables A-42 through A-45 present the change in each variable for each land use for the 2025 update.

Table A-42

Percent Change in Gross VMT of Impact Fee Land Uses

ITE LUC	Land Use	Unit	GVMT 2019	GVMT 2025	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) - Less than 4,000 sf	du	21.67	21.46	-1.0%	TGR update, see Table A-43
	Single Family (Detached) - 4,000 sf and greater	du	26.46	24.90	-5.9%	TGR update, see Table A-43
220	Multi-Family Housing (Low-Rise, 1-3 floors)	du	18.67	16.18	-13.3%	Primarily due to TGR update, see Table A-43
221	Multi-Family Housing (Mid-Rise, 4-10 floors)	du	13.87	11.62	-16.2%	Primarily due to TGR update, see Table A-43
222	Multi-Family Housing (High-Rise, >10 floors)	du	11.35	10.32	-9.1%	Primarily due to TGR update, see Table A-43
231	Mid-Rise Residential w/Ground-Floor Commercial	du	8.77	10.42	18.8%	Primarily due to TGR update, see Table A-43
232	High-Rise Residential w/Ground-Floor Commercial	du	5.13	5.47	6.6%	Primarily due to TGR update, see Table A-43
240	Mobile Home Park	du	9.59	9.59	0.0%	No change
251	Retirement Community - Detached (Single Family)	du	9.49	9.43	-0.6%	TGR update, see Table A-43
252	Retirement Community - Attached (Multi-Family)	du	5.46	4.94	-9.5%	TGR update, see Table A-43
254	Assisted Living Facility	bed	2.42	3.86	59.5%	TGR update, see Table A-43
	LODGING:					
310	Hotel	room	9.93	9.53	-4.0%	TGR update, see Table A-43
311	All Suites Hotel	room	7.98	7.87	-1.4%	TGR update, see Table A-43
320	Motel	room	5.60	5.60	0.0%	No change
	RECREATION:					
416	Campground/RV Park	site	3.73	2.39	-35.9%	TGR update, see Table A-43
420	Marina	berth	6.38	6.38	0.0%	No change
430	Golf Course	hole	30.35	30.62	0.9%	TL update, see Table A-44
n/a	Bundled Golf Course	hole	9.10	9.18	0.9%	TL update, see Table A-44
445	Movie Theater	1,000 sf	112.17	80.19	-	Unit of measure change
n/a	Dance Studio/Gymnastics	1,000 sf	25.34	25.34	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	2.22	2.67	20.3%	TGR update, see Table A-43
522	Middle/Junior High School (Private)	student	2.50	2.46	-1.6%	TGR update, see Table A-43
525	High School (Private)	student	2.69	2.57	-4.5%	TGR update, see Table A-43
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	1,000 sf	0.77	11.99	-	Unit of measure change
565	Day Care Center	1,000 sf	3.03	31.78	-	Unit of measure change
	MEDICAL:					
610	Hospital	1,000 sf	24.58	24.54	-0.2%	TGR update, see Table A-43
620	Nursing Home	1,000 sf	3.48	7.78	-	Unit of measure change
	OFFICE:					
710	General Office	1,000 sf	23.07	18.55	-19.6%	TGR update, see Table A-43
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	84.27	81.82	-2.9%	TGR update, see Table A-43
770	Business Park (Flex-Space)	1,000 sf	30.29	28.13	-7.1%	TGR update, see Table A-43
	RETAIL:					
822	Retail 6,000 sfgla or less	1,000 sfgla	16.39	11.89	-27.5%	TGR update, see Table A-43
822	Retail 6,001 to 40,000 sfgla	1,000 sfgla	29.64	19.34	-34.8%	TGR, TL & PNT update, see Tables A-43, A-44, and A-45
821	Retail 40,001to 150,000 sfgla	1,000 sfgla	37.57	36.15	-3.8%	TGR, TL & PNT update, see Tables A-43, A-44, and A-45
820	Retail greater than 150,000 sfgla	1,000 sfgla	37.57	36.35	-3.2%	TGR & TL update, see Tables A-43 and A-44
840/841	New/Used Auto Sales	1,000 sf	44.66	44.66	0.0%	No change
849	Tire Superstore	1,000 sf	25.52	17.01	-	Unit of measure change
850	Supermarket	1,000 sf	62.11	54.18	-12.8%	TGR update, see Table A-43
851	Convenience Market, 24 hrs	1,000 sf	230.43	147.15	-36.1%	TGR & TL update, see Tables A-43 and A-44
862	Home Improvement Superstore	1,000 sf	23.38	23.21	-0.7%	TGR & TL update, see Tables A-43 and A-44
880/881	Pharmacy with & w/o Drive-Thru	1,000 sf	34.73	34.35	-1.1%	TGR update, see Table A-43
890	Furniture Store	1,000 sf	9.89	9.82	-0.7%	TGR update, see Table A-43
	SERVICES:					
911	Bank/Savings w/out Drive-Thru	1,000 sf	33.60	32.26	-4.0%	TGR update, see Table A-43
912	Bank/Savings w/Drive-Thru	1,000 sf	58.09	57.76	-0.6%	TGR update, see Table A-43
930	Fast Casual Restaurant	1,000 sf	187.37	134.29	-28.3%	TGR update, see Table A-43
931	Low-Turnover Restaurant	1,000 sf	3.14	102.65	-	Unit of measure change
932	High-Turnover (Sit-Down) Restaurant	1,000 sf	4.92	114.26	-	Unit of measure change
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	286.86	275.82	-3.8%	TGR update, see Table A-43
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	264.40	264.40	0.0%	No change
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.	19.98	19.98	0.0%	No change
945	Gas Station w/Convenience Market 2,000 - 5,499 sq ft	fuel pos.	23.85	24.09	1.0%	TGR update, see Table A-43
945	Gas Station w/Convenience Market 5,500+ sq ft	fuel pos.	26.77	24.09	-10.0%	TGR update, see Table A-43
947	Self-Service Car Wash	service bay	32.57	28.83	-11.5%	TGR update, see Table A-43
948	Automated Car Wash	1,000 sf	105.25	187.90	78.5%	TGR update, see Table A-43
n/a	Luxury Auto Sales	1,000 sf	33.25	33.25	0.0%	No change
	INDUSTRIAL:					
110	General Light Industrial	1,000 sf	12.28	8.91	-27.4%	TGR update, see Table A-43
140	Manufacturing	1,000 sf	9.73	10.57	8.6%	TGR update, see Table A-43
150	Warehousing	1,000 sf	4.31	3.90	-9.5%	TGR & PNT update, see Table A-43 and Table A-45
151	Mini-Warehouse	1,000 sf	2.41	2.21	-8.3%	TGR update, see Table A-43
n/a	Mine/Commercial Excavation	1,000 cy	0.07	0.07	0.0%	No change

- Gross VMT = TGR * TL * PNT / 2
- Individual variables are shown in Tables A-43 through A-45

Table A-43

Percent Change in Trip Generation Rate of Impact Fee Land Uses

ITE LUC	Land Use	Unit	TGR 2019	TGR 2025	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) - Less than 4,000 sf	du	7.37	7.30	-0.9%	Updated tiering to AHS 2021 & NHTS 2022
	Single Family (Detached) - 4,000 sf and greater	du	9.00	8.47	-5.9%	Updated tiering to AHS 2021 & NHTS 2022
220	Multi-Family Housing (Low-Rise, 1-3 floors)	du	7.32	6.21	-15.2%	Re-alignment of multi-family land uses and TGR update in ITE 12th Editio
221	Multi-Family Housing (Mid-Rise, 4-10 floors)	du	5.44	4.46	-18.0%	Re-alignment of multi-family land uses and TGR update in ITE 12th Editio
222	Multi-Family Housing (High-Rise, >10 floors)	du	4.45	3.96	-11.0%	Re-alignment of multi-family land uses and TGR update in ITE 12th Editio
231	Mid-Rise Residential w/Ground-Floor Commercial	du	3.44	4.00	16.3%	Updated TGR in ITE 12th Edition
232	High-Rise Residential w/Ground-Floor Commercial	du	2.01	2.10	4.5%	Updated TGR in ITE 12th Edition
240	Mobile Home Park	du	4.17	4.17	0.0%	No change
251	Retirement Community - Detached (Single Family)	du	3.50	3.48	-0.6%	Updated TGR in ITE 12th Edition
252	Retirement Community - Attached (Multi-Family)	du	3.33	3.01	-9.6%	Updated TGR in ITE 12th Edition
254	Assisted Living Facility	bed	2.60	4.14	59.2%	Updated TGR in ITE 12th Edition
	LODGING:					
310	Hotel	room	5.55	5.33	-4.0%	Updated TGR in ITE 12th Edition
311	All Suites Hotel	room	4.46	4.40	-1.3%	Updated TGR in ITE 12th Edition
320	Motel	room	3.35	3.35	0.0%	No change
	RECREATION:					
416	Campground/RV Park	site	1.62	1.04	-35.8%	Updated TGR in ITE 12th Edition
420	Marina	berth	2.41	2.41	0.0%	No change
430	Golf Course	hole	30.38	30.38	0.0%	No change
n/a	Bundled Golf Course	hole	9.11	9.11	0.0%	No change
445	Movie Theater	1,000 sf	114.83	82.30	-	Unit of measure change from "screen" to "1,000 sf"
n/a	Dance Studio/Gymnastics	1,000 sf	21.33	21.33	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	1.89	2.27	20.1%	Updated TGR in ITE 12th Edition
522	Middle/Junior High School (Private)	student	2.13	2.09	-1.9%	Updated TGR in ITE 12th Edition
525	High School (Private)	student	2.03	1.94	-4.4%	Updated TGR in ITE 12th 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	1,000 sf	0.44	6.78	-	Unit of measure change from "seat" to "1,000 sf"
565	Day Care Center	1,000 sf	4.09	42.89	-	Unit of measure change from "student" to "1,000 sf"
	MEDICAL:					
610	Hospital	1,000 sf	10.72	10.70	-0.2%	Updated TGR in ITE 12th Edition
620	Nursing Home	1,000 sf	3.02	6.75	-	Unit of measure change from "bed" to "1,000 sf"
	OFFICE:					
710	General Office	1,000 sf	9.74	7.83	-19.6%	Updated TGR in ITE 12th Edition
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	34.12	33.13	-2.9%	Updated TGR in ITE 12th Edition
770	Business Park (Flex-Space)	1,000 sf	12.65	11.75	-7.1%	Updated TGR in ITE 12th Edition
	RETAIL:					
822	Retail 6,000 sfgla or less	1,000 sfgla	75.05	54.45	-27.4%	Re-alignment of retail/shopping land uses in ITE 12th Edition
822	Retail 6,001 to 40,000 sfgla	1,000 sfgla	75.05	54.45	-27.4%	Re-alignment of retail/shopping land uses in ITE 12th Edition
821	Retail 40,001to 150,000 sfgla	1,000 sfgla	37.75	65.38	73.2%	Re-alignment of retail/shopping land uses in ITE 12th Edition
820	Retail greater than 150,000 sfgla	1,000 sfgla	37.75	36.39	-3.6%	Re-alignment of retail/shopping land uses in ITE 12th Edition
840/841	New/Used Auto Sales	1,000 sf	24.58	24.58	0.0%	No change
849	Tire Superstore	1,000 sf	30.55	20.37	-	Unit of measure change from "service bay" to "1,000 sf"
850	Supermarket	1,000 sf	106.64	93.03	-12.8%	Updated TGR in ITE 12th Edition
851	Convenience Market, 24 hrs	1,000 sf	739.50	670.85	-9.3%	Updated TGR in ITE 12th Edition
862	Home Improvement Superstore	1,000 sf	30.74	30.65	-0.3%	Updated TGR in ITE 12th Edition
880/881	Pharmacy with & w/o Drive-Thru	1,000 sf	104.37	103.23	-1.1%	Updated TGR in ITE 12th Edition
890	Furniture Store	1,000 sf	6.26	6.22	-0.6%	Updated TGR in ITE 12th Edition
	SERVICES:					
911	Bank/Savings w/out Drive-Thru	1,000 sf	59.39	57.02	-4.0%	Updated TGR in ITE 12th Edition
912	Bank/Savings w/Drive-Thru	1,000 sf	102.66	102.09	-0.6%	Updated TGR in ITE 12th Edition
930	Fast Casual Restaurant	1,000 sf	315.17	225.89	-28.3%	Updated TGR in ITE 12th Edition
931	Low-Turnover Restaurant	1,000 sf	2.60	84.91	-	Unit of measure change from "seat" to "1,000 sf"
932	High-Turnover (Sit-Down) Restaurant	1,000 sf	4.37	101.53	-	Unit of measure change from "seat" to "1,000 sf"
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	482.53	463.96	-3.8%	Updated TGR in ITE 12th Edition
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	409.25	409.25	0.0%	No change
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.	172.01	172.01	0.0%	No change
945	Gas Station w/Convenience Market 2,000 - 5,499 sq ft	fuel pos.	205.36	207.44	1.0%	Re-alignment of gas station w/ conv. land uses in ITE 12th Edition
945	Gas Station w/Convenience Market 5,500+ sq ft	fuel pos.	230.52	207.44	-10.0%	Re-alignment of gas station w/ conv. land uses in ITE 12th Edition
947	Self-Service Car Wash	service bay	43.94	38.89	-11.5%	Updated TGR in ITE 12th Edition
948	Automated Car Wash	1,000 sf	142.00	253.51	78.5%	Updated TGR in ITE 12th 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	4.96	3.60	-27.4%	Updated TGR in ITE 12th Edition
140	Manufacturing	1,000 sf	3.93	4.27	8.7%	Updated TGR in ITE 12th Edition
150	Warehousing	1,000 sf	1.74	1.48	-14.9%	Updated TGR in ITE 12th Edition and new FL Studies added
151	Mini-Warehouse	1,000 sf	1.49	1.37	-8.1%	Updated TGR in ITE 12th Edition
n/a	Mine/Commercial Excavation	1,000 cy	0.01	0.01	0.0%	No change

- See Appendix D for additional information

Table A-44

Percent Change in Assessable Trip Length of Impact Fee Land Uses

ITE LUC	Land Use	Unit	TL 2019	TL 2025	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) - Less than 4,000 sf	du	5.88	5.88	0.0%	No change
	Single Family (Detached) - 4,000 sf and greater	du	5.88	5.88	0.0%	No change
220	Multi-Family Housing (Low-Rise, 1-3 floors)	du	5.10	5.21	2.2%	Re-alignment of FL Studies Database (SFA studies separated)
221	Multi-Family Housing (Mid-Rise, 4-10 floors)	du	5.10	5.21	2.2%	Re-alignment of FL Studies Database (SFA studies separated)
222	Multi-Family Housing (High-Rise, >10 floors)	du	5.10	5.21	2.2%	Re-alignment of FL Studies Database (SFA studies separated)
231	Mid-Rise Residential w/Ground-Floor Commercial	du	5.10	5.21	2.2%	Re-alignment of FL Studies Database (SFA studies separated)
232	High-Rise Residential w/Ground-Floor Commercial	du	5.10	5.21	2.2%	Re-alignment of FL Studies Database (SFA studies separated)
240	Mobile Home Park	du	4.60	4.60	0.0%	No change
251	Retirement Community - Detached (Single Family)	du	5.42	5.42	0.0%	No change
252	Retirement Community - Attached (Multi-Family)	du	3.28	3.28	0.0%	No change
254	Assisted Living Facility	bed	2.59	2.59	0.0%	No change
	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	hole	2.22	2.24	0.9%	Slight increase due to LUC 445 (proxy use) update
n/a	Bundled Golf Course	hole	2.22	2.24	0.9%	Slight increase due to LUC 445 (proxy use) update
445	Movie Theater	1,000 sf	2.22	2.24	0.9%	Updated unit of measure, slight variation in TL weighted average
n/a	Dance Studio/Gymnastics	1,000 sf	2.97	2.97	0.0%	No change
	INSTITUTIONS:					
520	Elementary School (Private)	student	2.94	2.94	0.0%	No change
522	Middle/Junior High School (Private)	student	2.94	2.94	0.0%	No change
525	High School (Private)	student	2.94	2.94	0.0%	No change
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	1,000 sf	3.91	3.93	0.5%	Update to the FL Studies Database for LUC 820
565	Day Care Center	1,000 sf	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	1,000 sf	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:					
822	Retail 6,000 sfgla or less	1,000 sfgla	1.12	1.12	0.0%	No change
822	Retail 6,001 to 40,000 sfgla	1,000 sfgla	1.58	1.48	-6.3%	Re-alignment of retail/shopping tiers in ITE 11th Edition
821	Retail 40,001to 150,000 sfgla	1,000 sfgla	2.69	1.94	-27.9%	Re-alignment of retail/shopping tiers in ITE 11th Edition
820	Retail greater than 150,000 sfgla	1,000 sfgla	2.69	2.70	0.4%	Re-alignment of retail/shopping tiers in ITE 11th Edition
840/841	New/Used Auto Sales	1,000 sf	4.60	4.60	0.0%	No change
849	Tire Superstore	1,000 sf	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	1.07	-29.6%	Update to the FL Studies Database
862	Home Improvement Superstore	1,000 sf	2.34	2.33	-0.4%	slight decrease due to the average size change in ITE 12th Edition
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 w/out Drive-Thru	1,000 sf	2.46	2.46	0.0%	No change
912	Bank/Savings w/Drive-Thru	1,000 sf	2.46	2.46	0.0%	No change
930	Fast Casual Restaurant	1,000 sf	2.05	2.05	0.0%	No change
931	Low-Turnover Restaurant	1,000 sf	3.14	3.14	0.0%	No change
932	High-Turnover (Sit-Down) Restaurant	1,000 sf	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	2.19	0.0%	No change
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 - 5,499 sq ft	fuel pos.	1.01	1.01	0.0%	No change
945	Gas Station w/Convenience Market 5,500+ 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	3.51	3.51	0.0%	No change
n/a	Mine/Commercial Excavation	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-45

Percent Change in Percent New Trips of Impact Fee Land Uses

ITE LUC	Land Use	Unit	PNT 2019	PNT 2025	%	Explanation
	RESIDENTIAL:					
210	Single Family (Detached) - Less than 4,000 sf	du	100%	100%	0.0%	No change
	Single Family (Detached) - 4,000 sf and greater	du	100%	100%	0.0%	No change
220	Multi-Family Housing (Low-Rise, 1-3 floors)	du	100%	100%	0.0%	No change
221	Multi-Family Housing (Mid-Rise, 4-10 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/Ground-Floor Commercial	du	100%	100%	0.0%	No change
232	High-Rise Residential w/Ground-Floor Commercial	du	100%	100%	0.0%	No change
240	Mobile Home Park	du	100%	100%	0.0%	No change
251	Retirement Community - Detached (Single Family)	du	100%	100%	0.0%	No change
252	Retirement Community - Attached (Multi-Family)	du	100%	100%	0.0%	No change
254	Assisted Living Facility	bed	72%	72%	0.0%	No change
	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	hole	90%	90%	0.0%	No change
n/a	Bundled Golf Course	hole	90%	90%	0.0%	No change
445	Movie Theater	1,000 sf	88%	87%	-1.1%	Updated TGR unit of measure, slight variation in PNT weighted average
n/a	Dance Studio/Gymnastics	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	80%	80%	0.0%	No change
525	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	1,000 sf	90%	90%	0.0%	No change
565	Day Care Center	1,000 sf	73%	73%	0.0%	No change
	MEDICAL:					
610	Hospital	1,000 sf	78%	78%	0.0%	No change
620	Nursing Home	1,000 sf	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:					
822	Retail 6,000 sfgla or less	1,000 sfgla	39%	39%	0.0%	No change
822	Retail 6,001 to 40,000 sfgla	1,000 sfgla	50%	48%	-4.0%	Re-alignment of retail/shopping tiers in ITE 11th Edition
821	Retail 40,001to 150,000 sfgla	1,000 sfgla	74%	57%	-23.0%	Re-alignment of retail/shopping tiers in ITE 11th Edition
820	Retail greater than 150,000 sfgla	1,000 sfgla	74%	74%	0.0%	No change
840/841	New/Used Auto Sales	1,000 sf	79%	79%	0.0%	No change
849	Tire Superstore	1,000 sf	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 w/out Drive-Thru	1,000 sf	46%	46%	0.0%	No change
912	Bank/Savings w/Drive-Thru	1,000 sf	46%	46%	0.0%	No change
930	Fast Casual Restaurant	1,000 sf	58%	58%	0.0%	No change
931	Low-Turnover Restaurant	1,000 sf	77%	77%	0.0%	No change
932	High-Turnover (Sit-Down) Restaurant	1,000 sf	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%	59%	0.0%	No change
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 - 5,499 sq ft	fuel pos.	23%	23%	0.0%	No change
945	Gas Station w/Convenience Market 5,500+ 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%	98%	6.5%	New FL Studies data collected since last update
151	Mini-Warehouse	1,000 sf	92%	92%	0.0%	No change
n/a	Mine/Commercial Excavation	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/Major Intersections
- Roadway Capacity

Design

The design cost factor for county roads is 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 local improvements and from other jurisdictions throughout Florida. As shown in Table B-1, local factors ranged from seven (7) percent to 17 percent with a weighted average of 10 percent. As shown in Table B-2, design cost percentage experienced by jurisdictions throughout Florida ranges from six (6) percent to 14 percent with a weighted average of 11 percent. For purposes of this study, the design cost for county roads is estimated at **10 percent** of the construction cost per lane mile.

Table B-1

Design Cost Factor for County Roads – Collier County

Description	From	To	Design Cost	Construction Cost	Design %
Veteran's Memorial Blvd	E. of Livingston Rd	New High School	$695,000	$9,531,999	7.0%
Whippoorwill Ln	Pine Ridge Rd	Livingston Rd	$697,361	$4,023,089	17.0%
Total			**$1,392,361**	**$13,555,088**	**10.0%**

Source: Collier County

Table B-2

Design Cost Factor for County Roads – Other Florida Jurisdictions

Year	County	County Roadways (Cost per Lane Mile)		
		Design	Constr.	Design Ratio
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	$2,668,000	6%
2015	Palm Beach	$224,000	$1,759,000	13%
2017	St. Lucie	$220,000	$2,200,000	10%
2017	Clay	$239,000	$2,385,000	10%
2019	Collier	$385,000	$3,500,000	11%
2019	Sumter	$315,000	$2,862,000	11%
2020	Indian River	$291,000	$2,647,000	11%
2020	Hillsborough	$484,000	$4,036,000	12%
2020	Hernando	$232,000	$2,108,000	11%
2021	Manatee	$308,000	$2,800,000	11%
2021	Flagler	$258,000	$2,582,000	10%
2022	Lake	$215,000	$2,145,000	10%
2022	Volusia	$188,000	$2,350,000	8%
2023	Manatee	$546,000	$3,900,000	14%
Average		**$269,000**	**$2,527,000**	**11%**

Source: Each respective jurisdiction

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.

Collier County has been purchasing ROW for the extension of Vanderbilt Beach Road (from Collier Blvd to 16th Street NE). The ROW purchases for this improvement have been on-going for several years. Therefore, past acquisition costs were indexed to present day dollars using the recent trends in just value per acre increases for vacant land in Collier County.

As shown in Table B-3, the total indexed ROW cost is approximately 71 percent of the construction cost for the improvement. However, a portion of these acquisition costs occurred several years back and are dated compared to the construction cost figure. To determine a more

accurate representation of the ROW-to-construction ratio, the recent portion of the acquisition costs (anything acquired since 2020) were separated from the total ROW costs and indexed to present day dollars. With these adjustments applied, the ROW-to-construction factor for the Vanderbilt Beach Rd Ext. was calculated at approximately 47 percent.

In addition to local data, the ROW-to-construction cost ratios from other jurisdictions throughout Florida were reviewed. As shown in Table B-4, the ROW factors ranged from 10 percent to 60 percent with a weighted average of 36 percent.

For purposes of this study, the ROW cost for county roads is estimated at **45 percent** of the construction cost per lane mile. This estimate was based on the adjusted factor calculated for the Vanderbilt Beach Road Extension and discussions with Collier County.

Table B-3

Right-of-Way Cost Factor for County Roads – Collier County

Description	From	To	Right-of-Way Cost	Construction Cost	ROW-to-Construction Ratio
New Construction					
Vanderbilt Beach Rd Ext. Ph I	Weber Blvd	16th St NE	$41,877,878	$135,657,917	31%
Alternate ROW Cost (all acquisitions, indexed to current $)[(1)]:			$96,960,000	$135,657,917	71%
Alternate ROW Cost (2020+ acquisitions, indexed to current $)[(2)]:			$64,212,000	$135,657,917	**47%**

Source: Collier County

1) Present day cost of $41.9 million of ROW acquisitions. ROW figure rounded to nearest $000
2) Present day cost of ROW acquisitions made since 2020. ROW figure rounded to nearest $000

Table B-4

Right-of-Way Cost Factor for County Roads – Other Florida Jurisdictions

Year	County	County Roadways (Cost per Lane Mile)		
		ROW	Constr.	ROW Ratio
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%
2017	St. Lucie	$990,000	$2,200,000	45%
2017	Clay	$954,000	$2,385,000	40%
2018	Collier	$1,208,000	$3,500,000	35%
2019	Sumter	$1,202,000	$2,862,000	42%
2020	Indian River	$529,000	$2,647,000	20%
2020	Hillsborough	$1,448,000	$2,897,000	50%
2020	Hernando	$844,000	$2,108,000	40%
2021	Manatee	$1,120,000	$2,800,000	40%
2021	Flagler	$258,000	$2,582,000	10%
2022	Lake	$1,073,000	$2,145,000	50%
2022	Volusia	$470,000	$2,350,000	20%
2023	Manatee	$741,000	$3,900,000	19%
Average		**$879,000**	**$2,420,000**	**36%**

Source: Each respective jurisdiction

Construction

The construction cost for county roads (curb & gutter, urban section design) was based on local projects in Collier. A review of local construction cost data from recent years identified two new construction projects and two lane addition projects:

- Veteran's Memorial Blvd from E. of Livingston Road to New High School (0 to 4 lanes)
- Whippoorwill Lane from Pine Ridge Road to Livingston Road (0 to 2 lanes)
- Vanderbilt Beach Road Phase II from US 41 to E. of Goodlette-Frank Road (4 to 6 lanes)
- Wilson Blvd from Golden Gate Blvd to Immokalee Road (2 to 4 lanes)

As shown in Table B-5, the construction costs for the new road construction improvements were lower than those for lane addition improvements. To calculate a weighted average cost per lane mile, the average cost per lane mile for new construction ($1.5 million) and lane additions ($6.3

million) were weighted by the distribution of new construction and lane addition improvements in the 2045 LRTP (county roads only).

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 185 lane miles of improvements across 15 different counties, averaging $3.5 million per lane mile (all improvements have curb & gutter design characteristics). Additional details are provided in Table B-6.

Based primarily on a review of the local projects, a construction of **$3.8 million per lane mile** for county roads (curb & gutter) was utilized for the road impact fee calculation.

Table B-5

Local Roadway Construction Costs – County Roads

Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
New Construction										
Veteran's Memorial Blvd	E. of Livingston Rd	New High School	2023	0 to 4	C&G	1.75	4	7.00	$9,531,999	$1,361,714
Whippoorwill Ln	Pine Ridge Rd	Livingston Rd	2023	0 to 2	C&G	1.15	2	2.30	$4,023,089	$1,749,169
Total, New Construction								**9.30**	**$13,555,088**	**$1,457,536**
Lane Addition										
Vanderbilt Beach Rd Ph. II	US 41	E. of Goodlette-Frank Rd	2025	4 to 6	C&G	1.02	2	2.04	$12,515,878	$6,135,234
Wilson Blvd Corridor Study	Golden Gate Blvd	Immokalee Rd	2021	2 to 4	C&G	3.20	2	6.40	$40,789,720	$6,373,394
Total, Lane Addition								**8.44**	**$53,305,598**	**$6,315,829**
Lane Mile Distribution from LRTP, new construction[(1)]										51%
Lane Mile Distribution from LRTP, lane addition[(2)]										49%
Weighted Average										**$3,838,000**

Source: Collier County

1) Source: Table B-11, Item (c)
2) Source: Table B-11, Item (d)

Table B-6

Construction Cost – County Road Improvements from Other Florida Jurisdictions

County	County Classification	District	Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
URBAN Counties; Curb & Gutter													
Orange	Urban	5	CR 535 Seg. F	Overstreet Rd	Fossick Rd	2014	2 to 4	Curb & Gutter	0.60	2	1.20	$3,263,746	$2,719,788
Hillsborough	Urban	7	Boyette Rd, Ph. III	Donneymoor Dr	Bell Shoals Rd	2014	2 to 4	Curb & Gutter	1.84	2	3.68	$25,720,068	$6,989,149
Orange	Urban	5	International Dr	Westwood Blvd	Westwood Blvd	2015	4 to 6	Curb & Gutter	2.20	2	4.40	$16,775,875	$3,812,699
Orange	Urban	5	Reams Rd	Delmar Ave	Taborfield Ave	2017	2 to 4	Curb & Gutter	0.36	2	0.72	$3,409,584	$4,735,533
Orange	Urban	5	Destination Pkwy 1B/2A	Tradeshow Blvd	Lake Cay	2017	2 to 4	Curb & Gutter	0.78	2	1.56	$6,110,403	$3,916,925
Hillsborough	Urban	7	Bruce B. Downs Blvd, Seg. A	Bearss Ave	Palm Springs Blvd	2017	4 to 8	Curb & Gutter	3.56	4	14.24	$37,155,153	$2,609,210
Hillsborough	Urban	7	Bruce B. Downs Blvd, Seg. D	Pebble Creek Dr	Pasco Co. Line	2018	4 to 8	Curb & Gutter	1.36	4	5.44	$17,755,778	$3,263,930
Hillsborough	Urban	7	CR 580 (Sam Allen Rd)	SR 39A (Paul Buchman Hwy)	Park Rd	2018	2 to 4	Curb & Gutter	2.00	2	4.00	$23,200,000	$5,800,000
Palm Beach	Urban	4	Roebuck Rd	Jog Rd	Haverhill Rd	2018	2 to 5	Curb & Gutter	1.03	3	3.10	$5,154,028	$1,662,590
Palm Beach	Urban	4	Lyons Rd	Clint Moore Rd	N of LWDD L-39 Canal	2018	2 to 4	Curb & Gutter	0.70	2	1.40	$3,163,022	$2,259,301
Orange	Urban	5	Holden Ave	John Young Pkwy	Orange Blossom Tr	2019	0/2 to 4	Curb & Gutter	1.24	2/4	3.50	$18,798,771	$5,371,077
Orange	Urban	5	Boggy Creek Rd N	South Access Rd	Wetherbee Rd	2019	2 to 4	Curb & Gutter	1.29	2	2.58	$8,585,774	$3,327,819
Palm Beach	Urban	4	Hood Rd	E. of FL Turnpike	W. of Central Blvd	2019	2 to 4	Curb & Gutter	0.95	2	1.90	$12,686,954	$6,677,344
Palm Beach	Urban	4	Silver Beach Rd	E. of Congress Ave	Old Dixie/Pre. Barack Obama Hwy	2019	2 to 3	Curb & Gutter	0.90	1	0.90	$4,478,355	$4,975,950
Hillsborough	Urban	7				2019		Curb & Gutter	6.08	2	12.16	$67,919,173	$5,585,458
Hillsborough	Urban	7				2019		Curb & Gutter	1.75	2	3.50	$48,417,488	$13,833,568
Total (2014-2023); Urban Counties ONLY									**Count:**	**16**	**64.28**	**$302,594,172**	**$4,707,000**
SUBURBAN/RURAL Counties; Curb & Gutter													
Collier	Suburban/Rural	1	Golden Gate Blvd	Wilson Blvd	Desoto Blvd	2014	2 to 4	Curb & Gutter	2.40	2	4.80	$16,003,504	$3,334,063
Brevard	Suburban/Rural	5	St. Johns Heritage Pkwy	SE of I-95 Intersection	US 192 (Space Coast Pkwy)	2014	0 to 2	Curb & Gutter	3.11	2	6.22	$16,763,567	$2,695,107
Sarasota	Suburban/Rural	1	Bee Ridge Rd	Mauna Loa Blvd	Iona Rd	2014	2 to 4	Curb & Gutter	2.68	2	5.36	$14,066,523	$2,624,351
St. Lucie	Suburban/Rural	4	W Midway Rd (CR 712)	Selvitz Rd	25th St	2014	2 to 4	Curb & Gutter	1.00	2	2.00	$15,359,926	$7,679,963

Table B-6 (continued)

Construction Cost – County Road Improvements from Other Florida Jurisdictions

County	County Classification	District	Description	From	To	Year	Feature	Design	Length	Lanes Added	Lane Miles Added	Construction Cost	Construction Cost per Lane Mile
SUBURBAN/RURAL Counties; Curb & Gutter													
Lake	Suburban/Rural	5	N. Hancock Rd Ext.	Old 50	Gatewood Dr	2014	0/2 to 4	Curb & Gutter	1.50	2/4	5.00	$8,185,574	$1,637,115
Polk	Suburban/Rural	1	CR 655 & CR 559A	Pace Rd & N of CR 559A	N. of CR 559A & SR 599	2014	2 to 4	Curb & Gutter	2.60	2	5.20	$10,793,552	$2,075,683
Volusia	Suburban/Rural	5	Howland Blvd	Courtland Blvd	N. of SR 415	2014	2 to 4	Curb & Gutter	2.08	2	4.16	$11,110,480	$2,670,788
Polk	Suburban/Rural	1	Ernie Caldwell Blvd	Pine Tree Tr	US 17/92	2015	0 to 4	Curb & Gutter	2.41	4	9.64	$19,535,391	$2,026,493
Flagler	Suburban/Rural	5	Old Kings Rd Ext.	Forest Grove Dr	Matanzas Woods Pkwy	2015	0 to 4	Curb & Gutter	0.52	4	2.08	$4,831,579	$2,322,875
Manatee	Suburban/Rural	1	44th Ave E	15th St E	19th St Ct E	2015	2 to 4	Curb & Gutter	0.45	2	0.90	$5,454,438	$6,060,487
Hendry	Suburban/Rural	1	Helms Rd Ext.	SR 29	SR 80	2015	0 to 4	Curb & Gutter	2.60	4	10.40	$14,678,000	$1,411,346
Volusia	Suburban/Rural	5	LPGA Blvd	Jimmy Ann Dr/Grand Reserve	Derbyshire Rd	2016	2 to 4	Curb & Gutter	0.68	2	1.36	$3,758,279	$2,763,440
St. Lucie	Suburban/Rural	4	W Midway Rd (CR 712)	25th St	US 1	2016	2 to 4	Curb & Gutter	1.60	2	3.20	$31,483,319	$9,838,537
Lake	Suburban/Rural	5	CR 466A, Ph. I	US 27/441	Sunny Ct	2016	2 to 4	Curb & Gutter	0.44	2	0.88	$3,237,561	$3,679,047
Manatee	Suburban/Rural	1	44th Ave E	19th St Ct E	30th St E	2016	0 to 4	Curb & Gutter	0.90	4	3.60	$11,763,178	$3,267,549
Lake	Suburban/Rural	5	CR 466A, Ph. IIIA	Poinsettia Ave	Century Ave	2018	2 to 4	Curb & Gutter	0.42	2	0.84	$3,368,889	$4,010,582
Volusia	Suburban/Rural	5	Williamson Blvd	LPGA Blvd	Strickland Range Rd	2019	2 to 4	Curb & Gutter	0.93	2	1.86	$4,951,165	$2,661,917
Lake	Suburban/Rural	5	North Hancock Rd	CR 561A	Minneola Interchange	2018	0 to 2	Curb & Gutter	1.20	2	2.40	$2,902,256	$1,209,273
Lee	Suburban/Rural	1	Alico Rd	Ben Hill Griffin Pkwy	E. of Airport Haul Rd	2018	2 to 4	Curb & Gutter	1.78	2	3.56	$18,062,562	$5,073,753
Lee	Suburban/Rural	1	Homestead Rd	S. of Sunrise Blvd	N. of Alabama Rd	2018	2 to 4	Curb & Gutter	2.25	2	4.50	$14,041,919	$3,120,426
Lake	Suburban/Rural	5	Citrus Grove Rd, Ph. I	W. of Grassy Lake Rd	Hancock Rd	2019	0 to 4	Curb & Gutter	0.87	4	3.48	$5,751,614	$1,652,763
Lake	Suburban/Rural	5	Education Ave	Grassy Lake Rd	US 27	2019	0 to 2	Curb & Gutter	1.22	2	2.44	$3,324,769	$1,362,610
Hernando	Suburban/Rural	7	Cortez Blvd Frontage Rd @ I-75			2020	0 to 2	Curb & Gutter	0.62	2	1.24	$2,064,688	$1,665,071
Volusia	Suburban/Rural	5	Howland Blvd	Providence Blvd	Elkcam Blvd	2020	2 to 4	Curb & Gutter	2.38	2	4.76	$11,290,456	$2,371,945
Volusia	Suburban/Rural	5	Orange Camp Rd	MLK Blvd	I-4	2020	2 to 4	Curb & Gutter	2.23	2	4.46	$8,741,920	$1,960,072
Volusia	Suburban/Rural	5	10th St	Myrtle Ave	US-1	2020	0/2 to 4	Curb & Gutter	0.47	2/4	1.42	$9,456,399	$6,659,436
Lake	Suburban/Rural	5	Citrus Grove Rd, Ph. III	US 27	Scrub Jay Ln	2020	2 to 4	Curb & Gutter	0.81	2	1.62	$6,434,819	$3,972,110
Marion	Suburban/Rural	5	SW 49th Ave, South Segment E	0.7 mi S. of CR 484	CR 484	2020	0 to 4	Curb & Gutter	0.70	4	2.80	$2,839,889	$1,014,246
Marion	Suburban/Rural	5	FL Crossroads Commerce Park R	South Terminus	Hwy 484	2020	0 to 2	Curb & Gutter	1.10	2	2.20	$3,229,878	$1,468,126
Marion	Suburban/Rural	5	CR 484	Marion Oaks Pass	Marion Oaks Course	2020	2 to 4	Curb & Gutter	1.50	2	3.00	$6,348,828	$2,116,276
Manatee	Suburban/Rural	1	Ft Hamer Rd	US 301	69th St E	2021	0 to 4	Curb & Gutter	0.75	4	3.00	$11,637,711	$3,879,237
Manatee	Suburban/Rural	1	44th Ave E	44th Ave Plaza E	Lakewood Ranch Blvd	2023	0 to 4	Curb & Gutter	2.50	4	10.00	$29,809,786	$2,980,979
Manatee	Suburban/Rural	1	Moccasin Wallow Rd	W of 115th Ave E	US 301	2023	2 to 4	Curb & Gutter	1.30	2	2.60	$16,647,973	$6,403,067
Total (2014-2023); Suburban/Rural Counties ONLY									**Count:**	**33**	**120.98**	**$347,930,392**	**$2,876,000**
Total (2020-2023); Suburban/Rural Counties ONLY									**Count:**	**11**	**37.10**	**$108,502,347**	**$2,925,000**
URBAN & SUBURBAN/RURAL Counties; Curb & Gutter													
Total (2014-2023); Urban & Suburban/Rural Counties									**Count:**	**49**	**185.26**	**$650,524,564**	**$3,511,000**

Source: Data obtained from each respective county

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 other jurisdictions throughout Florida. As shown in Table B-7, recent CEI factors for county roads ranged from 3 percent to 17 percent with a weighted average of nine (9) percent. For purposes of this study, the CEI cost for county roads was calculated at **nine (9) percent** of the construction cost per lane mile.

Table B-7

CEI Cost Factor for County Roads – Other Florida Jurisdictions

Year	County	County Roadways (Cost per Lane Mile)		
		CEI	Constr.	CEI Ratio
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%
2017	St. Lucie	$198,000	$2,200,000	9%
2017	Clay	$191,000	$2,385,000	8%
2019	Collier	$315,000	$3,500,000	9%
2019	Sumter	$258,000	$2,862,000	9%
2020	Indian River	$238,000	$2,647,000	9%
2020	Hillsborough	$363,000	$4,036,000	9%
2020	Hernando	$189,000	$2,108,000	9%
2021	Manatee	$252,000	$2,800,000	9%
2021	Flagler	$232,000	$2,582,000	9%
2022	Lake	$172,000	$2,145,000	8%
2022	Volusia	$259,000	$2,350,000	11%
2023	Manatee	$429,000	$3,900,000	11%
Average		**$228,000**	**$2,477,000**	**9%**

Source: Each respective jurisdiction

Mitigation

County Roads

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

- Goodland Dr from San Marco Rd to Harbor Pl
- Vanderbilt Beach Rd Ext. from Collier Blvd to 16th St NE

As shown in Table B-8, the weighted average cost per lane mile for the two county roads projects is approximately $38,000 per lane mile.

Table B-8

Mitigation Costs – County Roads

Mitigation Type	Proj. #	Description	From	To	Feature	Lanes Added	Mitigation Cost	Project Length (Miles)	Lane Miles Added	Mitigation Cost per Lane Mile
Forested Saltwater	60200.3	Goodland Dr	San Marco Rd	Harbor Pl	0 to 2	2	$212,400	0.80	1.60	$132,750
Panther Habitat/Wetlands	60168.5	Vanderbilt Beach Rd Ext.	Collier Blvd	16th St NE	0 to 6	6	$1,431,452	7.00	42.00	$34,082
Total							**$1,643,852**	**-**	**43.60**	**$38,000**

Source: Collier County

Urban Overpass/Major Intersection

The urban overpass cost estimate was based on eight on-going/planned improvements along county and state roads in Collier County. These projects are estimated to have a total cost of approximately $135 million, as shown in Table B-9. This total was then divided by the total lane miles of road capacity improvements in the Needs Plan from the 2045 Long Range Transportation Plan (Table B-10) to develop an urban overpass cost per lane mile. The resulting cost of approximately $544,000 per lane mile is used in the road impact fee calculation.

Table B-9

Urban Overpass/Major Intersection Costs – County & State Roads

Major Intersection and Overpass Projects	Status	Cost[1]
US 41 (SR 90)(Tamiami Tr E) @ Goodlette-Frank Rd	2045 CFP (2026-2030)	$13,000,000
Immokalee Rd @ Livingston Rd	2045 CFP (2026-2030)	$38,000,000
Immokalee Rd @ I-75 (DDI)	Study	$9,000,000
Immokalee Rd @ Logan Blvd (CFI)	2045 CFP (2036-2045)	$17,500,000
Golden Gate Pkwy @ Livingston Rd	2045 CFP (2026-2030)	$24,500,000
US 41 @ Collier Blvd	2045 CFP (2031-2035)	$17,250,000
Pine Ridge Rd @ Livingston Rd (CFI)	n/a	$6,600,000
Pine Ridge Rd @ I-75 (DDI)	Moving into design	$8,800,000
Total Urban Overpass/Major Intersection Cost		**$134,650,000**
Total 2045 Needs Plan (Cost Feasible/Unfunded) Lane Miles Added[2]		247.38
Total Urban Overpass/Major Intersection Cost per Lane Mile[3]		**$544,000**

1) Source: Collier County
2) Source: Table B-10
3) Total urban overpass cost divided by the total lane miles that are projected to be constructed in the Needs Plan of the 2045 Long Range Transportation Plan (Item 2), rounded to thousands

Roadway Capacity

As shown in Table B-10, the average capacity per lane miles was based on the projects in the Collier County 2045 Long Range Transportation Plan'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 9,300 and several other variables from the table were used in the road impact fee calculations.

Table B-10

Collier County 2045 Long Range Transportation Plan – Cost Feasible and Unfunded Needs Plan Projects

Map ID	County/ State	Facility	From	To	Project Type	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
1	County	Benfield Rd Ext.	The Lords Way	City Gate Blvd N	New 2-Lane Rd	2.26	0	2	4.52	0	21,300	21,300	48,138	10,650
2	County	Benfield Rd	US 41 (SR 90) Tamiami Tr E)	Rattlesnake-Hammock Ext.	New 2-Lane Rd	4.50	0	2	9.00	0	21,300	21,300	95,850	10,650
3	County	Big Cypress Pkwy	North of I-75	Golden Gate Blvd	New 2-Lane Rd	2.00	0	2	4.00	0	21,300	21,300	42,600	10,650
4	County	Big Cypress Pkwy	Golden Gate Blvd	Vanderbilt Beach Rd Ext.	New 2-Lane Rd	1.27	0	2	2.54	0	21,300	21,300	27,051	10,650
5	County	Big Cypress Pkwy	Vanderbilt Beach Rd Ext.	Oil Well Rd	New 2-Lane Rd	3.00	0	2	6.00	0	21,300	21,300	63,900	10,650
6	County	Big Cypress Pkwy	Oil Well Rd	Immokalee Rd	New 2-Lane Rd	5.00	0	2	10.00	0	21,300	21,300	106,500	10,650
7	County	Camp Keais Rd	Pope John Paul Blvd	Oil Well Rd	Widen from 2 to 4-Lanes	3.00	2	4	6.00	21,300	54,000	32,700	98,100	16,350
8	County	Camp Keais Rd	Immokalee Rd	Pope John Paul Blvd	Widen from 2 to 4-Lanes	2.65	2	4	5.30	21,300	54,000	32,700	86,655	16,350
9	County	Collier Blvd (CR 951)	Golden Gate Main Canal	Green Blvd	Widen from 4 to 6-Lanes	2.00	4	6	4.00	35,820	53,910	18,090	36,180	9,045
10	County	CR 951 Ext.	Collier Blvd (CR 951) (N. terminus)	Lee/Collier County Line	New 2-Lane Rd	3.36	0	2	6.72	0	14,580	14,580	48,989	7,290
11	County	Everglades Blvd	Randall Blvd	S. of Oil Well Rd	Widen from 2 to 4-Lanes	0.63	2	4	1.26	14,580	31,950	17,370	10,943	8,685
12	County	Everglades Blvd	Vanderbilt Beach Rd Ext.	Randall Blvd	Widen from 2 to 4-Lanes	2.12	2	4	4.24	14,580	31,950	17,370	36,824	8,685
13	County	Everglades Blvd	Golden Gate Blvd	Vanderbilt Beach Rd Ext.	Widen from 2 to 4-Lanes	1.14	2	4	2.28	14,580	31,950	17,370	19,802	8,685
14	County	Everglades Blvd	I-75 (SR 93)	Golden Gate Blvd	Widen from 2 to 4-Lanes	5.33	2	4	10.66	14,580	31,950	17,370	92,582	8,685
15	County	Golden Gate Blvd	Everglades Blvd	Desoto Blvd	Widen from 2 to 4-Lanes	1.83	2	4	3.66	12,780	27,360	14,580	26,681	7,290
16	County	Golden Gate Blvd Ext.	Desoto Blvd	Big Cypress Pkwy	New 4-Lane Rd	0.94	0	4	3.76	0	27,360	27,360	25,718	6,840
17	County	Goodlette-Frank Rd	Vanderbilt Beach Rd	Immokalee Rd	Widen from 2 to 4-Lanes	1.80	2	4	3.60	15,930	35,820	19,890	35,802	9,945
18	County	Green Blvd	Santa Barbara/Logan Blvd	Sunshine Blvd	Widen from 2 to 4-Lanes	1.00	2	4	2.00	15,930	35,820	19,890	19,890	9,945
19	County	Green Blvd Ext. (16th Ave SW)	23rd St SW	Wilson Blvd Ext. (Corridor Study)	New 2-Lane Rd (Future Study Area)	2.90	0	2	5.80	0	15,930	15,930	46,197	7,965
20	County	Green Blvd Ext. (16th Ave SW)	CR 951	23rd St SW (Corridor Study)	New 4-Lane Rd (Future Study Area)	2.10	0	4	8.40	0	35,820	35,820	75,222	8,955
21	County	Green Blvd Ext. (16th Ave SW)	Wilson Blvd Ext.	Everglades Blvd (Corridor Study)	New 2-Lane Rd	3.90	0	2	7.80	0	15,930	15,930	62,127	7,965
30	County	Immokalee Rd (CR 846)	Camp Keais Rd	Carver St	Widen from 2 to 4-Lanes	2.40	2	4	4.80	21,300	54,000	32,700	78,480	16,350
31	County	Immokalee Rd (CR 846)	SR 29	Airpark Blvd	Widen from 2 to 4-Lanes	0.42	2	4	0.84	21,300	54,000	32,700	13,734	16,350
32	County	Keane Ave	Inez Rd	Wilson Blvd Ext.	New 2-Lane Rd (Future Study Area)	2.10	0	2	4.20	0	15,930	15,930	33,453	7,965
33	County	Little League Rd Ext.	SR 82	Westclox St	New 2-Lane Rd	3.77	0	2	7.54	0	15,930	15,930	60,056	7,965
34	County	Logan Blvd	Green Blvd	Pine Ridge Rd	Widen from 4 to 6-Lanes	0.90	4	6	1.80	35,820	53,910	18,090	16,281	9,045
35	County	Logan Blvd	Vanderbilt Beach Rd	Immokalee Rd	Widen from 2 to 4-Lanes	2.00	2	4	4.00	15,930	35,820	19,890	39,780	9,945
36	County	Logan Blvd	Pine Ridge Rd	Vanderbilt Beach Rd	Widen from 2 to 4-Lanes	2.21	2	4	4.42	15,930	35,820	19,890	43,957	9,945
37	County	Oil Well Rd/CR 858	Everglades Blvd	Oil Well Grade Rd	Widen from 2 to 6-Lanes	3.89	2	6	15.56	14,580	48,150	33,570	130,587	8,392
38	County	Oil Well Rd/CR 858	Ave Maria Entrance	Camp Keais Rd	Widen from 2 to 6-Lanes	1.00	2	6	4.00	14,580	48,150	33,570	33,570	8,393
40	County	Orange Blossom Dr	Airport Pulling Rd	Livingston Rd	Widen from 2 to 4-Lanes	1.00	2	4	2.00	14,580	31,950	17,370	17,370	8,685
41B	County	Randall Blvd	Immokalee Rd	8th St NE	Widen from 2 to 6-Lanes	0.52	2	6	2.08	14,580	48,150	33,570	17,456	8,392
42	County	Randall Blvd	8th St NE	Everglades Blvd	Widen from 2 to 6-Lanes	2.84	2	6	11.36	14,580	48,150	33,570	95,339	8,393
43	County	Randall Blvd	Everglades Blvd	Desoto Blvd	Widen from 2 to 4-Lanes	1.84	2	4	3.68	14,580	31,950	17,370	31,961	8,685
44	County	Randall Blvd	Desoto Blvd	Big Cypress Pkwy	New 4-Lane Rd	0.93	0	4	3.72	0	31,950	31,950	29,714	7,988
45	County	Santa Barbara Blvd	Painted Leaf Ln	Green Blvd	Widen from 4 to 6-Lanes	1.46	4	6	2.92	35,820	53,910	18,090	26,411	9,045
62A	County	Vanderbilt Beach Rd Ext.	16th St	Everglades Blvd	New 2-Lane Rd	1.84	0	2	3.68	0	16,200	16,200	29,808	8,100
62B	County	Vanderbilt Beach Rd Ext.	Everglades Blvd	Big Cypress Pkwy	New 2-Lane Rd	2.62	0	2	5.24	0	16,200	16,200	42,444	8,100
63	County	Westclox St Ext.	Little League Rd	West of Carson Rd	New 2-Lane Rd	0.29	0	2	0.58	0	15,930	15,930	4,620	7,966
64	County	Wilson Blvd	Golden Gate Blvd	Immokalee Rd	Widen from 2 to 4-Lanes	3.21	2	4	6.42	13,320	29,160	15,840	50,846	7,920
65	County	Wilson Blvd	Keane Ave	Golden Gate Blvd	New 2-Lane Rd	3.23	0	2	6.46	0	15,930	15,930	51,454	7,965
67	County	Veterans Memorial Blvd Ext.	Strand Blvd	I-75	New 4-Lane Rd	0.37	0	4	1.48	0	35,820	35,820	13,253	8,955
70	County	Green Blvd Ext.	Everglades Blvd	Big Cypress Pkwy	New 2-Lane Rd	3.40	0	2	6.80	0	15,930	15,930	54,162	7,965
76	County	Vanderbilt Dr	Immokalee Rd	Woods Edge Pkwy	Widen from 2 to 4-Lanes	3.00	2	4	6.00	15,930	35,820	19,890	59,670	9,945
80	County	Vanderbilt Beach Rd	Goodlette-Frank Rd	Airport Pulling Rd	Widen from 4 to 6-Lanes	1.20	4	6	2.40	35,820	53,910	18,090	21,708	9,045
90	County	Pine Ridge Rd	Logan Blvd	Collier Blvd	Widen from 4 to 6-Lanes	1.89	4	6	3.78	35,820	53,910	18,090	34,190	9,045
93	County	Immokalee Rd	Shady Hollow Blvd E	Rural Village Rd	Widen from 2 to 4-Lanes	1.00	2	4	2.00	14,580	31,950	17,370	17,370	8,685
94	County	Rural Village Rd	Immokalee Rd	Immokalee Rd	New 4-Lane Rd	4.52	0	4	18.08	0	31,950	31,950	144,414	7,988
								Total:	**247.38**				**2,297,839**	**9,300**

Source: Collier County 2045 Long Range Transportation Plan
Figures rounded to nearest 00

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 2023-24 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 $1.89 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 2023-24[1]

Tax	Amount of Levy per Gallon	Total Distribution	Distribution per Penny
Constitutional Fuel Tax	$0.02	$4,895,814	$2,447,907
County Fuel Tax	$0.01	$2,164,967	$2,164,967
9th Cent Fuel Tax	$0.01	$1,976,101	$1,976,101
1st Local Option (1-6 cents)	$0.06	$10,992,939	$1,832,157
2nd Local Option (1-5 cents)	$0.05	$8,306,266	$1,661,253
Total	**$0.15**	**$28,336,087**	
Weighted Average per Penny[2]			**$1,889,072**

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 historical expenditures and the FY 2024-2028 Annual Update and Inventory Report (AUIR) Transportation Work Program indicates that a combination of fuel tax revenues, impact fees, sales tax, and grants are used to fund transportation capacity expansion improvements. Due to repeal of the sales tax (effective Dec. 31, 2023), the tax credit does not include sales tax revenues. As shown in Table C-2, Collier County allocates approximately an equivalent of 4.3 pennies for non-impact fee revenues dedicated to capacity expansion projects that are paid on an annual basis (excluding debt service), such as new road construction, lane additions, and intersection improvements.

Table C-2

County Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[4]	Equivalent Pennies[5]
Historical; 2018-2023				
Grant Revenues[1]	$22,113,504	6	$1,889,072	$0.020
Fuel Tax Revenues[2]	$33,608,377	6	$1,889,072	$0.030
Total	**$55,721,881**	**6**	**$1,889,072**	**$0.049**
Future; 2024-2028				
AUIR_Grant Revenues[3]	$34,578,000	5	$1,889,072	$0.037
Total	**$34,578,000**	**5**	**$1,889,072**	**$0.037**
TOTAL				
Total	**$90,299,881**	**11**	**$1,889,072**	**$0.043**

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

Collier County is currently using fuel tax revenues to retire debt of the Series 2014 Fuel Tax Bond Issue where the proceeds are used to fund capacity expansion improvements. As shown in Table C-3, a credit of 7.2 pennies is allocated toward outstanding debt service related to capacity addition projects.

Table C-3

County Debt Service Fuel Tax Equivalent Pennies

Source	Cost of Projects	Number of Years	Revenue from 1 Penny[2]	Equivalent Pennies[3]
Fuel Tax Bond Issue, Series 2014[1]	$27,292,416	2	$1,889,072	$0.072
Total	**$27,292,416**			**$0.072**

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

Table C-4

Collier County – Historical Transportation Expenditures

EXPENSE Sub Total	2018	2019	2020	2021	2022	2023	Total
Gas Tax Funded							
33431 LAP 433177 - Golden Gate Pkwy	$2,649	$0	$0	$0	$0	$0	**$2,649**
33475 LAP 430871 Adaptive Traffic Control Equip	$156,901	$0	$0	$0	$0	$0	**$156,901**
33524 Turn lane locations on Pine Ridge Rd	$0	$89,280	$0	$0	$0	$0	**$89,280**
60016 Minor Turn Lane Intersection Improvement	$551,707	$335,715	$891,603	$8,950	$241,654	$168,134	**$2,197,763**
60040 Golden Gate Blvd/Wilson-Everglades	$1,212,830	$45,369	$0	$0	$0	$0	**$1,258,199**
60065 Randall Blvd Imm to Oil Well Rd	$133,089	$72,968	$13,821	$350	$0	$3,369	**$223,597**
60066 Congestion Mgt Fare Share Intersection	$0	$14,255	$0	$0	$68,950	$1,882,436	**$1,965,641**
60073 Davis Boulevard Road Widening	$0	$0	$0	$490,400	$0	$0	**$490,400**
60085 TIS Review	$140,422	$77,093	$367,583	$120,854	$448,593	$492,948	**$1,647,493**
60132 Imm Rd @ CR 951 (Broken Back Rd)	$972,855	$0	$0	$0	$0	$0	**$972,855**
60145 Golden Gate Blvd (20th to Everglades)	$78,439	$563,232	$5,268,854	$168,299	$259,390	$155,785	**$6,493,999**
60148 Airport Rd & Davis Intersection	$7	$2	$0	$0	$0	$0	**$9**
60163 Traffic Study/Advanced Planning	$60,355	$101,204	$302,180	$99,195	$171,021	$1,070,752	**$1,804,707**
60168 Vand Beach/CR 951-8th (338)	$0	$7	$232	$0	$0	$222,202	**$222,441**
60171 Multi Project Right of Way - Transportation	$244	$27	$27	-$69	$667	$19,402	**$20,298**
60172 Traffic Signals	$517,753	$565,111	$779,112	$195,455	$281,321	$2,336,309	**$4,675,061**
60178 Vanderbilt Drive Improvements	$4,155	$0	$0	$0	$0	$0	**$4,155**
60190 Airport Rd North of Vanderbilt Road	$555,103	$0	$0	$0	$0	$0	**$555,103**
60192 Lake Trafford Rd @ N 19th St Improv	$517,555	$1,000	$0	$0	$0	$0	**$518,555**
60198 Veterans Memorial Rd	$0	$0	$0	$0	$0	$100,000	**$100,000**
60200 Goodland CRA 92A Roadway Improvements	$0	$3,300	$212,602	$511,907	$1,958,468	$373,006	**$3,059,283**
60214 Immokalee-Woodcrest Way Intersection	$0	$0	$389,178	$839,798	$0	$0	**$1,228,976**
60215 Triangle Blvd-Price Street	$0	$0	$14,338	$138	$0	$185,524	**$200,000**
60230 Randall Blvd @ 8th St Int Impr	$0	$0	$0	$0	$681,692	$125,272	**$806,964**
60233 Corkscrew Rd @ Wildcat Run Imp	$0	$0	$0	$21,267	$0	$825,121	**$846,388**
60242 Randall Blvd @ Everglades Blvd Int	$0	$0	$0	$206	$811,965	$297,330	**$1,109,501**
60243 Livingston Rd at Vanderbilt Beach Rd	$0	$0	$0	$542,439	$0	$0	**$542,439**
60244 Livingston Rd at Immokalee Rd	$0	$0	$0	$342,940	$0	$0	**$342,940**
60245 Logan Boulevard N. of Immokalee Rd	$0	$0	$0	$203,877	$36,500	$66,420	**$306,797**
60252 VBR at Logan Blvd Intersection Improvements	$0	$0	$0	$0	$184,695	$105,305	**$290,000**
61001 Tree Farm-Woodcrest	$747,682	$580,038	$0	$0	$0	$0	**$1,327,720**
65061 CR 951-R/W	$0	$0	$139,035	$0	$0	$0	**$139,035**
68056 Collier Blvd Golden Gate to Green	$7,413	$0	$0	$0	$0	$1,815	**$9,228**
Total	**$5,659,159**	**$2,448,601**	**$8,378,565**	**$3,546,006**	**$5,144,916**	**$8,431,130**	**$33,608,377**
Grant Funded							
33464 Logan Blvd Ext	-	-	-	-	-	-	$1,314,704
60129 Wilson/Benfield Ext (Lord's Way to City Gate N)	-	-	-	-	-	-	$7,942,600
60190 Airport Rd North of Vanderbilt Road	-	-	-	-	-	-	$12,856,200
Total	-	-	-	-	-	-	**$22,113,504**

Source: Collier County

Table C-5

Collier County – AUIR Summary

AUIR	Total	Total Estimated for Capacity
Work Program Expenditures		
Total - Capacity Expansion Projects[(1)]	$197,270,000	-
Revenues Available to Fund Capacity Expansion (New Projects)		
- Sales Tax	$29,800,000	$14,996,000
- Impact Fees (including interest & fund balance)	$147,696,000	$147,696,000
- Grant Funds	$39,293,000	**$34,578,000**
- Fuel Tax (including interest & fund balance)	$112,874,000	**$0**
Total	**$329,663,000**	**$197,270,000**

Source: Collier County

Table C-6

Collier County – Gas Tax Bond Issue, Series 2014

Year	Principal	Interest	Total Debt Service
FY 2023	$8,455,000	$466,513	$8,921,513
FY 2024	$12,965,000	$705,587	$13,670,587
FY 2025	$13,265,000	$356,829	$13,621,829
Total	**$26,230,000**	**$1,062,416**	**$27,292,416**
Payments Remaining			**2**
Annual Average Payment			**$13,646,208**

Source: Collier County

Table C-7

Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel

Travel Vehicle Miles of Travel (VMT) @			
	22.8	**7.3**	
Other Arterial Rural	329,742,000,000	52,696,000,000	382,438,000,000
Other Rural	325,232,000,000	32,997,000,000	358,229,000,000
Other Urban	1,485,169,000,000	102,144,000,000	1,587,313,000,000
Total	***2,140,143,000,000***	***187,837,000,000***	***2,327,980,000,000***

Percent VMT

@ 22.8 mpg	@ 7.3 mpg
86%	14%
91%	9%
94%	6%
92%	**8%**

Fuel Consumed			
	Gallons @ 22.8 mpg	Gallons @ 7.3 mpg	
Other Arterial Rural	14,462,368,421	7,218,630,137	21,680,998,558
Other Rural	14,264,561,404	4,520,136,986	18,784,698,390
Other Urban	65,138,991,228	13,992,328,767	79,131,319,995
Total	***93,865,921,053***	***25,731,095,890***	***119,597,016,943***

Total Mileage and Fuel	
2,327,980	**miles (millions)**
119,597	**gallons (millions)**
19.47	**mpg**

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2022* , Section V, Table VM-1
Annual Vehicle Distance Traveled in Miles and Related Data - 2022 by Highway Category and Vehicle Type
http://www.fhwa.dot.gov/policyinformation/statistics.cfm

Table C-8

Annual Vehicle Distance Travelled in Miles and Related Data – 2022[1]

By Highway Category and Vehicle Type

Updated: February 2024 **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):									
2022	Interstate Rural	148,757	1,164	1,601	50,143	11,677	61,652	**198,900**	**73,328**	274,993
2022	Other Arterial Rural	229,877	2,233	2,231	99,865	19,332	33,364	**329,742**	**52,696**	386,901
2022	Other Rural	221,526	3,294	2,293	103,707	19,890	13,106	**325,232**	**32,997**	363,816
2022	All Rural	600,160	6,691	6,125	253,714	50,899	108,122	853,874	159,021	1,025,711
2022	Interstate Urban	378,935	2,842	2,624	104,686	20,397	49,710	**483,621**	**70,108**	559,194
2022	Other Urban	1,158,710	14,232	9,741	326,459	64,928	37,216	**1,485,169**	**102,144**	1,611,287
2022	All Urban	1,537,646	17,074	12,365	431,144	85,325	86,927	1,968,790	172,252	2,170,481
2022	Total Rural and Urban[5]	2,137,805	23,765	18,490	684,859	136,224	195,049	2,822,664	331,272	3,196,191
2022	Number of motor vehicles registered[2]	197,080,414	9,567,664	954,119	61,464,968	11,083,997	3,249,824	258,545,382	14,333,821	283,400,986
2022	Average miles traveled per vehicle	10,847	2,484	19,379	11,142	12,290	60,018	10,917	23,111	11,278
2022	Person-miles of travel (millions)[4]	3,284,669	24,369	391,991	1,007,240	136,224	195,049	4,291,909	331,272	5,039,542
2022	Fuel consumed (thousand gallons)	86,040,199	540,572	2,497,605	37,939,063	17,180,850	28,218,175	123,979,262	45,399,024	172,416,463
2022	Average fuel consumption per vehicle (gallons)	437	56	2,618	617	1,550	8,683	480	3,167	608
2022	Average miles traveled per gallon of fuel consumed	24.8	44.0	7.4	18.1	7.9	6.9	**22.8**	**7.3**	18.5

(1) The FHWA estimates national trends by using State reported Highway Performance and Monitoring System (HPMS) data, fuel consumption data (MF-21), vehicle registration data (MV-1), other data such as the R.L. Polk vehicle data, and a host of modeling techniques.

(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 wheelbase.

(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) For 2021 and 2020, the vehicle occupancy is estimated by the FHWA from the 2017 National Household Travel Survey (NHTS) and the annual R.L. Polk Vehicle registration data; For single unit truck and heavy trucks, 1 motor vehicle mile traveled = 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
Calculated Road Impact Fee Schedule

Gasoline Tax						Unit Cost per Lane Mile:	$6,814,000					Interstate/Toll Facility Adjustment Factor:	20.8%			
$$ per gallon to capital:	$0.115					Average VMC per Lane Mile:	9,300					Cost per PMC:	$732.69			
Facility life (years):	25		County Revenues:	$0.115		Fuel Efficiency:	19.47 mpg									
Interest rate:	3.70%					Effectivedays per year:	365									

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	RESIDENTIAL:															
210	Single Family (Detached) - Less than 4,000 sf	du	7.30	Appendix A: Table A-41	4.35	4.85	Appendix A: LUC 210	100%	n/a	12.57	$9,214	$38	$613	**$8,601**	$8,090	6%
	Single Family (Detached) - 4,000 sf and greater	du	8.47	Appendix A: Table A-41	4.35	4.85	Appendix A: LUC 210	100%	n/a	14.59	$10,690	$44	$710	**$9,980**	$9,864	1%
220	Multi-Family Housing (Low-Rise, 1-3 floors)	du	6.21	ITE 12th Edition	3.86	4.36	Appendix A: LUC 220/221/222	100%	n/a	9.49	$6,955	$29	$468	**$6,487**	$6,950	-7%
221	Multi-Family Housing (Mid-Rise, 4-10 floors)	du	4.46	ITE 12th Edition	3.86	4.36	Appendix A: LUC 220/221/222	100%	n/a	6.82	$4,995	$21	$339	**$4,656**	$5,174	-10%
222	Multi-Family Housing (High-Rise, >10 floors)	du	3.96	ITE 12th Edition	3.86	4.36	Appendix A: LUC 220/221/222	100%	n/a	6.05	$4,435	$19	$306	**$4,129**	$4,230	-2%
231	Mid-Rise Residential w/Ground-Floor Commercial	du	4.00	ITE 12th Edition (Adjusted)[3]	3.86	4.36	Same as LUC 220	100%	n/a	6.11	$4,480	$19	$306	**$4,174**	$3,265	28%
232	High-Rise Residential w/Ground-Floor Commercial	du	2.10	ITE 12th Edition (Adjusted)[3]	3.86	4.36	Same as LUC 220	100%	n/a	3.21	$2,352	$10	$161	**$2,191**	$1,903	15%
240	Mobile Home Park	du	4.17	Appendix A: LUC 240	3.40	3.90	Appendix A: LUC 240	100%	n/a	5.61	$4,114	$18	$290	**$3,824**	$3,576	7%
251	Retirement Community - Detached (Single Family)	du	3.48	Appendix A: LUC 251	4.01	4.51	Appendix A: LUC 251	100%	n/a	5.53	$4,049	$17	$274	**$3,775**	$3,543	7%
252	Retirement Community - Attached (Multi-Family)	du	3.01	Appendix A: LUC 252	2.43	2.93	Appendix A: LUC 252	100%	n/a	2.90	$2,122	$10	$161	**$1,961**	$2,018	-3%
254	Assisted Living Facility	bed	4.14	ITE 12th Edition	1.92	2.42	Same as LUC 620	72%	Appendix A: LUC 253	2.27	$1,661	$8	$129	**$1,532**	$886	73%
	LODGING:															
310	Hotel	room	5.33	Appendix A: LUC 310	4.01	4.51	Appendix A: LUC 310/320	66%	Appendix A: LUC 310	5.59	$4,093	$17	$274	**$3,819**	$3,702	3%
311	All Suites Hotel	room	4.40	ITE 12th Edition	4.01	4.51	Same as LUC 310	66%	Same as LUC 310	4.61	$3,379	$14	$226	**$3,153**	$2,974	6%
320	Motel	room	3.35	ITE 12th Edition	3.21	3.71	Appendix A: LUC 320	77%	Appendix A: LUC 320	3.28	$2,402	$10	$161	**$2,241**	$2,074	8%
	RECREATION:															
416	Campground/RV Park	site	1.04	ITE 12th Edition	3.40	3.90	Same as LUC 240	100%	Same as Residential Land Uses	1.40	$1,026	$4	$65	**$961**	$1,383	-31%
420	Marina	boat berth	2.41	ITE 11th Edition	4.35	4.85	Same as LUC 210	90%	Based on LUC 710	3.74	$2,738	$11	$177	**$2,561**	$2,376	8%
430	Golf Course	hole	30.38	ITE 12th Edition	1.66	2.16	Same as LUC 445	90%	Based on LUC 710	17.97	$13,169	$64	$1,032	**$12,137**	$11,064	10%
n/a	Bundled Golf Course	hole	9.11	Same as LUC 430 (Adjusted to 30%)[4]	1.66	2.16	Same as LUC 445	90%	Based on LUC 710	5.39	$3,949	$19	$306	**$3,643**	$3,319	10%
445	Movie Theater	1,000 sf	82.30	Appendix A: LUC 445	1.66	2.16	Appendix A: LUC 445	87%	Appendix A: LUC 445	47.07	$34,486	$167	$2,694	**$31,792**	unit change	-
n/a	Dance Studio/Gymnastics	1,000 sf	21.33	Appendix A: LUC N/A Dance Studio	2.20	2.70	Appendix A: LUC N/A Specialty Retail	80%	Appendix A: LUC N/A Specialty Retail	14.87	$10,892	$50	$806	**$10,086**	$9,325	8%
	INSTITUTIONS:															
520	Elementary School (Private)	student	2.27	ITE 12th Edition	2.18	2.68	50% of LUC 210 based on Transp. Modeling	80%	Based on LUC 710 (adjusted)[5]	1.57	$1,149	$5	$81	**$1,068**	$815	31%
522	Middle/Junior High School (Private)	student	2.09	ITE 12th Edition	2.18	2.68	50% of LUC 210 based on Transp. Modeling	80%	Based on LUC 710 (adjusted)[5]	1.44	$1,058	$5	$81	**$977**	$921	6%
525	High School (Private)	student	1.94	ITE 12th Edition	2.18	2.68	50% of LUC 210 based on Transp. Modeling	90%	Based on LUC 710	1.51	$1,104	$5	$81	**$1,023**	$983	4%

Table D-1 (continued)
Calculated Road Impact Fee Schedule

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	INSTITUTIONS:															
540/550	University/Junior College (7,500 or fewer students) (Private)	student	2.00	ITE Regression Analysis	4.35	4.85	Same as LUC 210	90%	Based on LUC 710	3.10	$2,272	$9	$145	**$2,127**	$1,973	8%
	University/Junior College (more than 7,500 students) (Private)	student	1.50	ITE Regression Analysis	4.35	4.85	Same as LUC 210	90%	Based on LUC 710	2.33	$1,704	$7	$113	**$1,591**	$1,483	7%
560	Church	1,000 sf	6.78	ITE 12th Edition	2.91	3.41	Midpoint of LUC 710 & LUC 820 (App. A)	90%	Based on LUC 710	7.03	$5,152	$22	$355	**$4,797**	unit change	-
565	Day Care Center	1,000 sf	42.89	Appendix A: LUC 565	1.50	2.00	Appendix A: LUC 565	73%	Appendix A: LUC 565	18.60	$13,627	$67	$1,081	**$12,546**	unit change	-
	MEDICAL:															
610	Hospital	1,000 sf	10.70	ITE 12th Edition	4.35	4.85	Same as LUC 210	78%	Midpoint of LUC 310 & LUC 720	14.38	$10,534	$44	$710	**$9,824**	$9,168	7%
620	Nursing Home	1,000 sf	6.75	ITE 12th Edition	1.92	2.42	Appendix A: LUC 620	89%	Appendix A: LUC 620	4.57	$3,347	$16	$258	**$3,089**	unit change	-
	OFFICE:															
710	General Office	1,000 sf	7.83	ITE 12th Edition	3.81	4.31	Appendix A: LUC 710	92%	Appendix A: LUC 710	10.87	$7,963	$33	$532	**$7,431**	$8,605	-14%
720	Medical Office/Clinic 10,000 sq ft or less	1,000 sf	23.83	Appendix A: LUC 720 Small Medical/Dental	4.11	4.61	Appendix A: LUC 720	89%	Appendix A: LUC 720	34.52	$25,291	$105	$1,694	**$23,597**	$21,955	7%
	Medical Office/Clinic greater than 10,000 sq ft	1,000 sf	33.13	Appendix A: LUC 720	4.11	4.61	Appendix A: LUC 720	89%	Appendix A: LUC 720	47.99	$35,162	$147	$2,371	**$32,791**	$31,444	4%
770	Business Park (Flex-Space)	1,000 sf	11.75	Appendix A: LUC 770	3.98	4.48	Appendix A: LUC 770	89%	Appendix A: LUC 770	16.48	$12,076	$51	$823	**$11,253**	$11,301	0%
	RETAIL:															
822	Retail 6,000 sfgla or less	1,000 sfgla	54.45	ITE 12th Edition	0.83	1.33	Appendix A: Fig. A-1 (6k sq ft)	39%	Appendix A: Fig. A-2 (6k sq ft)	6.98	$5,114	$30	$484	**$4,630**	$5,737	-19%
822	Retail 6,001 to 40,000 sfgla	1,000 sfgla	54.45	ITE 12th Edition	1.10	1.60	Appendix A: Fig. A-1 (19k sq ft)	48%	Appendix A: Fig. A-2 (19k sq ft)	11.38	$8,342	$45	$726	**$7,616**	$10,568	-28%
821	Retail 40,001 to 150,000 sfgla	1,000 sfgla	65.38	ITE 12th Edition	1.44	1.94	Appendix A: Fig. A-1 (59k sq ft)	57%	Appendix A: Fig. A-2 (59k sq ft)	21.25	$15,570	$78	$1,258	**$14,312**	$13,774	4%
820	Retail greater than 150,000 sfgla	1,000 sfgla	36.39	ITE 12th Edition	2.00	2.50	Appendix A: Fig. A-1 (459k sq ft)	74%	Appendix A: Fig. A-2 (459k sq ft)	21.33	$15,626	$73	$1,177	**$14,449**	$13,774	5%
840/841	New/Used Auto Sales	1,000 sf	24.58	Appendix A: LUC 840/841	3.40	3.90	Appendix A: LUC 840/841	79%	Appendix A: LUC 840/841	26.14	$19,156	$82	$1,323	**$17,833**	$16,622	7%
849	Tire Superstore	1,000 sf	20.37	ITE 12th Edition	1.72	2.22	Mid-Point of LUC 944 & LUC 942 (App. A)	72%	Same as LUC 942 (Appendix A)	9.99	$7,319	$35	$565	**$6,754**	unit change	-
850	Supermarket	1,000 sf	93.03	Appendix A: LUC 850	1.54	2.04	Appendix A: LUC 850	56%	Appendix A: LUC 850	31.77	$23,278	$115	$1,855	**$21,423**	$22,569	-5%
851	Convenience Market (24 hour)	1,000 sf	670.85	Appendix A: LUC 851	0.79	1.29	Appendix A: LUC 851	41%	Appendix A: LUC 851	86.05	$63,045	$382	$6,161	**$56,884**	$82,170	-31%
862	Home Improvement Superstore	1,000 sf	30.65	ITE 12th Edition	1.72	2.22	Appendix A: Fig. A-1 (140k sq ft)	65%	Appendix A: Fig. A-2 (140k sq ft)	13.57	$9,942	$48	$774	**$9,168**	$8,514	8%
880/881	Pharmacy with & without Drive-Thru	1,000 sf	103.23	Appendix A: LUC 880/881	1.54	2.04	Appendix A: LUC 880/881	32%	Appendix A: LUC 880/881	20.15	$14,760	$73	$1,177	**$13,583**	$12,618	8%
890	Furniture Store	1,000 sf	6.22	Appendix A: LUC 890	3.00	3.50	Appendix A: LUC 890	78%	Appendix A: LUC 890	5.76	$4,223	$18	$290	**$3,933**	$3,674	7%
	SERVICES:															
911	Bank/Savings w/out Drive-Thru	1,000 sf	57.02	ITE 12th Edition (Adjusted)[6]	1.82	2.32	Same as LUC 912	46%	Same as LUC 912	18.90	$13,851	$66	$1,065	**$12,786**	$12,300	4%
912	Bank/Savings w/Drive-Thru	1,000 sf	102.09	Appendix A: LUC 912	1.82	2.32	Appendix A: LUC 912	46%	Appendix A: LUC 912	33.85	$24,799	$117	$1,887	**$22,912**	$21,254	8%
930	Fast Casual Restaurant	1,000 sf	225.89	ITE 12th Edition	1.52	2.02	Same as LUC 934	58%	Same as LUC 934	78.86	$57,781	$285	$4,597	**$53,184**	$68,107	-22%
931	Low-Turnover Restaurant	1,000 sf	84.91	Appendix A: LUC 931	2.32	2.82	Appendix A: LUC 931	77%	Appendix A: LUC 931	60.07	$44,010	$199	$3,210	**$40,800**	unit change	-

Table D-1 (continued)
Calculated Road Impact Fee Schedule

ITE LUC	Land Use	Unit	Trip Rate	Trip Rate Source	Assessable Trip Length	Total Trip Length	Trip Length Source	Percent New Trips	% New Trips Source	Net VMT[1]	Total Impact Cost	Annual Gas Tax	Gas Tax Credit	Net Road Impact Fee	Current Road Impact Fee[2]	% Change
	SERVICES:															
932	High-Turnover (Sit-Down) Restaurant	1,000 sf	101.53	Appendix A: LUC 932	2.35	2.85	Appendix A: LUC 932	71%	Appendix A: LUC 932	67.08	$49,151	$221	$3,565	**$45,586**	unit change	-
934	Fast Food Restaurant w/Drive-Thru	1,000 sf	463.96	Appendix A: LUC 934	1.52	2.02	Appendix A: LUC 934	58%	Appendix A: LUC 934	161.97	$118,677	$586	$9,452	**$109,225**	$104,272	5%
934.1	Fast Food w/Drive-Thru with Two Meals	1,000 sf	409.25	Appendix A: LUC 934.1	1.62	2.12	Appendix A: LUC 934.1	59%	Appendix A: LUC 934.1	154.90	$113,493	$552	$8,903	**$104,590**	$95,762	9%
941	Quick Lube	service bay	40.00	ITE 12th Edition	1.72	2.22	Mid-Point of LUC 944 & LUC 942 (App. A)	72%	Same as LUC 942 (Appendix A)	19.62	$14,373	$69	$1,113	**$13,260**	$12,198	9%
944	Gas Station w/Convenience Market <2,000 sq ft	fuel pos.	172.01	ITE 12th Edition	0.75	1.25	Appendix A: LUC 944	23%	Appendix A: LUC 944	11.75	$8,609	$53	$855	**$7,754**	$6,910	12%
945	Gas Station w/Convenience Market 2,000 sq ft or more	fuel pos.	207.44	ITE 12th Edition (Adjusted)[7]	0.75	1.25	Appendix A: LUC 945	23%	Appendix A: LUC 945	14.17	$10,382	$64	$1,032	**$9,350**	$8,252	13%
947	Self-Service Car Wash	service bay	38.89	Appendix A: LUC 947	1.61	2.11	Appendix A: LUC 947	68%	Appendix A: LUC 947	16.86	$12,353	$60	$968	**$11,385**	$11,848	-4%
948	Automated Car Wash	1,000 sf	253.51	ITE 12th Edition	1.61	2.11	Same as LUC 947	68%	Same as LUC 947	109.91	$80,528	$392	$6,323	**$74,205**	$38,303	94%
n/a	Luxury Auto Sales	1,000 sf	16.30	Independent Studies	3.55	4.05	Independent Studies	85%	Independent Studies	19.48	$14,271	$60	$968	**$13,303**	$12,380	7%
	INDUSTRIAL:															
110	General Light Industrial	1,000 sf	3.60	ITE 12th Edition	3.98	4.48	Same as LUC 770	92%	Same as LUC 710	5.22	$3,825	$16	$258	**$3,567**	$4,584	-22%
140	Manufacturing	1,000 sf	4.27	ITE 12th Edition	3.98	4.48	Same as LUC 770	92%	Same as LUC 710	6.19	$4,536	$19	$306	**$4,230**	$3,629	17%
150	Warehousing	1,000 sf	1.48	Appendix A: LUC 150	3.98	4.48	Same as LUC 770	98%	Same as LUC 710	2.29	$1,675	$7	$113	**$1,562**	$1,599	-2%
151	Mini-Warehouse	1,000 sf	1.37	Appendix A: LUC 151	2.60	3.10	Midpoint of LUC 710 & LUC 820 (<50k sq ft)	92%	Same as LUC 710	1.30	$951	$4	$65	**$886**	$891	-1%
n/a	Mine/Commercial Excavation[9]	1,000 cy	0.01	Local Studies	10.97	11.47	Local Studies	97%	Local Studies	0.04	$28	$0	$0	**$28**	$14	100%

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
3) The ITE 12th Edition trip generation rate for PM Peak Hour of Adjacent traffic was adjusted by a factor of 10 to approximate the Daily TGR
4) The TGR for bundled golf course is estimated at 30 percent of the TGR for LUC 430
5) The percent new trips for schools was estimated at 90% based on LUC 710, but was then adjusted to 80% to provide a conservative fee rate. This adjustment reflects the nature of elementary and middle school uses where attendees are unable to drive and are typically dropped off by parents/guardians on their way to another destination
6) The ITE 12th 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
7) Due to only slight variation, the trip generation rates for LUC 945, 2,000-3,999 sq ft, 4,000-5,499 sq ft, and 5,500-10,000 sq ft were combined into a weighted average trip generation rate for a single land use tier of 2,000+ sq ft
8) The mines land use impact fee rate was calculated a TGR of 0.01 per cubic yard, a TL of 14.82 miles, and a PNT of 97% based on the 2009 Collier County Mines Trip Characteristics Study, Tindale Oliver. Fuel efficiency value estimated at 7.3 gallons per mile