# Marion County Transportation Impact Fee Administrative Manual

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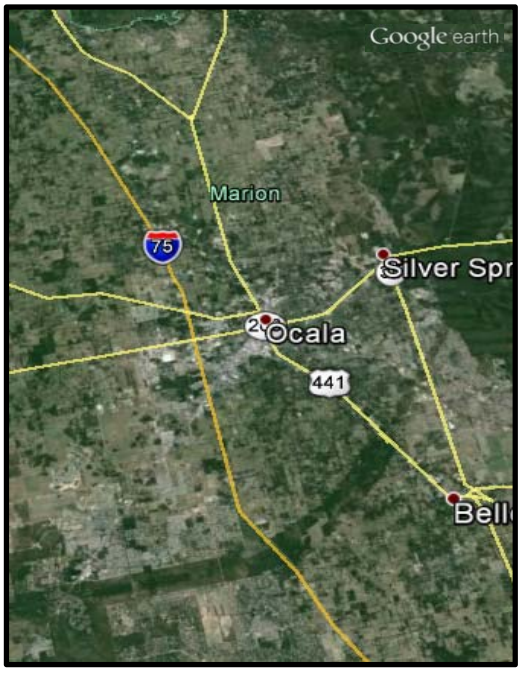

# MARION COUNTY
# TRANSPORTATION IMPACT FEE
# ADMINISTRATIVE PROCEDURES MANUAL

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# I. INTENT

The following procedures are intended to provide guidance to staff in administrating Marion County's Transportation Impact Fee Ordinance. This manual elaborates upon the administrative directions contained in the Ordinance and is intended to be used together with them. Tables and forms are provided for use in determining the amount of the impact fees for each land development activity. Terminology used herein corresponds to the definitions of words or phrases as defined in the Ordinance. In case of a difference in terminology between the Ordinance and this Manual, the language in the Ordinance will prevail.

# II. ADMINISTRATIVE ORGANIZATION AND RESPONSIBILITY

## A. Administrative Responsibility

The Director of the Marion County Growth Services Department or his designee is hereby designated by the County Administrator to carry out the general administration of the Marion County's Transportation Impact Fee Ordinance. The Director of Marion Growth Services Department or his designee is hereinafter referred to in this manual as the Impact Fee Coordinator.

Each collecting municipality shall provide for and designate an Impact Fee Coordinator in its interlocal agreement with the County to carry out the general administration of the Transportation Impact Fee Ordinance in that municipality.

## B. Marion County Impact Fee Coordinator

**1.** The Impact Fee Coordinator shall administer impact fees in the unincorporated area in the following manner:

- **a.** The Impact Fee Coordinator shall record the appropriate transportation impact fee assessment from the fee schedule on each building permit or mobile home permit application at the time of assigning a building permit application number.
- **b.** The Impact Fee Coordinator shall receive all impact fee payments, along with appropriate project identifying information, and issue receipts therefore prior to and as a condition of issuance of a Certificate of Occupancy for all development activity for which a fee is required.
- **c.** The Impact Fee Coordinator shall record all fee payments and forward them to the Finance Director, with appropriate forms, with the regular cash transmittal. Alternatively, impact fee payments may be made at the Building Safety Department in conjunction with other permitting fees.

**2.** The Impact Fee Coordinator shall assist with the administration of impact fees in the non-collecting municipalities in the following manner.

- **a.** Impact fees shall be assessed in the same manner as in the unincorporated area.
- **b.** The Impact Fee Coordinator shall receive all impact fee payments, along with appropriate project identifying information, and issue a receipt

thereof for all development activity for which a fee is required.

**c.** The Impact Fee Coordinator shall record all fee payments for development activity in non-collecting municipalities and forward them to the Finance Director, with appropriate forms, with the regular cash transmittal.

**3.** The Impact Fee Coordinator shall assist with the administration of impact fees in the collecting municipalities as provided by interlocal agreement.

**4.** The Impact Fee Coordinator and Finance Director will record all impact fee transactions, including cash transmittal information, credit activity, expenditures, and adjustments for administrative costs.

**5.** The Impact Fee Coordinator and Finance Director will prepare a Quarterly Report and will make available copies of the monthly revenue and expenditure report for each district fund. The Impact Fee Coordinator and Finance Director will prepare other reports as requested.

**6.** The Impact Fee Coordinator and Finance Director will prepare an Annual Report of collections and expenditures for each fund, including amount in each fund not expended by year and quarter initially deposited. Copies of the Annual Report shall be submitted to the County Administrator and to the Board of County Commissioners.

**7.** Upon receipt of an independent impact analysis request from a fee-payer, the Impact Fee Coordinator will:

**a.** attend pre-application meetings,

**b.** review the independent fee calculations study for sufficiency, methodology, technical accuracy, and findings, and

**c.** make recommendations concerning the amount of the impact fee as a result of this determination of sufficiency in accordance with procedures described in Section 10-322 of the Ordinance and Section V of this Manual.

**8.** The Impact Fee Coordinator will determine exemptions from, or refunds of (in the event of early payment), the transportation impact fee or recalculate the fee in the event of change of use, redevelopment, and modifications of existing use.

**9.** The Impact Fee Coordinator shall, with the assistance of the Legal Department,

Growth Services Department, and Office of the County Engineer, recommend whether a fee-payer may obtain credit against the Transportation Impact Fee for right-of-way dedication or construction of facilities, and in what amount that credit shall be.

**C. Marion County Growth Services Department**

The Marion County Growth Services Department shall assist the Impact Fee Coordinator in the following areas:

1. When the land use for which a fee is required is not present in the fee schedule, the Growth Services Department shall recommend a fee applicable to the most nearly comparable type of land use on the fee schedule.
2. The Growth Services Department will assist in the determination of "Existing Land Development Activity" for purposes of establishing credits against the impact fee for Impact Generating Land Development Activity.

**D. Marion County Building Safety Department**

The Marion County Building Safety Department shall assist the Impact Fee Coordinator as requested from time to time.

**E. Marion County Finance Director**

The Marion County Finance Director will perform the following functions related to transportation impact fees:

1. Impact Fee Ordinance Trust Fund. The Finance Director will establish and maintain a separate interest bearing Impact Fee Ordinance Trust Fund for each transportation impact fee district established in Section 10-325 of the Ordinance. Impact fee revenues that were collected and maintain in the Trust Funds that were established prior to the adoption of the revised benefit district boundaries established in the "Marion County Transportation Impact Fee Update Study," dated June 12, 2015, will be kept separately and spent in the benefit districts they were collected.

2. The Finance Director will receive impact fee payments from the Impact Fee Coordinator, shown in such a form as to identify the appropriate fee district account except for the general administrative costs pursuant to Section 10-325 of the Ordinance. Impact fees collected by collecting municipalities, pursuant to interlocal agreement as provided for in the Ordinance and this manual, shall be transmitted to the Impact Fee Coordinator by the collecting municipality, who in

turn will transmit the fees to the Finance Director in such a form as to identify the appropriate fee district, along with records of collection, and shall be promptly deposited into the proper district account.

3. The Impact Fee Coordinator and Finance Director will record all impact fee transactions, including cash transmittal information, credit activity, expenditures, and adjustments for administrative costs.

4. The Impact Fee Coordinator and Finance Director will prepare a Quarterly Report and will make available copies of the monthly revenue and expenditure report for each district fund. The Impact Fee Coordinator and Finance Director will prepare other reports as requested.

5. The Impact Fee Coordinator and Finance Director will prepare an Annual Report of collections and expenditures for each fund, including amount in each fund not expended by year and quarter initially deposited. Copies of the Annual Report shall be submitted to the County Administrator and to the Board of County Commissioners.

6. The Finance Director will disburse funds from the Impact Fee Ordinance Trust in accordance with County purchasing/payment procedures.

7. The Finance Director will establish and provide review of revenues and expenditures for capital projects funded by the Impact Fee Ordinance Trust Fund established pursuant to Section 10-325 of the Ordinance.

## F. Marion County Office of the County Engineer

The Marion County Office of the County Engineer shall assist the Impact Fee Coordinator in the following areas:

1. The Office of the County Engineer shall assist the Impact Fee Coordinator in determining whether a fee-payer may obtain credit against the transportation impact fee for right-of-way dedication or construction of facilities and in what amount that credit shall be.

2. The Office of the County Engineer, in coordination with the Finance Director, will prepare the one-year and five-year Capital Improvement Program (CIP) for

presentation to and adoption by the Board of County Commissioners. The CIP will delineate the anticipated schedule of Transportation Impact Fee expenditures.

**3.** The Office of the County Engineer shall assist the Impact Fee Coordinator in reviewing pre-application requirements and studies resulting from Independent Impact Analysis. This may include the collection of trip characteristic data on land uses where the Institute of Transportation Engineers (ITE) Trip Generation manual does not provide historical data on trip generation or pass-by capture.

# III. DETERMINATION OF IMPACT FEE

## A. General

1. At the option of the Fee-payer, the amount of the impact fee may be determined using the fee schedule attached to the Ordinance (and reproduced hereto as Appendix D).
2. An expanded list of Land Use Categories is provided in Appendix A. This list should be used to assign a specific land use to the land use types in the fee schedule.
3. If the type of development is not specified in the fee schedules or in Appendix A, the fee applicable to the most nearly comparable type of land use on the fee schedule shall be used. If it is determined that there is no comparable type of land use in the fee schedule or Appendix A, the Impact Fee Coordinator may determine the fee administratively as described in Section 10-322 of the Ordinance and according to this manual.
4. At the option of the Fee-payer, the amount of the impact fee may be determined through an independent impact fee analysis pursuant to Section 10-278 of the Ordinance and the procedures defined in Section V of this manual.

## B. Improvement Area

1. Building Area: The amount of the impact fee for non-residential development shall be based on gross floor area or as the unit amount described in the schedule of fees, with the exception of the shopping center land use, as defined in the Institute of Transportation Engineers *Trip Generation* manual reference, Land Use Code 820. Gross floor area refers to the total area of all floors of a building as measured to the outside surfaces of exterior walls and including halls, stairways, elevator shafts, porches, and balconies.
2. Other Improvement Areas: Improvement area also could include an area of non-residential and non-agricultural land use activity that is detached from the main building (i.e., gasoline pumps, car washes, drive-in theaters, covered or uncovered storage, other covered or uncovered service areas, etc.).

## C. Mixed-Use Development

If a development includes both residential and non-residential land uses, the impact fees are assessed for each use based on the fee schedules. In some cases, fee-payers may suggest that the total impact fee should be reduced to account for internal trips between

residential and non-residential land uses. There are no provisions in the transportation impact fee ordinance for such a reduction. However, the fee-payer has the option of completing an Independent Impact Analysis study in accordance with Section 10-278 of the Ordinance and this manual.

**D. Mixed-Use Structures**

In many instances, a particular structure may include auxiliary uses associated with the primary land use. For example, in addition to the actual production of goods, manufacturing facilities usually also have office, warehouse, research, and other associated functions. The impact fee generally should be assessed based on the primary land use. If the fee-payer can document that a secondary land use accounts for over 25 percent of the gross floor area of the structure, the impact fee may be assessed based on the desegregated square footage of the primary and secondary land uses. For example, the impact fee for a large warehouse that includes storage, office, and showroom may be assessed in the following manner:

1. Determine the impact fee for the showroom land use based on the square footage of a similar land use (commercial or other specialized land use).
2. Determine the impact fee for the warehouse activity based on the square footage devoted to storage.
3. Determine the impact fee for the office based on the square footage of the office.
4. Sum the desegregated fees to determine the total impact fee for the structure.

This procedure should be followed only when the fee-payer can clearly document, to the satisfaction of the County Administrator or his designee, the square footage accounted for by the primary and secondary land uses (see special instructions for shopping centers).

**E. Shell Permit or Foundation Permit**

Developers often will apply for a building permit to construct the "shell" of a building, or only the foundation of a building without knowing the final composition of land uses that will occupy the building. Interior completion permits would be issued later to finish construction of the interior of the structure. The impact fee shall be paid as Certificates of Occupancy are issued for the individual uses that occupy the building. The amount of the fee determined at issuance of the building permit should be based on the intended land use (as described by the developer). If the intended land use is not known, the impact fees shall be computed based on that land use which generates the greatest impact and is allowed under the existing zoning for the lot or parcel. If it is found during review of the application for a finishing permit that the actual land use differs from the land use assumed when building permits were issued, a determination shall be made as

to the appropriate impact fee due. If it is found during review of the application for a remodeling permit that the land use for which the remodeling is being undertaken differs from that for which impact fees have been paid, then a determination shall be made, based on the procedures for Change of Use, whether additional impact fees should be paid. If so, the additional impact fee shall be paid prior to the issuance of a new Certificate of Occupancy for the finished interior space.

**F. Change of Use**

Section 10-275 of the Ordinance establishes who should pay impact fees. In the case of a change of use, redevelopment, or modification of an existing use that requires the issuance of a building permit, the impact fee shall be based upon the net increase in the impact fee for the new use as compared to the Existing Land Development Activity. If a subsequent change in the nature of an Existing Land Development Activity, or a replacement of the Existing Land Development Activity to be permitted generates additional traffic, then the new land use shall pay impact fees only to the extent of the net increase in the impact of the new land use. The amount of the impact fee that is due as a result of the change in land use shall be paid prior to the issuance of a Certificate of Occupancy for construction or remodeling. If the change of land use does not require the issuance of a building permit or site plan approval, then there shall be no requirement to pay an impact fee. The Growth Services Department shall calculate the impact fee due to a change in use. Under no circumstances will a refund of the impact fee be granted for change of use. Where portable buildings utilized for education have paid an impact fee at one site and such buildings are relocated to another site, no additional impact fees will be required for such relocation.

**G. De Minimus Impact**

No impact fee payment will be required for any modification of an existing use when such modification is considered a de minimis impact. A de minimis impact is defined as any modification that does not exceed 5 percent of the existing structure or 500 square feet, whichever is less. Further, the addition of a room to a residential structure that does not create an additional dwelling unit also is considered a de minimus impact and no impact fee will be required for such modification. In order for additions to single family homes to not be considered an additional dwelling unit, the addition must be attached to the existing structure by habitable space. Except for residential additions meeting the above criteria, only one de minimus modification may be allowed per calendar year per parcel.

**H. Auxiliary Uses**

No fee shall be assessed for auxiliary land uses, such as a clubhouse or tennis court in an apartment complex, unless it can be clearly established by the Growth Services Department that the land use serves as an individual attraction.

**I. House Moves and Mobile Home Moves**

The payment of impact fees run with the land. Thus, impact fees shall be assessed for the relocation of houses and mobile homes to new locations, provided the new location does not have a credit for an Existing Land Development Activity.

**J. Shopping Centers**

Shopping Centers shall be assessed by the gross floor area of all buildings covered under a building permit. If future buildings are constructed, the fee will be assessed at that time. If the gross floor area of a future building combined with the total gross floor area of the existing buildings exceeds the land use threshold, the fee will be assessed accordingly.

**K. Model Homes**

Model homes on single family lots should be finished (completed). The impact fee must be paid before a Certificate of Occupancy is issued and temporary or permanent power is released. Model homes on commercial lots shall pay at the same rate as the commercial land use category on the fee schedule. Single-family model homes placed on multi-family lots shall pay the single family rate. Multi-family models shall pay the multi-family rate.

**L. Churches**

Churches fit into two general categories: (1) Churches with active weekday school programs and (2) Churches without such programs. Churches with schools are treated as mixed-use developments and churches without schools should be charged in accordance with the church use rate in the fee schedule.

**M. Replacement of Pre-Existing Buildings**

A replacement building will be allowed without payment of an impact fee if the existing building meets the definition of an "Existing Land Development Activity" in Section 10-273 of the Ordinance and is torn down, destroyed by fire or other natural disaster, or otherwise eliminated or moved off the site, or if the original structure is converted to a utility building, garage, or non-residential/non-commercial use, then the replacement unit is exempted from impact fees. In the latter case, the permit applicant shall document such a conversion.

# IV. DEVELOPER CREDITS

The purpose of this section is to provide applicants guidelines, consistent with the ordinance, for pursuing a credit for the conveyance of right of way or construction of Off-Site Road Improvements to the Major Road Network System. Such contributions and credits will be made according to Section 10-323 of the Ordinance.

## A. Transportation Impact Fee Contributions and Credits

**1.** Right of Way and Off-Site Road Improvements to the Major Road Network System must be in the five-year County Transportation Improvement Program (TIP) or any municipal five year CIP unless the Board approves such contribution or credit by supermajority vote.

**2.** Right of Way and Off-Site Road Improvements in the adopted MPO Long Range Transportation Plan may be approved for inclusion in a credit agreement by supermajority vote of the Board.

**3.** The method of conveyance of right-of-way, easements, or Off-Site Road Improvements must be in a form acceptable to the Marion County Attorney.

**4.** A Development Order that requires the developer to contribute land or a public facility or construct part or all of a public facility that is consistent with 1 and 2 above, may enter into an impact fee credit agreement that credits a development order exaction or fee toward an impact fee or exaction for the same need.

**5.** The construction of part or all of a public facility with an estimated cost greater than $2,000,000 must be competitively bid unless waived by the Board.

**6.** The developer shall contact the Impact Fee Coordinator if the credit involves an improvement in a municipality. Further, the developer must provide all traffic studies to the County for review and the County is to participate with the City during negotiation of the development order to be submitted to the Board for approval.

**7.** The applicant for a credit or contribution shall submit a proposed plan for the contribution of land or construction of Off Site Improvements to the Major Road

Network to the County Administrator for review and approval. If the plan does not meet the credit or contribution requirements, or the credit requires a supermajority vote of the Board, the County Administrator will notify the applicant in writing. The applicant may request the Board to add the improvement to the TIP during its annual update or approve the improvement by supermajority vote. If the improvement is added to the proposed plan or approved by supermajority vote, the applicant may resubmit the plan to the County Administrator. The proposed plan shall include:

- **a.** A designation and legal description of the Impact Fee Generating Land Development Activity for which the plan is being submitted;
- **b.** A list of completed Off-Site Road Improvements;
- **c.** A legal description and written appraisal in conformity with Section 10-323 of the Ordinance;
- **d.** An estimate of proposed construction cost certified by a registered professional engineer or architect; and
- **e.** A time schedule for the completion of the proposed plan of construction, dedication, or donation.

Once the submitted plan is determined complete, the applicant shall be notified of the date and time the plan will be presented to the Board.

**8.** Once the Board approves the plan, the applicant will be required to pay a non-refundable fee of $2,500 and the County Attorney will begin the preparation of an Impact Fee Credit Agreement. As prescribed in Section 10-323 of the Ordinance, the Impact Fee Credit Agreement will include at least the following information.

- **a.** Confirmation, through an attorney if requested to do so, that the owner of the property is the sole owner of the property;
- **b.** A statement that the credit or contributions are consistent with the Comprehensive Plan;
- **c.** A legal description of the Impact Fee Generating Land Development Activity;
- **d.** The duration of the agreement shall be up to 5 years unless a longer period, up to 20 years, is approved by the Board;
- **e.** Agreement that credits applied under an impact fee credit agreement may be transferred within the applicable impact fee district;
- **f.** A description of the construction and contributions to the Major Road Network System;

**g.** Acknowledgment that the construction and contributions of work done and property rights obtained by the County are for the development of improvements within the right of way boundaries;

**h.** Adoption of the approved schedule for the completion of the project;

**i.** Determination of the amount of credit to be allowed;

**j.** Agreement by the applicant to keep and maintain adequate records to document the right of way conveyed or the construction completed for a period of five years after termination or completion of this agreement;

**k.** Acknowledgement that impact fee credits run with the land and that a ledger sheet will be maintained that shows the impact fee credit balance;

**l.** Compliance with the Risk Management Department's insurance requirements;

**m.** Annual audit and review of compliance with impact fee credit agreement with report to the Board. The Board then will determine whether the Applicant is still in compliance with the impact fee credit agreement;

**n.** Statement as to how the impact fee credit agreement can be modified;

**o.** Recording of the Impact Fee Credit Agreement in the Official Records of Marion County within 14 days after the agreement is approved by the Board; and

**p.** Acknowledgement that the County establishes a time frame for when the credit becomes available for use by the applicant.

**9.** Land required to be dedicated to the County as a condition of development approval must be approved prior to the time at which the impact fees are required to be paid.

**10.** All Impact Fee Credit Agreements will require Board of County Commissioners approval.

# V. INDEPENDENT IMPACT FEE ANALYSIS GUIDELINES

The intent of this section is to provide applicants with guidelines for pursuing the option of an independent calculation of the transportation impact fee for a particular project, an option provided for in the Marion County Impact Fee Ordinance. This document contains the requirements, procedures, and methodology for preparation, performance and submission of an Independent Impact Fee Analysis.

## A. Purpose of the Independent Impact Fee Analysis Study

The purpose of the Independent Impact Fee Analysis Study is to:

1. Identify the potential impact of new development on Marion County's transportation system.

2. Provide information that will form the basis of an individual fee assessment to be made by the County.

## B. Pre-Application Conference

An applicant contemplating submitting an Independent Impact Fee Analysis Study must schedule a meeting with the Impact Fee Coordinator before proceeding with the study. At this meeting the County staff will cover the basic requirements of such a study and review the applicant's proposed approach to the study. The pre-application conference normally will cover the following topics:

1. Proposed previous studies:
   If the applicant proposes relying on the results of any previous studies, such as studies originally submitted as part of the zoning approval process, he should provide a copy of the other report(s). The County will review the previous studies for sufficiency and applicability to the proposed new development.

2. Credits:
   If an applicant proposes reducing his impact fee through use of a prior credit, this issue shall be reviewed at the pre-application conference.

3. Proposed study sites and study duration:
   The applicant will identify a minimum of three comparable sites to be studied. The site description should include the specific location, the character of the location (CBD, urban, suburban, or rural), and the land use(s) at the location.

The applicant should include an explanation of why the proposed sites are similar to the proposed new development. The explanation should address pertinent characteristics, such as land use, adjacent area, and demographics.

The applicant should include a map showing the location of the proposed new development and the proposed study sites.

The County staff will review the proposed study sites for applicability to the proposed new development.

**4.** Proposed data elements:

The County staff will review the proposed data items to be studied. These would normally be data items to permit determination of all of the following elements of the impact fee formula:

**a.** Trip generation rate

The trip generation rate is determined by machine counts. The applicant should provide documentation depicting the proposed machine counter sites and locations within the site. The County staff will review the proposed sites for suitability of equipment, hose/loop detector configurations, and the dates of counting. The County staff will specify the level of detail to be included in the study report.

**b.** Trip length and percent new trips

These two data items are determined by an origin/destination survey, consisting of motorist interviews. The County staff will review the proposed location of interviewers, interview forms, and dates and times of day for conducting interviews.

The applicant should identify any portions of trips to be excluded from trip lengths, such as travel on the local interstate and/or toll road systems.

**c.** Other data items

The County staff will specify any other data items the applicant will be required to collect for the proposed study.

**5.** Proposed data collection methodology

The County staff will review the applicant's proposed methodology for analyzing the data collected in the study.

**6.** Report format

The County staff will discuss the required format for submitting the study report. This format should be in general conformance with the format identified in Subsection C of these guidelines, below.

Subsequent to this meeting, the applicant should submit three copies of the proposed approach to the study to the Marion Impact Fee Coordinator.

The County staff shall respond in writing to the proposed approach within five days of receiving it. If County staff concurs with the proposed approach, the applicant will be notified to proceed with the study. If County staff disagrees with the proposed approach, County staff will identify the problem area(s) for the applicant. The applicant should receive concurrence from County staff before proceeding with the study.

## C. Contents and Format of the Study Report

The applicant should compile the study findings into a report structured as follows:

- Table of Contents
- Letter of transmittal
- Findings of the report
    - Trip generation rate
    - Trip length and percent new trips
- Impact fee calculations
- Appendices, as required
    - Trip generation rate summary
    - Trip length worksheet
    - Percent new trips worksheet
    - Trip generation data
    - Interview forms

## D. Collecting Trip Generation Data

The applicant will be required to place the machine counters at project driveways, for a minimum of seven consecutive days of 24-hour machine counting, on days representative of typical traffic patterns at that site (not during a holiday, for example), unless a fewer number of days is recommended by the Engineering and Planning Departments.

The data to be collected includes:

- Dates and times of counts;
- A summary of counts by 15-minute increments (entering, exiting, and total);
- Average daily volume, and
- Volume during the a.m. and p.m. peak hours of the adjacent street.

The applicant must verify the correct operation of the machine counters by manually observing their proper data recording for at least 15 minutes on at least 3 occasions. Two of the three occasions can be verifications performed at the start and finish of the counting period. This manual verification must be documented in the study report.
The applicant will include the machine count data in the study report. All data are subject to review and acceptance by County staff, based on currently accepted traffic engineering practice. County staff may visit the study site to observe the placement and operation of the machine counters.

If the applicant is unable to obtain machine counts according to the above requirements, he may repeat the entire count or may elect to submit an explanation in writing to the County staff. The County staff will review the explanation and then may accept the data as is, approve a partial recount, or require an entire recount. The County staff will provide this response verbally within 5 days and in writing within 10 days.

**E. <u>Collecting Trip Length and Percent New Trips Data</u>**

The origin/destination survey will collect the following information:

- Date of the interview
- Location of the interview;
- Name of the interviewer;
- Time of day of the interview;
- Origin of the interviewee's trip;
- Destination of the interviewee's trip, or
- Trip purpose.

The place of origin or destination should be identified as accurately as possible. The origin and destination should be determined with one of the following methods:

- The specific name of the place (mall, town, bank, supermarket, subdivision, school, etc.);
- The address of the place;

- The intersection nearest to the place; and
- The major intersection nearest to the place.

The most preferred method to the least preferred method is indicated by the order listed above.

The applicant will find it helpful for interviewers to have a good prior knowledge of the places and major intersections in the community that are most likely to be named by interviewees so that the interviewers can quickly recognize and record these responses when interviewees give them, or solicit further detail in the response. In some cases, places named by interviewees will not be able to be pinpointed later when the interview forms are tabulated, disqualifying those interviews as observations. For that reason it is prudent for the applicant to conduct a quantity of interviews well in excess of the minimum required sample size.

The applicant will use an interview form to record the interview responses. An acceptable format for this form is shown in Appendix B of this Manual. This suggested form has fields to record all of the data items specified previously, as well as fields for the trip length tabulated later, and fields for quality control. The applicant should include copies of the completed interview forms in the study report.

It is not acceptable to collect trip length as estimated and reported by the interviewee. The proper method to determine the length of a trip is to use a computer mapping program or scaled map to measure the shortest route between the site and the reported places of origin and destination, or to measure the distance directly using a vehicle odometer.

Acceptable procedures to determine whether a trip is classified as Primary, Secondary, Diverted, or Captured, and to compute the assessable trip length are described in the paper, *Measuring Travel Characteristics for Transportation Impact Fees,* by W.E. Oliver, (ITE Journal, April 1991), provided in Appendix C of this manual.

The applicant also should include in the study report:

- The number of observations (useable interview responses);
- The mean trip length, rounded off to 0.1 mile; and
- The percent new trips.

**F. Number of Interviews to Conduct**

In determining a reasonable estimate of the trip length and percent new trips, the applicant will perform surveys at each of the 3 sites for a minimum of 10 hours per site. The specific time period to be covered will be governed by the type of land use being surveyed and its typical daily operations. A minimum of 50 valid observations must be obtained at each site. An observation shall be considered valid if its origin and destination are specific enough from which the trip length and type of trip can be determined. The specific required number of valid surveys is the number of surveys required to meet a 90 percent level of confidence at a plus/minus 15 percent level of accuracy, or at least a total of 150 usable surveys for the study land use.

The number of required surveys can be determined by:

$$N = \frac{C^2 \times Z^2}{E^2}$$

Where: N = Is the required sample size for the specific level of confidence at the desired accuracy level;

C = Is the coefficient of variation as calculated by dividing the sample mean hours per trip into the standard deviation of the sample hours per trip;

Z = Is the normal distribution value statistic at the specific level of confidence; and

E = Is the specific margin of error or level of accuracy.

The above formula is based on a methodology developed by Michael E. Smith in *Design of Small-Sample Home Interview Travel Surveys*, Transportation Research Board 701, 1979.

**G. Calculation of the Alternative Impact Fee**

The applicant will use the information derived from the traffic study to calculate the revised impact fee. The applicant should fill out the Independent Impact Fee Worksheet and include it in the study report. The percent discount in effect at the time the permit is submitted shall be used when calculating the alternate impact fee.

## H. Submitting the Study Report

The applicant should deliver three copies of the study report to the Impact Fee Coordinator. This study must be sealed by a Professional Engineer registered in the United States.

## I. County Review of the Study Report

If the study is deemed insufficient to warrant further review, the Impact Fee Coordinator will request the applicant to provide further information. This request will be provided in writing within one week.

If the study report is deemed sufficient, County staff will make a determination of agreement or disagreement with the accuracy and findings and notify the applicant in writing within 30 working days.

# VI. REVIEW OF GROWTH RATE

As part of the technical study, the methodology incorporated a discount tool based on projected growth rate of Marion County. At the time of the study, this rate was estimated at 1.4 percent annually. The County's Impact Fee Coordinator and Growth Services Department should review the growth rate and impact fee revenue loss due to discounts annually to ensure level of service standards are being met. As a guideline, if the County reaches to a level where approximately 1,500 residential permits are being issued annually, it may be necessary to adjust impact fee levels or obtain additional funding to ensure level of service standards are met.

# APPENDIX A
# Expanded Land Use Category Listing

**Impact Fee Land Use Cross Reference Table**

| MAJOR IMPACT FEE CATEGORY | ITE LAND USE CODE | IMPACT FEE LAND USE | UNIT OF MEASURE | EXPANDED LIST OF LAND USES |
|---|---|---|---|---|
| **Residential** | 210 | Single Family (Detached) | Dwelling Unit | 1. Single family detached dwelling on individual lot<br>2. Single family mobile home on individual lot<br>3. Single family manufactured dwelling on individual lot |
| | 220 | Multi-Family (Apartment)<br>(1-2 stories) | Dwelling Unit | 1. Apartment (1 or 2 stories)<br>2. Duplex<br>3. Triplex<br>4. Quadplex<br>5. Multi-Family dwelling |
| | 222/223 | Multi-Family (Apartment)<br>(3+ stories) | Dwelling Unit | 1. High-Rise apartment (3 or more stories) |
| | 230 | Residential Condominium/Townhouse | Dwelling Unit | 1. Condominium - attached<br>2. Townhouse - attached |
| | 240 | Mobile Home Park | Dwelling Unit | 1. Mobile homes in a mobile home park<br>2. Recreational vehicle sites in an RV park |
| | 252 | Senior Adult Housing - Attached | Dwelling Unit | 1. Age-Restricted single family<br>2. Age-Restricted multi-family<br>3. Congregate care facility |
| | 254 | Assisted Living Facility (ALF) | bed | 1. Assisted care living facility |
| **Lodging** | 310 | A. Hotel | Room | 1. Hotel<br>2. All suites hotel<br>3. Resort hotel<br>4. Business hotel |
| | 320 | B. Motel | Room | 1. Motel<br>2. Bed and breakfast<br>3. Condotels<br>4. Tourist homes |
| **Recreation** | 412 | A. General Recreation/County Park | Acre | 1. Park and recreational facilities<br>2. Amphitheater<br>3. Amusement park<br>4. Drive-in theater<br>5. Go cart and other recreational vehicle parks<br>6. Sports and recreational camps<br>7. Sports parks, including batting cages, trampolines and similar sports facilities outdoors<br>8. Miniature golf establishment<br>9. Swimming pools outdoor<br>10. Tennis, handball and racquetball facilities outdoor<br>11. Water slides and wave pools |
| | 430 | B. Golf Course | Hole | 1. Executive golf course<br>2. Golf driving range<br>3. Par- 60 golf course<br>4. Regulation golf course<br>5. Sports and recreational camps |
| | 444 | C. Movie Theater | Screen | 1. Movie theater with matinee<br>2. Movie theater without matinee |
| | 492 | C. Racquet Club/Health Spa | 1,000 sf | 1. Racquetball, tennis, and handball facilities - indoors<br>2. Health spas, swimming pools - indoors<br>3. Physical fitness facilities<br>4. Game arcades<br>5. Pool and billiard establishment<br>6. Skating rink- indoor<br>7. Swimming pool - indoor<br>8. Theaters-indoor (civic theaters)<br>9. Water slides and wave pools - indoor<br>10. Children's dancing schools<br>11. Dance hall operation<br>12. Dancing halls or dancing academies<br>13. Professional dancing schools |
| **Institutional** | 520 | A. Elementary School (Private) | Student | 1. Elementary school<br>2. Academy / preparatory<br>3. Boarding school<br>4. Military academy<br>5. Parochial school / seminaries<br>6. Schools for the physically handicapped |
| | 522 | B. Middle School (Private) | Student | 1. Middle school<br>2. Academy / preparatory<br>3. Boarding school<br>4. Military academy<br>5. Parochial school / seminaries<br>6. Schools for the physically handicapped |
| | 530 | C. High School (Private) | Student | 1. High school<br>2. Academy / preparatory<br>3. Boarding school<br>4. Military academy<br>5. Parochial school / seminaries<br>6. Schools for the physically handicapped<br>7. Vocational |
| | 540/550 | D. University/Junior College (Private) | Student | 1. University junior/community college (7,500 students or fewer)<br>2. University junior/community college (more than 7,500 students)<br>3. School, college<br>4. Professional schools: e.g., dental, engineering, law, medical<br>5. Seminary |
| | 560 | E. Church | 1,000 sf | 1. Church<br>2. Synagogue<br>3. Other houses of worship |
| | 565 | F. Day Care | 1,000 sf | 1. Daycare center<br>2. Nursery schools<br>3. Preschool centers<br>4. Church daycare<br>5. School daycare |
| | 590 | G. Library | 1,000 sf | 1. Public or private library facilities |
| | 610 | H. Hospital | 1,000 sf | 1. Hospital |
| | 620 | I. Nursing Home | Bed | 1. Nursing home<br>2. Convalescent home with continuous nursing care<br>3. Rest home for the aged<br>4. Transient housing for the homeless |
| | 640 | J. Animal Hospital/Veterinary Clinic | 1,000 sf | 1. Animal services |
| **Office** | 710 | A. Office | 1,000 sf | 1. General office building<br>2. Professional offices including:<br>a. Attorneys<br>b. Accountants<br>c. Corporate offices<br>d. Engineering<br>e. Financial institutions, except banks, credit unions and savings and loans<br>f. Real estate |

| MAJOR IMPACT FEE CATEGORY | ITE LAND USE CODE | IMPACT FEE LAND USE | UNIT OF MEASURE | EXPANDED LIST OF LAND USES |
|---|---|---|---|---|
| | 720 | B. Medical Office/Clinic | 1,000 sf | 1. Medical office/clinic - general<br>2. Convalescent home with continuous nursing care<br>3. Office and clinic of dentistry<br>4. Office and clinic of osteopathy<br>5. Office and clinic of chiropractory<br>6. Office and clinic of optometry<br>7. Office and clinic of occupational therapy<br>8. Office of chiropody<br>9. Office of osteopathic physicians<br>10. Office of occupational therapy<br>11. Office of physiotherapy<br>12. Office of psychiatry<br>13. Office of psychoanalogy<br>14. Office of psychology<br>15. Office of psychotherapy<br>16. Outpatient clinics<br>17. Physicians/surgeons<br>18. Office of podiatry<br>19. Dieticians office<br>20. Christian science practitioner<br>21. Naturopaths<br>22. Nurses |
| | 770 | C. Business Park | 1,000 sf | 1. Business park<br>2. Multi-Tenet incubator site |
| **Retail** | 820 | A. Retail<br>Shopping Center (Office/Retail) | 1,000 sf Gross Leasable Area | 1. Bakery stores - retail only; baking permitted on premises<br>2. Bicycle stores and repair shops - all repairs, storage, and displays to be done<br>3. Dry cleaning<br>4. Dressed poultry and seafood stores - retail sales to be done inside of building<br>5. Department store<br>6. Pet shops<br>7. Freestanding retail<br>8. Community/neighborhood shopping center with an anchor store such as Publix, Walmart, etc.<br>9. Secondhand stores - all sales and displays to be done inside of building<br>10. Clothing/apparel/fabric store<br>11. Pawn shops<br>12. Music, radio, and television stores and repair shops<br>13. Discount store<br>14. Regional shopping mall<br>15. Hardware/paint store<br>16. Jewelry store<br>17. Barber shop<br>18. Beauty shop<br>19. Shoe repair shop<br>20. Dry cleaners<br>21. Automotive parts<br>22. Liquor stores<br>23. Strip mall<br>24. Card room |
| | 841 | B. New/Used Auto Sales | 1,000 sf | 1. New/used auto sales<br>2. Automobile show and sales rooms, including display of automobiles<br>3. Automobile and trailer sales - used and immediately drivable<br>4. Motorcycle sales and repairs<br>5. ATV, golf carts, or motorhome sales<br>6. Boat sales lot |
| | 850 | C. Supermarket | 1,000 sf | 1. Supermarket |
| | 853 | D. Convenience Market w/Gasoline | 1,000 sf | 1. Convenience store<br>2. Convenience store with gas pumps<br>3. Convenience store without gas pumps/fast food |
| | 862 | E. Home Improvement Superstore | 1,000 sf | 1. Home improvement superstore |
| | 880/881 | F. Pharmacy/Drug Store | 1,000 sf | 1. Without drive-thru<br>2. With drive-thru |
| | 890 | G. Furniture Store | 1,000 sf | 1. Furniture store<br>2. Miscellaneous home furnishing store<br>3. Carpet and floor covering store<br>4. Antiques store |
| | 911 | H. Bank/Savings Walk-In | 1,000 sf | 1. Walk-In bank<br>2. Commercial banks<br>3. Credit unions |
| | 912 | I. Bank/Savings Drive-In | 1,000 sf | 1. Drive-In bank<br>2. Commercial banks<br>3. Credit unions |
| | 931 | J. Restaurant | 1,000 sf | 1. Sit down restaurant, food served at table (turnover greater than an hour)<br>2. Sandwich shop<br>3. Cafeteria<br>4. Bar<br>5. Tavern<br>6. Bottle club<br>7. Cocktail lounge<br>8. Night club<br>9. Chain restaurants (Chili's, Longhorn's, Outback, Bennigan's, etc.) |
| | n/a | K. Small Local Restaurant | 1,000 sf | 1. "Mom and Pop" restaurant<br>2. Local restaurant not affiliated with a "chain restaurant"; maximum 10,000 sq ft |
| | 941 | L. Quick Lube | Service Bay | 1. Quick lubrication vehicle shop<br>2. Oil change and minor repair |
| | 942 | M. Automobile Care Center | 1,000 sf | 1. Auto repair<br>2. Auto body/paint shop<br>3. Automobile washing, body, and painting - including steam cleaning in enclosed buildings only<br>4. Automobile parts - new or secondhand, from enclosed buildings only<br>5. Stereo installation, upholstery, vehicle assembly of aftermarket items<br>6. Garage or mechanical service - all work to be done inside of building |
| | 944 | N. Gas/Service Station | Fuel Position | 1. Full service<br>2. Gas only station |
| | 947 | O. Car Wash | Service Bay | 1. Self-service car wash<br>2. Automated car wash |
| **Industrial** | 110 | A. General Light Industrial | 1,000 sf | 1. General light industrial<br>2. Assembly plants<br>3. Food processor and packing plant<br>4. Laundry/cleaning plant<br>5. Printing shops and publishing plants (newspapers, periodicals and books)<br>6. Sign painting shops - all work to be done inside of building<br>7. Material testing laboratories<br>8. Towers and related equipment storage<br>9. Signs and advertising displays<br>10. Power stations<br>11. Data processing equipment assemblers<br>12. Cabinet and carpentry shops - all storage and work to be done inside of a building<br>13. Exterminating products - where the materials or ingredients are stored and mixed<br>14. Pottery and statues - designed for yard ornaments, retail sales only |

| MAJOR IMPACT FEE CATEGORY | ITE LAND USE CODE | IMPACT FEE LAND USE | UNIT OF MEASURE | EXPANDED LIST OF LAND USES |
|---|---|---|---|---|
| | 140 | B. Manufacturing | 1,000 sf | 1. Manufacturing<br>2. Refining or mixing of petroleum or its products such as asphalt<br>3. Lumber yards<br>4. Rubber or gutta-percha manufacturing or treatment<br>5. Smelting of aluminum, tin, copper, zinc, or iron ores<br>6. Paper or pulp manufacturing<br>7. Refining or mixing of petroleum or its products such as asphalt<br>8. Fertilizer manufacturing<br>10. Heavy industrial<br>11. Glue, size, or gelatin manufacturing |
| | 150 | C. Warehousing | 1,000 sf | 1. Storage warehouse<br>2. Motor freight transportation centers<br>3. Distribution center<br>4. Warehousing and general storage - including sales and office |
| | 151 | D. Mini-Warehouse | 1,000 sf | 1. Mini-Warehouse<br>2. Self-Storage<br>3. Airplane hangars |
| | 152 | E. High-Cube Warehouse | 1,000 sf | 1. High-Cube warehouse |

# APPENDIX B
# Sample Forms

**Marion County, FL**

**Trip Characteristics Study**

**Date:** _____ **Interviewer:** _____

**Site Location:** _____

**Weather: AM**_____ **Noon:**_____ **PM:**_____

**Comments:**_____

**Residential Form (Inbound and Outbound)**

| (1) | (2) | (2) | (3) | (4) |
|---|---|---|---|---|
| **Time** | **(I) Inbound** | **What is the name of the business you just came from before coming here?** | **Did you stop anywhere between here and where you said you came from?** | **What is the address or nearest intersection (major and minor street) of this location?** |
| | **(O) Outbound** | **What is the name of the business you are going to after leaving here?** | **Do you plan to stop anywhere between here and where you said you are going?** | **What is the address or nearest intersection (major and minor street) of this location?** |
| *Enter the current time* | *Circle "I" or "O" to indicate if interviewee is inbound or outbound* | *Enter the name of the business where the interviewee just came from or is going. If a residence, write "residence" below.* | *Verify that the interviewee did not/is not going to stop at any other locations. If yes, then input that location under (2).* | *Enter nearest intersection of the major and minor street where the interviewee confirmed they just came from or plan to go next.* |
| | **I** | | **(No Input Necessary In This Column)** | |
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**QC Review:**_____ **Date:**_____ **Data Entry By:**_____ **Date:**_____

**Comments:** _____

**Tally Unusable Surveys Here:**

**Marion County, FL**

**Trip Characteristics Study**

**Date:** _____ **Interviewer:** _____

**Site Location:** _____

**Weather: AM**_____ **Noon:**_____ **PM:**_____ **Comments:**_____

**Nonresidential Form - ONLY INTERVIEW PATRONS EXITING THE FACILITY**

| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|
| **Time** | **What is the name of the business you just came from before coming here?** | **Did you stop anywhere between here and where you said you came from?** | **What is the address or nearest intersection (major and minor street) of this location?** | **What is the name of the business you are going to after leaving here?** | **Do you plan to stop anywhere between here and where you said you are going?** | **What is the address or nearest intersection (major and minor street) of this location?** |
| *Enter the current time* | *Enter the name of the business where the interviewee just came from. If a residence, write "residence" below.* | *Verify that the interviewee did not stop at any other locations. If yes, then input that location under (2).* | *Enter nearest intersection of the major and minor street where the interviewee confirmed they just came from.* | *Enter the name of the business where the interviewee is going next. If a residence, write "residence" below.* | *Verify that the interviewee is not going to stop at any other locations. If yes, then input that location under (2).* | *Enter nearest intersection of the major and minor street where the interviewee confirmed they plan to go next.* |
| | | **(No Input Necessary In This Column)** | | | **(No Input Necessary In This Column)** | |
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**QC Review:**_____ **Date:**_____ **Data Entry By:**_____ **Date:**_____

**Comments:** _____

**Tally Unusable Surveys Here:**

**Cut-Thru:** **Did Not Survey:** **Ambiguous:** **Other:**

# APPENDIX C
# “Measuring Travel Characteristics for Transportation Impact Fees”

# Measuring Travel Characteristics for Transportation Impact Fees

BY WILLIAM E. OLIVER

Many government agencies in Florida have adopted transportation impact fees as a means of assessing the additional demands for road capacity imposed by new developments. The magnitude of these fees is related to the amount of new travel added to the road system as a result of the development. For example, a development that adds 10 vehicle-miles of new travel would be expected to pay more in impact fees than a development that adds only 5 vehicle-miles of new travel.

The general equation used to compute the transportation impact fee for a given land use is

$$\text{Demand} \times \text{Cost} - \text{Credits} = \text{Fees}$$

The travel demand placed on the transportation system is usually expressed in units of new lane-miles of roadway consumed or new vehicle-miles of travel generated. The cost is usually expressed in units of dollars per lane-mile of roadway or dollars per vehicle-mile of travel. The credits are based on an estimate of the revenues generated by the development that will be allocated to roadway construction or transportation system capacity expansion.

A primary consideration in establishing impact fee rates is that the fees be appropriate and equitable. This means that the fee for a given land use should not be higher than the cost to replace the road system capacity it consumes and that developments consuming similar amounts of the road system should be charged similar fees. For these reasons, it is important to develop standardized and conservative procedures for measuring travel characteristics of land uses.

The amount of new travel is estimated by multiplying three variables: the trip-end generation, the assessable trip length, and the percentage of new trips added to the road system by the development. Although there are standard procedures[1] to estimate the trip-end generation for a site, no standard terminology or procedure has been established for measuring the assessable trip length or the percentage of new trips to a site. The purpose of this article is to suggest standard procedures for measuring these travel characteristics for use in the demand and credit components of an impact-fee equation. In addition, this article introduces important concepts regarding the definition of "captured" trips in an impact fee context, which differs from the definition typically encountered in a traffic-impact-analysis context, and considerations for allocating responsibility for diverted trips.

## Assessable Trip Length

The trip length used to compute an impact fee (the assessable trip length) is the amount of new travel that a development adds to the arterial and collector road system, for which payment should be made. Typically, the portion of the trip on local streets is excluded from the assessable trip length because governments in Florida usually do not build local streets using their transportation funds. This job is usually left to the developer of a subdivision. Thus, the procedures to measure assessable trip lengths should exclude travel on local streets. In addition, the portion of trips using the interstate or toll-road system is frequently excluded because local agencies typically do not use their impact-fee revenues to expand the interstate highway or toll-road systems. The proportion of interstate and toll-road travel is highly dependent on the proximity of a site to these facilities and the presence of such facilities in the community. Interstate and toll-road mileage is usually discounted from the assessable trip length by applying a community-wide estimated interstate and toll-road mileage-reduction factor prior to computing the fee.

Motorist interviews are conducted to collect data on trip length. An example of a typical interview form is shown in Figure 1. The purpose of the questions is to ascertain the type of trip, as well as the trip length. The form includes optional questions regarding length of stay and nature of the visit. For some land uses, these questions can be helpful in establishing normal and unusual site-visit patterns and in categorizing trips. From each interview, information relative to two trip-ends is obtained—the inbound trip-end and the outbound trip-end. Using the survey information, trips

Date:_____ Interviewer:_____

Interview Site:_____ Weather:_____

Address:_____

| Time | (1) Trip Purpose | (2) Origin | (3) Intersection nearest origin? | (4) Length of Stay (min.) | (5) Next Destination | (6) Intersection nearest next destination? |
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1=Home
2=Work
3=Retail
4=Other

**Figure 1. Example of a typical survey form.**

were classified into one of four groups: primary, captured, diverted, or secondary.

Primary trips are trips made from the origin (home, place of work, etc.) to the survey site and then back to the origin. The length of a primary trip is measured along the shortest reasonable route between the trip origin and the survey site, as illustrated in Figure 2. The length of the trip is recorded twice, once for the trip to the site and again for the return trip. An important feature of the trip-length measurement technique is that in an ideal grid street network, regardless of the route chosen within a rectangle defined by the trip origin and the destination, the trip length is the same. This feature is important because it relates to the definitions of captured, diverted, and secondary trips that follow.

Captured trips in an impact-fee context are different from those encountered in a traffic-impact-analysis context. In an impact-fee context, a captured trip is a trip that adds no travel to the road network. A captured trip occurs if the survey site is an intermediate stop located within the ideal grid street rectangle defined by the primary trip origin and destination (see Figure 3). The intermediate stop at the survey site may cause the route selected for travel to be different than if no intermediate stop were planned, but no additional travel is introduced as a result. The captured trip is identified by locating the trip origin and next destination and determining if the site is within the rectangle. No travel distance is allocated to the site for a captured trip. The percentage of new trips used in the demand component of the impact-fee equation is simply one minus the percentage of captured trips.

In a traffic-impact-analysis context, a trip whose route has been altered, but that adds no additional travel to the road network, is still a new trip on the road to which the trip was attracted. Although in theory a difference in concept exists, our experience in analyzing travel characteristics survey data indicates that little or no practical difference in measurement of captured trips exists, because there are usually no reasonable alternative routes to travel between the trip origin and the next destination.

Diverted trips are similar to captured trips in that they are intermediate stops between trip origins and primary destinations; however, in diverted trips the survey site is located outside the boundaries of the rectangle defined by the trip origin and primary destination. This situation is illustrated in Figure 4. These trips add travel to the street network to the extent that the site is located outside the rectangle. The length assigned to these trips is the distance of travel from the boundary of the rectangle to the site. As was done for the primary trip length, the distance is recorded twice—once for the trip to the site and once for the trip from the site. A unique feature of the diverted trip is that there is no "other end" of the trip with which to share the responsibility for generating travel. When combining diverted trips with trips of other purposes, they are weighted by a factor of two to offset division of the average trip length by two in subsequent steps of impact-fee calculation.

Secondary trips are a type of diverted trip; they are identified when the distance from the boundary of the primary-trip rectangle to the site is greater than one-half the travel distance from the trip origin to the next destination (Figure 5). The rationale for this definition is that once the round trip from the rectangle to the site and back exceeds the distance from the origin to the next destination identified by the interview, then the diverted-trip measurement procedures overestimate the allocation of travel to the site. In this case, the length of the trip from the origin to the survey site is logged, and the length of the trip from the survey site to the next destination is logged.

The assessable trip length for secondary trips is finally calculated as shown in Equation 1.

This systematic approach to categorizing and measuring trip lengths was developed as a result of our experience with surveys. Drivers were asked how far

had they traveled out of their way to stop at a survey site or, had they not stopped, would they have passed the survey site; their responses were compared with the reported locations of trip origin and next destination (considered to be more fac-

$$\frac{\Sigma \text{ (lengths of primary and secondary trip-ends)} + 2\,\Sigma \text{ (diverted trip-ends)}}{\text{number of primary, secondary, and diverted trip-ends surveyed}}$$

**Equation 1. The assessable trip length for secondary trips.**

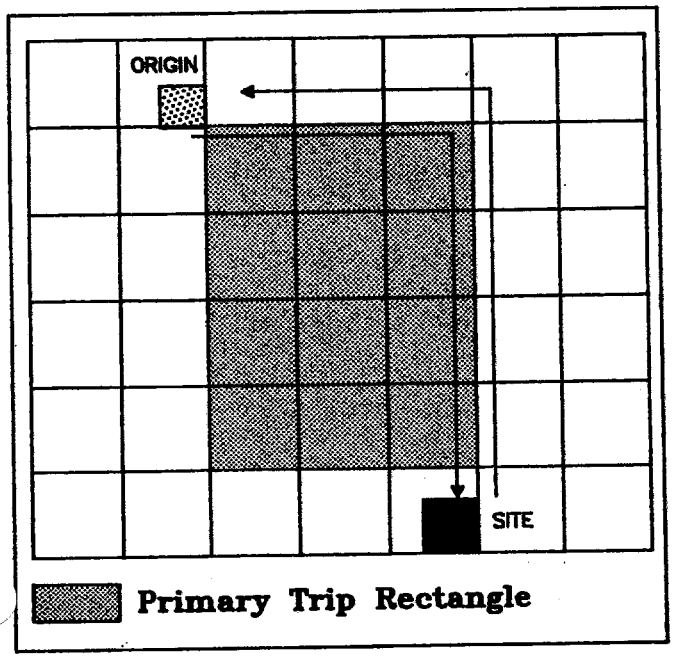


**Figure 2. An example of how the length of a primary trip is measured.**

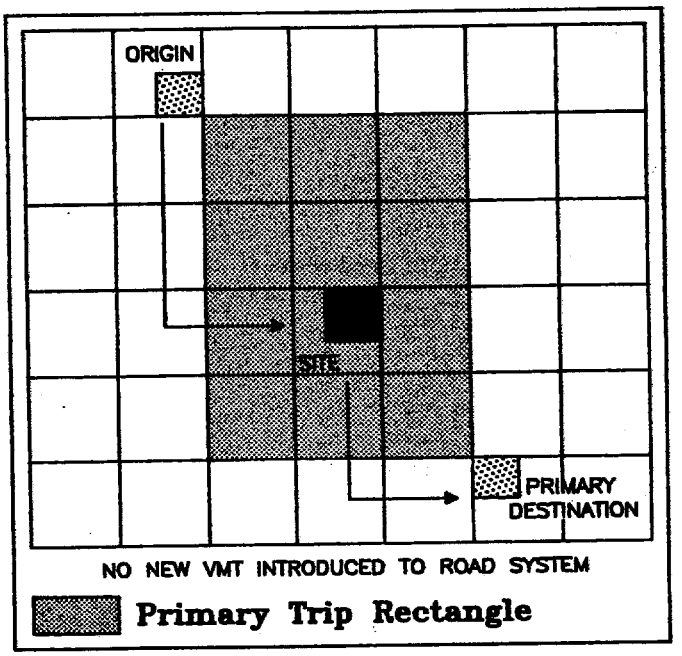


**Figure 3. An example of how the length of a captured trip is measured.**

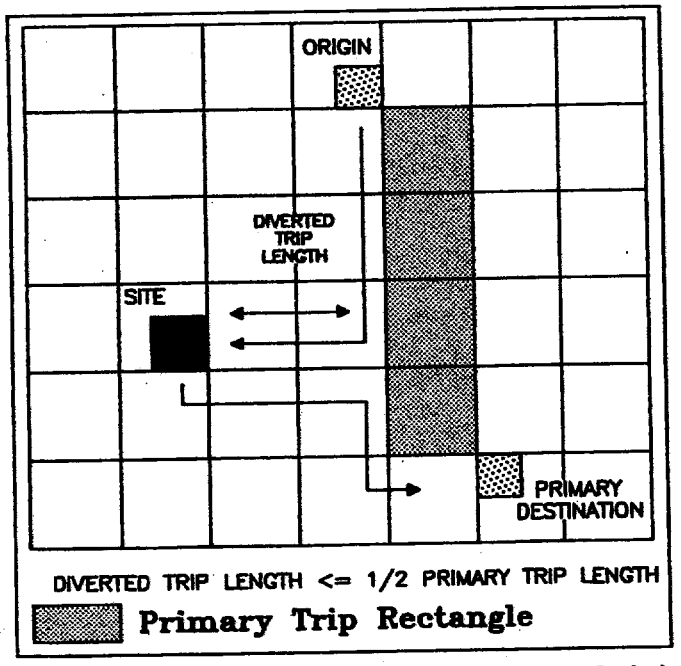


**Figure 4. An example of how the length of a diverted trip is measured.**

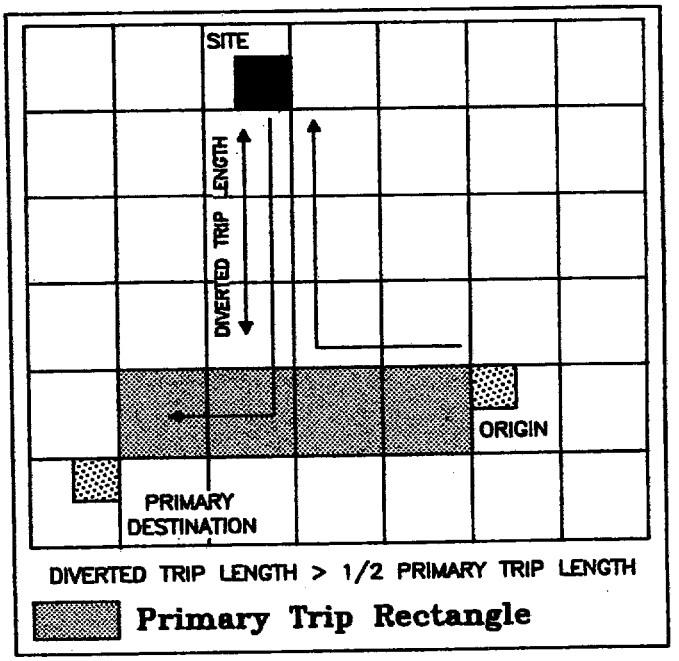


**Figure 5. An example of how the length of a secondary trip is measured.**

tual information). We found that the motorists' subjective judgments of distance traveled were frequently in great error. Furthermore, their unfamiliarity with the concepts of trip capture and trip diversion led to very inconsistent results. As a result, we developed the quantitative approach described in the preceding paragraphs.

To analyze the survey data, each survey form is reviewed, and the two trip-ends surveyed are identified as primary, captured, diverted, or secondary based on the locations of the origin of the inbound trip and the destination of the outbound trip. The length of each trip is logged onto a data summary form (illustrated in Figure 6). Each survey form provides information regarding two trip-ends. The lengths for each trip type are then added and combined in accordance with the equation provided earlier. Because impact fees allocate the assessment for a trip evenly to the origin-end development and the destination-end development, the demand equation usually includes a denominator of two. If not, then one-half the average trip length as calculated in Figure 6 should be used in the fee equation.

This procedure has a systematic flaw that fails to account for 100 percent of the travel on the road network. In the captured trip example in Figure 3, if the survey and analysis procedures were applied at the "primary destination" location, the trips from the site to the primary destination and from the primary destination back to the origin would be identified as secondary trips, and one-half their lengths would be allocated to the primary destination. Since none of the captured-trip length is allocated to the site, the first half of the trip from the site to the primary destination is unassessed. Similar "gaps" in the allocation of travel can occur in the case of diverted trips as well. There is no easy way of accounting for all the travel through survey or analysis technique modifications.

The travel unaccounted for by the survey and analysis methods could be accounted for if all trips were treated as primary or secondary. However, not accounting for all of the travel is preferable to the alternative of not recognizing trip capture and diversion of the land uses that exhibit these characteristics. Furthermore, if the approach is consistently applied to all land uses, the land uses will be treated objectively and a lower trip length will be provided, thereby improving the chances of successful defense of a fee if it is challenged as being excessive.

Travel demand characteristics are usually incorporated into an impact-fee rate computation at two points: the computation of the demand for facilities, and the estimation of credits for transportation revenues generated.

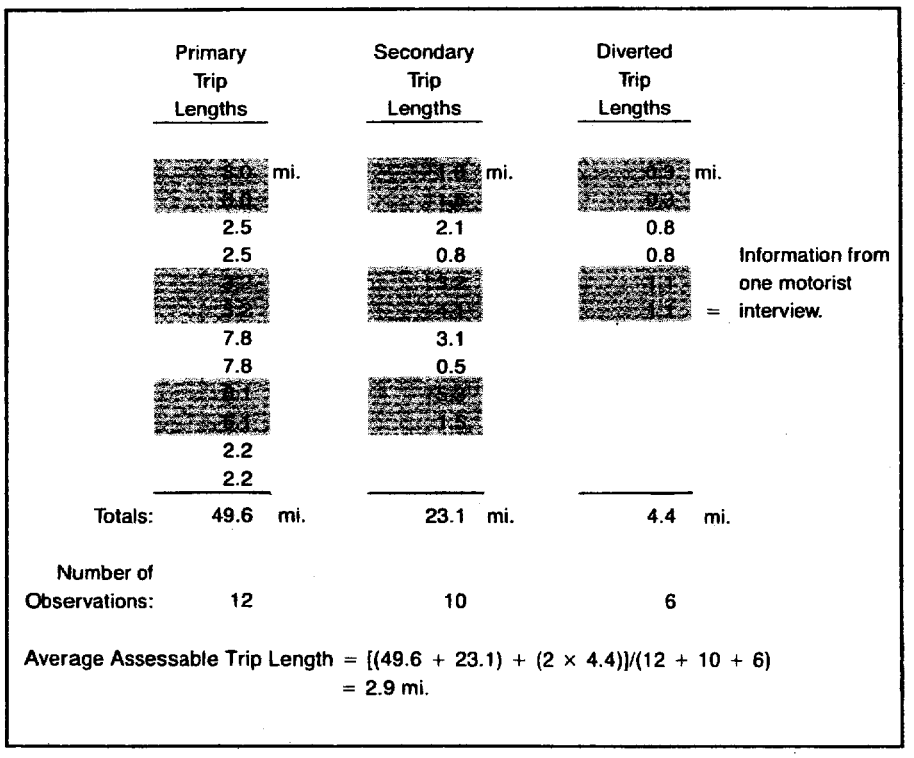


**Figure 6. An example of assessable trip-length calculation.**

## Demand Component

For the demand component of the impact fee equation, the following equation and values are typically used:

$$\text{Demand (lane-miles)} = ADT \times \%NT \times ATL \times IRF/(2 \times CAP)$$

Where

$ADT$ = Number of daily trips generated by the development,
$\%NT$ = Percentage of new trips,
$ATL$ = Assessable trip length,
$IRF$ = Interstate and toll-road reduction factor, which must be locally determined, and
$CAP$ = Capacity per lane of road, from the local impact fee.

The resulting quantity is the assessable lane-miles of roadway consumed. When multiplied by the cost per lane-mile, the cost to replace the capacity consumed by the land-development activity is estimated.

## Credit Component

The credit component of the impact fee equation will vary from community to community. Typically, it recognizes the revenues that will be collected from the land-development activity and applied to roadway system expansion. Examples of such revenues may be *ad valorem* taxes, utility taxes, or any special or benefit assessments, such as a municipal services tax. The most common credit is the gasoline tax, to which the travel characteristic should be applied. The gasoline tax credit is computed as follows:

$$\text{Gas tax credit} = \{[(\$ \text{ per gallon}) \times ADT \times TTL \times DPY]/(2 \times MPG)\} \times (P/A)_n^{i\%}$$

Where

$ per gallon = Amount of gasoline tax per gallon (federal, state, and local) that is

applied to road-system expansion,

$ADT$ = Number of daily trips generated by the developments,

$TTL$ = Total trip length, including local street, interstate, and toll-road mileage,

$DPY$ = Number of operating days per year,

$MPG$ = Fuel efficiency of vehicle fleet accessing the site,

$P/A$ = The factor representing the present worth of an annually recurring uniform amount,

$i\%$ = Compounded interest rate to be applied to the annual gasoline taxes collected, and

$n$ = Number of years of gasoline taxes to be credited, typically 25 to 50 years.

The rationale for including the local, interstate, and toll-road mileage in the credit component is that gasoline is consumed and gasoline taxes are generated for road construction regardless of the type of road.

## Conclusion

A need exists to establish standard procedures so that assessable trip lengths are measured for use in transportation impact fees and so that these characteristics can be cataloged uniformly for various land uses. This article has provided a study methodology that is conservative and a solid, defendable base on which to determine a fee. The procedure is simple and lends itself easily to uniform application. Important considerations in identifying captured trips (or percentage of new trips) and the allocation of responsibility for diverted trips were introduced. Finally, the application of the assessable trip-length data has been discussed. These procedures have been applied to successful impact-fee studies in Florida.

### Reference

1. Institute of Transportation Engineers. *Trip Generation*, 4th Edition. Washington, D.C.: ITE, 1987.

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# APPENDIX D
# Transportation Impact Fee Rate Schedule

# Transportation Impact Fee Schedule

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gasoline Tax | | | | | | | Unit Construction Cost: | $3,136,000 | | Interstate/Toll Facility Adjustment Factor: | 12.0% | | | | |
| | $$ per gallon to capital: | $0.227 | | | | | | Capacity per lane mile: | 8,845 | | Cost per VMC: | $354.55 | | | | |
| | Facility life (years): | 25 | | County Revenues: | $0.050 | | | Fuel Efficiency: | 18.43 mpg | | | | | | | |
| | Interest rate: | 3.75% | | State Revenues: | $0.177 | | | Effectivedays per year: | 365 | | | | | | | |

| ITE LUC | Land Use | Unit | Trip Rate | Trip Rate Source | Assessable Trip Length | Total Trip Length | Trip Length Source | Percent New Trips | % New Trips Source | Net VMT[1] | Total Impact Cost | Annual Gas Tax | Gas Tax Credit | Net Impact Fee | Current Impact Fee[2] | % Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***RESIDENTIAL:*** | | | | | | | | | | | | | | | |
| 210 | Single Family (Detached) - Less than 1,500 sf | du | 6.11 | FL Studies (NHTS, AHS, Census) | 7.61 | 8.11 | FL Studies | 100% | n/a | 20.46 | $7,254 | $111 | $1,781 | $5,473 | $6,099 | -10% |
| | Single Family (Detached) - 1,501 to 2,499 sf | du | 7.81 | FL Studies (NHTS, AHS, Census) | 7.61 | 8.11 | FL Studies | 100% | n/a | 26.15 | $9,272 | $142 | $2,278 | $6,994 | $6,099 | 15% |
| | Single Family (Detached) - 2,500 sf and greater | du | 8.75 | FL Studies (NHTS, AHS, Census) | 7.61 | 8.11 | FL Studies | 100% | n/a | 29.30 | $10,388 | $160 | $2,567 | $7,821 | $6,099 | 28% |
| 220 | Multi-Family (Apartment); 1-2 Stories | du | 6.60 | Blend ITE 9th & FL Studies | 5.87 | 6.37 | FL Studies (LUC 220/230) | 100% | n/a | 17.05 | $6,044 | $95 | $1,524 | $4,520 | $3,213 | 41% |
| 222/ 223 | Multi-Family (Apartment); 3+ Stories | du | 4.14 | ITE 9th Edition (weighted avg) | 5.87 | 6.37 | Same as LUC 220 | 100% | n/a | 10.69 | $3,791 | $59 | $947 | $2,844 | $2,045 | 39% |
| 230 | Residential Condominium/Townhouse | du | 5.76 | Blend ITE 9th & FL Studies | 5.87 | 6.37 | Same as LUC 220 | 100% | n/a | 14.88 | $5,275 | $82 | $1,316 | $3,959 | $2,860 | 38% |
| 240 | Mobile Home Park | du | 4.17 | FL Studies | 5.29 | 5.79 | FL Studies | 100% | n/a | 9.71 | $3,441 | $54 | $866 | $2,575 | $2,517 | 2% |
| 252 | Senior Adult Housing - Attached | du | 2.97 | Blend ITE 9th & FL Studies | 3.77 | 4.27 | FL Studies | 72% | FL Studies (Same as LUC 253) | 3.55 | $1,258 | $21 | $337 | $921 | $946 | -3% |
| 254 | Assisted Living Facility (ALF) | bed | 2.66 | ITE 9th Edition | 3.54 | 4.04 | FL Studies (Same as LUC 253) | 72% | FL Studies (Same as LUC 253) | 2.98 | $1,058 | $17 | $273 | $785 | n/a | n/a |
| | ***LODGING:*** | | | | | | | | | | | | | | | |
| 310 | Hotel | room | 6.36 | Blend ITE 9th & FL Studies | 7.20 | 7.70 | FL Studies | 66% | FL Studies | 13.30 | $4,715 | $73 | $1,171 | $3,544 | $2,437 | 45% |
| 320 | Motel | room | 5.63 | ITE 9th Edition | 4.99 | 5.49 | FL Studies | 77% | FL Studies | 9.52 | $3,375 | $53 | $850 | $2,525 | $1,314 | 92% |
| | ***RECREATION:*** | | | | | | | | | | | | | | | |
| 412 | General Recreation/County Park | acre | 2.28 | ITE 9th Edition | 5.37 | 5.87 | FL Studies (Pinellas County) | 90% | FL Studies (Pinellas County) | 4.85 | $1,719 | $27 | $433 | $1,286 | $856 | 50% |
| 430 | Golf Course | hole | 35.74 | ITE 9th Edition | 6.95 | 7.45 | Same as LUC 210 | 90% | FL Studies (Pinellas County) | 98.36 | $34,875 | $539 | $8,647 | $26,228 | $14,482 | 81% |
| 444 | Movie Theater | screen | 106.63 | Blend ITE 6th & FL Studies | 2.33 | 2.83 | FL Studies | 88% | FL Studies | 96.20 | $34,107 | $597 | $9,578 | $24,529 | $3,714 | 560% |
| 492 | Racquet Club/Health Spa | 1,000 sf | 32.93 | ITE 9th Edition | 5.41 | 5.91 | Same as LUC 710 | 94% | FL Studies | 73.68 | $26,124 | $411 | $6,594 | $19,530 | $13,939 | 40% |
| | ***INSTITUTIONS:*** | | | | | | | | | | | | | | | |
| 520 | Elementary School (Private) | student | 1.29 | ITE 9th Edition | 4.30 | 4.80 | FL Studies (Pinellas County) | 80% | FL Studies (Pinellas County) | 1.95 | $692 | $11 | $176 | $516 | $287 | 80% |
| 522 | Middle School (Private) | student | 1.62 | ITE 9th Edition | 4.30 | 4.80 | FL Studies (Pinellas County) | 90% | FL Studies (Pinellas County) | 2.76 | $978 | $16 | $257 | $721 | $405 | 78% |
| 530 | High School (Private) | student | 1.71 | ITE 9th Edition | 4.30 | 4.80 | FL Studies (Pinellas County) | 90% | FL Studies (Pinellas County) | 2.91 | $1,032 | $17 | $273 | $759 | $432 | 76% |
| 540 | University/Junior College (7,500 or fewer students) (Private) | student | 2.00 | ITE Regression Analysis | 6.95 | 7.45 | Same as LUC 210 | 90% | FL Studies (Pinellas County) | 5.50 | $1,952 | $30 | $481 | $1,471 | $489 | 201% |

## Transportation Impact Fee Schedule (continued)

| ITE LUC | Land Use | Unit | Trip Rate | Trip Rate Source | Assessable Trip Length | Total Trip Length | Trip Length Source | Percent New Trips | % New Trips Source | Net VMT[1] | Total Impact Cost | Annual Gas Tax | Gas Tax Credit | Net Impact Fee | Current Impact Fee[2] | % Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***INSTITUTIONS:*** | | | | | | | | | | | | | | | |
| 550 | University/Junior College (more than 7,500 students) (Private) | student | 1.50 | ITE Regression Analysis | 6.95 | 7.45 | Same as LUC 210 | 90% | FL Studies (Pinellas County) | 4.13 | $1,464 | $23 | $369 | $1,095 | $969 | 13% |
| 560 | Church | 1,000 sf | 9.11 | ITE 9th Edition | 4.10 | 4.60 | FL Studies (Pinellas County) | 90% | FL Studies (Pinellas County) | 14.79 | $5,244 | $85 | $1,364 | $3,880 | $2,064 | 88% |
| 565 | Day Care Center | 1,000 sf | 71.88 | Blend ITE 9th & FL Studies | 2.13 | 2.63 | FL Studies | 73% | FL Studies | 49.18 | $17,436 | $310 | $4,973 | $12,463 | $7,297 | 71% |
| 590 | Library | 1,000 sf | 56.24 | ITE 9th Edition | 6.95 | 7.45 | Same as LUC 210 | 49% | Orange Co. 2004 Road IF Update | 84.27 | $29,878 | $461 | $7,396 | $22,482 | $9,593 | 134% |
| 610 | Hospital | 1,000 sf | 13.22 | ITE 9th Edition | 6.95 | 7.45 | Same as LUC 210 | 77% | FL Studies (Pinellas County) | 31.13 | $11,037 | $170 | $2,727 | $8,310 | $5,640 | 47% |
| 620 | Nursing Home | bed | 2.76 | Blend ITE 9th & FL Studies | 2.72 | 3.22 | FL Studies | 89% | FL Studies | 2.94 | $1,042 | $18 | $289 | $753 | $351 | 115% |
| 640 | Animal Hospital/Veterinary Clinic | 1,000 sf | 32.80 | FL Studies (Pinellas County) | 2.00 | 2.50 | FL Studies (Pinellas County) | 70% | FL Studies (Pinellas County) | 20.20 | $7,164 | $129 | $2,070 | $5,094 | $1,058 | 382% |
| | ***OFFICE:*** | | | | | | | | | | | | | | | |
| 710 | Office | 1,000 sf | 11.02 | ITE 9th equation | 5.41 | 5.91 | FL Studies | 92% | FL Studies | 24.13 | $8,557 | $135 | $2,166 | $6,391 | $1,669 | 283% |
| 720 | Medical Office/Clinic | 1,000 sf | 23.83 | FL Studies | 5.83 | 6.33 | FL Studies | 89% | FL Studies | 54.40 | $19,289 | $302 | $4,845 | $14,444 | $1,669 | 765% |
| 770 | Business Park | 1,000 sf | 12.65 | Blend ITE 9th & FL Studies | 5.65 | 6.15 | FL Studies | 89% | FL Studies | 27.99 | $9,923 | $156 | $2,503 | $7,420 | $1,669 | 345% |
| | ***RETAIL:*** | | | | | | | | | | | | | | | |
| 820 | Retail 6,000 sfgla or less[3] | 1,000 sfgla | 86.56 | ITE 9th equation | 1.18 | 1.68 | FL Curve | 39% | FL Curve | 17.53 | $6,214 | $127 | $2,037 | $4,177 | $1,669 | 150% |
| | Retail greater than 6,000 sfgla | 1,000 sfgla | 41.80 | ITE 9th equation (400K sq ft) | 2.77 | 3.27 | FL Curve (400K sq ft) | 73% | FL Curve (400K sq ft) | 37.19 | $13,186 | $224 | $3,594 | $9,592 | $1,489 | 544% |
| n/a | Shopping Center (Office/Retail)[4] | 1,000 sfgla | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | $8,792 | n/a | n/a |
| 841 | New/Used Auto Sales | 1,000 sf | 28.25 | Blend ITE 9th & FL Studies | 4.83 | 5.33 | FL Studies | 79% | FL Studies | 47.43 | $16,816 | $267 | $4,284 | $12,532 | $2,927 | 328% |
| 850 | Supermarket | 1,000 sf | 103.38 | Blend ITE 9th & FL Studies | 2.18 | 2.68 | FL Studies | 56% | FL Studies | 55.53 | $19,688 | $349 | $5,599 | $14,089 | $2,779 | 407% |
| 853 | Convenience Market w/Gasoline | 1,000 sf | 775.14 | Blend ITE 9th & FL Studies | 1.59 | 2.09 | FL Studies | 28% | FL Studies | 151.84 | $53,835 | $1,020 | $16,364 | $37,471 | $7,873 | 376% |
| 862 | Home Improvement Superstore | 1,000 sf | 30.74 | ITE 9th Edition | 2.52 | 3.02 | FL Curve (200K sq ft) | 67% | FL Curve (200K sq ft) | 22.84 | $8,097 | $140 | $2,246 | $5,851 | $1,724 | 239% |
| 880/ 881 | Pharmacy/Drug Store with or w/o Drive-Thru | 1,000 sf | 95.96 | Blend ITE 9th & FL Studies | 2.18 | 2.68 | FL Studies | 32% | FL Studies | 29.45 | $10,443 | $185 | $2,968 | $7,475 | $1,391 | 437% |
| 890 | Furniture Store | 1,000 sf | 5.06 | ITE 9th Edition | 6.39 | 6.89 | FL Studies | 54% | FL Studies | 7.68 | $2,724 | $42 | $674 | $2,050 | $401 | 411% |
| 911 | Bank/Savings Walk-In | 1,000 sf | 121.30 | ITE 9th Edition | 2.58 | 3.08 | Same as LUC 912 | 46% | Same as LUC 912 | 63.34 | $22,458 | $386 | $6,193 | $16,265 | $5,450 | 198% |
| 912 | Bank/Savings Drive-In | 1,000 sf | 159.34 | Blend ITE 9th & FL Studies | 2.58 | 3.08 | FL Studies | 46% | FL Studies | 83.21 | $29,501 | $507 | $8,134 | $21,367 | $7,376 | 190% |
| 931 | Restaurant | 1,000 sf | 91.10 | Blend ITE 9th & FL Studies | 3.30 | 3.80 | FL Studies | 77% | FL Studies | 101.85 | $36,112 | $599 | $9,610 | $26,502 | $5,007 | 429% |

## Transportation Impact Fee Schedule (continued)

| ITE LUC | Land Use | Unit | Trip Rate | Trip Rate Source | Assessable Trip Length | Total Trip Length | Trip Length Source | Percent New Trips | % New Trips Source | Net VMT[1] | Total Impact Cost | Annual Gas Tax | Gas Tax Credit | Net Impact Fee | Current Impact Fee[2] | % Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***RETAIL:*** | | | | | | | | | | | | | | | |
| n/a | Small Local Restaurant[5] | 1,000 sf | 91.10 | Same as LUC 931 | 2.15 | 2.65 | Same as LUC 934 | 58% | Same as LUC 934 | 49.98 | $17,722 | $315 | $5,054 | $12,668 | $5,007 | 153% |
| 941 | Quick Lube | service bay | 40.00 | ITE 9th Edition | 3.80 | 4.30 | Same as LUC 942 | 72% | Same as LUC 942 | 48.15 | $17,073 | $278 | $4,460 | $12,613 | $2,401 | 425% |
| 942 | Automobile Care Center | 1,000 sf | 31.43 | Blend ITE 9th & FL Studies | 3.80 | 4.30 | FL Studies | 72% | FL Studies | 37.84 | $13,415 | $219 | $3,513 | $9,902 | $2,301 | 330% |
| 944 | Gas/Service Station | fuel pos. | 157.33 | ITE 9th Edition (944 & 946 Blend) | 2.00 | 2.50 | FL Studies | 23% | FL Studies | 31.84 | $11,290 | $203 | $3,257 | $8,033 | $1,877 | 328% |
| 947 | Self-Service Car Wash | service bay | 43.94 | Blend ITE 9th & FL Studies | 2.29 | 2.79 | FL Studies | 68% | FL Studies | 30.11 | $10,674 | $187 | $3,000 | $7,674 | $3,524 | 118% |
| | ***INDUSTRIAL:*** | | | | | | | | | | | | | | | |
| 110 | General Light Industrial | 1,000 sf | 6.97 | ITE 9th Edition | 5.41 | 5.91 | Same as LUC 710 | 92% | Same as LUC 710 | 15.26 | $5,412 | $85 | $1,364 | $4,048 | $2,121 | 91% |
| 140 | Manufacturing | 1,000 sf | 3.82 | ITE 9th Edition | 5.41 | 5.91 | Same as LUC 710 | 92% | Same as LUC 710 | 8.37 | $2,966 | $47 | $754 | $2,212 | $1,162 | 90% |
| 150 | Warehousing | 1,000 sf | 3.56 | ITE 9th Edition | 5.41 | 5.91 | Same as LUC 710 | 92% | Same as LUC 710 | 7.80 | $2,764 | $44 | $706 | $2,058 | $1,513 | 36% |
| 151 | Mini-Warehouse | 1,000 sf | 2.15 | Blend ITE 9th & FL Studies | 3.26 | 3.76 | FL Studies (Pinellas County) | 92% | Same as LUC 710 | 2.84 | $1,006 | $17 | $273 | $733 | $455 | 61% |
| 152 | High-Cube Warehouse | 1,000 sf | 1.68 | ITE 9th Edition | 5.41 | 5.91 | Same as LUC 710 | 92% | Same as LUC 710 | 3.68 | $1,304 | $21 | $337 | $967 | $527 | 84% |

(1) Source: Net VMT calculated as ((Trip Generation Rate* Trip Length* % New Trips)*(1-Interstate/Toll Facility Adjustment Factor)/2). This reflects the unit of vehicle miles of capacity consumed per unit of development and is multiplied by the cost per vehicle
(2) For the office and retail land uses the current impact fee rate represents an average of all existing tiers
(3) This rate should only be applied to small local retail establishments that are not part of a multi-location retail chain
(4) This rate should be applied to developments that have both office and retail tenants. Fee rate is a blend of the office rate and the retail rate (>6,000 sfgla) at a ratio of 25% office and 75% retail
(5) This rate should only be applied to small local restaurants that are not part of a multi-location restaurant chain