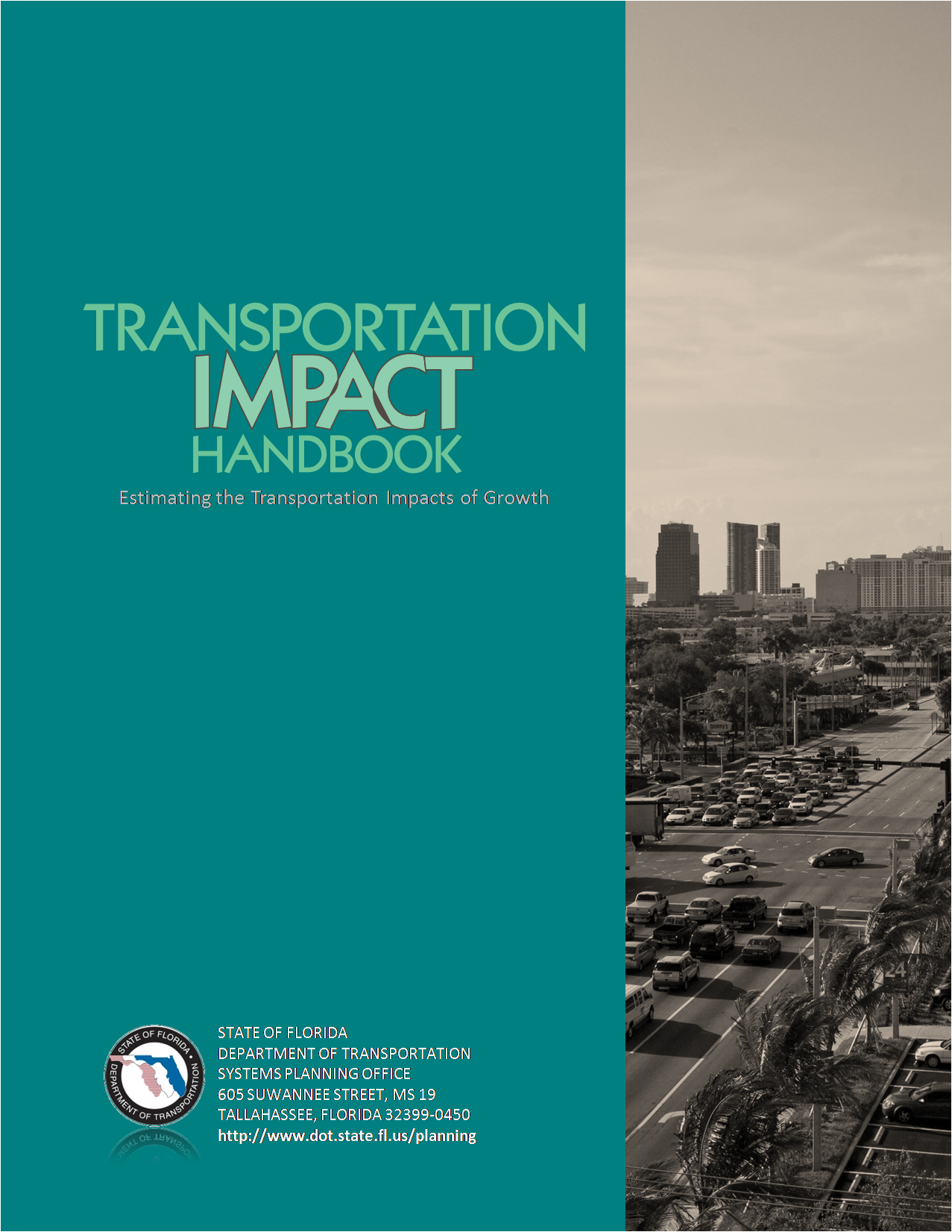
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| State of Florida  Department of Transportation  Systems Planning Office  605 Suwannee Street, MS 19  Tallahassee, Florida 32399-0450  http://www.dot.state.fl/us/planning |

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|  | Executive Summary |
| Estimating the Transportation Impacts of Growth button_i.pngClick for more info | The purpose of this Transportation Impact Handbook (TIH) is to serve as a key resource for professional transportation analysts conducting Florida Department of Transportation (FDOT) transportation impact reviews of various types of local government approvals. Since the Site Impact Handbook was published, two significant shifts in thought have emerged. First, understanding the importance of multimodal strategies is an essential component of the transportation impact analysis. Second, land use and transportation planning are interrelated components of community planning and the proper functioning of all transportation services is what ties communities together.  This handbook describes the established process for a FDOT reviewer to comment on the impacts of local government and private developer proposals on the State Transportation System (STS). The purpose of this handbook is to guide the professional through the existing rules, standards, and procedures, as well as to provide some background behind the guidelines and best practices for reviewing and analyzing the transportation‐related impacts resulting from various types of local government land use approval.  Unless otherwise stated or specifically referenced, **this is not a set of standards or a FDOT Procedure** but is a comprehensive guide to allow the professional to make the best decisions on transportation impact analysis. **The primary thrust of this handbook is the type of transportation impact reviews that requires the support and coordination of the FDOT.** Even though much of this material can be used by local government staff, applicants, and consultants, the primary audience is the FDOT reviewer.  This document is also linked to additional resources available on the internet. |
| Acknowledgments: |  |
| Handbook Contributors: |  |
| Authors/Editors: |  |

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| 1 | INTRODUCTION |
| 1.1 Introduction | |
|  | The Florida Department of Transportation (referred to as “FDOT” in this Handbook) has prepared this update of the 1997 *Site Impact Handbook.* These review guidelines assist FDOT staff in their review of development and local government documents. While this handbook is primarily for FDOT staff, it is available to local governments and other transportation partners in an effort to communicate the FDOT’s expectations and criteria for reviewing various documents. This 2009 update has been titled “Transportation Impact Handbook” to reflect the broader scope of work including local government comprehensive plans, growth management responsibilities, and multimodal transportation – rather than simply traffic analysis. Additions to the handbook are designed to reflect legislative and other changes that have taken place since 1997. |

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| 1.2 Background | |
| Transportation  Impact Analysis – An analysis that estimates and quantifies the specific transportation-related impacts of a development proposal | Growth management in Florida involves the review of proposed developments, comprehensive plan amendments, land development code amendments, capital improvement budgets, provision of public facilities, Transportation Regional Incentive Program (TRIP) applications, proportionate fair share agreements, Development of Regional Impact (DRI) agreements, and Evaluation and Appraisal Report (EAR) based amendments. Since these local government decisions constitute development approvals, they may generate land use changes and impacts to the transportation network. As such, transportation impact analyses are conducted to evaluate the how the transportation network would function once the proposed land use change or development takes place. |
|  | Depending upon the anticipated impacts, several state and regional agencies will have inputs on these approvals. Significant impacts on regional or statewide transportation facilities are reviewed by the FDOT’s District Growth Management staff to ensure that the adopted levels of service (LOS) standards are achieved and maintained with a focus on transportation concurrency. |
| Concurrency – The growth management concept intended to ensure that the necessary public facilities are available concurrent with the impacts of development | In accordance with Sections 163.3184 (3) and (4), 334.044, and 380.06(6), Florida Statutes (F.S.), the FDOT is responsible for reviewing local government plans and development orders as they relate to transportation impacts on state and regional multimodal facilities. The types of reviews and associated statutory and the regulatory basis for these reviews are summarized on **Exhibit 1**. There are two main categories of reviews:   * Local government reviews * Development of regional impact (DRI) reviews   As indicated on **Exhibit 1**, various planning documents require coordination between the FDOT District Growth Management Coordinators and local governments or developers. Local government comprehensive plan (LGCP) amendment reviews are just one type of review. The DRI review steps shown on **Exhibit 1** have been sequentially ordered to serve as a frame of reference. Regardless of the type of review, the FDOT reviewer should work with the local government staff and applicants to identify opportunities to integrate multimodal services into the planning process and create strategies for making communities ready for transit in the future. The FDOT *Quality/* Level of Service Handbook and the [*Guidelines and Performance Measures to Incorporate Transit and Other Multimodal Considerations into the FDOT DRI Review Process*](http://www.nctr.usf.edu/pdf/77703.pdf)bothprovide guidance for incorporating transit considerations into the planning process and quantifying multimodal transportation service in the analysis of impacts. |
|  | Exhibit 1 Examples of Review Types  Exhibit 1.emf |
| Please direct your questions and concerns to your District Growth Management Coordinators or  Gary Sokolow [gary.sokolow@dot.state.fl.us](mailto:gary.sokolow@dot.state.fl.us) 850-414-4912 | The Office of Policy Planning (OPP) coordinates with the FDOT District Growth Management Coordinators and the Department of Community Affairs (DCA) in the development of policies, procedures, and guidelines to assist the Districts and other review agencies with the assessment of transportation impacts associated with growth and development. Increasing coordination between FDOT, DCA, and local governments will be necessary as communities identify desirable growth patterns through strategic regional visioning efforts such as “How Shall We Grow”, appropriate mixtures of development, and complementary multimodal transportation networks. To effectively protect and maintain the transportation network, all professionals will need to work cooperatively to respond to growth management issues, protect quality of life, respond proactively, and maximize the use of limited funding.  When conducting an analysis, professionals will need to become familiar with the local and adjacent comprehensive plans, metropolitan planning organization long rang transportation plans, transit development plans, transportation disadvantaged service plans, transportation demand management resources, commuter assistance programs, bicycle and pedestrian plans, capital improvement elements, proposed amendments, existing or proposed transportation concurrency exception areas (TCEAs), transportation concurrency management areas (TCMAs), multimodal transportation districts (MMTDs), existing or proposed developments of regional impact (DRIs), as well as the potential impacts to the statewide and regional multimodal transportation system. |
| Why is a Transportation Impact Analysis Needed? | The FDOT is primarily concerned with protecting the integrity of the transportation system for the general public and to avoid degradation of both the regional and local transportation networks. There are a number of additional reasons for the FDOT to perform a transportation impact review:   * Provide public agencies with a mechanism for managing transportation and land development within the context of metropolitan transportation planning, local government comprehensive planning, and concurrency * Provide applicants with recommendations for effective site transportation planning * Provide public agencies with a method for analyzing the effects of development on transportation in conjunction with access management, zoning, permitting, or other requirements * Establish a framework for the negotiation of mitigation measures for the impacts created by development * Ensure that proposed developments impacting a state facility are operating at an acceptable LOS, particularly if the facility impacts the FIHS, SIS, or a TRIP-funded facility * Ensure consistency between the proposed development and the FDOT’s access management requirements * Ensure that the proposed development is consistent with local zoning and development regulations |
|  | This handbook is intended to aid the FDOT in its review of local government comprehensive plan (LGCP) elements and other land use approvals that may impact the State Transportation System (STS). In addition, this handbook is intended to offer guidance to transportation partners at all levels of government to enhance coordination in the existing review processes. The FDOT reviews of LGCPs are focused on the relationship between transportation, land use, intergovernmental coordination, and capital improvements elements of the LGCP, as identified in Rule 9J-5, F.A.C. |
| “Chapter 163.3180 (2)(c), Florida Statutes, requires transportation facilities needed to serve new development to be in place or under actual construction within three years after the local government approves a building permit or its functional equivalent that results in traffic generation.” | |

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| 1.3 About this Handbook | |
| **button_web.png**  **Glossary** of frequently used terms | This handbook was designed with the FDOT reviewer in mind and its purpose is to serve as an electronic desktop reference. Throughout the handbook, we have included hyperlinks to other resources which address specific issues in great depth. At the end of the handbook, we have included a comprehensive **[List of Resources](#Bibiliography)** to allow for further research. The handbook has been organized in this manner to facilitate practical use. It consists of five Chapters and Appendices as follows:   * **[Chapter 1](#_INTRODUCTION)** – **Introduction:** This Chapter provides an overview of the Transportation Impact Handbook and summarizes the legislative and rule changes that have occurred since the Site Impact Handbook was prepared in April 1997. * **[Chapter 2](#_Local_Government_Comprehensive)** – **LGCP Reviews:** This Chapter describes how the FDOT assists local governments with development project reviews. It describes the types of LGCP amendment and land development reviews and the FDOT roles and responsibilities in this process. * **[Chapter 3](#_Developments_of_Regional) - DRI Reviews:** This Chapter addresses the transportation impact analyses related to DRIs, as required by Florida Statute. * **[Chapter 4](#_STANDARD_SITE_IMPACT) - Standard Transportation Impact Analysis Steps:** This Chapter discusses standard steps for the completion of transportation impact analyses and reviews. **Chapter 4** should be utilized in conjunction with other chapters that describe the various types of FDOT reviews. * **[Chapter 5](#_MITIGATION) – Mitigation Strategies:** This Chapter provides information on mitigation processes and options for mitigating transportation impacts to the STS. * [**Appendices**](#_APPENDIX_A)**:** The Appendices include a bibliography with hyperlinks to additional transportation impact best management practices and guidelines. This Bibliography was designed to be a “one-stop shop” listing other research materials available for the FDOT reviewer to use to quickly locate information on specific topics. |

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| 1.4 Updates to this Handbook | | |
| Legislative Updates For a full listing of legislative updates since 1997, please refer to the Appendix | | Since the previous *Site Impact Handbook* was prepared in 1997, a number of significant legislative changes have occurred. There have been three (3) updates to the state comprehensive plan, one hundred and sixteen detailed changes to the Growth Management Act of 1985, and eighty-eight detailed changes to Rule 9J-5 of the Florida Administrative Code (F.A.C.). A listing of these detailed changes has been created by the DCA and is included in the Appendix for reference.  Some major transportation-related components of these updates include:   * A definition and requirement for local government **financial feasibility** through capital improvement element (CIE) of the LGCP * Establishment of the Strategic Intermodal System (SIS) and requirement that **LOS standards on the SIS** be consistent with FDOT standards * Designation of **transportation** **concurrency exception areas** (TCEAs) and **transportation concurrency management areas** (TCMAs) to encourage redevelopment and urban infill * Creation of **multimodal transportation districts** (MMTDs) to encourage alternative transportation options, and the requirement for local governments to coordinate with FDOT prior to designation of MMTDs * New regulations governing the contribution of **proportionate share and proportionate fair share** mitigation for transportation projects * Requirements for monitoring transportation and expressway authorities; * Establishment of **transportation concurrency backlog authorities**, a county or municipal system created to plan and finance identified transportation deficiencies * New requirements for the transportation element to incorporate transportation strategies that address reductions in **green house gas emissions.** |
|  | | In addition to these Growth Management Act changes, a number of revisions and updates have been made to the Bert J. Harris, Jr., Private Property Rights Protection Act of 1995. These changes further clarify statutory remedies for government regulation of real property, and encourage the use of relocation and reconstruction agreements between government agencies and property owners. For further information on the specifics changes to this Act, reviewers may consult Chapter 70, Florida Statutes (F.S.). |
| Integrating Land Use and Transportation | The legislative changes above reflect a fundamental shift in the way transportation is viewed in the state of Florida. In particular, there is a growing recognition of the land use and transportation relationship in establishing a regional vision for growth. Land use and transportation are strongly interdependent and exhibit a cyclical relationship, as depicted on **Exhibit 2**. | |
| Exhibit 2  Land Use/ Transportation Cycle | Figure1.png | |
|  | Transportation facilities and services are essential and high levels of mobility and accessibility are needed to attract economic development. Development often impacts the transportation system’s performance. This causes a need to improve nearby transportation facilities. Transportation improvements tend to increase capacity in large increments. After improvements are made, traffic demand increases slowly, from a combination of latent demand, congestion on other facilities, and changes in land development patterns leading to deteriorating levels of service (LOS). The nature of these patterns results in two systems that are rarely balanced. Failure to address the management of land development and the subsequent need for improved transportation planning and facilities will result in premature degradation of the transportation system. | |
| Providing Multimodal Mobility Options | Another change reflected in recent legislation and incorporated into this handbook is a growing recognition of the importance of providing communities with transportation choices. As growth management planning has evolved and recognized the land use/transportation relationship, professionals have become increasingly aware of the need for additional transportation choices. Single occupant vehicles cannot offer the sole means of addressing transportation needs, if we are to create sustainable growth. Multimodal alternatives to the single-occupant vehicle include walking, cycling, carpooling, and riding transit just to name a few. These travel choices work best in compact development patterns. The term used throughout this document to refer to these choices is “multimodal transportation.”  This emphasis on multimodal transportation choices has coincided with practical considerations of providing long-term mobility on the transportation network in a cost effective way. As roadways have become more congested, right-of-way for expanding roads has become limited, and construction and fuel costs have increased, more emphasis is now being placed on multimodal options. Recent legislation (as discussed in **Section 1.4**) addresses the importance of transit and other multimodal strategies, including improvements for pedestrians, bicycles, paratransit, and fixed-bus route systems. It is important to identify and implement new multimodal strategies to be considered during development review, and this update to the handbook offers reviewers ways to incorporate these considerations into the review process.  The FDOT’s Public Transportation Office assists communities with the development of transportation choices and manages various transportation modes including air, waterway, rail, transit, bicycle and pedestrian travel. As projects are reviewed, the FDOT reviewer has the ability to assist communities as they prepare for future transit service, adopt more diverse land use patterns, and plan for travel modes other than single-occupant vehicles. Technical assistance and additional resources to assist the FDOT reviewer are available from the FDOT Public Transportation Office. | |
| “In 1999, the Florida legislature amended Chapter 163, Florida Statutes, commonly known as the Growth Management Act, authorizing local governments to establish multimodal transportation districts. The purpose of the legislation was to provide a planning tool that Florida communities could use to systematically reinforce community design elements that support walking, bicycling and transit use. It also enabled Florida communities to advance transportation concurrency—a policy requirement that transportation facilities be available concurrent with the impacts of development— through development of a high quality multimodal environment, rather than the typical approach involving road widening for automobile capacity.”[[1]](#footnote-1) | | |
|  | GARY:  We suggest that you should add a closing thought for the handbook here. Something like a note from the author. What do you think?  Abra | |

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| **2** | Local Government Comprehensive Plan (LGCP) Reviews |

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| 2.1 Review of Local Government Comprehensive Plan Amendments | |
|  | This chapter provides a general overview of LGCP amendment process, the FDOT‘s role in the review process, opportunities for coordination with local governments, and the preliminary review determination. Transportation impact analyses and reviews at the local government level are normally limited to Local Government Comprehensive Plan (LGCP) amendments. The LGCP amendment process is time sensitive with specific limitations on review periods. The FDOT reviewer should review specific requirements related to these LGCP reviews with attention to several related factors which include the depth of detail needed and the required coordination with both the local government staff and the development applicant. The FDOT reviewer should thoroughly understand regulations regarding LGCP amendments, specifically those that originate from the Florida Statutes (FS) or the Florida Administrative Code (FAC). |
|  | The FDOT reviewer should also strive to understand the practical aspects and implications of the various LGCP amendments and how a development could potentially impact the surrounding transportation network, including the multimodal components of the network. |
| Purpose of LGCP | A LGCP is adopted by a city or county to preserve, promote, and protect the public health, safety and welfare. This is accomplished through the adequate and efficient provision of land, transportation, water, sewer, parks, recreational facilities and housing, as well as the conservation, development, utilization and protection of natural resources within their jurisdictions.  From a regional transportation planning perspective, the LGCP should include a more detailed level of analysis of the relationship between land use patterns and appropriate transportation solutions. Local governments should select a transportation strategy that supports the planned development pattern and the analysis of this relationship should be documented in their LGCPs. Local governments may seek technical assistance from the FDOT reviewer. Familiarity with sustainable development concepts and smart growth strategies is essential for the FDOT reviewer. |
| Description of LGCP Amendment Refer to Section 163.3187(1)(a-p), F.S. for more information about exemptions | LGCP amendments are any action of a local governing body which changes an adopted comprehensive plan, typically involving an increase in the density or intensity of an adopted land use. An exception to this definition is a legislative act which only codifies local legislation or corrects updates or modifies the capital improvement element. Comprehensive plans may only be amended twice per calendar year unless the amendment is a qualified exception, including, but not limited to, Development of Regional Impacts (DRIs), small-scale development activities, compliance agreements, capital improvements element, intergovernmental coordination element, and rural land stewardship. |
| Transportation Impacts for proposed land use changes should consider the maximum development potential created by the amendment | It is important to determine the impacts a proposed land use change may have on the State Highway System (SHS), Strategic Intermodal System (SIS), or Transportation Regional Incentive Program (TRIP) funded facilities. A transportation impact review can provide information that will allow the local government to determine if there is a need to increase transportation system capacity or reduce the demand on the system to accommodate the proposed land use change. Failure to determine the impacts of a proposed amendment can lead to inadequate planning efforts for the future needs and improvements of the transportation system. |
| Types of LGCP reviews that may not be site specific | The FDOT is statutorily required to assist the local government in several types of reviews that include LGCP amendments and Evaluation and Appraisal Reports. However, some reviews are not site specific but still require the coordination between the FDOT and local government during the review process.  The types of reviews are typically related to one of these categories:   * Future Land Use Map (FLUM) and Text Amendments * Transportation Element * Capital Improvements Element * Evaluation and Appraisal Report (EAR) * Transportation Concurrency Management Reviews * Local Government Transportation Concurrency Management Systems * Transportation Concurrency Exception Areas (TCEAs) * Transportation Concurrency Management Areas (TCMAs) * Multimodal Transportation Districts (MMTDs) * Long-Term Concurrency Management Systems (LTCMs) * Transportation Backlog Authorities |
|  | Each of these reviews is conducted at the request of the DCA. In addition to the categories listed above, Planned Unit Developments (PUDs) or zoning changes having an impact on the SHS or SIS are also important, but are not consistently reviewed unless included as part of a FLUM or EAR amendment. PUDs are not typically required to be reviewed by the FDOT unless a transportation impact to the SHS or SIS is anticipated. In addition, Intergovernmental Coordination Assistance and Review (ICARs) requests may arise. It is the responsibility of the FDOT reviewer to evaluate the impact to the SIS, SHS, or adopted Work Program. If the FDOT reviewer needs additional time for due date, than a time extension should be requested immediately through the State Clearinghouse electronic response system. The FDOT reviewer should refer to the FDOT ‘s Topic Paper No. 525-010-205-g, Intergovernmental Coordination and Review, for further guidance on ICARs. These types of reviews are not statutorily mandated. |
| Joint Participation Agreements | In an effort to address transportation and funding issues, a general Joint Participation Agreement was established to be used throughout the state between the Department, Metropolitan Planning Organizations, and Regional Planning Councils. This agreement provides guidelines for having continual, cooperative, and comprehensive transportation planning processes in designated metropolitan areas in order to develop and implement plans and programs consistent with the comprehensively planned development of the metropolitan area. It also provides guidelines for cooperating with transit authorities, port authorities, and aviation authorities. The FDOT reviewer should refer to the FDOT ‘s Topic Paper No. 525-010-03, *Intergovernmental Coordination and Review and Public Transportation Coordination Joint Participation Agreement*, for further guidance. |
| Knowledge of changes in legislation is essential to the FDOT reviewer’s job function | The 1985 growth management legislation required the adoption of LGCPs for every city and county in Florida. Since that time, almost all of the comprehensive plans have been adopted and found in compliance with Chapter 163, FS. However, amendments to growth management legislation have been enacted since 1985, as stated in Section 1.0 of this handbook. The FDOT reviewer should become familiar with the recent legislation before completing a transportation impact review. The FDOT reviewer is not required to complete a transportation impact review for the initial development and adoption of a LGCP. The FDOT ‘s Topic Paper No.525-010-101-c, *District Review of Local Government Comprehensive Plans*, provides guidance for the review of LGCPs. Most FDOT activities related to transportation impact concerns originate from comprehensive plan amendments, such as FLUM and EAR amendments. |
| button_internal.png | Due to the importance of local government activities and their influence on the SHS and SIS, the FDOT reviewer should understand the types of reviews which are not transportation related in nature, such as the categories listed above with the exception of FLUM and EAR amendments. These reviews may still have an influence on subsequent transportation impact reviews in that particular jurisdiction and should all follow the same basic requirements, as referenced in [Exhibit 2-4](#Ex3_4Review). |
| Transit and Multimodal Considerations | The LGCP Transportation Element should reflect any multimodal and transit service aspirations of the community and these strategies should be reinforced by land use patterns and policies. The local government may be reluctant to incorporate these considerations into their LGCPs due to concerns related to financial feasibility. The FDOT reviewer and transit agency should be available to provide technical assistance regarding the availability, location, duration, frequency, connectivity, and ridership of existing transit service as well as identifying transit propensity within the community. The local government planning staff should become familiar with the transit development plan (TDP), transportation disadvantaged service plan (TDSP), transit supportive development patterns, and transportation demand management (TDM). These documents can be incorporated by reference so that they are considered as individual applications are reviewed.  LGCP amendment applicants are required to include a transportation analysis to determine the impacts that the proposed development would have on the local transportation network, including multimodal services. Early coordination between the FDOT and the local government processing the FLUM amendment can enhance opportunities in providing future transit and multimodal services. A developer may mitigate transportation impacts through the provision of multimodal services but they should be considered as early as possible. The developer could contribute toward a regional or community-wide transit study, provide bus stops, multi-use trails, or bicycle parking as part of the mitigation efforts described in detail in Chapter 5. |
| Preliminary Review Determination | The plan amendment review process for the FDOT consists of a Preliminary Review Determination (PRD) to ascertain if a FDOT Review is needed or suggested for assistance in the preparation of the Objections, Recommendations and Comments (ORC) Reports. The FDOT reviewer may be asked to review any number or type of LGCP amendments; however, FLUM and DRI amendments are the only types which can be classified as transportation impact reviews. The DRI review process and guidelines are explained in Chapter 3 of this handbook and are not included in this chapter. A PRD may be performed in a number of cases including other types of LGCP amendments and Evaluation and Appraisal Reports (EARs). The PRD should result in a determination by the FDOT as to whether or not they would like to review the proposed amendment. Once completed, the FDOT reviewer will be required to formally request review participation to the Department of Community Affairs (DCA). The FDOT reviewer should make this determination and initiate the request to DCA on LGCP FLUM and DRI amendment changes, at a minimum. Coordination between the FDOT and the DCA is essential in addressing the transportation issues and concerns of the proposed amendment. |
|  | Written objections, recommendations and comments for inclusion in the ORC report, or a statement that the FDOT has no objections, recommendations or comments should be submitted to DCA. DCA will notify the FDOT within 30 calendar days from DCA’s receipt of a complete amendment package as to when the PRD ORC Report is due. |
| button_web.png | The formal request to DCA may allow the FDOT to participate in the ORC report process and will help determine if a transportation issue should be addressed in the ORC report. DCA should respond to the FDOT request within 21 days. If granted, the FDOT reviewer will participate in the ORC review and report process. Like most reviews, the FDOT reviewer is expected to comment in writing. The FDOT reviewer has 30 calendar days from DCA’s receipt of a complete amendment package to respond with comments regarding the proposed amendment and should communicate directly with the appropriate contact at DCA. A flow chart illustrating the Comprehensive Plan Amendment process can be accessed by clicking on the following link: <http://www.dca.state.fl.us/fdcp/dcp/Procedures/Files/PlanAdmb&w85x14.PDF> |
| Checklist 1 is located in Appendix ? | By rule, the FDOT reviewer is normally given less than 30 days to review LGCP amendments. The FDOT reviewer should focus on the general issues, outlined in the LGCP Amendment Review Checklist 1, when conducting a FLUM amendment impact evaluation process. Checklist responses and the FDOT reviewer’s comments should then form the basis of the FDOT ‘s formal Objections, Recommendations and Comments (ORC) Report response. |
| Legislative Policies and Guidance | As stated in Chapter 1, the requirements for reviewing LGCP amendments are consistent with and guided by Chapter 163, Part II, FS. The Statute addresses the primary land planning requirements for all of Florida’s local governments (county and municipal). The FDOT reviewer should use the Statute and Rules 9J-5 and 9J-11, FAC, as a guide to focus on the transportation, land use, intergovernmental coordination, and capital improvements elements of the LGCP and should comment on any inconsistencies between the LGCP and the goals of the SHS, SIS, or TRIP facilities, in addition to the Florida Transportation Plan. Sections of Rule 9J-5, FAC that should be noted include Rule 9J-5.016, *Capital Improvements Element*, Rule 9J-5.019, *Transportation Element*, and Rule 9J-5.0055, *Concurrency Management System*. |
| Senate Bill 360 (2005) | Other recent legislation has been enacted to help address some of the current transportation issues. The 2005 amendment to the Growth Management Act requires, as part of Senate Bill 360, local governments to submit annually to the Department of Community Affairs (DCA) a five-year financially feasible schedule of capital improvements. The schedule should ensure the adopted Level of Service (LOS) standards are achieved and maintained within the five-year Capital Improvement Program (CIP). It further requires that funding is available for projects listed in the first three years of the CIP and that funding will be available from committed or planned funding sources in the fourth and fifth years of the CIP. The Act also provided legislation for proportionate fair share mitigation for transportation projects to encourage new partnerships and funding sources between local governments, agencies, and developers. The Act requires local governments to adopt and implement mitigation strategies for all modes of transportation into their comprehensive plans to support and fund mobility within a designated Transportation Concurrency Exception Area (TCEA). |
| House Bill 7203 (2007) | House Bill 7203 also provided requirements for the financial feasibility of CIP projects and the local government comprehensive plan, concurrency exceptions, establishment of transportation concurrency backlog authorities, proportionate fair share calculations and uses, and Public-Private Partnership (P3) agreements to advance projects outside of the Work Program. |
| Senate Bill 360 (2009) “The Community Renewal Act” | PLACEHOLDER |
| Comprehensive Planning Certification Program | Some local governments participate in the Comprehensive Planning Certification Program. The Certification Program allows up to eight local governments per year to be exempt from comprehensive plan review by the DCA. To be eligible, a local government should demonstrate a record of effectively adopting, implementing and enforcing its comprehensive plan and demonstrate technical, financial, and administrative expertise. The local government should also demonstrate that it has adopted programs in the comprehensive plan that include, but are not limited to:   * promoting infill development and redevelopment, * achieving effective intergovernmental coordination, * managing transportation and land uses to support public transit, * adopting a local mitigation strategy, and * encouraging urban infill.   As described in S. 163.32465, FS, the program was created due to the recognition that different planning and growth management approaches, strategies, and techniques are required in urban areas. As a result, legislation found that reduced state oversight of local comprehensive planning is justified for some local governments in urban areas because of the high degree of urbanization, planning capabilities, and resources of many local governments. Local governments participating in the program can follow an expedited review process for LGCP amendments. Details of the expedited process can be found in the referenced statute. |
|  | Although most of the review responsibilities are clarified by the existing legislative policies, several are not. The FDOT reviewer is encouraged to request and/or suggest the need for transportation impact analysis and review in cases where these requirements are not clear and where there is the potential for impacts on the SHS, SIS, or TRIP funded facilities. |
| Level of Service (LOS) | LOS is a qualitative measure of traffic operating characteristics within a traffic stream as perceived by the users of the facility. Six levels of service are defined. They range from A to F. LOS A represents the best operating conditions, while LOS F represents the worst conditions. Measures of effectiveness such as average travel speed or volume-to-capacity ratio have been developed to approximate these qualitative representations quantitatively. Different measures of effectiveness are used for different types of roadways because users’ perceptions of quality of flow vary by road type. |
| Level of Service and Concurrency | Each Local Government is required to adopt minimum LOS standards for transportation and other public facilities, and develop concurrency plans to implement the adopted requirements. The FDOT ‘s adopted statewide minimum acceptable operating LOS standards should be used for the SHS. As discussed in Section 2.5 of this chapter, TCMAs and TCEAs are unique areas identified in the LGCP and consist of alternative mobility strategies. If a development impacts either type of these areas, the FDOT should consult with local governments to determine an appropriate analysis technique and standard. |
| Level of Service for facilities on the SHS | The FDOT ‘s minimum acceptable operating LOS standards for the SHS can be found in Rule 14-94, FAC. A major element in the establishment of Florida's LOS standards is the division of the SHS into two basic elements: the FIHS and other state roads. Roads on the FIHS are subject to a higher quality LOS standard than other roads, reflecting the importance of these roads to the state. |
| LOS Analysis Tools | There are two LOS analysis tools, FDOT’s Generalized Service Volume Tables and the LOSPLAN software, both of which can be used by the FDOT reviewer to provide a more accurate analysis than more detailed unadjusted national operational tools. As stated in Rule 14-94, FAC, all LOS calculations and evaluations are to be based on those included in the FDOT Q/LOS Handbook, the Highway Capacity Manual (HCM), or another methodology determined by the Department. The FDOT will only accept and support the Generalized Service Volume Tables, LOSPLAN, and the HCM as tools for roadway analysis. The misuse and mixing of LOS tools has increased in Florida, therefore the FDOT‘s roadway LOS analysis must be based on the HCM methodology or an alternative methodology determined acceptable by the Department. |
| Five Steps for LOS analysis of SIS, FIHS, and TRIP facilities | The suggested LOS analysis procedure for assessing potential impacts to the SIS, FIHS, and TRIP facilities is guided by five steps:   1. Determine the boundaries of the traffic impact area 2. Conduct initial LOS review of all roadway segments within area 3. Determine which signalized intersections should be analyzed 4. Perform a detailed analysis for intersections at each end of the road segment and an arterial roadway analysis for the roadway segment 5. Determine whether transportation concurrency can be met for each roadway segment, and that intersection LOS can be met for each intersection |
| Mitigation Options  If Concurrency  is not met | If it is determined that the transportation impacts will not meet concurrency requirements, the FDOT reviewer will need to determine what level of mitigation will be required. An analysis of the impacts may have identified deficiencies, but it will also provide potential improvement options. Proposed mitigation of transportation impacts on SIS or TRIP-funded facilities requires the consultation of the Department. Developers may have the option of contributing toward one or more specific improvements that the local government may have scheduled. The FDOT has provided examples of mitigation options including: |
|  | * Construction of new facilities * Addition of general-use lanes * Implementing transportation system management strategies * Access Management strategies * Enhancement for the use of high occupancy vehicle facilities and transit * Public transit improvements * Implementing travel demand management strategies * Site plan or land use changes |

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| 2.2 Future land Use Map (FLUM) and Text Amendments | |
|  | This section addresses map and text amendments to the LGCP future land use map and appropriate elements. Local governments are required to transmit LGCP amendments to the FDOT for text changes to the GOPs and large scale map amendments. FLUM amendments are LGCP-based amendments to change an adopted land use classification as depicted in the local government’s FLUM series. FLUM amendments have the greatest potential to impact the STS. These amendments are limited to twice annually unless the change is determined to meet the exemption outlined in S. 163.3187(1)(c), F.S. |
| The reviewer should ensure that a FLUM amendment is consistent with the existing policies of the LGCP | A FLUM amendment can cause the need to revise the text of an element of the LGCP. Some examples include where a development site may impact an adopted sub-area, policy, or overlay district that may be subject to different regulations than what is being proposed by the project. As a result, the future land use map and the text within the element will have to be revised. The text of an adopted sub-area policy might be amended by the local government to allow for restricted densities and intensities, and would not require an amendment to the FLUM. |
|  | The difference between a FLUM-based amendment and a transportation impact assessment is that a transportation impact assessment does not include an analysis of specifically defined land uses. While a FLUM amendment may be initiated to enable a particular development to occur, the LGCP FLUM uses broadly defined land use categories. Primary and secondary land uses permitted within a given FLUM land use category vary among different LGCPs. |
| Local governments may adopt an intensity standard based upon the Impervious Surface Ratios (ISRs) | For an applicant to perform a required impact analyses for a proposed FLUM amendment, it may become necessary to convert the broad land use descriptions into manageable units. This is most often true for commercial and office land uses where square footages are calculated from gross acreages using Floor Area Ratios (FARs). The FAR provides an estimate of building square footage, recognizing that most of the site is generally used for parking and other green space requirements, depending on the local land use regulations and density and intensity of a development. The LGCP Future Land Use Element often provides maximum FARs for the affected general land use categories. A typical range for FARs is 0.25 to 0.35, but can vary in each local government. Maximum densities and intensities for permitted land uses within each land use category are also usually adopted as part of the LGCP Future Land Use Element. The maximum FARs, densities and intensities permitted for a given land use category should form the basis of all analyses. |
|  | At a minimum, the FDOT reviewer should be provided with the appropriate project information for the FLUM amendment, such as the proposed land use or text change, map of the study area, and a transportation impact analysis with supplemental information. The following review criteria should be considered by the FDOT reviewer and should refer to Section 2 of the FDOT District Five *Local Government Comprehensive Planning Review Guidelines*, 2007:   * Type of land use change, density, and intensity * Trip generation * Internal trip capture * Pass-by trips * Transit trips * Trip distribution and assignment * Study area * Background traffic * Total traffic * Short-term (five-year) analysis * Long-term (at least 10 years) analysis * Required mitigation * Demonstrated financial feasibility of required mitigation |
| DRI Comprehensive Plan Amendments DRI related amendments should be adopted prior to, or simultaneously with the DRI development order to ensure the development order is consistent with the Comprehensive Plan | DRI Comprehensive Plan amendments are LGCP amendments undertaken to allow for consistency with a proposed DRI, or substantial deviation to an existing DRI. These amendments are exempt from the twice per year limitation for amending the LGCP. They follow a regular LGCP amendment review process and are subject to the PRD process as noted above. Written objections, recommendations and comments for inclusion in the ORC report, or a statement that the FDOT has no objections, recommendations or comments should be submitted to DCA by the FDOT reviewer. DCA will notify the FDOT within 30 calendar days from DCA’s receipt of a complete amendment package if an ORC review is requested or if DCA decides to conduct a review. |
| Small-Scale Amendments | Small-scale amendments may be initiated by the local government for up to 80 acres annually as long as the affected parcels do not exceed 10 acres in size. The cumulative maximum of 120 acres is limited to local governments that contain areas specifically designated in the LGCP for urban infill, urban redevelopment, or downtown revitalization, as detailed in s. 163.3187, FS. Small-scale amendments follow a regular LGCP amendment review process and are subject to the PRD process as noted previously in this chapter. These amendments and impacts are sufficiently small in size and do not fall within the two-per-year restriction such as other amendments to the LGCP. Residential land use changes are limited to ten or fewer units/acre. There are other restrictions related to a parcel location; a change to the LGCP goals, objectives and policies, or areas of critical state concern. Details of these other restrictions can be found in s. 163.3187, FS. Regardless of the restrictions, each local government is still restricted to a cumulative maximum of 80 acres of small-scale amendments each year, unless a local government meets the criteria for an increase in cumulative maximum acreage as described above. These amendments may be adopted with only one public hearing and are not required to be reviewed by DCA or the Department. Small-scale amendments take effect within 31 days of adoption by the local government. |
| Regional Activity Centers | Much like DRIs, Regional Activity Centers (RACs) can have a significant impact on the transportation system due to the size of the development. RACs are areas designated in LGCPs for the purpose of promoting high-density, mixed-use development to serve a significant number of citizens from more than one county. They are authorized by s. 380.06(2)(e), FS and Rule 28-24.014(10), FAC. The DRI thresholds associated with residential, office and retail uses are increased by 50 percent within these areas. Also, the DRI thresholds associated with mixed-use projects are increased by 100 percent provided that a residential land use (not less than 35 percent of the residential threshold ordinarily applicable to the jurisdiction) is included. This designation allows more intensive development within the designated area without having to undergo the DRI review process. |
|  | Rule 28-24, FAC, defines RACs as a compact, high-intensity, high-density, mixed-use area designated as appropriate for intensive growth by the local government of jurisdiction and may include retail, office, cultural, recreational and entertainment facilities, hotels and motels, or appropriate industrial activities. These areas should be proximate and accessible to interstate or major arterial roadways, be consistent with the LGCP and FLUM intensities, routinely provide service to a significant number of citizens of more than one county, and contain adequate existing public facilities. Also like a DRI, concurrency requirements and proportionate share mitigation is applied and subject to the FDOT and DCA review. RACs can be directly adopted into the LGCP by a legal ordinance. |
| Rural Land Stewardship (RLS) Areas | In June 2004, the Florida Governor signed Senate Bill 2188 which provides guidance to local governments in implementing provisions for RLS areas, including acreage thresholds and designation requirements. The RLS program allows for land use efficiencies within existing urban areas and allows the conversion of rural lands to other uses through innovative planning strategies and techniques. Types of planning strategies could include urban villages, new towns and town centers, and mixed-use development. A FLUM amendment can include properties as part of the RLS process which could potentially incur text amendments to the LGCP to reflect the change in densities and intensities. A rural land stewardship area shall be not less than 10,000 acres and shall be located outside of municipalities and established urban growth boundaries, and shall be designated by LGCP amendment and is subject to review by DCA. With the RLS incorporating large tracts of land, the transportation impacts could be significant once developed and the FDOT should be involved early and frequently throughout the review process. |
| Sub-Area Plans | A sub-area plan is one that gives specific direction for the form and location of new intensive development. It preserves and protects neighborhoods from encroachment by incompatible uses and intensities. These plans are adopted and revised through the LGCP FLUM amendment process and include revisions to the future land use map and text within the Future Land Use Element. Developments that are located within these sub-areas can have restrictions on the type and form of the transportation network within the area which could potentially impact the surrounding transportation network, especially if there is an increase in densities or intensities, but not an increase in roadway capacity. |
| Overlay Districts | An overlay district is one that is intended to be applied on the LGCP map only in conjunction with other land use districts in which land may be classified and have the effect that such lands maybe used only as allowed by the regulations of both the overlay district(s) and the underlying district at the same time. Overlay districts are adopted through LGCP amendment process and include revisions to the map and text within the Future Land Use Element. These districts may have certain design standards and limits to the amount of roadway expansions permitted in the district, which could potentially impact the surrounding transportation network. |
| Cumulative Analysis | A cumulative analysis is a process which can be determined at the time of a pre-application meeting between the applicant and the local government to discuss the proposed FLUM amendment. A cumulative analysis should be performed by the applicant when three or more future land use map amendments would impact the same transportation facilities or critical links over a 3 to 5-mile segment of a roadway. The cumulative analysis will group proposed comprehensive plan amendments into a specific geographic area (e.g. a sub-area, neighborhood, sector, or other planning area, impact fee district, transportation corridor, or specific traffic analysis zone) as agreed upon between the local government and the applicant. The local government will then provide the applicant with appropriate traffic analysis zone data (including all proposed comprehensive plan amendments in the current cycle) for running the trip distribution model within the sub-area. |
| Monitoring | The Future Land Use Element contains procedures for monitoring, evaluating, and appraising the implementation of the LGCP. Monitoring efforts can include reporting requirements for parties responsible for implementing the goals and objectives of the LGCP, and maintaining records regarding the availability of new or updated data to be used for planning and development activities. |
| Transit Impact Analysis for FLUM Amendments | When reviewing FLUM amendments for urban areas, the reviewer may encounter a situation where the applicant has expressed the desire to use transit as a means to meet transportation concurrency. The reviewer should consider many factors when determining if the incorporation of transit is truly a practical alternative to providing roadway mitigation. In addition to the highway impact analysis, the data and analysis supporting the proposed amendment should contain a parallel analysis of the transit services available to serve the development while demonstrating that transit LOS is being achieved and maintained. There is no current legislative standard regarding the distance of service in relation to the location of the development when conducting a transit impact analysis. The FDOT would recommend that transit impact analysis for LGCP amendments include all transit facilities and services within one-half mile to one mile from the proposed development. |

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| 2.3 Transportation Element | |
|  | The Transportation Element can be defined as a compilation of goals, objectives, policies, maps, and programs that provide guidance for the future development of transportation modes and needs. These needs include all modes of transportation such as highways, transit, paratransit services, pedestrian, bicycle, and rail. The element should be in coordination with the goals, objectives, maps, and programs of other local, state, and regional plans. For example, the Transportation Element and Future Land Use Element should be compatible with each other as the relationship between transportation and land use should reflect the planning efforts in both of these documents. If these two elements are not interrelated, land use planning efforts might impact the transportation network and may result in failing systems. If transportation improvements are planned without the consideration of future land uses, the end result may lead to more sprawl, less infill development, and substandard LOS. |
| Consistency between the Transportation Element and the FDOT Work Program is essential to the function of both the local and regional transportation system | The Transportation Element should also be consistent with regional plans, such as a MPO Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP), where applicable, to help address local and regional needs. The FDOT Work Program is another important component for local government coordination with regards to the Transportation Element. The FDOT reviewer and local government staff should be communicating early and frequently throughout the development and revisions to these plans and elements. FLUM amendments for projects may create additional transportation impacts. The FDOT reviewer should be familiar with how an LGCP Transportation Element can impact the Future Land Use Element. The Transportation Element should address the availability of facilities and services needed to serve existing and future land uses. This is how, on many occasions, a FLUM amendment will affect transportation services which can result in an amendment to the Transportation Element. The FDOT reviewer should understand that the element also needs to address traffic circulation, alternative modes of transportation, and parking facilities. |
|  | A FLUM amendment can include a development proposal that could potentially create transportation impacts and may require a text amendment to adjust the policy of the affected area or the developer may choose to construct a roadway that affects one of the capacity roadway projects listed in the Transportation Element or a future project listed in the Capital Improvements Element. The Future Land Use Element and the Capital Improvements Element would have to be amended in order to reflect the new roadway. With an emerging emphasis on Transit Oriented Developments (TODs), more FLUM amendments will be proposed and with higher densities and intensities, the surrounding transportation network will be impacted. The adopted land use may have contributed to an acceptable LOS, but may have a failing LOS with the TOD increase in densities and intensities. Many times, the Transportation Element will provide guidance for pedestrian and bicycle facilities. A developer might decide to provide these facilities, but due to the unique nature of the site be unable to meet the requirements. The local government may decide to amend the policy as it would still meet the goals and objectives. |
| Incorporating Transit Development Plans into the LGCP | In areas where transit services are considered to be a viable strategy to reducing a proposed development’s potential impacts it is vital that the LGCP, more specifically the Transportation Element, adequately incorporate the strategies of the TDP. The TDP serves as the local government’s primary source for transit planning and policy. In some cases a lack of consistency exists between the policies in TDP and the goals, objectives, and policies of the LGCP. Such cases should be viewed by the reviewer as an opportunity to recommend inclusion of the applicable TDP policies into the LGCP. Incorporating the principals of the TDP into the LGCP will ensure the local government’s long-term vision for multimodal transportation is achieved. |
| Transit Oriented Design (TOD) in the LGCP | If a local government is receptive to the idea of incorporating TDP policies into the LGCP, the FDOT should recommend that a transit section be incorporated into the TE with a set of goals, objectives, and policies. The TDP will be unique to the many issues that arise with the provision of quality transit services. One method to ensure a comprehensive approach to addressing transit related issues within the LGCP is to focus on the inclusion of smart growth characteristics and Transit Oriented Development (TOD) principals that affect mobility. The principals of TOD and smart growth are as follows:   * Density – High number of jobs and residents per acre * Diversity – Mixed uses and relative balance of jobs and housing * Design – Walkable neighborhoods, connectivity, and density * Distance – Jobs and housing within a half mile walking distance of transit |

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| 2.4 Capital Improvements Element (CIE) | |
|  | The CIE is a required element of the LGCP that is adopted and updated to reflect the timing and funding of capital projects to meet or maintain adopted LOS standards as defined in the LGCP. The element also states the goals, objectives, and policies of the LGCP. The main purpose of the CIE and CIP is to identify the capital improvements that are needed to implement the LGCP and ensure that the adopted LOS standards are achieved and maintained for concurrency related facilities. On an annual basis, the local government is required to update their CIE including the five-year schedule of capital improvements. A local government may choose to submit the annual update as a proposed amendment for review similar to other large scale amendments, but should be submitted early enough to ensure its adoption by December 1 of each year. This element considers the need, location, and cost of public facilities. The element also considers the cost of such improvements, the fiscal responsibility for the fiscal capability of the local government to finance and construct the improvements and financial policies to guide the funding of improvements, and the schedule for funding and constructing the infrastructure and public facility improvements so that they are provided when required. Any improvement listed in the CIE should be consistent with the FDOT's Work Program and the local MPO LRTP and TIP. |
|  | The local government may adopt the CIE amendment with one public hearing under an expedited process and sends the adopted amendment to the DCA. The DCA will then conduct a compliance review and publish a Notice of Intent accordingly, and does not issue an ORC. At a minimum, an annual update to the CIE will add a new fifth year to the CIP and can include changes to the CIP, such as adding a new project, eliminating a project, or deferring or delaying the date of construction of a project. |
|  | The CIP should include transportation projects that will allow local governments meet their concurrency requirements. The program does not include project costs for planning and design as it does not contribute to meeting concurrency, whereas right-of-way projects can be included where the future acquisition of these properties can provide more roadway capacity and help meet concurrency standards. The CIP should include improvements that are consistent with the MPO five-year TIP and LRTP to meet the requirements for concurrency and financial feasibility. Mobility projects within TCEAs, TCMAs, and MMTDs should also be included in the financially feasible CIP and should be consistent with the provisions of the LGCP and the purpose of the area or district, although these designated areas are exempt from concurrency. Local governments who have adopted a Long-Term Concurrency Management Area should also include projects in the CIP that will address existing deficiencies and are financially feasible. LOS standards that are consistent with the FDOT standards should be adopted by local governments for SIS facilities. Projects needed to meet and maintain these standards should be included in the CIP. |
| Funding Transit Capital Improvements | As mentioned throughout this chapter, LGCP map amendments that utilize the option of addressing mobility concerns through upgrades to transit services should be accompanied with an analysis of the existing and future conditions of the Local Government’s transit system. |
|  | In cases where upgrades to the transit system are identified as the applicants preferred mitigation strategy, it is important that the reviewer pay close attention to the proposed funding strategy to ensure that the applicant doesn’t fund capital costs only, leaving the local government with the additional burden of actually providing the transit service. In addition, the reviewer should ensure that transit projects are included in the capital improvements schedule of the CIE, and adequate policies exist in the LGCP to address the issue of future operational costs of the transit services. |

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| 2.5 Evaluation and Appraisal Report (EAR) | |
|  | This section discusses the review process for the EAR that each local government is required to prepare as a monitoring tool to the LGCP. The EAR is a periodic assessment and update to adopted LGCPs as part of a mandated process to continuously evaluate and maintain a LGCP rather than providing a one-time report. The report is an audit that describes the accomplishments and shortcomings of the LGCP and identifies needed amendments which may include updates that reflect a change in local circumstances and community goals, or changes in state law. The first EAR in most communities is not required until seven years after the adoption of the LGCP and every seven years thereafter. Chapter 9J-33, FAC establishes specific schedule for EAR submissions for each local government. Local governments are encouraged to hold scoping meetings with adjacent local governments and the FDOT at the initiation of a local government’s EAR. This is an opportunity for the FDOT to express expectations regarding the transportation analysis and to ensure a consistent methodology is being implemented. |
|  | In certain areas where the RPC has been delegated the EAR review authority, the FDOT may be included in the EAR review process. In addition, local governments may request the FDOT ‘s technical assistance or review in their EAR preparation. The RPCs also may hold special meetings which the FDOT may be requested to attend to assist local governments in their EAR development. The FDOT may participate in meetings and provide written comments at the request of the local government or RPC. The review times and coordination requirements may vary if the RPC is delegated review responsibility. |
|  | There are LGCP amendment changes which result from issues identified in the EAR process, they are referred to as EAR-based amendments. They are subject to the twice-per-year LGCP amendment limitations. They follow a regular LGCP amendment review process and are subject to the Preliminary Review Determination (PRD) process. The FDOT reviewer should initiate a formal written recommendation to DCA in the event that they would like to participate in the ORC review. The FDOT reviewer is particularly encouraged to request such action when a FLUM change is being contemplated. A preliminary review is not necessary if the local government requests a formal ORC review in the submittal package. An ORC review by the FDOT allows for written objections, recommendations and comments for inclusion into DCA’s encompassing ORC report. The FDOT is given 30 calendar days to review from the date that DCA receives the amendment package. The local government has 18 months to adopt the EAR-based amendments once the EAR has been found sufficient by the DCA. The amendments should be reviewed by the Department. |
|  | The FDOT reviewer should become familiar with the guidelines for reviewing transportation impacts and should consider the following criteria during a review: |
|  | * Impacts on STS and SIS * Issues affecting transportation systems * Financial feasibility analysis for maintaining roadway LOS * Concurrency exception area evaluation * Common methodology concurrency determination * Amendments to Transportation Element * Amendments to Future Land Use Element |
|  | The LGCP adopted LOS standards referenced in the EAR should be reviewed to ensure consistency with the FDOT ‘s LOS standards for the SIS, FIHS, and TRIP-funded facilities. However, the FDOT reviewer should be aware that local governments may adopt different LOS standards for other state roads. Local governments can set different LOS standards for non-SIS, non-FIHS, and non-TRIP-funded facilities so it is important for the FDOT reviewer to identify areas of the SHS where the local government’s LOS standards are not consistent with the FDOT standards. |
|  | The EAR should include a LOS analysis of existing and future transportation network conditions. The FDOT reviewer should confirm that the LOS analysis is consistent with the methodology provided in the FDOT Q/LOS Handbook and LOS Issue Papers. As discussed in the CIE above, financial feasibility is an important element in meeting and maintaining LOS standards on roadways and financially feasible improvements should be identified in amendments to the CIE. The FDOT reviewer should confirm that the data and analysis used in supporting the CIE identifies the existing and future revenue resources for the first three years of the CIE and that funds are available to fund improvements scheduled for years four and five. During the EAR review, the FDOT reviewer should evaluate the TCEAs and MMTDs by comparing the EAR conditions to the goals, objectives, and policies indentified in the justification report submitted for approval of the TCEA or MMTD. The purpose of this evaluation is to confirm that the EAR adequately assesses the TCEA and/or MMTD and to ensure that the goals, objectives, and policies have been implemented along with the funded strategies to support the TCEA and/or MMTD. |
|  | It is important for local governments to coordinate with adjacent local governments to ensure consistency of the transportation methodologies used for measuring impacts. The FDOT reviewer should check for consistency of LOS standards and methodologies between adjacent local governments and identify the extent to which changes may be needed to achieve consistent standards and methodologies for measuring impacts for concurrency. The FDOT reviewer should provide recommendations to local governments for achieving consistency with the LOS standards and methodologies of adjacent jurisdictions. For further guidance regarding EAR reviews, refer to Section 3 of the FDOT District Five *Local Government Comprehensive Planning Review Guidelines*, 2007. |

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| 2.6 Transportation Concurrency Management Reviews | |
|  | This section provides a general overview and background of transportation concurrency management systems and alternatives. Per Rule 9J-5.0055, FAC, local governments are required to develop and adopt a transportation concurrency management system in order to satisfy concurrency requirements. Transportation concurrency is a strategy created to ensure transportation facilities and services are available concurrently to address the impacts of a proposed development. Local governments measure concurrency by the LOS standards for a transportation system, which helps to determine whether the service needs of a proposed development exceed the existing roadway capacity and scheduled capacity improvements. If there is not available capacity and no improvements are scheduled, the developer has the options to provide the improvements or a monetary contribution, unless the government agrees to provide the necessary improvements. State legislation requires that transportation concurrency is addressed through measures such as adopting LOS standards, eliminating existing service deficiencies, and providing infrastructure to accommodate new growth. There are certain circumstances where concurrency requirements are exempt, such as public transportation facilities, certain infill or redevelopment projects, and projects that may be determined to have insignificant or *de minimis* impacts. |
| De Minimis Impacts | Local governments may allow exemptions or exceptions in their concurrency management systems for developments which generate small or *de minimis* impacts. *De minimis* impacts are limited to 0.1 percent of the maximum volume of a facility at the adopted LOS standard and a cumulative total of three percent of the maximum volume of a facility at the adopted LOS standard. For additional development on non-vacant parcels, these exemptions are limited to residential densities of less than four units per acre and nonresidential densities of less than 0.1 Floor Area Ratio (FAR), s. 163.3180(6), FS. The traffic impacts of a development may be considered *de minimis*, such as a single-family home that has a traffic impact so minor it is exempt from concurrency review. |
| Concurrency Alternatives | There are several concurrency alternatives that local governments can utilize to address transportation concurrency as provided in s. 163.3180, FS, such as Transportation Concurrency Exception Areas (TCEAs), Transportation Concurrency Management Areas (TCMAs), Multimodal Transportation District (MMTD), and Long-Term Concurrency Management System (LTCMS). Local governments can use the alternatives to meet the basic intent of concurrency by advancing and promoting planning objectives, including infill development in urban areas, alternative modes of transportation, or addressing major system deficiencies. Local governments that have existing or proposed TCEAs, TCMAs, or MMTDs should coordinate with the FDOT and DCA to review the potential impacts on the SHS and SIS facilities. |
| **Local Government Transportation Concurrency Management Systems (CMS)** | This section discusses how the FDOT should approach local government concurrency management systems. The FDOT's primary role in transportation concurrency management is to provide technical support to local governments in their assessment of LOS standards. As part of SB 360 approved in 2005, local governments were given the authority to use transportation concurrency management systems to monitor and maintain LOS as a result of development impacts on the transportation system. Local governments are required to have a CMS for the purpose of ensuring that public facilities and services needed to support development are available concurrently with the impacts of the development. It can also be used as a tool to estimate transportation needs and to update the CIP. The CMS quantifies existing traffic volumes, capacities, and trips generated by approved development for each roadway within the jurisdiction of the local government. Local governments can also use the CMS to identify and address existing and future deficiencies and incorporate improvements into the CIP to help meet concurrency requirements. For example, the local government can coordinate with the FDOT to ensure that LOS standards on SIS, FIHS, and TRIP-funded facilities are being met and maintained. Local governments can accomplish this by evaluating their needs and determining if their deficiencies are addressed in the FDOT Work Program or the MPO LRTP. |
|  | As with any review process, the FDOT should coordinate early and frequently with the local governments. With regards to the CMS, the FDOT should focus on the local government’s CMS ordinance during the review and a copy of the ordinance should be kept on file. The ordinance is a valuable resource as it documents how traffic impact studies are conducted and can include additional local government requirements. At a minimum, the FDOT should obtain copies once a year of the most recent CMS ordinance and documentation demonstrating compliance. The FDOT reviewer should also focus on the goals, objectives, and policies in the LGCP that develop and implement the CMS. The review of the goals, objectives, and policies can be completed during the EAR process, but should be conducted annually if possible. The FDOT reviewer should document the review of the CMS and should demonstrate that the LOS standards are being achieved and maintained. The FDOT can use the documentation to qualify impacts to the SHS or SIS. |
|  | The FDOT can use the CMS to monitor state roadway corridors and identify current and future LOS conditions. This will assist the FDOT reviewer during the LGCP amendment process by having the LOS information available for the corridor impacted by the proposed amendment. For example, if a SHS or SIS facility is operating below or near below the adopted LOS standard, the FDOT reviewer can coordinate with the DCA to request more data and analysis. The FDOT LOS standards for SIS, FIHS, or TRIP-funded facilities should be adopted by local governments for incorporation into the CMS. For facilities not listed in one of these FDOT categories, local governments can adopt LOS standards different from the FDOT standards. |
|  | As stated at the beginning of the section, the FDOT‘s primary role is to provide technical support. The FDOT can provide comments to the local government listing recommendations, not objections to their CMS. Some of the issues the FDOT reviewer may provide recommendations for are: |
|  | * Methodologies for evaluating concurrency * Identifying facilities * Tracking development * Considering programmed improvements * De Minimis impacts on evacuation routes * Proportionate fair-share tracking * CMS update schedule * Preferred monitoring data for the Department |
| button_web.png | An important element of a local government transportation concurrency management system is the method for monitoring concurrency. This method includes tracking proposed trips along with existing traffic to compare estimated future traffic volume to the minimum acceptable level-of-service volume. This enables a local government to determine whether the impacts of proposed development on the transportation system will cause the LOS to drop below the adopted minimum acceptable level. Local governments use various forms of tracking systems, such as basic spreadsheets that can be used for segments of a transportation system to determine concurrency. Intranet tracking systems can be used for internal review and approval, and to provide automatic updates. Tracking systems are tools that can lead to recommendations for service volumes, traffic counts, and inclusion of capacity from planned improvements, supplemental to data provided by the developer. A sample spreadsheet used for determining this information for concurrency management systems can be accessed online at: <http://www.cutr.usf.edu/research/access_m/pdf/CMS.xls> |
| **Transportation Concurrency Exception Areas (TCEAs)** | This section provides the FDOT reviewer with guidance for evaluating existing or proposed transportation concurrency exception areas. TCEAs are areas in which the unintended result of the concurrency requirement for transportation facilities has resulted in the discouragement of urban infill development and redevelopment. These areas are specifically defined urban areas designated in the LGCP to provide exceptions to the transportation concurrency requirement for the purposes of urban infill, urban redevelopment, and downtown revitalization. The primary purpose of a TCEA is to reduce urban sprawl by allowing development to occur in urbanized areas where infrastructure already exists. The guidelines for granting exceptions in these areas are established in the LGCP, and should include consideration of the impact on the SIS and FIHS, s. 163.3180(5)(a), FS. |
|  | The FDOT reviewer should become familiar with the requirements for designating a TCEA based on Rule 9J-5.0055(6)(a), FAC. The review documentation should include an evaluation of the transportation impacts associated with the TCEA. The FDOT reviewer should also consider the following criteria during a TCEA analysis: |
|  | * TCEA size * Study area * Transportation impacts * Consistent with the Future Land Use Element * Consistent with the Transportation Element * Consistent with the Capital Improvements Element * Jurisdictional impacts |
|  | A review of the transportation impacts associated with a TCEA should include a description of the existing and proposed development and land uses within the district. The analysis should also address trip generation, internal trip capture, pass-by trips, transit trips, trip distribution and assignment, projected traffic volumes, short-term and long-term analysis. For further details of the review process refer to Section 6 of the FDOT District Five, *Local Government Comprehensive Planning Review Guidelines*, 2007. |
|  | Local governments are required to adopt ten basic strategies into the LGCP for new or existing TCEAs. Of these, the FDOT reviewer should focus on LGCP strategies that address network connectivity, mitigate impacts to the SIS, support and fund mobility, and implement alternative modes of transportation. Another goal of a TCEA is to improve mobility through various modes of transportation while reducing the demand for automobile travel. Short-term and long-term improvements for the various modes of transportation within the TCEA should be identified, including public transit, walking, and/or cycling. The LGCP should address network connectivity between pedestrian, bicycle, and transit alternatives within and the TCEA and surrounding areas. One mode of transportation should not be significantly compromised in order to promote the connectivity of another mode. The strategies within the LGCP should demonstrate a connective system for each mode and should require connections as other modal projects are implemented. Local governments can also achieve network connectivity within TCEAs by developing a grid pattern of roadway facilities with short blocks that promote pedestrian mobility through the provision of parallel transportation routes. |
|  | Local governments should establish strategies to mitigate impacts to the SIS, FIHS, or TRIP-funded facilities and should coordinate with the FDOT prior to any update or designation of a new TCEA. The FDOT should obtain, if available, annual reports, LOS monitoring, evaluations, or traffic studies to determine impacts to the SIS, FIHS, and TRIP-funded facilities. It is required that local governments consult with the FDOT prior to DCA approval of a new TCEA or update. |
|  | Strategies to support mobility should be included into the LGCP in order to implement a coordinated and connected multimodal regional transportation system. Some of the strategies the FDOT reviewer should focus on include: |
|  | * Alternative modes of transportation * Parking management * Maintaining or improving the connectivity between all modes * Mitigating impacts to the SIS, FIHS, and TRIP-funded facilities * Transportation System Management (TSM) for operating efficiency * Transportation Demand Management (TDM) to encourage alternatives to the single-occupant vehicle |
|  | The LGCP should identify potential funding sources for the implementation of mobility strategies and capital improvements, which may include community redevelopment taxes and grants and mitigation contributions. The LGCP should also include strategies for long-term funding and potential revenue sources. Mobility within a TCEA may be funded by sources including public and private investments. |
| **Transportation Concurrency Management Areas (TCMAs)** | Another alternative for local governments to adhering to transportation concurrency are TCMAs. This section provides the FDOT reviewer with guidance for evaluating existing or proposed transportation concurrency management areas. Similar to a TCEA, a TCMA is created to promote urban infill development and redevelopment in an effort to reduce urban sprawl. However, a TCMA is different than a TCEA as it may establish an areawide LOS rather than on individual roadway segments. The implementation of a TCMA may result in utilization of an areawide LOS standard to better accommodate and manage traffic congestion. TCMAs may provide more efficient mobility alternatives such as public transportation or bicycle and pedestrian alternatives. These areas include existing or proposed multiple, viable alternative travel paths or modes for common trips, s. 163.3180(7), FS. |
|  | The LOS for TCMAs is determined by averaging the LOS on similar transportation facilities within the management area serving common origins and destinations. If a TCMA has been designated within the LGCP, the plan should: |
|  | * Show that TCMA supports and promotes other elements * Justify size and boundaries * Demonstrate network connectivity and provide multiple options or modes for common trips * Determine current and future service requirements needed to maintain LOS * Show that the LOS and facilities will support infill development and redevelopment * Demonstrate the planned improvements and alternative modes will achieve mobility |
|  | The LGCP should include policies that specify the areawide LOS for the TCMA and should be accompanied with maps outlining the TCMA boundaries. TCMAs are less common than TCEAs throughout the state. |
| **Multimodal Transportation Districts (MMTDs)** | A MMTD is an urban area where the primary priority is assuring a safe, comfortable, and attractive pedestrian environment with convenient interconnection to transit, s. 163.3180 (15)(a), FS. Vehicle mobility becomes a secondary priority in these districts through urban design features that support an integrated multimodal transportation system. MMTDs can include mixed-use activity centers, street and land use connectivity, pedestrian and bicycle facilities and accommodations, and access to alternative modes of transportation. Similar to a TCEA and TCMA, another goal of the MMTD is to promote infill development and redevelopment. Local governments may implement multimodal LOS standards for MMTDs that rely on non-vehicular modes of transportation in an effort to address concurrency, including LOS standards for pedestrians, bicycles, and transit. As with any of the concurrency management alternatives, the local governments should consult with the FDOT regarding impacts the MMTD may potentially have on the SIS and TRIP-funded facilities. |
|  | A local government should adopt policies and guidelines that support a MMTD prior to designation. The amendment should demonstrate how vehicle trips and miles of travel will be reduced while supporting alternative modes of transportation. The FDOT reviewer should consider the following criteria during a MMTD analysis: |
|  | * District size * Study area * Transportation impacts * Consistent with the Future Land Use Element * Consistent with the Transportation Element * Consistent with the Capital Improvements Element * Jurisdictional impacts |
|  | A review of the transportation impacts associated with a MMTD should include a description of the existing and proposed development and land uses within the district. The analysis should also address trip generation, internal trip capture, pass-by trips, transit trips, trip distribution and assignment, projected traffic volumes, short-term and long-term analysis. |
|  | For further details of the review process refer to Section 8 of the FDOT District Five, Local Government Comprehensive Planning Review Guidelines, 2007. |
|  | The DCA is responsible for keeping track of the adopted MMTDs throughout the state. Monitoring the progress of an MMTD occurs biennially and should include coordination between the Department, local governments, and the DCA. Local governments may also establish performance targets to internally monitor the progress of a MMTD. Performance measure may also be established for meeting multimodal objectives, as stated in the FDOT *Multimodal Transportation District and Areawide Quality Level of Service Handbook*, include: |
|  | * 80% of all facilities contained in bicycle and pedestrian networks function at LOS C or better * All parcels within ¼ mile of a transit stop should be served by pedestrian facilities operating at LOS C or better * 80% of employees and dwelling units in a district will be located within ½ mile of a transit stop |
| Long-Term Concurrency Management Systems (LTCMS) | Many local governments have existing transportation concurrency deficiencies that require special attention and time to address them. In such cases, local governments may adopt a long-term transportation concurrency management system into their comprehensive plan with a planning period of up to 10 years,  s. 163.3180(9), FS. These concurrency management systems are for specially designated districts where a significant transportation backlog exists. The local government adopts interim LOS standards for a planning period of up to ten years and shall rely on a long-term schedule of capital improvements as a basis for approving new development. The schedule should show project commencement and completion dates. It can also be used as a basis for evaluating concurrency and for issuing development permits. The planning period of up to 10 years allows time for the local government to set priorities and be financially feasible in an effort to reduce the backlog of transportation projects and to identify improvements to achieve the adopted LOS. |
|  | Under specific conditions, a local government may request approval from the DCA for a planning period of up to 15 years if there is severe backlog. A LTCMS allows for a development to proceed in order to generate impact fees and potential proportionate fair-share payments that are used for roadway improvements. The LGCP should include implementing policies which provide for the correction of existing deficiencies, the establishment of priorities for addressing backlogged facilities, and the financial feasibility of the system, as well as its consistency with other portions of the adopted LGCP including the FLUM. |
|  | As with other concurrency management systems, the FDOT should coordinate with the local government to provide technical assistance for the proposal of a LTCMS, including methodologies and supporting data. The FDOT reviewer should also consider the following criteria during a LTCMS analysis: |
|  | * Existing backlog identified and quantified * District size * Study area * Transportation impacts * Consistent with the Future Land Use Element * Consistent with the Transportation Element * Consistent with the Capital Improvements Element * Jurisdictional impacts * Monitoring steps |
|  | The local government should identify and implement a monitoring program for achieving the scheduled improvements in the interim LOS. The program should require that when the actions or programs are not achieved, the LGCP should be amended to list the LOS standards that will be used for the purpose of development orders and permits. For further details of the review process refer to Section 7 of the FDOT District Five, *Local Government Comprehensive Planning Review Guidelines*, 2007. |
| Transportation Backlog Authorities | As discussed in Chapter 1, transportation concurrency backlog authorities were created as part of HB 7203 in 2007. As part of the legislation, a local government may create a backlog authority to plan and finance improvements to a transportation facility that has been identified as having a concurrency backlog. According to the 2007 DCA *Transportation Concurrency Best Practices Guide*, a backlog is defined as an identified deficiency where existing traffic volume exceeds the adopted level of service standard for the facility. The backlog authority should adopt a transportation concurrency backlog plan as part of the LGCP within six months from the authority being created. The adoption of the backlog plan is exempt from state requirements governing LGCP amendments, but should: |
|  | * Identify all deficient transportation facilities and require funding sources to improve the deficiency * Include a priority listing of all deficient transportation facilities * Establish a financing and construction schedule of projects that will eliminate concurrency backlogs within ten years after the plan adoption |
|  | Backlog authorities are also required to develop and administer a local transportation concurrency backlog trust fund created by proceeds of ad valorem taxes collected within each backlog area. Upon adoption of the backlog plan, all backlogs within the designated jurisdiction are deemed financially feasible for purposes of calculating concurrency and the authority is dissolved after the completion of all backlogs. Examples of backlog authorities will be included in updates to this handbook as they become available. |

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| 2.7 Other LGCP Reviews | |
|  | An LGCP is adopted by a city or county to preserve, promote and protect the public health, safety and welfare. This is accomplished through the adequate and efficient provision of land, transportation, water, sewer, parks, recreational facilities and housing, as well as the conservation, development, utilization and protection of natural resources within their jurisdictions. Local governments may process other amendments to the LGCP than those that have been listed in previous sections. The FDOT reviewer should consider certain criteria in the review of these other elements, including evaluating the impacts on the STS and SIS, and the use of professionally accepted techniques for measuring LOS. The LOS standards of the LGCP should be consistent with those applied to the SIS, FIHS and TRIP facilities. For further guidelines regarding review criteria and required LOS standards, refer to Section 9 of the FDOT District Five, *Local Government Comprehensive Planning Review Guidelines*, 2007, and FDOT Issue Paper #8, *Applicability of FDOT’s Statewide Minimum LOS Standards For Roadway LOS Analysis*, respectively. Below are descriptions of the additional elements the local government may consult with the FDOT during the review process. |
| Transportation Element in Urbanized Areas (TE) | Each unit of local government within an urbanized area designated as a MPO shall include a transportation element in lieu of the Traffic Circulation Element; Mass Transit Element (MTE); Ports, Aviation and Related Facilities (PARF) Element; the (optional) Recreational Traffic Circulation Element; and the (optional) Off-Street Parking Element. This requirement was adopted by the Legislature in 1993 after the majority of LGCPs were adopted. Thus, this element may not be included in adopted LGCPs unless the local government has already completed its Evaluation and Appraisal Report (EAR) and subsequent amendment process. This element will be included in the EAR amendments for all MPO areas, s. 163.3177(6)(j)1-10, FS. At a minimum, the FDOT reviewer should review the MPO’s mobility plans, the traffic analyses and the goals, policies, and objectives of the various elements. |
| Traffic Circulation Element in Non-Urbanized Areas (TCE) | This element presents the types, locations and extent of existing and proposed major thoroughfares and transportation routes, including bicycle and pedestrian ways. The local governments adopted LOS standards are found in this element. The FDOT reviewer is encouraged to review all traffic analyses and the goals, policies, and objectives for consistency with the FDOT‘s standards. |
| Coastal Zone Management Element (CME) | Local governments located within thirty-five coastal counties and the municipalities that fall within these boundaries are required to develop CMEs in their LGCP. These communities about the Gulf of Mexico or the Atlantic Ocean, or include or are contiguous to waters of the state where marine species of vegetation constitute the dominant plant community. Policy issues required to implement specific objectives in this element are identified in s. 163.3177(6)(g)1.a.-j., FS. One of the most relevant CME policy requirements for the FDOT reviewer is found in s. 163.3177(6)(g)1.g., FS. This requires the limitation of public expenditures that subsidize development in high-hazard coastal areas. Emphasis should also be placed on emergency evacuation plans and routes. |
| Mass Transit Element (MTE) | This element outlines, describes, and justifies proposed methods for moving people, rights-of-way, terminals, related facilities, and the fiscal considerations necessary to implement a mass-transit system. In urbanized areas, it is or will be contained in the TE, s. 163.3177(7)(a), FS. The FDOT reviewer should coordinate these reviews with the MPO and the local transit provider. |
| Ports, Aviation, and Related Facilities Element (PARF) | This element provides direction to local governments in their designation of future PARF systems. This element may be included as part of the TCE. It is an optional element for local governments with populations of less than 50,000, s. 163.3177(7)(b), FS. It is or will be contained in the TE. All GOPs should be reviewed for consistency with the FDOT ‘s Florida Transportation Plan (FTP). |
| Optional Recreational Traffic Element | This optional element considers bicycle facilities, exercise trails, riding facilities, and other such matters related to the improvement and safety of movement of all types of recreational traffic. It is or will be contained in the TE, s. 163.3177(7)(c), FS. |
| Optional Off-Street Parking Facilities Element | This optional element considers off-street parking facilities for motor vehicles. It is or will be contained in the TE, s. 163.3177(7)(d), FS. |
| Intergovernmental Coordination Element | This element considers coordination mechanisms between the local government and other jurisdictions and agencies affected by the LGCP. The GOPs may reference FDOT Coordination on matters such as those affecting the SHS, etc. To facilitate the best review of this LGCP element, the FDOT reviewer should familiarize himself with the other elements that could impact the SHS. Most common of these elements are the CIE, the transportation-related elements and the Future Land Use Element. |
|  | It is important for local governments to inform and coordinate with their neighbors regarding the impacts of a proposed development at or near another jurisdiction’s border. One example that may require intergovernmental coordination in concurrency management is where a county roadway borders a city’s TCEA. For this example, coordination would be required for mitigation options. In this coordination effort a city could enact a policy or procedure providing the County with the opportunity to review larger developments for concurrency mitigation. To implement this process, each participating local government would first enter into an interlocal agreement to establish a transportation impact methodology that addresses multi-jurisdictional impacts, and incorporate it into their respective land development regulations. |
| Other Elements | The FDOT reviewer may wish to consult other elements in the LGCP such as the Conservation Element and Sanitary Sewer, Solid Waste, Drainage, Potable Water and Natural Groundwater Aquifer Recharge Element for further information which may affect the implementation of transportation projects. |
|  | Additionally, an LGCP may contain several other optional elements, with potential transportation impacts. These elements include public buildings, community design, redevelopment, and historic preservation. |

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| **3** | Developments of Regional Impact |

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| 3.1 Introduction to DRI Review | | |
|  | This chapter will help the FDOT reviewer understand the DRI review process. In addition to providing a general understanding of the process, the chapter will discuss the milestones at which the FDOT reviewer should become involved, when the reviews should be conducted, how long the FDOT reviewer is allowed to take and with whom coordination is required. | |
|  | A DRI is defined by Section 380.06(1), FS, as any development which, because of its character, magnitude or location, would have a substantial effect on the health, safety or welfare of citizens in more than one county. The state has established thresholds to determine when a development should undergo the DRI review process. These determinations are made by the Florida DCA using Chapter 28-24, FAC. The process used to determine if a project is a DRI is presented in Section 3.2.1. | |
|  | Appendix A presents the different DRI-types and information regarding Florida Quality Developments (FQDs). The requirements listed in Question 21 (Transportation) and Question 22 (Air Quality) for a proposed DRI Application for Development Approval (ADA) are included in Appendix B. It is noted that at a minimum the FDOT reviewer should also be familiar with the following information: | |
|  | * Question 9 Maps: A General Location Map (Map A), an Aerial Photo of the site (Map B), Existing Land Use and Significant Resources (Map D), and the Master Plan (Map H) all provide valuable visual information that assists in orienting the reviewer with the site. * Question 10 General Project Description: This section provides a general overview of the site and includes information about the size of the site, the proposed development plan, the general market for the site, consistency with the Comprehensive Plan, and demographic and employment information. The demographic and employment information is of particular interest as it can be used as a reasonableness check for proposed internal capture rates (i.e. a comparison can be made between the anticipated price of homes and the expected on-site employment income). | |
| Incorporating Transit and Other Multimodal Considerations | The National Center for Transit Research has developed specific guidance for the FDOT reviewer to incorporate multimodal and transit performance measures into the DRI review process. The guidance includes specific multimodal information to be included in the ADA, multimodal information to be submitted for the transportation methodology meeting, mode split analysis, sufficiency checklist, evaluation criteria, mitigation strategies, local government development order, and monitoring. Regardless of the stage of the DRI review, the FDOT reviewer should work with the local government staff and applicants to identify opportunities to integrate transit and multimodal services and create strategies for making communities ready for transit in the future. The [*Guidelines and Performance Measures to Incorporate Transit and Other Multimodal Considerations into the FDOT DRI Review Process*](http://www.nctr.usf.edu/pdf/77703.pdf)alsoprovides sample FDOT review comments and discusses methods for quantifying multimodal transportation impacts. | |
| Local Government and Agency Participation in the DRI Review Process | The Regional Planning Council (RPC) plays a key role in the DRI process, coordinating application and review activities at the regional level. Local government participation is also important since the local planning agency plays a lead role in the identification of local issues or concerns relative to the project. The local government is also responsible for conducting a public hearing on the project and serves as the primary agency in the execution and approval of binding development orders (DO). | |
| DRI Process Exhibit 3-1  DRI Process  Know the review times for each step of the DRI process | Exhibit3-1.emf | The procedural requirements for applying for approval of a DRI are found in Rule 9J-2-045, FAC, of the DCA. The FDOT reviewer should know the review times appropriate for each step of the DRI process. It is noted that the actual review times for the FDOT reviewer will likely be even shorter than the statutory limits since the times reflect those for the lead coordinating agencies. These review times, along with lead agency identification and statutory and code reference guidelines, are depicted in Exhibit 1. |
| Modifications of Approved DRIs | For modifications of approved DRIs, the review of annual/biennial reports, or the review of traffic monitoring reports, the FDOT reviewer should clarify the review time and comment process with the lead agency (usually the regional planning council). While such reviews are often not as lengthy or complicated as the review of a newly proposed DRI, FDOT participation is critical in assuring that impacts to the Strategic Intermodal System (SIS) and State Highway System are identified and properly mitigated. | |
| Chapter Summary | The instructions and review requirements outlined in this Chapter are applicable to all types of Developments of Regional Impact (DRIs). Additional considerations unique to a particular step in the DRI process or to a unique type of DRI are addressed in the review checklists referenced in this Chapter. This Chapter primarily focuses on ADA reviews which normally represent the most common and complex FDOT reviews associated with DRI applications. The following types of other reviews associated with DRIs also addressed in this chapter:   * Notifications of Proposed Change (NOPCs): A report that is required to be submitted by the applicant to the local government, the RPC and DCA when a change is proposed to a previously approved DRI * Annual/biennial reports: A required report that summarizes information describing any changes that have been made to the development plan during the reporting period, information about the master plan, lands purchased, permitting, and local government, and a summary of each development order condition and when each commitment has been complied with. * Traffic monitoring reports: These studies usually require the collection and analysis of transportation data to verify assumptions associated with internal capture (or community capture if applicable), background growth rates, and other assumptions made during the ADA. The studies are usually required by a condition in the development order.   The following list highlights the activities in which the FDOT reviewer has opportunities to respond with comments, through the coordinating RPC or other agency, to the applicant for various types of DRI reviews. | |
|  | **ADA Reviews**   * DRI Determination (Binding Letter of Determination) * Methodology Development   + Pre-application Conference Format Meeting   + Pre-application Conference Project Summary Narrative Review   + Transportation Methodology Meeting Information Submittal Review   + Review of RPC Regional Issues List and Agency Comments  (which may include Transportation Methodology Letter of Understanding) * ADA Review * Applicant Response Review (also called Sufficiency Reviews) * Local Government Development Order Review   **Approved DRIs**   * Proposed Changes to Approved DRIs * Annual/Biennial Report Review * Traffic Monitoring Study (if applicable) | |
| Traffic monitoring studies are frequently in Development Order agreements | As DRI analysis continues to become more complex, the requirement for traffic monitoring studies is being included more frequently in Development Order agreements. These studies, which differ from the statutory requirement of annual/biennial reports, usually require the collection and analysis of transportation data to verify assumptions associated with internal capture (or community capture if applicable), background growth rates, and other assumptions made during the ADA. A similar process to that of an ADA (i.e. methodology development, study review, and sufficiency determinations) is often used in the review of traffic monitoring studies. FDOT participation throughout the process is essential. Additional information about this step is presented in the Traffic Monitoring Section. | |
| The DRI process often requires the review of large amounts of information  Solving problems on a local system can reduce problems on the state system | The DRI process often requires the frequent, thorough, and thoughtful review of large amounts of information over a time determined by statute. The following are general recommendations that may be helpful for the FDOT reviewer throughout the DRI process.   * **Resolve minor problems by phone**. If there is an apparently minor question and assuming this is accepted protocol among parties involved (if in doubt, ask at Methodology Meeting), call the consultant directly in an attempt to resolve the question. * **Support local agencies in their attempts to achieve/maintain local and collector road continuity**. When the FDOT helps solve the problems on a local system it often reduces problems on the state system. Local rights-of-way systems frequently have discontinuous patterns. Consequently, the state system is used for many local trips. Many reasons have caused discontinuity in local street rights-of-way. These factors range from lack of planning to intentionally planned enclaves. Developers continue to pressure for very large enclaves without through streets persist. The FDOT needs to work with and stand behind local planners’ attempts to create continuous local street systems. * **Introduce the concept of multimodal considerations early in the process and provide available resources**. The discussion of multimodal measures should occur as early as possible so that site designs and concepts can incorporate multimodal features and continue all the way through the discussion of mitigation alternatives. | |

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| 3.2 Review Requirements for proposed DRIs/Substantial Deviations | |
| Binding Letter of Determination/DRI Determination button_web.png | Prior to initiating any DRI application, it is typical for the applicant or one of the lead DRI agencies (usually the local government) to request a determination from DCA as to whether the project meets the definition of a DRI. A Binding Letter of Determination summarizes the determination by DCA as to whether a proposed development must undergo a DRI review.  Chapter 28-24, FAC, spells out the criteria used by DCA to make this determination. Exhibit 3-2 depicts the land use intensity thresholds found in this rule that serve as the primary basis for DRI determination. The following website contains additional information [www.dca.state.fl.us/fdcp/DCP/Procedures/index.cfm](http://www.dca.state.fl.us/fdcp/DCP/Procedures/index.cfm). DCA must make a finding of sufficiency, or request additional information within 15 days of receipt of a request for a binding letter of interpretation or a supplement. This leaves the FDOT reviewer with even less time if requested to provide assistance. |
|  | A Binding Letter of Determination summarizes the determination by DCA as to whether a proposed development must undergo a DRI review. |
| FDOT Reviewer Role | While the FDOT reviewer may be requested by DCA for a determination of possible transportation impacts, this step in the DRI-ADA process does not mandate review by the FDOT. |
| Transportation Methodology Development | |
| Pre-application Conference | Before filing an Application for Development Approval, the applicant should contact the RPC to arrange a Pre-application Conference to discuss all issues associated with the project. This conference is typically organized by the RPC in cooperation with the applicant. All review agencies including the FDOT are also invited. |
| **Pre-application Conference:**  Serves as a general discussion of all issues associated with the proposed DRI | This conference is conducted to identify issues, coordinate appropriate State and local agency requirements, promote a proper and efficient review of the proposed development, and ensure that RPC staff are aware of all the issues to which reviewing agencies will require the applicant to respond (such as wildlife impacts, economic considerations, and environmental challenges). The applicant should prepare a Project Summary Narrative that summarizes the overall project and the key assumptions to be used in preparing the ADA. |
| **Transportation Methodology Meeting:**  Held as part of the Pre-application conference to discuss applicant’s response to Question 21 | Additionally, the Pre-application Conference will serve to specify informational requirements, including the required number of copies of the DRI-ADAs, the method of their distribution to reviewing agencies, the deletion of questions from the DRI-ADA, and to clarify concerns of the reviewing agencies. The Transportation Methodology Meeting typically occurs during the Pre-application Conference. |
| Exhibit 3-2  DRI Residential Thresholds  button_web.png |  |
| FDOT Reviewer Role | While desirable, FDOT attendance at the entire Pre-application Conference (i.e. field visit, environmental discussion, etc) should be decided on a case by case basis. During the portion of the Pre-application Conference where all disciplines and agencies are present, FDOT comments should be general and focus more on big picture issues and process such as stating whether the FDOT has any committed projects in the area and confirming that the FDOT will be a reviewer on all future biennial reports. Specific technical details are usually better discussed during the Transportation Methodology meeting. If a specific Transportation Methodology meeting is not held, all the issues listed under the Transportation Methodology section below should be discussed during the Pre-application Conference. |
| Transportation Methodology Meeting | Usually a specific Transportation Methodology meeting is held as part of the Pre-application Conference. This should be confirmed by the FDOT reviewer upon being notified of the Pre-application Conference. During the Transportation Methodology meeting, technical discussions take place regarding the details of the applicant’s study to answer Question 21. Before the Transportation Methodology meeting, the applicant should prepare a detailed transportation methodology to be submitted to the reviewing agencies (this may be part of the overall Project Summary Narrative, but often it is a stand-alone document). If a methodology document is not received 10 working days prior to the transportation methodology meeting, the FDOT should request it from the RPC and applicant. The reviewing agencies should come to the meeting having already reviewed the methodology and prepared to discuss key issues. The methodology meeting should focus on discussing key issues associated with the study such as phase dates, roadway service volumes and LOS designations, network assumptions, trip generation (internal capture, pass-by, mode reductions), and background growth assumptions. FDOT information which should be given to the applicant is presented in Exhibit 3-4.  The preliminary response by the applicant to the questions identified in DRI [Checklist 1](#Checklist1) (Exhibit 3-3) should be contained in the applicant’s transportation methodology submittal. The applicant should be made aware that the transportation methodology should be received by the RPC 20 days prior to the transportation methodology meeting for distribution to reviewing agencies. |
| FDOT Reviewer Role Clearly document and present the issues to the applicant and to the RPC  button_internal.png | The Transportation Methodology Meeting is a pivotal point in the DRI-ADA process. It is the first opportunity for the FDOT to express its concerns with respect to the project’s potential impact on the SIS/SHS, and also to provide significant input in the questions needing answers. The Transportation Methodology Meeting also provides an opportunity for the FDOT to identify information available from the FDOT which may be useful in performing a thorough and accurate assessment of project impacts. Checklists have been provided for each of these purposes. The checklists cover issues raised in a typical DRI review. The lists should be modified, as appropriate, to address specific project characteristics. [DRI Checklist 1](#Checklist1), (Exhibit 3-3) should be used by the FDOT reviewer during this stage of the DRI review process. As previously noted, the information provided in Exhibit 3-2 is information which the applicant should be made aware is available from the FDOT. |
|  | It is important for the FDOT reviewer to clearly articulate ***all*** major issues and concerns at this meeting to minimize possible discrepancies or omissions during the review of the DRI-ADA. The FDOT reviewer needs to provide comments not only on the information that is submitted and discussed, but also request any information that has not been discussed or included that is necessary for the completion of the study. Potential topics of discussion include: |
|  | * **Internal Capture/Community Capture:** The methodology for determining internal capture should be clearly documented and supported with sample calculations. If the DRI is eligible to use Community Capture, the applicant should state their intent to use the methodology to determine Community Capture and provide the supporting documentation needed. It is noted that the proposal of high capture percentages will need to include detailed documentation and discussion for support. * **Interchange Impacts:** Whenever traffic from a DRI impacts a freeway or interchange, the applicant should be made aware of the potential need to coordinate with the District Interchange Review Committee. The applicant will need to be provided and consider information from any ongoing interchange modification study efforts (IMR, IOAR, SIMR, or IJR). It is also noted that if a new interchange is being sought, the applicant should coordinate with the District Interchange Review Committee and that specific analysis procedures will be necessary. It is noted that this will be in addition to the standard requirements of the ADA. * **Multimodal Considerations:** The FDOT reviewer should make certain that the multimodal resources are made available to the applicant. The discussion of multimodal measures should occur as early as possible so that site designs and concepts can incorporate multimodal features and services. Mitigation measures, should also consider multimodal alternatives in addition to traditional roadway capacity projects. |
|  | The FDOT reviewer should request opportunities for review of submittals prepared by the RPC prior to their transmittal to the applicant and should also state its desire to be a reviewing agency for the biennial monitoring report, should the DRI achieve approval. As traffic monitoring studies become more utilized over the life of a DRI, the FDOT reviewer should introduce the concept of traffic monitoring and initiate the discussions about the potential need for future monitoring studies. |
| Provide the applicant with a written summary shortly after the methodology meeting | It is recommended that the FDOT reviewer provide the applicant with a written summary of the FDOT comments shortly after the methodology meeting has been completed. The FDOT reviewer should clearly explain to the applicant that interchange approvals and permits for driveways, median openings, and traffic signals require separate approvals outside of the DRI process. The FDOT reviewer should document cases where assumptions clearly do not meet FDOT standards (such as closely spaced signals and median openings).  Formal DRI-ADA requirements for review by the FDOT will include, at a minimum, Questions 21 and 22 (found within Chapter 28-24, FAC, and DCA Form RPM-BSP-ADA-1) dealing with transportation and air quality impacts of the proposed development. |
| button_internal.png | There are two actions which the FDOT reviewer can take to increase the likelihood of receiving complete and adequate information in all submittals. The first is to assure that the Applicant is aware of resources available through the FDOT which will assist the preparation of plans and documentation which meet FDOT criteria. A list of these materials is provided in [Appendix?]. The second action is to make copies of the FDOT’s review checklists available to potential applicants and other reviewing agencies. This will clarify for all parties involved the general issues which the FDOT will bring to the table when performing a site impact review. |
|  | The applicant is required to revise the transportation methodology per discussions during the Transportation Methodology Meeting and comments received shortly after the meeting. The FDOT reviewer should clearly document any issues that have not been resolved during the methodology development process and present the issues to the applicant and to the RPC. The FDOT reviewer should also contact the RPC to understand the process used by the RPC to officially close the methodology period. The RPC, DCA or Applicant may request that another Pre-application Meeting be conducted if the DRI-ADA is not submitted within one year of the initial Pre-application Meeting. |
| Pre-application Conference/Transportation Methodology | |
| Meeting Documentation button_internal.png | The RPC will document the findings and agreements from the Pre-application Conference and Transportation Methodology Meeting within 35 days following the Pre-application Conference. The RPC Regional Issues List and Agency Comments may include the Transportation Methodology Meeting Letter of Understanding (MLOU). The MLOU summarizes the study area and data, data collection, analysis approaches and mechanisms, data presentation and mappings, and documentation requirements agreed to by the applicant and all agencies reviewing the transportation issue. The basis for the review of the MLOU should be a combination of two sets of documentation: the FDOT reviewer’s review of the Transportation Methodology Meeting Information Submittal and the FDOT reviewer’s notes from the meeting itself. [DRI Checklist 1](#Checklist1), should be used again by the FDOT reviewer during this stage of the DRI review process. |
| FDOT Reviewer Role After agreement has been reached, the reviewing agencies may **NOT** subsequently object, unless changes occur | The FDOT reviewer should review these documents prior to transmittal to the applicant per his/her prior request. The FDOT reviewer should recognize that the analysis conditions, restrictions and special conditions identified in these transmittals are binding on both the applicant and the FDOT (regardless of who subsequently reviews the ADA). For this reason, the review by the FDOT of these materials is highly advisable.  The Pre-application Conference attendees and state and regional agencies involved in the DRI review process have a review time period specified by the RPC (at least 14 days) to comment, agree or disagree in writing with the summary of the methodology.  After agreement has been reached regarding assumptions and methodologies, the reviewing agencies, including the FDOT, may **NOT** subsequently object, unless changes to the project or information occur which make said assumptions and methodologies inappropriate (9J-2.021(f), FAC and 9J-2.045(3)(e), FAC). |
| Application for Development Approval (ADA) Process | The Application for Development Approval (ADA) process is where the applicant provides review agencies with the information needed to make a sufficiency determination. After reviewing the submittal, the agency can either determine that the submittal is sufficient (no additional information is needed) or request additional information. |
| The RPC may  request additional information no more than twice | The RPC may request additional information from the applicant no more than twice, unless an applicant waives this limitation (380.06(10), FS). Agency requests are in the form of comments on the ADA submittal (1st Request for Additional Information) and comments on the applicant’s first response to agency comments (2nd Request for Additional Information). While later coordination between the applicant and agencies is often needed and often occurs, every effort should be made to resolve issues during the required review process.  However, new information submitted by the applicant in the form of an amended or revised DRI-ADA is normally reviewed and commented upon by the reviewing agencies after the first DRI-ADA submittal. In addition, DRI-LGCP amendments are normally initiated at this point to ensure consistency with the proposed DRI. Detailed information about the review requirements for LGCP amendments is found in Chapter 2. |
|  | The RPCs have the responsibility to coordinate with all affected agencies with regard to both the notification and coordination of review. This coordination requires FDOT comments/interests to be weighed against concerns of other agencies that may conflict with the interests of the FDOT. In such instances, the RPC may carry forward a position which does not support the FDOT’s conclusions. |
| ADA Review/1st Sufficiency Determination/1st Request for Additional Information | |
| Applicant Requirements | The applicant completes the DRI-ADA in accordance with the requirements agreed to during the DRI-ADA Pre-application Conference and Transportation Methodology Meeting. The DRI-ADA is then submitted to the RPC for distribution and review to the affected agencies including the FDOT. |
| Sufficiency Determination Sufficiency can either be declared by an applicant or by the reviewing agencies | Sufficiency is the determination that the applicant has supplied all of the necessary information in order to assess the development's regional impacts. Sufficiency can either be declared by an applicant (after responding to two requests for additional information by the RPC) or by the reviewing agencies. Local government staff members are notified by RPC to set a public hearing date when sufficiency has been declared. The sufficiency review process is intended to yield agreement on the following main points among the RPC, all other agencies, including the FDOT, and the applicant:   1. Projected impacts of the proposed DRI development 2. Cost of necessary improvements 3. Mitigation plan detailing allocation of mitigation funds |
|  | When sufficiency is determined by the applicant, the FDOT reviewer needs to coordinate with other agencies to make sure that all transportation issues have been resolved. If outstanding issues still exist, the FDOT reviewer, often through the RPC, should contact the applicant about whether additional information will be provided by the applicant so that issues can be resolved prior to the RPC Hearing. |
| FDOT Reviewer Role | The FDOT reviewer ’s responsibility upon receipt of a DRI-ADA is to determine whether the applicant has:   1. Provided a complete submittal. Due to the time constraints associated with reviews, it is very important to check that the ADA submittal contains all pages (including technical appendices) and all requested supplemental information (such as analysis and model files) for a review to be completed. 2. Adhered to the conditions agreed to during the methodology process and set forth in the MLOU. 3. Provided sufficient detail and support documentation to enable the FDOT reviewer to adequately assess project impacts on the SIS/SHS. 4. Proposed impact mitigation measures which adequately protect LOS on SIS/SHS/FIHS facilities. |
| The DRI-ADA Application review is the opportunity to communicate FDOT concerns regarding the transportation impacts caused by development | The DRI-ADA Application review is the first opportunity for the FDOT reviewer to conduct a thorough review of the applicant’s estimate of transportation impacts anticipated by the proposed DRI. It also constitutes the most comprehensive opportunity for the FDOT reviewer to communicate FDOT concerns to other review agencies regarding the transportation impacts caused by development. The product of the review will be a determination that the applicant is sufficient (i.e. no additional information is needed) or a written set of comments requesting the applicant to provide additional information. This is often referred to as either the *ADA Review* or *1st Sufficiency Determination* or *1st Request for Additional Information*. It is noted that a determination of sufficiency based on the initial ADA submittal does not occur very often. It is also noted that the FDOT reviewer should identify the need for traffic monitoring studies (if necessary) to the applicant if the issue has not been agreed to during the methodology development process. |
| *button_internal.png* | The FDOT reviewer should be familiar with the deadline requirements of the DRI. The ADA review period is 30 calendar days. A comment by the FDOT after the legal deadline of 30 calendar days, which starts from the RPC’s receipt of the ADA, can technically be ignored by the applicant. Although there is usually some flexibility in this area, it is limited and should not be assumed. Under no circumstance should the FDOT reviewer assume more than 30 days for review. Close coordination with the RPC is encouraged to ascertain whether or not flexibility in the schedule exists.  Different RPCs have different policies and procedures for summarizing and transmitting comments to the applicant. For that reason and to ensure comments are distributed to all parties, it is suggested that a copy of the FDOT's comments to the RPC be simultaneously sent to DCA, the applicant, and the applicant’s attorney and/or consultant.  DRI Checklist 2, prepared to correspond to the format of Question 21, summarizes both formal and informal areas of review for the DRI-ADA. The FDOT reviewer should use this list as a general guide in the DRI review process. |
| Guidelines for FDOT Reviewer | The FDOT reviewer is encouraged to first browse the ADA document to gain an overall understanding of the project and how transportation relates to other proposed development considerations. In general, the FDOT reviewer should not try to review any area beyond his/her technical capability. Based on the initial reading, if additional expertise is needed to complete a thorough submittal review, it should be sought immediately. As ADAs have continued to increase in complexity, it is not unusual to request comments from FDOT Staff in traffic operations, permitting, right-of-way, design, and estimating.  In order to sustain a professional and constructive review process, FDOT reviewer comments should be:   * professional, * concise, * provide suggested action by the applicant to address specific comments, and * provide references to methodology agreements and Florida Statutes where relevant. |
| 2nd Sufficiency Determination/2nd Request for Additional Information | |
| Applicant Requirements Make sure that the information needed to make decisions has been provided by the applicant | The applicant will provide written responses to agency comments (the agency’s 1st Request for Additional Information) and provide the responses for agency review. Agencies will then have no more than 30 days to provide comments on the responses (2nd Sufficiency Determination/2nd Request for Additional Information). Similar to the ADA Review/1st Request for Additional Information, the RPCs have the responsibility to coordinate with all affected agencies with regard to both the notification and coordination of the review. |
| FDOT Reviewer Role | The FDOT reviewer’s responsibility upon receipt of the applicant’s responses is to determine whether the applicant has:   1. Provided a complete submittal. Due to the time constraints associated with reviews, it is very important to check that the submittal contains all pages (including technical appendices) and all requested supplemental information (such as analysis and model files) for a review to be completed. 2. Addressed the comments made in the 1st Request for Additional Information. 3. Made any changes that were not requested as part of the agency comments. If changes were made, the FDOT reviewer needs to review the changes for accuracy and impacts the changes may have to conclusions. 4. Provided sufficient detail and support documentation to enable the FDOT reviewer to adequately assess project impacts on the SIS/SHS. 5. Proposed impact mitigation measures which adequately protect LOS on SIS/SHS/FIHS facilities. |
| button_internal.png | DRI Checklist 3 provides guidance for the review. The checklist questions assume the FDOT reviewer has performed thorough and timely reviews of all earlier submittals and therefore, focuses on the substance of the applicant’s responses.  At this point in the review many of the technical issues should be resolved and focus should be on the critical issues that may impact the study conclusions. Particular attention should be paid to making sure that the information needed to make decisions regarding the need and type of mitigation has been provided by the applicant. If the FDOT reviewer anticipates issues associated with making a sufficiency determination (i.e. methodology issues such as trip generation and background growth are still unresolved), the FDOT reviewer should contact the RPC and request a meeting with the applicant prior to submitting written comments. The product of the review will be a written set of comments requesting the applicant to provide additional information. This is often referred to as either the *2nd Sufficiency Determination* or *2nd Request for Additional Information.* |
| Review of Applicant Response to 2nd Request for Additional Information | |
| Applicant Requirements | The applicant will provide written responses to agency comments (the agency’s 2nd Request for Additional Information) and provide the responses for agency review. After responding to the second request for additional information from the RPC, the applicant has satisfied the statutory requirements for an ADA submittal (380.06(10)(b)) and has the ability to declare themselves sufficient (most frequent occurrence). Other options for the applicant include indicating that they will participate in an additional round of sufficiency review and seeking additional feedback from the review agencies outside of the formal sufficiency process. |
| FDOT Reviewer Role If applicant declares sufficiency but the FDOT disagrees, prepare written comments clearly outlining the unresolved issues | If the applicant has allowed an additional round of sufficiency review, the FDOT reviewer should follow the guidance in Section 3.2.3.2. Focus should remain on the critical issues that impact study conclusions and close coordination should be maintained with the applicant, the RPC, and the local government. The product of the review will be a written set of comments requesting the applicant to provide additional information.  In cases where the applicant declares sufficiency but the FDOT disagrees, it is recommended that the FDOT prepare written comments clearly outlining the unresolved issues. The FDOT should quickly notify the RPC and local government and communicate that the FDOT does not find the study sufficient and inform the agencies of the FDOT’s planned next steps. Next steps should include: |
|  | * Contacting the applicant to see whether the applicant is willing to provide additional information to resolve the outstanding issues. If the applicant is willing to provide additional information, the FDOT reviewer should follow the guidance in Section 3.2.3.2. * In cases where the applicant will not provide additional information, the FDOT reviewer may need to conduct specific analysis procedures to determine the impacts to the study conclusions if the requested changes were made. It is recommended that the FDOT reviewer meet with FDOT management to clearly outline the issues and the anticipated effort needed in conducting the specific analysis before initiating the work. If it is found that the study conclusions would change, the FDOT reviewer should summarize the results of the additional analysis and present the different conclusions to the RPC and local government for inclusion in the RPC Assessment Report and the Local Government Development Order. The FDOT reviewer should also be prepared to present the results of the analysis at the RPC Hearing and at the Local Government Public Hearings. |
| Recommendations and Conditions Development | |
|  | The development of recommendations and conditions is intended to document the agreements discussed during the ADA review process. For example, if traffic monitoring studies were agreed to during the study process, the requirement that the applicant conduct those studies needs to be documented and included in the RPC Assessment Report and as conditions in the local government’s draft DO. This document may also be used to present FDOT concerns that remain after the sufficiency iterations which may change the conclusion of project impacts. |
| FDOT Reviewer Role | The FDOT reviewer should work closely with the RPC to ensure that FDOT concerns are incorporated into the RPC Assessment Report and as conditions in the local government’s draft DO. The FDOT reviewer should also work toward the goal of having a mitigation package agreed upon and finalized for inclusion in the RPC Assessment Report.  The FDOT reviewer is encouraged to contact the RPC and local government to determine the format, delivery, and time frame of FDOT comments. At a minimum, a letter to the RPC containing a list of key issues, a summary of the commitments agreed to by the Applicant, and a listing of general DO conditions should be issued. Depending on the RPC and local government, detailed recommendations in language ready to be included in the DO may be requested. |
| RPC Assessment Report | |
|  | The RPC has 50 days after receipt of the notice of public hearing (see Section 3.X), to prepare and submit a formal **Assessment Report** detailing recommendations to the local government on the regional impact of the proposed development. This report is distributed to the local government 10 days in advance of the Council meeting for review. The RPC makes the necessary review modifications and submits the adopted report to the local government and applicant at least 10 days in advance of the public hearing. |
| FDOT Reviewer Role Make sure FDOT recommendations and conditions are properly documented | The FDOT reviewer should review this report to make sure FDOT recommendations and conditions are properly documented. This is important since this report will often be used to develop and subsequently adopt the binding DO between the applicant and the local government. The FDOT’s review will be solicited by the RPC for incorporation into the **RPC Assessment Report** typically allowing less than 30 days for response. |
| Local Government Draft Development Order Review | |
|  | The Local Government Development Order (LGDO) is issued a maximum of 30 calendar days from the day of the public hearing. |
| FDOT Reviewer Role Ensure that LOS on SIS/SHS segments located in the project impact area has been adequately protected  button_internal.png | The LGDO Review is the FDOT’s final opportunity to ensure that LOS on SIS/SHS segments located in the project impact area has been adequately protected. The reviewer should work to obtain a draft DO from the local government no later than 15 days prior to the hearing date. The purpose is to resolve any outstanding issues before the DO is rendered, minimizing the chance of an appeal to the DO once it is issued.  The LGDO Review checklist (DRI Checklist 4) has been designed to address these points: preservation of the FDOT’s SIS/SHS LOS, the transportation implications of land use densities, the continued involvement of the FDOT in the annual/biennial reporting, and the review of project implementation.  The FDOT reviewer should also assure that the FDOT remains informed about the status of the project as it is implemented. Through the provisions of the annual/biennial monitoring requirements set forth in the LGDO, the FDOT has a final opportunity to require periodic monitoring of the project’s impacts on the SIS/SHS. |
| Rendered Development Order Review | |
| Once the development order is rendered by the local government, it is the FDOT’s responsibility to ensure that all commitments are contained within the LGDO | Once the development order is rendered by the local government, it is the FDOT’s responsibility to ensure that all commitments are contained within the LGDO. If the FDOT reviewer believes the LGDO fails to adequately ensure the integrity of the SIS/SHS, the District Secretary or Designee should be notified immediately. While objections to conditions of the LGDO must be appealed in writing to DCA within 45 days of the issuance of the LGDO, in reality the FDOT reviewer has much less time. Upon identifying an issue that may require an appeal, the FDOT reviewer should immediately contact DCA, the RPC, and the local government to initiate communication about the issue. The FDOT reviewer should have all the support information gathered and clear direction about the need for an appeal within 20 days after the issuance of the LGDO so that DCA has adequate time to process the information and move forward with the appeal if necessary. Objections expressed by the FDOT after this 45­ day appeal period have no legal standing with DCA, RPC or the applicant. |

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| 3.3 Modification of Approved DRIs | |
| Notice of Proposed Change (NOPC) [button_PDFlink.png](http://www.dca.state.fl.us/fdcp/dcp/Procedures/Files/nopc.pdf) | A Notification of Proposed Change (NOPC) is required to be submitted by the applicant to the local government, the RPC and DCA when a change is proposed to a previously approved DRI. The NOPC should be submitted following 380.06(19), Florida Statutes and use the standard form provided by DCA (see [http://www.dca.state.fl.us/ fdcp/dcp/Procedures/Files/nopc.pdf](http://www.dca.state.fl.us/%20fdcp/dcp/Procedures/Files/nopc.pdf)). An NOPC may be filed for many reasons such as to extend the project build out date or modify the land use program. |
| Substantial Deviation Determination A change request to a previously approved DRI requires formal determinations from DCA, the RPC and the local government as to what level of further review will be required | A change request to a previously approved DRI requires formal determinations from DCA, the RPC and the local government as to what level of further review will be required. Often, a traffic study is submitted with an NOPC to request that the deviation not be classified as substantial (i.e. rebut the presumption of a substantial deviation). Although not a statutory requirement, it is recommended that a methodology meeting be established by all parties prior to the submittal of documentation supporting the proposed changes. The review process for traffic studies associated with rebutting the presumption of a substantial deviation varies depending on the magnitude and scope of the deviation requested. For example, in some cases a trip generation comparison may be sufficient while in other cases a detailed assessment similar to an ADA may be necessary.  A public hearing is conducted by the local government to determine if the proposed change constitutes a substantial deviation. 380.06(19) FS contains thresholds for substantial deviation determination. Once the local government makes a determination, it is subject to the appeal provisions of 380.07 FS. Site impact review at this stage is not required.  If it is determined that the changes submitted by the applicant constitute a substantial deviation, Section 3.2 of this handbook applies. |
| FDOT Reviewer Role button_internal.png | NOPC applications should be reviewed by the FDOT for assessment of potential transportation-related impacts. Written FDOT comments on the NOPC are typically required within 30 days.  The FDOT may also be asked to review traffic studies associated with a rebuttal of the thresholds established for Substantial Deviations (the thresholds are listed in 380.06(19) FS) supporting a request by the applicant that the deviation not be classified as substantial.  The FDOT has a role in review of all NOPC and Substantial Deviation Determinations for approved DRI LGDO processes by RPC. Several factors should be considered in determining the FDOT’s response to these notifications. DRI Checklist 7, identifies these critical issues.  If a substantial deviation is determined, the FDOT should provide comments to the RPC which in turn will summarize the comments and provide to the applicant. Once the local government issues an amended and restated DO, it is subject to appeal by the FDOT.  In summary, the FDOT should be in agreement with the methodology, assessment of proposed changes, and conclusions supporting the amended and restated DO. |

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| 3.4 DRI reporting | |
| Annual or Biennial Reports button_PDFlink.png | Annual or biennial reports are a requirement of 380.06(18) FS. Annual or biennial reports include information describing any changes that have been made to the development plan during the reporting period, information about the master plan, lands purchased, permitting, and local government, and a summary of each development order condition and when each commitment has been complied with. The formal requirements for annual and biennial reports are summarized by DCA (see <http://www.dca.state.fl.us/fdcp/dcp/procedures/Files/annualreportform.pdf>). As an impacted reviewing agency, the FDOT will often receive copies of these reports. |
| FDOT Reviewer Role | The FDOT reviewer should ensure that SIS/SHS LOS are addressed throughout project implementation. If concerns arise, the FDOT reviewer is instructed to contact the RPC, local government, and the applicant to discuss.  The FDOT reviewer should also ensure that conditions included as part of the LGDO are being met. For example, if a condition stipulating the addition of a traffic signal once it is warranted is included as a condition in the LGDO and the FDOT reviewer determines that the signal is now warranted, the FDOT reviewer should bring this to the attention of all parties. |
| Traffic Monitoring Studies Traffic monitoring studies are being included more frequently in Development Order agreements | As DRIs continue to become more complex, the requirement for traffic monitoring studies is being included more frequently in Development Order agreements. These studies, which differ from the statutory requirement of annual/biennial reports, usually require the collection and analysis of transportation data to verify assumptions associated with internal capture (or community capture if applicable), background growth rates, and other assumptions made during the ADA. A similar process to that of an ADA (i.e. methodology development, study review, and sufficiency determinations) is often used in the review of traffic monitoring studies. FDOT participation throughout the process is essential. The RPCs have the responsibility to coordinate with all affected agencies with regard to both the notification and coordination of the review. |
| FDOT Reviewer Role The FDOT is a reviewing agency for the Traffic Monitoring study | The FDOT should have it stipulated as a condition of the LGDO that it is a reviewing agency for the Traffic Monitoring study. The review of the study provides an opportunity to assure that LGDO-mandated transportation improvements are realized in a timely manner. Depending on the specifics of the study, the FDOT Review role will likely be very similar to the review of an ADA. |

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| Exhibit 3-3 LGCP Amendment Review Checklist 1  Project: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date of Review: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reviewer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due Date for Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Evaluation Criteria** | **Pg.**  **Ref.** | **Y** | **N** | **N/A** | Comments | | A. Study area boundaries established to include all significantly impacted SHS segments under proposed FLUM amendment land use scenario, including those located outside the jurisdiction of entity pursuing amendments? |  |  |  |  |  | | 1. All FIHS segments identified? |  |  |  |  |  | | B. Transportation impacts for existing FLUM adequately defined for comparison use in review? |  |  |  |  |  | | 1. Land use scenario defined for existing FLUM category which has mix, densities and intensities of primary and secondary permitted land uses representing a worst-case scenario? |  |  |  |  |  | | a. Assumptions fully documented? |  |  |  |  |  | | b. Trip-generating characteristics of the existing FLUM Land Use Scenario shown? |  |  |  |  |  | | 2. Acceptable method employed to determine distribution of trips for existing FLUM Land Use Scenarios? |  |  |  |  |  | | 1. All internal capture and internal/external split assumptions properly documented? |  |  |  |  |  | | 3. Existing SHS segments’ LOS shown? |  |  |  |  |  | | 1. Department-approved methods used to perform the LOS analysis? |  |  |  |  |  | | 1. Department and LGCP LOS standards used to determine LOS? |  |  |  |  |  | | 4. LOS determined for SHS Segments for existing FLUMs Land Use Scenario? |  |  |  |  |  | | C. Maximum potential land uses permitted under the proposed FLUM Amendment identified? |  |  |  |  |  | | D. Future land use scenario defined with reasonable mix, densities and intensities of permitted land uses representing a worst-case scenario? |  |  |  |  |  | | 1. Assumptions used in defining FLUM Amendment Land Use Scenario fully documented? |  |  |  |  |  | | E. Department–approved methods used for trip generation, distribution and assignment based on FLUM amendment Land Use Scenario? |  |  |  |  |  | | 1. Adequate documentation provided to permit review of the analyses? |  |  |  |  |  | | F. LOS been determined for SHS segments under FLUM Amendment Land Use Scenario? |  |  |  |  |  | | 1. Additional improvements to SHS segments required, beyond those identified in adopted long-range plans? |  |  |  |  |  | | 1. Commitments to providing additional improvements made as a condition of FLUM Amendment approval? |  |  |  |  |  | | G. FLUM Amendment and transportation impacts consistent with the Florida transportation Plan and other Department-adopted approval plans, policies, standards and guidelines, rules and procedures? |  |  |  |  |  | | H. FLUM Amendment provide for sufficient additional local transportation infrastructure to preserve functional integrity of impacted SHS segments, preventing a shift to their serving local trip needs? |  |  |  |  |  | | I. Proposed FLUM Amendment impact existing or proposed public transit service, as set forth in local agency’s Transit Development Plan? |  |  |  |  |  | |

Notes:

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| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Exhibit 3-4  Local Government Type Review Reference Chart\* | | | | | | | | Review | | Product | Agency | Review  Time  Period | Statutory | Relevant Rules, Procedures, Directives, Policies and Topics | | LGCP | | ORC | DCA | <30 days | 163, FS | Rule 9J-5, FAC  Topic # 525-010-101-b | | EARs | | Meetings, Written Comments | RPC | Varies by RPC delegation agreement | 163.3187, FS | Topic # 525-010-101-b | | LGCP  Amends | FLUM  Amends | OCR | DCA | <30 days | 163.3184, FS | Topic # 525-010-101-b | | DRI  Amends | 163.3187(1)(b), FS |  | | EAR  Amends | 163.3187, FS  163.3184(b), FS | Topic # 525-010-101-b | | PRD-LGCP  Amends | | Request to Review | DCA | <21 days | 163.3184, FS | Rule 9J-5, FAC | | Small Scale  Development  Amendments | | None | LG | None | 163.3187(1)(c), FS |  | | Community  Redevelopment  Plans | | Comments | LG | As set by LG | 163.360, FS |  | | LDRs1 | | None | LG | None2 | 163.3164(23), FS  163.3202, FS |  | | |
|  | \* Primarily Chapter 163, FS and Rule 9J-5, FAC |

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| Ch4 SI box.png | Exhibit 4-1CH4 SI flowchart.png |
| 4 | STANDARD SITE IMPACT PROCESS |
| Introduction | |
|  | This chapter provides technical guidance for reviewing transportation studies associated with DRI and sub-DRI developments. Exhibit 4-1 illustrates the basic framework for site impact analysis and review. In general, **ALL** site impact analyses and reviews should follow this set of basic procedures. Incorporation of multimodal considerations should occur at each stages of the review process as detailed in *Guidelines and Performance Measures to Incorporate Transit and Other Multimodal Considerations into the FDOT DRI Review Process* and *Multimodal Trade-Off Analysis in Traffic Impact Studies, State of Florida Department of Transportation, Office of Systems Planning, 2003.*. |
| The size, location, and type of development as well as jurisdictional requirements will influence the level of detail or sophistication required for each step | The size, location, and type of development as well as jurisdictional requirements will influence the level of detail or sophistication required for each step. It is important to note that a methodology meeting/discussion among all the impacted agencies is recommended at the beginning of a study and that consideration should be given to each step in the process identified in Exhibit 4-1. Each of these steps is discussed individually in greater detail later in this chapter.  The first step in any site impact analysis is the **Methodology Development**. This process should define the data, techniques, practices, and assumptions that will be used and followed in preparing a site impact analysis. It is in this first step that it essential to set the stage for integrating the consideration of transit and multimodal services into the analysis. Agreement should be achieved regarding the data to be considered and the analytical steps for considering other transportation modes apart from the single-occupant vehicle. Once a methodology has been defined and accepted, the technical analyses can begin. |
|  | An **Existing Conditions** analysis is developed to assess current conditions and establish a basis for comparison to future conditions with and without the proposed development. This analysis should take into consideration the transit network, parking strategies, transportation demand management strategies, as well as sidewalk and pedestrian facilities. Next, conditions for a future horizon year without the proposed development are forecast to develop **Background Conditions**. The background conditions assessment then serves as the basis for a direct comparison to future conditions with the proposed site development.  The number of development related trips and their travel paths are estimated following Steps 4 through 8. The number and type of trips associated with site development are estimated in the **Trip Generation** step. **Trip Distribution**estimates are then prepared to identify the origin and destination of trips associated with the proposed site development. **Mode Split** analysis is prepared to determine the travel mode (automobile, transit, walking etc.) used by site-generated trips. Knowing the number of trips, their origins and destinations, and their travel mode, the various trips are placed on the roadway network through the **Assignment** step. |
|  | Once the vehicles are assigned to the network, a **Future Conditions Analysis** is required. The anticipated multimodal services identified in the transit development plan should be taken into consideration and reflected in the future condition analysis. The basic procedure consists of an analysis of traffic operating conditions using FDOT’s (or other accepted) LOS guidelines and standards.  Each of the site plan elements may be modified as part of the mitigation analysis. This step requires coordination with FDOT’s permitting offices (such as driveways and drainage) and may be considered outside the framework of site impact analysis or review. Additional references from FDOT and other sources are presented. |
| button_PDFlink.png | FDOT supports consideration of multimodal facilities in the development process. Although focused on DRIs, some of the procedures identified in the document [*Guidelines and Performance Measures to Incorporate Transit and Other Multimodal Considerations into the FDOT DRI Review Process*](#GuidelinesandPerformanceMeasures)can be used to show how applicants might document existing and planned multimodal features of the transportation system, as well as how a proposed development may interact with and enhance the multimodal system. At a minimum, FDOT and local agency policy with respect to multimodal review should be confirmed during the methodology development.  The remainder of this chapter provides a detailed discussion of each step in the site impact process; describing key study elements both applicants and reviewers should consider when preparing and reviewing a site impact analysis. A summary checklist for the overall site impact analysis process is provided as Table 1 in Appendix A. This checklist can serve as a valuable tool to help ensure that the overall site impact process is well conceived and properly executed by both the applicant and the reviewer. |

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| 4.1 Methodology Development (step 1) | |
| iStep1Method.png  Prior to conducting any site impact analysis, it is necessary to establish the minimum technical responsibilities and analyses that will be performed by all involved parties | The Methodology Development process usually begins when the applicant (developer or other party) contacts the local government, Regional Planning Council (RPC), FDOT or other agency to discuss a proposed development. A formal methodology development process is required for some types of developments, such as a Development of Regional Impact (DRI). Some local governments have official methodologies they require for traffic studies in support of concurrency and comprehensive planning applications. Even if no formal process is required, it is good practice for participating agencies to agree to a methodology in advance of requesting that the applicant perform a site impact analysis to minimize misunderstandings and avoid wasted time and effort.  Prior to conducting any site impact analysis, it is necessary to establish the minimum technical responsibilities and analyses that will be performed by all involved parties. It is the applicant’s responsibility to ensure that the methods proposed follow the techniques and practices accepted by FDOT and other participating agencies. Local governments should be contacted regarding the availability and applicability of minimum requirements for site impact assessments. FDOT should participate in methodology development as appropriate for the development type and scope. During the methodology step, FDOT’s representative should be prepared to address any transportation-related concerns or methodology requirements as part of the site impact analysis effort.  Key elements in methodology development are discussed throughout this chapter. In addition to the more detailed explanations offered in this chapter, further insights and discussion of key impact review steps can be obtained in the standard reference “*[Transportation Impact for Site Development](#ITE_TIA)*” published by the Institute of Transportation Engineers. |
| Study Area Requirements Adjustments to the study area boundaries may be needed to account for site specific circumstances | The study area, sometimes called the area of influence, is typically estimated based on agency or jurisdiction defined thresholds. The study area boundaries will directly impact the scope and extent of the study. Defining too large a study area may unnecessarily increase time and cost to prepare and review the impact report, while also creating distractions to key issues that should be the focal point. Conversely, defining too small a study area could result in a study not addressing one or more key issues that become problematic for both the development and the community in the future. Adjustments to the study area boundaries may be needed to account for site specific circumstances. In cases where defined thresholds do not exist, the study area should be agreed to by the agency during the methodology development.  Ultimately, the study area for site impact analysis is dependent on the land use, type (such as mixed use), and intensity of the development and local jurisdiction requirements. In general, the size of the study area should be proportional to the proposed development type, intensity, ,and anticipated impact area. Care should be taken to ensure that impacts beyond basic capacity measures (e.g. cut-through traffic, multi-modal impacts) are considered. Exhibit 4-2 illustrates an example study area. |
| Exhibit 4-2  Example Study Area |  |
|  | The applicant and FDOT’s reviewer should consult with all appropriate agencies to identify applicable policies and criteria in defining the study area. Local criteria for refining the study area typically involve a comparison of project traffic to thresholds of the percentage of the maximum service flow rate at an established LOS criterion. For example, the DCA rule for DRIs requires that the study area include all facilities where traffic generated by the proposed development is equivalent to 5 percent (10 percent prior to 1994) of the maximum service volume at the LOS standard for the facility. It is noted that many local governments have adopted procedures that prescribe the methodology to be used in defining the study area for traffic studies used to support comprehensive plan amendments. Another example is that study areas for concurrency assessments may be defined as a given distance based on the number of trips generated by a development. For example, the study area will encompass a radius of 0.5 miles for developments generating XX peak hour external trips. Some local governments have adopted a tiered approach to determining a study area. For example, a small scale analysis is required for developments generating between 50-100 trips with a study area radius of .5 miles, and a large scale study is required for developments of greater than 100 trips with a 3 mile study radius. FDOT reviewers should pay particular attention to if and how development trips that cross jurisdictional boundaries are included in the assessment. |
| Analysis Years | In general, the analysis years should be related to (1) the opening date of the proposed development, (2) build out of major phases in a multi-year development, (3) long-range transportation plans or LGCP horizons, (4) MPO prepared Transportation Improvement Program horizons or other significant transportation network changes and (5) Corresponding to the local government’s Capital Improvement Elements. Analysis years should be clearly defined through the report (i.e., “2010 Existing Conditions” instead of just “Existing Conditions”) and agreed to during the methodology process.  A change in the proposed development phasing (notice of proposed change in the DRI process - see Chapter 3) may require a new analysis year be considered. Exhibit 4-3 suggests study horizons as a function of the type of site impact review. |
| Exhibit 4-3  Suggested Study Horizons | |  |  | | --- | --- | | **LGCP** | Existing, short-term (five-year), and long-term (existing comprehensive plan horizon year or at least 10 years) analyses are typically required for comprehensive plan elements. | | **DRI** | The year of commencement (or opening of first phase of the development), the anticipated opening year of each major phase of the development assuming build out and full occupancy of each phase, and the termination year (or year of complete development assuming full occupancy) should be considered for all DRI type analyses. | | **Special** | Interchange Modification Reports (IMRs) and Interchange Justification Reports (IJRs) are design analysis of proposed mitigation improvements. Therefore, a design year horizon of 20 years from the anticipated opening year of the interchange is required. Major build out phases or the implementation of other transportation improvements may require additional analysis years be considered. | | Concurrency | Typically these developments occur in only one phase. Therefore, the anticipated opening year of the development assuming build out and full occupancy is the only horizon year required. Local government requirements should be reviewed. | |
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| Analysis Periods Site impact analyses should be based on a peak-hour analysis  button_PDFlink.png | Site impact analyses should be based on a peak-hour analysis. The analysis period should be related to known and anticipated peaking patterns of demand on the transportation system and development traffic. The typical period used by the FDOT for most site impact analyses is the 100th highest hourly volume. This period represents a typical weekday peak hour during the peak season of the year (see the FDOT Q/LOS Manual for additional information). If this period is not adequate, the period selected should be the period that has the highest combination of development and background traffic.  The analysis period to be used should be clearly stated in the methodology. The FDOT reviewer should check that appropriate factors have been applied to field collected data so that the appropriate analysis period is being analyzed (for example, a 100th highest hour condition). Detailed information about the application of factors to field data is found in the [FDOT *Project Traffic Forecasting Handbook*](#FDOT_PTFH). |
| Use of Manual Methods and Travel Demand Forecasting Models | Future conditions for site impact assessments can be estimated using manual methods, travel demand forecasting models, or a combination of the two. The method to be used will often depend on the size and scope of the project as well as the availability of a travel demand model for the study area. The method to be used should be determined as early as possible in the process through coordination with FDOT and local agencies. The preparer of a transportation impact analysis should ensure the purpose of using any model is clearly stated and approved by FDOT prior to initiating the study.  In many cases, a hybrid approach will be agreed to that employs elements of both manual and model methods. For example, background conditions and trip generation might be estimated using manual methods while trip distribution and assignment might be based on model methods. In another example, if the FDOT reviewer questions the distribution and assignment of trips generated by a development analyzed using a manual method, the step potentially could be compared with the results of an assignment made with a travel demand model. |
| Consideration of Other Major Committed Developments Other major committed developments should be considered in any site impact analysis | Other major committed developments defined as developments that have an approved development order (DRIs) or an approved concurrency management certificate should be considered in any site impact analysis. The traffic from these developments is part of the background traffic and is addressed in greater detail in **Step 3: Background Traffic.** The manner in which committed development will be accounted for in the analysis should be determined as early as possible in the process through coordination with FDOT and local agencies. |

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| 4.2 Existing Conditions Analysis (step 2) | | |
| iStep2Existing.png | Once the parameters are established in the methodology development step, the site impact analysis can begin. The first step in the process is to perform an analysis of the existing conditions through data collection and analysis. This analysis establishes a basis of comparison for the proposed development. The basic analysis should consist of identifying the physical characteristics of the transportation system and traffic operating conditions of roadways and intersections using FDOT’s LOS guidelines and standards or other accepted techniques. | |
| Data Collection *The applicant is responsible for all data*  Exhibit 4-4  Existing Conditions Analysis | Exhibit4-4.emf | The specific data that should be collected during a site impact analysis is usually defined in the methodology development step. The applicant is responsible for the collection, assembly, analysis and presentation of all data. Types of data generally required for the study area are discussed below. Exhibit 4-4 summarizes the data collection and existing conditions requirements. |
| Proposed Site Development Characteristics The proposed land uses should be identified by intensity and classification consistent with **ITE’s Trip Generation** | The Proposed Site Development Characteristics will identify the location of the proposed development, site boundaries and other site related characteristics. This information should be presented based on the following guidance:   * The proposed land uses should be identified by intensity and classification consistent with ITE’s *Trip Generation* * The required study area or anticipated area of influence for the proposed development should be identified with site development characteristics; * The proposed access requirements, including median openings and driveway locations should be provided * Compliance with land use goals and policies (such as infill policies or corridor preservation policies) in the MPO long-range transportation plan, LGCP, adopted future land use maps (FLUM) and zoning ordinances should be demonstrated | |
| Transportation System Data button_internal.png | The existing Transportation System Data will include the physical and functional characteristics of the transportation system. Required data to be provided include:   * The functional classification, access management classification and jurisdiction responsible for the facility (state, county or local) for all facilities within the area of influence. * The area type (rural, transitioning, urban or urbanized area). * Geometric data such as the number of lanes, locations of intersections or interchanges. * Identification of bicycle routes and pedestrian routes that could be affected by the development. * Traffic control data, signals and signing at intersections and interchanges within the study area. * Identification of any Strategic Intermodal System (SIS) facilities, Florida Intrastate Highway System (FIHS) facilities, or facilities on the State Highway System (SHS). More detailed information may be required for these facilities. * Identification of programmed improvements on state highways and significant local (city or county) roads and transit facilities for at least the next three years or through each major phase of the proposed development. * Identification of anticipated improvements that are reported in the MPO long-range transportation plan, the MPO transportation improvement program, FDOT’s adopted five-year work program, the transit agency’s transit development plan, regional corridor studies, the transportation disadvantaged service plan, local government comprehensive plans, and bicycle and pedestrian master plans. * Multimodal information, data, and considerations, as appropriate. The transit development plan (TDP) should be reviewed and the transit agency serving the area should be contacted to determine the current and committed service in the area, future plans for additional service, corridor identified for future development, passenger demographics, ridership trends, transit conducive land use patterns, and anticipated fixed-route service modifications (i.e. route modifications, headway changes, express bus, premium transit, transfer facilities, super stops, shelters, etc.) within the area of influence. When considering potential transit services, the density, diversity, and distance factors associated with a proposed development should all be considered as discussed in **Chapter 2**. Specifically, transit needs should be assessed in the context of the types of housing, mixture of land uses, density and intensity of development, and walking distance to transit stops. As the need for multimodal services is reviewed, the focus of the analysis should extend outward from development projects and activity nodes a distance of one mile to consider the potential for modifying existing or committed fixed-route bus service or provider circulator or feeder service to premium transit. The study area should not be restricted in terms of walking distance rather the FDOT should consider in consultation with the transit provider whether it is desirable to extend service a modest distance to serve new development. Additional guidance on multimodal analysis is available for the FDOT reviewer as noted in the multimodal section of the Bibliography. | |
| Traffic Counts and other Transportation Demand Data Where FDOT data is not available, the applicant is responsible for collecting data in accordance with FODT procedures and consistent with agreed methodologies | Existing Transportation Demand Data will include the identification of current and historical traffic volumes, turning movement counts, traffic characteristics such as K, D, T and PHF, ridership surveys or patronage data, bicycle usage, and pedestrian usage. Existing data related to travel demand that will support trip generation analysis such as origin and destination data or market analysis may also be required. All traffic analysis summaries and reports should clearly identify the specific year “existing” refers to (i.e. Existing (2009) Conditions).  Existing year traffic data should be collected in accordance with the procedures identified in the *FDOT Q/LOS Manual* (available on-line at: <http://www.dot.state.fl.us/planning/systems/sm/los/los_sw2.shtm#handbook>)*,* and the *[FDOT Traffic Forecasting Handbook](#FDOT_PTFH)*  For DRIs and other larger developments, the last five years of historical data should be collected (if available). FDOT’s existing annual average daily traffic (AADT) counts, classification counts, turning movement counts and automated telemetry recorder (ATR) sites should be the prime source for historical traffic data. This data is stored in the traffic characteristics inventory (TCI) and roadway characteristics inventory (RCI) databases maintained by FDOT. RCI provides a graphical interface, presented in CD or DVD format, to access traffic data collected for over 7,500 traffic count locations on the State Highway System through the Florida Traffic Information application. This application allows users to locate, identify, and access traffic data from a database of the traffic count sites.  Where FDOT data is not available, the applicant is responsible for collecting data in accordance with FDOT procedures and consistent with agreed methodologies. Data in years where significant transportation network changes occurred or major phases of related developments were opened to traffic that could affect a trend analysis should be excluded. | |
| Land Use and Demographic Data | Land Use and Demographic Data will include future land use classification, intensity, population, employment, comprehensive plan data and zoning requirements. If a FSUTMS model will be used in the analysis, the traffic analysis zones representing the location of the proposed development should be identified. The socioeconomic data contained in the ZDATA files of the model should be verified, to the greatest extent possible, within the study area.  Other committed developments should also be identified including related vested developments within the preliminary area of influence, adopted amendments to the comprehensive plan or other development agreements. The applicant is responsible for collecting this information within the study area as directed by FDOT. The extent of data required for other committed development should be agreed to during the methodology meeting. The applicant is also responsible for verifying all of the data collected. | |
| Model Data Considerations It is important to understand the model application and base data | When considering use of model data, it is important to understand the model application and base data. Data obtained from fringe areas of a travel demand model is often subject to greater errors and should be carefully evaluated to ensure its applicability. Comparisons of the model forecasts to ground counts should be used to check how the model is performing in the fringe areas as this is often where issues exist with travel demand models. | |
| Operational Analysis | FDOT has adopted statewide minimum LOS standards that apply on the SIS, SIS connectors, FIHS, and TRIP roadways. All LOS determinations are to be based on methodologies consistent with the *Highway Capacity Manual 2000* or FDOT’s *Q/LOS Handbook* or a methodology determined by FDOT as having comparable reliability.  For site impact analysis, capacity analysis should be performed along each segment of the roadway system identified in the methodology step within the area of influence for the existing conditions. These facilities will include the major street segments, site access locations and intersections within the study area. Critical intersections for analysis may be identified based on the functional classification of the roadways or based on the volume of development traffic utilizing the intersection.  The latest version of the FDOT *Q/LOS Handbook* is of sufficient detail for most existing condition analyses. If an Interstate facility or other FIHS limited-access roadway may be affected by the proposed development, additional freeway segment, ramp and weave analysis procedures from the latest version of the *Highway Capacity Manual* may be required. FDOT’s LOS standards, acceptable traffic factors and methods for analysis are discussed in greater detail in **Step 8: Future Conditions Analysis**. | |

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| 4.3 Background Traffic (step 3) | |
| iStep3Background.png | Background Traffic serves as the base condition in determining the impacts of development on the transportation system in future years. Background traffic is comprised of two elements:   1. The expected increase from overall growth in through traffic (traffic movements through the study area that do not have an origin or destination in the study area). 2. Traffic from other developments (not including the project being analyzed). For example, major committed developments defined as developments that have an approved development order (DRIs) or an approved concurrency management certificate should be included in background traffic.   Background (non-site) traffic is typically estimated using one of three methods based on local area needs and conditions: |
|  | * Growth rate (trend) methods relying on historic trends. This method is typically appropriate in applications for: * Small projects that will be built within one or two years * Areas with at least five years of data showing stable growth * Build-up methods that use specific development information. This method is typically appropriate in applications for: * Areas experiencing moderate growth * Areas where multiple projects will be developed during the same period * Project horizon years of 5 years or less * Locations where there is thorough documentation of development approvals. * Model methods involve the use of a sub-area transportation plan or modeled volumes. Model methods are typically appropriate in applications for: * High growth areas * Large regional projects that may have multiple build-out phases * Locations where there is sufficient information available to calibrate the model to current and future conditions. |
|  | The Growth Rate (Trends) and build-up methods are often referred to as manual methods. The type of project, surroundings, available data, horizon year, and agency requirements should all be considered when selecting the most appropriate method for a given situation. It is noted that the applicant may be requested to document growth assumptions using more than one method. For example, rates based on using the Growth Rate (Trends) Method and the Model Method may be requested so that comparisons can be made and differences can be discussed. |
| Manual Methods for Projecting Background Traffic | Manual projection of background traffic for site impact analysis is typically performed using trend or regression analysis of historic traffic data. The manual method of projecting background traffic involves three distinct steps as summarized in Exhibit 4-5. The process of adding vested development traffic into background traffic is known as the Build-up Method and is described further below. |
| Exhibit 4-5  Background Traffic | Exhibit4-5.emf |
| Growth Rate (Trends) Method Growth rates based on trends are the most basic approach to developing future growth projections | Growth rates based on trends are the most basic approach to developing future growth projections (Reference: *[Transportation Impact Analyses for Site Development:](#ITE_TIA))* Because the growth rate method inherently reflects historical trends, the accuracy of estimates prepared using this approach will be dependent upon how the historical trend continues through the horizon year. AADT volumes should be used in developing growth trends and should be based on at least five years of data. Care should be exercised in using data beyond five years as the results may over-emphasize past trends. Note also that peak hour growth patterns do not necessarily directly follow AADT growth patterns. |
|  | Growth Rate Regression Analysis Techniques When using either AADT or a related demographic characteristic for forecasting background traffic, the following steps are required:   1. Identify the data that is required based on the study area and the sources of relevant data. 2. Obtain the historic traffic-count data for the existing locations(s) or urban growth variable data. 3. Perform a regression analysis using one of three model forms identified below and plot the patterns of traffic growth rates for the existing location(s). This process will involve the analysis and selection of a regression model. 4. Project traffic based on the analysis performed in Step 3.   Regression analysis is the method of fitting a mathematical model that will adequately describe a trend in data for projection purposes. Three model forms are recommended for site impact analysis: linear, exponential and decaying exponential. Further details and an example application of each of these methods are presented in the next section.  After future year AADT is projected using regression, K and D factors are then applied to develop peak-hour volumes. The use of K and D factors to estimate peak-hour volumes is discussed in **Step 7: Assignment**. |
| FDOT Trends Spreadsheet Program Traffic Trends Analysis Tool allows an analyst to peruse the FTI count database, select an automatic traffic count station data set, and then prepare future trend analysis | FDOT developed and maintains a software analysis tool that can be used to prepare trend analysis. *Traffic Trends Analysis Tool* is an Excel-based tool that allows an analyst to peruse the Florida Traffic Information count database, select an automatic traffic count station data set (from a database of count locations organized by County), and then prepare future trend analysis. The software allows for comparison of results using all three regression techniques and provides a statistical evaluation (R2 value) for each. The automated analysis process provides the analyst with opportunities to select the range of historic data to be included, consider multiple future projection years, and test options in a quick and efficient manner. |

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| Example Application of Regression Analysis and the Trends Spreadsheet | The following example is provided to illustrate the use of the three regression models for forecasting traffic volumes on a roadway (US 17/92) in Seminole County. Information regarding the applicability of the three regression techniques is also presented. Exhibit 4-6 summarizes the historical two-way AADT on the roadway facility. | Exhibit 4-6 Historical Volumes  (Seminole County site 0040)   |  |  | | --- | --- | | **Year** | Volume (AADT) | | 1998 | 21,000 | | 1999 | 21,500 | | 2000 | 19,000 | | 2001 | 21,500 | | 2002 | 25,500 | | 2003 | 25,000 | | 2004 | 25,000 | | 2005 | 21,500 | | 2006 | 23,000 | | 2007 | 25,000 | | |
| Linear Growth Linear growth assumes a constant amount of growth in each year and does not consider a capacity restraint | Linear growth predicts the future traffic based on a straight line developed from historic traffic growth. This model assumes a constant amount of growth in each year (number of vehicles) and does not consider a capacity restraint. The mathematical model for linear growth is as follows:  Future Volume = (Linear Growth Rate \* Number of Years) + Base Year Volume  VolumeFY = GLinear \* N + VolumeBY  Where: G = Linear growth rate  N = Years beyond the base year  FY = Future year  BY = Base year | | |
| Exhibit 4-7  Linear Growth Projects Using Traffic Trends |  | | Using the Seminole County example data, the results of the linear growth rate estimated an average growth of 418 vehicles per year as shown in Exhibit 4-7. In this example, an opening year of 2009 was evaluated along with a mid-year of 2016, and a long-term horizon of 2026. The software allows users to select three analysis horizon years per evaluation run. |

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| Exponential Growth Exponential growth is most applicable where there is rapid growth and capacity available | Exponential growth predicts the future traffic based on a percentage of growth from the previous year. This model is most applicable where there is rapid growth and capacity available. The mathematical form of exponential growth is as follows:  Future Volume = Base Year Volume (1 + Growth Rate)Number of Years  VolumeFY = VolumeBY \* (1 + Gr)(FY-BY)  Where: Gr = Geometric growth rate  FY = Future year  BY = Base year | | |
| Exhibit 4-8  Exponential Growth Projects Using Traffic Trends |  | | Using the Seminole County example data, the estimated average exponential growth rate is shown in Exhibit 4-8. |
| Decaying Exponential Growth | Decaying Exponential Growth is used to project future traffic in areas with a declining rate of growth over the analysis period. This model form is recommended for site impact analysis in mature areas when build-out is approaching. | | |
| Decaying Exponential Growth is used to project future traffic in areas with a declining rate of growth over the analysis period | VolumeFY = VolumeBY \*  Where: X = Normal straight line growth from trend data  FY = Future year  BY = Base year | | |
| Exhibit 4-9  Decaying Exponential Growth Projects Using Traffic Trends |  | Exhibit 4-9 illustrates application of a decaying exponential growth project to the Seminole County data. Appendix Z contains a step-by-step illustration of the use of the software to derive the three examples shown in Exhibits 4-7 through 4-9. | |

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| Build-Up Method The build-up method involves the identification of all trips associated with vested developments in the study area, assigning those trips to the study area transportation system, and then adding the background through traffic | The build-up method of traffic involves the identification of all trips associated with vested developments in the study area, assigning those trips to the study area transportation system, and then adding the background through traffic. The build-up method of projecting background traffic is appropriate when other related developments are proposed that will affect local area traffic patterns during the same horizon period.  A 5-stage analysis procedure for the build-up method is outlined below.  Stage 1. Assess impacts of committed system improvements.   * Work with local and state agency staff to identify a cordon subarea. * Identify committed transportation projects and project probable travel pattern changes within the subarea.   Stage 2. Identify and sum vested development.   * Confirm vested projects and phasing within the subarea with local and state agency staff. * Obtain trip assignment associated with vested projects (desirably including documentation of trip generation, trip distribution, and trip assignment). * Other committed developments that should be identified include: related vested developments within the preliminary area of influence, adopted amendments to the comprehensive plan or other development agreements. * Sum the vested trips.   Stage 3. Estimate growth in through traffic.   * Use growth methods or model methods to estimate growth of traffic through the study area that doesn’t otherwise stop in the area. |
| Double counting of development generated trips when estimating through growth (Stage 3) may occur and checks for reasonableness should be made | Double counting of development generated trips when estimating through growth (Stage 3) may occur and checks for reasonableness should be made. If the build-up method is used, a lower traffic growth rate than a direct trend analysis may likely be used in estimating the through trips. The vested development traffic then is added to the “natural” growth that would occur without the presence of the vested developments. For example, if the build-up method were proposed and historical trends indicated a 4 percent per year linear growth rate, 2.5 percent may be used instead based on the anticipated “natural” (not from other developments) population growth within the study area. |
| Large Scale Transportation Model Methods | 1. The FDOT and MPOs typically maintain travel demand models that incorporate large planning areas. These models are typically calibrated to a base year and include a long-term future horizon year for the corresponding transportation system. Travel demand models can sometimes be effectively used to assist in the derivation of traffic patterns and needs associated with site development. 2. The model method of transportation impact analysis uses an MPO-adopted regional travel demand model to forecast the trip distribution and assignment of development-generated trips. Trip generation should be calculated using ITE’s Trip Generation. There are two general methods for using an FSUTMS model for distributing and assigning ITE-generated trips during a traffic impact analysis: the special generator method and the link volume factor method. |
| Special Generator Method: | 1. Develop a new traffic analysis zone (TAZ) or set of zones for the development and code in connectors from the new zone centroids to the transportation network. Connection points should be consistent with the preliminary site access plan (see Step 10: Site Access). 2. Code socioeconomic data consistent with the development program within a spreadsheet. 3. Identify appropriate ITE vehicle trip rate(s) and estimate site trip generation manually using ITE’s Trip Generation. 4. Identify appropriate trip purposes for commercial properties based on prevailing land use type (e.g., shopping center would be predominantly home-based shopping trips). It is recommended that 25-33 percent of commercial trips be considered nonhome-based. For residential uses, identify residential zones with similar characteristics and assume similar percent trip purposes for new zone(s). Apply percent trips by purpose to ITE trips. 5. Identify reasonable auto occupancy rates for each trip purposes (e.g., check the Cube Catalog keys). Apply auto occupancy rates to ITE trips by purpose to calculate person trips and sum for residential and commercial uses in each development TAZ. 6. Enter person trips by zone and trip purpose into SPECGEN file.    1. Set up model to execute using script files that isolate development trips from other background trips.    2. Conduct initial model run to: 7. Obtain initial person trip distribution patterns of site-generated trips.    1. Compare vehicle trip generation obtained manually and with the planning model.    2. If the model-derived number of vehicle trips is less than the manual calculation for any given land use, the total external site trip generation obtained using the planning model should be adjusted until the modeled number of trips is greater than or equal to the manually estimated trip.    3. Identify any difference in vehicle trips between manual and model calculations.    4. Adjust number of trips in SPECGEN file by a similar number.    5. Rerun model through Mode Choice.    6. Identify any remaining difference in vehicle trips between manual and model calculations.    7. Continue steps 9a through 9d until model calculations are greater than or equal to manual calculations. 8. Run trip assignment, separately accounting for trips to and from the development site (selected zone analysis). 9. Convert site-generated trips to PM peak period or other, as directed by local concurrency ordinances. 10. Estimate internal capture using the guidelines contained in ITE’s Trip Generation Handbook. 11. Adjust trips to commercial properties on site to account for agreed upon pass-by trip percentages. 12. If trips are anticipated to have an origin or destination external to the model’s study area, adjust the EIPRODS file accordingly. |
| Link Volume Factor Method: | 1. Develop a new traffic analysis zone (TAZ) or set of zones for the development and code in connectors from the new zone centroids to the transportation network. Connection points should be consistent with the preliminary site access plan. 2. Code socioeconomic data consistent with the development program within the ZONEDATA file (e.g., single-family homes in development = single-family dwelling units in FSUTMS). 3. For land use types not found in the ZONEDATA file, use ratios acceptable to review agencies to fill in remaining SE data variables (e.g., apply persons per DU to estimate population, employment per square foot to estimate employment from estimates of square footage). Example land use conversion rates are shown in Exhibit 4-10. 4. Set up model to execute using script files that isolate development trips from other background trips (selected zone analysis). 5. Identify cordon line around the proposed development. 6. Calculate the total number of external trips (i.e., those crossing the proposed development cordon line). 7. Calculate the percent distribution of external project trips (link distribution percentages) by dividing the number of project trips on each link of the network by the total number of external project trips. 8. Identify appropriate ITE vehicle trip rate(s) and estimate site trip generation manually using ITE’s Trip Generation. 9. Factor the total number of ITE external project trips by the link distribution percentages calculated earlier for each link in the loaded network. 10. Resulting ITE trips times link distribution percentages can be plotted link by link. 11. Estimate internal capture using the guidelines contained in ITE’s Trip Generation Handbook. 12. Adjust trips to commercial properties on site to account for agreed upon pass-by trip percentages. 13. If trips are anticipated to have an origin or destination external to the model’s study area, adjust the EIPRODS file accordingly. |
| Exhibit 4-10  Land Use Conversion Rates for Traffic Impact Assessments | |  |  | | --- | --- | | Land Use | Conversion Rate\* | | Single-Family Dwelling Unit | 3 persons per DU | | Multi-Family Dwelling Unit | 2 persons per DU | | Office | 4 service employees per 1,000 sq ft | | Hospital | 3 service employees per 1,000 sq ft | | Retail <200k sq ft | 3 commercial employees per 1,000 sq ft | | Large Retail | 2 commercial employees per 1,000 sq ft | | Industrial | 2 industrial employees per 1,000 sq ft | | Warehousing | 1 industrial employee per 1,000 sq ft | | Hotel | 1 service employee per room | | \*Land use conversion rates should only be considered when local data is not available. | | |
|  | If a model method is used, ITE recommends the model should be carefully examined to confirm: (Reference: [*Transportation Impact Analyses for Site Development)*](#ITE_TIA) |
|  | * Land use and demographic assumptions within the model are valid; * Key collector streets and centroid connections (links between the roadway network and the analysis zone) are included; * The roadway network is accurately represented (i.e. appropriate link data such as presence of facilities, number of lanes, link capacity, travel speeds, etc.); and * The trip assignment method (confirm if and how trips are routed between zones considering multiple potential paths). |
| It is essential that the model user have a thorough understanding of a given model’s analysis strengths and limitations so that model output can be properly interpreted and used | It is essential that the model user have a thorough understanding of a given model’s analysis strengths and limitations so that model output can be properly interpreted and used. Many transportation models allow for modeling the differences with and without trips reflecting development of a specific analysis zone. The model results typically provide link traffic volumes and thus allow for a direct comparison. It is critical that the comparison results be considered in the context of net effects as opposed to assignment of specific site development trips to individual roadway links. (Reference: [*Transportation Impact Analyses for Site Development: An ITE Proposed Recommended Practice*.](#ITE_TIA)) |
| ZDATA Interpolation | In addition to forecasting AADT volumes directly, the applicant or FDOT may be required to develop FSUTMS model inputs (ZDATA files) for years that are not major horizon years in the model used in the site impact analysis. When the duration between model horizon years is less than five years, it may be appropriate to interpolate the ZDATA using a linear regression equation, for example between 2015 and 2020. Data in years where significant transportation network changes are anticipated to occur or major phases of related developments are proposed to open should be considered to the greatest extent and linear interpolation of ZDATA files should be discouraged. More detail on the use of ZDATA files in site impact analysis is provided in **Step 4: Trip Generation**. |

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| 4.4 Trip Generation (step 4) | |
| iStep4TripGen.png | Trip generation is the process by which the number and type of trips associated with a given land use is estimated. Trip generation may be the most critical element of the site impact analysis reviewed by FDOT because it estimates the amount of vehicular travel associated with a specific land use or development. An estimate of trip generation from the development using an FDOT approved trip generation database (such as ITE’s *Trip Generation* manuals) is required in ALL analyses even when the model method is used. The process is shown in Exhibit 4-11. |
| Exhibit 4-11  Manual Trip Generation | Exhibit4-11.emf |
| Trip Generation Data  A trip end is a single vehicle movement with either the origin or the destination inside the study site and one origin or destination external to the land use | To understand trip generation, it is first necessary to define a trip end. For the purposes of this manual, a trip end is a single or one-direction vehicle movement with either the origin or the destination (entering or exiting movement) inside the study site and one origin or destination external to the land use. To avoid confusion, all “trips” in this manual will be vehicle movements and the term “person-trips” will be used to differentiate instances where the number of persons is referred to. For example, a family of four traveling from home to school would represent one vehicle trip and four person-trips. |
|  | Trip generation databases have been developed over time and can be used to estimate the number of trips likely to be associated with a given land use. One of the most recognized and comprehensive compilations of trip databases available is the Institute of Transportation Engineer’s *Trip Generation*. Currently available in the 8th Edition,. Comprised of data collected nationally, a wide variety of land uses are represented in *Trip Generation*, though users should exercise judgment in selecting and applying trip rates for their situation. |
| Exhibit 4-12  ITE Trip Generation Manual Page Example;  **Data Source: ITE *Trip Generation, 8th Edition***  One of the most recognized and comprehensive compilations of trip databases available is the Institute of Transportation Engineer’s Trip Generation | ITE Trip Generation Example Figure |

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| Data Applicability Trip Generation users should carefully review the data available and consider its applicability in the context of each project’s circumstances  It will sometimes be necessary to collect additional empirical data | *Trip Generation* contains a tremendous amount of data, however, that data is not necessarily universally applicable or representative of all situations. *Trip Generation* users should carefully review the data available and consider its applicability in the context of each project’s circumstances. Some key items to consider in assessing the usefulness of *Trip Generation* data for a particular application include:   * Selection of the land use closest to that being assessed is critical (Note especially the land use description and information about where and when sites were studied); * The number of data points available: some of the ITE data is very limited in terms of sample size and/or number of analysis periods; * Trip patterns change from suburban to urban areas (most of the data in *Trip Generation* reflects suburban development settings with little or no transit service, pedestrian amenities, or travel demand management programs); * Trip patterns may evolve over time (for example, drive-in bank trip generation rates have steadily decreased over the last decade due to the evolution of the banking industry and the introduction of direct deposit, web-based banking, automatic teller machines (ATMs), etc.); * Seasonal variations and peaking characteristics in the trip generation associated with some land uses may be significant (schools, for example); and * ITE encourages users, when practical, to collect local data to supplement the ITE data; particularly in situations where data samples are small or other conditions warrant.   It will sometimes be necessary to collect additional empirical data or document other supplemental studies in the absence of sufficient comprehensive data from *Trip Generation* or other resources. |
| Analysis Period Selection Agree early in the methodology evaluation process | It is important that FDOT and applicants agree to what analysis period(s) are required early in the methodology evaluation process. For trip generation, the peak period to be analyzed should be the period with the highest combined street and site generation traffic volumes. In most cases, the development peak will occur during the weekday p.m. peak hour. Local and regional governments usually have policies determining the most critical times studied. |
| Use of Trip Generation Rates or Equations ITE’s **Trip Generation Handbook** provides guiding principles for selecting equations or average rates | Many of the land use categories in *Trip Generation* provide both an average trip rate and an equation to estimate the number of trips for that use. FDOT often applies the guidance in ITE’s *Trip Generation Handbook, Second Edition* for selecting regression equations or weighted average rates.  When estimating the total number of trips, use of the average rate should be considered carefully. The average rates provided in ITE’s *Trip Generation* are calculated by different methods and can vary substantially from what is appropriate to the development as a result of the range of data selected, the number of sites sampled, and the method used to estimate the weighted average trip rate.  Trip generation equations are also provided in ITE’s *Trip Generation* that can provide better estimates of trip generation under certain conditions. In general, the fitted equations tend to reflect a decreasing trip rate as building size increases. This is particularly true with large retail shopping centers. |
| Limitations of Trip Generation Data Florida’s unique demographic makeup and the influence of tourism on travel in Florida may require variances from these national averages for certain land use types | While offering the most comprehensive national trip database available, *Trip Generation* does not offer sufficient data for all situations. Some of the key limitations of *Trip Generation* include:   * Not all land uses are represented in the *Trip Generation* database; * Most data collected for ITE’s *Trip Generation* were collected in suburban locations with little or no transit service, nearby pedestrian amenities, or travel demand management (TDM) programs ([ITE *Trip Generation 8th Edition, User’s Guide*](#ITE_TripGen)); and   Due to data availability and the need to understand site specific conditions, judgment is required in the analysis of mixed-use developments, neo-traditional developments, transit oriented developments, and other unusual generators. |
| Multi-Use or Mixed-Use Developments | ITE defines multi-use (or mixed-use) as developments that contain a mix of land uses. However, there are a number of land uses identified in *Trip Generation* that contain mixed land uses. For example, “a subdivision or planned unit development containing general office buildings and support services such as banks, restaurants, and service stations arranged in a park- or campus-like atmosphere should be considered an office park, not a mixed-use development”. Similarly, office buildings with support retail or restaurant facilities contained inside the buildings should be treated as general office buildings because the trip generation rates provided reflect this situation.” ([ITE *Trip Generation*](#ITE_TripGen)) FDOT should evaluate the grouping of several small land uses carefully. Additional information about internal capture and community capture rates that may be used in the analysis of mixed-use developments is included below. |
| Neo-Traditional Developments | Neo-traditional developments seek to reduce the need for driving by providing a mix of land uses to serve residential needs and by providing a community design that supports walking and alternative modes of travel. Due to the many site specific issues associated with neo-traditional developments, the use of standard or generalized trip generation reductions to account for the benefit of neo-traditional developments is not recommended. Developments where neo-traditional concepts are proposed should be carefully reviewed to understand the trip making characteristics of the area and discussions should take place to agree on the best method to quantify them. |
| Transit-Oriented Developments button_web.png | Transit-Oriented Development (TOD) is a mixed-use residential or commercial area designed to maximize access to public transport, and often incorporates features to encourage transit ridership (source: <http://en.wikipedia.org/wiki/Transit-oriented_development>). A TOD neighborhood typically has a center with a train station, metro station, tram stop, or bus stop, surrounded by relatively high-density development with progressively lower-density development spreading outwards from the center. TODs generally are located within a radius of one-quarter to one-half mile from a transit stop, as this is considered to be an appropriate scale for pedestrians.  Data on the trip generation characteristics of TOD in Florida is very limited. In reviewing data from TOD in other locations, care needs to be taken to understand the level of transit provided in the TOD and how it compares to the site being evaluated. For example, a TOD based around a mature Metro Station in suburban Virginia would have much different trip generation characteristics then a TOD based around a bus station with one-hour headways. The FDOT provides land use and design guidance about TODs and other transit applications in the publication *Accessing Transit: Design Handbook for Florida bus Passenger Facilities* available at <http://www.dot.state.fl.us/transit/Pages/2008_Transit_Handbook.pdf>. Additional information about FDOT transit initiatives and resources can be found at: <http://www.dot.state.fl.us/transit/>. |
| Special or Unusual Generators The reasoning and data used should be documented and approved by FDOT prior to use | When a generator is analyzed that cannot be adequately described by ITE, unusual generator data may be required based on the type, intensity and timing of trips to be generated. Judgment may be used to recommend trip generation characteristics that are appropriate for the development. However, the reasoning and data used to support these estimates should be documented and approved by FDOT prior to use. Examples of special or unusual generators include unique places like outdoor bazaars, a motorcycle sales shop, other unique retail or service business not well represented by data contained in the trip generation manual, unique theme parks, and special events (maybe a one-time concert). |
| Alternatives to ITE Trip Generation Data All local trip data should be collected in accordance with ITE’s **Trip Generation Handbook** requirements and at least three independent data samples are required | Given these limitations, it is sometimes necessary to adjust trip rates to reflect documented local conditions and/or develop additional trip generation data. First, a review should be conducted to determine if other applicable data is available. Trade publications such as *ITE Journal*, university studies, government studies, and studies by other recognized parties are made available from time to time and often serve as an interim database until being incorporated into a future edition of *Trip Generation*.   * Lacking any published data, a common alternative to using data from ITE’s *Trip Generation* is to collect data from other developments of similar size and scope or to use trip generation rate standards established by local governments. When these alternative sources are used, each rate should be justified and approved by FDOT prior to use. It is essential that trip rates for all projects, and particularly those for unique or controversial uses, be established in an open and comprehensive manner agreed to by FDOT and the applicant. Cluster at the size of development. |
| Internal Capture Rates for Mixed Use Developments | Estimating an internal capture rate for a mixed use development is often one of the most debated and challenging steps in the overall site impact assessment process. Internal capture rates vary by the mix of land uses, size, and location context (i.e. remoteness, presence of competing external destinations) of the proposed development. The methodology that will be used to estimate internal capture should be clearly documented by the applicant and agreed to by the FDOT prior to the initiation of the study. It is recommended that the applicant go beyond simply stating how internal capture will be estimated (i.e. internal capture will be estimated using the ITE methodology) and provide actual preliminary calculations so that all agencies can provide general comments early in the process.  In evaluating a proposed internal capture rate, the following general guidance should be considered: |
|  | * Sites having a mix of residential and nonresidential components have the highest potential for internal capture trips. Mixes of nonresidential land uses are less likely to have a significant internal capture rate unless a hotel or motel is contained within the site. * Residence and employment centers should be income compatible so residents have ample employment opportunities in the community. * The design of the internal roadway system/site circulation system of the development may impact internal capture. A well-designed development with good internal connectivity will make it more convenient for trips to stay on site. * If there are ample nearby substitutes for internal capture trips, the internal capture rate may be adjusted. For example, if a mixed-use development is located near other large retail development, the internal capture rate may be adjusted downward to reflect the use of these nearby land uses as substitutes. * The ITE land use “shopping centers” (ITE code 820) is generally not considered a mixed-use development because of the way shopping center data has been collected. Therefore, internal capture rates should not be used to forecast trips when data from ITE code 820 is used. * When using the ITE procedure, sites with multiple residential components (single-family houses, apartments, condos, etc) should compute the trip generation for each residential type separately but record the trip generation value as only a single land use on the ITE worksheet. * Internal capture rates should be calculated for each phase of a multiuse development. If development plans change during the review process, all internal capture calculations should be updated and the site impact assessment submitted for additional review. |
|  | Site specific data is needed to estimate a reasonable internal capture rate. Internal capture rates can have a major impact on the outcome of the analysis. The use of rules of thumb regarding minimum or maximum values is discouraged. What is needed is significant supporting analysis from the applicant. The FDOT should be diligent in requiring technical justification for all internal capture rates. |
| Community Capture |  |
| A Definition of Community Capture | Community Capture is the reduction in the number of external vehicle trips generated by a large, mixed-use development reducing the overall impact of the proposed community on the transportation system outside of the development. Community Capture occurs due to the combined land-use, location, design, and multimodal characteristics of the development. Internal Capture, as accepted by the professional transportation community, recognizes that a portion of the total trips for a multi-use development may be satisfied within the development. The concept of Community Capture extends the application of internal capture to include potential trip interactions and reductions within the boundaries of large scale, multi-use developments. In these large-scale cases, internal capture trips would be a wholly contained subset of community capture trips. |
| Where May Community Capture be applied? | Community Capture can be applied to a large, self-standing development, such as a new community or town, with a balanced mix of uses that may fulfill a significant portion of the community’s needs within the development. These communities may be separated by travel-time, design, or distance from other major land use concentrations. They provide a wide range of internal services, which may satisfy a significant portion of their needs within the community.  The community would make many off-site trips unnecessary by being of sufficient size to provide a balance of land uses, including a range of housing types and values, neighborhood and community retail centers, entertainment facilities, offices, and employment. The community would also provide a range of support services such as schools, civic institutions, religious institutions, public parks, and government facilities. Larger communities may have several town centers or villages, which embrace connectivity within, and between, each center and village with a transportation system of all modes, including pedestrian paths, bicycle facilities, and shuttles. These communities will be subject to regulation under F.S. 380.06 – Developments of Regional Impact (DRI). Most DRIs will not need to utilize the Community Capture methods because they will not meet the identified community criteria. |
| Using the Right Tools for Determining Community Capture | No single tool for determining Community Capture currently exists. While refinements to existing tools, such as the use of travel demand models, are currently under development, no one procedure has been demonstrated to provide a final Community Capture value.  Because each site will have unique characteristics, no minimum or maximum values for Community Capture will be recommended by FDOT. Reasonable analysis of proposed developments will be used and will be verified by substantial and ongoing monitoring programs. Additionally, there should be information provided in sufficient detail to clearly support and explain the process used to determine a proposed Community Capture value. This analysis should be done for each phase, with an agreed upon monitoring program. Until there is more experience and knowledge regarding Community Capture, reasonable analysis and negotiations, supported by substantial and detailed monitoring requirements will be used. |
| Commitment to Traffic Monitoring | Expanded traffic monitoring beyond the current basic requirements of the DRI annual/biennial report will be a required provision in accepting Community Capture rates. While the detailed needs of the traffic monitoring program will be determined through the traffic study process, elements such as origin and destination studies, trip generation studies, and an evaluation of land use mixes in the community and surrounding the community will usually be included in the monitoring program. At a minimum, monitoring will be necessary before the development enters a new phase. If appropriate, trip characteristic assumptions and impact mitigation requirements will be revised, based on the monitoring. Traffic monitoring at a frequency greater than by phase may be required for more aggressive development programs or if significant changes are made to the planned development program. |
| The Role of Pre-Application and Methodology Meetings | During the pre-application and transportation methodology meetings it will be important to have discussions among the experts in development and transportation (DCA, FDOT, RPCs, local governments, transportation professionals and representatives of the development community), to agree on factors needed to determine Community Capture and external impacts. All requests for utilizing Community Capture rates require more detailed information and specific commitments for justification. If sufficient information is not available at the time of the methodology meeting to make the commitments necessary to justify a Community Capture rate, final agreements on a rate will not be made until such information is available. |
| Trip Types | After the number of trips has been estimated, the type of trips should also be addressed. The *Trip Generation Handbook* defines three basic types of trips generated by a development: primary, pass-by and diverted. ( [ITE *Trip Generation Handbook, Second Edition*](#ITE_TripGenHandbook)) Exhibit 4-13 from the ITE *Trip Generation Handbook, Second Edition* illustrates the trip types*.* |
| Exhibit 4-13  Types of Trips  Source: ITE | ITE Figure 5 |
| With diverted trips, the total driveway volumes are not reduced. Diverted trips are counted as new trips where they travel on segments required to reach the site where they previously did not travel.  In all cases, pass-by and diverted trip rates should be justified by the applicant and approved by FDOT prior to use | **Primary trips** are trips made for the specific purpose of visiting the generator. The stop at the generator is the primary reason for the trip. ([ITE *Trip Generation Handbook, Second Edition*](#ITE_TripGenHandbook)) Primary trips are new trips on the network.  **Pass-by trips** are trips that are currently on the roadway system and pass directly by a generator on the way to the primary destination. These trips are involved in a “trip chain” of destinations with neither the origin nor the final destination of the primary trip being in the development. Pass-by trips are convenience-oriented; for example stopping to refuel a vehicle during a commute from work. Pass-by trips are applied only to retail-oriented land uses and would have traveled on the roadway adjacent to the retail land use even if the retail was not present.  **Diverted trips**, like pass-by trips, are not new to the system overall; however, diverted trips are now utilizing a segment of the transportation system that they previously were not using to access the proposed development site. The new road(s) diverted trip uses may or may not have direct access to the proposed development site. Facilities that receive diverted trips may require analysis of the impacts of the development trips.  In most situations, no reduction is made for diverted trips because they tend to be difficult to account for. FDOT may allow consideration of diverted trip impacts on a case-specific basis when there is a clear reason for doing so and the diversion can be reasonably estimated. For example, a reasonable case might be made for considering diverted trips in the analysis of a large commercial development proposed to be located adjacent to an Interstate interchange. If use of diverted trips were to be justified and supported by FDOT in a situation such as the example above, then the diverted trips would be treated similar to pass-by trips on the segments where they would have existed before the diversion took place.  In all cases, pass-by and diverted trip rates should be justified by the applicant, approved by FDOT prior to use, and clearly documented in the analysis. |
| Estimating the Number of Pass-by & Diverted Trips | The *Trip Generation Handbook, Second Edition* provides trip type data for several different retail land uses corresponding with the land use codes in *Trip Generation*. The data is summarized and presented in a format similar to *Trip Generation*. Average pass-by rate information is presented for each use and, in some cases, a fitted equation is also provided. Guidance provided in the *Trip Generation Handbook, Second Edition* suggests the following process for estimating pass-by trips:   * If a regression curve is provided, use the equation as a starting point for estimating pass-by trips. Consider whether the data scatter at the size of the independent variable in question is representative of the project. * If no regression equation is provided, the average pass-by rate should be used as a starting point for estimating pass-by trips if two criteria are met:   + The sample consists of three or more data points; and   + The size of the proposed development is within the range of data provided in the table or figure.   The decision on whether to use or adjust the average rate is discretionary. The *Trip Generation Handbook, Second Edition* notes that a review of the data or of “the data plot might indicate that the development site in question could be expected to have a slightly higher or lower pass-by rate due to its size, location, or proximity to through-traffic”.   * If the data does not meet the above criteria, local data should be collected to supplement the existing data. |
| Pass-by Trip Impacts | Properly estimating the number of pass-by trips is important because pass-by trips impact turn movement patterns at a site driveway yet have no off-site impact (because the trip was already being made as a primary trip). Some key considerations in evaluating pass-by trips are ([ITE *Trip Generation Handbook, Second Edition*](#ITE_TripGenHandbook)*)*: |
| The number of pass-by trips is calculated after accounting for internal trips | * Pass-by trips reduce the number of new trips on the roadway network, however, site driveway volumes are not reduced by pass-by trips; * Pass-by trips do not require a diversion from another roadway and are not new trips added to the system; * The percentage of trips that can be classified as pass-by for a site will vary by the type of land use, time of day, type and volume of traffic carried on the adjacent street, and the size of development; * Credit for pass-by trips is usually only allowed for retail and some commercial land uses such as fast-food restaurants with drive-through windows, service stations, and drive-in banks; and * The number of pass-by trips is calculated after accounting for internal trips (Total Site Trip Generation – Internal Trips = External Trips; apply pass-by reduction to External Trips). |
| Pass-by rates should be justified by the applicant and approved by FDOT prior to use | In all cases, pass-by rates should be justified by the applicant and approved by FDOT prior to use. The pass-by trips estimated in the trip generation step are preliminary. Final pass-by trips are estimated following assignment when the number of pass-by trips considered can be compared with the total traffic on the facility. Proper application of pass-by trips requires that the following check for reasonableness be made:   * The number of pass-by trips should not exceed 10 percent of the adjacent street traffic volume during the peak hour. |
| 10 Percent of the Adjacent Street Traffic | Calculation of the amount of traffic represented by 10 percent of the adjacent street has been a source of confusion. The FDOT-approved methodology divides the total pass-by trip reduction by the adjacent-street traffic volume and ensures the resulting fraction is less than 10 percent.  Historically, some applicants and reviewers determined the maximum allowable pass-by trips by taking 10 percent of the adjacent-street traffic and allowing this number of trips to enter and then exit the retail development. FDOT does not accept this method because it results in up to 20 percent of adjacent street traffic to be subtracted from the base trip generation as pass-by trips. |
| EXAMPLE | Proposed: 500,000 gross square feet of shopping  1,811 peak-hour generation (*7th Edition Trip Generation*)  869 entering, 942 exiting (48%/52% split from *Trip Generation*)  24% pass-by reduction (*Trip Generation Handbook*)  = 435 pass-by trip ends (209 entering, 226 exiting)  Adjacent street traffic volume (peak-hour two-way): 3,000  10% of adjacent street traffic = 300 |
|  | Because the calculated number of pass-by trips (435) exceeds 10 percent of the adjacent street traffic (300), the number of pass-by trips should be reduced to 300 and the directional split re-applied. Exhibit 4-14 illustrates the correct methodology. |
| Exhibit 4-14  Application of 10 Percent Pass-by Trips | Passby clarification |
| Pass-by Trip Assignment | Pass-by trips are assigned based on local knowledge of expected trip patterns and traffic volumes. When considering pass-by trips, the distribution of driveway volumes may change and be related to the street traffic. The analysis of pass-by trips should occur in two steps: (1) determine the number of new trips and pass-by trips for the site, then (2) assign the pass-by trips in proportion to the street traffic and the driveways and then assign the new trips in accordance with standard trip distribution procedures. Once the number of pass-by trips is determined, there assignment should be prepared in a way that reflects local travel patterns. |
| Pass-by Trips and Model Volumes Special generators modeling using FSUTMS should be based on total external trip generation before any pass-by trip reduction | FSUTMS-based travel demand models are sometimes used to develop traffic estimates. Because site trips will tend to displace non-site trips comparing with and without site trip modeling, special generators modeling using FSUTMS should be based on total external trip generation before any pass-by trip reduction. Trip assignments are run with and without site development (identifying total and development related trips on all links). Pass-by trips can then be deducted from the site development volumes on the highway network links (though the pass-by trips should remain at the site driveways). In all cases, pass-by and diverted trip rates should be justified by the applicant and approved by FDOT prior to use. |
| Model Method of Analysis for Trip Generation | The model method of site impact analysis typically uses an adopted regional travel demand model to forecast the trip distribution and internal capture of development generated trips within the site impact process. The following summarizes the steps required to estimate trip distribution and internal capture using regional travel demand models. It should be noted that trip generation should be calculated using ITE’s *Trip Generation* or field data. Model trip generation estimations should be adjusted to match estimations from ITE’s *Trip Generation* or field data*.* |
|  | 1. Develop a new traffic analysis zone(s)(TAZ) for the development and provide connectors from this zone’s “centroid” to the transportation network. The connectors should be coded consistently with other centroid connectors in the model (facility type, area type and number of lanes). The connections should be made to a facility that is appropriate to the intensity and type of land uses associated with the development and is consistent with the preliminary site access plan. Residential and nonresidential land uses should be modeled in separate TAZs unless they will be located in a single mixed-used site. Socioeconomic data consistent with the development program should be coded within ZDATA 1 and ZDATA 2 files. 2. Conduct initial model run to:  * Obtain initial person trip generation outputs to extract the trip purpose percentages. * Extract total vehicle trips from the development zones using the O-D matrix output.  1. Estimate site trip generation manually using ITE’s *Trip Generation*. Although preliminary estimates of pass-by and diverted traffic may be estimated using information contained in ITE’s *Trip Generation*, pass-by and diverted trips cannot be calculated when using the model method and may therefore be ignored. 2. Compare vehicle trip generation obtained manually and with the planning model. If the difference is greater than 5 percent for any given land use, the total external site trip generation obtained using the planning model should be adjusted until convergence occurs with manually estimated trip generation using the following methodology. Identify any difference in vehicle trips between manual and model calculations.  * Convert vehicle trip difference to person trips by using vehicle occupancy factors coded within the model. * Insert person trip difference values in the ZDATA3 file. Trip purpose percentages obtained from Step 2 should be assigned to person trips entered into the ZFDATA3 file. * Rerun the model and repeat Steps 2 through 4 until convergence is obtained between the manual and model vehicle trip values. * Note: Subsequent iterations may be required to reach a level of convergence that satisfies FDOT. A rule of thumb of a maximum difference of 5 percent between the manually generated and model generated vehicle trips for the project is commonly used. A table comparing the trip generation based on ITE’s *Trip Generation* and the model-generated trips should be provided for each development TAZ. * Note: If the model being used contains transit and highway networks, the total of automobile trip making (single-occupant, and HOV) should be compared to the ITE-based trip generation reduced for the estimated transit usage approved by FDOT.  1. Estimate internal capture using the guidelines contained in ITE’s *Trip Generation Handbook*. 2. Calculate internal capture using the planning model. Internal capture is estimated by planning models as trips originating and arriving within project TAZs. The inclusion of intrazonal trips (trips that never leave a project TAZ) in internal capture estimations is subject to approval by FDOT. Model internal capture should be conducted based on the calculation methodology presented in Supplement A. 3. If trips are anticipated to have an origin or destination external to the model’s study area, ZDATA4 files should be adjusted. |
| Redevelopment/ Existing Trips If a redevelopment project is being analyzed, the trip generation analysis should consider the number of trips associated with the existing use | If a redevelopment project is being analyzed, the analysis should consider the traffic associated with the existing (or previously existing) development for comparison purposes. If trip generation, distribution or assignment of trips associated with the new development is anticipated to be significantly different from the existing development, then existing site traffic data should be carried through the entire analysis in parallel to the new development to determine the resulting traffic impacts created by redevelopment. All documentation of develop-ment review trip generation estimates should clearly identify both existing and projected future trip generation associated with a particular property. Requirements for how to address urban redevelopment are found in Section 163.3180(8), FS. Local land development regulations should also be consulted. |

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| 4.5 Trip Distribution (step 5) | |
| iStep5TripDist.png  The level of effort is a function of the intensity and type of development proposed, adjacent land uses and the time of day being evaluated  Approve the methodology **prior** to site impact analysis | The next step in the site impact analysis is trip distribution. The purpose of trip distribution is to analyze the trip-making characteristics between the proposed development and off-site areas to determine trip origins and destinations. The level of effort involved in this step is a function of the intensity and type of development proposed, adjacent land uses and the time of day being evaluated.  Trip distribution can be assessed using a number of different methodologies reflecting either model or manual methods. FDOT and any participating local review agencies should approve of the trip distribution methodology selected for use prior to preparation of the site impact analysis. Whether a manual or modeling method is used, trip distribution should be performed in each analysis year and documented and summarized in a figure that illustrates the percentage of total site trip generation that occurs in each zone. The figure should clearly show that the distribution of external trips from the site adds up to 100%.  Trip length should be carefully considered in preparing trip distribution, regardless of whether manual or model methods are used. Attenuation of trips should be shown on the trip distribution figure and should be checked for reasonableness with the existing and future land uses in the area. Averaging of trip distribution percentages across long segments requires agreement with the reviewing agencies and needs to include documentation and justification as to why an average percentage is being used. |
| Manual Methods | Manual methods of trip distribution provide the analyst with a basic understanding of the travel patterns associated with the development. When performing manual methods of traffic distribution, good judgment is essential to conduct a proper evaluation. Key assumptions should be clearly documented for review by FDOT and other reviewing agencies. |
| Analogy Method/ Origin-Destination Studies | The analogy method derives the trip distribution of a proposed development based on existing data collected at sites that are similar to the subject development. Typically, traffic count and turning movement data are used in the analogy method. Other potential data sources include conducting a license plate origin-destination survey or a driver response survey, summarizing employee home zip codes (for employment centers), or using other methods defining distribution of travelers to and from the site consistent with procedures described in the latest edition of the [*Institute of Transportation Engineers Manual of Transportation Engineering Studies*](#Robertson2000)*.* Applications of the analogy method include (ITE: Transportation and Land Development, p. 54): |
|  | * Fast-food restaurants where a competing establishment is near the site * Service stations where traffic volumes on the adjacent streets are similar to those forecasted at the site * Motel sites near an existing motel * Residential developments on the fringe of an urban area * Sites to be developed in residential use where the tract is one of the few vacant parcels in a developed area * Occupied buildings located in an office complex being developed by phases.   Origin and destination studies may also be needed during multiphase projects to verify the assumptions made in the original analysis of impacts. In all cases, the data from the analogous site should be deemed accurate and defensible and should be approved by FDOT as well as any local review agencies. |
| Model Method Justification and documentation of all adjustments to the model generated distribution should be included in the traffic analysis | Model methods are generally preferred for developing trip distribution for large scale developments for two reasons: (1) most manual distribution and assignment techniques include numerous subjective inputs, and (2) models offer an MPO-adopted tool to aid in distributing traffic. Models typically can provide trip distribution projections for a base year and future years that can be used for estimating a proposed development’s trip distribution with some modifications. The base year and future year models should be reviewed to ensure the inherent network and socio-economic data are appropriate for the intended application. For example, the capacities of current and planned transportation improvements and land uses should be properly incorporated into the model to reflect the future roadway network at the time of completion of the proposed development.  Manual trip distribution results and model outputs can be compared to provide reasonableness checks. It is noted that the model may be used to determine an initial trip distribution and then manual adjustments may be made based on engineering judgment and familiarity with the transportation network. Justification and documentation of all adjustments to the model generated distribution should be included in the traffic analysis. Sufficient justification and explanation of the method used if the model assignment is manually adjusted. The original model plot (i.e. prior to adjustments) should be included in addition to the figure showing the adjusted distribution.  The use of model methods to determine distribution percentages of vehicles is common in combination with manual assignment processes. However, for large networks, model assignments may be a more expedient method for determining the minimum time path between traffic analysis zones. A blended methodology should be approved by FDOT prior to use. |

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| 4.6 Mode Split/Alternative travel choices (step 6) | |
| iStep6ModeSplit.png  The level of mode split analysis necessary will be made with FDOT and local agencies, including transit providers where applicable | Mode split is the process of estimating the number of travelers between zones that are anticipated to use modes other than automobiles in site impact analysis. This process estimates how many people travel to and from a site by auto, transit, and other modes such as by bicycle or walking.  As Florida moves towards an enhanced emphasis on multimodal facilities and some automobile trips are replaced with alternative modes, it becomes necessary to account for mode split. Provision of transit service, even if only locally, can result in a reduction in the number of automobile trips on the roadway network. The level of mode split analysis necessary will be determined based on local conditions and should be made in coordination with FDOT and local agencies, including transit providers where applicable. For example, a multimodal transportation district (MMTD) is an area that requires special mode split considerations. |
| Transit Mode Split Assessment Methods If transit ridership is expected to exceed **five percent**, the applicant will be required to provide justification on why the assumption is reasonable | At the most simplistic level using manual methods, the transit share is typically assumed to be some small percentage of total trip generation (usually less than 5 percent) and, if agreed to during the methodology, trips are reduced at driveways accordingly prior to trip distribution.  If transit ridership is expected to exceed five percent, the applicant will be required to provide justification on why the assumption is reasonable. The justification will usually consist of a special transit study prepared to better understand the impact of existing or proposed transit service and necessary commitments to needed infrastructure or funding to support the existing or planned transit service in the area. FDOT’s Public Transit Office has developed the transit analysis tool TBEST (The Transit Boardings Estimation and Simulation Tool) that may be used in transit assessments. The use of TBEST for impact assessments should be discussed by the applicant and review agencies (including transit agencies) and a clear methodology should be defined. While it is envisioned that TBEST will become a more widely used tool for impact assessments in the future, it is recognized that it may not be applicable in many cases at this time. TBEST provides users with a specialized transit planning model to supplement or to replace the use of the FSUTMS model for transit estimation. |
| TBEST | TBEST is a comprehensive transit analysis and ridership forecasting model that is capable of simulating travel demand at the individual stop-level while accounting for factors such as network connectivity, spatial and temporal accessibility, time-of-day variations, and route competition. TBEST simulates transit ridership in a way that allows it to provide very detailed information regarding ridership estimates at individual stops. TBEST can also be used to obtain more aggregate route level, segment level, location-based, or system level measures through the aggregation of stop-level outputs. By simulating ridership at the level of the individual stop, the model intends to provide a strong platform and robust framework for modeling transit ridership in a region by time of day and day of week. More detailed information about TBEST and its use can be reviewed on-line at <http://www.tbest.org/> |
| FSUTMS | FSUTMS also provides mode split data in the form of vehicle-trip data that is developed based on the person-trip table from the trip distribution. The model applies vehicle occupancy factors or transit usage equations to convert person-trips to vehicle-trips. The vehicle occupancies differ by trip purpose. For example, work trips generally have fewer passengers than recreational trips. Information from a FSUTMS model should be reviewed carefully to understand the level of transit sensitivity in the base model and to understand how the development and proposed network changes were coded. |

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| 4.7 Assignment (step 7) | |
| iStep7Assign.png  Trip distribution and assignment are two related but distinct activities | Trip assignment involves determining the amount of traffic that will use each access point and route on the roadway network. Trip assignment determines the number of site-generated turning and through movements at each intersection and roadway segment of the study area network.  Trip distribution and assignment are two related but distinct activities. Trip distribution is the step in determining where trips wish to go. Assignment is the subsequent step in which the trips are placed on the network to reach the desired destination.  The product of the assignment step of site impact analysis is to provide a set of volumes and traffic characteristics appropriate for use in the analysis of traffic operating conditions. It is important to note that traffic factors will usually need to be applied to both field collected data and model derived volumes. For example, model output conversion factors (MOCF) by the FDOT are used to convert peak season weekday average daily traffic (PSWADT) volumes assigned by travel demand forecasting models to estimated AADT volumes. The use of traffic factors is summarized in the FDOT Quality/LOS Handbook. |
| General Considerations | Several important general considerations are involved in preparing trip assignment. These considerations are highlighted below, followed by detailed discussion of specific modeling techniques and analysis procedures.  Trip assignment should begin by identifying multiple paths between origins and destinations. The potential for using these paths can then be evaluated on a comparative basis considering: ([Transportation Impact Analyses for Site Development](#ITE_SiteDevelopment)) |
|  | * Driver tendencies and local patterns in developing logical travel routes.   + For example, drivers often will use the first convenient driveway they reach to access a site with multiple driveways.   + Driver characteristics reflecting the proposed land use (will drivers tend to use back roads/local connections or are they new to the area and will tend towards major travel routes that are well signed).   + The design of the internal circulation systems and the location of residential land uses;   + The outbound trips tend to be more evenly distributed among multiple exits than the inbound trips; * Available roadway capacities.   + Identify known capacity constraints and assess how constraints may impact alternative evaluation/routing.   + Turn movement capacity and restrictions; particularly for left-turns. * Relative travel times.   + The proposed land use may impact driver needs and tendencies – for example, the differences between a daily commute trip and a recreational tourist exploration trip.   + Horizon years and corresponding conditions at the time.   + Planned improvements or network changes could result in changes to trip assignment compared to current conditions or when evaluating multiple horizon years.   + Travel paths may vary by time of day. * Assignment percentages typically apply to two-way trips (arriving and departing).   + While generally oriented the same way, individual routes may defer to reflect multiple access and egress options and turn movements will likely be different or reversed between an entering and exiting trip.   + One-way streets may influence assignment patterns. * The presence of on/off ramps at interchanges.   + Pass-by trips enter from adjacent streets and typically exit to the same street to continue on their original path. |
| Segment Dissipation | In evaluating trip assignment alternatives, a commonly used principle of FDOT is that no more than 10 percent of trips should dissipate per study segment unless there is a cross street or some other appropriate justification. |
| Documentation Proper documentation will allow for careful and thoughtful review of the assignment | Trip assignment, by its nature, will reflect driver tendencies and thus in part becomes a case study of human factors and preferences. Because the process can reflect a complex decision process, it is important to document the basis for making an assumed trip assignment. Proper documentation of the assumptions and decisions made in developing the trip assignment will allow for careful and thoughtful review of the assignment. Applicants are encouraged to work proactively with FDOT and other local agencies to ensure trip assignment assumptions are reasonable and reflective of local conditions. |
| Manual Methods of Trip Assignment If the access plan is modified, the assignment process may have to be repeated until a logical assignment is achieved for the network | Manual trip assignment often assigns site traffic based on existing or anticipated future turning and through movement percentages. The assignment may reduce site volumes along roadway segments using attenuation factors to account for “intervening opportunities” for the trip to end. In simple terms, this means trips may be added and subtracted to the roadway network between major intersections and corridors to reflect local area origins and destinations. As previously noted, attenuation generally should not exceed 10 percent unless specific circumstances warrant. Manual assignments for each analysis period should be made for each analysis year. Multiple paths should be assigned between origins and destinations based on experience and judgment to achieve realistic estimates.  The assignment process may be performed a number of times during a typical analysis based on the number of site access and internal circulation alternatives and traffic impact mitigation alternatives considered. If the access plan is modified during subsequent reviews or permitting, the assignment process may have to be repeated and alternative site access and circulation plans considered until a logical assignment is achieved for the network. |
| Recommended Procedure When Pass-by Trips are Present | Pass-by trips should be analyzed in the network carefully. The following procedure is based in part on the recommendations of ITE ([Transportation Impact Analyses for Site Development](#ITE_SiteDevelopment)) when pass-by trips are involved in the assignment. |
|  | 1. Apply the trip reduction factors for internal capture and pass-by traffic, and then assign volumes to each roadway segment. Illustrate in a map the assignment of development trips and provide a corresponding table. 2. In addition to estimating a normal distribution, estimate a trip distribution for pass-by and diverted trips. 3. Perform separate trip assignments using the individual distribution patterns for primary, pass-by and diverted trips. Pass-by trips and diverted trips should be evaluated carefully considering the location of the driveway and the total traffic on the adjacent roadway links (see Step 4: Trip Generation). The assignment should consider the unique turn movement patterns of pass-by and diverted trips and should account for the subtraction of existing turn movements related to the pass-by trip that are no longer made.  * For example, a pass-by trip assignment might require that an eastbound through trip might be removed and replaced with an eastbound right-turn and companion northbound right-turn at a site driveway). * Diverted trips are not subtracted from the roadways and access points they are added to and should be treated as new trips, depending on where the trip diverts from.   Applicants should assign trips to the network such that the primary, pass-by and diverted trips are distinguishable and can be easily reviewed.   1. Consider the effects of traffic diversion by existing traffic to other facilities as result of the site-generated traffic, if appropriate. 2. Check the assignment for reasonableness. Generally, pass-by traffic should not exceed 10 percent of traffic on adjacent streets. |
| Model Methods of Trip Assignment | When modeling methods are used in trip assignment, the final assignment is based on an FSUTMS capacity restrained, equilibrium highway assignment routine. Capacity restraint accounts for route diversion that occurs when drivers encounter congestion. FSUTMS decreases speeds on congested roadways after each iteration of the assignment until equilibrium is achieved. At that point, all trips in the model area have found the least congested, shortest-time path to their destination. |
| Selected Zone Analysis The preferred technique for site impact analysis trip assignment is the SELECTED ZONE analysis tool  A judicial precedent is established that determined the DRI process requires accounting for ALL trips caused by development, NOT the net impact resulting from displacing existing trips to other roadways | The preferred technique for site impact analysis trip assignment is the SELECTED ZONE analysis tool. Selected zone analysis allows for review of network-wide trip assignment associated with a single transportation analysis zone. During this process, a single assignment is made that tracks total trips as one purpose and development trips as separate purpose throughout the capacity-restrained roadway network. The analysis allows for the retention of the capacity-restraint trip diversion that occurs in the assignment of total trips.  Two separate model runs are typically performed when using Selected Zone analysis to assess site impacts. One model run represents conditions with the proposed development in place while the other run has the development’s zonal data zeroed out. The link volumes for the without development model results can be subtracted from those with development to yield an estimate of the net impact of development on each roadway link.  The resultant estimate *DOES NOT* directly represent the site-generated trip assignment impact because the equilibrium highway assignment capacity-restraint equation that powers the model diverts trips, often resulting in virtually no change in traffic volumes. This is a subtle but critical point. A judicial precedent is established that determined the DRI process requires accounting for ALL trips caused by development, NOT the net impact resulting from displacing existing trips to other roadways (Reference: [Westinghouse Gateway Communities, et al. v. Lee County Board of County Commissioners Case](#Westinghouse)). The rational for this decision was that if all applicants used the argument that trips are diverted and net impact is negligible, no applicant would be responsible for mitigation.  The appropriate use of the select zone assignment is to identify the pattern of site trip assignment by roadway link and, in turn, use that pattern to prepare the actual assignment of site-generated traffic using other model or manual methods. |
| FSUTMS Modeling Process | At a conceptual level, five key steps are made to prepare a trip assignment, both for the scenario with site development and for the scenario without site development.   * Input proposed development’s land use into zonal data * Run FSUTMS * Display traffic that enters/exits development zone(s) on the loaded network using the traffic assignment path file * Save development traffic as a new link attribute for further analysis * Check for reasonableness   In some circumstances, such as at the fringe of a model, manual adjustments may be necessary. If post assignment adjustments are made, the process should be clearly justified and documented. *National Cooperative Highway Research Program (NCHRP) Report No. 255* identifies the procedure for adjusting link volumes and arriving at design traffic and turn movements. NCHRP 255 should be used by the applicant unless another procedure has been approved by FDOT.  The model output volumes from FSUTMS represent the peak season weekday average daily traffic (PSWADT) condition. These volumes must be converted to AADT and then to peak hour volumes using conversion factors. This process is described in the *FDOT* [*Traffic Forecasting Handbook*](#FDOT_PTFH)*.* All adjustments and conversion factors should be documented, reviewed and approved by FDOT. |
| Trip Assignment at Intersections | The operational analysis of individual intersections is often required as part of a site impact assessment. The trip assignment at intersections should be compared to the assignment shown at the facility level so that both analyses are using consistent values. It is also noted that the background volumes used in a detailed intersection assessment should be compared to the background volumes used in the facility analysis. For example, the sum of a specific approach (left turn movements plus through movements plus right turn movements) at an intersection should reasonably match the approach volume used in the facility analysis. Additional information about the assessment of individual intersections is provided in the FDOT Quality/LOS Handbook. |
| Multi-Modal Trip Assignment | At the time this report was prepared, FDOT did not have an adopted multi-modal trip assignment processes. As additional research is conducted, further documentation and guidance will be issued by FDOT. |

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| 4.8 Future Conditions Analysis (step 8) | |
| iStep8Future.png  Determines if the transportation system will operate acceptably and, if not, what mitigation may be required | The Future Conditions Analysis determines if the transportation system will operate acceptably with the additional site-generated trips and, if not, what mitigation may be required. The reviewer should have a clear understanding of the evaluation methodology being used and the performance measure(s) being evaluated in the analysis (*see* Section 4.1, Methodology Development, Step 1).  This section assumes that an evaluation methodology based on significance and adversity and performance measures consistent with the Florida’s Planning LOS Standards is being used. In some instances, local governments may use a different methodology or performance measures. The applicant should clearly document and justify the methodology used and should confirm all methodology assumptions and analysis requirements with FDOT. |
| Significance and Adversity Testing  The significance criterion may vary by the type of development and local government jurisdiction | The significance of impacts is determined by considering the percentage of traffic on a roadway segment that is generated by the development during the peak hour in relationship to the maximum service volume at the LOS standard for the facility during the same period. The significance criterion may vary by the type of development and local government jurisdiction. For example, the typical DRI level of significance is 5 percent of the maximum service volume at the LOS standard for the facility during the 100th-highest hour. However, local governments may establish more stringent levels of significance that will govern if the standard is adopted as part of the LGCP (Rule 9J-2.045(6), FAC). Therefore, FDOT should review the criteria established by the local government prior to performing a review.  Developments are considered to adversely impact a roadway if:   * The roadway is significantly impacted and the LOS on the roadway with the development trips is below the adopted LOS standard. |
| When the roadway is significantly and adversely impacted, the developer is responsible to mitigate the impacts of the project | When the roadway is significantly and adversely impacted, the developer is responsible to mitigate the impacts of the project. Strategies that may be implemented to mitigate impacts are discussed in **Chapter 5: Mitigation Analysis** |
| Florida's Planning LOS Standards | FDOT’s minimum acceptable operating LOS standards for the SHS are documented in Rule Chapter 14-94, FAC, and are summarized below in Exhibit 4-15. The minimum LOS standards are used by FDOT in the review of local government comprehensive plans, assessing impacts related to developments of regional impact, and assessing other developments affecting the SIS, FIHS, and roadways funded by the TRIP. It is noted that local governments do have the ability to set LOS standards in their comprehensive plans for facilities not on the SIS, FIHS, and not funded by the TRIP. The FDOT reviewer should check the local government comprehensive plan to see if LOS changes have been made. |

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|  | (1) The Statewide Minimum LOS Standards are as follows: |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Exhibit 4-15 Statewide Minimum LOS Standards | | | | | |  | SIS and FIHS facilities | | TRIP funded facilities and other State roads | | |  | Limited Access Highway (Freeway)4 | Controlled Access Highway4 | Other Multilane4 | Two-Lane4 | | Rural Areas2 | B | B1 | B | C | | Transitioning Urbanized Areas3, Urban Areas4, or Communities5 | C | C | C | C | | Urbanized Areas6 under 500,000 | C(D) | C | D | D | | Urbanized Areas over 500,000 | D(E) | D | D | D | | Roadways parallel to exclusive transit facilities | E | E | E | E | | Inside TCMAs2 | D(E) 2 | E2 | –2 | –2 | | Inside TCEAs2 and MMTDs2 | –2 | –2 | –2 | –2 |  |  | | --- | | Level of service standards inside of parentheses apply to general use lanes only when exclusive thru lanes exist. | | 1. For rural two-lane facilities, the standard is C. 2. Means the FDOT must be consulted as provided by Section 163.3180(5), (7), or (15), Florida Statutes, regarding level of service standards set on SIS or TRIP facilities impacted by TCMAs, MMTDs, or TCEAs respectively 3. Means the level of service standards for non-TRIP facilities may be set by local governments. 4. It is recognized that certain roadways (i.e., constrained roadways) will not be expanded by the addition of through lanes for physical, environmental, or policy reasons. In such instances, a variance to the level of service may be sought pursuant to Section 120.542, Florida Statutes   NOTE: Level of service letter designations are defined in the FDOT’s latest *Quality/Level of Service Handbook*. | | |
| |  | | --- | | (2) Specific assumptions and restrictions that apply to these minimum LOS standards are:  (a) The minimum LOS standards represent the lowest acceptable operating conditions in the peak hour.  (b) Definitions and measurement criteria used for the minimum LOS standards can be found in the Transportation Research Board's Highway Capacity Manual 2000.  (c) When calculating or evaluating level of service pursuant to this rule, all calculations and evaluations shall be based on the methodology contained in Transportation Research Board's Highway Capacity Manual 2000, the FDOT's 2002 Quality/Level of Service Handbook, or a methodology determined by the FDOT to be of comparable reliability. Any methodology superseded by the Highway Capacity Manual 2000, such as a methodology based on the 1997 Highway Capacity Manual or Circular 212, shall not be used. | | (3) Minimum LOS Standards for SIS Connectors and TRIP Funded Facilities are:  (a) Minimum LOS Standards for SIS Highways.  1. Limited access SIS highways shall adhere to the limited access FIHS LOS standards.  2. Controlled access SIS highways shall adhere to the controlled access FIHS LOS standards.  3. These standards shall apply regardless whether the facility is FIHS, SHS, or under other jurisdiction.  (b) Minimum LOS Standards for SIS Connectors. The minimum LOS standard for SIS connectors shall be LOS D.  (c) Minimum LOS Standards for Regionally Significant Roadways Funded by the TRIP.  1. Regionally significant roadways utilizing TRIP funding shall adhere to the Other State Roads Standards in Chapter 14-94, F.A.C.  2. These LOS standards apply to the TRIP funded portions of the roadway facilities extending to their logical termini for LOS analysis. | | |
|  | Specific Authority 163.3180(10), 344.044(2) FS. Law Implemented 163.3180(10), 163.3184(4), 334.03, 334.044(10)(a), (12), (19), 339.155(2), 339.2819, 339.61 - .64 FS. History - New 4-14-92, Amended 5- 8-06. |
| Area Type | Development interests and the FDOT reviewer should recognize that the LOS Standards are to be applied based on the current area type throughout the analysis planning horizon. For example, if a development is proposed in a transitioning area, the applicable standard is the transitioning standard throughout the analysis planning horizon. More detailed guidance on area types can be found in the FDOT Quality/LOS Handbook. |
| Intersections Both LOS and volume-to-capacity ratio criteria are appropriate to determine impacts | Although arterial LOS is stressed in the standards, detailed volume-to-capacity analyses at selected intersections will be necessary to evaluate specific projects. Both LOS and volume-to-capacity ratio criteria are appropriate to determine impacts from proposed developments and required mitigation efforts. Additional information about intersection assessments is provided in the FDOT Quality/LOS Handbook. |
| LOS Analysis Tools | Rule Chapter 14-94, FAC, requires that all LOS determinations are to be based on the *Highway Capacity Manual 2000* (HCM) or FDOT’s *Quality/Level of Service* (Q/LOS) *Handbook* or a methodology determined by FDOT as having comparable reliability. The only tools FDOT will officially accept and support for roadway analysis (auto) are the Generalized Service Volume Tables, LOSPLAN, and the HCM/HCS, each applied at the proper level of analysis. Operational analyses based on other tools (e.g., Synchro, CORSIM) may be submitted to FDOT for consideration, but FDOT reviewers are under no obligation to consider, review, or comment on such analyses. For transit, pedestrian, and bicycle capacity and LOS analyses, the operational tools FDOT fully recognizes for planning applications are, respectively, the:   * Transit Capacity and Quality of Service Manual; * Pedestrian LOS Model; and * Bicycle LOS Model.   FDOT also recognizes software applications that support these tools. The FDOT Quality/LOS Handbook provides guidance on the various tools available to calculate capacity and provides detailed guidance on applying capacity and LOS tools in the planning stages of a project. |

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| LOS Analysis Approach | For site impact analysis, capacity analysis should be performed along each segment of the roadway system identified in the methodology phase within the area of influence and at each major street and site access intersection within the study area. Critical intersections for analysis may be identified based on the functional classification of the roadways or based on the volume of development traffic utilizing the intersection. | |
| Exhibit 4-16  Tiered LOS Approach | Exhibit4-16.emf | All capacity analysis should be performed using methods or software approved by FDOT. Capacity analyses should be performed for existing and future conditions as determined in the methodology phase. If an interstate facility or other SIS/FIHS limited-access roadway is affected, freeway segment, ramp, and weave analysis procedures of the latest version of the HCM should be used.  Capacity analysis for site impact analysis may be performed using the following methods as illustrated in Exhibit 4-16. |

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|  | 1. Values shown in the generalized LOS tables are based on the *Highway Capacity Manual 2000* and actual Florida traffic and signalization data, making the tables applicable throughout Florida. However, it is recognized that traffic characteristics vary by area and facility. They are guideline estimates of highway LOS. The LOS standards must be adhered to in FDOT reviews of LGCPs and DRIs by the FDOT reviewer. The generalized LOS tables represent a first cut at estimating LOS. Because these tables are based on average conditions across Florida, 85 percent of the standard was recommended as a conservative assumption for the conditions that might exist on any particular roadway.   Therefore, a sketch planning level analysis is performed first using the FDOT Generalized LOS Table. If volumes (background plus development traffic) being analyzed exceed 85 percent of the maximum service volume (MSV) at the LOS standard for the facility, a more detailed analysis may then be required   1. If the background plus development traffic exceeds 85 percent of the MSV at the LOS standard, then a more detailed planning analysis may be performed using LOSPLAN to develop a sketch planning analysis of LOS. The additional detail used to execute LOSPLAN may allow the applicant and/or reviewer to gain a better understanding of the possible traffic impacts. LOSPLAN allows consideration of individual intersections; however, the analysis technique is still a sketch planning tool. It is important to note that when using LOSPLAN, inserting specific traffic inputs (such as K and D factors) without simultaneously addressing key roadway and control inputs (such as effective green time ratios) is inappropriate and will not be accepted by the FDOT. 2. If the generalized tables or LOSPLAN do not adequately describe the analysis conditions, the procedures of the latest version of the HCM should be used. 3. If additional detail is required in the analysis (e.g., analysis of an integrated traffic signal system) more sophisticated models may provide guidance to the applicant and reviewer to assist in understanding the existing operating conditions. During design level analysis associated with determining the geometric and traffic operational requirements of mitigation alternatives (such as IMR/IJR), the generalized tables provided in the FDOT Quality/LOS Handbook are not sufficient. The requirements for design level analysis should be reviewed with the FDOT prior to initiating the analysis. |
| Inputs to LOS ANALYSIS The traffic characteristic, traffic control features and road features used in planning analysis of LOS for site impact analysis should be based on local conditions | The traffic characteristic (arrival types, K, D, T, PHF, turning movement percentages, etc.), traffic control features (such as signal phasing and timing plans) and road features (number of lanes, arterial class, free-flow speeds, etc.) used in planning analysis of LOS for site impact analysis should be based on local conditions. If the conditions are not known, field data should be collected or the assumptions used in the latest version of FDOT’s Quality/LOS Handbook should be used as defaults. In operational and design analysis, all inputs should reflect the conditions existing or anticipated to occur during the analysis period. To ensure that an analysis is consistent with Florida conditions and research, the inputs and volumes must be within the ranges specified in the FDOT Quality/LOS Handbook. |
| Identification of Impacts, Needs, and Deficiencies | Analysis and plan development are conducted in an iterative process that is required for each analysis year and key location. The analysis is intended to show the relationship between operations and geometry, assess the deficiencies and to identify alternatives for consideration. Care should be taken to determine the portion of the deficiency that results from traffic added by the proposed development under study and not deficiencies that are caused by growth in normal traffic or other system inadequacies. In addition to comparing the LOS determined using the procedure identified above, the analyst should also consider the interaction of the various elements of proper site access, circulation, and parking design on the safety and operations of the adjacent streets and highways. These analyses should be conducted for conditions with and without the proposed development to compare the incremental impacts of the proposed development and to determine the need for mitigation of the impacts. |
| Documentation | Following an analysis of existing and future conditions, the results should be documented in figures and tables that include LOS and capacity for each segment and intersection during the peak period in each analysis year. |

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| 4.9 Transit Quality of Service | |
| iStepTransit.png  NCHRP 616 offers a method for assessing how well an urban street serves the needs of multiple users | Transit quality of service assesses transit performance from the passenger point-of-view. As with other travel modes, levels of service are used to quantify transit quality of service. Techniques for evaluating transit quality of service are not yet as well-established as those for highway quality of service, and the techniques continue to be developed and refined. The two resource documents most frequently used to assess transit LOS are the Transit Capacity and Quality of Service Manual, 2nd Edition (TCQSM) and *National Cooperative Highway Research Program (NCHRP) Report 616: Multimodal Level of Service Analysis for Urban Streets*.  The Transit Capacity and Quality of Service Manual, 2nd Edition (TCQSM) is the transit counterpart to the Highway Capacity Manual. Published by the Transportation Research Board (TRB) as Transit Cooperative Research Program (TCRP) Report 100, the TCQSM is a nationally recognized document that provides standard procedures for measuring transit capacity and quality of service.  TRB’s *National Cooperative Highway Research Program (NCHRP) Report 616: Multimodal Level of Service Analysis for Urban Streets* offers a method for assessing how well an urban street serves the needs of multiple users. This method provides four models for estimating auto, bus, bicycle, and pedestrian LOS, respectively, on an urban street. The models use a combination of readily available data and data normally gathered by an agency to assess auto and transit LOS.  The MMLOS method is particularly suited for the evaluation of urban street segments and facilities, and less so for route- and system-level evaluations, thus serving as a complement to the TCQSM methods. The two methods are similar in that there is considerable overlap between the quality-of-service factors incorporated into each method. In addition, the MMLOS method will result in the same LOS as the TCQSM’s frequency measure, in the specific case when an uncrowded bus route operates at a given frequency at exactly a baseline speed (12 or 15 mph, depending on the location).  A key difference between the TCQSM and the MMLOS method is in the measures used to determine LOS. The TCQSM’s LOS measures can be directly measured in the field and have units associated with them (e.g., buses per hour or standing area per passenger). In contrast, the MMLOS method is based on a measure that blends multiple factors (frequency, speed, reliability, crowding, and bus stop amenities) into a single, unit-less traveler-perception index. Although the factors used to develop the MMLOS index are all field-measurable, the final index value itself cannot be directly measured and any given index value can result from multiple combinations of quality-of-service factors. One advantage of the MMLOS index, though, is that it can be directly compared to the index values produced by the other modal models. As a result, LOS C for transit should represent a comparable level of satisfaction for transit passengers as LOS C would for bicyclists. The LOS values produced by other methods cannot necessarily be compared with each other in that manner. |

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| 4.10 Bicycle & Pedestrian LOS Analysis | |
| iStepPedBike.png | FDOT has identified an accepted model methodology for conducting bicycle LOS analysis as well as a corresponding model for assessing pedestrian LOS. These models may be used in partial fulfillment of the multimodal analysis requirements of FDOT and other local agencies. Requirements for use of the models should be confirmed with FDOT on a project-specific basis. Specific details about the models are available in the FDOT Quality/LOS Handbook. |

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| 4.11 Access Management, Site Access, and Internal Circulation | |
| iStep11Access.png  The FDOT Public Transit Office has produced several publications that discuss pedestrian and transit-friendly design | The proper application of access management and basic site planning principles is essential to all site impact analysis. This process involves the review of proposed construction and improvement plans (public and private) assessing the probable impact of the project on traffic movements and evaluating safety and operations at the access points (driveways or roadways) to the development. The level of detail of the construction and improvement plans associated with the impact assessment will vary based upon the purpose of the study and what level of approval is being sought. For example, DRI applicants should provide approximate driveway locations and address overall internal and external network connectivity and land use/development organization within the site (often shown on Map H) while a site evaluation that is requiring a full median opening to be constructed at project opening will likely need a detailed access management evaluation.  The design of site circulation, parking, and access should also easily accommodate bus and pedestrian movements for existing or future bus services. Transit friendly designs are generally defined as those within a reasonable walking distance of an existing or proposed transit stop or station. Other aspects of transit friendly designs include providing ample pavement widths and turning radii to accommodate transit. The FDOT Public Transit Office has produced several publications that discuss pedestrian and transit-friendly design in greater detail and can be found at <http://www.dot.state.fl.us/transit/>.  Site impact design issues include identifying an appropriate design vehicle (the largest vehicle that will typically use the roadway), speeds, and multimodal accommodations. Most site plans should include the following information, at a minimum: |
|  | * Sufficiently detailed drawing of access, circulation and parking * Landscaping details for analysis of sight distances * Distance between driveways and intersections * Median opening locations and spacings * Existing driveways in opposing location of the proposed site * Location of proposed multimodal accommodations |
|  | FDOT has developed numerous standards, guidelines, policies and recommended practices in the areas of corridor access management and site access planning for driveways. These standards are provided in Rule Chapter 14-96, FAC, (driveway permitting) and Rule Chapter 14-97, FAC (access management standards). For example, all new driveways associated with a new or expanded development should be permitted through the process described in the Rule Chapter 14-96, FAC, State Highways System Connection Permits Administrative Process. The application of these principles to roadway and corridor design features is discussed in greater detail in a number of FDOT publications such as: |
| button_PDFlink.png button_web.png | * *Driveway Information Guide* available online at:  <http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/driveway2008.pdf>. * *Median Handbook* available online at: <http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/mhb06b.pdf>.   The FDOT also maintains an extensive on-line collection of technical resources covering the area of access management which can be found at: <http://www.dot.state.fl.us/planning/systems/sm/accman/>. |

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| 4.12 FDOT Permitting process | |
| iStep12Review.png | During the permitting process additional information and analysis may be needed. The permit reviews performed during a site impact analysis are usually conceptual and subject to final permit reviews subsequent to approval of the site impact analysis. |

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| Ch5Mitigation.jpg | CH5Titlegraphic.png |
| 5 | MITIGATION |
|  | When a transportation impact analysis conducted for a proposed development indicates that the transportation system will operate at an undesirable level of service (LOS), mitigation measures to reduce transportation impacts should be undertaken. Mitigation can be in the form of increasing system capacity, enhancing operational efficiency, or reducing demand, and should be relative to the size of the transportation impact expected. When transportation impacts are expected on the SIS, FIHS, or TRIP-funded facilities, FDOT should work with local governments and other transportation agencies to identify and agree upon mitigation measures.  A number of strategies and techniques are available for implementing and funding mitigation. Determining the best combination of these strategies and techniques requires an understanding of the community’s overall vision for mobility as well as their plans for achieving it. In addition, mitigation needs vary by project and have the potential to impact the viability of a proposed development. As a result, funding of mitigation options can be a challenging and sometime contentious issue. Understanding available funding mechanisms, including proportionate share, proportionate fair–share, impact/mobility fees, is an essential part of implementing mitigation measures that meet long-term mobility needs of the transportation network.  This chapter provides guidance on strategies and funding mechanisms for mitigation. There is no one solution to furthering mobility goals; solutions will vary by area and type, and will require the use of a variety of options that work together to offer transportation mobility and choices. The successful implementation of these mitigation strategies will require increased and continuous intergovernmental coordination, and as such, the final section of this chapter provides guidance on developing mitigation agreements to help facilitate coordination with local governments and other transportation agencies. Although this chapter is meant to be read in sequential order, it has been organized to provide reviewers with a comprehensive list of strategies and funding mechanisms. As such, reviewers may find it useful to come back to these mitigation options as needed to tailor options to individual communities or sub-areas. |

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| 5.1 Strategies | |
|  | Growth management legislation in 2005 (Section 339.2919, F.S.) elevated the role of FDOT in development review and mitigation as it relates to the SIS, FIHS, and TRIP-funded facilities. FDOT now has a much more direct role in growth management decisions, and as such, proactive strategies are needed to prepare district planners and decision makers to the challenges and opportunities involved in these coordination efforts. This section provides guidance on mitigation strategies and alternatives that should be considered in maintaining long-term mobility on the transportation system. |
| Keys to Successful Mitigation | When a development results in a SIS, FIHS, or TRIP-funding facility falling below the LOS standard required by Rule 14-94, F.A.C., a number of mitigation alternatives may be considered in the review process to lessen transportation impacts. In the past, the transportation impact review process and methodology has been primarily directed by local governments with little uniformity across the state or between FDOT districts. As the FDOT role in the development review process has increased, a number of FDOT studies have proposed guiding principles to aid in clarify ways to accomplish this task. |
|  | Four general needs have emerged as districts and local governments attempt to meet the requirements of the 2005 Growth Management legislation in a systematic way:   * Regional perspective * Mobility plans * Land use and transportation connection * Early and continuous coordination between FDOT and transportation partners |
|  | It has become clear that transportation impacts to FIHS, SIS and TRIP-funded facilities span traditional jurisdictional boundaries, and in order to meet the long term needs of the transportation system, a **regional perspective** is needed. The consideration of other transportation modes (e.g. bicycle, pedestrian, transit, transportation demand management) , in addition to road widening improvements, will help accomplish long term mobility needs on the transportation system, and present new opportunities for partnering and funding. As part of the partnering process, FDOT planners and decision makers will need to coordinate with regional planning councils (RPCs) and metropolitan planning organizations (MPOs), in addition to local governments and DCA staff, to maximize long term approaches of achieving mobility goals. |
|  | One important tool for FDOT staff will be to coordinate with transportation partners in developing **mobility plans** designed to accommodate future traffic on the impacted corridors based on solutions other than adding lanes to existing roads, particularly if no improvement projects are programmed on deficient facilities.  Strategies that embrace the connection between **land use and transportation** should be included in these plans, reinforcing local government comprehensive plans and land development codes to meet community goals. Examples of these types of strategies are discussed in the following sections, and may include context sensitive solutions, corridor access management solutions, transportation demand strategies, and transit oriented development. |
| button_PDFlink.png | Perhaps most importantly, initial efforts of FDOT staff will require establishing **early and continuous involvement** between FDOT and transportation partners. Transportation partners may include local governments, RPCs, MPOs, as well as DCA staff. An interlocal agreement or memorandum of agreement may first be established to identify the roles and responsibilities of all affected parties, and to ensure proper coordination and documentation of mitigation. Documentation should include a detailed description of the proposed improvement(s), identify funding responsibilities, and demonstrate that improvements are in compliance with local, regional, and state LOS and other requirements. In addition, an “umbrella” agreement may be established by FDOT and the local government to streamline the mitigation approval process. An example of this approach by District 3 and Walton County can be found in their [Transportation Proportionate Share Agreement](http://www.cutr.usf.edu/research/Resources%20for%20Documenting%20Improved%20Mobility%20Techniques/06%20Transportation%20Proportionate%20Share%20Agreement.pdf). |
|  | By incorporating these key mitigation strategies into the site impact process, FDOT reviewers can promote a systematic approach that meets long term transportation and community goals. It is important to note, however, that FDOT reviewers should verify that mitigation strategies are codified by the local government comprehensive plan and land development codes, consistent with the mitigation practices outlined below. |

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| 5.2 Three Categories of Mitigation Strategies | |
|  | As funding needs for new capacity improvements greatly exceed available funding resources, the focus of transportation impact mitigation has shifted to a more systematic approach to consider enhancing operational efficiency and increasing options for alternative modes of travel in addition to increasing roadway capacity. A variety of the following strategies may be chosen relative to the transportation impacts of the proposed development, transportation system long-term goals/plans, and applicable state and local requirements. Both short-term and long-term mitigation options should be considered so that mitigation efforts work together to achieve long-term mobility goals. Mitigation strategies will be discussed in the following section within the framework of three general categories to provide reviewers with a range of options, specific to local and regional needs and goals: increasing roadway capacity, enhancing operational efficiency on existing transportation systems, or increasing other modal options. |
|  | 1. Increasing System Capacity 2. Enhancing Operational Efficiency on Existing Transportation System 3. Increasing Other Modal Options |
| Increasing System Capacity Ch5Capacity.png | Options for increasing roadway capacity may include:   * Construction of new facilities * Addition of General Use Lanes * Alternatives to SIS Roads * Context-Sensitive Solutions |
| Construction of New Facilities | Construction of new facilities are one strategy to address transportation impact needs resulting from new development, and are encouraged when new facilities help meet long-range transportation goals and policies, such as regional connectivity. Applicable considerations when proposing new facilities include impacts to regional community and environmental objectives, congestion management system goals and policies, and air-quality planning requirements. As such, new facilities that facilitate future transportation system management strategies (e.g., ITS strategies), enhance the use of transit (e.g., geometric and operational improvements to accommodate bus travel) and future travel demand management strategies (e.g., access to park and ride lots) are encouraged. |
|  | In addition, new facilities should be consistent with all FDOT standards and policies. New facilities to the FIHS are required to meet standards and limitations set forth in FDOT’s [Procedure on Development of the Florida Intrastate Highway System](http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/525030250.pdf), Topic 525-030-250-f. Construction of new facilities to the SIS and Emerging SIS are governed by Section 339.63, F.S and construction plans should be undertaken in coordination with local governments, regional planning councils, transportation providers, and affected public agencies. Requirements for new facilities to SIS or Emerging SIS facilities are based upon FDOT’s [Adopted Criteria and Thresholds](http://www.dot.state.fl.us/planning/sis/update/appb.pdf) of July 2008. Construction of new facilities should be sensitive to potential community and environmental impacts, and reflect the principles of functional hierarchy and systems connectivity addressed in *Policy on the Geometric Design of Streets and* *Highways , 5th Edition* (AASHTO: 2004). |
| Add General Use Lanes | The addition of general-use lanes on existing facilities is another way of addressing the impacts resulting from new developments. However, the lane additions should be consistent with regional goals and policies for SOV travel, FDOT Topic 525-030- 250-f [Procedure on Development of the Florida Intrastate Highway System](http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/525030250.pdf), and [Adopted Criteria and Thresholds](http://www.dot.state.fl.us/planning/sis/update/appb.pdf) for the SIS*.* The selection of corridors for new general use lanes should be coordinated with FDOT. Features that facilitate future transportation system management strategies, enhancements for the use of transit and future travel demand management strategies should be considered in conjunction with the addition of general-use lanes. |
| Alternatives to SIS Roads | Arterial or collector roads running parallel to a SIS facility and serving common destinations may be considered as an option for mitigation of transportation impacts to SIS facilities at or near capacity. This strategy creates an opportunity to partner with appropriate transportation agencies or MPOs to meet mutually beneficial, cost effective transportation improvements.  Developing parallel reliever roads may take the form of new road development as well as expansions to existing roads. Because of the expense and complexity associated with obtaining right of way for new roads, the designation of existing roads as a parallel reliever may be desirable where travel demand evaluations warrant such designation. Where service roads are designated as parallel relievers, opportunities exist to integrate corridor development with local street networks and enhance the ability of smaller areas to establish service roads on the state highway system. Examples of mitigation options for parallel relievers include improving access from the main facility to these reliever roads, connecting a number of existing reliever roads into one continuous road, adding lanes to the parallel road to increase capacity, as well as improvements to signal timing, turn lanes, and medians. When employing this strategy, particular attention should be paid to safety considerations in the improvement of parallel relievers to address operational issues and unfamiliar movements that can lead to increased crash rates. |
| Context-Sensitive Solutions (CSS) | FDOT’s [Topic 000-650-002-a](http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/000650002.pdf) defines CSS as, “a proactive, collaborative, interdisciplinary approach to transportation decision making, project development, and implementation, taking into account, the views of stakeholders, and the local area where a project will exist, be operated, and be maintained.” CSS strategies support a broad view of the modal transportation network to enhance local planning goals and conserve important environmental resources, while also addressing safety and mobility issues. Conventional approaches to capacity enhancement focus on widening lanes and creating more continuous roadways, with the unintended result of hindering specific community and environmental objectives and aesthetics of accessibility and safety. This strategy requires the implementation of solutions tailored to the specific community and takes multimodal and intermodal connections into account when addressing capacity needs.  CSS may be combined with Transportation Demand Management (TDM) solutions that seek to increase efficiency on the existing system by considering design elements that influence travel behaviors. Examples of new capacity improvements using CSS include: streetscape improvements, traffic calming design elements, as well as road space reallocation to increase right of way for alternative modes such as transit or bicycle/pedestrian improvements. Local and regional plans provide the directive for meeting concurrency standards through CSS and the importance of early continuous coordination between FDOT, local governments, and the public to define community and environmental goals are stressed in establishing long-term mobility on the transportation network. |
| Enhancing Operational Efficiency on Existing Transportation System | |
| CH5Efficiency.png | Mitigation strategies designed to enhance operational efficiency on the existing system may include:   * Transportation System Management (TSM) * Corridor Access Management Plans * Congestion Management Processes * Enhancements for use of HOV or Transit * Transportation Demand Management (TDM) * Public Transit Operational Improvements * Street Network Connectivity * Green House Gas (GHG) Emissions Strategies |
| Transportation System Management Strategies (TSM) button_PDFlink.png | TSMs are improvements intended to utilize the existing transportation system’s capacity to the greatest extent possible. These improvements consist of minor geometric improvements or traffic controls strategies rather than increasing the number of general use lanes.  Examples of TSM improvements include:   * Construct acceleration and deceleration lanes * Add intersection turning lanes * Improve intersection channelization * Modify traffic signals phasing or timing * Improve signal progression * Implement Ramp metering * Construct an interchange at an existing intersection * Add an auxiliary lane along a freeway * Modify an interchange (If an interchange with a freeway is proposed, these improvements require compliance with the analysis process, criteria, policies and standards set forth in FDOT’s [Interchange Handbook](http://www.dot.state.fl.us/planning/systems/sm/intjus/interchangehb/PDFs/Preface.pdf)) * Implement incident management programs * Implement traveler information systems * Implement intelligent transportation systems (ITS) |
| Corridor Access Management Plans | Section 163.3164(30), F.S. defines transportation corridor management as a strategy that incorporates land use planning within and adjacent to proposed transportation corridors to promote orderly growth, meet concurrency requirements, and to preserve and maintain corridors for transportation purposes. Corridor management plans may be considered as part of a long term concurrency management system, should define improvement projects, and should evaluate corridors beyond the roadway right of way to address land use, access management, street networks, and right of way needs. The results of these evaluations should maintain or improve access to adjacent properties and improve the safety and operation of the roadway. Examples of proposed improvements resulting from this evaluation may include: |
|  | * Medians or median opening closures * Signal location and spacing * Auxiliary lanes * Right of way needs and requirements * Site access and circulation design * Land use and activity center concepts * Improvements to the supporting roadway network * Improvements involving access for other transportation modes (e.g. bus pullouts, transitions for special use transit lanes or bus rapid transit, pedestrian crossing treatments) * Bicycle lanes and shared use paths |
|  | In order to implement Corridor Access Management Plans as a legally binding and enforceable document, each implementing agency (e.g. FDOT, MPOs, and local governments) must officially adopt this plan. State and local governments must approve these plans, and implementation is typically achieved by combining regulations, interagency or public/private agreements, design standards, and road improvement projects. Detailed guidance and resources on evaluation techniques, best practices for preserving right of way, and example plans is available in FDOT’s LOS Issue Paper 13, [Documenting Improved Mobility Techniques on SIS and TRIP Facilities](http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/issuepaper13.pdf). (New QLOS Handbook??) |
| Congestion Management Process (CMP) | Titles 23 U.S.C. 134(k) (3) and 49 U.S.C. 5303(k) (3) require that all MPOs maintain a CMP using travel demand reduction and operational management strategies to identify and address congestion issues on the transportation network. Partnering with MPOs through this CMP can help identify and prioritize mitigation options that systematically address long-term mobility on the SIS, FIHS, and TRIP-funded facilities. Employing this strategy can both aid in identifying low-cost operational and management improvements and present an opportunity for partnering in costly, large-scale needed improvements. |
| Enhancements for Use of HOV or Transit | Enhancements for the use of transit alleviate traffic impacts by resulting in an increase in transit usage, reducing the number of primary vehicle trips on the roadway system. These improvements should be evaluated carefully by FDOT and changes in mode split should be supported by the developer based on data collected on projects of similar intensity and use.  Some of the strategies that may be appropriate for mitigation include:   * Construction of park and ride lots * Construction of bus shelters, turn-out, etc. * Construction of HOV access ramps * Implementation of HOV priority lanes at ramp metering and intersections |
| Transportation Demand Management Techniques | Transportation demand management may be the most underused element of an effective mobility plan. TDM consists of strategies that foster increased efficiency of the transportation system by influencing travel behavior by mode, time of day, frequency, trip length, regulation, route or cost. TDM discourages drive alone travel through better management of existing transportation infrastructure, services and resources. TDM strategies include, for example, public transit services, carpooling and vanpooling, compressed work weeks, telecommuting, limited parking, and provision of bike and locker facilities by employers. Detailed information about TDM strategies and existing programs can be found at the [National TDM and Telework Clearinghouse](http://www.nctr.usf.edu/clearinghouse/).  FDOT staff unfamiliar with local government land development processes will find guidance on proactive measures that can be used to influence the incorporation of TDM into the land development process in [Incorporating TDM into the Land Development Process](http://www.nctr.usf.edu/abstracts/abs576-11.htm). National Center for Transit Research at CUTR, August 2005. The report documents efforts to secure TDM strategies as part of development approvals, summarizes the long range planning groundwork that frames the land development process, includes several case study examples from Florida and other states and identifies institutional barriers to the use of TDM as part of the land development process.  Transportation partners interested in using TDM in land development should get involved long before development proposals are submitted. This requires participation in review and updates of the MPO long range transportation plan and transportation improvement program as well as local government comprehensive plans. Further, it involves appraising how well the local government land development regulations implement the intent of the comprehensive plan and reviewing traffic analysis methodology and underlying assumptions. These activities will begin the integration of TDM principles and strategies into the land use and transportation planning process resulting in physical infrastructure and regulatory tools to support TDM as land development proceeds. |
| Public Transit Operational Improvements | Public transit operational improvement strategies are also strategies that are intended to reduce the amount of primary-trip vehicles on the transportation network by changing the mode split. These strategies are encouraged; however, they should be carefully evaluated to ensure that the proposed changes in mode split are realistic. Additionally, the applicant should ensure that local transit agencies support the change in transit service and are committed to the proposed changes associated with the proposal. Examples of public transit operational improvements that may be appropriate for mitigation include new or modified service routes and employer subsidized transit. |
| Street Network Connectivity Strategies | In a number of areas around Florida, the SIS, FIHS, TRIP-funded facilities are being used as the primary means for transportation between developments, while local and collector street networks remain underdeveloped and/or fragmented. In addition to the strain this puts on the ability of these facilities to maintain adequate LOS and provide adequate emergency access, the use of major highways results in negative impacts to the community. The higher speeds and turning movements associated with traffic on major highways create unsafe conditions for bicyclists and pedestrians. In addition, these safety issues, combined with trip length and lack of connectivity produce a greater dependence upon the automobile as the sole means for transportation.  Mitigation to address transportation impacts to these facilities involves promoting activity centers, providing alternative routes for local trips, focusing on connecting existing roads, as well as considering street network connectivity as new development emerges. Long-term Corridor Access Management Plans can use the existing local street system to identify where preferred alternative routes are located, and mitigation efforts can be focused on promoting connectivity over time. Continuous coordination with local governments is needed to implement this strategy successfully, and reviewers should consult applicable land development codes for street spacing or connectivity requirements for developments impacting FIHS, SIS, or TRIP-funded facilities. TRB’s Paper, [Accomplishing Alternative Access on Major Transportation Corridors](http://www.cutr.usf.edu/research/Resources%20for%20Documenting%20Improved%20Mobility%20Techniques/18%20Accomplishing%20Alternative%20Access%20on%20Major%20Transportation%20Corridors.pdf) provides further examples of street network connectivity strategies and sample regulatory language. |
| GHG Emissions Reduction Strategies | In 2008, the Florida Legislature amended Sections 339.175 and 163.3177, F.S. to address greenhouse gas emissions in MPO and local government plans. MPO Long-Range Transportation Plans as well as local government comprehensive plans should now include strategies for reducing these emissions. These new statutory requirements provide additional partnering opportunities to meet the mutually reinforcing goals of emission reduction and maintaining LOS standards. Mobility plans that address these goals can improve the long-term viability of the transportation network. |
| Increasing Other Modal Options | |
| CH5Options.png | Another strategy for ensuring the long-term viability of the transportation network is to offer mitigation options that increase mode choice. Options for increasing mode choice are discussed below, and include:   * Transit Oriented Development (TOD) * Providing Transit Options * Bicycle/Pedestrian Connectivity |
| Transit Oriented Development | Another method for addressing congestion on FIHS, SIS, and TRIP-funded facilities is through the promotion of land uses that are supportive of transit investment. To implement these strategies, local governments should refine comprehensive plans land development codes to include transit supportive design criteria, such as density and intensity ranges, as part of the development standards. FDOT planners and decision makers can then support these efforts in partnership with local governments. FDOT’s [Transit Oriented Development Design Guidance](http://www.dot.state.fl.us/rail/PlanDevel/RSAC/Mtg3files/Delaney%20handout%202.pdf) and [Accessing Transit Design Handbook for Florida Bus Passenger Facilities](http://www.dot.state.fl.us/transit/Pages/2008_Transit_Handbook.pdf) contain guidance on design features, safety issues, and land use strategies that promote TODs. |
| Provide Transit Options | With rising costs of construction and right of way, and the increasing requirements of implementing greenhouse gas emissions reduction strategies, transit options are an important consideration in developing mobility plans. Implementing this strategy requires early and continuous coordination with transit agency representatives, such as MPOs in addition to local governments, in the development of the mobility plan. Consideration of funding mechanisms to maintain operational costs of the system is needed to create cost feasible solutions.  [Land Developer Participation in Providing for Bus Transit Facilities/Operations](http://www.nctr.usf.edu/pdf/Land%20Developer.pdf) documents various regulatory and non-regulatory strategies that Florida’s local governments and transit agencies can use to generate public transportation funding through the involvement of private developers. Local and national case studies highlight application of these strategies. Suggestions are designed for use within the framework of local government comprehensive plans, land development codes, and transit development plans, and therefore call for increased coordination and cooperation between local governments and transit. FDOT planners and decision makers may also become involved in this process as development impacts FIHS, SIS, and TRIP-funded facilities, and should work on establishing coordination efforts to plan for transit options for mitigation. |
| Bicycle/Pedestrian Connectivity | To foster the use of alternative transportation modes, connectivity for bicycle and pedestrian movement should be an integral part of any mobility plan. Although often considered the realm of local government alone, FDOT planners and decision makers should be prepared to share technical expertise in this area. Ample bicycle and pedestrian connections within and between residential areas and supporting community facilities and services, such as shopping areas, employment centers, transit stops, neighborhood parks, and schools may lessen short-range automobile trips.  A bicycle and pedestrian network comprised of a system of interconnected and direct routes can be measured by a connectivity index. Instructions on how to perform this measure are found in [Multimodal Transportation Districts and Area-wide Quality of Service Handbook](http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDQOS.pdf). Missing links or gaps in the bicycle and pedestrian network should be identified and eliminated where appropriate through the development process. Missing links may include locations between cul-de-sacs, through walls or fences, mid-block where block length exceeds 660 feet, or where bicycle pedestrian routes would otherwise be “excessively” circuitous. Highest priority for improvements should be given to locations with high concentrations of pedestrian activity and where connections are needed to ensure easy access between transportation modes, with particular attention to bicycle and pedestrian access to schools, transit stops and regional greenway or trail systems. Model comprehensive plan amendment and land development regulation language can be found in [Model Regulations and Plan Amendments for Multimodal Transportation Districts](http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDregs.pdf). |
| Mitigation for Alternative Modes | Although challenging, incorporating multimodal analysis into transportation impact analysis can offer improved mechanisms for mitigation of alternative transportation modes. Examples of review mitigation options for alternative modes include ridesharing programs, shuttles to transit stations, and installation of pedestrian and bicycle facilities. The most important aspect of implementing these mitigation options is to have established standards that address safety hazards for all modes and determine mitigation options and/or assign trip credits. Local government comprehensive plans and land development codes, in addition to establishing mobility plans and agreements between local governments and FDOT are needed to implement these options. |

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| 5.3 Other Mitigation Strategies | |
|  | In addition to the approaches referenced above, three additional mitigation options may be considered in reducing transportation impacts. |
| Transportation Concurrency Alternatives (TCEAs, TCMAs, and MMTDs) | |
|  | In some cases, the strict application of transportation concurrency requirements may conflict with important area planning objectives such as urban infill, redevelopment, or the promotion of public transportation. In these cases, local governments are able to designate geographic areas into their comprehensive plans through the use of Transportation Concurrency Exception Areas (TCEAs), Transportation Concurrency Management Areas (TCMAs), and Multimodal Transportation Districts (MMTDs), subject to requirements in Section 163.3180, F.S. In 2005, these requirements were strengthened to also require local governments to consult with FDOT prior to the designation of these areas. Impacts to LOS standards for SIS and TRIP facilities are to be determined by FDOT and local government, and mitigation plans for alleviating impacts to the SIS are to be coordinated between FDOT and the local governments. TCEAs, TCMAs, and MMTDs are able to implement transit system improvements as a viable mitigation strategy, and proportionate fair share contributions may be used to fund these mitigation efforts. FDOT reviewers should consult **Chapter 2** of this handbook for further information and resources on LOS analysis, funding mechanisms, and monitoring requirements for TCEAs, TCMAs, and MMTDs.  It is also important to note that the 2009 Florida Legislature, under SB 360 (known as the “Community Renewal Act”, and passed through the Senate in April 2009) may have important impacts on coordination efforts with regard to TCEAs. The bill defines "dense urban land areas" as municipalities that have an average of 1000 people per square mile and a minimum population of at least 5000, a county (including the cities therein) which has an average of 1000 people per square mile, or a county (and its cities) which has a population of at least 1 million people. Transportation concurrency exception areas (TCEA) are automatically created in 1) cities that qualify as such; 2) within the urban service areas of counties that qualify as dense urban land areas; and 3) in counties that have a population of at least 900,000 and qualify as dense urban land areas but don't have an urban service area. Increased coordination between FDOT and local governments will be necessary to ensure that designation of these areas and mitigation plans are in compliance with applicable state statutes and rules. |
| Variances to FDOT LOS Rule | |
|  | As more systematic and long-term plans to address LOS standards under Rule 14-94, F.A.C. have been undertaken, it has in some cases been necessary to temporarily allow facilities to fall below established LOS standards in order to implement such plans. Variances to LOS standards may be requested at the FDOT district level through Section 120.542, F.S. by illustrating a substantial hardship and providing a strategy for mitigation within a set time period. For a list of case examples where FDOT has approved variance to LOS standards under Rule 14-94, F.A.C., please consult the 2009 FDOT Report, *Integrating Corridor Management, Growth Management and Concurrency: Literature and Current Practice Review.* |
|  | Keys to a successful variance process, as outlined in Growth Management Implementation: A Work Plan for the FDOT District 4 Office of Modal Development, include:   1. There must be a real substantial hardship and/or unfairness in the application of the LOS rule. 2. A variance to the LOS rule will apply to the adopted LOS for a SIS or TRIP highway, or a SIS connector, and so will affect all pending and future development that will impact the facility to which the variance applies. 3. It takes time to create proper conditions for a variance. Variances should contain binding obligations for the local government and these obligations should be publicly discussed. Variances can be granted for a limited amount of time and may contain conditions upon which the variance is granted. Such conditions could include consideration of multimodal performance measures. 4. Variances are not limited to changing LOS letter grades. Although not yet implemented, variance options include changing when concurrency is measured from the 100th highest peak hour to some other time period, either a different peak hour or some off-peak period. 5. A variance is a remedy of last resort. Variances present enforcement challenges that should be carefully considered. Revoking a variance will likely mean a development moratorium along the area served by the facility for which the variance was granted. |
| Site Plan or Land Use Changes | |
|  | Modifications to the site plan initially proposed by the applicant may ultimately be required if there are no other feasible alternatives to mitigate for the traffic impacts or to reduce the magnitude of impacts by modifying the assignment of traffic by the development.  Examples of changes to site plans could include:   * reduce development land uses * change proposed land uses * modify development phasing * revise internal circulation * Limiting the number of trips that a site can generate through Comprehensive Plan policy |
| Analysis | Decisions about how to meet community visions for development and transportation options are a key responsibility of local government planning, and should be coordinated with neighboring jurisdictional, MPO, and other agency plans to ensure that local and regional mobility goals are met in a proactive, comprehensive way. When development is expected to impact SIS, FIHS, or TRIP-funded facilities, local entities should also coordinate with FDOT on mitigation plans. FDOT reviewers should therefore be aware of how local government comprehensive plans align with regional and statewide mobility goals through a number of planning documents so that the mitigation options chosen reflect overall community visions for growth. Mitigation efforts should be consistent with local government comprehensive plans and future land use maps, as well as the Metropolitan Planning Organization’s (MPO) Transportation Development Plan (TDP), Transportation Improvement Plan (TIP), the Unified Planning Work Program/Budget, and the Long-Range Transportation Plan (LRTP). |
| General Considerations | In analyzing mitigation options for transportation impacts, reviewers should first consider both the size and type of the transportation impact. Mitigation should be relative to the scale of the expected transportation impacts. For example, while two developments might initially seem similar, a fast food restaurant would expect to generate more traffic and have a greater impact to the existing transportation network than a shoe store even when both developments consists of an equal amount of commercial or retail square footage.  The traditional transportation impact analysis has focused on a few basic factors to identify expected level of service impacts on the transportation system and the associated costs of addressing these impacts. While this traditional analysis still holds true for many traditional suburban developments and undeveloped areas, newer community strategies like TCEAs, TCMAs, and MMTDs involve additional factors that are not effectively measured in level of service calculations alone. In these cases, consideration of transit needs, bicycle and pedestrian needs, and mitigation efforts to reduce automobile dependence are also necessary. In addition to the traditional level of service considerations, some questions to consider in analyzing impacts include: |
|  | * Does the design of the proposed development work to reduce impacts on adjacent arterials? * Are there factors in the proposed development that are expected to reduce automobile trip generation? * Will the proposed development support higher rates of internal capture? * Will the proposed development produce more trips by alternative transportation modes? * Does the proposed development support more trip chaining that may affect the activity patterns on the transportation system? |
|  | In addition, different transportation impacts may be expected depending upon development type. Developments that are designed to include an interconnected street network, support high density mixed-use development, or otherwise embrace transit-oriented design practices, serve to reduce reliance on adjacent arterials through design features that promote bicycle and pedestrian accessibility and the ability to move along local streets for daily trips. The transportation impacts for these developments are therefore less than conventional low density suburban developments that separate land uses and promote automobile use due to insufficient bicycle and pedestrian facilities and accessibility. |
| Opportunities to Reduce Impacts | FDOT reviewers should also recognize and look for opportunities to reduce impacts to the SIS, FIHS, and TRIP-funded facilities. For instance, some local governments and MPOs have developed **roadway constraint ordinances or policies** to guide transportation investment priorities, promote community mobility goals, and offer less expensive options for enhancing regional transportation networks. These policies should be consulted along with other local and regional planning documents, and will have a significant impact on mitigation opportunities. For instance, the [Lake Sumter MPO Roadway Constraint Policy](http://www.lakesumtermpo.com/pdfs/Lane_Constraint_Policy.pdf) defines maximum lanes for several interstate, state roads, and county roads within their jurisdiction in an effort to maintain and enhance the overall transportation network in a cost-effective way that considers long-term community mobility goals.  Another method for reducing impacts on the SIS, FIHS, and TRIP-funded facilities is in the use of **parallel reliever roads**, nearby parallel roads that serve common destinations and run in the same direction as a major arterial. In the City of Destin, for example, parallel reliever roadways operate to preserve existing capacity on US 98 (the main east-west arterial running through the city) while contributing to the overall multimodal transportation goals and policies of the community. In conjunction with the City’s recent adoption of a MMTD, various transportation options are have been developed to improve roadway connectivity and reduce single occupant vehicle trip making in an overall effort to create a multimodal environment. To meet these goals, the City has created parallel relievers such as Commons Drive and Airport Road to provide alternatives to the use of US 98 for cars, buses, and bicycles. As a result, the City has been able to show decreases in Average Annual Daily Traffic (AADT) plus committed trips on almost every link on US 98. |
|  | The opportunities for partnering between FDOT, local governments, and other transportation agencies to establish parallel reliever roads offer viable options for meeting FDOT objectives of maintaining levels of service on the SIS and FIHS and local visions for mobility; however, reviewers should be aware of known design issues to ensure safety and mobility in the creation of these facilities. Continuous frontage roads, for example, are known to lead to crashes and operational problems due to unfamiliar movements and where connecting too close to a major roadway intersection. In addition, one of the lessons learned from Destin’s parallel reliever has been the need to create bicycle and pedestrian facilities in conjunction with these parallel relievers to develop a connected, multimodal environment. Close coordination between FDOT and local governments can help in ensuring that community and safety needs are met on a project by project basis. |
| Multimodal Considerations | As more options become available to meet the mobility needs of the transportation network, the analysis of mitigation options becomes more complex. In general, reviewers should utilize both quantitative and qualitative methods of analyzing the transportation impacts of new development.  FDOT reviewers should recognize the limitations of travel demand modeling in multimodal analyses so that transportation impacts are assessed effectively. For example, the use of traffic analysis zones (TAZs) as a unit of analysis does not consider trips within those zones, like the ones that constitute the majority of walking trips, a significant portion of bike trips, and most trips to access transit. In addition, existing land use models do not consider differences in land use configurations that may occur as a result of changes in the transportation network. FDOT reviewers may wish to consult FDOT’s [Multimodal Tradeoff Analysis in Traffic Impact Studies](http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/mmtradeoff.pdf) for more detailed information on multimodal considerations. |
| Funding of Mitigation Improvements | Transportation mitigation needs vary by project and have the potential to impact the viability of a proposed development. As a result, funding of mitigation options can be a challenging and sometime contentious issue. Recognizing the issues associated with mitigation needs, State legislation has been enacted allowing developers to share the costs of mitigation projects proportionate to the impact of the proposed development.  The methodology for determining the developer’s fair-share funding of mitigation improvements should be identified in the methodology phase of the project. The fair-share is determined in relationship to the number of trips generated by the development and the capacities on an affected roadway segment. The final mitigation fee considered is typically negotiated among the applicant, local governments, RPC and the FDOT (if state highway improvements are involved) following the mitigation analysis that demonstrates the proposed improvements will result in an acceptable operating condition along the roadway. This negotiation should occur before or concurrent with the drafting of the development order for DRIs.  For smaller developments that are within a concurrency management area, the developer’s share of mitigation improvements may be an impact fee that is assessed using a predetermined schedule of fees based on the intensity and type of land use. For example, each unit of single family detached housing will be associated with a fixed fee. This fee is applied throughout the concurrency management area and reflects the proportional share of improvements required on the area’s concurrency management system of roadways. |
| Transportation Cost Resources | Determining accurate mitigation costs is an essential component required to develop an equitable mitigation package. The FDOT maintains several cost estimating and documentation resources to assist with the determination of:   * Highway construction costs * Right of way costs * Bridge costs * Transit costs * Inflation factors (for converting present day costs to future years) * Construction cost indicators   FDOT’s [Transportation Costs](http://www.dot.state.fl.us/planning/policy/costs/) online site contains a full list of cost estimates and documentation resources. The on-line resource page includes several key staff contacts for cost information. In reviewing the on-line resources, it should be noted that much of the information is general. Many, if not all, of the cost factors are situation specific and will vary from District to District within the FDOT based on local circumstances. In many situations, costs will vary even within a given district. This is particularly true with right of way costs due to the price of right of way acquisition in dense urban areas.  Because of the wide cost variation, all costs and adjustment factors relating to specific transportation projects should be addressed with the district office where the project will be located and all assumptions and cost estimating methodologies should be reviewed and approved by the FDOT. It is noted that the generalized costs available from the FDOT may not be accepted for use in mitigation calculations. Where available, cost estimates based on design, PD&E, or feasibility/corridor studies should be used. Tools such as the FDOT’s long-range estimating (LRE) software may also be used to determine a more location specific cost as compared to generalized costs. Because of the significant differences that can exist between a cost estimate based on generalized costs and a cost estimate based on more site specific information, the use of site specific costs in mitigation agreements is preferred by the FDOT. |
| Cautionary Considerations | The funding of transportation improvement projects is often key to concluding that local concurrency requirements and FDOT operating standards can be satisfied, allowing development to move forward. Proportionate share mitigation, proportionate fair-share mitigation, pipelining, and other options may be considered as tools through which development applicants can contribute their share of the cost of improving the impacted transportation facility and thereby mitigate their impact. When properly developed and administered, these funding mechanisms effectively generate funding for future transportation infrastructure improvements in an equitable manner while allowing development to continue in the absence of that infrastructure. To be effective, it is essential that cost-sharing mitigation plans:   * Be developed based on correct application of trip generation and trip distribution information * Be developed based on accurate and reliable cost estimates * Have an applicant’s or agency’s commitment to deliver a funded transportation improvement |

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|  | Development and administration of cost-sharing mitigation plans can be complicated by:   * Cost uncertainties such as: * Lack of detailed design or cost estimates for future improvements * Right of way acquisition costs * Potential for large fluctuations in construction costs due to unanticipated changes in material availability (particularly shortages), fuel costs, and other inflationary considerations * Developments that are obligated to contribute but do not because the development is unable to move forward (no development = no contribution) * Potential lack of consistency between a project identified for proportionate share and other adopted planning documents (that may not include the project needed) * Funding shortfalls if insufficient funds are collected to fully pay for a given proportional share mitigation project | |
|  | It should be noted that cost-sharing contributions may be in the form of funds, right of way, or the construction of improvements. The FDOT should concur with projects that involve the SIS in order to ensure impacts on these facilities are addressed.  The next two sections provide an overview of proportionate share (DRI) and proportionate fair-share mitigation. | |
| Proportionate Share (DRI) Mitigation | Proportionate share is a commonly exercised option to mitigate project impacts associated with DRIs. Section 163.3180(11), F.S. identifies the parameters under which a proportionate share assessment can be offered as mitigation for the transportation impacts of a DRI. These parameters include:   * The local government with jurisdiction over the property has adopted a local comprehensive plan that is in compliance * The proposed development would be consistent with the future land use designation for the specific property and with pertinent portions of the adopted local plan, as determined by the local government * The local plan includes a financially feasible capital improvements element that provides for transportation facilities adequate to serve the proposed development, and the local government has not implemented that element * The local government has provided a means by which the landowner will be assessed a fair share of the cost of providing the transportation facilities necessary to serve the proposed development * The landowner has made a binding commitment to the local government to pay the fair share of the cost of providing the transportation facilities to serve the proposed development   With respect to DRIs, Section 163.3180(12), F.S. states:  “A development of regional impact may satisfy the transportation concurrency requirements of the local comprehensive plan, the local government's concurrency management system, and s. 380.06, F.S., by payment of a proportionate-share contribution for local and regionally significant traffic impacts, if:   1. The development of regional impact which, based on its location or mix of land uses, is designed to encourage pedestrian or other non-automotive modes of transportation; 2. The proportionate-share contribution for local and regionally significant traffic impacts is sufficient to pay for one or more required mobility improvements that will benefit a regionally significant transportation facility; 3. The owner and developer of the development of regional impact pays or assures payment of the proportionate-share contribution; and 4. If the regionally significant transportation facility to be constructed or improved is under the maintenance authority of a governmental entity, as defined by s. 334.03(12), F.S., other than the local government with jurisdiction over the development of regional impact, the developer is required to enter into a binding and legally enforceable commitment to transfer funds to the governmental entity having maintenance authority or to otherwise assure construction or improvement of the facility. | |
|  | Per Florida Administrative Code 9J-2.045(2)(h): “Proportionate share contribution means, only in the context of this rule, a contribution from a developer or owner of a DRI to the local government or government agency having maintenance responsibilities for those facilities, which make adequate financial provision for the public transportation facilities needed to accommodate the impacts of the proposed development on roadways outside the local government of jurisdiction’s Concurrency Management System area. The proportionate share contribution shall be deemed to make adequate financial provision for such facilities if it is equal to or greater than the sum of the costs of improvements attributable to the proposed development derived from the application of the formula below. The costs of improvements attributable to the proposed development are based upon the sum of the cost of improving each significantly impacted state and regional roadway which will operate at worse than the level of service standard in the local government’s approved comprehensive plan or the FDOT level of service standards for roads on the Florida Intrastate Highway System at each project stage or project phase and at project build out. The proportionate share of the cost of improvements of each such roadway is calculated according to the following formula: | |
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|  | Where: | |
|  | DRI Trips: | cumulative number of the trips from the proposed development expected to reach the roadway during the peak hour from the complete build out of a stage or phase being approved |
|  | SV Increase: | the change in peak-hour maximum service volume of the roadway resulting from construction of the improvement necessary to maintain the adopted level of service |
|  | Cost: | Cost of construction at the time of developer payment of an improvement necessary to maintain the adopted level of service. Construction cost includes all improvement associated costs, including engineering design, right of way acquisition, planning, engineering, inspection and other associated physical development costs directly required and associated with the construction of the improvement, as determined by the governmental agency having maintenance authority over the roadway. |
| Considerations | Both the number of DRI trips and the SV increase are typically determined through a traffic study. Care should be taken to ensure the correct application of trip generation and trip distribution estimates within the traffic study to properly assess the number of DRI trips. Similarly, correct application of highway capacity and LOS analysis is needed to estimate the SV increase using analysis tools such as the Generalized Tables, ARTPLAN, or HCS.  Cost is a critical factor and should be determined through coordination with the maintaining agency responsible for the facility to be mitigated. Because proportionate share funding may play a key role in the overall project funding plan, it is essential that project cost estimates be as accurate as possible. Underestimation of improvement costs will result in a project funding shortfall that will need to be made up when the project gets delivered.  Proportionate share payments are based on costs at the time of developer payment. As a result, the payment timing can significantly influence the actual amount of payment required. If payment will be made in the near term, current cost estimates and inflation factors can be used. If future payment is desired by the applicant, then the proportionate share should be determined as a percentage of overall project cost and the actual cost to the applicant will be determined at the time of payment. Given the time value of money and the potential for significant cost increases over time, it is important that applicants understand the potential for cost escalations associated with future payment.  It is essential that the language included in the project Development Order is clear in stating that project costs are at the time of payment. Due to the many factors that influence the timing of a development program, Development Order language should avoid binding an agency to a present day project cost for a future year improvement.  A developer may be presented with options by the FDOT for the payment of the proportionate share determined using the DRI formula or other accepted methodology. The options for payment could include other transfer payments such as right of way donation, in addition to or in combination with options such as having the developer construct the actual improvement. | |
| Example Proportionate Share (DRI) Calculations | | |
|  | Three examples are provided below to highlight proportionate share calculations for a range of circumstances. | |
| **Example #1:** Fictional Highway Widening Situation | A proposed development will significantly impact an existing two-lane roadway by adding 750 peak-hour directional trips. The background traffic on this roadway is 710 directional vehicles per hour during the peak. The MSV at the LOS standard of C for this facility (Class Ia1, divided with bays) is 790 directional vehicles per hour. As a result of the proposed development, the proposed mitigation improvement for this roadway will be to widen the facility to a four-lane roadway with a median and turn bays at a cost of $1,366,000. The MSV for the proposed facility (Class Ia1 divided with bays) is 1,610 directional vehicles per hour, an increase of 820 directional vehicles per hour. Applying the DRI proportionate share formula, the developer will be responsible for the following costs:  Proportionate Share = 750/820 \* $1,366,000  Resulting in a cost of $1,249,290.10 to the developer. | |

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| **Example #2:** Fowler’s Grove DRI | Fowler’s Grove is located in the City of Winter Garden. The project proposal involved a single phase DRI supporting 60,000 square feet of office space and 100 multi-family residential units. The DRI determined the project would have a significant and adverse impact on a 5.3-mile segment of SR 50 impacting Orange County and the Cities of Winter Garden and Ocoee | |
|  | **Exhibit 5-1** below illustrates the proportional share calculations prepared for Fowlers Grove. | |
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| Proportionate Fair Share (Sub-DRI) Mitigation | Proportionate “fair” share mitigation is also defined by Section 163.3180(16), F.S. and applies to smaller, sub-DRI level developments. As in proportionate share for DRIs, proportionate fair share provides options to mitigate development impacts through cooperative efforts between the public and private sector. This option provides a way for developers to satisfy transportation concurrency requirements by funding a *specific* road segment or segments falling below LOS standards set for in Rule 14-94, F.A.C. Examples of proportionate fair-share mitigation may include the contribution of private funds, contributions of land, and/or construction and contribution of facilities. Proportionate Fair-Share may be employed when a roadway fails to meet concurrency standards, for small scale developments (non-DRI), and where adequate funding exists to build the entire project. | |
|  | By statute, proportionate fair share mitigation is limited for use in assuring that development pays for its share of transportation impact costs, and may not be used to reduce or eliminate concurrency backlogs, as defined in Section163.3187(1), F.S. Developers have the option of paying into a fund, and in such cases the local government is responsible for addressing backlogs.  If a roadway that requires concurrency mitigation is on the SIS, the FDOT should concur with, and be a party to, the agreement. The FDOT may also be party to other proportionate share mitigation agreements impacting the SIS where FDOT funds will be received. By signing an agreement, FDOT is not guaranteeing the project will be under construction within 10 years, but is agreeing with the local government that sufficient funding is reasonably anticipated within that timeframe.  Projects identified for funding for proportionate fair-share contributions must: be included in the 5-year schedule of capital improvements in a local government’s Capital Improvements Element (CIE), identified in the next update of the local government’s CIE, or identified in an adopted long-term Concurrency Management System (CMS). Under the current legal requirements, local governments must have a CMS in place prior to the adoption of a proportionate fair-share ordinance. If a local government adopts a long-term CMS, it must:   * Concurrently adopt a long-term CIE covering up to a 10 or 15-year period * Update the long-term capital schedule annually * Demonstrate that progress to achieve concurrency is being made over the course of the long-range planning period.   If shortfalls in federal or state funding outlined in the long-term CIE exist, the circumstances of the funding shortfall should be documented and vested development is allowed to proceed. Where shortfalls to improvements are expected outside of the first 3-year period, the local government should do one of the following: cease issuance of development orders, identify other funding sources, or otherwise amend the comprehensive plan to ensure financial feasibility. | |
|  | Proportionate fair-share mitigation may be based on multimodal projects as long as the local government has a mobility plan in effect to identify planned improvements for alleviating concurrency issues, and a financial plan that is adopted in the CIE. Each proportionate fair-share agreement will differ depending upon the variables involved; however, FDOT’s [Working with Proportionate Fair-Share](http://www.cutr.usf.edu/research/Resources%20for%20Documenting%20Improved%20Mobility%20Techniques/22%20Working%20with%20Proportionate%20Fair-Share.pdf) outlines the key components each agreement should include: | |
|  | 1. **Description of Project and Need** – Each proportionate fair-share agreement should have a detailed description of the project toward which subsequent funds will be applied. The transportation improvement itself should be coordinated with future land use through a corridor management or build-out plan. The corridor plan will allow the local government to calculate costs for the transportation improvement and form a basis for distributing those costs to future developers who wish to access the capacity created by the transportation improvement. The corridor plan will also assist the local government in determining financial feasibility for the transportation improvement by estimating funds resulting from future proportionate fair-share development agreements within the corridor. Finally, the corridor plan will act as a framework to balance and allocate trips to the land uses planned along the corridor. 2. **Identification of Future Funding Partners** – Each proportionate fair-share agreement should specifically obligate the local government to require that subsequent developments within the corridor participate in the funding of the transportation improvement by signing a separate proportionate fair share agreement. In this manner, FDOT will have some assurance that there will be additional funds available to complete the project as the development is permitted by the local government. The corridor management plan should provide an indication of what level of funds a local government can be expected to provide. This should provide FDOT with a greater level of certainty and confidence in relation to entering into development agreements with local governments. 3. **Identification of Each Partner’s Commitments** – Development agreements that are entered into with FDOT for proportionate fair-share purposes should be seen as a commitment by that local government to plan the corridor in a comprehensive manner. It should be noted that the option to enter into a Development Agreement for a State facility that is not in the FDOT Five-Year Work Program is at the option of FDOT and is not a mandatory action. Each agreement should specifically outline the actions for which each partner is responsible in regards to the planning and construction of the transportation improvement. Time frames associated with specific actions should be included to ensure implementation. Contingent plans or agreements should also be addressed in case unforeseen circumstances occur. 4. **Responsibility for Fiscal Management** – Each agreement should specifically outline which entity is responsible for managing funds resulting from present and future proportionate fair-share agreements within the corridor. At a minimum, an accounting process which delineates fund balances should be available prior to the beginning of the annual planning of the local government’s capital improvements budgeting process and the annual development of the FDOT Work Program. 5. **Policies for Intergovernmental Coordination** – Intergovernmental coordination should be addressed, especially in terms of how transportation improvements identified in the agreement will be coordinated with any long-range transportation plan of an applicable MPO. Agreements to support the prioritization of the transportation improvement within the MPO process should be included. A coordination process with other adjacent local governments should be in place as a result of the corridor planning process. | |
|  | In addition, FDOT has also developed [a Model Ordinance for Proportionate Fair-Share Mitigation of Development Impacts on Transportation Corridors](http://www.dot.state.fl.us/planning/policy/growthmgt/model-ordinance.pdf) to aid local governments in the development of these ordinances. | |
| Considerations | When impacts to a SIS facility necessitate the coordination of FDOT in proportionate fair-share agreements, FDOT planners and decision makers will need to review both the local government comprehensive plan and other documents to determine concurrency requirements. District 5’s *Local Government Comprehensive Planning Review Guidelines* outlines key documents that a local government or developer will need to provide to FDOT staff. These include: | |
|  | 1. Local government proportionate fair-share ordinance 2. Concurrency analysis that identified the proposed development was initially denied due to the lack of transportation concurrency 3. Description of proposed mitigation sufficient to determine capacity added and likely cost 4. Draft proportionate fair-share agreement   In reviewing proportionate fair-share agreements, FDOT should consider:   1. LOS standards 2. Current and projected traffic volumes 3. Current and projected service volumes 4. Appropriate mitigation 5. Appropriate project costs 6. Developers’ proportionate fair-share contribution 7. Appropriate proportionate fair-share agreement | |
| *Cost Calculations* | The calculation for proportionate fair-share must meet the same standards set forth in Section 163.3.180(12), F.S. for proportionate share (see formula in Proportionate Share Section), based on: ”the cumulative number of trips from the proposed development expected to reach roadways during the peak hour from the complete build-out of a stage or phase being approved, divided by the change in the peak hour maximum service volume of roadways resulting from construction of an improvement necessary to maintain the adopted level of service, multiplied by the construction cost, at the time of developer payment, of the improvement necessary to maintain the adopted level of service.” This formula is the same as the one employed for proportionate share (DRIs). Once the proportionate fair-share contribution is determined, agencies can determine a mix of mitigation strategies to apply these contributions.  Although proportionate fair share mitigation for transportation concurrency alternative areas (e.g. TCEAs, TCMAs, MMTDs) is not directly addressed by statute, the typical formula is based on the percentage of proposed development trips divided by the total number of trips projected for the area multiplied by the cost to provide mobility improvements, or: | |
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|  | Where: | |
|  | Development Trips: | The total number of development trips, minus the percentage of pass-by, internal capture, and multimodal trips |
|  | Total Trips: | The total number of projected trips for the district/area based upon a reasonable build-out analysis, minus the percentage of pass-by, internal capture, and multimodal trips established for the area |
|  | Cost: | The adjusted cost of the needed mobility improvements within the district/area |
|  | Source: Florida Department of Community Affairs *Concurrency Best Practices Guide*, 2007. | |
|  | For example: Project – State Road 555 – Segment 1  Development Impacts (Trips) = 151  Available Capacity (Trips) = 100  Service Volume Increase from RSI = 1,100  RSI Cost = $2,500,000  [(151-100)/1100] x $2,500,000 = $115,909  Therefore, the applicant’s proportionate fair-share contribution is $115,909. | |
| Examples of Proportionate Fair-Share (Sub-DRI) Mitigation | The following examples are provided by FDOT’s Office of Policy Planning and DCAs [Transportation Concurrency Best Practices](http://www.dca.state.fl.us/fdcp/dcp/publications/Files/TCBP.pdf), and serve to alert reviewers to some unique mitigation options available through proportionate fair share funding. | |
| Example 1: ITS Options for Smaller Developments (City of Gainesville) | Transportation levels of service are failing on road corridor links throughout the City of Gainesville and the costs of traditional capacity improvements needed to meet concurrency are high. Smaller “Mom and Pop” developments may not be cost-feasible if the City requires them to bear the full cost of addressing backlogs.  To address this issue, the City identified an alternate capital transportation project to address concurrency in the backlogged corridors—a system-wide Intelligent Transportation System (ITS) program to link traffic signals and provide traffic management capabilities. Implementation of ITS will “create” capacity through improved efficiency on a city-wide basis and will benefit the regional transportation network.  Small-scale developers will be allowed to contribute their proportionate fair share based on the ITS capital plan, which will cost substantially less than construction of large capacity, backlog-based projects. In sum, concurrency issues of smaller developments will be addressed through an equitable mechanism that provides relief to smaller developments, and proportionate fair share revenue will be generated for the needed ITS project and transit service. | |
| Example 2: Pipelining Proportionate Fair Share Funds (City of Tallahassee) | Numerous arterial roads and State Highway System segments throughout Leon County are experiencing failing LOS. To address concurrency requirements, the local governments have jointly proposed a “Significant Benefit” improvement project for each of 5 zones within the County.  Proportionate fair share funds are to be directed toward the significant benefit project with each zone based on the location of the impacted roadway segment. Each project is anticipated to substantially improve mobility within the designated zone. The significant benefit project could be a major road capacity project, or involve an alternate efficiency project such as transit, a parallel corridor, or diverting existing traffic away from a backlogged intersection to spread capacity onto under-used facilities off the state highway system. | |
|  | The central zone is proposed as a future multi-modal district. Therefore, the “Significant Benefit” project for this zone has been designated to be transit, bike and pedestrian improvements. For the other zones, it is proposed that a large percentage of the collected funds will be pipelined to the designated “Significant Benefit” road improvement project within the zone. A smaller percentage will be applied to transit, bike and pedestrian improvement projects within the zone.  Currently, Tallahassee/Leon County does not collect impact fees on new development. It is anticipated that the proposed Proportionate Fair Share program will provide a new source of revenue for funding transportation infrastructure needs. At this time, the City/County governments are working with FDOT to reach consensus on the implementation of this proposal and the specific road improvements that are designated as “Significant Benefit” projects. Note that this proposal would apply only when there are no capacity projects in the CIP that would directly rectify the capacity deficiency of an impacted roadway segment. For impacts to road segments that do have a mitigation project in the CIP, proportionate share funds will be directed toward that project. | |
| Additional Guidance | Although Florida’s 2005 growth management laws directed local governments to enact concurrency management ordinances to allow for proportionate fair share options, many local governments have yet to implement this ordinance. One major reason for this has been that a number of local governments do not currently have concurrency management systems in place, a prerequisite for implementing proportionate fair share ordinances. Additional guidance on developing Concurrency Management Systems can be found in DCAs [Transportation Concurrency Best Practices](http://www.dca.state.fl.us/fdcp/dcp/publications/Files/TCBP.pdf). In addition, FDOT has published a [Model Ordinance for Proportionate Fair-Share Mitigation of Development Impacts on Transportation Corridors](http://www.dot.state.fl.us/planning/policy/growthmgt/model-ordinance.pdf) that may be used by local governments in enacting an ordinance. | |
| Impact/Mobility Fees | Enacting impact fees, one-time charges imposed on new development as a condition of approval, is another funding strategy that may be used by county and municipal governments to ensure that new development pays its proportionate share of the costs to expand transportation system capacity. The “Florida Impact Fee Act”, Section 163.31801, F.S ., permits local governments to adopt impact fee ordinances as long as these charges are consistent with the local government’s land development code and comprehensive plan, and meet the minimum requirements stated in the statute.  In addition, Section 163.2417(3)(j), F.S. requires urban infill and redevelopment plans to contain a package of financial incentives, which may include strategies to lower impact fees for developments that promote the use of alternative transportation modes. These types of incentives recognize the differences in travel demand generated by different land use types, and should be considered in the impact review process.  Another strategy that is currently being developed to assure that new development pays for its share of transportation impacts involves the use of mobility fees. Mobility fees would be assessed by vehicle and people-miles traveled, and serve to promote compact, mixed use, and energy efficient development. This funding mechanism could be combined with Corridor Access Management Plans, Transit Oriented Development, GHG Emissions Reduction Strategies, and other strategies to make sure that transportation impact mitigation is funded to support long-term mobility needs. | |
| Mitigation Agreements | Mitigation agreements are legally binding documents and should be thoughtfully and carefully prepared. At a minimum, the agreements need to address the following key issues:   * What are the project impacts? * A clear summary of project impacts should be included. * What is the cost to mitigate the project impacts and what is the applicant’s proportionate share responsibility of the needed mitigation? * This is usually shown in tabular form. * What type of mitigation is the applicant proposing? * Options include paying a sum to the maintaining agency (i.e. write a check), participating in a needed study, donation of right of way, constructing a project, or a combination of strategies. * When should mitigation be secured? * Usually prior to starting project or entering phase. * May have ‘trigger’ in DO (such as number of trips). * Who is party to the agreement? * What should local governments commit to and when should commitments be made? * How does the agreement satisfy concurrency (DRIs)? | |

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|  | APPENDIX A |
|  | Definition of a DRI |
|  | A DRI is defined by Section 380.06(1), FS, as any development which, because of its character, magnitude or location, would have a substantial effect on the health, safety or welfare of citizens in more than one county. The state has established thresholds to determine when a development must undergo the DRI review process. These determinations are made by the Florida DCA using Chapter 28-24, FAC. The thresholds which serve as the primary means to determine DRI status can be found at: <http://www.dca.state.fl.us/fdcp/dcp/procedures/index.cfm>. |
| Types of DRIs | DRIs are classified in the following categories:   * DRI (Standard) * Areawide DRI * Downtown DRI * DRI Master Plan Development * Expedited DRI Review |
| Areawide DRI | Areawide DRIs are development plans which encompass a defined planning area with two or more developments. These two or more development projects can be and often are represented by separate property owners. The areawide development plan includes a map and definition of proposed land uses including the amount of development proposed by use and phase. This type of DRI also includes an integrated capital improvements program for transportation and other public facilities to ensure development staging contingent upon the availability of needed facilities and services. The plans incorporate land development regulations, covenants and other restrictions adequate to protect resources and facilities of regional and state significance. In addition, the plan specifies responsibilities and identifies the mechanisms for carrying out all improvement commitments and identifies compliance conditions for the DO.  An applicant should petition the local government for authorization to submit an Areawide DRI application for a defined planning area. Once the petition has been approved, and the time for appeal has passed, an approved applicant for development may submit a DRI­ADA subject to the regular DRI review process. Typical examples of Areawide DRIs include airports, water ports, and in certain cases, redevelopment areas not located within a defined downtown area. |
| Downtown DRI | A downtown DRI covers an area of land within the downtown of a city. The downtown DRI is submitted by a development authority and covers any portion of the land area over which the authority has responsibility. The authority is considered the developer, even if the development will be undertaken by others. Such applications should contain all normal DRI information. In addition, the total amount of development planned for each land use category should be specified and monitored carefully given the number of parties involved. |
| DRI Master Plan Development | When a proposed DRI is planned for implementation over an extended period of time, the applicant may follow an alternative review procedure and file an application for master development approval of the project. As part of this procedure, the applicant agrees to present subsequent increments of the development for preconstruction review. One increment is usually proposed and reviewed concurrently with the Master Plan. The Master Plan Development Agreement is made between the applicant, the RPC and the local government. The RPC conducts a sufficiency review of the Application for Master Plan Development approval. This review includes consideration of:   * Adequacy of information. * Necessity of subsequent review of phases, increments or issues related to regional impacts. * Additional information which may be required in subsequent incremental applications. * Issues which could result in the denial of an incremental application |
|  | Prior to the adoption of the DRI Master Plan DO, both the DO and associated agreements are reviewed by the developer, the landowner, RPC and the local government. The DO and associated agreements should:   * Adequately address regional impacts identified in the application for master development approval and the Assessment Report prepared by the RPC. * Specify which regional issues have been sufficiently addressed. * Deny, approve or approve with conditions the conceptual or master plan development and any initial increments or phases of development that have been reviewed by the RPC. * Define issues subject to further review upon submission of subsequent incremental applications for development approval. * Identify issues which can result in denial of subsequent applications.   FDOT review of the Application for Master Plan Development approval is required by DCA. The other common DRI reviews are also involved in this portion of the DRI approval. FDOT review of the DO is done at the request of the RPC. |
| Expedited DRI Review | If the proposed DRI is believed to be consistent with the adopted LGCP and will not require a LGCP amendment, the applicant may request an expedited DRI review. The expedited review will require more timely response by the FDOT reviewer. The FDOT reviewer should follow similar but more expedited procedures outlined in this chapter starting with the formal Pre-application Conference. |
| Florida Quality Developments (FQDs) | FQDs are defined as developments which are at or above the 80 percent numerical thresholds established for DRI reviews (See [Figure 3-2](#Ex3_2)?). FQDs have shorter review times but are not widely utilized by DRI applicants. While the review periods are shorter, the basic process and milestones are similar to those for new DRIs. The FDOT reviewer should refer to the DRI steps, recognizing these shorter review times established by the RPC, when conducting site impact reviews for FQDs. FQD sufficiency reviews must be completed within 30 days and are specifically administered under Rules 9J-28 and 9J-2.045, FAC. The checklists provided for the FDOT reviewer’s use for DRIs in this chapter are appropriate for use in performing FQD Certification Reviews. |
| Preliminary Development Agreement (PDA) | A PDA is a written agreement between DCA, the RPC and the local government. It allows the applicant to proceed with a limited amount of development on the site prior to execution of a formal DO. PDAs are done solely at the applicant’s risk since the PDA is contingent upon specific conditions being met and further agency approvals (See Rule 9J-2.018, FAC). |
| FDOT Reviewer Role | The PDA is not a required site impact review milestone but is extremely important for the FDOT reviewer to be familiar with since the PDA typically presents binding conditions or concerns originating from the DRI-ADA sufficiency review and may be requested prior to the Pre-application Conference. It is in the best interest of the FDOT reviewer to offer assistance and review of the PDA to the RPC and DCA so that potential transportation impacts can be addressed. DCA has 45 days after receipt of a proposed PDA to grant, deny or suggest modifications. The FDOT reviewer’s input will be solicited by DCA allowing for less than a 45-day response time. |

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|  | APPENDIX B |
|  | Question 21 - Transportation |
|  | See State Comprehensive Plan (Chapter 187, FS)  Goal (11); Policy (2) Goal (12); Policies (3), (4) Goal (16); Policy (1) Goal (18); Policies (1), (3), (4), (6) Goal (20); Policies (2), (3), (8), (9), (10), (12), (13), (15) Goal (25); Policy (5)  Road Link/Intersection: Existing Level of Service: Adopted Level of Service Standard: Level of Service After Project Build out: |
| A. | Using Map J or a table as a base, indicate existing conditions on the highway network within the study area (as previously defined on Map J), including annual average daily traffic (AADT), peak-hour trips directional, traffic split, levels of service (LOS) and maximum service volumes for the adopted LOS. Identify the assumptions used in this analysis, including "K" factor, directional "D" factor, facility type, number of lanes and existing signal locations. (If LOS are based on some methodology other than the most recent procedures of the Transportation Research Board and FDOT, this should be agreed upon at the Pre-application Conference stage). Identify the adopted LOS standards of the FDOT, appropriate Regional Planning Council (RPC) and local government for roadways within the identified study area. Identify what improvements or new facilities within this study area are planned, programmed or committed for improvement. Attach appropriate excerpts from published capital improvements plans, budgets and programs showing schedules and types of work and letters from the appropriate agencies stating the current status of the planned, programmed and committed improvements. |
| B. | Provide a projection of vehicle trips expected to be generated by this development. State all standards and assumptions used, including trip end generation rates by land use types, sources of data, modal split, persons per vehicle, etc. as appropriate. The acceptable methodology to be used for projecting trip generation (including the Florida Standard Urban Model Structure (FSUTMS) or the Institute of Transportation Engineers (ITE) trip generation rates) shall be determined at the Pre-application Conference stage. |
| C. | Estimate the internal/external split for the generated trips at the end of each phase of development as identified in (B) above. Use the format below and include a discussion of what aspects of the development (i.e., provision of on-site shopping and recreation facilities, on-site employment opportunities, etc.) will account for this internal/external split. Provide supporting documentation showing how splits were estimated, such as the results of the FSUTMS model application. Describe the extent to which the proposed design and land use mix will foster a more cohesive, internally supported project. |
| D. | Provide a projection of total peak hour directional traffic, with the DRI, on the highway network within the study area at the end of each phase of development. If these projections are based on a validated FSUTMS, state the source, date and network of the model and of the TAZ projections. If no standard model is available or some other model or procedure is used, describe it in detail and include documentation showing its validity. Describe the procedure used to estimate and distribute traffic with full DRI development in subzones at build out and at interim phase-end years. These assignments may reflect the effects of any new road or improvements which are programmed in adopted capital improvements programs and/or comprehensive plans to be constructed during DRI construction; however, the inclusion of such roads should be clearly identified. Show these link projections on maps or tables of the study area network, one map or table for each phase-end year. Describe how these conclusions were reached. |
| E. | Assign the trips generated by this development as shown in (B) and (C) above and show, on separate maps or tables for each phase-end year, the DRI traffic on each link of the then-existing network within the study area. Include peak-hour directional trips. If local data is available, compare average trip lengths by purpose for the project and local jurisdiction. For the year of build out and at the end of each phase estimate the percent impact, in terms of peak hour directional DRI trips/ total peak hour directional trips and in terms of peak hour directional DRI trips/ existing peak hour service volume for desired LOS, on each regionally significant roadway in the study area. Identify facility type, number of lanes and projected signal locations for the regionally significant roads. |
| F. | Based on the assignment of trips as shown in (D) and (E) above, what modifications in the highway network (including intersections) will be necessary at the end of each phase of development, to attain and maintain local and regional level of service standards? Identify which of the above improvements are required by traffic not associated with the DRI at the end of each phase. For those improvements which will be needed earlier as a result of the DRI, indicate how much earlier. Where applicable, identify Transportation System Management (TSM) alternatives (e.g., signalization, one-way pairs, ridesharing, etc.) that will be used and any other measures necessary to mitigate other impacts such as increased maintenance due to a large number of truck movements. |
| G. | Identify the anticipated number and general location of access points for driveways, median openings and roadways necessary to accommodate the proposed development. Describe how the applicant’s access plan will minimize the impacts of the proposed development and preserve or enhance traffic flow on the existing and proposed transportation system. This information will assist the applicant and governmental agencies in reaching conceptual agreement regarding the anticipated access points. While the ADA may constitute a conceptual review for access points, it is not a permit application and, therefore, the applicant is not required to include specific design requirements (geometry) until the time of permit application. |
| H. | If applicable, describe how the project will complement the protection of existing, or development of proposed, transportation corridors designated by local governments in their comprehensive plans. In addition, identify what commitments will be made to protect the designated corridors such as interlocal agreements, right-of-way dedication, building set-backs, etc. |
| I. | What provisions, including but not limited to sidewalks, bicycle paths, internal shuttles, ridesharing and public transit, will be made for the movement of people by means other than private automobile? Refer to internal design, site planning, parking provisions, location, etc. |

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|  | Question 22 - Air |
|  | See State Comprehensive Plan (Chapter 187, FS)  Goal (6); Policy (19)  Goal (11); Policies (1), (2), (3), (4)  Goal (22); Policy (3) |
| A. | Document the steps which will be taken to contain fugitive dust during site preparation and construction of the project. If site preparation includes demolition activities, provide a copy of any notice of demolition sent to the Florida FDOT of Environmental Regulation (FDER) as required by the National Emission  Standards for Asbestos, 40 CFR Part 61, Subpart M. |
| B. | Specify structural or operational measures that will be implemented by the development to minimize air quality impacts (e.g., road widening and other traffic flow improvements on existing roadways, etc.). Any roadway improvements identified here should be consistent with those utilized in Question 21 - Transportation. |
| C. | Complete Table 22-1 for all substantially impacted intersections within the study area, as defined in Map J and all parking facilities associated with the project. Using the guidance supplied or approved by FDER, determine if detailed air quality modeling for carbon monoxide (CO) is to be completed for any of the facilities listed in the table.  (1) Specify source type as either an intersection, surface parking area or parking deck. For each intersection, provide an approach volume for each link. For each parking facility, provide the total (incoming and outgoing) volume.  (2) These should be compatible with maximum service volumes utilized in Question 21 - Transportation. |
| D. | If detailed modeling is required, estimate the worst-case, one-hour and eight-hour CO concentrations expected for each phase through build out for comparison with the state and federal ambient air quality standards. Utilize methodology supplied or approved by FDER for making such estimates. Submit all air quality modeling input and output data along with associated calculations to support the modeling and explain any deviations from guidance. Provide drawings of site geometry and coordinate information for each area modeled. Show the location of the sources and receptor sites. Modeling assumptions should consider federal, state and local government programmed link and intersection improvements with respect to project phasing. Any roadway improvements utilized in the model should be consistent with those used in Question 21 - Transportation. Provide verification of any assumptions in the modeling which consider such programmed improvements. It is recommended that air quality analyses be completed concurrently and in conjunction with the traffic analyses for the project. |
| E. | If initial detailed modeling shows projected exceedance(s) of ambient air quality standards, identify appropriate mitigation measures and provide assurances that appropriate mitigating measures will be employed so as to maintain compliance with air quality standards. Submit further modeling demonstrating the adequacy of such measures. |

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|  | APPENDIX C |
|  | Bibliography |
|  | Quality/ Level of Service *2009 Quality/Level of Service Handbook*. State of Florida Department of Transportation.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/QLOS2002.pdf>  *2007 Generalized Quality/ Level of Service Tables*. State of Florida Department of Transportation.  <http://www.dot.state.fl.us/planning/systems/sm/los/los_sw2.shtm>  *Assessing Hierarchy of Needs in Levels of Service*. State of Florida Department of Transportation. October 2005.  <http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PL/FDOT_BD549_01_rpt.pdf>  *Assessing Level of Service Equally Across Modes*. Center for Urban Transportation Research College of Engineering, University of South Florida. December 2001.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/AssessingLOS.pdf>  *Chapter 14-94 Statewide Minimum Level of Service Standards.* State of Florida Department of Transportation.   <http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm>  Crider, Dr. Linda B., Jodi Burden, and Feng Han. *Multimodal LOS: “Point” Level of Service Project Final Report*. August 2001.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/pointlos.pdf>  *Florida Intrastate Highway System Multi-Modal Corridor Level of Service Analysis Final Report*. Florida Department of Transportation. June 2001.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMLOSfihs.pdf> |
|  | Guttenplan, Martin, Beverly Davis, Ruth Steiner, and Damien Miller. *Planning-Level Areawide Multimodal Level-of-Service Analysis – Performance Measures for Congestion Management*. Transportation Research Paper No. 03-2997.   <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMLOScm.pdf>  Guttenplan, Martin, Bruce W. Landis, Dr. Linda Crider, and Douglas S. McLeod. *Multi-Modal Level of Service (LOS) Analysis at a Planning Level*. Transportation Research Paper No. 01-3084.   <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMLOS.pdf>  Guttenplan, Martin, Bruce W. Landis, Venkat R. Vattikuti, Russell M. Ottenberg, and Douglas S. McLeod. *Modeling the Roadside Walking Environment: A Pedestrian Level of Service*. Transportation Research Paper No. 01-0511.   <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/pedlos.pdf>  Landis, Bruce W., Venkat R. Vattikuti, Russell M. Ottenberg, Theodore A. Petritsch, Martin Guttenplan, and Dr. Linda B. Crider. *Intersection Level of Service: The Bicycle Through Movement*. July 2002.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/BLOSTM.pdf>  Landis, Bruce W., Venkat R. Vattikuti, and Michael T. Brannick. *Real-Time Human Perceptions Toward a Bicycle Level of Service*. Transportation Research Record 1578.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/BLOSTRB.pdf>  *Multi-Modal Quality of Service Project*. Florida Department of Transportation. March 2001.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMQOSuf.pdf>  *Multimodal Transportation Districts and Areawide Quality of Service Handbook*. Florida Department of Transportation. November 2003.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDQOS.pdf>  Petritsch, Theodore A., Bruce W. Landis, Herman F. Huang, Peyton S. McLeod, Daniel Lamb, Waddah Farah, and Martin Guttenplan. *Bicycle Level of Service for Arterials*. July 2006.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/blos-art.pdf>  Petritsch, Theodore A., Bruce W. Landis, Herman F. Huang, Srikalyan Challa, Peyton S. McLeod, and Martin Guttenplan. *Level of Service Model for Signalized Intersections for Pedestrians*. July 2004.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/plos-sig-mod.pdf>  Petritsch, Theodore A., Bruce W. Landis, Peyton S. McLeod, Herman F. Huang, Srikalyan Challa, Cherie L. Skaggs, Martin Guttenplan, and Venkat Vattikuti. *Pedestrian Level of Service Model for Urban Arterial Facilities with Sidewalks*. March 2006.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/plos-urb-art-mod.pdf>  Steiner, Ruth L., Alex Bond, Damien Miller, and Philip Shad. *Future Directions for Multimodal Areawide Level of Service Handbook Research and Development*. Florida Department of Transportation. June 2004.  <http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PL/FDOT_BC354_78_rpt.pdf>  *TCRP Report 100, 2nd Edition Transit Capacity and Quality of Service Manual*. Transportation Research Board of the National Academies, Transit Cooperative Research Program, Washington D.C., 2003. |
|  | Policy/ Legislative Florida Administrative Code Rule 9J-5. Specific Authority 163.3177(9), (10) FS. Law Implemented 163.3161, 163.3167, 163.3171, 163.3177, 163.3178, 163.3180, 163.3181, 163.3184, 163.3187, 163.3191, 163.3194 FS. History–New 3-6-86, Amended 10-20-86, 11-22-89, 4-2-92, 3-23-94, 5-18-94, 3-21-99, 2-25-01.  Florida House Bill 697. Regarding traffic circulation element and transportation strategies for corridor management and reduction in greenhouse gas emissions. Effective July 2008.  Florida House Bill 985. Regarding monitoring requirements for transportation and expressway authorities, creation of transportation concurrency backlogs, public-private partnerships, and multimodal transportation districts. Effective July 2007.  Florida House Bill 7203. Regarding financial feasibility of CIP projects, proportionate fair share calculations, transportation backlog authorities, and concurrency exceptions. Effective July 2007.  Florida Statute Section 1013.30(6) University campus master plans and campus development agreements.   <http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&URL=Ch1013/ch1013.htm>  Florida Statute Section 288.975. Military base reuse plans. <http://www.flsenate.gov/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=288.975&URL=CH0288/Sec975.HTM> |
|  | Multimodal Chu, Xuehao, Martin Guttenplan, and Mike Baltes. *Why People Cross Where They Do: The Role of the Street Environment*. TRB Paper No. 03-3078.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/CGBrev03.pdf>  Chu, Xuehao and Mike Baltes. *Pedestrian Mid-Block Crossing Difficulty Final Report*. National Center for Tranist Research. December 2001.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/pedestrian.pdf>  Seggerman, Karen E., Ann C. Joslin and Sara J. Hendricks. *Guidelines and Performance Measures to Incorporate Transit and Other Multimodal Considerations into the FDOT DRI Review Process*. State of Florida Department of Transportation Research Center, 2008. <http://www.nctr.usf.edu/pdf/77703.pdf>  Seggerman, Karen E. and Kristine Williams. *Model Regulations and Plan Amendments for Multimodal Transportation Districts*. National Center for Transit Research. April 2004.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDregs.pdf>  Steiner, Ruth L., Irene Li, Philip Shad and Michael Brown. *Multimodal Trade-Off Analysis in Traffic Impact Studies, State of Florida Department of Transportation, Office of Systems Planning, 2003.* <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/mmtradeoff.pdf>  Transit Planning. Florida Department of Transportation, Public Transit Office. Site: <http://www.dot.state.fl.us/transit/> |
|  | Concurrency/ Mitigation Concurrency Management System Sample Tracking Spreadsheet. Center for Urban Transportation Research.  <http://www.cutr.usf.edu/research/access_m/pdf/CMS.xls>  Seggerman, Karen, Kristine Williams, and Pei-Sung Lin. *Transportation Concurrency Best Practices Guide*. Florida Department of Community Affairs, 2007.   <http://www.dca.state.fl.us/fdcp/dcp/publications/TCBP.pdf>  Steiner, Ruth L., Gene Boles, Joseli Macedo, Matt Betancourt, Jennifer wheelock, Teresa Russin, and Clay Collins. *A Guide for the Creation and Evaluation of Transportation Concurrency Exception Areas*. Florida Department of Community Affairs, 2007.   <http://www.dca.state.fl.us/fdcp/dcp/transportation/Files/AGuideCreationEvaluationTCEAs.pdf>  Williams, Kristine M., Karen E. Seggerman, Edward A. Mierzejewski, Larry Hagen, and Pei-Sung Lin. *Model Ordinance for Proportionate Fair-Share Mitigation of Development Impacts on Transportation Corridors*, State of Florida Department of Transportation, 2006.   <http://www.dot.state.fl.us/planning/policy/growthmgt/model-ordinance.pdf>  “Working with Transportation Concurrency Management Systems.” State of Florida Department of Transportation, 2007.   <http://www.ecfrpc.org/docs/Transportation/DOT_Growth_Mangement_Workshop/Working%20with%20CMSs.pdf>  “Working with Transportation Concurrency Exception Areas.” State of Florida Department of Transportation, 2006. |
|  | Review Guidance *Documenting Improved Mobility Techniques on SIS and TRIP Facilities*. State of Florida Department of Transportation. November 2007.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/SISTRIP.pdf>  Topic No. 525-010-101-c, “District Review of Local Government Comprehensive Plans.” State of Florida Department of Transportation, 2008.   <http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/525010101.pdf>  Topic No. 525-010-205-g, “Intergovernmental Coordination and Review (ICAR).” State of Florida Department of Transportation, 2005.  “Transportation and Land Development.” Institute of Transportation Engineers, 2002.  Transportation Cost Resources. Florida Department of Transportation.  <http://www.dot.state.fl.us/planning/policy/costs/> |
|  | Access & Corridor Management Butorac, Marc A. and Jerilyn C. Wen, Kittelson & Associates, Inc. *NCHRP Synthesis 332: Access management on Crossroads in the Vicinity of Interchanges, A Synthesis of Highway Practice*. Transportation Research Board of the National Academies, 2004.  *Driveway Information Guide*. State of Florida Department of Transportation. September 2008.  <http://www.dot.state.fl.us/planning/systems/sm/accman/>  Integrating Corridor Management, Concurrency and Growth Management ***In Progress- Not Available Online***  *Median Handbook Interim Version*. State of Florida Department of Transportation. February 2006.  <http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/mhb06b.pdf>  *The Interchange Handbook*. State of Florida Department of Transportation, 2002.   <http://www.dot.state.fl.us/planning/systems/sm/intjus/interchangehb/PDFs/Preface.pdf>  Topic No. 525-030-160-h, “Interchange Justification.” State of Florida Department of Transportation, September 2008. Available online: <http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/525030160.pdf>  Topic No. 625-010-021-f, “Median Opening and Access Management Decision Process.” State of Florida Department of Transportation, April 2007.  <http://www.dot.state.fl.us/planning/systems/sm/accman/>  Washburn, Scott S., and Alexandra Kondyll. *Development of Guidelines for Driveway Location and median Configuration in the Vicinity of Interchanges*. State of Florida Department of Transportation, 2006.   <http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PL/FDOT_BD545_14_rpt.pdf>  Williams, Kristine M., Huaguo Zhou, and Larry Hagen. *Costs and Benefits of Strategic Acquisition Limited Access Right-of-Way at Freeway Interchange Areas*. State of Florida Department of Transportation, 2004.   <http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PL/FDOT_BC353_43_rpt.pdf>  Williams, Kristine M., and Christina Hopes. *Guide for Analysis of Corridor Management Policies and Practices*, State of Florida Department of Transportation Systems Planning Office, 2007.   <http://www.accessmanagement.info/AM2007/CMGuide07.pdf>  Williams, Kristine M., Laurel A. Land. *Land Development and Access Management Strategies for Florida Interchange Areas. State of Florida Department of Transportation*, 2000.   <http://www.cutr.usf.edu/programs/pcm/files/Interchange%20Rpt%20.pdf> |
|  | Modeling/ Monitoring Corradino, Carr Smith. *Southeast Florida Regional Travel Characteristics Study*, Executive Summary Report. State of Florida Department of Transportation, Districs IV and VI, 2000.   <http://www.pbcgov.com/mpo/library/data/pdf/travelstudy/Trav_char_Execsum.PDF>  Florida Standard Urban Transportation Model Structure (FSUTMS) Launcher.   <http://www.fsutmsonline.net/index.php?/fsutms-launcher>  McCollough, Bob, Emmanuel Uwaibi, Fawzi Bitar, Frank Sullivan, Joey Gordon, John Crane, Lap Hoang, Mike Tako, Susan Sadighi, Bruce Dietrich, Dennis Wood, Frank Broen, Imran Ghani, Jim Baxter, John Kuhl, Louis Reis, Rafeael DeArazoza, and Ward Swisher. *Project Traffic Forecasting Handbook*. State of Florida Department of Transportation, 2002.   <http://www.dot.state.fl.us/planning/statistics/trafficdata/ptf.pdf>  Petritsch, Theodore A., Bruce W. Landis, Herman F. Huang, and Sri Kalyan Challa. *Sidepath Safety Model – Bicycle Sidepath Design Factors Affecting Crash Rates*. March 2006.  <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/sidepath.pdf>  Traffic Data. Florida Department of Transportation.   <http://www.dot.state.fl.us/planning/statistics/trafficdata/>  Transit Boardings Estimation and Simulation Tool (TBEST). Florida Department of Transportation. Site: <http://www.tbest.org/> |
|  | Site Impact and Growth Management Workshop Florida Department of Transportation. Jacksonville Workshop. May 2007.  <http://www.teachamerica.com/GrowthManagement/GMSI.html> |
|  | DCA Resource ListDevelopment of Regional Impact Annual Report Form. Department of Community Affairs. <http://www.dca.state.fl.us/fdcp/dcp/procedures/Files/annualreportform.pdf>  DRI Checklist 2 - DRI/ADA Sufficiency Review Checklist. Florida Department of Transportation (1997). *DRI/ADA Sufficiency Review Checklist*. In Site Impact Handbook, 131-132. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  DRI Checklist 3 - DRI/ADA Review Checklist. Florida Department of Transportation (1997). *DRI/ADA Review Checklist*. In Site Impact Handbook, 132-138.  <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  DRI Checklist 4 - Local Government Development Order Review Checklist. Florida Department of Transportation (1997). *Local Government Development Order Review Checklist*. In Site Impact Handbook, 139-140. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  DRI Checklist 5 - Project Monitoring Report Review Checklist. Florida Department of Transportation (1997). Project Monitoring Report Review Checklist. In Site Impact Handbook, 141-142. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  DRI Checklist 7 - Notice of Proposed Change (NOPC) and Substantial Deviation Determination Notification Checklist. Florida Department of Transportation (1997). Notice of Proposed Change (NOPC) and Substantial Deviation Determination Notification Checklist. In Site Impact Handbook, 141-142. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  DRI Process Flow Chart. Florida Department of Community Affairs (2008). *Flowchart of the Development of Regional Impact Process*. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/procedures/Files/driflow.bmp>  DRI Review Procedures. Florida Department of Transportation (1997). Development of Regional Impact Reviews. In Site Impact Handbook, 12. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  DRI Thresholds. Florida Department of Community Affairs (2008). Residential Thresholds for Developments of Regional Impact. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/Procedures/Files/DRIThreshold.pdf>  Florida Quality Development and Florida Job Siting Act Certification. Florida Department of Transportation (1997). Florida Quality Development and Florida Job Siting Act Certification. In Site Impact Handbook, 119. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  Instructions for DRI Reviews Florida Department of Transportation (1997). Instructions for DRI Reviews. In Site Impact Handbook, 117. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  Notice of Proposed Change (NOPC) and Substantial Deviation Determinations. Florida Department of Transportation (1997). Notice of Proposed Change (NOPC) and Substantial Deviation Determinations. In Site Impact Handbook, 119. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  Notice of Proposed Change Form. Department of Community Affairs <http://www.dca.state.fl.us/fdcp/dcp/Procedures/Files/nopc.pdf>  Topic Overview – DRIs. Florida Department of Community Affairs (2008). Developments of Regional Impact and Florida Quality Developments. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/DRIFQD/index.cfm> |
|  | State/Local Government Comprehensive Plan A Guide to the Annual Update for the Capital Improvements Schedule. Florida Department of Community Affairs (2006). A Guide to the Annual Update of the Capital Improvements Schedule. <http://www.dca.state.fl.us/fdcp/dcp/publications/AnnualUpdateGuideCIE81606.pdf>  Comprehensive Plan Amendment Notice Requirements (Small/Large-Scale Amendments). Florida Department of Community Affairs (2008). Comprehensive Plan Amendment Notice Requirements. Retrieved Jnauary 2008. <http://www.dca.state.fl.us/fdcp/dcp/Procedures/index.cfm#comp>  Comprehensive Plan Amendment Process Flow Chart. Florida Department of Community Afairs (2007). Comprehensive Plan Amendment Flow Chart. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/Procedures/Files/PlanAdmb&w85x14.PDF>  District Review of Local Government Comprehensive Plans Procedures. Florida Department of Transportation (2008). District Review of Local Government Comprehensive Plans Procedures. <http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/525010101.pdf>  Florida State Comprehensive Plan. State Comprehensive Plan. 2007 Florida Statutes, 187. <http://www.flsenate.gov/statutes/index.cfm?App_mode=Display_Statute&URL=Ch0187/titl0187.htm&StatuteYear=2007&Title=-%3E2007-%3EChapter%20187>  Governing Regulations - Comprehensive Planning. Procedure for the Submittal and Review of Local Government Comprehensive Plans and Amendments, Florida Administrative Code, Rule 9J-11. <https://www.flrules.org/gateway/ChapterHome.asp?Chapter=9J-11>  Governing Regulations - Comprehensive Planning Florida Statutes Chapter 163, Part II. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. <http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&URL=Ch0163/part02.htm&StatuteYear=2007&Title=%2D%3E2007%2D%3EChapter%20163%2D%3EPart%20II>  Governing Regulations - Future Land Use Element. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes,§§ 163.3177. <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3177.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203177#0163.3177>  List of Agency Contacts to Receive Comp Plan Amendments. Florida Department of Community Affairs (2008). List of Agency Contacts to Receive Comprehensive Plan Amendments. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/procedures/agencycontacts.cfm>  Optional Off-Street Parking Facilities Element. Florida Department of Transportation (1997). Optional Off-Street Parking Element. In Site Impact Handbook, 120. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  Preparing the Five-Year Schedule of Capital Improvements. Florida Department of Community Affairs (2006). Preparing the Five-Year Schedule of Capital Improvements. <http://www.dca.state.fl.us/fdcp/dcp/publications/CIEbpm.pdf>  Topic Overview - Rural Land Stewardship Program. Florida Department of Community Affairs (2007). Rural Land Stewardship Program: Challenges and Opportunities [PowerPoint Slides]. <http://www.dca.state.fl.us/fdcp/dcp/RuralLandStewardship/Files/RLSAPresentation10207.pdf> |
|  | Evaluation and Appraisal Report EAR Process Flow Chart. Florida Department of Community Affairs (2008). Evaluation and Appraisal Report Process Flowchart. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/EAR/files/flow.pdf>  Governing Regulations – EARs. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes, §§ 163.3191. <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3191.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203191#0163.3191>  List of Agency Contacts to Receive EARs. Florida Department of Community Affairs (2008). List of Agency Contacts to Review Ears. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/procedures/agencycontacts.cfm>  Topic Overview - Evaluation and Appraisal Reports. Florida Department of Community Affairs (2008). Evaluation and Appraisal Reports. Retrieved January 2008. <http://www.dca.state.fl.us/fdcp/dcp/EAR/index.cfm> |
|  | Level of Service LOS Analyses. Florida Department of Transportation (2002). Impact of Growth Management Act of 2005. In 2007 LOS Issue Papers, Issue 2. <http://www.dot.state.fl.us/planning/systems/sm/los/los_sw2.shtm> |

|  |  |
| --- | --- |
|  | Multimodal Transportation Districts Governing Regulations – MMTDs. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes, §§ 163.3180(15)(a). <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3180.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203180#0163.3180>  Model Regulations and Plan Amendments for Multimodal Transportation Districts Report. Florida Department of Transportation (2004). Model Regulations and Plan Amendments for Multimodal Transportation Districts Report. <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDregs.pdf>  Multimodal Transportation Districts and Area Wide Quality of Service Handbook. Florida Department of Transportation (2003). Multimodal Transportation Districts and Area Wide Quality of Service Handbook. <http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDQOS.pdf> |
|  | Policy/Legislative Senate Bill 360 Overview/Impacts. Florida Department of Community Affairs (2005). Highlights of Senate Bill 360. <http://www.dca.state.fl.us/FDCP/DCP/publications/2005sum.pdf>  Topic Overview - Growth Management Act Florida Department of Transportation (2007). Growth Management and Site Impact Workshop [PowerPoint Slides]. <http://www.teachamerica.com/GrowthManagement/GMSI.html> |
|  | Transportation Concurrency A Guide for the Creation and Evaluation of Transportation Concurrency Exception Areas. Florida Department of Community Affairs (2007). A Guide for the Creation and Evaluation of Transportation Concurrency Exception Areas. <http://www.dca.state.fl.us/fdcp/dcp/transportation/Files/AGuideCreationEvaluationTCEAs.pdf>  Guide to Working with TCEAs. Florida Department of Transportation (2006). Working with Transportation Concurrency Exception Areas. <http://www.dot.state.fl.us/planning/policy/growthmgt/tcea.pdf>  Governing Regulations - Long-Term Transportation Concurrency Systems. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes,§§ 163.3180(9). <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3180.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203180#0163.3180> |
|  | Governing Regulations - Transportation Backlog Authorities. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes,§§ 163.3182(1)(b). <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3182.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203182#0163.3182>  Governing Regulations – TCEAs. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes,§§163.3180(5). <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3180.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203180#0163.3180>  Governing Regulations – TCMAs. The Local Government Comprehensive Planning and Land Development Regulation Act or Growth Management Act. 2008 Florida Statutes,§§ 163.3180(7). <http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/SEC3180.HTM&Title=-%3E2008-%3ECh0163-%3ESection%203180#0163.3180>  List of Adopted TCEAs. Florida Department of Community Affairs (2008). List of Adopted TCEAs. <http://www.dca.state.fl.us/fdcp/dcp/transportation/Files/TCEAs.pdf>  Transportation Concurrency Best Practices Guide. Florida Department of Community Affairs (2007). Transportation Concurrency Best Practices Guide. <http://www.dca.state.fl.us/fdcp/dcp/publications/TCBP.pdf>  Topic Overview - Transportation Concurrency. Florida Department of Community Affairs (2008). Transportation Concurrency. <http://www.dca.state.fl.us/fdcp/dcp/transportation/CurrentTopics.cfm#Concurrency>  Topic Overview - Transportation Concurrency Alternatives. Florida Department of Community Affairs (2008). Transportation Concurrency Alternatives. <http://www.dca.state.fl.us/fdcp/dcp/transportation/CurrentTopics.cfm#Concurrency>  Working with Transportation Concurrency Management Systems. Florida Department of Transportation (2006). Working with Transportation Concurrency Management Systems.\ <http://www.ecfrpc.org/docs/Transportation/DOT_Growth_Mangement_Workshop/Working%20with%20CMSs.pdf> |
|  | FDOT Site Impact Handbook 1997. Florida Department of Transportation (1997). Site Impact Handbook. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  Site Impact Handbook – Conclusions. Florida Department of Transportation (1997). Conclusion. In Site Impact Handbook, 120. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  Land Use Transportation Cycle. Florida Department of Transportation (1997). Land Use Transportation Cycle. In Site Impact Handbook, 1. <http://www.dot.state.fl.us/Planning/systems/sm/siteimp/PDFs/site.pdf>  FDOT Work Program. Florida Department of Transportation. FDOT Five-Year Work Program: 2009-2013. <http://www.dot.state.fl.us/programdevelopmentoffice/>  *FDOT Project Traffic Forecasting Handbook,* FDOT, October 2002<http://www.dot.state.fl.us/planning/statistics/trafficdata/ptf.pdf> |
|  | ITE *Transportation Impact Analyses for Site Development: An ITE Proposed Recommended Practice.* Institute of Transportation Engineers, Washington D.C., 2005.  ITE *Trip Generation Handbook, Second Edition*. Institute of Transportation Engineers, Washington D.C., 2005. <http://www.ite.org/tripgen/trippubs.asp>  ITE *Trip Generation 8th Edition, User’s Guide*. Institute of Transportation Engineers, Washington D.C., 2008. <http://www.ite.org/tripgen/trippubs.asp>  Robertson, H. Douglas, 2000 Edition, Manual of Transportation Engineering Studies. Washington, D.C., Institute of Transportation Engineers, 2000 |
|  | TRANSIT *Accessing Transit: Design Handbook for Florida bus Passenger Facilities* <http://www.dot.state.fl.us/transit/Pages/2008_Transit_Handbook.pdf>. |
|  | CASE STUDY Westinghouse Gateway Communities, et al. v. Lee County Board of County Commissioners Case Nos: 90-2636DRI and 90-2638DRI, Jan 14, 1991. |

1. Model Regulations and Plan Amendments for Multimodal Transportation Districts, National Center for Transit Research, April 2004, page 1. [↑](#footnote-ref-1)