

# Guide for Review and Assessment of Local Mobility Plans



## A Proposed Practice

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The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the State of Florida Department of Transportation or the U.S. Department of Transportation.

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16. Abstract This research supports implementation of mobility planning requirements in Florida's transportation and growth management legislation, including the Community Renewal Act, HB 697 and HB 7135. The final report and spreadsheet template set forth a proposed practice to guide the review of mobility plans related to these requirements. These materials are also useful for review of local government comprehensive plan amendments aimed at mitigating transportation deficiencies on the Strategic Intermodal System. This proposed practice applies a series of criteria that represent professionally-accepted best practices for mobility planning and transportation corridor management. The selected criteria are identified in the literature as practices that support the use of alternative modes, advance corridor management objectives for major highway corridors, reduce vehicle miles of travel (VMT), and enhance the multimodal environment. Advancing these criteria through the mobility planning process will also promote more energy-efficient land use patterns and transportation systems that reduce greenhouse gas emissions. The spreadsheet template allows local governments and reviewing agencies to assess the proposed mobility plan based upon a point system related to relevant criteria. Weights are assigned by the user to reflect the relative importance of specific criteria to the proposed plan, including a weight of zero that allows users to eliminate criteria from the assessment that are not at all applicable in the local context.					
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## Executive Summary

Maintaining transportation quality of service, managing corridor development, and reducing urban sprawl have long been goals of Florida's transportation planning and growth management process. The Florida Department of Transportation (FDOT) has had an active access management program since the late 1980s and, in the early 1990s, new legislation encouraged local governments to work with FDOT to manage corridor development and adopt corridor management ordinances and strategies. FDOT also developed the *Site Impact Handbook* in the late 1990s to guide applicants and District staff in carrying out site impact analysis of proposed developments that have an impact on the state highway system.

In recent years, FDOT and local governments have been moving toward a more comprehensive and multimodal approach to transportation and land use planning. FDOT Districts have been working with local governments to accomplish these goals through a variety of planning efforts. These efforts include state highway corridor management plans and other plans to mitigate development impacts on the Strategic Intermodal System (SIS), the Florida Intrastate Highway System (FIHS), and facilities funded through the Transportation Regional Incentive Program (TRIP).

In 2009, the Community Renewal Act dramatically changed FDOT's role in growth management and required local governments to prepare mobility plans under specified circumstances. The resulting mobility plans must be submitted to FDOT and the Florida Department of Community Affairs (DCA) for review and comment through the comprehensive plan amendment (CPA) review process and approved by DCA prior to adoption. Through its role in the CPA review process, FDOT must comment as to whether plans resulting from these efforts support mobility on the SIS and other state highways. One issue that arises is the difficulty of measuring the value of multimodal strategies to improving mobility on the SIS. Guidance regarding what constitutes acceptable impact mitigation and mobility planning in a multimodal context will support these efforts as well as 2008 legislation (HB 697 and HB 7135) requiring local and MPO plans to include strategies to reduce vehicle miles of travel and greenhouse gas emissions from transportation. .

This research sets forth a proposed practice to guide the review of mobility plans related to these requirements. The final report is a user guide to accompany a spreadsheet template for this purpose. These materials are also useful for review of local government comprehensive plan amendments aimed at mitigating transportation deficiencies on the SIS. The proposed practice applies a series of criteria that represent professionally-accepted best practices for mobility planning and transportation corridor management. The selected criteria are identified in the literature as practices that support the use of alternative modes, advance corridor management objectives for major highway corridors, reduce vehicle miles of travel (VMT), and enhance the multimodal environment.

The spreadsheet template allows local governments and reviewing agencies to assess a proposed mobility plan based upon a point system related to relevant criteria. Weights are assigned by the user to reflect the relative importance of specific criteria to the proposed plan, including a weight of zero that allows users to eliminate criteria from the assessment that are not at all applicable in the local context. This is not an official procedure or requirement of the State of Florida, but rather a proposed practice that may be adapted for future application.

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# 1 Introduction

Maintaining transportation quality of service, managing corridor development, and reducing urban sprawl have long been goals of Florida’s transportation planning and growth management process. The Florida Department of Transportation (FDOT) has had an active access management program since the late 1980s and, in the early 1990s, new legislation encouraged local governments to work with FDOT to manage corridor development and adopt corridor management ordinances and strategies. FDOT also developed the *Site Impact Handbook* in the late 1990s to guide applicants and District staff in carrying out site impact analysis of proposed developments that have an impact on the state highway system.

In recent years, FDOT and local governments have been moving toward a more comprehensive and multimodal approach to transportation and land use planning. FDOT Districts have been working with local governments to accomplish these goals through a variety of planning efforts. These efforts include state highway corridor management plans and other plans to mitigate development impacts on the Strategic Intermodal System (SIS), the Florida Intrastate Highway System (FIHS), and facilities funded through the Transportation Regional Incentive Program (TRIP).

This proposed practice supports implementation of mobility planning requirements in Florida’s transportation and growth management legislation, including the Community Renewal Act, HB 697 and HB 7135.

In 2009, the Community Renewal Act dramatically changed FDOT’s role in growth management and required local governments to prepare mobility plans under specified circumstances. The resulting mobility plans must be submitted to FDOT and the Florida Department of Community Affairs (DCA) for review and comment through the comprehensive plan amendment (CPA) review process and approved by DCA prior to adoption. Through its role in the CPA review process, FDOT must comment as to whether plans resulting from these efforts support mobility on the SIS and other state highways. One issue that often arises is the difficulty of measuring the value of multimodal strategies to improving mobility on the SIS. Guidance regarding what constitutes acceptable impact mitigation and mobility planning will support these efforts. This research was conducted for that purpose.

## 1.1 Objective of the Guide

The objective of this guide and companion spreadsheet template is to provide the Florida Department of Transportation (FDOT) with a proposed practice for review of local government mobility plans submitted through the CPA review process. A related objective is to provide local governments with guidance for the development and refinement of mobility plans. The guide and template is also useful in the development and/or review of proposed SIS mitigation plans or corridor management plans for major highway corridors. The Florida Department of Community Affairs and other reviewing agencies may also find the template useful in their efforts to implement good planning practices in Florida.

This proposed practice relates primarily to mobility planning requirements in Florida’s transportation and growth management legislation, including requirements of the Community Renewal Act, HB 697

and HB 7135.<sup>1</sup> It seeks to advance mobility objectives for the SIS and other major highway corridors, while supporting growth management efforts to increase use of alternative modes, reduce vehicle miles of travel (VMT), and enhance the multimodal environment.

A comprehensive menu of strategies is provided for this purpose. Examples include land use and activity center strategies, network connectivity, access management, parallel relievers, transportation demand management, bicycle/pedestrian improvements, and transit service enhancements. These and other strategies are contained in a spreadsheet template to aid the user in gauging the adequacy of proposed mobility/mitigation plans in addressing mobility needs and mitigating identified deficiencies of the local and regional transportation system.

## **1.2 Methodology**

The template that accompanies this user guide is a performance measurement system that assigns points based on relevant mobility planning criteria. The selected criteria embody transportation and land use planning best practices that support the use of alternative modes, advance corridor management objectives for major highway corridors, reduce vehicle miles of travel (VMT), and enhance the multimodal environment. The criteria were selected through a comprehensive review of the literature and current practice in multimodal planning and corridor management, as well as relevant findings from previous research and a review of Florida transportation and growth management legislation. A technical working group of knowledgeable persons in the public and private sector was also assembled to guide the project.

The resulting criteria were grouped into general categories by topic (i.e. Supporting Plans and Guidelines, Multimodal Environment, Network Improvement, Operations and Safety, Implementation) and by elements relating to the respective categories. This information was integrated into a spreadsheet template along with formulas allowing users to calculate results, as described in Section 3, to determine the degree to which mobility planning best practices are applied in a proposed comprehensive plan amendment.

The template and guide may be used in the review process to highlight categories/elements that are effectively addressed and those that would benefit from further consideration in the planning process. The resulting assessment rewards communities that apply a comprehensive set of strategies from each category by assigning those plans to a higher level. The review methodology guides the agency reviewer in the assessment process and guides local governments in developing an effective mobility plan. In addition, it acknowledges the value of multimodal mobility plans to improved mobility on the SIS and other state highways and the difficulty of measuring the benefit of certain land use and transportation best practices known to improve mobility.

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<sup>1</sup> HB 697 amended Chapter 163.3177(6), F.S. and HB 7135 amended Chapter 339.175(7), F.S.

## 2 Background

FDOT's role in growth management has evolved considerably over the past decade and continues to evolve. This section reviews key aspects of that role and emerging considerations to help guide state and local coordination in mobility planning, SIS mitigation planning and transportation corridor management.

### 2.1 2005 Growth Management Legislation

In 2005, amendments to Florida's growth management legislation elevated the role of FDOT in development review and impact mitigation on the Strategic Intermodal System (SIS), the Florida Intrastate Highway System (FIHS), and facilities funded through the Transportation Regional Incentive Program (TRIP).

- FDOT was given a direct role in reviewing local government concurrency management, proportionate fair share, and proportionate share development agreements for mitigation of impacts on these facilities.
- Where impacts of proposed developments would cause a facility to fall below the level of service established by Rule 14-94, F.A.C., plans must be developed by local governments in cooperation with FDOT to mitigate those impacts.
- FDOT concurrence was needed on mitigation plans and proportionate fair share mitigation on the SIS.

The need for local government mitigation plans for these important corridors has historically arisen in the context of the following situations:

1. Local governments proposing new or applying existing transportation concurrency alternatives<sup>2</sup> that are projected to cause an LOS deficiency on the SIS, FIHS, or TRIP-funded facilities.
2. Local government future land use plans or comprehensive plan amendments (other than those noted in item 1 above) that are projected to cause an LOS deficiency on the SIS, FIHS, or TRIP-funded facilities.
3. Any development impacting the SIS or other state highway in the local government's jurisdiction that is not operating at the required level of service (backlogged) and cannot reasonably be widened or improved to address the deficiency.

Mechanisms for local government mitigation plans in this context included level of service variance requests, long term concurrency management system plans, multimodal transportation districts, transportation concurrency exception area plans and proportionate fair share agreements. These mechanisms and requirements for local government mitigation planning for the SIS are no longer required in statutorily designated dense urban land areas or DULAs established by the 2009 Community Renewal Act (see Section 2.3). However, FDOT encourages partnerships with local governments in DULA

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<sup>2</sup> These alternatives include: transportation concurrency exception areas (TCEAs), transportation concurrency management areas (TCMAs), or multimodal transportation districts (MMTDs).

areas in identifying and prioritizing SIS mobility enhancements. The requirements continue to be applicable outside of DULA areas and are described in Appendix A.

## **2.2 2008 Legislation to Reduce Greenhouse Gases**

In 2008, additional legislation was enacted relative to reduction of greenhouse gas (GhG) emissions and energy-efficient land use that has implications for transportation plans and comprehensive plan amendments submitted for state review by local governments. HB 697 required local governments to achieve more energy-efficient land use patterns in their comprehensive plans and to enact transportation strategies to address GhG reductions. HB 7135 imposed similar requirements relative to GhG reductions on metropolitan planning organizations in long range transportation planning.

Transportation elements of local comprehensive plans will need to be amended to address these requirements. The Florida Department of Community Affairs (DCA) is working on revisions to Rule 9J-5 to provide guidance to local governments on achieving GhG reductions and energy efficient land use patterns. DCA has provided the following additional guidance:<sup>3</sup>

- Future land use map amendments must be supported by data and analysis relating to urban sprawl, energy efficient land use patterns and greenhouse gas reduction strategies.
- Future land use element text amendments with significant potential to impact development patterns must comply with the new data and analysis requirements.
- Major textual amendments to transportation/traffic elements and large future land use map amendments must address new greenhouse gas reduction requirements.

These new local comprehensive planning and metropolitan long range transportation planning requirements reinforce the need to implement land use and transportation strategies that reduce vehicle miles of travel, improve system operations, increase multimodal options, promote compact and mixed use development and thereby, reduce GhG emissions and improve energy efficiency.

## **2.3 2009 Community Renewal Act**

In June 2009, the Community Renewal Act changed FDOT's role in growth management in urban areas of the state. The provisions designated local governments meeting certain population density criteria as "dense urban land areas" (DULAs) and exempted these areas from transportation concurrency requirements with the intent of reinforcing compact urban growth.<sup>4</sup> The requirement for local governments to adopt and maintain state level of service standards for the Strategic Intermodal System (SIS) was also suspended in these areas, as was the development of regional impact process. Specifically, the DRI requirements are no longer applicable in the following:

- DULA municipalities,
- Urban service areas of DULA counties, and

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<sup>3</sup> Tom Pelham, "The Role of Local Land Use and Transportation Planning in Reducing GhG," Florida Department of Community Affairs, <http://www.dca.state.fl.us/fdcp/DCP/Legislation/2008/Files/LocalLandUseGHGPresentation.pdf>.

<sup>4</sup> Section 163.3180 (5) a.4, F.S.

- Counties with a population of at least 900,000 persons qualifying as DULAs, but having no urban service area.

In addition, a qualified job creation project outside of a DULA may be exempted from SIS level of service standards by a local government if the Office of Tourism, Trade and Economic Development (OTTED) concurs in writing that the proposed development is a qualified job creation project pursuant to the Rural Economic Development Initiative (REDI) or the expedited permitting process. OTTED is first required to consult with FDOT on the designation.

Within two years after the designated DULAs become exempt from transportation concurrency (July 2011),<sup>5</sup> local governments must adopt into their local comprehensive plan land use and transportation strategies to support and fund mobility within the exception area, including alternative modes of transportation. These strategies are now commonly referred to as local government mobility plans. The legislation further encouraged local governments to adopt complementary land use and transportation strategies that reflect the region's shared vision for its future. In anticipation of these provisions, many local governments in the designated DULAs have initiated mobility planning efforts.

## **2.4 Summary of FDOT's Growth Management Role**

In summary, although FDOT had a direct role in review and approval of mitigation plans for SIS impacts during the comprehensive plan review process under the 2005 growth management legislation, FDOT's growth management role is now less formal in urban areas of Florida. The current role of FDOT staff in review of local government mobility plans and impact mitigation plans may be broadly categorized as follows:<sup>6</sup>

1. As a review agency, FDOT will continue to review comprehensive plans, comprehensive plan amendments, comprehensive planning evaluation and appraisal reports (EARs) and EAR-based comprehensive plan amendments for transportation-related impacts.
2. Within TCEAs, the focus of that review is on local land use and transportation strategies to support and fund mobility, including alternative modes (i.e. mobility plans).
  - a) Through this review process, FDOT should ensure that local mobility plans have adequately incorporated strategies essential to maintaining mobility on the SIS and other state highways while remaining sensitive to local multimodal and livability objectives and funding availability. This may include concerns related to operations, safety and access to state roads.

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<sup>5</sup> The Florida Department of Community Affairs has advised that the new provisions do not become effective until an affected local government amends its comprehensive plan. Therefore, it is unclear whether the mobility plans must be complete within two years of the legislation (July 2011) or within two years of the local government decision to amend its comprehensive plan.

<sup>6</sup> Maria Cahill, FDOT Office of Policy Planning, "DULAs and Implications for Transportation Concurrency/DRIs," *Florida ITE Winter Workshop*, February 10, 2010, Orlando, Florida.

- b) FDOT’s review within DULA-based TCEAs should also be based upon the adopted comprehensive plan in effect at the time of the review and address internal consistency between the proposed mobility plan and other pertinent policies and elements of the local comprehensive plan.
- 3. The reviewing agencies (e.g. FDOT, DCA) no longer have authority to review future land use plan amendments in TCEAs for compliance with the requirement to “achieve and maintain level of service standards for transportation.” In dense urban land areas designated as transportation concurrency exception areas, local governments are therefore no longer required to consult with FDOT on impacts or mitigation to the SIS.
- 4. Outside of DULA TCEAs, local governments must adopt FDOT level of service (LOS) standards for the SIS and FDOT will continue to review comprehensive plan amendments and proposed DRIs to ensure these standards are achieved and maintained. In both cases, specific mitigation of impacts may be required.

In addition, opportunities for FDOT staff to develop corridor management plans for the state highway system in cooperation with local governments remain throughout the state. Such plans may form the basis for Strategic Intermodal System (SIS) mitigation and may also be a prominent component of local mobility plans. Corridor access management plans must be approved by the applicable FDOT District if they are to guide state highway access permitting.

**NOTE:** *Florida’s growth management process continues to evolve and new legislation may result in additional changes to agency roles and planning requirements. Local governments are encouraged to contact the Florida Department of Community Affairs and Florida Department of Transportation to ensure that all pertinent requirements have been met prior to plan submittal.*

### 3 Using the Template

This report is a user guide that accompanies a spreadsheet (template) designed for review and assessment of local mobility plans and/or SIS mitigation plans. It contains important guidance on the meaning of selected criteria in the template and must be consulted in concert with the template during the review and assessment process. Keep in mind that this is a proposed practice and not an official procedure. In addition, local governments are referred to the pertinent sections of Chapter 163, Rule 9J-5 and related guidance from the Florida Department of Community Affairs to ensure that all state requirements for preparation of TCEA mobility plans or SIS mitigation plans and associated comprehensive plan amendments have been adequately addressed.

The template combines land use and transportation criteria that represent best planning practices in the following broad categories: Supporting Plans and Guidelines, Multimodal Environment, Network Improvement, Operations and Safety, and Implementation. It can be used to assess the degree to which a proposed mobility plan includes strategies related to these categories. Based on the assessment results, each plan is ranked into Level 1, 2 or 3 depending on the percentage of points received in each category in relation to the maximum points available. Level 3 represents the highest ranking and Level 1 is the lowest.

Level 3 mobility plans are those with the greatest potential to advance the following general mobility objectives: 1) improve operations and safety of the major highway system, 2) increase opportunities for walking, bicycling and transit use, and 3) promote a built environment conducive to use of alternative transportation modes. The combined application of the strategies in the template will also help to reduce dependence on single occupant vehicle travel and the corresponding energy use and greenhouse gas emissions attributable to transportation. The following sections provide specific direction on how to use the template and interpret the results.

#### 3.1 Suggested Review and Submittal Process

Local governments should begin by completing a self review of their proposed comprehensive plan amendment using the guide and template. This will help highlight strengths and potential shortcomings of the proposed plan. If any category falls below 51% of the maximum points available, then the template will automatically assign the entire plan amendment into Level 1. To increase the Level ranking, local governments should reconsider their plan in relation to the corresponding elements and criteria and identify appropriate enhancements relative to those criteria. This helps ensure that the plan combines planning criteria from each essential category.

Local governments are advised to submit their final self review to the FDOT District along with their comprehensive plan amendment. This will aid FDOT staff reviewers in identifying plan strategies that relate to the criteria when reviewing the proposed plan. FDOT District staff should consider this local self review when

**NOTE:** *All mobility plans should evaluate transportation system and land use conditions relative to the topics on this template. While all criteria may not be achievable by each plan, it is important to seek all opportunities to connect land use and transportation planning objectives. Items not relevant at all to the plan may be assigned a weight of zero to remove them from the analysis.*

conducting their independent review. Where differences in ratings or weights occur, reviewing agency staff could discuss these items with the local government and determine if additional information is available that may be pertinent to the assessment. For example, some criteria may already be addressed in the local comprehensive plan. If so, these items could be identified as such in the comments section and assigned the appropriate points.

Template users must apply reasonable discretion in assessing the proposed plans as appropriate mobility plan strategies will vary according to the context of the area. Major urban areas have extensive multimodal needs involving a diversity of modes and strategies. Needs in small towns without transit may focus on highway access management, local street connectivity, gaps in the sidewalk network, ridesharing programs and so on. Although needs and methods to advance the criteria may differ, every local government should seek all opportunities to connect land use and transportation planning objectives and address as many criteria as possible in the mobility planning process.

As required by Rule 9J-5, local governments must conduct an analysis of existing land use and transportation conditions that reduce mobility so this information can be used in developing an appropriate plan. Ideally, results of this existing conditions analysis will be used in assigning weights to the template criteria. This will help focus the review process on those issues most important to the local context. Appendix B includes a sample outline based on this template that may be useful for documenting results of the existing conditions analysis.

### **3.2 Template Directions**

The spreadsheet template contains the criteria to be reviewed along with columns for input specific to the plan under review. A copy of the template is provided in Appendix C. The contents of each column may be described as follows:

1. *Category* - indicates the overall category that best describes the supporting elements and criteria. (e.g. Network Improvements relates to elements and criteria for improving the multimodal transportation network)
2. *Elements* - breaks down each category into core elements that relate to the category (e.g. Local Street Network is one element in the category Network Improvement.)
3. *Criteria Code* – a code number for each criterion to add in cross referencing.
4. *Criteria* – states selected criteria that reflect planning strategies relevant to that category and element (e.g. “Includes network-enhancing local and minor collector street projects” is a criterion in the Local Street Network element of the Network Improvement category).
5. *Weight* - asks the reviewer to enter the weight assigned to each criterion. The weight is based on the level of importance the criterion has for maintaining mobility, mitigating congestion, or meeting modal objectives in the context of the proposed plan. The weight should be determined jointly by the preparer and reviewer based on needs identified in the existing conditions analysis. It is best if local staff coordinate with reviewers in advance of the review on appropriate weights for each criterion based on this analysis. A local government may, however, choose to propose its own weights as part of its self review and reviewing agency staff may choose to assign a standard weight to specific items in the template in advance of local use, such as a weight of 5 to criteria deemed essential to all mobility plans.



6. *Value* - requires the reviewer to enter a discretionary judgment on the degree to which the criterion is advanced in the plan. The local government should identify its desired value in the application along with information to support its determination. The reviewer may use the locally-assigned value or assign a different value based on reasons specified in the staff report.

**NOTE:** *This template may be expanded or updated to address unique District conditions or changes in Florida's growth management process.*

7. *Score* – spreadsheet computes a score for each criterion by multiplying the weight by the value assigned. Each category, at a minimum, must achieve 51% of the maximum points available or the plan will automatically receive the lowest ranking (Level 1).
8. *Maximum Points Available* - reflects the maximum number of points that can be achieved for the given criterion in light of its assigned weight (*Assigned Weight x Maximum Value*). This provides a benchmark for the actual criterion score achieved.
9. *Comments* – for staff comments related to the criteria.

Below is an explanation of the Categories, Elements, and Criteria contained in the template to guide both plan preparers and reviewers. The “Notes” located adjacent to each criterion in the tables below describe how the criterion may be addressed in the plan or pertinent considerations and resources.

### **3.3 Category SP: Supporting Plans and Guidelines**

#### **3.3.1 Element SP: State, Regional, Local**

As partners in maintaining regional mobility, local government mobility plans should be coordinated and consistent to the extent feasible with adopted plans of adjacent local governments as well as with state and regional plans. In addition, some local governments have established corridor management policies and mitigation plans for SIS facilities. Such policies and programs should be incorporated into proposed mobility plans.

The efficiency of local and regional transportation systems and the effectiveness of growth management efforts are directly influenced by the degree of coordination in state, regional and local government planning. Urbanized areas designated for additional growth and urban infrastructure/services (e.g., within urban service boundaries) in regional vision plans, MPO long range transportation plans, transit development plans and local comprehensive plans are more conducive to development because infrastructure and services are already in place or planned. Locating development and transportation projects in these areas improves the ability of government agencies to provide cost-effective and efficient transportation service. Such location may also increase overall density and land use mix resulting in a reduction in vehicle miles of travel.

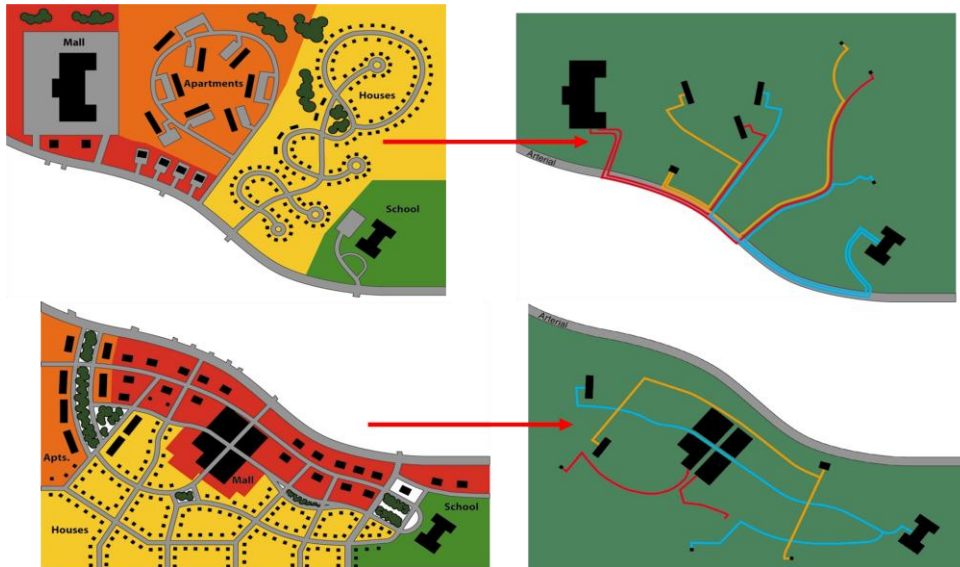
**Table 1: Supporting Plans and Guidelines (SP1) Criteria**

Criteria	Notes
<p><b>SP1.1</b> Supports the Florida Transportation Plan, the Strategic Intermodal System Plan, and other applicable state plans and guidelines.</p>	<p>Ensure the proposed plan is generally consistent to the extent feasible with adopted state transportation plans including the <a href="#">Florida Transportation Plan</a> and the <a href="#">Draft 2010 Strategic Intermodal Plan</a>.</p>
<p><b>SP1.2</b> Consistent with adopted regional mobility plan or vision, such as that established through a regional collaborative, including the MPO Long Range Transportation Plan and adopted Transit Development Plan.</p>	<p>Identify applicable regional, MPO and transit agency plans. Identify (with an asterisk or other simple indicator) plan policies and strategies that advance applicable regional plans. These plans will vary according to location.</p>
<p><b>SP1.3</b> Coordinates with transportation and mobility plans of adjacent local governments and transportation planning agencies.</p>	<p>Identify how planned improvements are consistent with and coordinate with transportation and mobility plans of adjacent local governments and transportation planning agencies. Identify any sub-area studies that may be located in whole or in part within the mobility/mitigation planning area and how those plans are incorporated.</p>
<p><b>SP1.4</b> Consistent with local government comprehensive plan objectives and policies as well as specialized plans.</p>	<p>Identify applicable plans. Identify comprehensive plan policies supported and advanced by the proposed plan amendment. Again, a simple, yet unique, indicator may be used.</p>

### 3.4 Category ME: Multimodal Environment

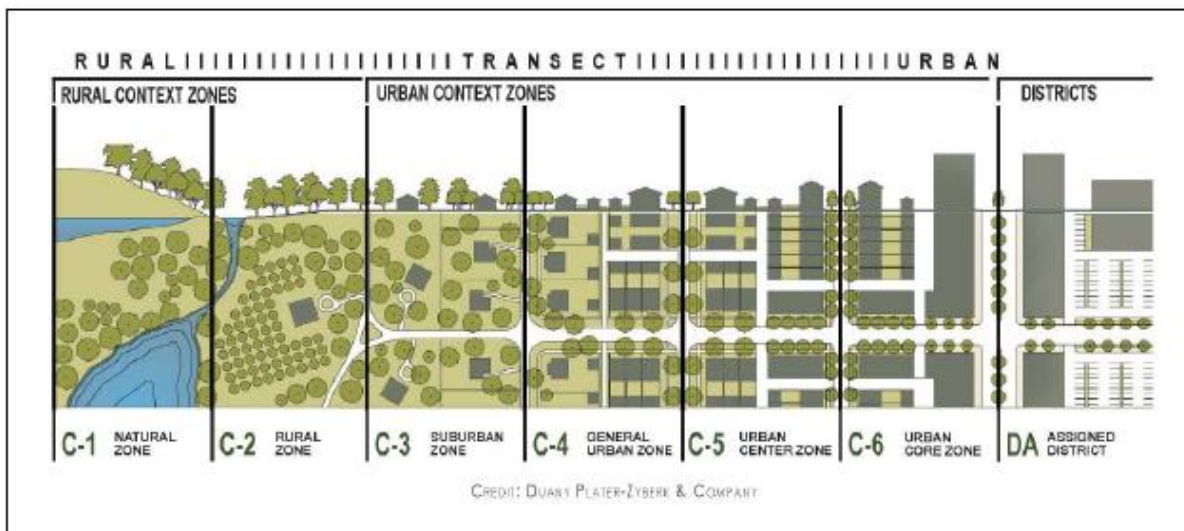
The multimodal environment relates to the organization and location of land uses, the land use mix, the density/intensity of development and related multimodal policies. The criteria in this section relate to these issues and are interdependent with the local street and bicycle/pedestrian network improvement criteria later in the guide. Carefully promoting these criteria in planning creates an environment conducive to walking, bicycling, and transit use. This also helps reduce vehicle miles of travel (VMT) and the need to use major arterials for short local trips.

Figure 1 illustrates the relationship between network, land use mix, and trip making on major roadways. The top example reveals how separate, stand alone land uses require use of the arterial for even short local trips due to the absence of network connections. This increases the need to drive, rather than walk or bike, due to longer local travel distances. The bottom example shows how land uses can be organized on a connected network to create an environment that supports alternative modes, reduces VMT and internalizes local trips.



**Figure 1: Land use organization, network connectivity and arterial traffic**

A challenge in mobility and corridor management planning is how to promote a multimodal environment appropriate to the context and level of urbanization. This is particularly true in counties that may have a variety of urban, suburban and rural environments. The transect concept presented in *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (ITE 2006) offers an illustrated template to aid users in establishing appropriate sets of land use and transportation strategies across varying levels of urbanization (see Figure 2). This concept was applied in the FDOT Transit Oriented Development Guidelines. For further information on the transect approach go to [Center for Applied Transect Studies](#). The following sections provide specific details regarding elements of the multimodal environment.



**Figure 2: Corridor transect**

Source: Duany Plater-Zyberk and Company

### 3.4.1 Element ME1: Organization and Location

The organization and location of land uses directly affects local and regional mobility and the efficiency of alternative modes. Focusing non-residential development into activity centers, rather than in strips along major roadways, creates destinations that can be more efficiently served by transit. Proximity of shopping, services, and employment centers to each other and to the surrounding residential uses facilitates walking, bicycling and transit use and reduces the number and length of auto trips. This same principle can be translated on a smaller scale to a neighborhood level.

Neighborhoods that include a greater mix of land uses within reasonable proximity not only have greater choice of travel alternatives, they also afford residents greater convenience in meeting daily needs.

When activity centers and other major land uses that generate transit ridership are located along existing transit routes, then route productivity and transit service improves. Conversely, locating such land uses outside an existing transit service area may result in the need to alter or extend routes leading to longer headways and less convenient service. Locating large residential subdivisions at the urban fringe and focusing goods and services onto strips along arterial roadways requires residents to make more auto trips, longer trips, and focuses these local trips onto the arterial system. These development patterns preclude transit and walking, increase VMT and increase demand for single occupant vehicle travel on the arterial system.

“Transit compatible land use decisions are one way to build transit ridership and ultimately reduce headways, without the risk and uncertainty of major capital outlays.”

- FDOT, *Impact of Transportation: Transportation and Land Use*, 2009

**Table 2: Multimodal Environment (ME1) Organization and Location Criteria**

CRITERIA	NOTES
<p><b>ME1.1</b> Designates and reinforces strong central core(s) and urban activity centers of varying sizes and compositions.</p>	<p>Helps reduce VMT. Plans should focus employment and commercial activities into a strong central city/village core. Larger cities and counties may also have regional activity centers outside of this core. Locate smaller employment centers and commercial/service nodes of varying sizes in proximity to residential neighborhoods. A detailed description of transit compatible land uses is contained in <a href="#">Model Regulations and Plan Amendments for Multimodal Transportation Districts</a>. See also the <a href="#">FDOT Transit Oriented Development Guidelines</a> (draft to-date, see web for updated version) for detailed guidelines on varying types of TOD depending on context (e.g. urban core, urban general, suburban, rural). The report <a href="#">Mixed Income Housing Near Transit</a> offers strategies for increasing the affordable housing supply as part of transit oriented developments to offset the tendency to cater only to high income markets in these locations.</p>
<p><b>ME1.2</b> Transit-compatible land uses are defined and required to locate on existing or planned transit corridors with direct access to transit. This should include but is not limited to transit-oriented developments (TOD).</p>	<p>Proper location and direct access to major transportation routes and/or ports and airports help reduce impacts on the surface street system and improve efficiency of freight movement.</p>
<p><b>ME1.3</b> Ensures that industrial and other freight-related uses locate in proximity to and have direct access to major transportation routes and intermodal stations or other freight transfer locations.</p>	<p>Proper location and direct access to major transportation routes and/or ports and airports help reduce impacts on the surface street system and improve efficiency of freight movement.</p>

### 3.4.2 Element ME2: Mix

Transit, walking, and bicycling operate more efficiently in communities with a diverse mix of land uses and services on an interconnected street system (see also **NI2**). Core areas and urban activity centers should contain a complementary mix of office, retail, government, residential, entertainment, restaurants, grocery stores, and related uses that promote activity during peak and non-peak hours. Mixing uses vertically in multi-story buildings encourages walking by providing more activities at the street level (e.g. office, parking, or residential above retail/service uses, etc.). The goal is a mixed use environment that attracts people and allows them to walk and interact with their environment outside of an automobile.

**Table 3: Multimodal Environment (ME2) Mix Criteria**

CRITERIA	NOTES
<p><b>ME2.1</b> Provides for a complementary mix of retail, services, residential, cultural and employment opportunities within urban cores and major activity centers.</p>	<p>Guidelines for achieving a complementary land use mix in varying types of activity centers or service nodes are contained in <a href="#">Model Regulations and Plan Amendments for Multimodal Transportation Districts</a> (pp. 18-20). Providing a mix of uses can increase internal capture and reinforce alternative modes. However, these benefits are highly dependent on context and factors such as land use compatibility and network connectivity as indicated in the <a href="#">FDOT Community Capture Methodology</a>.</p>
<p><b>ME2.2</b> Provides for a vertical mix of uses within urban cores and major activity centers to encourage active uses at the street level.</p>	<p>To avoid long vacant block fronts, multi-level parking structures should be required to allow at least 50% of the ground-floor street frontage, excluding driveway entrances and elevators, to accommodate pedestrian-oriented uses such as retail or neighborhood services. For example policies and regulations, see Section 9.3 of <a href="#">Model Regulations and Plan Amendments for Multimodal Transportation Districts</a>.</p>
<p><b>ME2.3</b> Provides for compatible food, education, retail and service uses on a neighborhood level within or in close proximity to residential areas.</p>	<p>Strict separation of residential and other uses into large single use areas increases auto dependence. Look for opportunities to integrate service centers within existing single-use residential neighborhoods.</p>

### 3.4.3 Element ME3: Density

Future land use plans and zoning ordinances typically establish maximum densities using dwelling units per acre or floor area ratios (FAR). The resulting densities in Florida cities are often less than the maximum allowed – particularly in commercial centers or along corridors. Efforts to increase density in these areas are often opposed by neighborhood residents due to concerns over traffic impacts. Establishing minimum density/intensity policies may be necessary in some areas to achieve appropriate densities for urban cores and major activity centers. As noted by the Victoria Transport Policy Institute: “Commercial centers should be medium- to high-density, with multi-story buildings. Densities of 50 employees or more per gross acre are desirable.”<sup>7</sup>

<sup>7</sup> Victoria Transport Policy Institute, [“Strong Commercial Centers,”](#) TDM Online Encyclopedia, January 25, 2010.

It is essential that efforts to increase density in designated areas be combined with urban design criteria aimed at ensuring a livable, walkable environment. For example, Miami adopted a citywide form-based code in 2009 based on the transect concept ([Miami 21](#)) in an effort to better integrate infill and redevelopment into the existing urban context and enhance the character and livability of urban neighborhoods.

**Table 4: Multimodal Environment (ME3) Density/Intensity Criteria**

CRITERIA	NOTES
<b>ME3.1</b> Establishes minimum density/intensity requirements for urban core and major activity center areas.	Future land use plans and zoning regulations typically establish maximum limits on density/intensity, allowing less intensive development. Minimum density/intensity ensures a denser built environment. Some form-based codes include a combination of minimum and maximum building height and number of stories.
<b>ME3.2</b> Establishes appropriate densities and intensities within walking distance of transit stops.	Densities needed to support transit in various environments (e.g. urban core, urban general, suburban, rural) are identified in <a href="#">FDOT Transit Oriented Development Guidelines</a> (draft to-date, see web for updated version).
<b>ME3.4</b> Establishes urban design criteria for urban cores and major activity centers to preserve or improve livability while increasing densities to support multimodal objectives.	Plans should include policies relative to adoption or refinement of urban design criteria. Urban design standards and/or form based codes enhance the character of activity centers and compatibility of infill development with surrounding land uses..

#### 3.4.4 Element ME4: Multimodal Policy (other)

Improving the multimodal environment in urban cores, activity centers, and along designated corridors requires a shift in transportation and development policy. Greater emphasis must be placed on improving the pedestrian and bicycle environment and promoting a diverse, compatible mix of land uses to support transit service in these areas.

This section assesses the degree to which local governments have enacted the necessary multimodal transportation and development policies in the comprehensive plan. In addition, it looks at whether transportation impact assessment procedures have been expanded to address three basic concerns: can people reach developments conveniently and safely on foot, by public transportation, and by car. The Florida Department of Transportation has enacted multimodal level of service analysis tools and is increasingly assessing the ability to serve developments by transit. Further information on these tools is available at <http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm>.



**Table 5: Multimodal Environment (ME4) Multimodal Policy Criteria**

CRITERIA	NOTES
<p><b>ME4.1</b> Establishes priority on enhancing bicycle and pedestrian mobility within existing and proposed activity centers, including urban core areas.</p>	<p>Planners should identify centers with the greatest potential to accommodate alternative modes and focus investment on enhancing the multimodal environment for those centers. Over-emphasizing auto improvements in these centers works counter to multimodal goals. Policies, regulations and funding mechanisms should reflect the higher priority on enhancing the multimodal environment in these areas.</p>
<p><b>ME4.2</b> Includes parking management strategies for urban cores, activity centers and transit corridors to reduce surface area parking and promote walkability.</p>	<p>Large parking lots are generally unattractive and uninviting to pedestrians. In addition, parking lots increase the overall length of a pedestrian trip thereby discouraging walking as an alternative mode. Parking management includes strategies such as parking maximums, shared use parking, increasing capacity of existing parking facilities, remote parking/shuttle services, pricing and other strategies. For more information see Parking Management Best Practices (T. Littman, ©American Planning Association, 2006.)</p>
<p><b>ME4.3</b> Provides for, and requires new development to contribute to, pedestrian-friendly amenities on the public streetscape.</p>	<p>An attractive street environment with trees and other amenities increases the willingness of people to walk to their destination. Examples include benches, lighting, street trees, covered walkways, trash cans, and pedestrian entrances and windows at the street level. For one example, see Policy 12 of <a href="#">Model Regulations and Plan Amendments for Multimodal Transportation Districts</a>.</p>
<p><b>ME4.4</b> Provides for, and requires new development to contribute to, amenities at existing and proposed transit stations including covered shelters, trash receptacles, benches, landing pads, lighting, and bicycle parking.</p>	<p>Transit station amenities can be determinants of transit use. For example, a potential user may be more likely to use transit if the station provides shelter from the sun and rain, is clean and is well lit to increase safety.</p>
<p><b>ME4.5</b> Transportation impact assessment procedures are in place that address development impacts on all modes of transportation and minimize vehicular, transit, bicycle, and pedestrian conflicts.</p>	<p>See the multimodal transportation impact assessment (TIA) methodology in the Florida Department of Community Affairs, <a href="#">Transportation Concurrency Best Practices Guide</a> and Montgomery County, Maryland’s <a href="#">Local Area Transportation Review and Policy Area Mobility Review Guidelines</a> for ideas on procedures and requirements for multimodal TIAs.</p>

### 3.5 Category NI: Network Improvement

This category involves a range of strategies for improving the balance, connectivity and capacity of the multimodal transportation network. Balance is considered in relation to the availability of local, collector, and arterial roadway networks, as well as networks for transit and bicycle/pedestrian travel. Connectivity is addressed through criteria in each section as a means of improving mobility as well as system capacity by providing multiple alternative routes.

### 3.5.1 Element NI1: Major Roadway Network

The criteria in this section address the adequacy of local mobility planning for the major roadway network. Considerations include whether plans are in place to preserve and manage future rights of way for major roadway corridors, the availability of relievers and alternate routes, methods to address bottlenecks and addition of new lanes. Note that in the absence of adequate and connected supporting networks, the capacity from adding new lanes may be counteracted by excessively long signal cycles and delay at major intersections. Long signal cycles at intersections indicate a need for other corrective actions such as grade separations, rerouting left turns or improving the density and connectivity of the secondary street system to reduce arterial left-turn volumes.

**Table 6: Network Improvement (NI1) Major Roadway Network Criteria**

CRITERIA	NOTES
<p><b>NI1.1</b> Transportation corridors planned for improvement are designated for preservation and management as provided in §337.273, F.S.</p>	<p>Local governments must designate corridors in their comprehensive plan prior to adopting corridor management ordinances. See <a href="#">Managing Corridor Development: A Municipal Handbook</a> for further information. See also <a href="#">Model Corridor Management Plan Amendments</a>.</p>
<p><b>NI1.2</b> Includes transportation corridor management policies to preserve right-of-way needed for transportation facilities and provide for dedication of land or conveyance of easements to local governments for transportation improvements as provided in §337.273(6), F.S.</p>	<p>See <a href="#">Corridor Preservation Best Practices</a> for details on how local governments in Florida are preserving and managing transportation right-of-way in the context of Florida law. Methods include thoroughfare right-of-way needs maps and regulations. See also <a href="#">Model Ordinance for Corridor Protection and Rights of Way</a>.</p>
<p><b>NI1.3</b> Provides for construction of parallel relievers or service roads along major highway corridors or within interstate interchange quadrants.</p>	<p>These roads may be established through designation of a corridor and adoption of a corridor management plan as provided in NI1.1&amp;1.2. Parallel relievers or service roads along congested highways tend to attract traffic and may require more than one travel lane in each direction. Service roads within interchange quadrants provide alternative access, while enhancing the ability to accommodate development near interchanges..</p>
<p><b>NI1.4</b> Provides for construction of new interstate highway crossings to connect local transportation systems.</p>	<p>This type of improvement helps maintain local roadway connectivity and relieves congestion at interstate interchanges by providing an alternate route to cross interstates highways.</p>
<p><b>NI1.5</b> Includes grade separated intersection improvement(s).</p>	<p>This strategy was used on US Highway 19 to recapture system capacity that had been lost due in part to inadequate access management.</p>
<p><b>NI1.6</b> Provides for construction of additional travel lanes and/or turn lanes to address existing or anticipated traffic volume.</p>	<p>Plans should note the location of planned roadway lanes and turn lanes.</p>
<p><b>NI1.7</b> Includes new arterial or major collector roadways to relieve traffic congestion and enhance network connectivity.</p>	<p>Many urban areas in Florida lack a balanced network of arterial, collector and local streets. See also NI2.1</p>

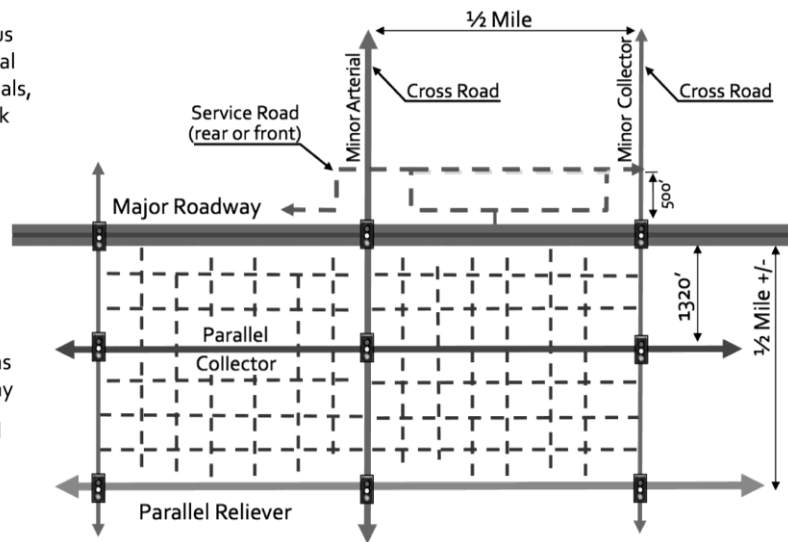


Highway has continuous wide median, directional openings between signals, and supporting network of crossroads and parallel routes

City streets, internal site cross-access, and service roads provide access and circulation for local traffic

Side street intersections separated from highway

Dense, connected local street networks create walkable places, transit destinations



**Figure 3: Corridor network and access management concepts**

### 3.5.2 Element NI2: Local Street Network

Local network density and connectivity is a primary determinant of the quality of the multimodal environment. People can walk and bike more easily where streets provide relatively short blocks and multiple connections to shops and services from the surrounding residential areas. Figures 3 and 4 provide network development concepts and strategies for both the major roadway network and the local neighborhood network. In addition, arterial congestion in many areas of Florida is exacerbated by sparse and discontinuous supporting local and collector street networks. This element includes criteria for increasing the connectivity and availability of local and collector street networks and promotes improved connection of activity centers to surrounding neighborhoods to enhance local mobility and reduce local trips on major roadways.

**Table 7: Network Improvement (NI2) Local Street Network Criteria**

CRITERIA	NOTES
NI2.1 Includes network-enhancing local and minor collector street projects.	Such projects are designed to address gaps in the street network, enhance network connectivity, and provide alternate routes to reduce congestion on arterials.
NI2.2 Promotes direct connections between activity centers and surrounding residential areas.	See Section 4.3.1 of the <a href="#">Guide for Analysis of Corridor Management Policies and Practices</a> for sample policies and regulations. The intent is to reduce vehicular trips on major roadways.
NI2.3 Includes policies and strategies to enhance street network connectivity.	Pertinent policies and strategies may include the continuation of existing streets, limits on cul-de-sacs, and connectivity indices. See sidebar entitled <i>Network Connectivity Measures</i> for sample connectivity indices. See Section 4.3 of the <a href="#">Guide for Analysis of Corridor Management Policies and Practices</a> for sample street network plans and regulations and Appendix A & B of <a href="#">Implementing Multimodal Transportation Districts: Connectivity, and the FIHS</a> for numerous examples of street network policies and standards across the U.S.

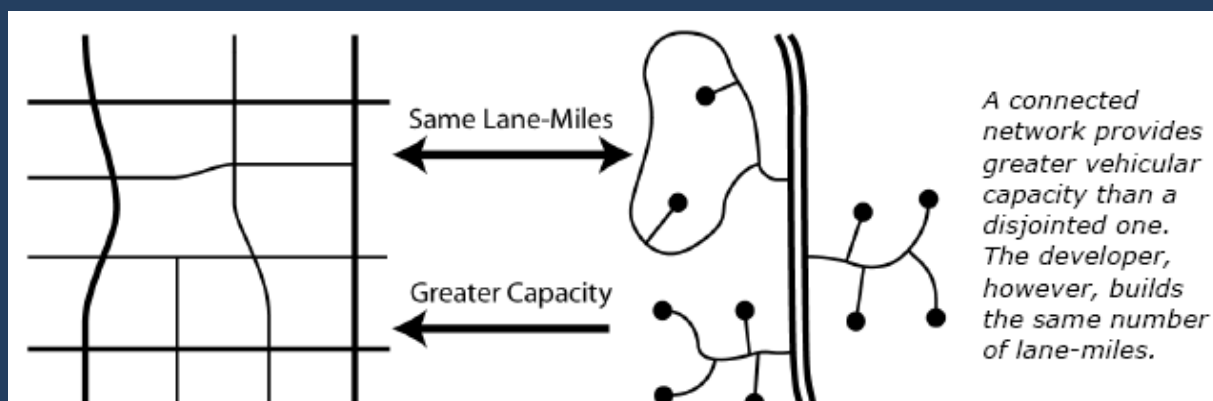
## Network Connectivity Measures

Establishing a connectivity index in the land development code is one method of increasing local network density and connectivity. The Victoria Transport Policy Institute ([www.vtpi.org](http://www.vtpi.org)) provides the following succinct description of various types of connectivity indices. (Another method, not noted below is to establish maximum block perimeter standards. An example of this method may be found in the Alachua County Mobility Plan.)

“A Connectivity Index can be used to quantify how well a roadway network connects destinations. Indices can be measured separately for motorized and non-motorized travel. Several methods can be used:

1. The number of roadway links divided by the number of roadway nodes or intersections (Ewing, 1996). A higher index that travelers have increased route choice, allowing more direct connections for access between any two locations.
2. The ratio of intersections divided by the sum of intersections and dead ends, expressed on scale from zero to 1.0 (USEPA, 2002). The closer the index is to 1.0, the more connected the network.
3. The number of surface street intersections within a given area, such as a square mile, a measure of intersection density. The more intersections, the greater the degree of connectivity.
4. An Accessibility Index as the ratio of direct travel distances to actual travel distances. Well connected streets result in a high index. Less connected streets with large blocks result in a lower index.”

The most common connectivity index in Florida is #1 above - the number of links divided by nodes. It is typically set at a desirable index of 1.4 links to nodes. Another approach is to evaluate “polygons per square mile” as suggested in the FDOT Multimodal Handbook. The desirable index using this approach is a system of interconnected and direct routes with a connectivity index of 50 or more polygons per square mile.



**Figure 4: Network connectivity and system capacity**

Source: Georgia Regional Transportation Authority DRI Review Checklist Users Guide

### 3-5-3 Element NI3: Bicycle/Pedestrian Network

Creating bicycle/pedestrian-friendly environments is key to encouraging choice of these modes over the automobile, particularly for short-distance trips. Those not using vehicles should be able to circulate throughout the planning area and access land uses. Bicyclists are capable of traveling greater distances and may be the preferred non-motorized mode of travel; however, sidewalks are essential to pedestrian travel within urban cores and activity centers. Sidewalks, bicycle facilities, and multi-use trails should be provided throughout and extended beyond the planning area creating tangible alternative mode choices. Bicycle boulevards are another option. These are bicycle priority streets where people can feel safe bicycling, even if they do not feel comfortable bicycling in traffic on ordinary streets. They are intended to have low traffic volumes, slow traffic speeds, and clear signage indicating that priority is given to bicycle traffic. The existing conditions analysis performed as a precursor to mobility or mitigation plans should include analyses of bicycle and pedestrian facility connectivity. A number of tools have also recently been developed to analyze the quality/level of service of these facilities.

**Table 8: Network Improvement (NI3) Bicycle/Pedestrian Network Criteria**

CRITERIA	NOTES
<p><b>NI3.1</b> Requires bicycle lanes and sidewalks on all new or reconstructed major collector and arterial routes where appropriate.</p>	<p>Such policies encourage bicycle use as an alternative mode. The American Association of State Highway and Transportation Officials (AASHTO) has developed the Guide for the Development of Bicycle Facilities. In addition, the Florida DOT provides guidance in the <a href="#">Florida Bicycle Facilities Planning and Design Handbook</a> and <a href="#">Florida Pedestrian Facilities Planning and Design Handbook</a>.</p>
<p><b>NI3.2</b> Includes planned improvements to address bicycle and pedestrian network connectivity.</p>	<p>Local governments should prepare and adopt a master bicycle and pedestrian plan to support bicycle and pedestrian mobility. Projects should be programmed to address network gaps. Options may include multi-use paths to provide for bicycle and pedestrian circulation between neighborhoods to reduce need for automobile travel on arterials.</p>
<p><b>NI3.3</b> Addresses the continuation of, or establishes new, multi-use trail(s).</p>	<p>Multi-use trails that shorten the distance between two uses encourage alternative mode travel in addition to facilitating active recreation.</p>
<p><b>NI3.4</b> Requires new development to maintain continuous pedestrian networks, including connections to transit stops, adjacent lots, and between building entrances and the internal and external sidewalk network.</p>	<p>Pedestrian connections should be more convenient/direct than those provided for vehicles, particularly on transit corridors or in activity centers. Example policies may be found in <a href="#">Model Regulations and Plan Amendments for Multimodal Transportation Districts</a> (pp. 11-13). Additional information may be found at the <a href="#">Pedestrian and Bicycle Information Center</a>.</p>
<p><b>NI3.5</b> Requires new development to maintain continuous bicycle networks, including connections to transit stops and adjacent properties, and to provide bicycle parking at all non-residential uses, multi-family uses and other key destinations.</p>	<p>A complete network and abundant parking encourages bicycle use. Guidance on policies and regulations may be found in <a href="#">Model Regulations and Plan Amendments for Multimodal Transportation Districts</a> (pp. 29-31). Additional information may be found at the <a href="#">Pedestrian and Bicycle Information Center</a>.</p>

### 3-5-4 Element NI4: Transit Network

This section addresses improvements to the transit network and is interrelated with Section 3.6.3: Transit Operations/Safety. The term transit is synonymous with public transportation and mass transportation. It refers to transportation by bus, rail, or other conveyance, either publicly or privately owned, providing general or special service to the public on a regular and continuing basis. Transit includes various modes for air, water, and ground transportation (e.g. air craft, ferries, water taxis, high speed rail, trolleys/streetcars, light rail, subways, commuter rail, monorail, buses, bus rapid transit, jitneys, van pool services, paratransit services, etc.).<sup>8</sup> Figure 5 provides a comparison of transit modes commonly integrated into mobility plans including bus, bus rapid transit (BRT), streetcar, light rail, commuter rail, and heavy.high speed rail. Each type of transit is assessed regarding travel market, economic development impact, speed, right of way, and construction disruption.







Rail transit provides a sense of permanency for its riders as well as for real estate developers. The construction of transit rails and supporting stations anchors transit service within a community. Supporting land development regulations establish an environment for new development to occur near the stations. Bus transit is important for mobility, but may have less impact on land development. Developers tend to be less aggressive in developing along bus routes given that service could move from that location due to changing ridership or budget demands.

In Florida, transit network improvements may not be fully addressed in local government comprehensive plans or MPO long range transportation plans. Detailed plans may be found in regional transportation/transit authority plans or local transit development plans and transportation disadvantaged service plans. Any transit system improvements appearing in such plans should be a part of mobility or mitigation plans. Users are referred to the District 5 [Public Transportation Resource Guidebook](#) for further information. Additional resources for transit planning are available at:

- National Center for Transit Research, <http://www.nctr.org>
- National Bus Rapid Transit Institute, <http://www.nbrti.org>

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<sup>8</sup> HDR, "Public Transportation Resource Guidebook," June 2007, slide overview.  
[http://www.cfgis.org/trafficdata/files/Resource/D5\\_Public\\_Transportation\\_Resource\\_Guidebook.pdf](http://www.cfgis.org/trafficdata/files/Resource/D5_Public_Transportation_Resource_Guidebook.pdf)

	Bus	BRT	Streetcar	Light Rail	Commuter Rail	Heavy Rail/ High Speed Rail
Criteria						
Travel Market (Trip market served)	Local/ Commuter	Local/ Commuter	Local	Local/ Commuter	Commuter	Long Distance (Intercity)
Economic Development (Impact on business)	Minimal	Moderate	Significant	Significant	Significant	Significant
Speed (Operating speed in MPH)	10 - 25	20 - 50	7 - 15	20 - 30	30 - 50	30 - 70
Right of Way (Shared/dedicated)	Shared	Dedicated	Shared/ Dedicated	Dedicated	Dedicated	Dedicated
Construction Disruption (Impact on traffic and business during construction)	Minimal	Minimal	Minimal	Significant	Significant	Significant
	<ul style="list-style-type: none"> <li>Density is a critical concern in transit planning – min 7 dwelling units per acre or 50-60 employees per acre are required to support 30 min bus headway</li> <li>Rail investment is generally more capital intensive as compared to bus investment</li> </ul>					

**Figure 5: Comparison of transit modes**

Source: HDR, “Public Transportation Resource Guidebook,” June 2007, slide overview.

**Table 9: Network Improvement (NI4) Transit Network Criteria**

CRITERIA	NOTES
<b>NI4.1</b> Addresses statewide/regional transit traveling through or with endpoints within plan boundaries.	Identifies corridors with existing and/or planned regional transit service including high speed rail and commuter rail or light rail and transit improvements addressed in regional transit authority plans and MPO long range transportation plans. Addresses local bus/shuttle services and circulators at existing and planned rails stations.
<b>NI4.2</b> Addresses express transit service.	Identifies new and/or expands existing express bus routes, bus rapid transit (BRT) routes or express rail routes. May include other modes, such as ferries or streetcars.
<b>NI4.3</b> Addresses existing and planned local transit within plan boundaries, including route locations headways and infrastructure.	Identifies new local bus/shuttle routes and services and expands existing routes and service. Establishes measures to achieve shorter bus headways, increased frequency, extended service hours. May include other modes, such as ferries or streetcars

### 3.6 Category OS: Operations and Safety

Agencies must look beyond road widening improvements (e.g., examine bicycle, pedestrian, transit, transportation demand management, and traffic operations improvements) to accomplish mobility, particularly where needs outstrip funding or where road widening would adversely impact community character. This section includes a variety of strategies known to improve transportation system

operations and safety. The strategies are organized in relation to transportation demand management, roadway access management, transit and bicycle/pedestrian strategies.

This section also acknowledges the importance of estimating the potential effectiveness of mobility planning efforts (**OS1.1**). Current measures of service levels include quality of service (QOS) and level of service (LOS). QOS is measured using traveler perception of facility operation while LOS is measured quantitatively using volume to capacity ratios. The [2009 FDOT Quality/Level of Service \(QLOS\) Handbook](#) “provides tools to quantify multimodal transportation service inside the roadway environment (essentially inside the right-of-way).”<sup>9</sup> These tools measure the QLOS of each mode but do not measure the diversion of trips from one mode to another. Travel demand modeling for future years may be performed using the Florida Standard Urban Transportation Model Structure (FSUTMS).

Another tool for estimating plan effectiveness is TRIMMS© - a spreadsheet application that estimates the impacts of a broad range of transportation demand management (TDM) initiatives in terms of emission reduction, accident reduction, congestion reduction, excess fuel consumption and adverse global climate change impacts. The model also assesses program cost-effectiveness in relation to Federal Highway Administration Congestion and Air Quality (CMAQ) Improvement Program requirements for program effectiveness assessment and benchmarking. The TRIMMS© model and supporting guidance are available at <http://www.nctr.usf.edu/abstracts/abs77805.htm>.

### **3.6.1 Element OS1: Demand Management**

Transportation demand management (TDM) strategies are designed to maximize use of the transportation system by providing travelers with effective choices to improve overall travel reliability. 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 public transit services, carpooling and vanpooling, compressed work weeks, telecommuting, limited parking, and provision of bike and locker facilities by employers. Another component of TDM is the intelligent transportation system (ITS) that addresses incident management and traveler information to ensure that travelers can minimize delay by choosing alternative routes when necessary.

Effective transportation demand management involves selecting the right set of complementary strategies based on analysis of local conditions. Detailed information about TDM strategies and existing programs can be found at the [National TDM and Telework Clearinghouse](#) and the [Victoria Policy Institute Online TDM Encyclopedia](#).

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<sup>9</sup> “2009 Quality/Level of Service (QLOS) Handbook,” Florida Department of Transportation, 2009. Web. 03 Feb. 2010.

**Table 10: Operations and Safety (OS1) Demand Management Criteria**

CRITERIA	NOTES
<p><b>OS1.1</b> Establishes viable mobility options for congested corridors.</p>	<p>Quality/level of service should be evaluated using the <a href="#">2009 FDOT Quality/Level of Service (QLOS) Handbook</a>. Travel demand modeling is performed using FSUTMS. This model should be used through the appropriate metropolitan planning organization or a professional consultant.</p>
<p><b>OS1.2</b> Provides operational strategies including intelligent transportation systems (ITS).</p>	<p>ITS strategies include a wide range of tools for managing traffic and providing services for travelers including signal coordination systems, commercial vehicle operations, advanced public transportation systems, advanced traffic management systems, advanced traveler information systems, advanced crash avoidance systems, automatic vehicle location, machine vision, and electronic toll and traffic management systems.</p>
<p><b>OS1.3</b> Establishes institutional strategies.</p>	<p>These may include, but are not limited to, transportation management organizations (TMOs) and TDM programs or policies (e.g. carsharing, ridesharing, vanpooling, telecommuting, and/or compressed work week/non-peak hour work hours).</p>
<p><b>OS1.4</b> Establishes commuter financial incentives.</p>	<p>These may include, but are not limited to, parking cash out, travel allowance, or transit and rideshare benefits.</p>
<p><b>OS1.5</b> Provides infrastructure designed to encourage alternatives to single occupant vehicle travel.</p>	<p>Includes high-occupancy vehicle (HOV) facilities, special use lanes, park-and-ride facilities, and access control (vehicle-free zones). This may include improved transit facilities, including operation of transit on hard shoulder or bus rapid transit (BRT) lanes (see also OS3.2).</p>
<p><b>OS1.6</b> Establishes pricing strategies.</p>	<p>This may include congestion pricing measures (e.g., variably priced lanes, variable tolls, cordon charges, and area-wide charges).</p>

**3.6.2 Element OS2: Access Management**

Limiting access along major roadway corridors reduces traffic conflicts and interruptions in traffic flow, while improving safety for drivers, pedestrians, and bicyclists. This section addresses policies and strategies that local governments can apply to advance access management objectives for major roadways and around freeway interchanges. Other access management strategies are included in the Network Improvement category.

Local governments should assess existing access characteristics on state highway corridors in the planning area in relation to the FDOT access classification and spacing standards. Personal

“Access management is the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway. It also involves roadway design applications, such as median treatments and auxiliary lanes, and the appropriate spacing of traffic signals. “

-TRB Access Management Manual, 2003



interviews with FDOT District planning and access permitting staff are also suggested to obtain a clear picture of the challenges and opportunities for managing development and access on planning area corridors. See [Guide for Analysis of Corridor Management Policies and Practices](#) for details on assessing and upgrading local corridor management policies and practices. Additional resources are available at the [TRB Access Management Committee Website](#) .

**Table 11: Operations and Safety (OS2) Access Management Criteria**

CRITERIA	NOTES
<p><b>OS2.1</b> Includes policies and strategies to provide alternative access to development on arterial roadways.</p>	<p>Examples include service roads, parking lot cross access, joint driveways, unified access and circulation plans, outparcel regulations , lot split controls and overlay requirements. See <a href="#">Model Land Development and Subdivision Regulations that Support Access Management</a> for sample local regulations and policies for alternative access. Promote connection of as many properties and interests as possible to traffic signals via internal cross access or service roads.</p>
<p><b>OS2.2</b> Includes policies and strategies to close existing excessive or unsafe driveway connections or narrow overly-wide connections.</p>	<p>For sample policy language, see Section 13 of <a href="#">Model Land Development and Subdivision Regulations that Support Access Management</a>.</p>
<p><b>OS2.3</b> Includes policies and strategies to replace continuous two-way left turn lanes with medians on multi-lane arterials.</p>	<p>Medians improve safety by organizing the left turn movement and reducing traffic conflicts. See the <a href="#">FDOT Median Handbook</a> for further information on the safety implications of medians versus TWLTLs and for FDOT’s median policy in Section 2.2.2.</p>
<p><b>OS2.4</b> Requires conformance of new signals with signal coordination plans and FDOT signal spacing standards for the state highway system.</p>	<p>Poor signal location and placement creates traffic congestion that cannot be solved by signal coordination systems. The goal of signal spacing is to limit signals to locations where the progressive movement of traffic will not be impeded and to maintain the “window” for traffic progression at desired speeds.</p>
<p><b>OS2.5</b> Restricts access in the functional area of highway interchanges.</p>	<p>Signalized intersections too close to ramp termini can cause heavy volumes of weaving traffic, complex traffic signal operations, accidents, congestion, and traffic backing up the ramps on to the main line. Curb cuts and median openings near the ramp termini further compound these problems. See <a href="#">Land Development and Access Management Strategies for Florida Interchange Areas</a> and <a href="#">Access Management on Crossroads in the Vicinity of Interchanges</a> for policies and strategies.</p>
<p><b>OS2.6</b> Restricts access in the functional area of roadway intersections.</p>	<p>Driveways too close to street intersections create a variety of safety and operational problems. Strategies include requiring access at the edge of property lines and promoting shared/cross access with adjacent sites.</p>
<p><b>OS2.7</b> Requires adequate, uninterrupted throat length for driveways and frontage roads that connect to arterial roadways.</p>	<p>Inadequate throat length produces a complex pattern of closely spaced conflicts, causing high collision potential and low capacity. See Chapter 6 of the <a href="#">FDOT Driveway Information Guide</a>.</p>
<p><b>OS2.8</b> Includes measures to close unsafe, overly-wide, and/or excessive median openings.</p>	<p>Directional median openings have far fewer conflicts and much lower crash potential than full movement median openings. See the <a href="#">FDOT Median Handbook</a> for guidance and strategies.</p>



### 3.6.3 Element OS3: Transit Operations/Safety

Many of the network improvement strategies addressed in Category **NI** and access management strategies addressed in **OS2** also help to ensure a safe and efficient transit system. Additional strategies not noted elsewhere are included in those sections of the template. In addition, a number of resource manuals and guidelines have been developed in Florida to guide the integration of design features that enhance pedestrian, bicycle and transit circulation within a development, as suggested in **OS3.2**. Some incorporate the specific requirements of the local jurisdictions while others are more generic and applicable to a broader region. Below are several examples of available guidelines:

- FDOT District 4 Transit Facilities Guidelines  
Link: <http://www.dot.state.fl.us/transit/Pages/UpdatedD4TransitFacilitiesGuidelines.pdf>
- LYNX Central Florida Mobility Design Manual  
Link [http://www.golynx.com/assets/userfiles/media/pdf/lynxdocs\\_mobility\\_manual.pdf](http://www.golynx.com/assets/userfiles/media/pdf/lynxdocs_mobility_manual.pdf)
- LYNX Central Florida Customer Amenities Manual  
Link: [http://www.golynx.com/assets/userfiles/media/pdf/lynxdocs\\_Amenities\\_Manual.pdf](http://www.golynx.com/assets/userfiles/media/pdf/lynxdocs_Amenities_Manual.pdf)
- Palm Tran Transit Design Manual  
Link: <http://www.pbcgov.com/palmtran/library>
- Accessing Transit Design Handbook for Florida Bus Passenger Facilities  
Link: <http://www.dot.state.fl.us/transit/Pages/AccessingTransitHandbookLow.pdf>
- Jacksonville Transportation Authority Mobility Access Program Handbook  
Link: <http://www.jtafla.com/Business/showPage.aspx?Sel=63>
- FDOT District 1 and 7 Transit Facility Handbook  
Link: [http://www.dot.state.fl.us/transit/Pages/FDOT\\_D1\\_D7\\_Transit\\_Facility\\_Handbook.pdf](http://www.dot.state.fl.us/transit/Pages/FDOT_D1_D7_Transit_Facility_Handbook.pdf)

**Table 12: Operations and Safety (OS3) Transit Operations/Safety Criteria**

CRITERIA		NOTES
OS3.1	Provides for transit signal priority and/or queue jumpers.	Reduces delay and improves reliability. A queue jumper is an additional travel lane restricted to transit on the approach to a signalized intersection accompanied by a brief signal phase that allows buses to cut to the front of the queue. High volume systems may require grade separated intersections.
OS3.2	Provides for exclusive transit lanes.	Ensures timeliness of bus travel on congested corridors.
OS3.3	Provides for availability of transit service outside of peak travel hours.	Transit availability outside of peak commuting periods offers the user the option to be transit dependent.
OS3.4	Requires major office, retail, or mixed-use developments to provide appropriate transit-supportive facilities and services (i.e., such as on-site bus shelter, park and ride, bus or shuttle service).	Such policies and regulations ensure that new development contributes toward multimodal improvements that increase rider safety and convenience and encourage transit use.

### 3.6.4 Element OS4: Pedestrian/Bicycle Operations/Safety

The operation and safety of transportation facilities should be address in mobility and mitigation plans. Pedestrian safety is of great concern, particularly in Florida where pedestrian-related crashes are among the highest in the nation. While a continuous pedestrian network (previously addressed in this

Guide) is important to safety, safe roadway crossing are essential. The Florida DOT provides guidance in the [Florida Pedestrian Facilities Planning and Design Handbook](#). Florida has taken additional precautions to provide safe pedestrian travel to schools through its [Safe Routes to School Program](#). Another resource is [A Technical Guide for Conducting Pedestrian Safety Assessments from the University of California Berkeley](#). Safe and pedestrian-oriented intersections encourage pedestrian usage of sidewalks along roadway corridors. Bicycle safety is impacted by obstructions within the roadway. Guidance for safe bicycle facilities is found in the [Florida Bicycle Facilities Planning and Design Handbook](#).

**Table 13: Operations and Safety (OS4) Pedestrian/Bicycle Operations/Safety Criteria**

CRITERIA	NOTES
<p><b>OS4.1</b> Includes improvements and measures to increase pedestrian safety at intersections and mid-block crossings.</p>	<p>Identifies high crash locations for pedestrians and addresses these proactively, while increasing overall pedestrian safety through improvements such as marked roadway crossings, curb extensions, median refuges, raised crosswalks, and pedestrian actuation devices. Provides for mid-block pedestrian crossings where block lengths are long and pedestrian volumes are high. Gives special consideration to pedestrian safety in areas with concentrations of students, seniors, low-income families, or persons with disabilities.</p>
<p><b>OS4.2</b> Includes improvements and measures to increase bicycle safety.</p>	<p>Identifies high crash locations for bicyclists and addresses these proactively, while increasing overall bicycle safety through improvements to existing bicycle lanes, new bicycle lanes, signing and pavement striping enhancements, improvements at crossings and off road facilities. May include bicycle safety education or similar measures to increase public awareness.</p>
<p><b>OS4.3</b> Includes improvements and measures to provide safe routes to schools.</p>	<p>The FDOT Safe Routes to School Program suggests a number of measures that may be appropriate. <a href="http://www.dot.state.fl.us/Safety/SRTS_files/SRTS.shtm">http://www.dot.state.fl.us/Safety/SRTS_files/SRTS.shtm</a></p>

### 3.7 Category IM: Implementation

The best laid plans are of little value unless they are implemented. Implementation strategies specific to a given element are addressed throughout the user guide and template. This section addresses whether the basic funding and implementation strategies are in place to carry out the proposed plan.

#### 3.7.1 Element IM1: Coordination

It is in the interest of local governments, FDOT, and other transportation agencies to support mobility and recognize that transportation facilities and impacts on those facilities do not end at jurisdictional boundaries. Building relationships and partnerships among agencies and regular communication create an environment where agencies can work together to meet mobility needs. In the absence of such efforts, the separation of planning functions and compartmentalized funding will impede the ability to achieve lasting mobility solutions. Therefore, the importance of this element cannot be overstated.

This planning and review template can help promote improved intergovernmental coordination by pointing state and local government agencies in a common planning direction. Early guidance to local governments from the FDOT District on state highway corridor conditions is another useful step toward improved coordination in mobility/mitigation planning and transportation corridor management. Below are a few coordination strategies that may be considered (*see also* [A New Vision of Mobility: Guidance to Foster Collaborative Multimodal Decision Making](#)).

1. *Host a mobility management workshop with area agencies and jurisdictions.* The workshop would provide an opportunity for the District to engage area jurisdictions and modal agencies in a dialogue on mobility conditions relative to the SIS and other state highway corridors and potential strategies for addressing those conditions. Such a workshop would be a logical first step to preparing a state of the system report and identifying possible strategic areas for improvement.<sup>10</sup>
2. *Perform a “state of the system” review for each jurisdiction within the District.* The review would determine existing and anticipated deficiencies on SIS, FIHS, and TRIP-funded facilities and other major roadways based on anticipated traffic growth, approved development trips, adopted QLOS standards, and committed improvements. Participants could identify strategic areas for additional improvements including multimodal alternatives to new roadway capacity for addressing anticipated deficiencies. A summary report of the review would 1) identify potential multimodal strategies for further exploration; 2) identify corridors that would benefit from a corridor management and/or mitigation plan; and/or 3) set forth informal guidelines for development of local plans relative to these corridors. The report could then serve as an informational resource for local governments and the District.
3. *Prepare a District-wide Mobility Management Plan.* Consider establishing a District-wide plan to help guide local and regional planning efforts as they relate to SIS corridors. The plan would identify strategic areas for improvement, address the system from a multimodal perspective, and advance comprehensive corridor management strategies. The workshop and state of the system report could serve as intermediary steps in that direction.

**Table 14: Implementation (IM1) Intergovernmental Coordination Criteria**

CRITERIA	NOTES
<b>IM1.1</b> Includes strategies to forge partnerships and effectively coordinate with modal providers, state and regional agencies, and other local governments in mobility planning and project development.	Describe strategies, specific agencies affected and their involvement in planning and project development. Identify specific strategies for coordination with FDOT in access management and permitting. See “Build and Maintain Relationships” in <a href="#">LOS Issue Paper #13 – Documenting Improvement Mobility Techniques on SIS and TRIP Facilities</a> .  See <a href="#">Intergovernmental Coordination in Access Management</a> for a review of issues and strategies relative to FDOT/local coordination in access management and permitting. See also <a href="#">Effective Strategies for Comprehensive Corridor Management</a> .
<b>IM1.2</b> Includes policies and strategies for coordinating with FDOT in access management and permitting on the state highway system.	See <a href="#">Intergovernmental Coordination in Access Management</a> for a review of issues and strategies relative to FDOT/local coordination in access management and permitting. See also <a href="#">Effective Strategies for Comprehensive Corridor Management</a> .

<sup>10</sup> K. Seggerman, et al., “Documenting Improved Mobility Techniques on SIS and TRIP Facilities,” *FDOT LOS Issue Paper 13*, CUTR, 2007, p. 49.

### 3.7.2 Element IM2: Incentives

Infill costs in urban areas can be an impediment to accomplishing the density and mix of uses necessary for a successful multimodal environment. Local governments can help reduce the cost of urban infill and redevelopment through financial incentives, such as reduced impact fees (*see also* Section 3.7.3 Funding) or offsets based on reduced vehicle miles of travel generated by locating development in these areas and/or meeting certain multimodal criteria (e.g. transit oriented development on transit lines, network connectivity, etc.). Other incentives that can be explored include expedited development application procedures for development that advance multimodal objectives, community redevelopment areas/tax increment financing districts and publicly funded improvements to area infrastructure and streetscapes. For example, the Cities of Chicago, Illinois and Portland, Oregon have used tax increment financing extensively to support redevelopment in and around transit station areas, as well as for streetscape enhancements and sidewalk improvements. The City of Portland designated a tax increment financing district for the purpose of revitalizing neighborhoods affected by the new Interstate MAX light rail line and developed a direct TIF loan program to assist new and existing small businesses in designated areas to finance gaps that occur between project costs and private financing.<sup>11</sup>

**Table 15: Implementation (IM2) Incentives Criteria**

CRITERIA	NOTES
<b>IM2.1</b> Provides incentives to achieve the desired results.	Examples of incentives include expedited review and approval for desired types and intensities of development (e.g. TOD on transit corridors) and targeted public infrastructure investments.

### 3.7.3 Element IM3: Updating

Performance measures provide indicators of progress toward the completion of an objective or objectives to accomplish a goal. Because they can steer the actions taken to complete an objective (i.e., what gets measured is what gets accomplished), measures must be carefully selected. Performance measures may be applied to evaluate a process, on-going long-range planning, or a particular program with a discrete end time and may also reflect priorities established through a political process. To measure performance, baseline conditions must be established to determine a starting point followed by a means to track progress. The ability to use performance measures is often tied to the availability of appropriate data and analysis methods. Because it takes time, effort, and resources to monitor performance, actual measures should be limited to the most useful measures.

**Table 16: Implementation (IM3) Updating Criteria**

CRITERIA	NOTES
<b>IM3.1</b> Includes policy for adoption of regulations, including design criteria, into appropriate land development regulations by a specified date.	A specific policy (not to exceed two years) should be established for implementing regulations.
<b>IM3.2</b> Establishes a schedule for reviewing and updating the plan, including performance measures.	Intergovernmental agreements may be adopted to identify future dates for updating and revisiting corridor management plans adopted in cooperation with FDOT.

<sup>11</sup> Portland Direct TIF Loan Program. Available online: [http://www.pdc.us/bus\\_serv/finance-pgms-detail/direct-tif.asp](http://www.pdc.us/bus_serv/finance-pgms-detail/direct-tif.asp)

### 3.7.4 Element IM4: Funding

Perhaps the most crucial implementation element is funding. The scarcity of transportation funding in Florida has resulted in the use of a variety of funding mechanisms to fund transportation systems strategies and improvements. One mechanism undergoing extensive evaluation in Florida is a mobility fee on new development that is sensitive to development location and vehicle miles of travel (VMT) generated by a development and that could be spent on all transportation modes as well as system operations and transportation demand management improvements. Further information on mobility fees is available at <http://www.dca.state.fl.us/fdcp/dcp/MobilityFees/index.cfm>.

**Table 17: Implementation (IM4) Funding Criteria**

<b>CRITERIA</b>		<b>NOTES</b>
<b>IM4.1</b>	Capital improvement program addresses all modes of transportation.	Include the itemized capital improvement program.
<b>IM4.2</b>	Clearly identifies committed and anticipated funding sources for the capital improvement program and reasonably anticipated funding for future years	Local governments should maximize use of available local funding options and fees.

## **4 Summarize and Apply Findings**

Upon completion of the template, a total score will be assigned to the proposed local government mobility/mitigation plan. This percentage score places the plan into one of three levels as discussed below. Each planning category of the template is also assigned a percentage score to aid the user in identifying strengths and weaknesses of the plan. Every category must receive at least 51% of the maximum points available, as established by the weighted totals or the plan will automatically be placed in the lowest level. The total score should also exceed 50%. Criteria deemed by the District and local government staff as not relevant to the review receive a weight of zero and are therefore do not affect the results.

### **4.1 Complete Staff Report**

Using the results of the template, the FDOT or other agency reviewers may identify the need for additional planning measures. District staff should meet with the appropriate local government representatives and/or share their template results in advance of completing the staff report to identify concerns relative to specific categories, elements or strategies. The local government should be advised of the need to enhance specific areas of the plan and offered an opportunity to provide further information prior to submission of the final staff report by the District. Below is a description of each Level that relates to the template results and considerations in preparing the staff report.

#### **4.1.1 Level I**

Plans that receive 50% or less in a category or for their total score are assigned to Level I. Local governments whose plan is assigned to Level I should revisit low scoring categories and elements and identify additional criteria that could be accomplished in the short or long term planning horizons. The planned approach to accomplish specific criteria could also be strengthened to achieve a higher value and score. Reviewers should identify perceived deficiencies of the plan based on the template and ask local governments that receive this ranking to resubmit the plan with further evidence as to how the specific elements and strategies noted in the staff report will be addressed. Resources and technical assistance for accomplishing these improvement measures should also be identified or provided.

#### **4.1.2 Level II**

Plans that score between 51% and 75% may be sufficient in most areas; however, the reviewer should identify possible areas for improvement that may be appropriate in the context of the local mobility or mitigation plan. Such areas may relate to specific criteria or to low scoring categories and elements. Resources and technical assistance for accomplishing these improvement measures should also be identified or provided.

#### **4.1.3 Level III**

Plans that score 76% or higher of the maximum available points should receive recommendations of support. However, there may be specific criteria or deficient or low scoring categories and elements that could benefit from further consideration. If so, these items could be identified in the staff report with suggestions for future consideration in the planning process. The FDOT reviewer should also work with the submitting local government and other agencies to lend support in implementation of the plan.

Support may include technical support, expedited programming of state funded projects, and other appropriate incentives.

## **4.2 A Final Word on the Guide and Template**

This report represents a proposed practice for use by FDOT, DCA and other reviewing agencies in the review of local comprehensive plan amendments and related actions. It is not an official policy, procedure or is suggested to ensure that it adequately addresses the mobility, corridor management and mitigation planning needs of the state, regional and local government agencies..

## Appendix A: SIS Mitigation Plan Mechanisms

The 2005 growth management legislation gave FDOT a direct role in reviewing local government concurrency management, proportionate fair share, and proportionate share development agreements for mitigation of impacts on the Strategic Intermodal System (SIS), the Florida Intrastate Highway System (FIHS), and facilities funded through the Transportation Regional Incentive Program (TRIP). The legislation required local governments to develop plans in cooperation with FDOT to mitigate impacts of proposed developments that would cause a facility to fall below the level of service established by Rule 14-94, F.A.C. FDOT must in turn concur on the proposed mitigation plans and any proportionate fair share mitigation on the SIS.

To maintain mobility along SIS corridors, local government should develop a proactive mitigation plan that includes alternative transportation modes and parallel corridors. Local government SIS mitigation plans have been proposed in the context of the following mechanisms: 1) level of service variance, 2) long term concurrency management systems, and 3) transportation concurrency alternatives. These requirements and mechanisms are still applicable outside of “dense urban land areas” designated in the 2009 Community Renewal Act and are described below.

### *Level of Service (LOS) Variance*

A variance to the state’s minimum level of service standards<sup>12</sup> may be sought at the FDOT District level through the procedures outlined in Section 120.542, F.S., requiring illustration of hardship and a strategy for mitigation. An LOS variance is only a temporary mechanism and allows a designated facility to fall below the LOS standard for a specified period, while the jurisdiction implements long term plans to remedy the LOS deficiency, typically through a long term concurrency management system plan.

<b>Sample Level of Service Variance Application</b>	
<b>Contents</b>	<b>Supporting Information</b>
Purpose	Temporary relief from state highway LOS standard, while plans are enacted to remedy an LOS deficiency.
Statement of Hardship	Evidence of impending moratorium.
Proposed Variance	Identify segments, existing & proposed LOS standard, Map.
Conditions of Variance/Mitigation Plan	Existing and proposed milestones; Evidence of network plans, trip reduction strategies, corridor management.
<ul style="list-style-type: none"> <li>Vision or Sector Plan</li> </ul>	Specific vision, objectives, policies and implementation strategies.
<ul style="list-style-type: none"> <li>Proposed Improvements</li> </ul>	All relevant transit and roadway improvements and strategies to mitigate projected impacts.
<ul style="list-style-type: none"> <li>Traffic/Mobility Analysis</li> </ul>	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> <li>Proposed long term CIP</li> </ul>	10 or 15 year schedule of capital improvements, cost, priority, funding sources.
Appendices	Supporting data, memos, and agreements.

<sup>12</sup> Rule 14-94, Florida Administrative Code (F.A.C.) establishes LOS standards for SIS, SIS connectors, or TRIP-funded facilities in accordance with Section 120.542, Florida Statutes (FS).



### **Long Term Concurrency Management Systems**

Local governments may adopt a long term transportation concurrency management system with a planning period of up to 10 years (Rule 9J-5.0055(4), F.A.C). This allows local governments time to prioritize and fund projects to reduce the backlog of transportation projects. For severe backlogs and under specific conditions a local government may request approval from the DCA for a planning period of up to 15 years.

<b>Sample Long Term CMS Application</b>	
<b>Contents</b>	<b>Supporting Information</b>
Purpose	Prioritize and fund projects to correct existing deficiencies on backlogged transportation facilities.
Proposed LTCMS	Designated backlogged facilities in comprehensive plan, map, Interim level of service (LOS) standards may be adopted.*
Mitigation Plan	Adopted long-term schedule of capital improvements and trip reduction/ corridor management strategies
<ul style="list-style-type: none"> <li>• Vision or Sector Plan(s)</li> </ul>	Specific vision, objectives, policies and implementation strategies.
<ul style="list-style-type: none"> <li>• Proposed Improvements</li> </ul>	All relevant transit and roadway improvements and strategies to mitigate projected impacts.
<ul style="list-style-type: none"> <li>• Traffic/Mobility Analysis</li> </ul>	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> <li>• Proposed long term CIP</li> </ul>	10- or 15- year schedule of improvements (incl. project commencement & completion dates), cost, priority, funding sources, statement of financial feasibility.
Appendices	Supporting data, memos, agreements.

\* If improvements are not made as scheduled, the comprehensive plan must be amended to establish a default LOS standard for issuing development orders or permits.

### **Transportation Concurrency Exception Areas**

Transportation concurrency alternatives allow relief from standard concurrency requirements primarily to reduce barriers to infill development and redevelopment in urban areas and/or to promote alternative modes of transportation. They include transportation concurrency exception areas (TCEA), transportation concurrency management areas (TCMA), and multimodal transportation districts (MMTD) each with slightly different planning requirements. Local governments must consult with the Florida Department of Community Affairs (DCA) and FDOT prior to the designation to assess any impact these proposed designations may have on the Strategic Intermodal System (SIS), and develop plans in cooperation with FDOT and DCA to mitigate any impact.

1. **TCEA:** This alternative allows development to proceed within the area despite a deteriorating level of service on roadways. Local comprehensive plans must support and fund mobility strategies that increase mobility within the designated area. Mobility plans must emphasize alternative transportation modes and urban form that will reduce single occupant vehicle trips. Mobility strategies should address urban design, land use mix, and network connectivity. Revenue sources to

fund the mobility strategies must be identified and short-term improvements must be adopted into the capital improvement schedule of a financially-feasible capital improvement element.

<b>Sample TCEA Application</b>	
<b>Contents</b>	<b>Supporting Information</b>
Purpose	Reduce barriers to infill and redevelopment in urban areas and reduce single occupant vehicle trips.
Proposed TCEA	Designated area in comprehensive plan, mobility plan, funding strategy. Note: LOS does not apply.
<ul style="list-style-type: none"> <li>Vision or Sector Plan(s)</li> </ul>	Specific vision, objectives, policies and implementation strategies with emphasis on alternative transportation modes, network connectivity, urban design/land use mix, trip reduction strategies.
Mitigation Plan	Plan for addressing impacts on SIS, FIHS, TRIP-funded facility(s)
<ul style="list-style-type: none"> <li>Proposed improvements</li> </ul>	Strategies and improvements to mitigate projected impacts.*
<ul style="list-style-type: none"> <li>Traffic/Mobility Analysis</li> </ul>	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> <li>Proposed CIP</li> </ul>	Schedule of short and long term improvements, cost, priority, funding sources, statement of financial feasibility.
Appendices	Supporting data, memos, and agreements.

\* May include multimodal corridor management and demand management strategies.

2. **MMTD:** This alternative places primary emphasis on alternative modes of transportation and secondary emphasis on the automobile. Concurrency determinations may be based on multimodal performance measures. Local governments may issue development permits in reliance upon all planned community design capital improvements that are financially feasible over the development or redevelopment timeframe. Local governments must demonstrate that an area qualifies as an MMTD based upon the following existing or planned future design elements defined in Chapter 163.3180(15)(b), F.S.:

- A complementary mix and range of land uses;
- An interconnected network of streets to encourage walking and bicycling, with traffic calming where desirable;
- Appropriate densities and intensities of use within walking distance of transit stops;
- Daily activities within walking distance of residences, allowing independence to persons who do not drive;
- Public uses, streets, and squares that are safe, comfortable, and attractive for the pedestrian, with adjoining buildings open to the street and with parking not interfering with pedestrian, transit, automobile, and truck travel modes.

<b>Sample MMTD Planning &amp; Mitigation Criteria</b>	
<b>Contents</b>	<b>Supporting Information</b>
Purpose	Place primary emphasis on alternative modes of transportation and secondary emphasis on the automobile.
Proposed MMTD	Designated area in comprehensive plan, multimodal plan, funding strategy, multimodal performance measures.
<ul style="list-style-type: none"> <li>Statement of qualification</li> </ul>	Evidence of existing or planned future design elements defined in Chapter 163.3180(15)(b), F.S.
<ul style="list-style-type: none"> <li>MMTD plan</li> </ul>	Specific vision, objectives, policies and implementation strategies with emphasis on alternative transportation modes, network connectivity, urban design/land use mix , transit, walkability, trip reduction strategies, etc.
Mitigation Plan	Plan for addressing impacts on SIS, FIHS, TRIP-funded facility(s)
<ul style="list-style-type: none"> <li>Proposed improvements</li> </ul>	Strategies and improvements to mitigate projected impacts.*
<ul style="list-style-type: none"> <li>Traffic/Mobility Analysis</li> </ul>	Analysis results of proposed improvements, ( e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> <li>Proposed CIP</li> </ul>	Schedule of short and long term improvements, cost, priority, funding sources, statement of financial feasibility.
Appendices	Supporting data, memos, and agreements.

\* May include multimodal corridor management and demand management strategies.

3. TCMA: The TCMA allows an LOS standard to be applied areawide, rather than on individual road segments. A TCMA “must be a compact geographic area with an existing network of roads where multiple, viable alternative travel paths or modes are available for common trips.” (163.3180(70)).

<b>Sample TCMA Planning &amp; Mitigation Criteria</b>	
<b>Contents</b>	<b>Supporting Information</b>
Purpose	Reduce barriers to infill and redevelopment in urban areas and reduce single occupant vehicle trips.
Proposed MMTD	Designated area in comprehensive plan, areawide LOS methodology, funding strategy.
<ul style="list-style-type: none"> <li>Statement of qualification</li> </ul>	Evidence of existing or planned future design elements defined in Chapter 163.3180(7), F.S.
<ul style="list-style-type: none"> <li>MMTD plan</li> </ul>	Specific vision, objectives, policies and implementation strategies with emphasis on maintaining areawide LOS standards.
Mitigation Plan	Plan for addressing impacts on SIS, FIHS, TRIP-funded facility(s)
<ul style="list-style-type: none"> <li>Proposed improvements</li> </ul>	Strategies and improvements to mitigate projected impacts.*
<ul style="list-style-type: none"> <li>Traffic/Mobility Analysis</li> </ul>	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> <li>Proposed CIP</li> </ul>	Schedule of improvements, cost, priority, funding sources, statement of financial feasibility.
Appendices	Supporting data, memos, and agreements.

\* May include multimodal corridor management and demand management strategies.

## Appendix B: Sample Mobility Analysis & Plan Report Contents

### PART 1 – Existing Conditions Analysis

- I. Introduction
- II. Existing Conditions Analysis
  - A. Study area boundaries
  - B. Review supporting state, regional, and adjacent local plans and guidelines
    - 1. Identify areas of inconsistency
  - C. Analysis of Multimodal Environment
    - 1. Land use organization/location efficiency (e.g., jobs to population ratio, land use separations)
    - 2. Land use mix/balance (e.g., significant land uses, land use ratios)
    - 3. Density/intensity (e.g., residential, employment density)
    - 4. Multimodal policy (e.g., identify areas where priority should be placed on alternative modes)
  - D. Network Analysis
    - 1. Major roadway network (e.g., balance, ROW policy, level of service, intermodal connections)
    - 2. Local street network (e.g., connectivity index, continuation of streets, etc.)
    - 3. Bicycle/pedestrian network (e.g., quality of service, connectivity index, availability, width, etc.)
    - 4. Transit network (i.e., types of service, quality of service, network coverage, mode split, convenience of modal connections)
  - E. Operations/Safety Analysis
    - 1. Roadway operations/safety (e.g., bottlenecks, high crash locations)
    - 2. Demand management programs/policy
    - 3. Access management (e.g., spacing, alternative access, design, retrofit)
    - 4. Pedestrian/bicycle operations/safety (e.g., crash locations, intersection crossings)
- III. Principal Findings/Strategic Areas of Improvement
  - A. Supporting Plans and Guidelines Review
  - B. Multimodal Environment
  - C. Network Improvement

- D. Operations/Safety

**PART 2 – Mobility/Mitigation Plan**

- IV. Proposed Mobility/Mitigation Strategies (policy, capital, and systems/corridor management)
  - A. Supporting Plans and Guidelines
  - B. Multimodal Environment
  - C. Network Improvement
  - D. Operations/Safety
- V. Projected Results
  - A. Increased use of modal alternatives/reduced VMT
  - B. Reduced congestion and delay
  - C. Improved safety
- VI. Funding and Implementation Strategies
  - A. CIP
  - B. Policy/Ordinance Updates (e.g., land development regulations)
  - C. Intergovernmental Agreements
  - D. Other

# Appendix C: Mobility Plan Assessment Template

## Mobility Plan Assessment Template

Level:

**Weight:** Criteria are ranked and weighted according to their importance to maintaining mobility, mitigating congestion, or meeting modal objectives  
 5: Essential  
 3: Valuable  
 1: Supportive  
 0: Not applicable

**Value:** The value assigned to the criterion relative to the degree it is addressed in the plan  
 2: Strongly  
 1: Moderately  
 0: Not addressed

Plan Name:
Review Number:
Jurisdiction:
Date of Review:
Reviewer:

Category	Elements	Criteria Code	Criteria	Weight	Value	Score	Maximum Points Available	Comments
Supporting Plans and Guidelines - SP -	State, Regional, Local - SP1 -	SP1.1	Supports the Florida Transportation Plan, the Strategic Intermodal System Plan, and other applicable state plans and guidelines.			0	0	
		SP1.2	Consistent with adopted regional mobility plan or vision, such as that established through a regional collaborative, including the MPO Long Range Transportation Plan and adopted Transit Development Plan (TDP).			0	0	
		SP1.3	Coordinates with transportation and mobility plans of adjacent local governments and transportation planning agencies.			0	0	
		SP1.4	Consistent with local government comprehensive plan objectives and policies as well as specialized plans.			0	0	
Multimodal Environment - ME -	Organization & Location - ME1 -	ME1.1	Designates and reinforces strong central core(s) and urban activity centers of varying sizes and compositions.			0	0	
		ME1.2	Transit-compatible land uses are defined and required to locate on existing or planned transit corridors with direct access to transit. This should include but is not limited to transit-oriented developments (TOD).			0	0	
		ME1.3	Ensures that industrial and other freight-related uses locate in proximity to and have direct access to major transportation routes and intermodal stations or other freight transfer locations.			0	0	
	Mix - ME2 -	ME2.1	Provides for a complementary mix of retail, services, residential, cultural and employment opportunities within urban cores and major activity centers.			0	0	
		ME2.2	Provides for a vertical mix of uses within urban cores and major activity centers to encourage active uses at the street level.			0	0	
		ME2.3	Provides for compatible food, education, retail and service uses on a neighborhood level within or in close proximity to residential areas.			0	0	
	Density/Intensity - ME3 -	ME3.1	Establishes minimum density/intensity requirements for urban core and major activity center areas.			0	0	
		ME3.2	Establishes appropriate densities and intensities within walking distance of transit stops.			0	0	
		ME3.3	Establishes urban design criteria for urban cores and major activity centers to preserve or improve livability while increasing densities to support multimodal objectives.			0	0	
		ME4.1	Establishes priority on enhancing bicycle and pedestrian mobility within existing and proposed activity centers, including urban core areas.			0	0	

Multimodal Policy - ME4 -	ME4.2	Includes parking management strategies for urban cores, activity centers and transit corridors to reduce surface area parking and promote walkability.			0	0	
	ME4.3	Provides for, and requires new development to contribute to, pedestrian-friendly amenities on the public streetscape.			0	0	
	ME4.4	Provides for, and requires new development to contribute to, amenities at existing and proposed transit stations including covered shelters, trash receptacles, benches, landing pads, lighting, and bicycle parking.			0	0	
	ME4.5	Transportation impact assessment procedures are in place that address development impacts on all modes of transportation and minimize vehicular, transit, bicycle, and pedestrian conflicts.			0	0	
Network Improvement - NI -	Major Roadway Network - NI1 -	NI1.1	Transportation corridors planned for improvement are designated for preservation and management as provided in §337.273 F.S.			0	0
		NI1.2	Includes transportation corridor management policies to preserve right-of-way needed for transportation facilities and provide for dedication of land or conveyance of easements to local governments for transportation improvements as provided in §337.273 (6) F.S.			0	0
		NI1.3	Provides for construction of parallel relievers or service roads along major highway corridors or within interstate interchange quadrants.			0	0
		NI1.4	Provides for construction of new interstate highway crossings to connect existing local roadways.			0	0
		NI1.5	Includes grade separated intersection improvement(s).			0	0
		NI1.6	Provides for construction of additional travel lanes and/or turn lanes to address existing or anticipated traffic volume.			0	0
		NI1.7	Includes new arterial or major collector roadways to relieve traffic congestion and enhance network connectivity.			0	0
	Local Street Network - NI2 -	NI2.1	Includes network-enhancing local and minor collector street projects.			0	0
		NI2.2	Promotes direct connections between activity centers and surrounding residential areas.			0	0
		NI2.3	Includes policies and strategies to enhance street network connectivity.			0	0
	Bicycle/Pedestrian Network - NI3 -	NI3.1	Requires bicycle lanes and sidewalks on all new or reconstructed major collector and arterial routes where appropriate.			0	0
		NI3.2	Includes planned improvements to address bicycle and pedestrian network connectivity.			0	0
		NI3.3	Addresses the continuation of, or establishes new, multi-use trail(s).			0	0
		NI3.4	Requires new development to maintain continuous pedestrian networks, including connections to transit stops, adjacent lots, and between building entrances and the internal and external sidewalk network.			0	0
		NI3.5	Requires new development to maintain continuous bicycle networks, including connections to transit stops and adjacent properties, and to provide bicycle parking at all non-residential uses, multi-family uses and			0	0
	Transit Network - NI4 -	NI4.1	Addresses statewide/regional transit traveling through or with endpoints within plan boundaries.			0	0
		NI4.2	Addresses express transit service.			0	0
		NI4.3	Addresses existing and planned local transit within plan boundaries, including route locations, headways and infrastructure.			0	0

Operations and Safety - OS -	Demand Management - OS1 -	OS1.1	Establishes viable mobility options for congested roadway corridors.			0	0	
		OS1.2	Provides operational strategies including intelligent transportation systems (ITS).			0	0	
		OS1.3	Establishes institutional strategies (e.g. TDM programs).			0	0	
		OS1.4	Establishes commuter financial incentives.			0	0	
		OS1.5	Provides infrastructure designed to encourage alternatives to single occupant vehicle travel.			0	0	
		OS1.6	Establishes pricing strategies.			0	0	
	Access Management - OS2 -	OS2.1	Includes policies and strategies to provide alternative access to development on arterial roadways.			0	0	
		OS2.2	Includes policies and strategies to promote closure of existing excessive or unsafe driveway connections or narrowing of overly-wide connections.			0	0	
		OS2.3	Includes policies and strategies to replace continuous two-way left turn lanes with medians on multi-lane arterials.			0	0	
		OS2.4	Requires conformance of new signals with signal coordination plans and FDOT signal spacing standards for the state highway system.			0	0	
		OS2.5	Restricts access in the functional area of highway interchanges.			0	0	
		OS2.6	Restricts access in the functional area of roadway intersections.			0	0	
		OS2.7	Requires adequate, uninterrupted throat length for driveways and frontage roads that connect to arterial roadways.			0	0	
		OS2.8	Includes measures to close unsafe, overly-wide, and/or excessive median openings.			0	0	
	Transit Operations/ Safety - OS3 -	OS3.1	Provides for transit signal priority and/or queue jumpers.			0	0	
		OS3.2	Provides for exclusive transit lanes.			0	0	
		OS3.3	Provides for availability of transit service outside of peak travel hours.			0	0	
		OS3.4	Requires major office, retail, or mixed-use developments to provide appropriate transit-supportive facilities and services (i.e., such as on-site bus shelter, park and ride, bus or shuttle service).			0	0	
	Ped/Bicycle Operations/Safety - OS4 -	OS4.1	Includes improvements and measures to increase pedestrian safety at intersections and mid-block crossings.			0	0	
		OS4.2	Includes improvements and measures to increase bicycle safety.			0	0	
		OS4.3	Includes improvements and measures to provide safe routes to schools.			0	0	
mentation - IM -	Coordination - IM1 -	IM1.1	Includes strategies to forge partnerships and effectively coordinate with modal providers, state and regional agencies, and other local governments in mobility planning and project development.			0	0	
		IM1.2	Includes policies and strategies to coordinate with FDOT in access management and permitting.			0	0	
	Incentives - IM2 -	IM2.1	Provides incentives to achieve the desired results.			0	0	



Imple	Updates - IM3 -	IM3.1	Includes policy for adoption of all necessary implementing regulations and design standards by a specified date.			0	0
		IM3.2	Establishes a schedule for reviewing and updating the plan, including performance measures.			0	0
	Funding - IM4 -	IM4.1	Capital improvement program addresses all modes of transportation.			0	0
		IM4.2	Clearly identifies committed and anticipated funding sources for the capital improvement program and reasonably anticipated funding for future years.			0	0

**Summary and Decision**

<b>Plan Level</b>	
0%-50%	Level I
51%-75%	Level II
76%+	Level III
<b>Clear All</b>	

**Category Results (Each category must achieve >50%)**

	Max. Available	% Achieved	Total Score
Supporting Plans and Guidelines	0	-	0
Multimodal Environment	0	-	0
Network Improvement	0	-	0
Operations and Safety	0	-	0
Funding and Implementation	0	-	0
<b>Total Plan Score</b>	0	-	0