

Mobility Review Guide



A Proposed Practice

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Center for Urban Transportation Research
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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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Foreword

This guide and the accompanying checklist were developed by the Center for Urban Transportation Research under a grant from the Florida Department of Transportation (FDOT), Systems Planning Office. They are intended for use by FDOT Growth Management Coordinators in their review of local government comprehensive plan amendments in relation to the state transportation system. This proposed guidance sets forth a voluntary practice and represents one of several tools that may be used by FDOT for this purpose. The checklist is designed to be adapted by the user to reflect the needs and characteristics of a particular community or region. FDOT staff and local governments should also refer to applicable sections of Chapter 163, Florida Statutes, Rule 9J-5, Florida Administrative Code, and related guidance from the Florida Department of Community Affairs to ensure that all State of Florida requirements regarding Transportation Concurrency Exception Areas (TCEAs), mitigation of impacts to the Strategic Intermodal System (SIS), and other transportation-related requirements for comprehensive plan amendments are met.

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1 Introduction

Through its role in the comprehensive plan amendment (CPA) review process, the Florida Department of Transportation (FDOT) must comment as to whether proposed strategies adequately support mobility on the Strategic Intermodal System (SIS) and other state transportation facilities. One issue that often arises in this review process is the difficulty of measuring the value of corridor management and multimodal strategies for improving or maintaining mobility on applicable portions of the state highway system. Guidance regarding what may constitute acceptable land use and transportation strategies to support and fund mobility will support FDOT review efforts. This research was conducted for that purpose.

This proposed practice provides a framework for the review of land use and transportation strategies to support mobility on the SIS and other transportation facilities.

1.1 Objective of the Guide

The objective of this Guide and companion Checklist is to provide the Florida Department of Transportation (FDOT) with a proposed framework for review of local government “land use and transportation strategies to support and fund mobility” submitted through the CPA review process as they relate to the function of the state transportation system. The Guide and Checklist, with applicable modifications, may also be useful for reviewing proposed SIS mitigation plans or corridor management plans for major highway corridors. In addition, local governments may find the Guide and Checklist a useful resource in developing effective land use and transportation strategies.

This proposed framework depicts options that are considered best practices for transportation and land use (mobility) planning, rather than specific statute and rule requirements. These options could be used in planning and implementing viable strategies to advance mobility objectives for the SIS and other major highway corridors, while supporting growth management efforts to increase use of non-automobile modes, reduce vehicle miles of travel (VMT), and enhance the multimodal environment. FDOT’s role in the review of CPAs is defined in statute and subject to change from time to time. Appendix A provides a background of FDOT’s current role.

In addition, opportunities for FDOT staff to develop corridor management plans for the state highway system in cooperation with local governments continue to arise throughout the state. Such plans may form the basis for Strategic Intermodal System (SIS) mitigation agreements and may also be a prominent component of local land use and transportation plans. Additional guidance on the review of local government corridor access management plans and policies is provided in [Guide for Analysis of Corridor Management Plans and Policies](#).

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 to ensure that all pertinent requirements have been met prior to plan submittal.*

Although it may not be difficult to determine if mitigation is needed, it is difficult to determine if mitigation is adequate. Traditional traffic modeling may not show system relief due to the tendency of the transportation models to draw traffic to facilities with the most capacity. In addition, merely offering alternative modes to transportation system users does not necessarily result in changes in travel behavior. Measuring that mode change is even more difficult. Jurisdictions that have chosen to promote alternatives to the automobile as mitigation for system impacts often do so based on planning objectives, rather than a one-to-one trade-off of trips.

The relationship between land use measures and transportation outcomes is complex and still not well understood. Studies are sometimes contradictory and use a variety of measures and approaches, making it difficult to generalize findings to a specific strategy or feature. This is particularly true for the micro-strategies such as sidewalks, parking lot connectivity, and bicycle racks. A number of studies indicate that there are transportation system benefits to providing multimodal facilities and to urban forms, such as transit-oriented or traditional neighborhood development, particularly in advancing non-auto modes of transportation.¹ This benefit is not always easy to quantify, however, as it varies considerably based on a range of variables, such as the size of the developed area, the compatibility of the land use mix, the degree of connectivity in the built environment, location of the development, socioeconomic characteristics of the affected population, and the density or intensity of uses.

Although the specific relationship between trip making and land use strategies or site design features varies by the context, some conclusions can be drawn. These are as follows:

- providing a mix of uses can increase internal capture and reinforce alternative modes, but these impacts are highly dependent on context and other factors, such as land use compatibility and network connectivity;
- connectivity of local street and bicycle/pedestrian networks does reduce local trips on arterials and increases bicycle and pedestrian travel; and
- improving transit, pedestrian, and bicycle facility level of service attracts more users.

Given such variation in existing study findings, most communities do not have specific data to support their policy incentives or impact fee credits aimed at advancing non-auto modes. Instead, observation, and the fact that research to date indicates a trend toward multimodal benefits, becomes the basis for discretionary decisions regarding reductions in trip generation or vehicle miles traveled for various actions.

FDOT's chief responsibility is to maintain mobility on the state transportation system. Therefore, this practice proposes that FDOT review staff should assess and comment on both land use and transportation strategies as they pertain to mobility on the system. A comprehensive menu of criteria is provided to assess proposed local strategies. Examples include land use and activity center criteria, network connectivity, access management, parallel relievers, transportation demand management, bicycle and pedestrian system modifications, and transit service enhancements. These and other criteria are also contained in the Guide and Checklist to aid the user in gauging the adequacy of proposed land use and transportation strategies to support and fund mobility.

¹ Impact Fee Credits for Livable Communities Improvements. Technical Memorandum #1, Literature Review and Alternative Approaches. Center for Urban Transportation Research. January 2005

1.2 Methodology

The criterion included in this Guide and Checklist are based on planning strategies relevant to mobility. The selected criteria embody transportation and land use planning best practices that support the use of non-automobile 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. For example, in the Network Improvement Category, Elements include the Major Roadway Network, the Local Street Network, the Bicycle and Pedestrian Networks, and the Transit Network. The Categories, Elements, and Criteria are summarized in the accompanying Checklist to aid users in analyzing the range and depth of land use and transportation strategies to support and fund mobility contained in a proposed comprehensive plan amendment.

The Mobility Review Guide and Checklist may be used in the review process to highlight Categories and Elements that are effectively addressed and those that would benefit from additional or more complete strategies. These resources guide the agency reviewer in the assessment process and may also be used to guide local governments in developing effective strategies. Application of the Mobility Review Guide and Checklist acknowledges the value of such strategies to increased mobility on the SIS and other state transportation facilities and the difficulty of measuring the benefit of certain land use and transportation best practices known to increase mobility and/or reduce VMT.

2 Using the Checklist

This Mobility Review Guide is a user guide that accompanies the Mobility Review Checklist. This Guide includes important details about the criteria in the Checklist and must be consulted in concert with the Checklist during the review and assessment process. Keep in mind that this is a proposed practice and not an official procedure; criteria depict transportation and land use planning best practices that may be used in accomplishing improved mobility, rather than specific statutory requirements. Local governments are referred to the applicable sections of Chapter 163, F.S. Rule 9J-5, F.A.C., and related guidance from the Florida Department of Community Affairs to ensure that all state requirements regarding the adoption of land use and transportation strategies to support and fund mobility within transportation concurrency exception areas (TCEAs) are met. In addition, the [FDOT Transportation Impact Handbook](#) contains guidance for the review of local government comprehensive plans.

The Checklist combines the suggested land use and transportation review criteria into the following broad Categories: Supporting Plans and Guidelines, Multimodal Environment, Network Improvement, Operations and Safety, and Implementation. It is recommended that local governments include appropriate performance measures for proposed strategies so progress may be tracked. Keep in mind that individual criteria as well as locally proposed strategies may relate to more than one Criterion in more than one Element or Category. For example, street network connectivity strategies and criteria also have implications relative to the pedestrian network, as well as to access management and multimodal environment.

Proposed comprehensive plan amendments containing strategies that correspond to Criteria within each of the Categories 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 non-automobile transportation modes. The combined application of strategies found in the Mobility Review criteria may over time 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 Mobility Review Guide and Checklist and interpret the results.

2.1 Suggested Review and Submittal Process

As required by Rule 9J-5, local governments must conduct an analysis of existing land use and transportation conditions that affect mobility. Ideally, results of this existing conditions analysis will be used as supporting documentation and in developing appropriate strategies to support and fund mobility as well as determining applicability of the Mobility Review Checklist Criteria. This will help focus the review process on those issues most important within the local context. Appendix B includes a sample outline based on the Checklist that may be useful for documenting results of the existing conditions analysis.

Before submitting a comprehensive plan amendment for FDOT review, local governments are encouraged to complete a self review of their proposed comprehensive plan amendment using this Guide and Checklist. This will help highlight strengths and potential shortcomings of proposed

transportation and land use strategies to support and fund mobility in light of current best practices. If specific Criteria, Elements, and Categories are not addressed, then strategies to address them should be considered and included, unless they are deemed not applicable in the given context. It is important to include strategies within each Mobility Review Element and Category to maximize the potential effectiveness of the plan in accomplishing mobility objectives.

Prior to beginning their review, FDOT District staff should coordinate with DCA regional staff in tailoring the Review Checklist to the local context. This Checklist should be provided to the local government for use in their self-review process. Local governments are advised to submit their final self review to the FDOT District along with their comprehensive plan amendment. In doing so, local governments should note specific policies or other information in the Comments column of the Checklist to aid FDOT staff reviewers in identifying local strategies that relate to specific Criteria when reviewing the proposed comprehensive plan amendment. Where differences in assessments occur, FDOT 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 adopted local comprehensive plan and, therefore, not appear in the proposed amendment. If so, these items could be identified as such in the Comments column.

Checklist users must apply reasonable discretion in determining whether Checklist Criteria are applicable or not in the given context. For example, major urban areas have extensive multimodal needs involving a diversity of modes and strategies. Needs and strategies in small towns without transit may focus more on highway access management, local street connectivity, gaps in the sidewalk network, and ridesharing programs. In addition, FDOT reviewers should understand that while their expertise lies in the transportation realm, land use strategies are often inextricably connected to transportation. Therefore, reviewers should assess both land use and transportation strategies in close coordination with DCA regional staff. Although needs and methods to advance the Criteria may differ, every local government should be encouraged to seek all opportunities to connect land use and transportation planning objectives and address as many Criteria as possible.

2.2 Checklist Directions

The Mobility Review Checklist contains specific Criteria within Categories and Elements to be reviewed along with columns for input specific to the plan under review. A copy of the Checklist 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

NOTE: *Transportation system and land use strategies should be evaluated relative to the criteria on this checklist. While all criteria may not be desirable for each community, it is important to seek all opportunities to connect land use and transportation planning objectives. Items not relevant to local government objectives may be designated “not applicable.”*

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. Columns 5 – 8 provide space for the reviewer to indicate the extent which each Criterion has been addressed by proposed strategies, using the terms noted below. Double-clicking in each column produces an “X” in the space.
 - *Addressed* - a strategy or strategies addresses the Criterion; in some cases, more detailed strategies would provide greater benefit and the reviewer should indicate this in the “Comments” column.
 - *Not addressed* – no strategies address the Criterion.
 - *Not applicable* – the criterion is not applicable within the local context.
6. *Comments* – for staff comments related to the Criteria.

Below is an explanation of the Categories, Elements, and Criteria contained in the Checklist 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 and/or pertinent considerations and resources.

2.3 Category SP: Supporting Plans and Guidelines

2.3.1 Element SP: State, Regional, Local

As partners in maintaining regional mobility, local government land use and transportation strategies to support and fund mobility should be coordinated and consistent to the extent feasible with adopted plans of adjacent local governments, as well as with state and regional plans. The same is true for SIS mitigation plans and corridor management plans. Where local governments have previously established corridor management policies and mitigation plans for SIS facilities, such policies and programs are also considered land use and transportation strategies to support and fund mobility and should be incorporated into any larger mobility plan.

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>SP1.1 Supports the Florida Transportation Plan, the Strategic Intermodal System Plan, and other applicable state plans and guidelines.</p>	<p>Ensure the proposed plan is consistent to the extent feasible with adopted state transportation plans including the Florida Transportation Plan, Transit 2020, and the 2010 Strategic Intermodal Plan. Identify specific strategies aimed at advancing state transportation plans.</p>
<p>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.</p>	<p>Identify applicable regional, MPO, and transit agency plans. Identify (possibly 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>SP1.3 Coordinates with transportation and mobility plans of adjacent local governments and transportation planning agencies.</p>	<p>Identify how planned projects and policies 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 or mitigation planning area and how those plans are incorporated.</p>
<p>SP1.4 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>

2.4 Category ME: Multimodal Environment

The multimodal environment relates to the organization and location of land uses, the land use mix, the density and intensity of development, and related multimodal policies. The FDOT 2009 Trends and Conditions Report on [Impact of Transportation: Transportation and Land Use](#) describes land use trends and conditions in Florida and the implications for transportation and the environment. The Criteria in this Category relate to these issues and are interdependent with the Major Roadway, Local Street, Transit, and Bicycle and Pedestrian Network Improvement Criteria later in this Guide. Carefully promoting these Criteria through planning will contribute to an environment conducive to walking, bicycling, and transit use. This may also help to 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 among uses, 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 non-automobile modes, reduces VMT, and internalizes local trips.

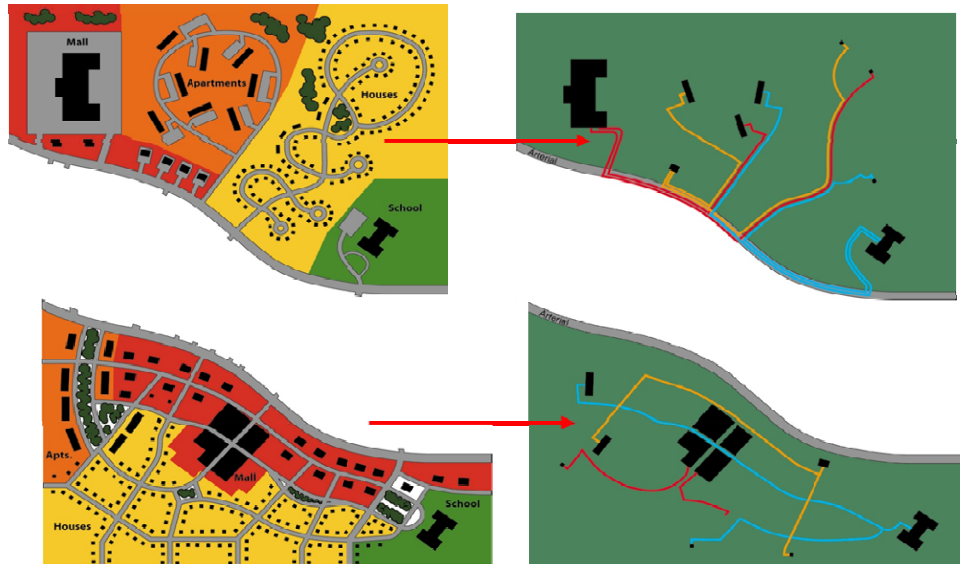


Figure 1: Land use organization, network connectivity and arterial traffic

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, as applied to human settlements, is described by the town planning firm Duany Plater-Zyberk & Co: “The Transect arranges in useful order the elements of urbanism by classifying them from rural to urban. Every urban element finds a place within its continuum. For example, a street is more urban than a road, a curb more urban than a swale, a brick wall more urban than a wooden one, and an allee of trees more urban than a cluster...” The [Center for Applied Transect Studies](#) elaborates, “The six Transect Zones ... provide the basis for real neighborhood structure, which requires walkable streets, mixed use, transportation options, and housing diversity.”

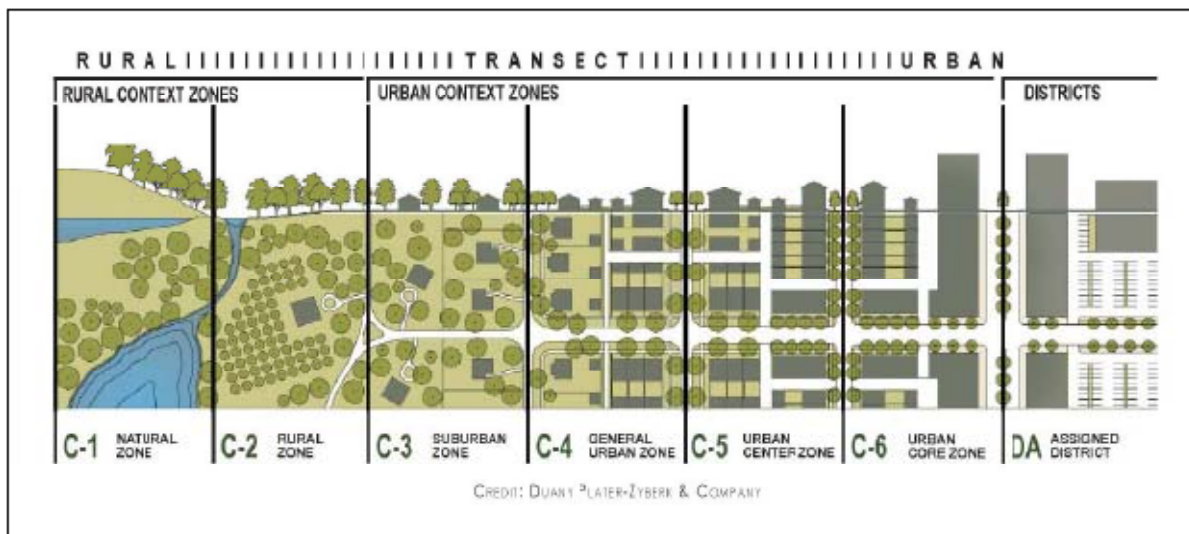


Figure 2: Corridor transect

Source: Duany Plater-Zyberk and Company

The transect concept is discussed in terms of “Context Zones” in [Designing Walkable Urban Thoroughfares: A Context Sensitive Approach](#) (ITE 2010) where it provides the transect illustration (Figure 2) and a table of characteristics for each context zone to aid users in establishing appropriate sets of land use and transportation strategies across varying levels of urbanization. This recommended practice discusses features that create context including land use, site design and urban form, and building design.

Marlon G. Bournet explores transportation investments that may provide alternatives to automobile travel in his research and article, “[Transportation Infrastructure and Sustainable Development](#).”² His research suggests that it is important to focus on establishing livable urban cores and activity centers through both land use mix and walkability.

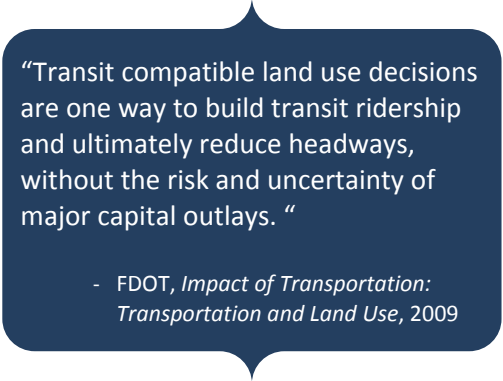
Available resources that address transportation and land use include FHWA’s [Livability in Transportation Guidebook](#) and FDOT’s [A Framework for Transit Oriented Development in Florida](#). In addition, many publications are available on the market that address transportation and land use as the elements that determine community livability. These include New Urbanism: Comprehensive Report and Best Practices Guide, SmartCode, Sprawl Repair Manual, and Sustainable Urbanism.

Rather than establish specific parameters for the multimodal environment, this Guide invites the reviewer to work with individual local governments to determine what may be right for each community in concert with guidance provided in the various resources. The following sections provide specific details regarding Elements of the Multimodal Environment Category.

2.4.1 Element ME1: Organization and Location

The organization and location of land uses directly affects local and regional mobility and the efficiency of non-automobile 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, cycling, and walking. An activity center may be generally defined as a compact node of development containing uses and activities which are supportive of and have a functional relationship with the social, economic, and institutional needs of the surrounding area.

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



“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

² M. Bournet, “Transportation Infrastructure and Sustainable Development: New Planning Approaches for Urban Growth,” *Access*, No. 33, Fall 2008, pp. 27-33.

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 increases and transit service may potentially be increased. 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 travel demand for single occupant vehicles on the arterial system.

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

CRITERIA	NOTES
<p>ME1.1 Designates and reinforces strong urban core(s) and urban activity centers of varying sizes and compositions.</p>	<p>Focuses on reducing VMT through strong urban cores and activity centers. Plans should focus employment and commercial activities into such cores and centers surrounded by relatively high density and intensity residential development. Networks should provide high connectivity of the residential areas with the activity centers (see NI). 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.</p>
<p>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).</p>	<p>A detailed description of transit compatible land uses is contained in Model Regulations and Plan Amendments for Multimodal Transportation Districts. See also the FDOT Framework for Transit Oriented Development in Florida for detailed guidelines on varying types of TOD depending on context (e.g. urban core, urban general, suburban, and rural). The report Mixed Income Housing Near Transit 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>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.</p>	<p>Proper location and direct access to and between major transportation routes and/or ports and airports help reduce impacts on the surface street system and increase the speed of freight movement.</p>

2.4.2 Element ME2: Mix

Transit use, walking, and bicycling are more feasible modes of transportation 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 both 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>ME2.1 Provides for a complementary mix of retail, services, residential, institutional, cultural, recreational, and employment opportunities within urban cores and major activity centers.</p>	<p>Sample objectives and policies for achieving a complementary land use mix in varying types of activity centers or service nodes are contained in Model Regulations and Plan Amendments for Multimodal Transportation Districts (pp. 18-20). An additional resource is <i>New Urbanism: Comprehensive Report & Best Practices Guide</i> (Steuteville, et.al.). This criterion also encompasses strategies such as workforce housing in proximity to employment. Providing a mix of uses can increase internal capture and reinforce non-automobile modes. However, these benefits are highly dependent on context and factors such as land use compatibility and network connectivity as indicated in the FDOT Community Capture Methodology.</p>
<p>ME2.2 Provides for a vertical mix of uses within urban cores and major activity centers to encourage active uses at the street level.</p>	<p>Avoiding long vacant or blank block fronts contributes to pedestrian-friendliness. An example policy might require 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 Model Regulations and Plan Amendments for Multimodal Transportation Districts. This Criterion is most appropriate for high-intensity urban cores and major activity centers.</p>
<p>ME2.3 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. Policies should provide opportunities to integrate service centers within existing single-use residential neighborhoods.</p>

2.4.3 Element ME3: Density

Future land use plans and zoning ordinances typically establish only maximum development densities using dwelling units per acre or floor area ratios (FAR). The resulting densities in Florida cities are often far less than the maximum allowed – particularly in commercial centers or along corridors where higher densities are desirable. In addition, efforts to increase density in established areas are often opposed by neighborhood residents due to concerns over motor vehicle traffic impacts. However, establishing minimum density and intensity policies may be necessary in some areas to achieve optimal densities for economically vibrant 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.”³

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.

³ Victoria Transport Policy Institute, “[Strong Commercial Centers](#),” TDM Online Encyclopedia, January 25, 2010.

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

CRITERIA	NOTES
<p>ME3.1 Establishes minimum density and intensity requirements for urban core and major activity center areas.</p>	<p>Minimum density and intensity should be established for development in urban cores, major activity centers, and along corridors to ensure a dense built environment that supports non-auto travel. Policy examples may be found in some form-based codes that include a combination of minimum and maximum building height and number of stories.</p>
<p>ME3.2 Establishes appropriate densities and intensities within walking distance of transit stops.</p>	<p>Densities needed to support transit in various environments (e.g. urban core, urban general, suburban, rural) are identified in FDOT Framework for Transit Oriented Development in Florida.</p>
<p>ME3.4 Establishes urban design criteria for urban cores and major activity centers to preserve or improve livability.</p>	<p>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.</p>

2.4.4 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 Element 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 travel to and from a proposed development 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>.

Many resources containing design guidelines and policy examples are available for non-automobile modes including the following:

- [The Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highway \(The Florida Greenbook\)](#), FDOT
- [Manual on Uniform Traffic Control Devices](#), FHWA
- [Designing Walkable Urban Thoroughfares: A Context Sensitive Approach](#) (ITE 2010)
- Guide for the Planning, Design and Operation of Pedestrian Facilities, AASHTO
- Guide for the Development of Bicycle Facilities, AASHTO
- [Accessing Transit Design Handbook for Florida Bus Passenger Facilities](#) (statewide)
- [LYNX Central Florida Mobility Design Manual](#)
- [LYNX Central Florida Customer Amenities Manual](#)

- [FDOT District I and 7 Transit Facility Handbook](#)
- [FDOT District 4 Transit Facilities Guidelines](#)
- [Palm Tran Transit Design Manual](#)

Table 5: Multimodal Environment (ME4) Multimodal Policy Criteria

CRITERIA	NOTES
<p>ME4.1</p> <p>Establishes priority on enhancing bicycle and pedestrian mobility within existing and proposed activity centers, including urban core areas.</p>	<p>Plans should identify centers with the greatest potential to accommodate non-automobile modes and focus investment on enhancing the multimodal environment for those centers. Policies, regulations and funding mechanisms should reflect the higher priority on enhancing the multimodal environment in these areas. Strategies may include connecting gaps in the network and full accommodations for bicycle and pedestrian access and movement, including shaded sidewalks, benches, water fountains, enhanced crossings, and bicycle parking.</p>
<p>ME4.2</p> <p>Includes automobile parking management strategies for urban cores, activity centers and transit corridors to reduce surface area parking and promote non-automobile travel.</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 a non-automobile 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>ME4.3</p> <p>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 Model Regulations and Plan Amendments for Multimodal Transportation Districts.</p>
<p>ME4.4</p> <p>Provides for, and requires new development to contribute to, amenities at existing and proposed transit stations and stops 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. See the resources above for detailed guidance regarding transit station and stop amenities.</p>

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.

See the multimodal transportation impact assessment (TIA) methodology in the Florida Department of Community Affairs, [Transportation Concurrency Best Practices Guide](#) and Montgomery County, Maryland's [Local Area Transportation Review and Policy Area Mobility Review Guidelines](#) for ideas on procedures and requirements for multimodal TIAs.

2.5 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 and pedestrian travel. Connectivity is addressed through Criteria in each Element as a means of increasing mobility as well as system capacity by providing multiple alternative routes for all modes.

The existing conditions analysis discussed in Section 2.1 above and Appendix B forms the basis for network planning. [Designing Walkable Urban Thoroughfares: A Context Sensitive Approach](#) (ITE 2010) discusses planning urban transportation networks. “The thoroughfare network should be planned to support the needs generated by the planned land uses (including intensity) while at the same time being compatible with the characteristics of the resulting neighborhoods and community—areas that may have widely varying needs, features and activity levels.” In addition, the resource addresses street connectivity and spacing, indices for connectivity and accessibility, and performance measures.

2.5.1 Element NI1: Major Roadway Network

The Criteria in this Element address the adequacy of local mobility planning for the major roadway network, including those that are part of the SIS. 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.

Major roadway network projects listed in the FDOT Five-Year Work Program, as well as those in the applicable MPO LRTP and Transportation Improvement Program (TIP), should also be included in a mobility or corridor plan. FDOT provides guidance for roadway facilities in the [FDOT Plans Preparation Manual](#) (PPM), [FDOT Design Standards](#), and the [Florida Traffic Engineering Manual](#) (TEM).

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

CRITERIA	NOTES
<p>NI1.1 Transportation corridors requiring additional right of way and/or corridor management are designated for preservation and management as provided in §337.273, F.S.</p>	<p>Florida law requires local governments to designate transportation corridors in their comprehensive plan prior to adopting corridor management ordinances. See Managing Corridor Development: A Municipal Handbook for further information. See also Model Corridor Management Plan Amendments.</p>
<p>NI1.2 Includes transportation corridor management policies to preserve right-of-way needed for all transportation modes and provides for dedication of land or conveyance of easements to local governments for planned transportation projects as provided in §337.273(6), F.S.</p>	<p>See Corridor Preservation Best Practices 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. Ensure that sufficient right-of-way is reserved to accommodate future cross-section needs for all modes and utilities. See also Model Ordinance for Corridor Protection and Rights of Way.</p>
<p>NI1.3 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&1.2. Parallel relievers or service roads along congested highways tend to attract motor vehicle 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>NI1.4 Provides for construction of new interstate highway overpass crossings to connect local street networks.</p>	<p>New interstate overpasses increase local roadway connectivity and may relieve congestion at interstate interchanges by providing additional routes for all modes to cross interstate highways.</p>
<p>NI1.5 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>NI1.6 Provides for construction of additional travel lanes and/or turn lanes to address existing or anticipated motor vehicle traffic volume where appropriate.</p>	<p>Plans should note the location of planned roadway lanes and turn lanes. FDOT access management guidelines for right- and left-turn lanes into driveways are provided in the FDOT Driveway Information Guide. Note that adding new lanes can serve as a barrier to bicycle and pedestrian mobility and should therefore always be evaluated in relations to other modal needs.</p>
<p>NI1.7 Includes new arterial or major collector roadways to relieve motor vehicle traffic congestion and increase network connectivity.</p>	<p>Many urban areas in Florida lack a balanced network of arterial, collector and local streets. Potential strategies include master street plans with right-of-way policies, street network standards, and limiting right-of-way vacation and/or requiring replacement of those proposed for abandonment. See also NI2.1. Network connectivity is addressed in Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (ITE 2010).</p>
<p>NI1.8 Includes design elements to increase bicycle and pedestrian safety and mobility.</p>	<p>This should include safe crossings at roadway intersections and appropriate mid-block locations. See Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (ITE 2010)..</p>

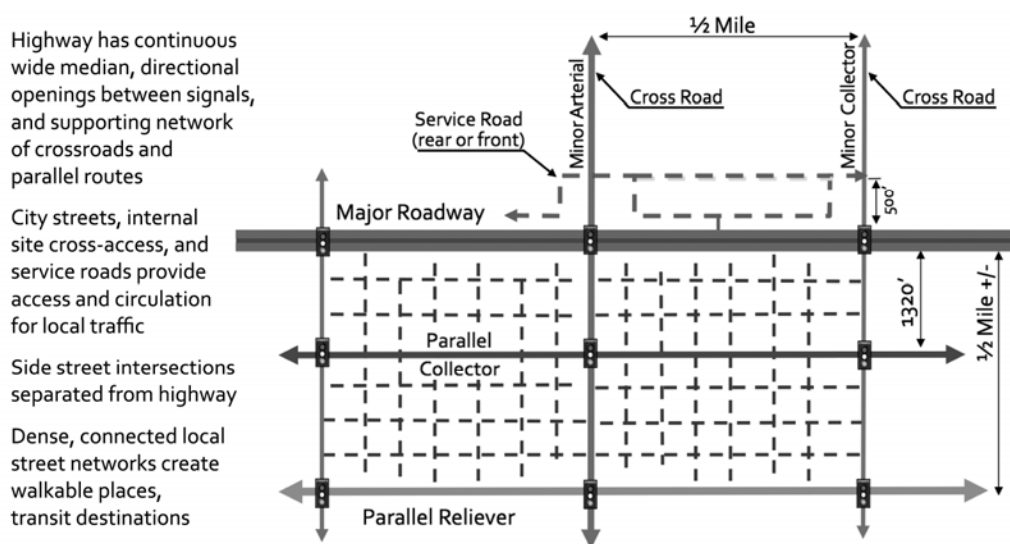


Figure 3: Corridor network and access management concepts

2.5.2 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. Enhancing street network connectivity can be applied as a technique to provide highway system users alternatives to major roadways, particularly for short trips. Local and collector street networks are often underdeveloped and major highways such as SIS facilities are used as the only means of access to and from many land uses. Fragmented local street systems also increase the number and length of automobile trips and also impede emergency access. A connected road network advances the following mobility objectives:

- fewer vehicle miles traveled;
- decreased congestion;
- alternative routes for short, local trips;
- improved accessibility of developed areas;
- facilitation of walking, bicycling, and use of transit;
- reduced demand on major thoroughfares;
- more environmentally sensitive layout of streets and lots;
- interconnected neighborhoods foster a sense of community;
- safer school bus routes; and
- safer walking and bicycling routes to schools.⁴

Figures 3 and 4 provide network development concepts and strategies for both the major roadway network and the local street network. In addition, arterial congestion in many areas of Florida is exacerbated by sparse and discontinuous supporting local and collector street networks. This Element

⁴ Safe Routes to School. http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PL/FDOT_BD545_32_rpt.pdf

includes Criteria aimed at improving the connectivity and availability of local and collector street networks and promoting increased 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, increase 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 Guide for Analysis of Corridor Management Policies and Practices for sample policies and regulations. The intent is to reduce vehicular trips on major roadways.
NI2.3	Includes policies and strategies to increase 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 Guide for Analysis of Corridor Management Policies and Practices for sample street network plans and regulations and Appendix A & B of Implementing Multimodal Transportation Districts: Connectivity, and the FIHS 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) 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.

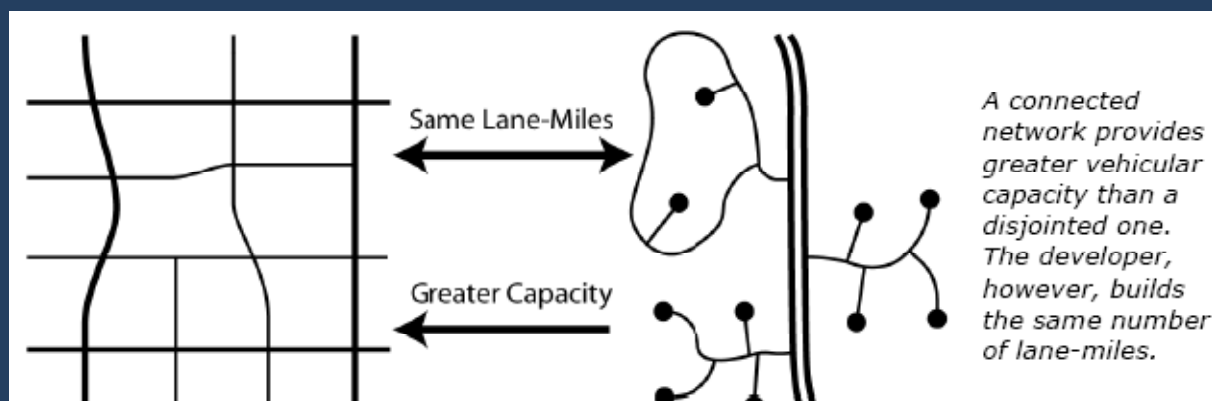


Figure 4: Network connectivity and system capacity

Source: Georgia Regional Transportation Authority DRI Review Checklist Users Guide

2.5.3 Element NI3: Bicycle and Pedestrian Network

Creating bicycle and pedestrian-friendly environments is key to encouraging choice of these modes over the automobile, particularly for short-distance trips. Bicyclists are capable of traveling greater distances; however, sidewalks are essential to pedestrian travel within urban cores and activity centers. Those not using motor vehicles should be able to circulate throughout the planning area and access land uses. Ample bicycle and pedestrian connections within and between residential areas and supporting community facilities and services, such as shopping areas, employment centers, transit stops, neighborhood parks, and schools provide for this circulation.. Such connections may be sidewalks, bicycle facilities, and/or shared use paths provided throughout and extended beyond the planning area creating tangible non-automobile mode choices.

A bicycle and pedestrian network comprised of a system of interconnected and direct routes can be measured by a connectivity index. Missing links or gaps in the bicycle and pedestrian network should be identified and eliminated where appropriate through the development process. Missing links may include locations between cul-de-sacs, through walls or fences, mid-block where block length exceeds 660 feet, or where bicycle pedestrian routes would otherwise be “excessively” circuitous. Highest priority for improvements should be given to locations with high concentrations of pedestrian activity and where connections are needed to ensure easy access between transportation modes, with particular attention to bicycle and pedestrian access to schools, transit stops and regional greenway or trail systems. Model comprehensive plan amendment and land development regulation language can be found in [Model Regulations and Plan Amendments for Multimodal Transportation Districts](#).

FDOT provides guidance for bicycle and pedestrian facilities in the [FDOT Plans Preparation Manual](#) (PPM), [FDOT Design Standards](#), and the [Florida Traffic Engineering Manual](#) (TEM). The [Florida Pedestrian Facilities Planning and Design Handbook](#) is available as an aid to the FDOT guidelines.

Additional resources include:

- [The Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highway \(The Florida Greenbook\)](#), FDOT
- Guide for the Planning, Design and Operation of Pedestrian Facilities, AASHTO
- Guide for the Development of Bicycle Facilities, AASHTO

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

CRITERIA	NOTES
<p>NI3.1 Requires bicycle lanes and sidewalks of appropriate width on or near all new or reconstructed major collector and arterial routes where appropriate.</p>	<p>Such policies encourage bicycle use as a non-automobile mode. The American Association of State Highway and Transportation Officials (AASHTO) developed the Guide for the Development of Bicycle Facilities. In addition, the Florida DOT provides guidance in the Florida Bicycle Facilities Planning and Design Handbook and Florida Pedestrian Facilities Planning and Design Handbook.</p>
<p>NI3.2 Includes planned projects to address bicycle and pedestrian network connectivity.</p>	<p>Mobility planning efforts should include bicycle and pedestrian networks and strategies. Projects should be programmed to address network gaps. New network</p>

NI3.3	Addresses the continuation of, or establishes new, shared use paths.	needs should be identified for preservation on the local transportation right of way needs or thoroughfare map. (Right of way preservation for transportation corridors is addressed in NI1.1) Options may include multi-use paths to provide for bicycle and pedestrian circulation between neighborhoods to reduce need for automobile travel on arterials. Shared use paths that shorten the distance between two uses encourage non-automobile mode travel in addition to facilitating active recreation.
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.	Pedestrian connections should be more convenient and direct than those provided for motor vehicles, particularly on transit corridors or in activity centers. Example policies may be found in Model Regulations and Plan Amendments for Multimodal Transportation Districts (pp. 11-13). Additional information may be found at the Pedestrian and Bicycle Information Center . Strategies may also seek commitments from existing development to retrofit or provide new pedestrian infrastructure.
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 other key destinations.	A complete network and abundant parking encourages bicycle use. Guidance on policies and regulations may be found in Model Regulations and Plan Amendments for Multimodal Transportation Districts (pp. 29-31). Additional information may be found at the Pedestrian and Bicycle Information Center . Strategies may also seek commitments from existing development to retrofit or provide new bicycle infrastructure.

Bicycle boulevards are another option. These are bicycle priority streets where people can feel safe bicycling, even if they do not feel comfortable bicycling adjacent to motor vehicle traffic on ordinary streets. They are intended to have low motor vehicle traffic volumes and speeds and contain clear signage indicating that priority is given to bicycle traffic. The existing conditions analysis performed as a precursor to developing land use and transportation strategies to support mobility should include analyses of bicycle and pedestrian facility connectivity. A number of tools have also recently been developed to analyze the quality and level of service of these facilities.

Local governments are encouraged to develop a bicycle and pedestrian circulation plan and use this as the basis for their capital improvement program for bicycle and pedestrian infrastructure. Adopting a long-term plan will allow the community to prioritize and fund projects in well-defined increments, rather than relying on an ad hoc approach. A system approach with a clearly defined plan will also set the stage for proportionate fair share negotiations and other mitigation actions.

2.5.4 Element NI4: Transit Network

This Element addresses modifications to the transit network and is interrelated with Section 3.6.3: Transit Operations and Safety. The transit network is integral to the major roadway and local network, yet has specific Criteria that should be addressed.

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 taxies, high speed rail, trolleys/streetcars, light rail, subways, commuter rail, monorail, buses, bus rapid transit, jitneys, van pool services, paratransit services, etc.).⁵ 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.

Detailed transit plans may be found in regional transportation/transit authority plans or local transit development plans (TDPs) and transportation disadvantaged service plans (TDSPs). Any transit system projects appearing in such adopted 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.usf.edu>
- National Bus Rapid Transit Institute, <http://www.nbrti.org>

⁵ HDR, "Public Transportation Resource Guidebook," June 2007, slide overview.
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"> 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 Rail investment is generally more capital intensive as compared to bus investment 					

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
NI4.1 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 system modifications addressed in regional transit authority plans and MPO long range transportation plans. Addresses local bus and shuttle services and circulators at existing and planned rails stations.
NI4.2 Addresses express transit service.	Identifies new and/or expands existing express bus routes, bus rapid transit (BRT) routes or express rail routes on existing or specialized travel lanes. May include other modes, such as ferries or streetcars.
NI4.3 Addresses existing and planned local transit within plan boundaries, including route locations, headways and infrastructure.	Identifies new local bus and 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

2.6 Category OS: Operations and Safety

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

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

Application of demand management techniques may improve the operation of existing highway facilities by maximizing their capacity. These techniques include providing viable mobility options, operational strategies such as intelligent transportation systems, institutional strategies such as carpooling programs, commuter financial incentives, and pricing strategies.

All MPOs are required by federal law to maintain a congestion management process (CMP). This process first identifies and then addresses congestion issues using travel demand reduction and operational management strategies. The CMP identifies problems that can be addressed relatively quickly using lower-cost management and operational approaches. The CMP can also be used to identify congestion problems and reduction strategies that are relatively large in scale and cost. Resulting projects and strategies should be incorporated into local mobility plans.

This Category 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).”⁶ 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, crash 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>.

2.6.1 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 include a wide range of tools for managing traffic as well as for providing services for travelers including commercial

⁶ “2009 Quality/Level of Service (QLOS) Handbook,” Florida Department of Transportation, 2009. Web. 03 Feb. 2010.

vehicle operations, advanced public transportation systems, advanced traveler information systems, advanced crash avoidance systems, automated vehicle location, machine vision, and electronic toll and traffic management systems. Intelligent transportation systems maximize network performance by reallocating travel demand through information, communication, integration, and management. For example, providing traffic congestion information allows drivers to select less congested routes, diverse departure times, or a different mode of travel. Collectively, these driver choices contribute to decreasing traffic congestion.

Effective 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](#).

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

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

2.6.2 Element OS2: Access Management

Limiting access along major roadway corridors reduces traffic conflicts and flow interruptions, while improving safety for drivers, pedestrians, and bicyclists. This Element 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 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](#).

“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

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

CRITERIA	NOTES
<p>OS2.1 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 Model Land Development and Subdivision Regulations that Support Access Management 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>OS2.2 Includes policies and strategies to close excessive or unsafe driveway connections or to redesign overly-wide or poorly designed connections.</p>	<p>For sample policy language, see Section 13 of Model Land Development and Subdivision Regulations that Support Access Management. See also the FDOT Driveway Information Guide.</p>
<p>OS2.3 Includes policies and strategies to replace continuous two-way left turn lanes with medians on multi-lane arterials.</p>	<p>Medians increase safety by organizing the left turn movement and reducing traffic conflicts. See the FDOT Median Handbook for further information on the safety implications of medians versus TWLTLs and for FDOT’s median policy in Section 2.2.2.</p>
<p>OS2.4 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 motor vehicle 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 motor vehicle traffic will not be impeded and to maintain the “window” for motor vehicle traffic</p>

		progression at desired speeds.
OS2.5	Restricts access in the functional area of highway interchanges.	Signalized intersections too close to ramp termini can cause heavy volumes of weaving motor vehicle traffic, complex traffic signal operations, crashes, congestion, and motor vehicle traffic backing up the ramps on to the main line. Curb cuts and median openings near the ramp termini further compound these problems. See Land Development and Access Management Strategies for Florida Interchange Areas and Access Management on Crossroads in the Vicinity of Interchanges for policies and strategies.
OS2.6	Restricts access in the functional area of roadway intersections.	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 and cross access with adjacent sites.
OS2.7	Requires adequate, uninterrupted throat length for driveways and frontage roads that connect to arterial roadways.	Inadequate throat length produces a complex pattern of closely spaced conflicts, causing high collision potential and low capacity. See Chapter 6 of the FDOT Driveway Information Guide .
OS2.8	Includes measures to close unsafe, overly-wide, and/or excessive median openings.	Directional median openings have far fewer conflicts and much lower crash potential than full movement median openings. See the FDOT Median Handbook for guidance and strategies.

2.6.3 Element OS3: Transit Operations and 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. In addition, a number of resource manuals and guidelines have been developed in Florida to guide the integration of design features that increase 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:

- [Accessing Transit Design Handbook for Florida Bus Passenger Facilities](#) (statewide)
- [LYNX Central Florida Mobility Design Manual](#)
- [LYNX Central Florida Customer Amenities Manual](#)
- [FDOT District I and 7 Transit Facility Handbook](#)
- [FDOT District 4 Transit Facilities Guidelines](#)
- [Palm Tran Transit Design Manual](#)

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

CRITERIA	NOTES
<p>OS3.1 Provides for transit signal priority and/or queue jumpers.</p>	<p>Reduces delay and increases 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.</p>
<p>OS3.2 Provides for exclusive transit lanes.</p>	<p>Ensures timeliness of bus travel on congested corridors.</p>
<p>OS3.3 Provides for availability of transit service outside of peak travel hours.</p>	<p>Transit availability outside of peak commuting periods offers the user the option to be transit dependent.</p>
<p>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).</p>	<p>Such policies and regulations ensure that new development contributes toward transit facilities and services that increase rider safety and convenience. Ensure that proposed facilities and services are consistent with the applicable transit development plan.</p>

2.6.4 Element OS4: Pedestrian and Bicycle Operations and 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. Bicycle safety is impacted by obstructions within the roadway. The Florida DOT provides guidance for safe bicycle and pedestrian facilities in the [FDOT Plans Preparation Manual](#) (PPM), [FDOT Design Standards](#), and the [Florida Traffic Engineering Manual](#) (TEM). The [Florida Pedestrian Facilities Planning and Design Handbook](#) is available as an aid to the FDOT guidelines. Florida has taken additional precautions to provide safe pedestrian travel to schools through its [Safe Routes to School Program](#). Targeted pedestrian safety actions may be developed using the [FHWA Pedestrian Safety Action Plan](#) or [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. Additional resources include a Federal Highway Administration (FHWA) on [Tools to Diagnose and Solve the Problem](#) as well as the following:

- [The Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highway \(The Florida Greenbook\)](#), FDOT
- [Manual on Uniform Traffic Control Devices](#), FHWA
- Guide for the Planning, Design and Operation of Pedestrian Facilities, AASHTO
- Guide for the Development of Bicycle Facilities, AASHTO

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

CRITERIA	NOTES
<p>OS4.1 Includes measures to increase pedestrian safety at intersections and mid-block crossings, and while walking along the road.</p>	<p>Identifies high crash locations for pedestrians and addresses these proactively, while increasing overall pedestrian safety through countermeasures such as provision of sidewalks, lighting, 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. May also include motor vehicle traffic calming measures.</p>
<p>OS4.2 Includes measures to increase bicycle safety.</p>	<p>Identifies high crash locations for bicyclists and addresses these proactively, while increasing overall bicycle safety through modifications to existing bicycle lanes, new bicycle lanes, signing and pavement striping changes, modifications at crossings and off road facilities. May include bicycle safety education or similar measures to increase public awareness.</p>
<p>OS4.3 Includes 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. http://www.dot.state.fl.us/Safety/SRTS_files/SRTS.shtm</p>

2.7 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 Mobility Review Guide and Checklist. This Category addresses whether the basic funding and implementation strategies are in place.

2.7.1 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.

Table 14: Implementation (IM1) Intergovernmental Coordination Criteria

CRITERIA	NOTES
<p>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.</p>	<p>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 LOS Issue Paper #13 – Documenting Improved Mobility Techniques on SIS and TRIP Facilities.</p>

IM1.2

Includes policies and strategies for coordinating with FDOT in access management and permitting on the state highway system.

See [Intergovernmental Coordination in Access Management](#) for a review of issues and strategies relative to FDOT and local coordination in access management and permitting. See also [Effective Strategies for Comprehensive Corridor Management](#).

This Mobility Review Guide and Checklist can increase intergovernmental coordination by providing FDOT, DCA and local government agencies with a common set of planning strategies for consideration. Early guidance to local governments from the FDOT District on state highway corridor conditions is another useful step toward greater coordination in mobility and 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.⁷
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 motor vehicle traffic growth, approved development trips, adopted QLOS standards, and committed projects. Participants could identify strategic areas for additional projects 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 focus areas, 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.

2.7.2 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.).

⁷ K. Seggerman, et al., “Documenting Improved Mobility Techniques on SIS and TRIP Facilities,” *FDOT LOS Issue Paper 13*, CUTR, 2007, p. 49.

Other incentives that can be explored include expedited development application procedures for development that advance multimodal objectives, community redevelopment areas and tax increment financing (TIF) districts and publicly funded infrastructure and streetscape projects. 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 and sidewalk projects. 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.⁸

Table 15: Implementation (IM2) Incentives Criteria

CRITERIA	NOTES
IM2.1 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.

2.7.3 Element IM3: Monitoring

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) Monitoring Criteria

CRITERIA	NOTES
IM3.1 Includes policies 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.
IM3.2 Includes a performance measurement system.	For example, plan amendments should specify QLOS for both vehicular and non-vehicular modes as well as non-SOV mode share/split goals.

2.7.4 Element IM4: Funding

Perhaps the most crucial implementation element is funding. Because local governments must develop transportation and land strategies to support *and fund* mobility, it follows that funding should be addressed. Funding should be appropriately addressed in a financially feasible capital improvement element (CIE). Local governments and FDOT reviewers should obtain specific guidance on funding and related CIE requirements from DCA.

⁸ Portland Direct TIF Loan Program. Available online: http://www.pdc.us/bus_serv/finance-pgms-detail/direct-tif.asp

The scarcity of transportation funding in Florida has resulted in the use of a variety of funding mechanisms to fund transportation systems strategies and projects. They include:

Motor Fuel Tax Options

- Federal Gas Tax
- State Gas Tax
- Constitutional Gas Tax
- County Gas Tax
- 1st Local Option Gas Tax
- 2nd Local Option Gas Tax
- Ninth Cent Motor Fuel Tax

Other Tax Options

- Local Government Infrastructure Surtax
- Local Option Sales Tax
- Ad Valorem Tax
- Municipal Services Benefit District (MSBU)
- Municipal Services Taxing Unit (MSTU)

Other Options

- Tolls
- Public/Private Partnerships
- Transportation Regional Incentive Program (TRIP): The TRIP provides matching funds for regionally significant facilities (Section 339.2819, F.S.) included in regional transportation plans. To qualify, the facilities must be developed within regional transportation areas established by interlocal agreement (Section 339.155[5], F.S.) and subsequently included in participating local government comprehensive plans. Eligible projects must support transportation facilities that serve national, statewide, or regional functions, be included in the capital improvements element, be consistent with the SIS goals, and have a commitment for local, regional, or private matching funds. Priority will be given to projects that, among other things, provide connectivity to the SIS, support economic development and the movement of goods in rural areas of critical economic concern, and are subject to corridor management regulations.
- Development Exactions: Local governments may require developers to make certain “site-related” transportation system modifications as a condition of development approval. Such modifications may include provision of right-turn lanes, changes needed to bring existing roads up to current design standards, dedication of easements for parking lot cross access, and dedication of right-of-way for construction of local service roads. Other projects may focus on site-related modifications for non-automobile modes of transportation including sidewalks, bicycle parking, and transit stops. In addition to mandatory exactions, local governments may also negotiate with a developer for voluntary infrastructure modifications aimed at overcoming existing deficiencies.
- Transportation Concurrency and Proportionate Fair Share Mitigation: Concurrency mitigation and proportionate fair share agreements are another opportunity for implementing mobility through the development process, particularly outside of TCEAs. This mechanism may be

applied in situations where the primary transportation facility is operating below acceptable level of service standards or where a development would otherwise trigger a concurrency failure. The projects identified in an adopted corridor management plan could form the basis for concurrency mitigation and proportionate fair share agreements. They could also be implemented in the context of a long term concurrency management system for the corridor.

- **Transportation Concurrency Backlog Authority:** Local governments may establish a backlog authority to plan and finance modifications to a transportation facility with an identified concurrency deficiency (i.e., existing motor vehicle traffic volume exceeds the facility’s adopted level of service standard). Each backlog authority must adopt a transportation concurrency backlog plan as part of the local government comprehensive plan. The authority may then establish a trust fund to be funded by a portion of the increased tax revenue in the designated area (i.e. tax increment financing). Backlog authorities may also issue bonds to fund the modifications, backed by trust fund revenues.
- **Mobility Fees:** 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 projects. 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

CRITERIA		NOTES
IM4.1	Capital improvement program addresses all modes of transportation.	Include the itemized capital improvement program.
IM4.2	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, fees, and development agreements.

3 Summarize and Apply Findings

Upon initial completion of the Mobility Review Checklist, the FDOT reviewer will have an understanding of the relative strengths and potential shortcomings of the comprehensive plan amendment (CPA) as it relates to the transportation system. As noted in Section 2.1, it is also suggested that local governments be advised to complete a self review and provide this along with their CPA submittal for FDOT staff review. FDOT staff are strongly encouraged to discuss the results of their review with the appropriate local government contact prior to completing the final staff report. This will ensure accuracy of the assessment and offer the opportunity for FDOT to provide technical assistance to local governments.

3.1 Complete Staff Report

Using the results of the Checklist, the FDOT or other agency reviewers may identify the need for specific strategies to be more clearly defined or the need for additional planning measures. District staff should meet with the appropriate local government representatives and/or share their Checklist results in advance of completing the staff report to identify concerns relative to specific Categories, Elements or Strategies. Reviewers should identify perceived deficiencies of the plan based on the Checklist and ask local governments to revise the plan amendment, SIS mitigation, or corridor plan with a strengthened approach as to how specific Elements will be accomplished. Resources and technical assistance for accomplishing these measures should be identified or provided. 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.

3.2 A Final Word on the Guide and Checklist

This report represents a proposed practice for use by FDOT and other reviewing agencies in the review of proposed land use and transportation strategies to support and fund mobility submitted through the CPA review process as they relate to the function of the state transportation system. The Mobility Review Guide and Checklist may also be used in the review of proposed SIS mitigation plans or corridor management plans for major highway corridors. This practice is not an official policy, procedure. It is suggested as a technical assistance tool for use by FDOT reviewers and local governments.

Appendix A: FDOT's Role in Growth Management

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 advancing land use and transportation strategies to support and fund mobility.

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 alternatives⁹ that are projected to cause a level of service (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 modified 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. However, FDOT encourages partnerships with local governments in DULA areas in

⁹ These alternatives include: transportation concurrency exception areas (TCEAs), transportation concurrency management areas (TCMAs), or multimodal transportation districts (MMTDs).

identifying and prioritizing SIS mobility modifications. The requirements continue to be applicable outside of DULA areas and are described in Section A5 below.

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:¹⁰

- 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 increase energy efficiency.

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.¹¹ The requirement for local governments to adopt and maintain state level of service standards for transportation facilities that make up 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

¹⁰ 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>.

¹¹ 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,¹² local governments must adopt into their local comprehensive plan land use and transportation strategies to support and fund mobility within the exception area, including non-automobile modes of transportation. These strategies are sometimes 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 planning efforts to develop the required land use and transportation strategies to support and fund mobility.

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 designated dense urban land areas of Florida. The current role of FDOT staff in review of proposed local government land use and transportation strategies to support and fund mobility may be broadly categorized as follows:¹³

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 impacts to the state transportation system. Review comments are submitted to DCA.
2. Within TCEAs, the focus of that review is on local land use and transportation strategies to support and fund mobility, including non-automobile modes.
 - a) Through this review process, FDOT should ensure that the proposed land use and transportation strategies to support and fund mobility serve to maintain mobility on the SIS and other parts of the state transportation system while remaining sensitive to local

¹² The Florida Department of Community Affairs has provided guidance relative to this requirement in a *Notice to Local Governments of Transportation Planning Options Under Senate Bill 360 For Transportation Concurrency Exception Areas in Dense Urban Land Areas* available on the Department's website - <http://www.dca.state.fl.us/fdcp/dcp/Legislation/2009/Notice.cfm>.

¹³ Maria Cahill, FDOT Office of Policy Planning, "DULAs and Implications for Transportation Concurrency/DRIs," *Florida ITE Winter Workshop*, February 10, 2010, Orlando, Florida.

multimodal and livability objectives and funding availability. This may include concerns related to operations, safety and access to state roads.

- 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 land use and transportation strategies to support and fund mobility 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” established in Rule 14-94, F.A.C. 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. However, FDOT reviewers may comment on potential impacts to the state transportation system that may result from proposed comprehensive plan amendments.

Outside of DULA TCEAs, local governments must adopt FDOT level of service (LOS) standards in accordance with Rule 14-94, F.A.C. 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.

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 non-automobile transportation modes and alternative 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 standards¹⁴ 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

¹⁴ 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).

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.

Sample Level of Service Variance Application	
Contents	Supporting Information
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"> • Vision or Sector Plan 	Specific vision, objectives, policies and implementation strategies.
<ul style="list-style-type: none"> • Proposed Improvements 	All relevant transit and roadway improvements and strategies to mitigate projected impacts.
<ul style="list-style-type: none"> • Traffic/Mobility Analysis 	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> • Proposed long term CIP 	10 or 15 year schedule of capital improvements, cost, priority, funding sources.
Appendices	Supporting data, memos, and agreements.

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.

Sample Long Term CMS Application	
Contents	Supporting Information
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 and corridor management strategies
<ul style="list-style-type: none"> • Vision or Sector Plan(s) 	Specific vision, objectives, policies and implementation strategies.
<ul style="list-style-type: none"> • Proposed Improvements 	All relevant transit and roadway improvements and strategies to mitigate projected impacts.
<ul style="list-style-type: none"> • Traffic/Mobility Analysis 	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> • Proposed long term CIP 	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.
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* 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 non-automobile 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 non-automobile 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.

Sample TCEA Application	
Contents	Supporting Information
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"> • Vision or Sector Plan(s) 	Specific vision, objectives, policies and implementation strategies with emphasis on non-automobile 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"> • Proposed improvements 	Strategies and improvements to mitigate projected impacts.*
<ul style="list-style-type: none"> • Traffic/Mobility Analysis 	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> • Proposed CIP 	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 non-automobile 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.

Sample MMTD Planning & Mitigation Criteria	
Contents	Supporting Information
Purpose	Place primary emphasis on non-automobile 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"> • Statement of qualification 	Evidence of existing or planned future design elements defined in Chapter 163.3180(15)(b), F.S.
<ul style="list-style-type: none"> • MMTD plan 	Specific vision, objectives, policies and implementation strategies with emphasis on non-automobile 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"> • Proposed improvements 	Strategies and improvements to mitigate projected impacts.*
<ul style="list-style-type: none"> • Traffic/Mobility Analysis 	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> • Proposed CIP 	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).

Sample TCMA Planning & Mitigation Criteria	
Contents	Supporting Information
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"> • Statement of qualification 	Evidence of existing or planned future design elements defined in Chapter 163.3180(7), F.S.
<ul style="list-style-type: none"> • MMTD plan 	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"> • Proposed improvements 	Strategies and improvements to mitigate projected impacts.*
<ul style="list-style-type: none"> • Traffic/Mobility Analysis 	Analysis results of proposed improvements, (e.g. local traffic diversion, reduced delay, reduced VMT, improved safety).
<ul style="list-style-type: none"> • Proposed CIP 	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 where to place priority on non-automobile 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 and safety (e.g., bottlenecks, high crash locations)
 - 2. Demand management programs/policy
 - 3. Access management (e.g., spacing, alternative access, design, retrofit)
 - 4. Pedestrian and bicycle operations and 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 and 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 and Safety
- V. Projected Results
 - A. Increased use of modal alternatives and 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 Checklist

Mobility Review Checklist

This spreadsheet checklist should be used with the accompanying user guide, Checklist for Reviewing Mobility Measures. It contains important guidance on the meaning of selected criteria in the checklist and must be consulted in concert with the checklist during the review and assessment process. Keep in mind that this is a proposed practice and not an official procedure.

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

Category	Elements	Criteria Code	Criteria	Assessment			Comments
				Addressed	Not Addressed	Not Applicable	
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.				
		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).				
		SP1.3	Coordinates with transportation and mobility plans of adjacent local governments and transportation planning agencies.				
		SP1.4	Consistent with local government comprehensive plan objectives and policies as well as specialized plans.				
Element	Organization & Location - ME1 -	ME1.1	Designates and reinforces strong urban core(s) and urban activity centers of varying sizes and compositions.				
		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).				
		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.				
	Mix - ME2 -	ME2.1	Provides for a complementary mix of retail, services, residential, institutional, cultural, recreational, and employment opportunities within urban cores and major activity centers.				
		ME2.2	Provides for a vertical mix of uses within urban cores and major activity centers to encourage active uses at the street level.				
		ME2.3	Provides for compatible food, education, retail and service uses on a neighborhood level within or in close proximity to residential areas.				

Multimodal Environment - ME -	Density and Intensity - ME3 -	ME3.1	Establishes minimum density and intensity requirements for urban core and major activity center areas.				
		ME3.2	Establishes appropriate densities and intensities within walking distance of transit stops.				
		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.				
	Multimodal Policy - ME4 -	ME4.1	Establishes priority on enhancing bicycle and pedestrian mobility within existing and proposed activity centers, including urban core areas.				
		ME4.2	Includes automobile parking management strategies for urban cores, activity centers and transit corridors to reduce surface area parking and promote non-automobile travel.				
		ME4.3	Provides for, and requires new development to contribute to, pedestrian-friendly amenities on the public streetscape.				
		ME4.4	Provides for, and requires new development to contribute to, amenities at existing and proposed transit stations and stops including covered shelters, trash receptacles, benches, landing pads, lighting, and bicycle parking.				
		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.				
	Element	Major Roadway Network - NI1 -	NI1.1	Transportation corridors requiring additional right of way and/or corridor management are designated for preservation and management as provided in §337.273 F.S.			
NI1.2			Includes transportation corridor management policies to preserve right-of-way needed for all transportation modes and provides for dedication of land or conveyance of easements to local governments for planned transportation projects as provided in §337.273 (6) F.S.				
NI1.3			Provides for construction of parallel relievers or service roads along major highway corridors or within interstate interchange quadrants.				
NI1.4			Provides for construction of new interstate highway overpass crossings to connect local street networks.				
NI1.5			Includes grade separated intersection improvement(s).				
NI1.6			Provides for construction of additional travel lanes and/or turn lanes to address existing or anticipated motor vehicle traffic volume where appropriate.				
NI1.7			Includes new arterial or major collector roadways to relieve motor vehicle traffic congestion and increase network connectivity.				
NI1.8			Includes design elements to increase bicycle and pedestrian safety and mobility.				

Network Improve - NI -	Local Street Network - NI2 -	NI2.1	Includes network-enhancing local and minor collector street projects.				
		NI2.2	Promotes direct connections between activity centers and surrounding residential areas.				
		NI2.3	Includes policies and strategies to increase street network connectivity.				
	Bicycle and Pedestrian Network - NI3 -	NI3.1	Requires bicycle lanes and sidewalks of appropriate width on or near all new or reconstructed major collector and arterial routes where appropriate.				
		NI3.2	Includes planned projects to address bicycle and pedestrian network connectivity.				
		NI3.3	Addresses the continuation of, or establishes new, shared use paths.				
		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.				
		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 other key destinations.				
	Transit Network - NI4 -	NI4.1	Addresses statewide and regional transit traveling through or with endpoints within plan boundaries.				
		NI4.2	Addresses express transit service.				
		NI4.3	Addresses existing and planned local transit within plan boundaries, including route locations, headways and infrastructure.				
	Demand Management - OS1 -	OS1.1	Establishes viable mobility options for congested roadway corridors.				
		OS1.2	Provides operational strategies including intelligent transportation systems (ITS).				
		OS1.3	Establishes institutional strategies (e.g. TDM programs).				
		OS1.4	Establishes commuter financial incentives.				
OS1.5		Provides infrastructure designed to encourage alternatives to single occupant vehicle travel.					
OS1.6		Establishes pricing strategies.					

Operations and Safety - OS -	Access Management - OS2 -	OS2.1	Includes policies and strategies to provide alternative access to development on arterial roadways.				
		OS2.2	Includes policies and strategies to close excessive or unsafe driveway connections or to redesign overly-wide connections or poorly designed connections.				
		OS2.3	Includes policies and strategies to replace continuous two-way left turn lanes with medians on multi-lane arterials.				
		OS2.4	Requires conformance of new signals with signal coordination plans and FDOT signal spacing standards for the state highway system.				
		OS2.5	Restricts access in the functional area of highway interchanges.				
		OS2.6	Restricts access in the functional area of roadway intersections.				
		OS2.7	Requires adequate, uninterrupted throat length for driveways and frontage roads that connect to arterial roadways.				
		OS2.8	Includes measures to close unsafe, overly-wide, and/or excessive median openings.				
	Transit Operations and Safety - OS3 -	OS3.1	Provides for transit signal priority and/or queue jumpers.				
		OS3.2	Provides for exclusive transit lanes.				
		OS3.3	Provides for availability of transit service outside of peak travel hours.				
		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).				
	Ped and Bicycle Operations and Safety - OS4 -	OS4.1	Includes measures to increase pedestrian safety at intersections and mid-block crossings, and while walking along the road.				
OS4.2		Includes improvements and measures to increase bicycle safety.					
OS4.3		Includes improvements and measures to provide safe routes to schools.					
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.					
	IM1.2	Includes policies and strategies to coordinate with FDOT in access management and permitting.					

Implementation - IM -	Incentives - IM2 -	IM2.1	Provides incentives to achieve the desired results.				
	Monitoring - IM3 -	IM3.1	Includes policies for adoption of all necessary implementing regulations and design standards by a specified date.				
		IM3.2	Includes a performance measurement system.				
	Funding - IM4 -	IM4.1	Capital improvement program addresses all modes of transportation.				
		IM4.2	Clearly identifies committed and anticipated funding sources for the capital improvement program and reasonably anticipated funding for future years.				

Supporting Plans and Guidelines	0	0	0
Multimodal Environment	0	0	0
Network Improvement	0	0	0
Operations and Safety	Addressed	0	0
Funding and Implementation	0	Not Addressed	0
Total	0	0	0