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Review of MPO Long Range Transportation Plans and Estimate of Statewide 2035 Metropolitan Area Financial Shortfall

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Prepared for:

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The Florida Metropolitan Planning Organization Advisory Council

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2013 Review of MPO Long Range Transportation Plans and Estimate of Statewide 2035 Metropolitan Area Financial Shortfall

Executive Summary

The twenty-six MPOs in Florida develop unique long range transportation plans while fulfilling requirements of both federal and state law. At the request of the Florida Metropolitan Planning Organization Advisory Council (MPOAC), a statewide discussion forum and policy education organization for MPOs, the Center for Urban Transportation Research (CUTR) at the University of South Florida began conducting a comparative review of all Florida MPO LRTPs in 1997. Reviews were also conducted in 2002 and 2008.

The reviews were aimed at gaining a comprehensive understanding of the issues being assessed and documented in plans, as well as to document examples of outstanding planning practice. These reviews also suggested several technical, methodological, and policy improvements to the content of future long range transportation plans. Data from the LRTPs was also used to estimate a statewide twenty-year metropolitan area funding shortfall. The research is not a regulatory review and does not analyze whether each LRTP meets specific federal or state requirements.

This 2013 LRTP Review is a continuation of the series and looks at a plan from each MPO or combination of MPOs in Florida that was adopted between 2008 and 2012. Plans reflected changes in federal and state LRTP requirements while tackling increasingly complex planning issues in an organized manner. Funding challenges coupled with public desire for more travel choices are guiding planning efforts to be more strategic. Plan development is increasingly interwoven with other planning efforts, particularly those of the larger region. Detailed studies such as freight and hurricane evacuation serve to more clearly define certain needs. Continued attention to plan details as well as complex, emerging issues will continue to increase the value of Florida's MPO long range transportation plans.

Specific observations discussed in the report are:

- LRTPs continue to improve in terms of readability and reader-friendly formats.
- Many MPOs described the 2035 plan as a major change or shift from previous plans due to various factors such as addressing multiple modes, emphasizing transit, testing land use scenarios, and/or optimizing the performance of existing facilities.
- Attention to the transportation/land use connection was evident in many LRTPs.
- Plans touted and reinforced regional planning efforts.
- Transit became a serious competitor for transportation dollars.
- Numerous freight studies throughout the state provided substance to LRTP freight discussions.
- Faced with diminishing funds to meet increasing transportation needs, MPOs worked creatively to optimize existing transportation facilities as well as enhance community livability.
- The process for prioritizing projects and moving them from the needs plan to the cost feasible plan is becoming clearer.
- Public participation efforts continue to evolve with the use of social media and recognition that some approaches prove more effective than others.
- Environmental justice was commonly addressed and a handful of MPOs directly analyzed the benefit to populations protected by Title VI.
- Safety and security remained relevant in most LRTPs.
- A few MPOs directly tackled complex emerging issues while others touched on them indirectly.

Based on these observations, the following suggestions (listed in no particular order of importance) are intended to guide MPOs during the drafting of their next LRTP and do not in any way constitute requirements. The suggestions

may be considered in addition to the MPOAC Financial Guidelines adopted by the MPOAC on January 24, 2013.

- Ensure that needs plan projects are appropriate to meet the identified transportation need while advancing the goals and policies of the MPO.
- Determine transit needs beyond the ten-year transit development plan horizon and without consideration of revenue.
- Be clear about policy and project tradeoffs that are made to maximize available revenue.
- Develop a concise, reader-friendly brochure that clearly identifies planned projects.
- Use land-use scenario planning to assess if different scenarios may decrease future travel demand.
- Provide unified data throughout LRTPs that include more than one county and/or more than one MPO.
- Continue to improve planning for freight movement.
- Continue to improve on relating how information gained during public involvement activities is used in LRTP development.
- Strive to incorporate local knowledge along with FDOT's ETDM planning screen to ensure a thorough understanding of potential project impacts.
- Increase the discussion of the MPO's role in transportation system security.
- Increase consideration of bicycle and pedestrian safety.
- Address transportation infrastructure mitigation and adaptation measures necessitated by climate change.
- Consider aging road user safety, access, and mobility.

The twenty-year statewide funding shortfall from 2016 through 2035 is estimated to be $126.4 billion in 2009 dollars. Annualized statewide, the shortfall is approximately $6.32 billion per year. Table 1 contains a comparison of the shortfall estimate to previous estimates expressed in 2009 dollars (note that the statewide shortfalls contained in Table 1 from previous LRTP reports have been inflated to 2009 dollars for comparison purposes and, therefore, do not match the shortfall amounts provided in those reports). Since the previous calculation (in 2008), the shortfall has increased by 84 percent. Between 1997 and 2012, the shortfall grew by a cumulative 300 percent.

The statewide funding shortfall calculation is a comparison of the estimated transportation needs (Needs Cost) over the life of the plan to the anticipated revenue (Anticipated Revenue) over the same time period. A common base year - 2009 - for dollar amounts was used to ensure like comparison.

Needs Cost – Anticipated Revenue = Shortfall

The shortfall estimate addresses only areas designated as metropolitan planning areas of the state and captures only surface transportation infrastructure addressed in MPO plans.

Table 1: Growth of Statewide 20-Year Funding Shortfall

LRTP Review Year	Original Shortfall (billions)	Original Base Year	Shortfall in 2009 Dollars (billions)	Percent Growth	Cumulative Growth
1997	$22.3	1995	$31.4	--	--
2002	$37.7	2000	$47.0	43%	--
2008	$62.5	2005	$68.7	46%	110%
2012	$126.4	2009	$126.4	84%	300%

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Introduction

In order to address the need for regional coordination of transportation plans across jurisdictional boundaries, Congress established metropolitan planning organizations (MPOs). Every urbanized area with more than 50,000 people as defined by the U.S Census must be part of an MPO; an MPO may include more than one urbanized area and an urbanized area may be covered by more than one MPO. In Florida, there are twenty-six MPOs, covering 28 urbanized areas, all or part of thirty-nine counties and more than 94% of Florida's population.

MPOs are subject to specific federal legislation and regulations including the responsibility to oversee a continuing, cooperative and comprehensive transportation planning process most recently updated in federal law by Congress in MAP-21, Moving Ahead for Progress in the 21st Century. However, from August 2005 through July 2012, requirements were guided by the Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU).

One of the core documents produced through the metropolitan transportation planning process is the long range transportation plan (LRTP). Federal and Florida statutes and rules require plans to cover at least a twenty-year time horizon. Plans must also be cost-feasible, which is defined as containing only projects that can be funded with reasonably expected revenue sources over the life of the document. SAFETEA-LU also enumerated eight planning factors that must be considered in the planning process. The planning factors are illustrated in Figure 1.

Florida State Statutes also promote consistency with the Florida Transportation Plan (FTP) and the State's strategic investment policies. Even with all the rules and guidance in place to govern the metropolitan transportation planning process, MPOs are permitted to, and in practice exhibit, considerable variation in the content, format, and complexity of LRTPs.

This research involved a review of the most recent MPO long range transportation plans in Florida. The purpose of this research is to collect useful information regarding the evolution of LRTPs. The content, format, methodology, and priorities of each plan were examined in relation to its peers, reviews from previous cycles, and generally accepted planning practices. Additionally, a transportation funding shortfall was estimated for the state's urbanized areas using information from each MPO LRTP. Note that this research is not a regulatory review and does not analyze whether each LRTP meets specific federal or state requirements.

Source: USDOT

Figure 1. Overview of federal planning factors.

Previous LRTP Reviews

This research continues the series of similar Florida MPO LRTP reviews conducted in 1997, 2002, and 2008. Each review was conducted after all MPOs in the state had adopted a new LRTP. Conducting this research on a regular basis allows the identification of trends and changes in MPO plans. Observations and suggestions made in the research report provide MPOs with useful ideas and concepts that may be incorporated into their next plan update. Previous studies are described briefly below and in more detail in Appendix A.

1997 Review of Long Range Transportation Plans

The first LRTP review was conducted in 1997, after all MPOs in Florida had adopted LRTPs under the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The research served as a baseline for the study of processes, methodology, and prevailing issues in the state. Several observations and suggestions were made. It was noted that most plans were dominated by transportation demand modeling data outputs, which made them very large and difficult for the public to understand. There was widespread uncertainty about the definition of a transportation need. Plans were not forthcoming about the challenges and unique characteristics of their region. Lastly, MPOs displayed widely varying degrees of concern and attention to environmental and air quality issues.

MPO plan authors cited difficulty addressing two issues. One was the general inability to interest the public in the LRTP drafting process, which they attributed to a lack of resources to undertake more extensive public involvement efforts. The other issue was difficulty in addressing needs on facilities outside of the Florida Intrastate Highway System (FIHS) due to low levels of funding. Based on the review, the research team offered suggestions for the next generation of long range transportation plans.

2002 Review of Long Range Transportation Plans

In 2002, a second review of LRTPs was conducted for MPO plans completed under the requirements of the Transportation Equity Act for the Twenty-First Century (TEA-21). TEA-21 consolidated the number of planning factors from sixteen to seven and placed greater emphasis on transit capital construction, environmental protection, and public involvement in the planning process.

While the study found that most MPOs had improved the quality and scope of their LRTPs, room for improvement was found particularly regarding document structure and the consistency of planning methodologies. The research team noted continuing wide variation in the criteria used to determine a transportation need, considerable variety in systems for selecting projects for inclusion in the cost feasible plan, and internal inconsistency.

2008 Review of Long Range Transportation Plans

In 2008, the third consecutive review of MPO long range transportation plans was conducted. MPO plans were affected by the passage of SAFETEA-LU and its accompanying rules which came into effect between reviews. Although some MPOs had already adopted their LRTP for this cycle prior to the passage of the bill, all MPOs were required to bring their LRTPs into conformity with SAFETEA-LU by July 2007. Many did so through minor amendments, often in the form of a new appendix which did not significantly modify the original LRTP document.

Many observations regarding the plans were included in the review. LRTPs were substantially more user-friendly and better organized than was previously the case. MPOs were meeting or exceeding levels of public involvement set forth by state and federal law, and continued to develop new methods for communication. There was wide-spread reliance on the Efficient Transportation Decision-Making (ETDM) screening process to identify cultural, environmental, or community impacts, often to the exclusion of independent analysis. There was little consistency across the state on the horizon year and effective years of LRTPs.

About the 2012/13 Review

The fourth review of MPO LRTPs began in August 2011 as Florida's MPOs neared the completion of a plan update cycle. The state's twenty-six MPOs produced twenty-four LRTP documents, including joint plans developed between the Martin MPO and St. Lucie County TPO as well as between the Collier County MPO and the Lee County MPO.

Each MPO was asked to provide a hard copy of their LRTP. Nearly two-thirds of the MPOs provided the hardcopy with a few providing extensive documentation. More than 1/3 of Florida MPOs chose to provide either a hard copy of only the plan executive summary along with a CD of the plan, a CD only, or, in a few cases, instructed the researchers to access the plan from their website.

Plans were reviewed between October 2011 and December 2012. An important component of this project was the collection of data on the 20-year statewide funding shortfall. MPO directors were given the opportunity to confirm the data used in this calculation when deemed necessary. Further information on the shortfall calculation and its assumptions can be found in the Statewide Funding Shortfall section of this report and in Appendix B.

The anticipated Florida High Speed Rail project was placed on indefinite hold when the Governor declined federal dollars for the project in early 2011. Because construction was expected to begin in 2011 with service following as early as 2014, a few MPOs reflected the HSR project along with plans to provide access to the HSR stations in their LRTPs which may have affected projected needs costs. Affected MPOs included the Hillsborough County MPO, the Polk TPO, and MetroPlan Orlando.

The 2012/13 MPO LRTP Review

Observations

MPO long range transportation plans were developed under the requirements of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), yet each remains unique. A review of each individual plan revealed the following broad observations highlighted with examples from the various plans:

LRTPs continue to improve in terms of readability and reader-friendly formats.

Most LRTPs were very user-friendly and readable with tables, graphs, photographs, and maps visually enhancing the content. All plans were available on MPO websites, easily downloadable, and viewable on a standard screen as suggested in the *2008 LRTP Review*. Two plans were developed in an over-sized format (11" x 17") that were printable on regular-sized paper, however, the print was then very small. While all plans were available online, it is unclear if or how MPOs are providing hard copies to those without convenient access to a computer as recommended in the *2008 LRTP Review*.

In a few cases, plans were too technical or were too disjointed for the average citizen to be able to follow. For example, those plans developed as a series of individual technical documents would be more user-friendly with a strong main document to tie them together and draw conclusions for the reader. The ability for MPOs to provide reader-friendly plans may be limited by resources particularly when the priority is likely to be attaining assistance with the more technical aspects of the planning process.

Many plans included exceptional examples of reader-friendliness. For example, while most LRTPs contain only lists of unfunded and cost-feasible projects, a few included individual project descriptions complete with map. The Martin-St. Lucie LRTP described major projects such as the US 1 Corridor Retrofit Project and illustrated individual projects along with a description, cost, and estimated timeframe.

Other LRTPs included more descriptive information regarding why specific issues were addressed such as a federal requirement or FDOT guidance. The Hillsborough MPO LRTP included a section at the end of several chapters that described how the information was used in shaping the plan that served to provide the reader with increased understanding of plan development.

Nearly all MPOs developed an executive summary. Some provided a brochure, fold-out map, or similar document for sharing the most important aspects of their LRTP. MetroPlan Orlando produced a modern, graphically-pleasing brochure that included a CD containing all plan documents. The Hillsborough MPO developed a mail-friendly newspaper insert that presented the plan in a question-and-answer format.

Many MPOs described the 2035 plan as a major change or shift from previous plans due to various factors such as addressing multiple modes, emphasizing transit, testing land use scenarios, and/or optimizing the performance of existing facilities.

This shift was noted even in LRTP titles where some MPOs went beyond entitling the plan *2035 Long Range Transportation Plan* and used more descriptive titles such as the following:

- Direction 2035 – Shaping Our Future (Bay)
- Transformation (Broward)
- Regional Mobility Plan (Capital Region)
- Livable Community Reinvestment Plan (Gainesville)
- Enhancing Mobility (Martin-St. Lucie)
- Shaping the Future (Palm Beach)
- Mobility Vision Plan (Polk)
- Mobility 2035 (Sarasota/Manatee)

Many references were made to the broader concepts of mobility and accessibility rather than merely transportation; other references were made to larger visions using the terms "shaping" and "livable." A number of MPOs observed that the general public requested more options for moving around and between their communities and for making their communities more livable.

MPO LRTP vision and/or mission statements often echoed the planning factors detailed in SAFETEA-LU, however, some noted a shift in plan emphasis. For example, the 2035 Broward Long Range Transportation Plan vision states a clear intent to "Transform transportation in Broward County to achieve optimum mobility with emphasis on mass transit while promoting economic vitality, protecting the environment, and enhancing quality of life." The mission continues this modal emphasis by promoting "the safe, secure, and efficient movement of people and goods by providing balanced transportation choices that support superior mobility through improvements in all modes with a focus on mass transit and transit-supportive land use in key corridors and mobility hubs."

Most LRTP goals and objectives were closely aligned with the SAFETEA-LU planning factors. Many plans illustrated how the goals and objectives aligned with the required planning factors in a table format; some also addressed the goals of the Florida Transportation Plan as recommended in the *2008 LRTP Review*.

Some LRTPs also illustrated how the goals and objectives were carried out in the plan through the use of various mechanisms such as a table listing each objective and where in the plan it had been addressed. Another mechanism was the use of measures of effectiveness for each objective that were then analyzed to assess how and to what degree the plan or plan alternatives accomplished the stated goals and objectives. The Bay County TPO employed implementation steps following each objective while the Pasco County MPO included measures of effectiveness associated with each objective. The Capital Region TPA included implementation strategies for both urban and rural area that "…ultimately functioned as a project screening and prioritization tool focused on implementation."

Attention to the transportation/land use connection was evident in many LRTPs.

In response to state legislative requirements calling for reductions in greenhouse gases and vehicle miles of travel (all since removed from law), many MPOs, most for the first time, employed land-use scenario planning to illustrate how transportation needs would be affected by different growth scenarios. Acknowledging that growth could continue on the same path or change in accordance with targeted growth policies, scenarios usually included historical trends along with one or more other scenarios focusing on specific concepts such as growth hubs and corridors or infill. The Polk TPO 2060 Transportation Vision Plan "lays out a vision of Polk County's land use and transportation future.

It is premised on a land use scenario that discourages sprawl and instead focuses growth in historic towns, business centers, commercial centers and urban centers. These would be connected by core transit corridors…"

The Martin-St. Lucie Regional LRTP adopted the Infill Alternative that "identified very specific redevelopment districts that would promote a mix of uses, context sensitive design, and densities and intensities that are transit supportive" for plan development. The plan illustrated the cost of the Historical Trend Alternative over the Infill Alternative by including a list of additional roadway projects (totaling $200 million over the life of the plan) that would be needed to accommodate the Historical Trend Alternative.

While some MPOs chose to use historical growth trends to analyze transportation demand (citing their lack of control over growth policies as a reason for doing so), many others that evaluated various land use scenarios noted that the land use concepts would need to be implemented through local government comprehensive plans and land development regulations. The Capital Region TPA chose the "quality growth scenario" for developing the LRTP and included a set of local government tools and strategies to work toward implementation of a "fiscally efficient growth pattern." The Pasco County MPO devoted a chapter to implementation and described key implementation actions necessary for the MPO and its partners to undertake. Notably, MPOs housed in county planning departments had very strong land use scenarios tied to the county planning process.

Some MPOs were very thorough in providing performance comparisons of various land use scenarios. The North Florida TPO illustrated land use and transportation performance measures for two scenarios in a table including measures such as percent of new jobs located within ½ mile of proposed premium transit corridors and total congestion delay. The scenario analysis indicated whether the MPO would be in a leadership role or a reactive role. The Gainesville MTPO performed an accessibility analysis using transportation network factors supporting non-automobile travel modes and then developed a needs plan "blending the best of the highway, BRT, and streetcar elements."

Plans emphasized and reinforced regional planning efforts.

Regional plans developed through various types of MPO alliances served as important influences on LRTPs. The West Central Florida Chairs Coordinating Committee (including the Hernando MPO, Hillsborough County MPO, Pasco County MPO, Pinellas County MPO, Polk TPO and the Sarasota/Manatee MPO) has five regional transportation strategies to provide guidance in the development of each MPO's LRTP. Interest in major transit investments throughout this region was piqued by the Tampa Bay Area Regional Transportation Authority (TBARTA) Regional Transportation Master Plan. The Pinellas County MPO noted the iterative process of concurrently developing its LRTP and the Regional Plan as well as its work with neighboring MPOs on the "type, location, timing and phasing of projects that cross county lines."

MPOs described regional planning and coordination efforts in detail. Many LRTP needs plans and cost feasible plans include projects identified in regional plans. In some cases, regional plans were developed from the bottom up – projects on the regional system that are already in member plans were included in the regional plan. In other cases, regional transportation needs were identified as projects that then made their way into individual MPO LRTPs.

Many MPO LRTPs described regional planning and coordination efforts between the MPO and various partners. The Collier and Lee County MPOs furthered previous commitments to regional cooperation by working in unison on a combined 2035 LRTP update. The Martin MPO and St. Lucie TPO submitted a joint LRTP as they had in the previous update cycle. The Sarasota/Manatee MPO LRTP used the West Central Florida 2035 Regional Mobility Plan as a foundation for its region-wide needs assessment that focused on eleven defined multimodal transportation corridors.

Regional efforts also included coordination with local governments, regional planning councils, nearby MPOs and public and private stakeholders on major regional visioning and planning efforts. For example, MetroPlan Orlando coordinated with

the regional planning effort, "How Shall We Grow," to create an alternative land use scenario in addition to the trend scenario (an extrapolation of the historic growth pattern), discovering that transportation project needs were not as great for the alternative land use scenario as they were for the trend scenario.

Smaller MPOs also described regional coordination efforts with areas adjacent to their MPOs. Bay County participates in the Gulf, Bay, Holmes, Washington Regional Transportation Partnership (RTP) for the purposes of establishing regional transportation priorities.

Some LRTPs that included more than one county tended to treat the counties separately rather than as a unified region. Information was presented as separate demographics as well as separate project lists without including any overall summaries. This approach may not result in the integrated regional system that could be produced through a unified planning process.

Transit became a serious competitor for transportation dollars.

More than a few MPOs included in-depth transit planning and projects in LRTPs. In many instances, public involvement efforts revealed that citizens sought transit as an alternative to automobile travel and indicated that a greater portion of transportation funds should be spent on transit.

In analyzing transit needs, some MPOs included their transit development plan (TDP) that covers only a ten-year horizon, leaving a gap in the outer ten years of their 20-year planning horizon. Some built upon existing transit plans while others considered transit needs to the extent funding was available. A few analyzed transit needs as a part of the overall transportation system, determining total need before applying anticipated revenue. Although some specifically mentioned planning for the transportation disadvantaged as recommended in the *2008 LRTP Review*, representative individuals or groups participated in all planning efforts. As a whole, the attention to transit planning was an improvement from previous planning efforts that made limited mention of transit needs or funding to address those needs.

A few MPOs added regional transit projects to supplement projects already identified in the TDP. In developing transit needs, the Palm Beach MPO used their TDP as a base and added increased local bus service as well as a number of additional services including bus rapid transit, a Tri-Rail extension, and additional Amtrak service. The North Florida TPO focused on long-range, high-capacity regional transit projects, such as commuter rail and bus rapid transit, rather than just the existing local bus service.

The Pinellas County MPO performed a detailed transit analysis and developed a 2035 Bus and Rail Transit Network. This network coordinates local transit priorities with the Tampa Bay Regional Transportation Authority (TBARTA) master plan and guides the development of bus transit beyond the ten year planning horizon of the TDP.

The Broward MPO has placed an emphasis on mass transit in its long-range planning efforts. This emphasis was reflected in the Needs Plan which considered the possibility of three separate transit scenarios: 1) Rapid Bus, 2) Bus Rapid Transit, or 3) Light Rail Transit. Polk County implemented a "transit centers and corridors overlay" district identifying the need for transit improvements, transit-supportive land uses, and community design changes that are reflected in the Polk TPO's LRTP as "recommendations for premium service such as BRT and commuter rail." In the lists of transportation needs and cost affordable projects, the Gainesville MTPO listed transit projects first, clearly emphasizing improvements in the provision of transit service over new highway capacity projects.

Despite the desire of citizens, some MPOs were unable to translate the desire for new or increased transit service to the cost-feasible plan because they were unable to identify funding sources to pay for transit operating expenses. This often resulted in MPOs being unable to fully allocate reasonably anticipated transit capital funds. In a few cases, LRTPs included plans to seek new funding – most often the charter county and regional transportation system surtax.

Numerous freight studies throughout the state provided substance to LRTP freight discussions.

While some MPOs gave only cursory mention of freight-related issues, others provided detailed discussions incorporating data, analysis, and recommendations from regional freight or regional goods movement studies. Details regarding the transportation system that supports freight mobility, including regional goods movement corridors, local truck routes, and hot spots (locations with high accidents or difficulty in truck maneuvering), were provided along with intermodal connections including seaports, airports, rail, and trucking.

Freight analysis methods were also improved over previous LRTPs. MetroPlan Orlando noted that a truck/freight component was added to the Orlando Urban Area Transportation Study model. In addition, their LRTP included an urban freight village land use plan and strategies to facilitate intermodal freight staging and access to rail, trucks, ports, and airports. The Miami-Dade LRTP included eleven freight goals. Freight need was a consideration in the selection of their cost-feasible projects and freight-supportive projects were specifically listed in their plan. To ensure that identified freight mobility needs were addressed to the extent possible, the Sarasota/Manatee MPO developed objectives, performance measures, and data requirements for evaluating and prioritizing freight needs.

In some cases where freight studies had not yet been prepared, a few MPOs nevertheless included freight discussions. The Lake-Sumter MPO considered the Tavares Freight Village Plan and a Sumter County planned intermodal freight center as part of the planning process. In addition, the LRTP noted that a regional freight study was programmed in the upcoming Unified Planning Work Program.

Faced with diminishing funds to meet increasing transportation needs, MPOs worked creatively to optimize existing transportation facilities as well as enhance community livability.

Some MPOs noted that a lack of funds brought about thoughtful consideration and sometimes difficult trade-offs in regard to which projects or types of projects should be funded. The Martin-St. Lucie TPO's LRTP included the US 1 Corridor Retrofit Project "a response to the conflicting demands placed upon the US 1 corridor to at once handle regional through traffic and provide an environment that enhances transit ridership and pedestrian activities in a well-designed, multi-use condition." Rather than widening the road, a number of other projects including BRT, transit signal priority, intersection improvements, and network improvements will be implemented to address travel demand.

The Space Coast TPO noted that success with intelligent transportation system (ITS) strategies "have encouraged the TPO to focus more of its resources away from expensive roadway widening projects and toward strategies that optimize the efficiency of the existing network." ITS projects have resulted in a reduction of total travel time, a reduction in travel time variability, a reduction in the number of stops per trip, and greater overall consistency of travel speed on certain facilities.

Several MPOs decided to scale down larger projects in order to spread funds further or focus on critical needs. The Sarasota/Manatee MPO decided that rather than identifying the southern portion of the Venice Bypass as a project in the LRTP (a new facility), the money would be better spent to advance other less extensive and lower cost projects, namely the U.S. 41 Multimodal Corridor. The plan noted, "There is very limited funding to construct significant capacity expansions, so the key strategies in the plan focus on optimizing the performance and safety of existing facilities, preserving the capacity of the existing system, reducing vehicle miles of travel (VMT) through integrated land use and transportation strategies, creating and supporting existing markets for transit and enabling more bicycling and walking through roadway retrofits and expansion of non-auto facilities."

The Hernando County LRTP identified areas of critical transportation need where specific issues must be resolved. "These issues can be in the form of large or small-scale operational deficiencies such as congestion or high accident locations, caused by impending development that will result in high traffic levels, or by physical deterioration of the system." A table contained

the facility description, nature of concern, planning factors, and the proposed transportation improvement.

In order to allocate funds to all types of projects, the use of boxed funds – a designation of a specific amount or percentage of available funds – has become a widely used planning mechanism. The Miami-Dade LRTP set aside funds for congestion management and non-motorized transportation projects. Beginning in 2005, the Volusia TPO has set aside 30% of Surface Transportation Extra Urban funds for transit. A number of MPOs acknowledged that tolls may be necessary to construct any major new facilities. A few included toll facilities in their plans; however, little discussion regarding toll analysis was included.

The process for prioritizing projects and moving them from the needs plan to the cost feasible plan is becoming clearer.

In an improvement from previous LRTPs, many MPOs described their project prioritization and selection process very clearly and simply. However, a few MPOs that indicated that projects were subjected to such a process did not include a specific description of that process in the plan document.

In most cases, the evaluation criteria used to prioritize projects were aligned with plan goals and objectives. The Polk TPO devoted a chapter to describing how projects were prioritized within three general categories - roads and highways, transit, and non-motorized facilities – each with specific evaluation criteria. Public input was a criterion for each of the categories.

The Indian River County MPO prioritized highway projects in their needs plan using ten criteria and then sorted projects by their ranking within major funding categories. They noted that although a project ranked higher, it may not have been moved to the cost feasible plan due to high cost, instead being replaced by a project or projects with relatively lower costs, regardless of its performance in the evaluation.

Notably, these processes are unique to each MPO, suiting the objectives and needs of the specific region. The Pasco County LRTP described the process and various factors used to move projects from the needs plan to the cost feasible plan including factors such as restoring projects that were dropped from the current FDOT five-year work program, projects programmed in the County's 15-year work program, roadways with high levels of congestion, projects in the 2025 LRTP, projects that support other strategic initiatives in the planning area, and projects that met specific prioritization criteria.

The Hillsborough MPO moved on-going projects, such as road projects for which right-of-way had been acquired, to the top of the priority list. Projects that were identified by local governments and transportation agencies for potential charter county and regional transportation system surtax funding were the next group of projects to be prioritized. Additional projects were prioritized using a weighted scoring system using ten performance criteria based on LRTP goals and objectives.

Public participation efforts continue to evolve with the use of social media and recognition that some approaches prove more effective than others.

MPOs were able to use their recently adopted public involvement processes from federally required participation plans in the development of LRTPs during this cycle. The processes were described in detail. Techniques employed by most MPOS include a website (some interactive), meetings and workshops, and direct mailing and/or emailing; some used radio and television for advertising meetings and some even televised the public meetings. LRTP materials with improved visual formats were produced in more than one language by a number of MPOs.

Capitalizing on the social media trend, the Florida-Alabama TPO used a Facebook page that notified the public of 2035 LRTP update activities including meetings, workshops, and presentations. MetroPlan Orlando used visualization methods including "emerging social media platforms like Flickr, Veoh, and YouTube to disseminate information using video, photographs, charts, graphs, renderings and animation." The Polk TPO used a series of newsletters in English and Spanish; their LRTP included poster contest artwork from 4th through

8th graders depicting "Transportation of the Future." This program "has been recognized by the Federal Highway Administration (FHWA) as an outstanding example of public outreach."

MPOs that sought input by attending community events and organization meetings said that they garnered greater participation than those using the standard public meeting/workshop format. By displaying maps and taking surveys at a variety of locations including libraries, senior centers, farmers markets, and the mall, the Space Coast TPO brought the planning process to the people. The Hillsborough County MPO reported over 15,000 participants in meetings and public events and provided a list of where these events occurred. Those that relied on historical approaches such as public workshops sometimes experienced sparse attendance with as low as two members of the general public reported at one workshop.

Some MPOs used existing committee structures or appointed a steering committee to ensure wide and diverse participation. The Sarasota/Manatee MPO used focus groups to identify key transportation issues. The Hillsborough MPO established a working group made up of jurisdictional representatives that wanted to be involved in the planning process.

Participation methods such as surveys and interactive activities seemed to be popular mechanisms to determine the desires of the community. In particular, a number of MPOs used an activity during which citizens were given a fictitious dollar amount, such as $100, and were asked to determine how much money they would spend on each type of project or mode of transportation. Such input was then used as guidance regarding how much revenue should be spent on each mode. The Miami-Dade MPO used a blocks and ribbons exercise to engage citizens in visualizing population and employment growth along with transportation solutions to meet increased demand from that projected growth.

While public participation efforts become more sophisticated, some MPOs still struggled with conveying just how public input was used to develop the plan as recommended in the *2008 LRTP Review*. Most LRTPs explained how information was shared with the public and some included details regarding specific statements received from the public. Plans further contained general statements that public comments were considered at various stages of the planning process, particularly during alternatives testing. This suggests that public comments have become integral to the planning process and are incorporated in an iterative manner. In a few instances, the LRTP directly stated how the public input was used. For example, the Gainesville MTPO included a section on the "disposition of public comments" discussing how public comments were used in LRTP development.

Environmental justice was commonly addressed and a handful of MPOs directly analyzed the benefit to populations protected by Title VI.

MPOs reached out to low-income, minorities, and other communities protected by Title VI of the Civil Rights Act through targeted community events during their respective long-range planning process. Most plans discussed environmental justice issues and even mapped protected populations and a few MPOs even identified the benefits of planned transportation projects to those populations.

A table illustrating the transportation benefits and impacts by socio-economic group was included in the Broward MPO LRTP. The Hillsborough County MPO included a table to illustrate the LRTP benefits to Title VI protected communities including such measures as the number of bus route miles within economically disadvantaged neighborhoods and the percent of economically disadvantaged residents within ¼ mile of frequent transit service. The Pasco County MPO included comparisons of highway lane miles and bus route miles, average travel times, and accessibility for areas with higher than average protected populations versus all other areas. The Pinellas County MPO LRTP provided a methodology and analysis of how low income and minority populations would benefit from the transportation project being proposed in the LRTP, primarily using maps.

The use of FDOT's Efficient Transportation Decision Making (ETDM) Process was used by all MPOs to determine potential environmental effects during the planning process. Detailed

project need statements were developed that should prove extremely useful throughout the planning and implementation phases of a project. As noted in the *2008 LRTP Review*, MPOs mainly relied on the ETDM Planning Screen to identify cultural, environmental, or community impacts with little to no discussion regarding any independent analysis that may have been performed by the MPOs regarding such impacts. This omission leaves questions with regard to the level of local knowledge used in the analysis.

Safety and security remained relevant in most LRTPs.

Following increasing focus on safety and security at the federal and state levels, most MPO LRTPs contained detailed discussion on the topics with almost half drawing clear distinctions between the two. In addressing safety, all MPOs referenced FDOTs Strategic Highway Safety Plan (SHSP) and some provided the four types of safety data collected by the state and ranked their counties against Florida counties and/or all U.S. counties – aggressive driving, intersection crashes, vulnerable road users, and lane departure crashes. In addition, many MPOs participate in community traffic safety teams that review safety concerns and promote safety programs throughout the state.

The Space Coast TPO established "performance measures and targets to evaluate progress towards achieving system safety objectives" which were illustrated in table format. Objectives included crash and injury reduction, improved response and clearance times, improved monitoring, improved safety awareness among pedestrian and bicyclists, and improved safety and security of the transit system. In many cases, original data needed to be collected to establish baseline numbers.

Transportation system security elements often focused on the topics of large-scale terrorist attacks and natural disasters. Hurricane evacuation routes were often identified and evacuation was frequently a criterion for project prioritization. Some MPOs identified high-value transportation assets and discussed security plans along with reference to their required continuing of operations plan (COOP). A few referenced the importance of railroad security. The Space Coast TPO adopted a goal of improving security to be accomplished through objectives addressing system resilience, maintaining evacuation capability, and maintaining mobility. The LRTP included security threat scenarios and also established related performance measures and targets for meeting security objectives.

A few MPOs directly tackled complex emerging issues while others touched on them indirectly.

The Federal Highway Administration provided a support document, "FHWA Strategies for LRTP Updates" in 2008 in response to requests for clarification regarding LRTP requirements. The document suggested that MPOs consider the following emerging issues in the development of their LRTPs due to their importance to the planning effort:

- Indirect and cumulative impacts;
- Multimodal feasibility;
- Performance measurement;
- Air quality; and
- Climate change.

Many LRTPs included discussion of one or more of these issues. The North Florida TPO indicated which LRTP goals and objectives reflected the emerging issues in table form. Indirect and cumulative impacts tend to occur over a long period and may involve changes in the overall development and growth patterns of an area. Such impacts were considered to some extent by those MPOs that analyzed several different land use scenarios.

Quite a few MPOs included measures of effectiveness or other forms of performance measurement. Such measures were tied to plan goals and objectives and used as a means to measure how varying cost feasible alternatives advanced plan goals and objectives. MetroPlan Orlando employed performance measures to analyze transportation alternatives as well as to provide benchmarks and targets to assess the LRTP over time. Although not required for the last round of LRTPs, MAP-21 requires performance measures be developed for the national highway system. Individual MPOs will be required to establish targets in alignment with state targets.

Regardless, the use of measures helps MPOs to evaluate how planned projects may perform.

Several MPOs anticipated being named an air quality non-attainment area prior to their next plan update cycle due to proposed changes in the National Ambient Air Quality Standard (NAAQS) for ozone; however, no standards changes were implemented and Florida MPOs remained in attainment. The Hillsborough MPO noted strategies in its LRTP to aid in the reduction of vehicle miles of travel and thereby minimize the negative impacts of vehicle emissions on air quality. Strategies included promoting transit service expansion and usage, promoting transit-oriented design, and promoting transportation demand management programs.

An increase in recognition of climate change was evident as many MPOs included some discussion of climate change with a few including in-depth descriptions of local efforts to address climate change. The Miami-Dade MPO works with the County's' Climate Change Advisory Task Force (CCATF) that "is charged with identifying potential future climate change impacts to Miami-Dade County and providing ongoing recommendations regarding mitigation and adaptation measures to correspond to climate changes." Working closely with the CCATF Greenhouse Gas Reduction Alternative Fuels and Transportation Subcommittee, the MPO investigated climate emission calculation tools and performed emissions analysis for the 2005 base year, the 2035 existing plus committed network, the 2035 candidate improvements, and the 2035 cost feasible plan. The LRTP includes a more detailed discussion on local sustainability practices.

A detailed section on peak oil production and decline scenarios was included in the Gainesville MTPO LRTP. Modeling included a scenario in which fuel prices rise substantially, resulting in a sharp decline in vehicle miles of travel. Both land use and transportation strategies to address this possibility were suggested. Land use strategies focused on location efficiency and modifying land use patterns along with complimentary transportation strategies.

Another notable example is the Charlotte County-Punta Gorda LRTP that included a detailed chapter on hazard mitigation related to climate change including development of a hazard profile – a description of the types of hazards that may occur. A transportation vulnerability analysis was conducted "to identify cost-effective hazard mitigation actions that prevent, avoid, or reduce the impacts of a hazard on people, property, or the natural environment."

Another issue that may be considered in the future is aging road user safety, access, and mobility. The Volusia TPO noted that by 2035, the population age 65 or older may be almost 28% of the county's population and that travel behavior in this age group may be limited by the inability to own and/or operate an automobile. The Capital Region TPA also mentioned the need to provide mobility for elderly populations and the Hillsborough MPO mentioned FDOT's Safe Mobility for Life Program.

Statewide Funding Shortfall

The twenty-year statewide funding shortfall from 2016 through 2035 is estimated to be $126.4 billion in 2009 dollars. Annualized statewide, the shortfall is approximately $6.32 billion per year.

Table 1 contains a comparison of the shortfall estimate to previous estimates expressed in 2009 dollars (note that the statewide shortfalls contained in Table 1 from previous LRTP reports have been inflated to 2009 dollars for comparison purposes and, therefore, do not match the shortfall amounts provided in those reports). Since the previous calculation, the shortfall has increased by 84% percent. Between 1997 and 2012, the shortfall grew by a cumulative 300 percent.

Table 1. Growth of Statewide 20-Year Funding Shortfall

LRTP Review Year	Original Shortfall (billions)	Original Base Year	Shortfall in 2009 Dollars (billions)	Percent Growth	Cumulative Growth
1997	$22.3	1995	$31.4	--	--
2002	$37.7	2000	$47.0	43%	--
2008	$62.5	2005	$68.7	46%	110%
2012	$126.4	2009	$126.4	84%	300%

A statewide transportation funding shortfall estimate using information from MPO long range transportation plans was first calculated in 1997 followed by calculations in 2002 and 2008. The calculation in this report was developed using data from MPO LRTPs adopted between 2008 and 2012. The shortfall estimate addresses only areas designated as metropolitan planning areas of the state and captures only surface transportation infrastructure addressed in MPO plans. It does not include aviation, freight rail, or maritime shortfalls, although some local access roads are included.

Each MPO LRTP in Florida included a needs plan that identified transportation projects needed to meet anticipated travel demand. The needs plan generally included all modes of surface transportation (i.e. roadway, transit, bicycle, and pedestrian); however, funding for some modes such as pedestrian, bicycle, congestion management, and intelligent transportation systems were sometimes provided as boxed funds with individual projects to be selected at a later date under a separate project selection process. Some needs plan costs included the anticipated operation and maintenance costs of transportation facilities. A few designated illustrative projects. These needs plan costs (which included all cost feasible projects) were used in the shortfall calculation.

Sufficient data was not available to estimate a shortfall by individual mode. Although many plan documents included non-roadway project costs and/or revenue, unfunded project cost data was inconsistent and sometimes unavailable. Information provided in the LRTPs or obtained through individual MPOs was used to calculate the statewide funding shortfall.

The statewide funding shortfall calculation is a comparison of the estimated transportation needs (Needs Cost) over the life of the plan to the estimated revenue (Revenue) over the same time period.

Needs Cost – Anticipated Revenue = Shortfall

A common base year of 2009 was established in the *MPOAC Financial Guidelines for Long Range Transportation Plans* (Appendix C) to ensure like comparison – apples to apples. Although LRTPs in this review cycle were more aligned in terms of base years, horizon years, and time periods than in previous plans, some adjustments were made to account for differences between plans. The common 20 plan years of 2016-2035 were available and used in each case with the exception of one MPO LRTP that covered the 20-year span from 2011-2030. Note that the planning period is beyond the timeframe covered

by MPO transportation improvements programs or the FDOT work program in place at the time of plan adoption.

Where more than 20 years were included in cost estimates and not broken out, an average annual shortfall estimate was calculated by dividing the total financial shortfall by the number of years the plan addressed. The annualized shortfall estimate was then multiplied by twenty to arrive at a twenty-year shortfall estimate for each MPO. All twenty-year shortfall estimates were totaled to calculate a statewide twenty-year funding shortfall estimate.

In past LRTPs, both needs costs and estimated revenue were provided in present day costs which enabled a fairly straightforward shortfall calculation. During the cycle of LRTPs developed between 2008 and 2012, this calculation was complicated by the federal requirement to report financial information in year of expenditure (YOE) dollars. The result is that while transportation needs were often expressed in present day costs (PDC), from 2008 to 2010 dollars, revenue was most often expressed in only YOE dollars. Additional calculation was required to adjust YOE dollars to a common present day cost – in this case, 2009. Appendix B details the methodology and assumptions used to calculate the statewide financial shortfall.

The shortfall between transportation needs and reasonably available revenues identified in MPO LRTPs continues to grow. Causes for this shortfall were identified in a 2012 study, *Florida MPOAC Transportation Revenue Study*, funded by the MPOAC and included:

- A loss of purchasing power in existing revenue streams that are not tied to inflation;
- A growing market for more fuel efficient cars (hybrids, compressed natural gas, electric, gasohol, etc.);
- Significant price increases for fuel;
- Public reluctance to accept additional user fees;
- National emphasis on alternative fuels and technologies;
- Telecommuting;
- Shifts in demographics that will impact revenues and the demand for transportation services; and
- Changing public attitudes towards environmental sustainability.

An additional factor that continues to affect the statewide shortfall is the definition of a transportation need. Generally, a needs plan should be appropriate to meet the identified transportation need while advancing the goals and policies of the MPO in the identified timeframe without consideration of revenue. This definition is broadly interpreted by some MPOs and narrowly interpreted by others. For example, some MPOs may include projects in their needs plan that for a variety of reasons, such as extraordinary cost, are unlikely to be built. This drives up the cost of their individual needs plan, and subsequently, the statewide shortfall estimate, often leading to questions regarding credibility.

The accuracy of a shortfall calculation is also limited by the complexity of comparing data collected from different LRTPs. These issues include the following:

- More MPOs included roadway operations and maintenance costs in the needs plan than was previously the case, however, some did not. This is largely due to the fact that highway operating and maintenance costs were not provided by FDOT for individual MPOs.
- Transit capital and operating costs, in most cases, only included the ten years covered by the transit development plan. A few MPOs did provide an estimate of transit needs for the entire 20-year planning period.
- A few MPOs did not have a total Needs Plan cost estimate published in the LRTP. Follow-up conversations and after-the-fact calculations were required to establish the cost of their needs plans. Only one MPO did not provide a cost estimate for unfunded needs.
- LRTPs were inconsistent in their inclusion of non-modal transportation improvements such as ITS, intermodal connectors, education programs, and safety improvements. Many MPOs included these types of projects in their LRTPs, but some used a boxed funds

approach, which does not produce a shortfall because unfunded projects are not necessarily included.

- Plans varied in the dollar base year and one plan varied in the horizon year for the entire plan.
- One MPO included three transit scenarios. Costs for the mid-range scenario were included in the shortfall calculation.

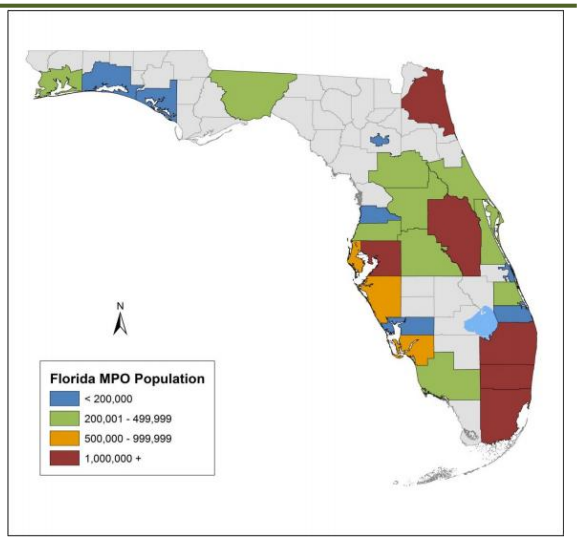
The continued variance in reporting needs costs, revenue, and shortfall among all MPO LRTPs makes calculation of a statewide funding shortfall difficult. The Financial Guidelines for the next LRTP cycle, adopted on January 24, 2013 and available on the MPOAC website, suggest that all MPOs include an estimate of unfunded costs in base year dollars in their adopted LRTP. A shortfall estimate provided by each MPO is likely to produce a more accurate statewide estimate.

Table 2 lists the shortfall for each MPO as well as the percent shortfall or percentage of need not met by anticipated revenue. All but one MPO provided adequate information to calculate a shortfall over the life of their current LRTP.

Figure 2 illustrates populations within Florida's MPO areas as of 2011. MPO shortfalls ranged from a high of nearly $30 billion to a low of about $111 million. Four of the five MPOs identifying the greatest shortfalls are from metropolitan areas with populations over one million.

This finding differs significantly from the 2008 LRTP Review where only one of the five MPOs reporting the greatest shortfall had a population over one million. Those four MPOs also reported the highest anticipated revenues. On the other hand, MPOs reporting the greatest shortfall percentage (comparing shortfall to needs) all have populations under 500,000.

The LRTPs of some of the largest MPOs showed the greatest increase in shortfall amount between the 2008 LRTP Review and this review including MetroPlan Orlando, Miami-Dade MPO, Hillsborough County MPO, and North Florida TPO. The Pinellas County MPO and the Pasco County MPO also showed a marked increase in shortfall.



Source: MPOAC

Figure 2. Florida MPO population as of 2011.

Table 2. 20-Year Projected Shortfall by MPO

MPOs	Shortfall (millions)	Percent Shortfall*
Bay County TPO	$2,721.3	87.8%
Broward MPO	$5,243.0	38.2%
Capital Region TPA	$2,243.5	89.7%
Charlotte County-Punta Gorda MPO	$1,070.5	n/a
Collier and Lee County MPOs	$2,100.0	50.0%
Florida-Alabama TPO	$6,948.8	95.4%
Gainesville MTPO	$845.0	87.0%
Hernando County MPO	$3,508.5	75.6%
Hillsborough County MPO	$11,635.4	48.9%
Indian River County MPO	$110.9	25.0%
Lake-Sumter MPO	$1,138.7	61.6%
Martin-St. Lucie MPO	$1,598.4	57.5%
MetroPlan Orlando	$29,848.2	70.6%
Miami-Dade Urbanized Area MPO	$18,728.6	51.5%
North Florida TPO	$6,641.6	56.2%
Ocala/Marion County TPO	$950.0	63.3%
Okaloosa-Walton TPO	$6,253.5	97.1%
Palm Beach MPO	$3,973.5	47.1%
Pasco County MPO	$6,374.9	n/a
Pinellas County MPO	$4,269.6	n/a
Polk TPO	$6,607.7	75.6%
Sarasota/Manatee MPO	$1,990.0	64.4%
Space Coast TPO	$792.1	49.5%
Volusia TPO**	$788.4	n/a
TOTAL STATEWIDE SHORTFALL	**$126,382**	

*** Needs not met by anticipated revenue.**
**** 2012 needs data unavailable. Shortfall projected using data from 2008 LRTP Review.**

Suggestions

The following suggestions, listed in no particular order of importance, are intended to guide MPOs during the drafting of their next LRTP. These are merely suggestions to enhance LRTPs and do not in any way constitute requirements. The suggestions may be considered in addition to the MPOAC Financial Guidelines adopted by the MPOAC on January 24, 2013.

1. Ensure that needs plan projects are appropriate to meet the identified transportation need while advancing the goals and policies of the MPO. In order for the statewide transportation needs estimate to be credible, each MPO must strive to ensure that identified needs not include an excess of projects to fill anticipated transportation demand. Note: In accordance with the adopted Financial Guidelines, **all MPOs have agreed to include an estimate of unfunded costs in base year dollars in their adopted LRTP**.

2. Determine transit needs beyond the ten-year transit development plan horizon and without consideration of revenue. Although some MPOs analyzed their true transit need, many did not. Like roadway needs, transit needs, including provision for the transportation disadvantaged, should be developed to meet anticipated demand or regional transportation objectives without consideration of revenue constraints.

3. Be clear about policy and project tradeoffs that are made to maximize available revenue. Readers should have a clear understanding of why priority needs are sometimes passed over in favor of other projects. In addition, discussion on how projects are selected for tolls should be included where applicable.

4. Develop a concise, reader-friendly brochure that clearly identifies planned projects. While all MPO LRTPs are available on the Internet, the content remains lengthy and often too complex for the average reader. In addition, some members of the general public do not have easy access to a computer. A brochure, fold-out map, or similar document that is easily mailed and/or provided at community gathering places will ensure that the essence of the LRTP is universally available. Nevertheless, MPO plans themselves should be reader-friendly and cohesive avoiding disparate and choppy chapters.

5. Use land-use scenario planning to assess if different scenarios may decrease future travel demand. Many MPOs employed this mechanism; however, more could take advantage of this approach. The application of several land-use alternatives provides a visual indication of travel demand and, therefore, provides a greater understanding of potential impacts for decision-makers.

6. Provide unified data throughout LRTPs that include more than one county and/or more than one MPO. Many LRTPs provided only separate population, employment, revenue, and project listings. Combining such information would illustrate true regional numbers and transportation needs and lead to a cost feasible plan that more fully addresses the integrated needs of the region.

7. Continue to improve planning for freight movement. The incorporation of freight has improved since the last LRTP cycle. MPOs should continue to work with the state as it develops the Freight and Mobility Plan.

8. Continue to improve on relating how information gained during public involvement activities is used in LRTP development. As noted in the observations section of this report, a few MPOs were quite descriptive regarding the use of information received as a result of the public involvement process. However, this aspect of many LRTPs could be improved. A reader's clear understanding of how public input is used will encourage future participation in the process. In addition, MPOs relying on traditional public workshops for input should broaden their approaches to obtaining public input.

9. Strive to incorporate local knowledge along with FDOT's ETDM planning screen to ensure a thorough understanding of potential project impacts. While the use of ETDM has been widely incorporated into the planning process, it may be at the expense of local analysis.

The strength of MPO planning is the application of local considerations and many MPOs seem to defer to ETDM findings.

10. Increase the discussion of the MPOs role in transportation system security. While many MPOs address safety in accordance with FDOT's SHSP, the separation of safety and security in federal requirements draws attention to security as an individual factor for consideration. Although MPOs may differ in roles regarding system security, MPOs should address their role in ensuring transportation system security in the LRTP.

11. Increase consideration of bicycle and pedestrian safety. The 2012 Florida SHSP contains an emphasis area of vulnerable road users that includes bicyclists and pedestrians. Strategies for safety improvements are included in the plan.

12. Address transportation infrastructure mitigation and adaptation measures necessitated by climate change. Climate change is increasing weather-related hazards affecting the transportation system. In addition, rising sea-levels may endanger transportation infrastructure, necessitating alternate routes for moving people and goods in the future. Only a few MPOs have begun to address these issues.

13. Consider aging road user safety, access, and mobility. As Florida's aging and elderly population grows, increased attention must be paid to how the system works for these users. The ability of the elderly to participate in the community will depend on the transportation options they have available to them.

Conclusion

MPO long range transportation plans in Florida continue to develop over time. Responses to federal and state requirements are increasingly complex and are resulting in better overall plans. Funding challenges, coupled with public desire for more travel choices, are guiding planning efforts to be more strategic. Plan development is increasingly interwoven with other planning efforts, particularly those of the larger region. Detailed studies on such important issues as freight and hurricane evacuation serve to more clearly define certain needs. Continued attention to plan details as well as complex, emerging issues will continue to increase the value of Florida's MPO long range transportation plans.

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Appendix A Previous LRTP Reviews

1997 Review of Long Range Transportation Plans

The first LRTP review took place in 1997, after all MPOs in Florida had adopted LRTPs consistent with the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. This study served as a baseline for the study of processes, methodology, and prevailing issues in the state. Several observations and suggestions were made. It was noted that many plans were dominated by transportation demand modeling data outputs, which made them very large and harder for the public to understand. There was widespread uncertainty on the definition of a transportation need. Plans also seemed "sanitized," or not forthcoming about the challenges and unique characteristics of their region. Lastly, MPOs displayed widely varying degrees of concern and attention to environmental and air quality issues.

The authors of MPO plans repeatedly cited difficulty addressing two issues. Many MPOs cited a general inability to interest the public in the LRTP drafting process, which they attributed to a lack of resources to undertake more extensive public involvement efforts. Many MPOs also found it difficult to adequately address needs on facilities outside of the Florida Intrastate Highway System (FIHS) due to low levels of funding.

Based on the review, the research team offered suggestions for the next generation of long range transportation plans. Some specific suggestions from the 1997 review were:

- Incorporating discussion of current issues, a strong visioning process, and principles of strategic planning into LRTP documents;
- Recognizing the interaction between transportation and land use;
- Placing greater emphasis on difficult policy trade-offs and less reliance on transportation planning models;
- Standardizing the reporting of certain performance measures;
- Systematically assessing safety considerations in plan development;
- Systematically considering hurricane evacuation in development of LRTPs;
- Standardizing the timing of plan updates throughout the state; and
- Using the same standards for evaluating needs and projecting revenue.

2002 Review of Long Range Transportation Plans

In 2002, a second review of LRTPs was conducted. The timing of the second review was advantageous, as all twenty-five MPOs had completed an update of their plans since the 1997 review. Further, the Transportation Equity Act for the Twenty-First Century (TEA-21) was signed into law during the interim, although federal regulations pertaining to LRTP development had not been updated. TEA-21 consolidated the number of planning factors from sixteen to seven. TEA-21 also placed greater emphasis on transit capital construction, environmental protection, and public involvement in the planning process.

The study found that most MPOs had improved the quality and scope of their LRTPs. Several suggestions from the 1997 review were acknowledged and addressed by MPOs. Documents became more user-friendly, concise, and less dominated by modeling data and technical jargon. Public involvement efforts were much improved and better documented. There was an increase in the consideration of social and community impacts of transportation improvements. LRTPs also began considering alternative modes of transportation such as public transit and bicycle/pedestrian networks in more detail, although alternative modes did not receive the same level of attention as roadway improvements.

Although most LRTPs demonstrated significant progress, room for improvement was found. The most pressing concerns dealt with the structure of the documents and the consistency of planning methodologies across the state. The research team noted a wide variation in the criteria used to

determine a transportation need. Some MPOs had a narrow definition, others used only modeling data, while others had much larger needs than their peers. There was also a considerable variety in systems for selecting projects for inclusion in the cost feasible plan. There was little consistency on the length and horizon year of LRTPs. Very few LRTPs were internally consistent in that it was difficult to determine how LRTP goals and objectives were reflected in the final list of cost feasible projects.

Some specific suggestions from the 2002 review were:

- Systematically analyzing safety issues in the transportation system, particularly with respect to hurricane evacuation;
- Analyzing land use alternatives for the region, and infrastructure decision-making to support the land use vision of the community;
- Standardizing revenue and cost estimates, including separation of modes;
- Linking the final list of cost feasible projects back to the goals, objectives, and policies of the document;
- Considering the importance of transportation improvements to economic competitiveness and freight movement;
- Continuing to develop the system of Intelligent Transportation Systems;
- Considering non-highway improvements in place of, rather than in addition to, roadways; and
- Taking into account future right-of-way needs.

2008 Review of Long Range Transportation Plans

In 2008, the third consecutive review of MPO long range transportation plans was conducted. MPO plans were affected by the passage of SAFETEA-LU and its accompanying rules which came into effect between reviews. Although some MPOs had already adopted their LRTP for this cycle prior to the passage of the bill, all MPOs were required to bring their LRTPs into conformity with SAFETEA-LU by July 2007. Many did so through minor amendments, often in the form of a new appendix which did not significantly modify the original LRTP document.

Observations discussed in the report were:

- LRTPs were substantially more user-friendly and better organized during this cycle.
- MPOs are meeting or exceeding levels of public involvement set forth by state and federal law, and are continuing to develop new methods for communication.
- There was wide-spread reliance on the Efficient Transportation Decision Making (ETDM) screening process to identify cultural, environmental, or community impacts, often to the exclusion of independent analysis.
- There remains little agreement across the state on the horizon year and effective years of LRTPs.
- Although most MPOs discussed freight and economic competitiveness, few gave the issue detailed consideration.
- MPOs had difficulty adjusting to the designation of the Strategic Intermodal System (SIS) and the associated investment policy.
- MPOs paid greater attention to non-highway transportation modes.
- Planning for Intelligent Transportation Systems (ITS) has become commonplace.
- The reporting of financial data varied widely across the state.
- Interagency coordination is becoming institutionalized at most MPOs.
- MPOs are frequently not documenting their methodology for moving projects from the needs plan to the cost feasible plan and to the TIP.
- There remains little consistency across the state over the definition of transportation need.
- Although MPOs are aligning their goals closely with SAFETEA-LU, less attention is being paid to the goals and objectives of the Florida Transportation Plan (FTP).

Suggestions to guide the drafting of the next generation of LRTPs included:

- MPOs should relate how information gained during public involvement activities was incorporated into the LRTP document and the projects it contains.
- MPOs should continue to refine their LRTPs for Internet publication.
- Consider the goals of the Florida Transportation Plan when drafting the goals and objectives of the LRTP.
- ETDM is an outstanding tool, but the strength of MPO planning is the insertion of local knowledge into the planning process.
- MPOs should exercise more editorial control over the content of plans authored by consultants, with the aim of crafting a document that is original and customized.
- Even though the Internet will be the primary source for LRTP distribution, at least a limited number of documents should be made available in hard copy format.
- MPOs should continue to work with FDOT to make the investment policy flexible enough to implement the MPO mission.
- MPOs should not separate needs on SIS facilities from non-SIS facilities during the analysis and project selection process.
- Establish transit needs before revenues are analyzed
- MPOs should demonstrate their expertise in planning for the transportation disadvantaged in the LRTP.
- Guidance on how to analyze and consider toll projects would be helpful when planning for these types of roadways.
- Evacuation routes should play a larger role in deciding which projects are included in the cost feasible plan.
- MPOs should take greater care to demonstrate and document how the projects contained in their cost feasible plan support the adopted goals and objectives of the LRTP.

Appendix B Shortfall Methodology

The twenty-year statewide shortfall is the sum of the shortfall for each MPO LRTP. The basic calculation for each shortfall is:

Needs Plan Cost – Anticipated Revenue = Shortfall

OR

Use provided Unfunded Needs Cost

Each MPO shortfall is the difference between the cost of all projects in the needs plan and the amount of revenue anticipated over the life of the plan. The cost of the needs plan includes expenses slated for capital projects and operations and maintenance where included. Note that not all MPOs listed all costs related to operations and maintenance, particularly for state highways. The anticipated revenue includes all funding sources listed in the plan slated for transportation capital projects and operations and maintenance, including local and toll-related sources. In a few cases, the cost feasible plan cost was substituted for the anticipated revenue. This occurred when revenue exceeded expenditures due to constraints on how funding could be spent. For example, transit capital dollars were not used in the calculation when the MPO did not have a funding source for transit operation needs. Including large amounts of unused transit capital revenue in the MPOs shortfall estimate would result in an incorrect assessment of need.

The shortfall calculation for the 2012 LRTP review was complicated by the federal requirement to report financial information in year of expenditure (YOE) dollars. The result is that while transportation needs were sometimes expressed in present day costs (PDC), from 2008 to 2010 dollars, revenue was most often expressed in YOE dollars. Where revenue was not provided in PDC, additional calculation was needed to adjust YOE dollars to a common present day cost – in this case, 2009. FDOT inflation figures found in the FDOT 2035 Revenue Forecast Handbook (May 2008) and Errata and Revisions (Oct. 31, 2008) were used to make necessary adjustments for both roadway and transit costs.

Adjustments also involved additional calculations where necessary. In order to compare and total the shortfalls from each plan, it was necessary to adjust each needs cost, revenue estimate, and/or shortfall into a common comparison year – 2009 as established in the *MPOAC Financial Guidelines.*

*(Needs Cost, Revenue Estimate, or Shortfall) * (FDOT Inflation Adjustment Factor) = (Adjusted Needs Cost, Revenue Estimate, or Shortfall)*

Federal law requires plans to cover a minimum of twenty years into the future; however, no maximum is established. Some plans covered more than 20 years making it necessary to annualize the shortfall figures from each of those plan documents. For each such LRTP, the shortfall amount was divided by the number of years the plan was in effect. This resulted in an annualized shortfall for that MPO. The annualized shortfall is multiplied by twenty resulting in a shortfall estimate for a twenty-year timeframe.

(Adjusted Shortfall)/(Years Plan in Effect) = (Annual Adjusted Shortfall)

AND

*(Annual Adjusted Shortfall) * 20 = Twenty-year Shortfall*

The statewide shortfall was then calculated by summing the shortfall of all MPOs. Because each MPO shortfall was adjusted to 2009 dollars and a twenty-year period, the shortfalls can be directly compared.

A Hypothetical Example

The hypothetical Key West MPO adopted their LRTP in 2010. This plan proposes projects from 2015 through 2035, and uses 2010 as the PDC for project cost estimates. The adopted Needs Plan would cost $800,000,000. However, the MPO estimates that only $650,000,000 in PDC will be available over the course of the plan resulting in a $150,000,000 shortfall in 2010 dollars.

Since the plan's base year was 2010, the shortfall figure must be converted into 2009 dollars to be consistent with other MPO shortfall estimates. If the shortfall is not converted, the Key West MPO's shortfall cannot be compared to its peers because dollars were worth more in 2010 than in 2009. The inflation factor provided by FDOT for 2009 to

2010 is 4.5%. To deflate this value, the shortfall was multiplied by the inverse of 4.5% (0.955). Since the shortfall was $150,000,000 in 2010 dollars, the adjusted shortfall would be $143,250,000 in 2009 dollars.

Appendix C MPOAC Financial Guidelines for Long Range Transportation Plans

The following Guidelines were adopted by the MPOAC Governing Board and Staff Directors Committee at their meetings on October 25th, 2007 and used in the development of the 2035 LRTPS reviewed for this report. The Guidelines address several issues encountered during the LRTP reviews, and were drafted—in part—in response to the conclusions made by this project and its predecessors. The included Guidelines were amended on October 23rd, 2008 to reflect a new base year of 2009. A revised set of Guidelines were adopted by the MPOAC on January 24, 2013 for development of the 2040 LRTPs.

Financial Guidelines for MPO Long Range Plans

Background

The MPOAC adopted the "MPOAC 2025 Florida Transportation Plan Implementation Action Plan" at its April 2007 meeting. This document is intended to serve as a starting point for discussions regarding implementation of General Action 4 of the Implementation Action Plan, which states:

> 4. Improve Conditions for Estimating Statewide Financial Shortfall: One of the key transportation issues identified in the FTP is an imbalance between estimated transportation needs and future financial resources. The statewide 20-year funding shortfall for MPO areas was estimated to be $37.7 billion in 2002 (expressed in Year 2000 dollars). However, the accuracy of this and previous shortfall estimates are called into question due to a lack of uniformity in the reporting of financial and planning data. Therefore, a set of statewide guidelines for defining and estimating transportation needs and reporting financial data in MPO LRTPs should be developed by the MPOAC in coordination with FDOT. Additionally, MPOs in Florida will agree to include an estimate of transportation needs in their adopted LRTP to facilitate a statewide estimate of transportation needs.

Long Range Transportation Plan Needs and Cost Feasible Plan

Guidelines for Defining and Reporting Needs

- All MPOs will include an estimate of needs within the body of their adopted LRTP. While MPOs need not include a full-scale needs plan including such information as maps and a project lists, MPOs should include sufficient information to understand the composition of the identified need. The needs estimate should include all costs (operations, maintenance, capacity expansion, etc.) associated with all modes included in the adopted LRTP.
- Certain types of projects should not be considered a "needed" project if they represent projects that are extremely unlikely to be implemented and unnecessarily inflate the estimated transportation needs in the metropolitan area. The cost of such a project should not be included in an MPO Needs Plan. Such projects may include:
    - Projects that cannot be implemented due to policy constraints
    - Projects that cannot be implemented due to physical constraints
    - Projects that are unlikely to be implemented due to potential significant environmental constraints
    - Projects that are unlikely to be implemented due to potential significant environmental justice or civil rights impacts
- Transportation projects included in the MPO Needs Plan should be appropriate to meet the identified transportation need while advancing the goals and policies of the MPO. Cost should be given significant consideration when choosing among various alternatives (mode or alignment) to meet an identified need. Compelling policy or practical reasons for selecting alternatives that exceed the identified transportation need may include increasing the availability of premium transit options, overwhelming

environmental benefit or the need to use compatible technology to expand an existing transportation asset.
- Reported needs should be broken down by system and by mode. For example, SIS facility needs should be identified separately from needs on non-SIS state highway facilities and highway needs not on the state highway system.

Guidelines for Financial Reporting for Cost Feasible Long Range Transportation Plans

- Reasonably available revenue should be broken down by funding category. Additionally, the LRTP should identify the system component(s) that available revenue will be expended upon.
- An estimate of the cost of all projects and all phases, regardless of mode, should be included in the cost feasible LRTP.
- The costs of operating and maintaining the existing and future transportation system should be clearly stated in the cost feasible plan, in a manner agreed upon by the MPOAC, FDOT and FHWA/FTA.
- MPOs should include full financial information for all years covered by the LRTP, including information from their TIP.
- For their next adopted cost feasible LRTP, MPOs will use:
    - FY 2008/2009 as the base year
    - FY 2034/2035 as the horizon year

Long Range Revenue Forecast for Long Range Transportation Plan Updates

FDOT, in cooperation with the MPOAC and Florida's MPOs, has prepared long range revenue forecasts for state and federal funds that "flow through" the FDOT Work Program and other financial planning guidance since 1995. These forecasts and guidance have been used for the Florida Transportation Plan and metropolitan long range transportation plans. FDOT will, in cooperation with the MPOAC and Florida's MPOs, develop an updated revenue forecast through 2035 and guidance for the next updates of those plans. The following are issues that will affect the next forecast:

- New federal regulations clarify that the horizon year for an LRTP must be at least 20 years from the date of adoption; i.e., any LRTP adopted before the end of December 2010 may have a horizon year of 2030 or beyond.
- As of December 11, 2007, MPO long range transportation plans must be expressed in "Year of Expenditure" (YOE) dollars.
- The horizon years of current adopted Florida LRTPs vary: 11 plans have a 2025 horizon year, 15 plans have a 2030 horizon year.
- FDOT is currently updating the SIS Highway Component Cost Feasible Plan and extending the horizon year to 2035.

Based on these and other issues related to developing long range transportation plans, the following is guidance for developing and reporting financial estimates in the plans.

Guidelines for Revenue Estimates

- The recommended Base Year is FY 2008/2009 (State Fiscal Year) and recommended Horizon Year is FY 2034/2035 for all 26 metropolitan long range transportation plans.
- The recommended Time Period for estimates is 5 years (for example, 2009-2010, 2011-2015, 2016-2020, 2021-2025, 2026-2030, and 2031-2035). This is consistent with previous forecasts and simplifies reporting. The use of 5-year periods increases flexibility and reduces the need to "fine tune" project priorities.
- For estimates of State and Federal Revenues:
    - FDOT will provide YOE estimates for state capacity programs for individual MPOs, similar to prior forecasts.

  - FDOT will provide YOE statewide estimates for non-capacity state programs and provide documentation of program levels and system preservation objectives expected to be met by those funding levels, similar to prior forecasts; MPOs should include the material in long range transportation plan documentation.
  - FDOT will work with the MPOAC to develop the detailed assumptions required for these estimates.
- For estimates of local revenues:
  - FDOT will provide guidance for development of estimates of traditional sources.
  - FDOT and the MPOAC will develop guidance for estimating revenues from other "reasonably available sources," particularly Proportionate Fair Share Contributions under Chapter 163, F.S.

Guidelines for Developing Project Costs

- Project Cost Estimates are typically expressed in Present Day Cost (PDC) dollars, so they will have to be adjusted with inflation factors for the time period in which they are planned to be implemented.
- To adjust costs from PDC to Year of Expenditure:
  - DOT has adopted estimates of inflation factors through 2035 that MPOs are encouraged to use. FDOT will provide documentation of the assumptions used to develop those factors.
  - MPO should document alternative inflation factors, with explanation of assumptions.
- The recommended Time Period for costs is 5 years (e.g., 2009-2010, 2011-2015, 2016-2020, etc). This is consistent with previous forecasts and simplifies reporting. In addition:
  - This increases flexibility and reduces the need to "fine tune" project priorities.
  - Annual inflation factor estimates will be used to estimate "mid-point" factors for project costs during respective 5-year period.
- Using YOE dollars, regardless of the length of time periods, requires establishing project priorities which may require some MPOs to modify their priority setting process and schedule.
- FDOT will provide YOE cost estimates, phasing and project descriptions for projects included in the 2035 SIS Highway Component Cost Feasible Plan to each MPO.

Guidelines for Distribution of Next Long Range Revenue Forecast

- The long range forecast of state and federal revenues will be needed by all MPOs for modeling and financial planning for their next updates. FDOT will provide the new revenue forecast by May 30, 2008, incorporating the outcome of a 2007 Special Session of the Florida Legislature.