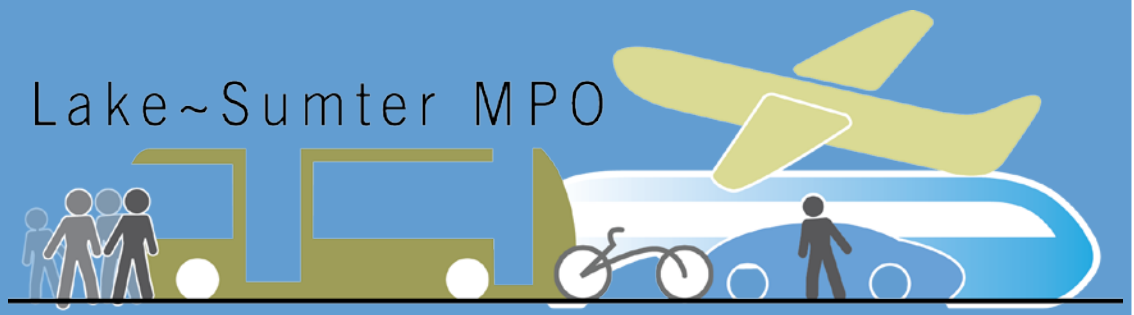
Lake~Sumter MPO



TRANSPORTATION 2040

LONG RANGE TRANSPORTATION PLAN

Adopted December 9, 2015

Amended April 26, 2017

Amended October 25, 2017

www.lakesumtermpo.com

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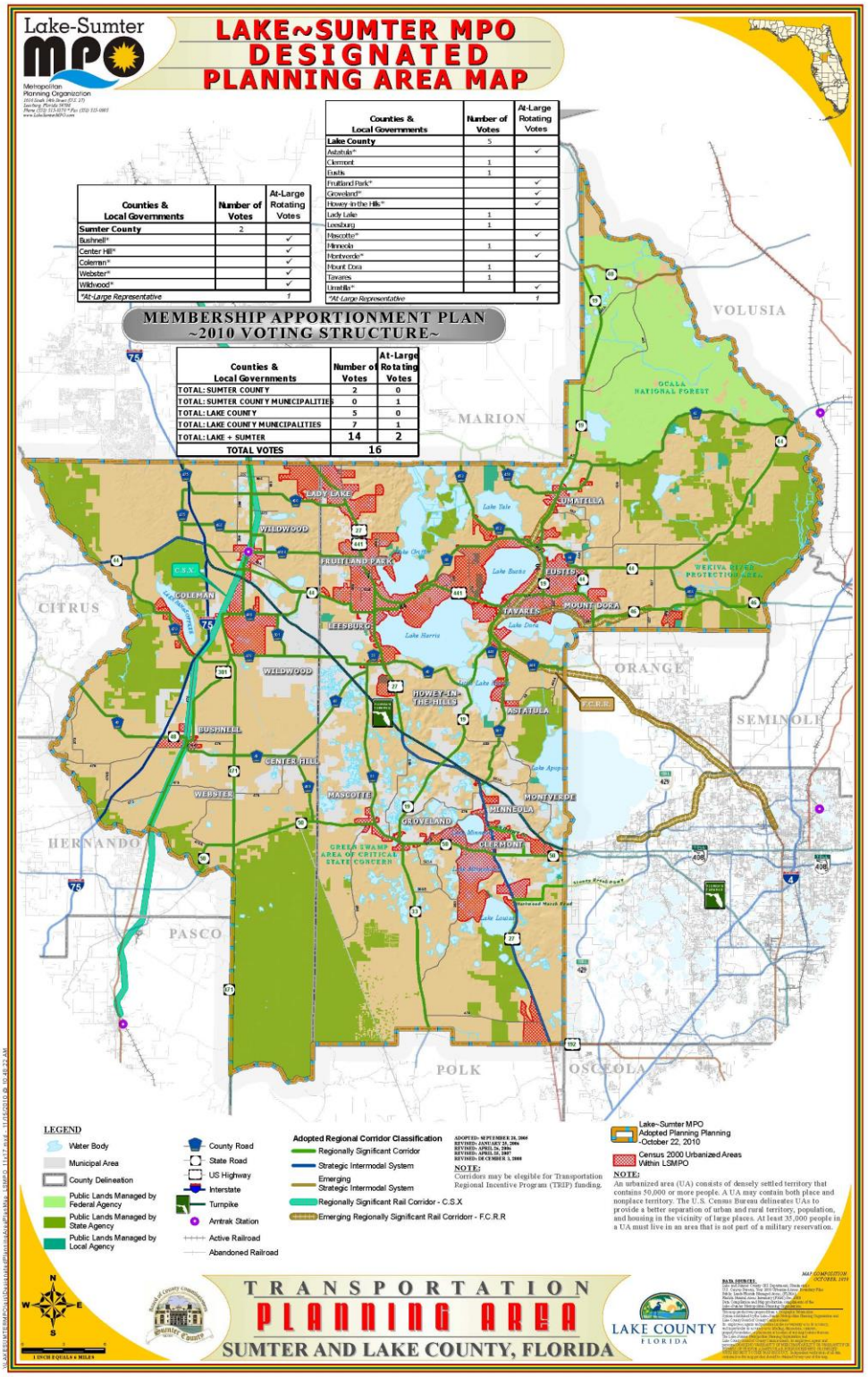

Lake-Sumter MPO
Metropolitan Planning Organization
LAKE~SUMTER MPO
DESIGNATED
PLANNING AREA MAP
Counties & Local Governments | Number of Votes | At-Large Rotating Votes
Sumter County | 2
Bushnell* | ✓
Center Hill* | ✓
Coleman* | ✓
Webster* | ✓
Wildwood* | ✓
*At-Large Representative | 1
Counties & Local Governments | Number of Votes | At-Large Rotating Votes
Lake County | 5
Astatula* | ✓
Clermont | 1
Eustis | 1
Fruitland Park* | ✓
Groveland* | ✓
Howey-in-the-Hills* | ✓
Lady Lake | 1
Leesburg | 1
Mascotte* | ✓
Minneola | 1
Montverde* | ✓
Mount Dora | 1
Tavares | 1
Umatilla* | ✓
*At-Large Representative | 1
MEMBERSHIP APPORTIONMENT PLAN
~2010 VOTING STRUCTURE~
Counties & Local Governments | Number of Votes | At-Large Rotating Votes
TOTAL: SUMTER COUNTY | 2 | 0
TOTAL: SUMTER COUNTY MUNICIPALITIES | 0 | 1
TOTAL: LAKE COUNTY | 5 | 0
TOTAL: LAKE COUNTY MUNICIPALITIES | 7 | 1
TOTAL: LAKE + SUMTER | 14 | 2
TOTAL VOTES | 16
VOLUSIA
MARION
ORANGE
SEMINOLE
OSCEOLA
POLK
PASCO
HERNANDO
CITRUS
LADY LAKE
UMATILLA
WILDWOOD
FRUITLAND PARK
LEESBURG
TAVARES
MOUNT DORA
EUSTIS
HOWEY-IN-THE-HILLS
ASTATULA
BUSHNELL
COLEMAN
CENTER HILL
WEBSTER
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
OCALA NATIONAL FOREST
WEKIVA RIVER PROTECTION AREA
GREEN SWAMP AREA OF CRITICAL STATE CONCERN
LEGEND
Water Body
Municipal Area
County Delineation
Public Lands Managed by Federal Agency
Public Lands Managed by State Agency
Public Lands Managed by Local Agency
County Road
State Road
US Highway
Interstate
Turnpike
Amtrak Station
Active Railroad
Abandoned Railroad
Adopted Regional Corridor Classification
Regionally Significant Corridor
Strategic Intermodal System
Emerging Strategic Intermodal System
Regionally Significant Rail Corridor - C.S.X
Emerging Regionally Significant Rail Corridor - F.C.R.R
Lake~Sumter MPO Adopted Planning Planning -October 22, 2010
Census 2000 Urbanized Areas Within LSMPO
NOTE:
An urbanized area (UA) consists of densely settled territory that contains 50,000 or more people. A UA may contain both place and nonplace territory. The U.S. Census Bureau delineates UAs to provide a better separation of urban and rural territory, population, and housing in the vicinity of large places. At least 35,000 people in a UA must live in an area that is not part of a military reservation.
TRANSPORTATION
PLANNING AREA
SUMTER AND LAKE COUNTY, FLORIDA
LAKE COUNTY
FLORIDA

Map 1

Maps and Tables

Introduction

Transportation is a central component of daily life. Transportation affects everyone and plays a critical role in quality of life, now and into the future. The transportation decisions made today will have a direct impact on the economy of the region as well as the health and well-being of residents and visitors

Transportation 2040, the Lake~Sumter MPO's Long Range Transportation Plan (LRTP), is the planning document that will guide MPO decisions on the expenditure of federal and state transportation funds for highway, transit, freight, pedestrian and bikeway projects within the Lake~Sumter MPO planning area (see Map 1). The LRTP represents the culmination of a multi-level partnership between local, state, and federal policy-makers and the citizens, business owners, and stakeholders who are most impacted by transportation decisions. This document will be used as a tool in the planning process to assist in addressing the region's needs as the area continues to grow and develop.

The LRTP is a federally required long-term planning document detailing the transportation improvements and policies to be implemented in the MPO Area. The LRTP is revised at least once every five years and must address at least 20 years into the future for the duration of its five-year lifespan in accordance with the Code of Federal Regulations (CFR) Title 23, Section 134, CFR Title 49, Section 5303, and the Moving Ahead for Progress in the 21st Century Act (MAP-21) (Pub L. 112-141, July 6, 2012). *Transportation 2040* updates the previous LRTP from a horizon year of 2035 to a horizon year of 2040. The goals of the plan update are to: 1) identify current transportation needs, 2) forecast future transportation needs, and 3) establish strategies and projects that address these needs.

An important addition to this update of the LRTP is the inclusion of a listing of programs that are tied to alternative transportation strategies for mobility in the MPO Planning Area. These programs include a Regional

Trails Program; a Complete Streets Program; a Safe Schools Emphasis Program; a Sidewalk Program; and a Management and Operations Program. Each program is tied to a list of projects, a policy, or regional master plan adopted by the MPO. The Federal Highway Administration (FHWA), the Florida Department of Transportation (FDOT) and the Federal Transit Administration (FTA) now put a high level of importance on these types of programs and projects, requiring their inclusion in the MPO planning process.

The MPO enthusiastically embraced these types of alternative transportation strategies in the previous long range transportation plan, *Transportation 2035*, acknowledging that continuing to focus transportation planning on the addition of roadway capacity was not the means to achieve the goals set for quality of life, growth management, or economic development. *Transportation 2040* continues the positive momentum of the previous plan by taking a socially-, environmentally- and economically-sustainable approach to stewardship.

An equally important addition to this update is proactively developing *Transportation 2040* as a performance based plan. MAP-21 introduced requirements for performance-based planning and the definitive process is still being developed at the federal level. The final requirements are expected to be in place for MPOs by 2018. The MPO will take action at that time to enhance performance-based planning efforts.

Transportation 2040 addresses the challenge of meeting needs in the face of fiscal constraints. The plan balances multiple modes of transportation while considering social impacts, the natural environment, and enhancement of the economy. Furthermore, the plan respects the visions of the Lake~Sumter MPO's two counties and 19 municipalities.

Plan Overview

Transportation 2040 serves as a guide, describing how the existing transportation system functions and how our community would like for it to function in the future. In addition, it considers the value of investments already made in developing the transportation system. The plan considers innovative solutions to mobility constraints and focuses on enhancing available travel choices.

Transportation 2040 prioritizes programs and projects that have been developed to address the Lake~Sumter region's need to maintain and preserve our existing transportation assets for the sustainability of the region's economic competitiveness and the vitality of our communities (see Map 1).

The MPO developed Transportation 2040 in compliance with current federal legislation, Moving Ahead for Progress in the 21st Century (MAP-21), which governs MPO activities. In keeping with MAP-21, planning for this LRTP incorporated a number of new elements that brought more information, for both the MPO and the public, to the decision-making process. The MPO has embraced performance-based planning practices for this LRTP and the MPO has expanded its use of new and innovative planning tools, such as scenario planning, to inform decisions.

This plan includes elements that lead to the development of a balanced multi-modal transportation system that facilitates the efficient movement of people and goods. The plan has several key components:

1. Plan Development focused on a multi-modal outcome that includes roadways, transit, non-motorized transportation, and inter-modal considerations, as well as management and operation and preservation of the existing system;

Map 1

2. Transportation Needs List formulated through public involvement, through quantifiable long range need projections, and through the coordination of regional land use and economic development goals and plans of the MPO's member governments; and

3. Cost Feasible Projects List developed by estimating costs of the identified needs in the future years projects are likely to occur, by estimating future revenues reasonably expected to be available, and by applying the revenues to the identified needs in a way that maximizes the benefit of each dollar while also considering the prioritization of needs.

Public participation provided on-going critical input to the MPO's decision-making process. Throughout development of this LRTP, the MPO engaged in extensive outreach with an eye toward making public participation convenient by taking advantage of opportunities where people were already gathering. Through a series of public meetings of the MPO and member governments, speaking engagements, information kiosks and social media, the MPO sought opportunities to interact with people who may previously have been only minimally involved in the continuous, comprehensive, cooperative (3C) planning process. These outreach efforts reflected the MPO's recently updated public involvement plan that includes using more electronic forms of communication and interactive engagement techniques.

Goals and Objectives

In previous Long Range Transportation Plans, the MPO developed Goals, Objectives and Policies/Strategies that addressed regional and local issues, supported regional and local initiatives, and set the framework for project priorities to better address the many challenges faced in the region. The federal Moving Ahead for Progress in the 21st Century Act (MAP-21) now requires MPOs to transition to Performance-Based Planning.

MAP-21 introduced requirements for performance-based planning integrating performance management into many federal transportation programs. USDOT must establish performance measures for safety, pavement conditions, bridge conditions, operational performance of the national Interstate Highway System, operational performance of the Non-Interstate National Highway System, freight movements, mobile source emissions, and congestion. The federal performance measures are expected to be completed by 2017.

Once USDOT issues a final rule on the federal performance measures, each state has one year to set performance targets for each federal performance measure. Within 180 days of states setting performance targets, MPOs must also establish performance targets for each of the ten (10) federal performance measures and must use a performance-based approach to transportation decision making.

National Goal Areas
Safety
Infrastructure Condition
Congestion Reduction
System Reliability
Freight Movement and Economic Vitality
Environmental Sustainability
Reduced Project Delivery Delays
Transit State of Good Repair
Transit Safety

The purpose of the performance-based planning rule is to establish a method for tracking the progress on meeting the MPO's goals and objectives. The MPO supports performance-based planning and is prepared to develop performance measures and targets. The MPO will amend *Transportation 2040* at such time the federal rule is in place and the state establishes its performance targets. At that time, the MPO will work with FDOT to develop performance measures and targets that are consistent with state and federal policies.

GOAL 1 – INVESTING IN TRANSPORTATION TO SUPPORT A PROSPEROUS, COMPETITIVE REGIONAL ECONOMY

- OBJECTIVE - Provide an efficient, interconnected transportation system to advance and support the economic well-being and quality of life of the region.
- OBJECTIVE - Improve travel reliability on major freight routes
- OBJECTIVE– Enhance access to jobs

GOAL 2 – PROVIDING A SAFE AND SECURE TRANSPORTATION SYSTEM FOR ALL USERS

- OBJECTIVE - Minimize crashes and fatalities for all modes of transportation
- OBJECTIVE – Improve safety for pedestrians and cyclists
- OBJECTIVE – Facilitate accessibility for emergency response vehicles

GOAL 3 – PROACTIVELY MANAGING THE OPERATIONS OF THE REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES IN THE MPO PLANNING AREA FOR ALL USERS

- OBJECTIVE - Improve transportation options available to residents, business patrons and visitors
- OBJECTIVE – Balance regional capacity needs with human scale accessibility needs (Complete Streets)
- OBJECTIVE – Adopt a Complete Streets policy that supports the development of a list of Complete Streets projects
- OBJECTIVE – Invest in Intelligent Transportation Systems (ITS) as an alternative to adding roadway capacity

GOAL 4 – IMPROVING MOBILITY OPTIONS AND CONNECTIVITY FOR PEOPLE AND GOODS

- OBJECTIVE - Invest in strategies to reduce per capita vehicle miles traveled (VMT)
- OBJECTIVE – Increase modal opportunities and modal enhancements within communities
- OBJECTIVE - Improve freight facility connectivity in the Lake~Sumter Region across all modes of transportation

GOAL 5 - MAKING TRANSPORTATION DECISIONS THAT SUPPORT COMMUNITIES' VISIONS AND PROMOTE RESPONSIBLE SOCIAL, ECONOMIC AND ENVIRONMENTAL STEWARDSHIP

- OBJECTIVE – Coordinate regional transportation planning efforts and local comprehensive planning efforts
- OBJECTIVE - Reduce negative environmental impacts associated with transportation investments
- OBJECTIVE – Ensure Environmental Justice (EJ) is considered in all aspects of MPO planning

Plan Development

Transportation 2040 is organized around transportation corridor strategies that include roadway capacity projects; the Complete Streets Program; the Regional Trails Program; the Safe Schools Emphasis Program; the Sidewalk Program; and Management and Operations Program. The plan is driven largely by future economic growth needs and strategies. While this plan is departure from past long range transportation plans which relied almost completely on a travel demand model for forecasting travel patterns, this plan takes a creative and customized approach to long range planning by using an assortment of tools in its development, the travel demand model being just one of many employed.

Plan development began in 2012 as a regional collaborative effort among FDOT District 5, Florida's Turnpike Enterprise, Central Florida Expressway (formerly Orlando-Orange County Expressway Authority) and the five MPOs located within FDOT District 5. This group met regularly to develop the Central Florida Regional Planning Model (CFRPM) version 6.0. Plan development culminated in November 2015 when the draft plan was presented for public comment before its December 9, 2015 adoption by the Lake~Sumter MPO Governing Board.

Significant contributions were made toward this plan by the municipalities and counties within the MPO Planning Area, as well through the participation of chambers of commerce, economic development interests, civic groups, the MPO's advisory committees and task forces, and through the input of the residents of Sumter County and Lake County.

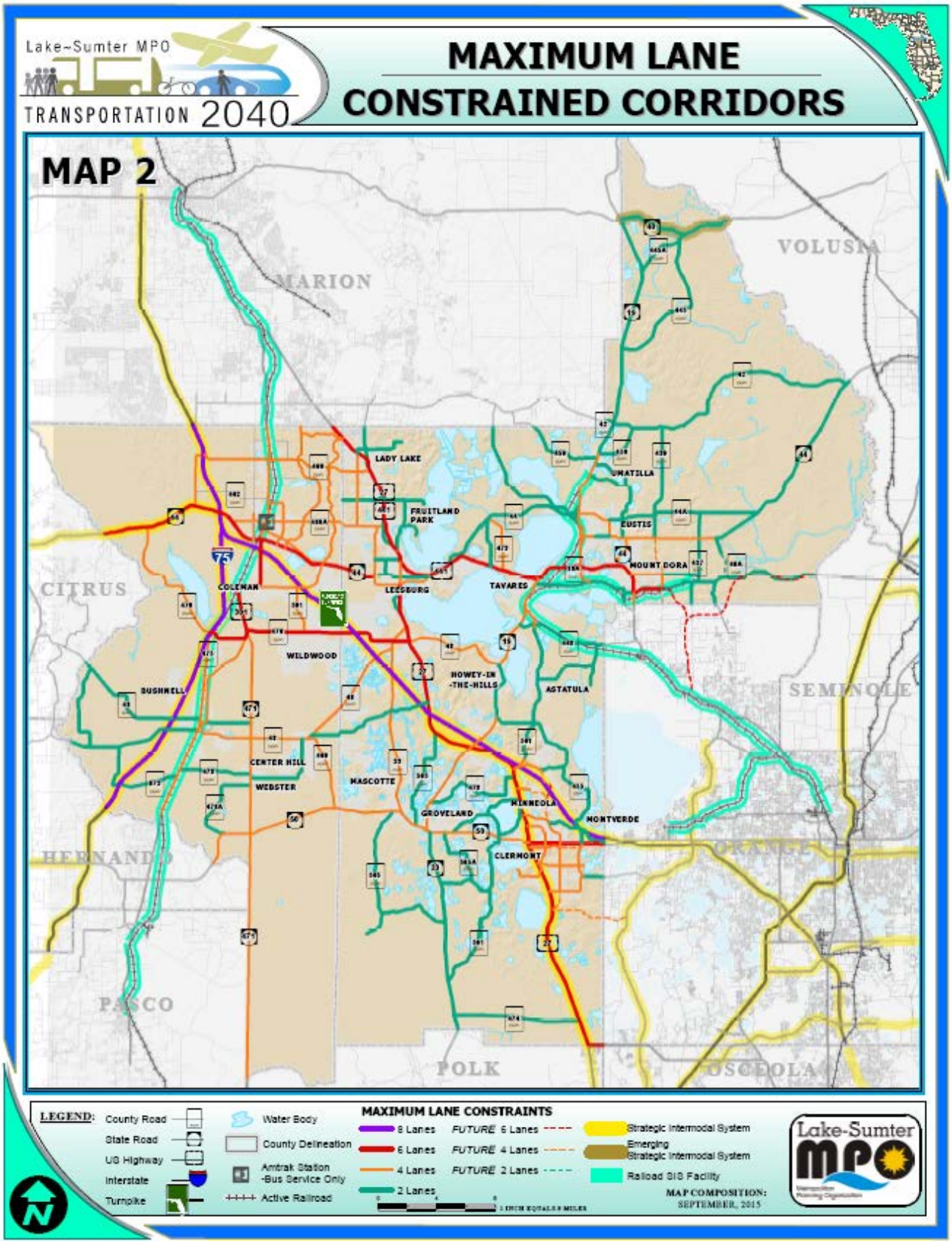
Constrained Roadways

Building on the regional growth vision developed as part of our previous long range transportation plan, *Transportation 2040* is reflective of the MPO's adopted Constrained Roadways Policy (See Map 2). The policy is an acknowledgement that community visions cannot always be achieved through road widening projects. Some constraints are tied to growth management plans, while others are to avoid undesired environmental,

economic or social impacts. There are more than a thousand named lakes in Lake County and Sumter County in addition to numerous environmentally-sensitive area, requiring a creative and customized approach to addressing current and future mobility needs.

In February of 2008, the Lake Sumter MPO adopted policy 2008-1, The Corridor Constraint Policy. The purpose of this policy is:

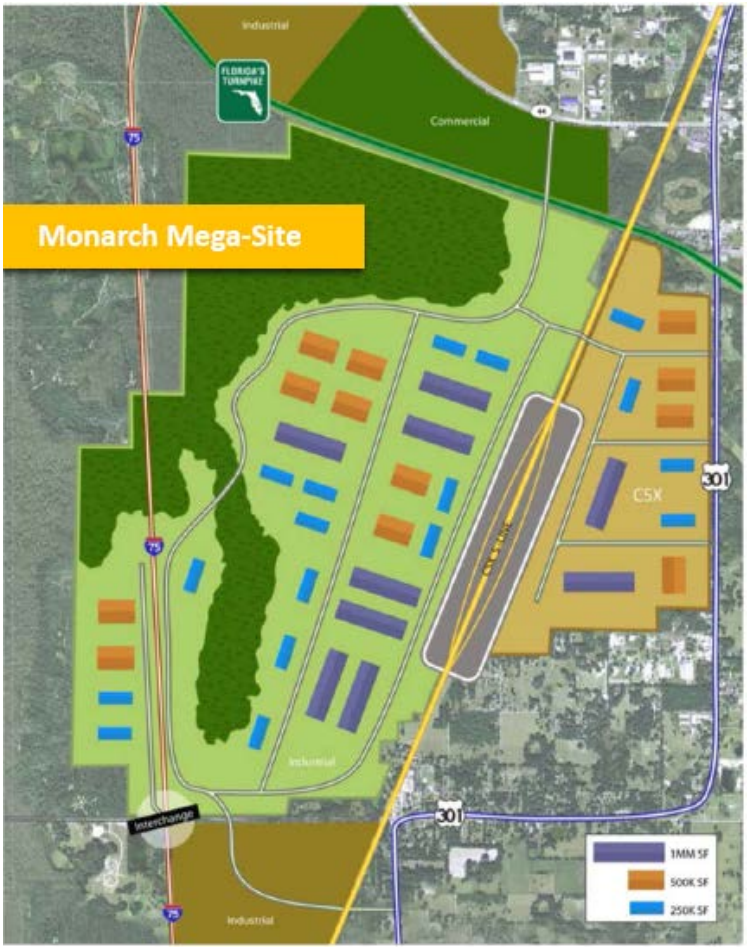
a) To preserve rural character in areas where existing conditions and land use designations do not require the need for additional capacity
b) To limit the extent to which corridors will be widened in order to prevent roadways from becoming dividing factors within communities or to prevent widening projects causing the erosion of viable neighborhoods or districts
c) To enhance the regional transportation network, spread demand for transportation capacity and maximize access to communities and center d) To promote the goal of migrating away from capacity improvements through the addition of lanes and to promote the migration toward additional capacity through mass transit improvements along appropriate arterial corridors
e) To prevent a misallocation of fiscal resources toward lane-addition projects in which cost-benefit ratios are low in terms of cost versus new capacity


Lake~Sumter MPO
TRANSPORTATION 2040
MAXIMUM LANE CONSTRAINED CORRIDORS
MAP 2
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
ORANGE
PASCO
POLK
OSCEOLA
LADY LAKE
UMATILLA
FRUITLAND PARK
EUSTIS
MOUNT DORA
COLEMAN
LEESBURG
TAVARES
WILDWOOD
BUSHNELL
HOWEY-IN-THE-HILLS
ASTATULA
CENTER HILL
WEBSTER
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
CLERMONT
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
MAXIMUM LANE CONSTRAINTS
8 Lanes
6 Lanes
4 Lanes
2 Lanes
FUTURE 6 Lanes
FUTURE 4 Lanes
FUTURE 2 Lanes
Strategic Intermodal System
Emerging Strategic Intermodal System
Railroad SIS Facility
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO

Regional Growth and Land Use

The Lake~Sumter region is once again experiencing significant population growth. 2040 population and employment forecasts or control totals were developed using information from the Bureau of Business and Economic Research (BEBR), Woods & Poole Economics 2013 State Profile, and information reported in the 2010 U.S. Census. The growth rates for population forecast to 2040 were flat when compared to the 2035 population control total used in the previous plan. However, recalling the robust economy and population surge in Central Florida in the mid-2000s when population and employment projections were made for the previous plan, growth had dramatically slowed due to a major recession by 2010 when the previous plan was being adopted. Therefore, it is not surprising the 2035 population totals used in *Transportation 2035* are almost the same as the population totals forecast for 2040 in the plan update.

Historically, future jobs are calculated based on the ratio of population to employment. For this plan a different approach was necessary due to the progressive economic development plans implemented by Sumter County, Lake County, and many of the municipalities located in both counties. For example, in Sumter County, a large industrial site

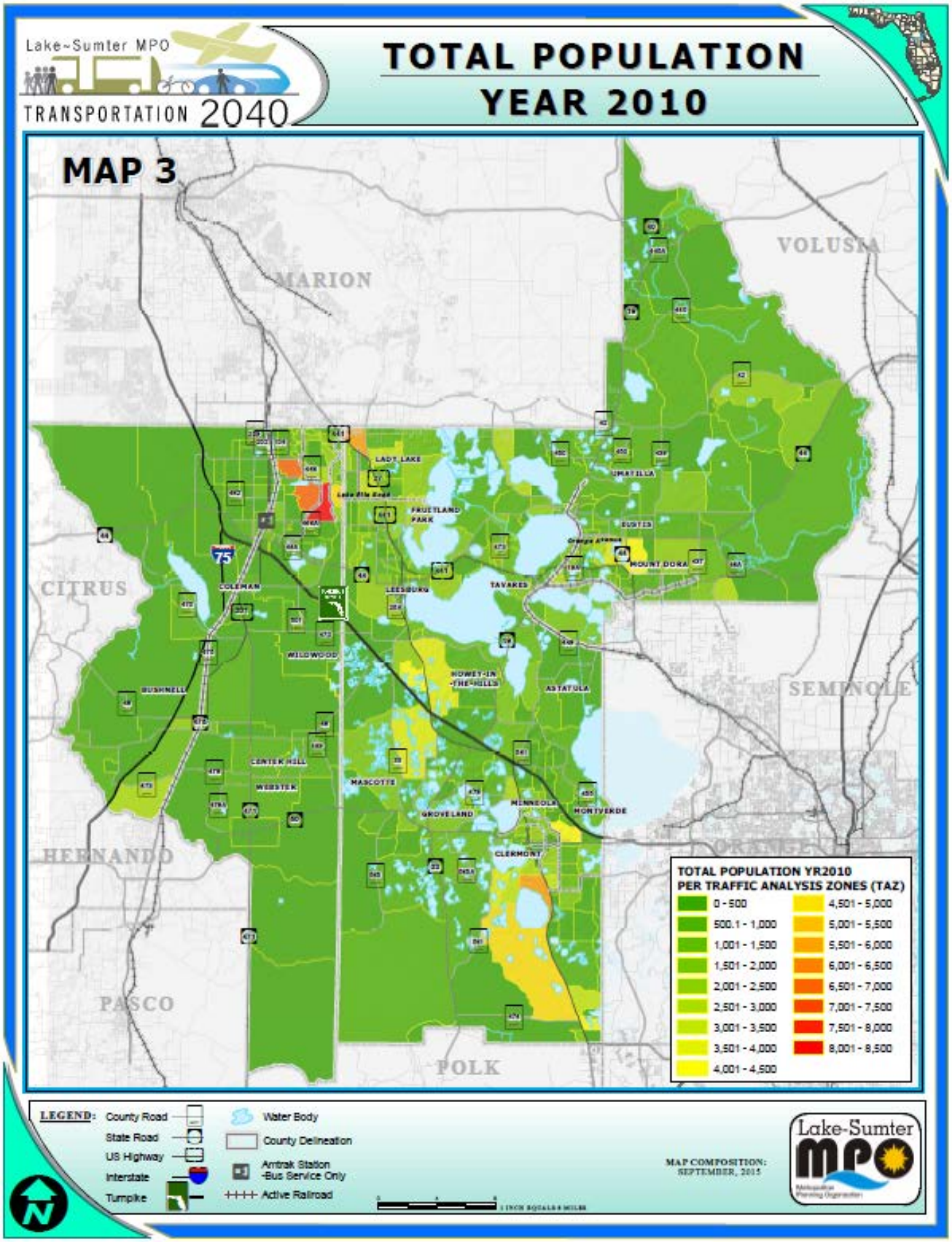


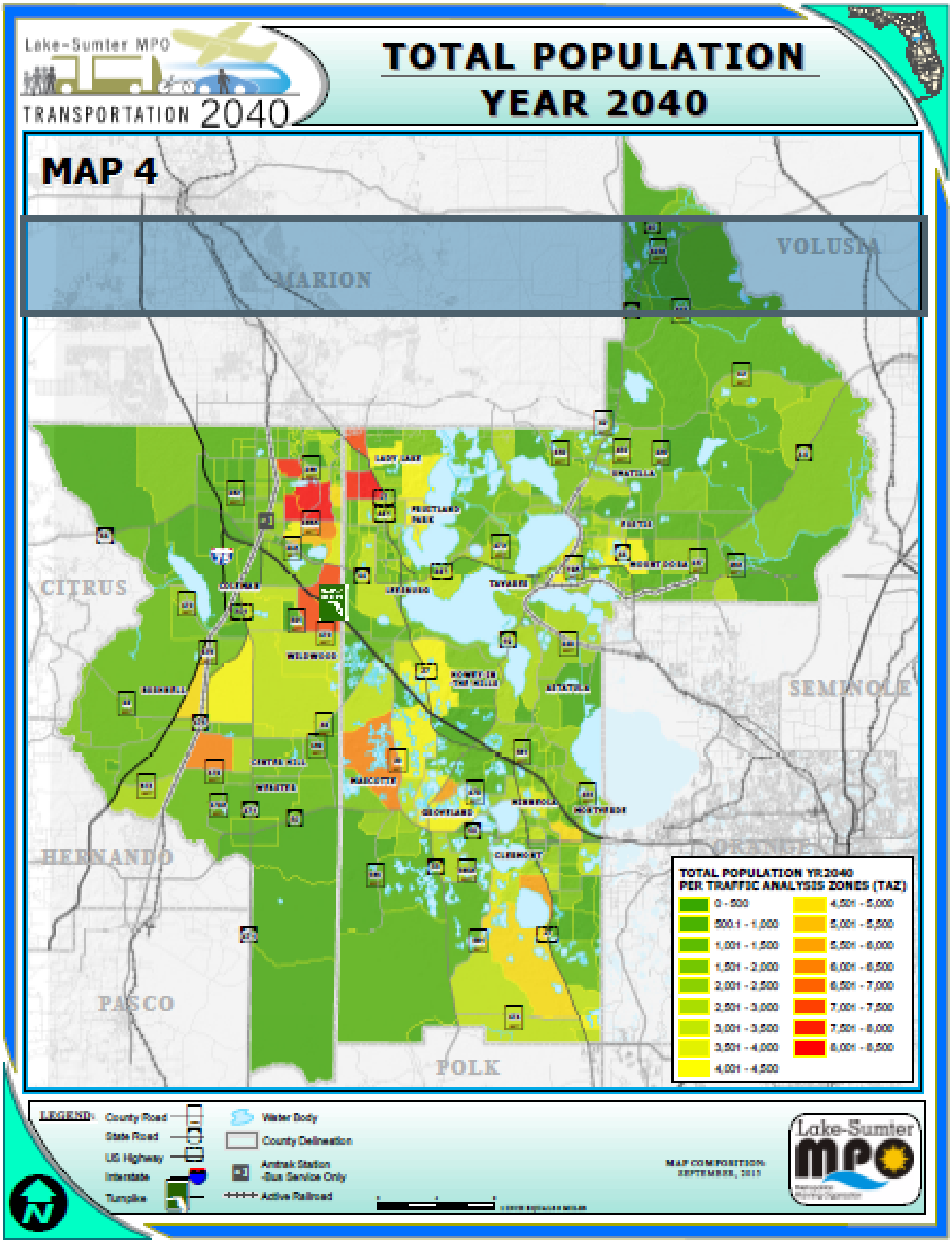
known as Monarch Ranch became fully entitled for 16 million square feet of industrial development. Lake County adopted a large economic development overlay district a significant portion of the county. This overlay district greatly expands the county's ability to attract new commercial and industrial development which in turn creates new jobs. These are two of many examples that justified using higher employment control totals than those generated using the traditional ratio method. Using this information, the MPO worked closely with the member jurisdictions and their representatives to adjust the employment numbers and allocate the jobs to appropriate locations within the two-county planning area. The population and employment estimates used to develop *Transportation 2040* are shown in **Table 1**.

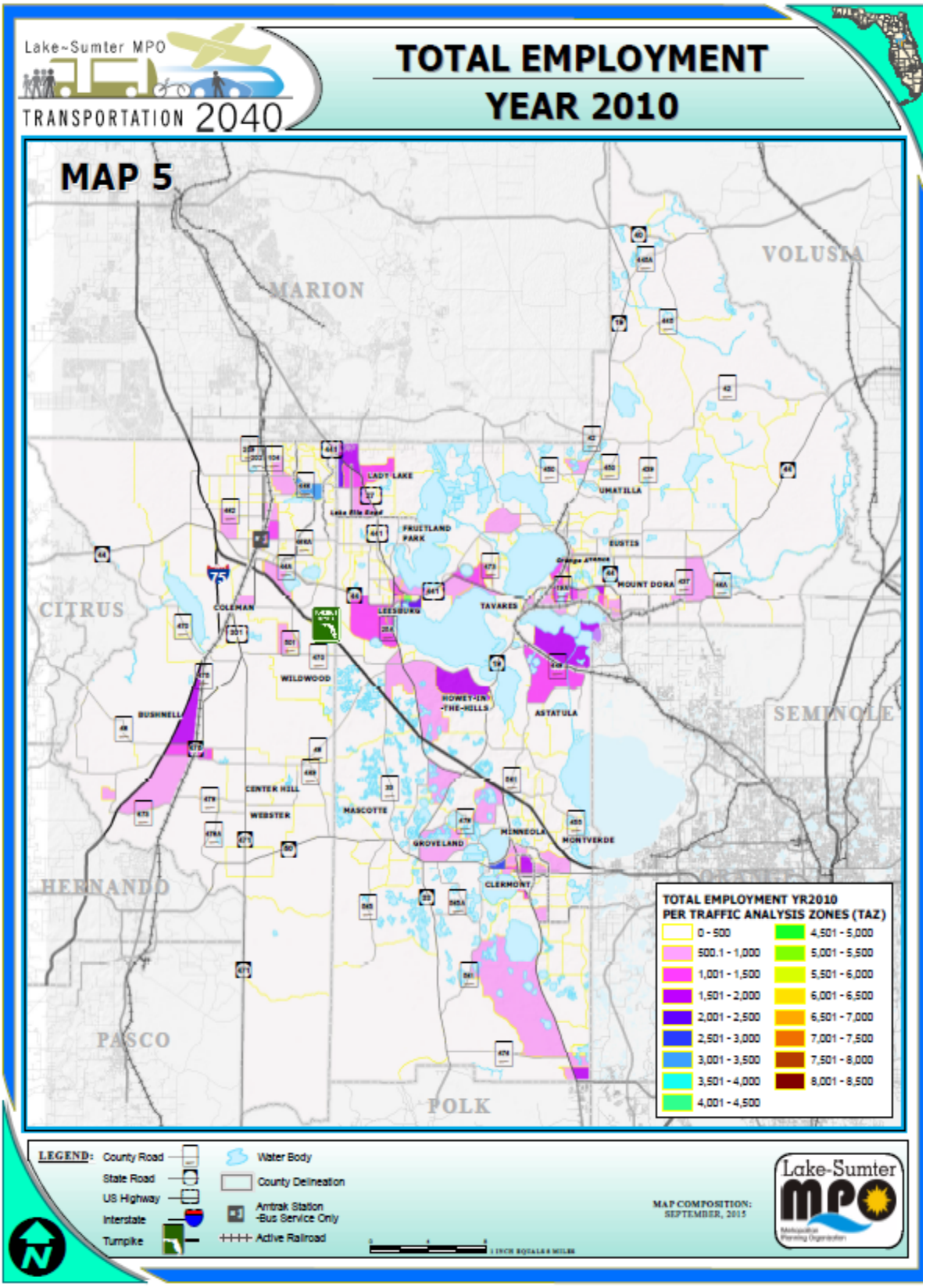
The MPO worked very closely with the member jurisdictions and their representatives to allocate the population and employment projections to the local level in terms of desired growth patterns. The land use assumptions associated with this plan reflect the regional growth vision for the Lake~Sumter MPO Planning Area, not simply the advancement of locally adopted comprehensive plans. Maps 3, 4, 5 and 6 display the changes in population and employment anticipated from the plan base year, 2010 and the plan horizon year 2040.

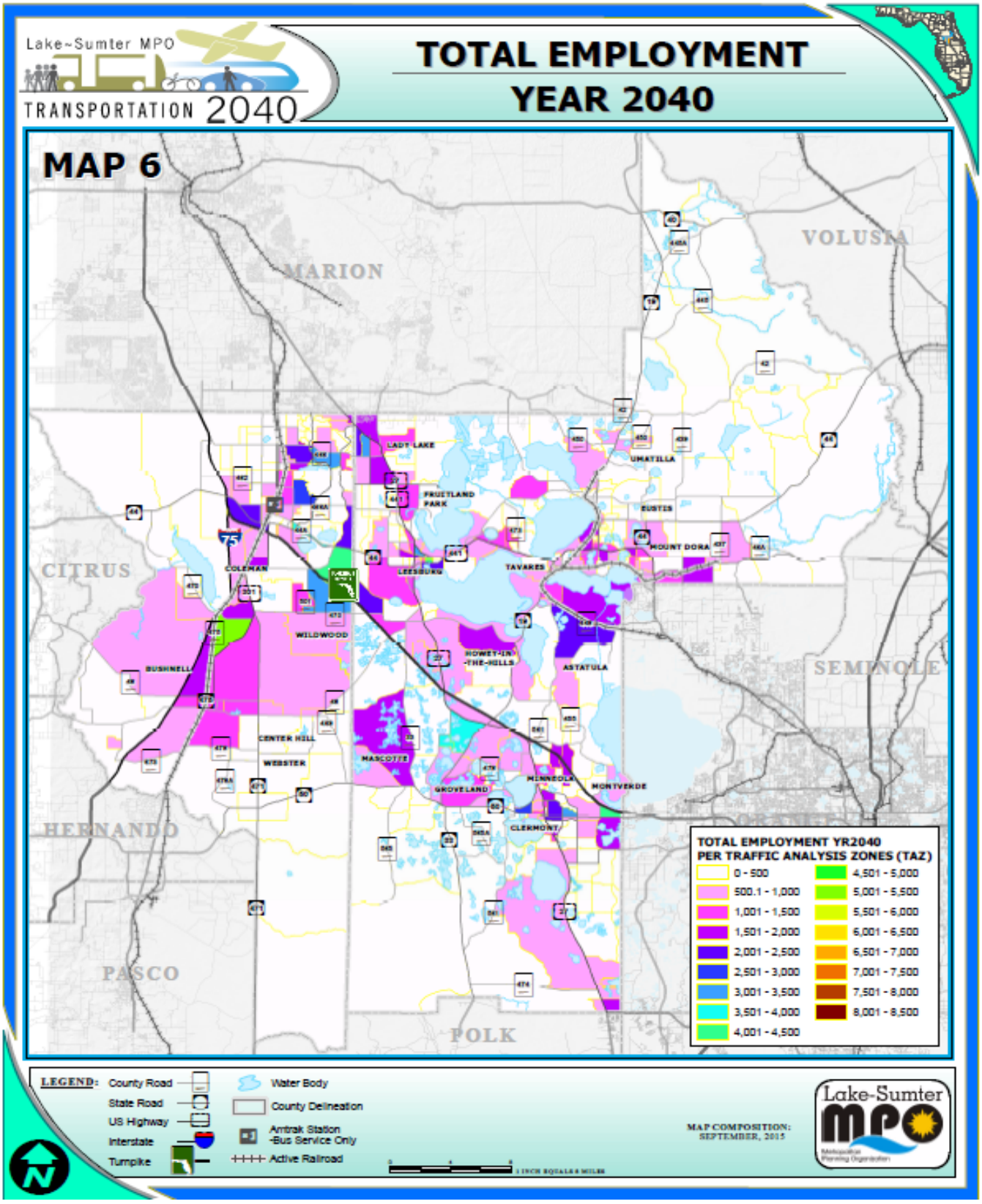
Table 1 – Population and Employment Estimates

County	Total 2010 Population	Total 2040 Population	Growth Rate
Lake	320,268	547,500	2.37%
Sumter	104,208	241,350	4.38%
County	**Total 2010 Employment**	**Total 2040 Employment**	**Growth Rate**
Lake	122,075	208,688	2.43%
Sumter	28,311	88,181	7.05%


Lake~Sumter MPO
TRANSPORTATION 2040
TOTAL POPULATION
YEAR 2010
MAP 3
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
PASCO
POLK
LADY LAKE
UMATILLA
FRUITLAND PARK
EUSTIS
MOUNT DORA
TAVARES
LEESBURG
COLEMAN
WILDWOOD
BUSHNELL
HOWEY-IN-THE-HILLS
ASTATULA
CENTER HILL
WEBSTER
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
CLERMONT
TOTAL POPULATION YR2010
PER TRAFFIC ANALYSIS ZONES (TAZ)
0 - 500
500.1 - 1,000
1,001 - 1,500
1,501 - 2,000
2,001 - 2,500
2,501 - 3,000
3,001 - 3,500
3,501 - 4,000
4,001 - 4,500
4,501 - 5,000
5,001 - 5,500
5,501 - 6,000
6,001 - 6,500
6,501 - 7,000
7,001 - 7,500
7,501 - 8,000
8,001 - 8,500
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO


Lake~Sumter MPO
TRANSPORTATION 2040
TOTAL POPULATION
YEAR 2040
MAP 4
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
PASCO
POLK
LEESBURG
WILDWOOD
CENTRAL HILL
WEBSTER
BROOKSVILLE
CLERMONT
TOTAL POPULATION YR2040
PER TRAFFIC ANALYSIS ZONES (TAZ)
0 - 500
500.1 - 1,000
1,001 - 1,500
1,501 - 2,000
2,001 - 2,500
2,501 - 3,000
3,001 - 3,500
3,501 - 4,000
4,001 - 4,500
4,501 - 5,000
5,001 - 5,500
5,501 - 6,000
6,001 - 6,500
6,501 - 7,000
7,001 - 7,500
7,501 - 8,000
8,001 - 8,500
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO


Lake~Sumter MPO
TRANSPORTATION 2040
TOTAL EMPLOYMENT
YEAR 2010
MAP 5
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
PASCO
POLK
LADY LAKE
UMATILLA
FRUITLAND PARK
EUSTIS
MOUNT DORA
TAVARES
LEESBURG
COLEMAN
WILDWOOD
BUSHNELL
HOWEY-IN-THE-HILLS
ASTATULA
CENTER HILL
WEBSTER
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
CLERMONT
TOTAL EMPLOYMENT YR2010
PER TRAFFIC ANALYSIS ZONES (TAZ)
0 - 500
500.1 - 1,000
1,001 - 1,500
1,501 - 2,000
2,001 - 2,500
2,501 - 3,000
3,001 - 3,500
3,501 - 4,000
4,001 - 4,500
4,501 - 5,000
5,001 - 5,500
5,501 - 6,000
6,001 - 6,500
6,501 - 7,000
7,001 - 7,500
7,501 - 8,000
8,001 - 8,500
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO


Lake~Sumter MPO
TRANSPORTATION 2040
TOTAL EMPLOYMENT
YEAR 2040
MAP 6
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
PASCO
POLK
LADY LAKE
FRUITLAND PARK
UMATILLA
EUSTIS
MOUNT DORA
TAVARES
LEESBURG
COLEMAN
WILDWOOD
BUSHNELL
HOWEY-IN-THE-HILLS
ASTATULA
CENTER HILL
WEBSTER
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
CLERMONT
TOTAL EMPLOYMENT YR2040
PER TRAFFIC ANALYSIS ZONES (TAZ)
0 - 500
500.1 - 1,000
1,001 - 1,500
1,501 - 2,000
2,001 - 2,500
2,501 - 3,000
3,001 - 3,500
3,501 - 4,000
4,001 - 4,500
4,501 - 5,000
5,001 - 5,500
5,501 - 6,000
6,001 - 6,500
6,501 - 7,000
7,001 - 7,500
7,501 - 8,000
8,001 - 8,500
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO

Financial Resources

Federal metropolitan planning requirements include developing a financial plan to demonstrate that the LRTP can be implemented over the life of the plan (23 CFR 450.322). The primary elements of the financial plan include costs and revenues needed to operate and maintain federal-aid highways and public transportation as well as including the costs for implementing capital investment projects identified in the plan and public transportation.

Federal funds to the region's transportation program are dependent on federal transportation legislation. Beginning in 1991 with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA), the pattern of federal transportation funding was characterized by the adoption of six-year federal transportation bills that advanced funding levels at an average annual rate greater than three percent (3%). Federal funding increases in these cases were approximately equivalent to the rate of inflation for the general transportation program.

In recent years, this pattern has changed with the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), a four-year bill, and its successor 2012's Moving Ahead for Progress in the 21st Century Act (MAP-21), a two-year bill. There have also been 32 short-term extensions of these bills over the past six years and extensions are likely to continue until there is a new longer-term federal bill. The trend of shorter-term bills and consistent continuing resolutions has eroded the predictability in the transportation funding process.

The funding program presented in this document reflects federal and state funding allocations expected to be available through the Transportation Improvement Program (TIP). This revenue is likely to be supplemented by a number of additional state-managed programs such as the Transportation Regional Incentives Program (TRIP), discretionary programs such as the federal Transportation Alternatives (TA) program, and local funds invested high-priority regional projects. Because FDOT has decision-making authority of allocation of the non-local funds and the availability and amounts from these types of funding sources are dynamic, no revenues projections were attempted for the plan for those programs.

Statewide in Florida, approximately 25 percent of total transportation revenues forecasted by the Florida Department of Transportation (FDOT) for 2014 through 2040 come from federal sources. While 67 percent are from state sources and eight percent are Florida's Turnpike Enterprise revenues. According to Florida's Transportation Tax Sources – A Primer, for FY 2013, the receipts collected by the State Transportation Trust Fund (STTF) broke down as follows: state motor fuel tax comprised 32 percent of STTF receipts; motor vehicle tag and title fees were 15 percent; aviation fuel tax, rental car surcharge, and documentary stamp taxes were each less than three percent; and Federal Aid, which comes primarily from the federal fuel tax, was 34 percent. The balance of receipts came from toll facility reimbursement, local government participation, and other miscellaneous sources.

The figures discussed above represent statewide revenues. Lake and Sumter counties receive their proportionate shares based on a series of formulas tied to population and gas tax receipts. Table 2 provides revenue projections of state and federal sources available to Lake and Sumter counties as provided in the 2040 Revenue Forecast Handbook (July 2013) prepared by FDOT. "Other Arterials" revenues can be applied

to non-FIHS/SIS State Highway System roadways and "Transit" revenues can go toward technical and operating/capital assistance for transit, paratransit, and rideshare programs. "TA" funds are used for locally-defined projects like sidewalks and regional trails and are not used to fund capacity improvements. TRIP matching funds apply to improvements on facilities designated as regionally-significant and the funds are allocated within each district based on regional project prioritization processes.

Table 2 – Projected State and Federal Resources

PROJECTED REVENUES BY PLANNING PERIOD					
(IN MILLIONS OF YEAR OF EXPENDITURE DOLLARS)					
STATE/FEDERAL REVENUES ①					
PLANNING PERIOD	2021-2025	2026-2030	2031 - 2035	2036 -2040	TOTAL
OTHER ARTERIAL CONSTRUCTION/ROW	$75.60	$71.50	$78.20	$78.20	$303.50
TRANSIT	$42.50	$44.70	$46.90	$46.90	$181.00
TRIP FUNDS②	$10.00	$10.00	$10.00	$10.00	$40.00
TRANSPORTATION ALTERNATVATIVES FUNDS②	$4.20	$4.20	$4.20	$4.20	$16.80
①STATE/FEDERAL REVENUES FROM AUGUST 1, 2013 SUPPLEMENT TO THE 2040 REVENUE FORECAST HANDBOOK, 2040 FORECAST FOR LAKE-SUMTER MPO AREA. TOTALS MAY NOT SUM PERFECTLY DUE TO ROUNDING. REVENUES FOR SIS HIGHWAYS ARE ALREADY PROGRAMMED.					
② TOTAL DISTRICTWIDE FUNDS					

Safety and Security

Safety

In 2008, the MPO assumed responsibility for collecting, analyzing, and reporting local crash data. The Lake~Sumter MPO has replaced its GIS-based Crash Data Management System (CDMS) custom tool with FDOT's new crash data management tool, Signal Four Analytics. The tool is an interactive web-based system designed to support the crash mapping and analysis needs of law enforcement, traffic engineering, transportation planning agencies, and research institutions throughout Florida. The tool helps address engineering and safety issues through the analysis of crash data. The Signal Four Analytics tool is adapted to target safety concerns through the 3E approach (engineering, enforcement, and education), as well as integrating the State of Florida's Strategic Highway Safety Plan Emphasis Areas which include: (1) aggressive driving, (2) intersection crashes, (3) vulnerable road users, and (4) lane departure crashes. A key aspect of Signal Four Analytics is the ability to cross-reference county and state data sources to assess regional and local crash-r elated issues on both the state system and on the local roadway networks.

With this tool, the MPO will be able to continue generating regular reports and sharing information on safety issues to help coordinate with local and state jurisdictions to identify issues and recommend mitigation strategies to address safety problems. While safety is already a consideration in the current project prioritization process, this new system of monitoring will help provide more detailed information regarding crash locations, crash causes, crash rates, crash severity and other important considerations that will aid in targeting improvements related to safety.

An additional area of focus on safety for the MPO is to support educational efforts to address transportation safety. The MPO participates in collaborative relationships among various representatives of local governments, law enforcement, school districts, and emergency management. The MPO is engaged with community safety groups in both Lake County and Sumter County.

As the regional entity responsible for convening member jurisdictions and stakeholders to address transportation issues, the MPO used funds provided by FDOT to conduct the Safe School Access Transportation Study (SSATS). This study assessed the transportation conditions of each school located within Lake County and Sumter County. It is the foundation for the activities the MPO implemented to address a full range of safety issues relative to vehicular, pedestrian, bicycle and transit travel. *Transportation 2040*, includes a focus on implementing the projects and strategies identified in the SSATS, which is the premise for the MPO's Safe School Emphasis Program.

Security

Federal law requires security to be part of the Lake~Sumter MPO transportation planning process. Awareness of both man-made and natural disaster security concerns have increased in recent years due to events like September 11, 2001, and Hurricanes Rita and Katrina. This element of the plan is intended to provide a new focus for the Lake~Sumter MPO region on interrelated security and transportation issues.

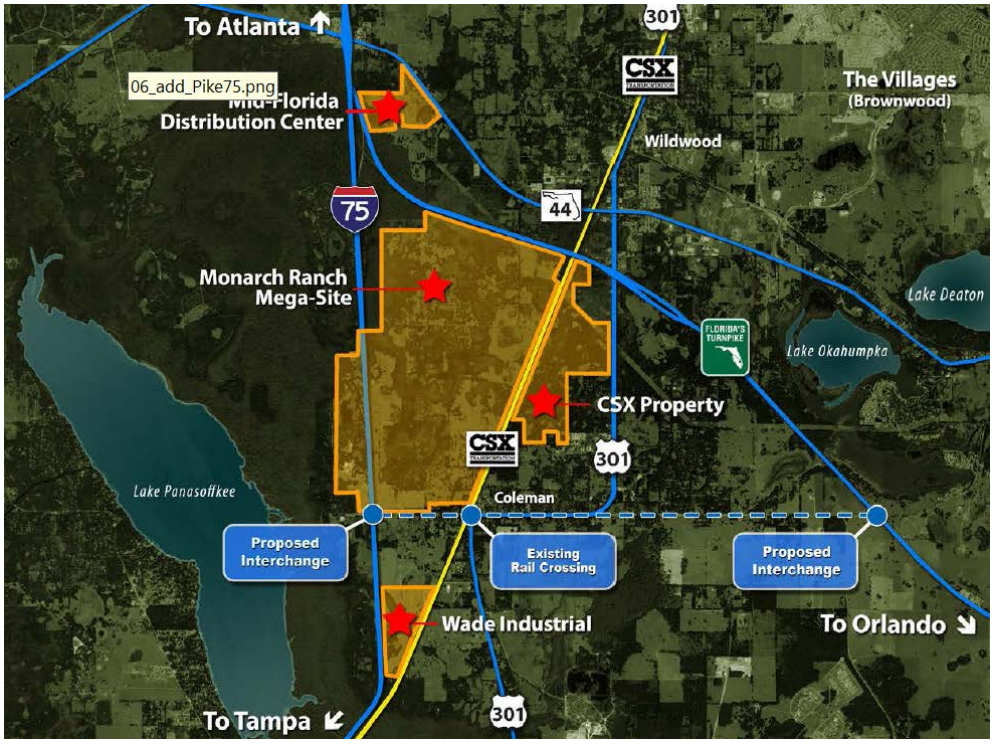
A secure transportation system is critical to overall national security from terrorism. Groups or individuals motivated to terrorize or injure people or the economy may well have transportation facilities as a target or a tool. It is likely such efforts would have a transportation element in an overall plan of terrorism. Thus, securing the transportation system is a critical consideration in overall security planning. While there are currently no identified high-threat facilities located within the MPO Planning Area, there are several transportation corridors that serve as hurricane evacuation routes. Roadways designated for hurricane evacuations are also considered during the project prioritization process and given additional priority ranking for improvements to ensure mobility along these corridors.

The Lake~Sumter MPO does not have primary responsibility for security issues, although some security issues may have an impact on transportation programs at the regional level. The MPO role in security may take many forms including facilitator, participant, or leader in the security-related activities.

In the event of a man-made or natural disaster, the Lake~Sumter MPO will implement the procedures outlined in the Continuity of Operations Plan (COOP), adopted in 2006 and reviewed and updated annually, and the MPO will coordinate directly with the law enforcement and emergency management officials, such as Sumter County Sheriff's Office and the Lake County Emergency Operation Centers (EOC), when activated.

Freight and Goods Movement

Freight and goods movement continues to be a top priority in the Lake~Sumter region. In Sumter County at the confluence of I-75, Florida's Turnpike Mainline, SR 44 and the CSX S-Line, plans for a large inter-modal industrial/freight center are taking shape. A new interchange is being planned on I-75 at CR 514 to help alleviate project traffic that will be generated by 20 million square feet of entitled industrial land use. The future of US 301 in Sumter County is being planned to accommodate the future employment center.



The City of Leesburg's new commerce park offers more than 640 acres of prime development area at Florida's Turnpike and County Road 470. Improvements to the 470 Corridor to accommodate this major economic development project are regional top priority. The 470 Corridor connects Sumter and Lake counties, as well as US 27, Florida's Turnpike, US 301, I-75, the CSX S-Line and SR 44. The county road corridor includes thousands of existing and future jobs and is planned to be added to the state system by 2018.

In eastern Lake County, the Wekiva Parkway project, which will complete the beltway around the Orlando metropolitan area, is stimulation economic development opportunities. Mount Dora has designated the Wolf Branch Innovation District as a future employment center directly accessed by the Wekiva Parkway project (SR 429 and SR 46).

A new interchange with Florida's Turnpike in Minneola is planned for opening in 2017. The planned employment center around the new interchange is driven by the accessibility to be provided by the enhanced access. A 16,000-acre sector plan area in southeastern Lake County between US 27 in Lake County and SR 429 in Orange County relies on transportation connectivity to catalyze the thousands of jobs planned for the area.

These local initiatives are in direct response to regional changes in rail and truck freight patterns and a growing interest by the two counties in the economic development potential associated with freight and goods movement activities. Consideration of these existing initiatives and other similar projects is reflected in *Transportation 2040* as a result of the MPO's participation in MetroPlan Orlando's 2013 Central Florida Regional Freight Mobility Study (See Map 7). The study provided valuable information on linking goods movement in our region with the region's economy, job creation and future freight related economic opportunities. At the national and state levels, the federal transportation bill, MAP-21 or the Moving Ahead for Progress in the 21st Century Act, was signed into law by President Obama on July, 6 2012, funding surface transportation programs. MAP-21 recommended that states develop state freight plans, including these required elements to qualify for an increased freight project funding percentage:

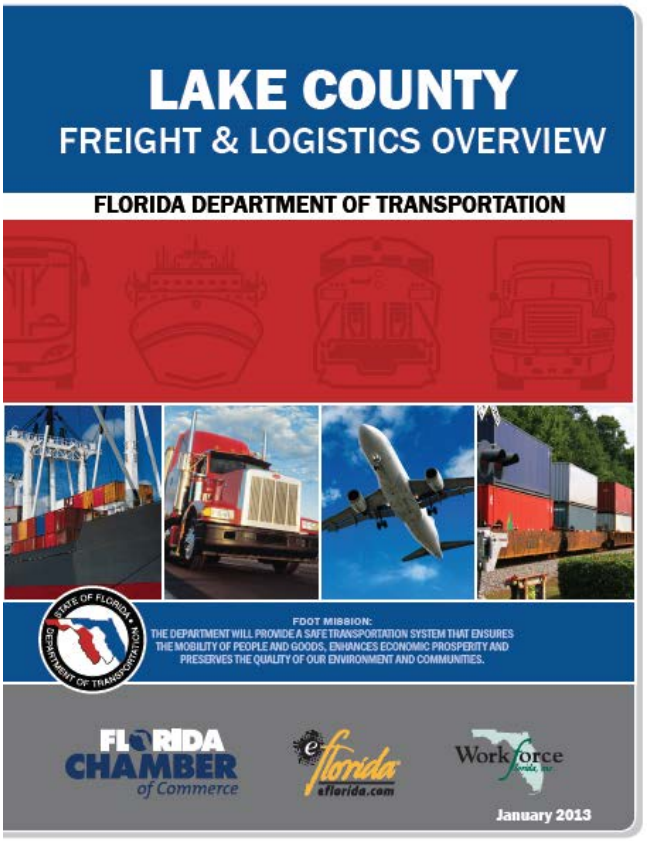
- Identify trends, needs and issues
- Describe policies, strategies and performance measures to guide investment decisions
- Describe how the plan will improve state ability to meet national freight goals
- Consider innovative technologies and operational strategies
- Describe improvements required to reduce deterioration of heavy truck routes
- Provide an inventory of facilities with freight mobility issues and strategies to address those issues.

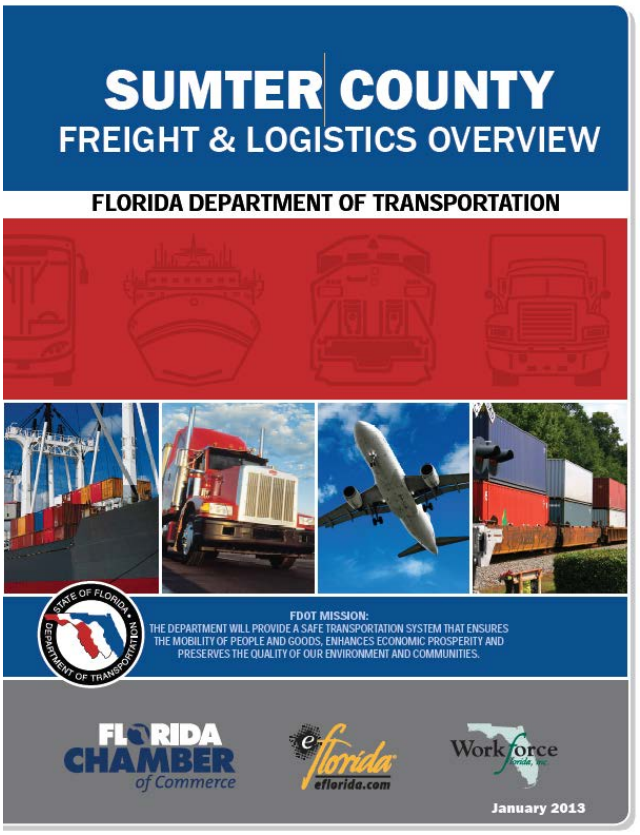
In response, the State of Florida subsequently developed the *Freight Mobility and Trade Plan* (FMTP). The Florida FMTP provides guidance to the FDOT on freight and goods movement-related policy and investment decisions. The plan informs the state Legislature, private industry, and other governmental agencies on the logistics and trade vision for Florida.

The Policy Element is the foundation of the FMTP, setting objective and strategies developed through a two year outreach to stakeholder groups representing a synthesis of ideas, views and issues of a diverse public. The objectives focus on several areas including: a collaborative effort among economic development, trade, and logistics programs; support of freight movement investments; balancing investments among the different

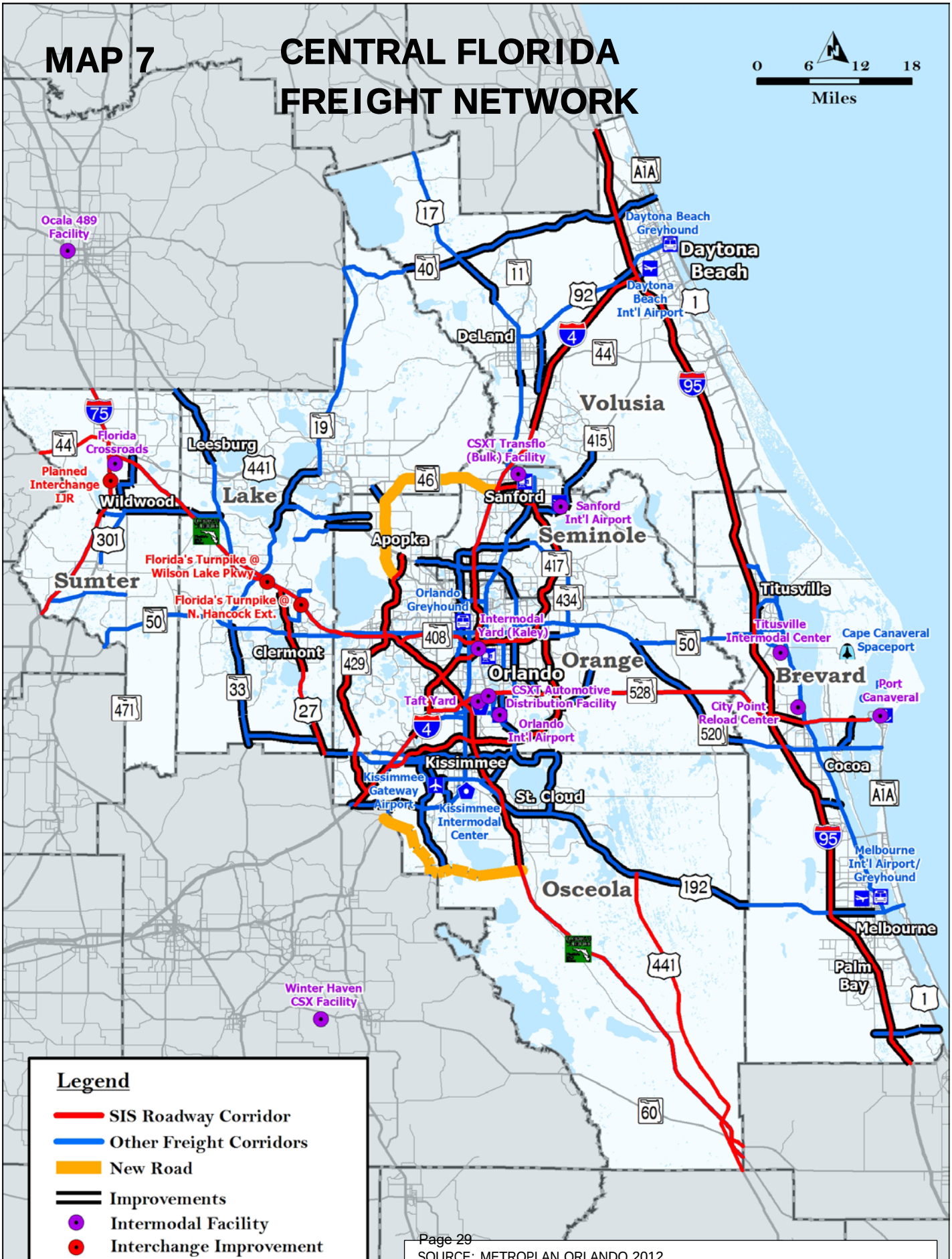
forms of transportation; increasing operational efficiency of goods movement; and minimizing costs in the supply chain.

The Investment Element of the FMTP details a collaborative and transparent project prioritization process to match funding for short-term and long-term to ensure maximum return on Florida's investment. It includes a complete assessment of freight infrastructure needs and a prioritization process for determining funding allocation.





The MPO was an active and enthusiastic participant in the development of the FMTP ensuring the region's needs and goals were recognized in the state's plan. As the MPO moves forward with freight planning for the two-county region, it will be done in coordination with FDOT and the FMTP.



SOURCE: METROPLAN ORLANDO 2012

Environmental Impacts

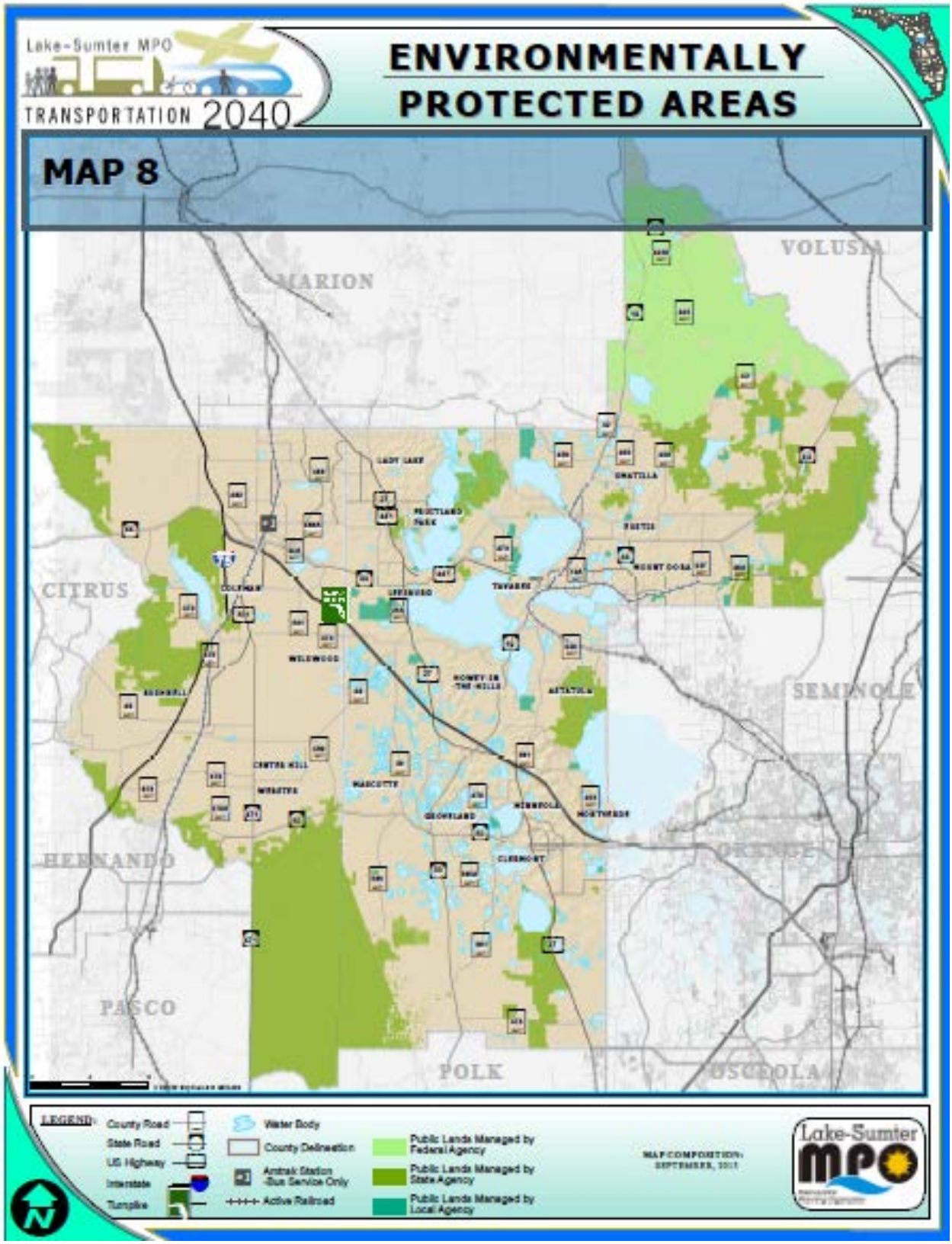
Efficient Transportation Decision Making (ETDM) creates a connection between land use, transportation and environmental resource planning through proactive and interactive agency involvement. The purpose of the ETDM process is to improve the efficiency of making transportation decisions by integrating transportation, land use, social, economic and environmental considerations early in the project development process. ETDM affords the opportunity to proactively determine fatal flaws to a planning concept before the study phase of project development.

An ETDM planning screen process is conducted for all major capacity projects prior to their inclusion in the Cost Feasible Plan. A major project is defined as new roadway construction, the addition of lanes to an existing roadway, fixed rail transit construction, public transportation projects, new bridge construction, bridge widening, new interchanges, major interchange modifications, or major capital improvements such as intermodal and transit centers. Proposed capacity projects identified as needs in the MPO's adopted LRTP that have not yet been subject to Project Development and Environment (PD&E) studies are also eligible for the ETDM planning screen process.

As part of the plan development process, MPO staff worked with FDOT District Five to conduct planning screening associated with the ETDM process to better protect the environmentally sensitive areas within our region (See Map 8). This analysis was conducted for roadway and transit projects identified in the cost-feasible plan's list of projects. The planning screen for these projects involves examining:

- Air Quality
- Contaminated Sites
- Farmlands
- Floodplains
- Infrastructure
- Water Quality and Quantity
- Wetlands
- Wildlife Habitat
- Recreation Areas
- Archaeological and Historic Resources
- Socio-cultural Effects

In addition to the ETDM process, the MPO engages in all PD&E studies within the MPO Planning Area. This includes studies of state system facilities as well as local facilities. Through the PD&E study process, environmental impacts are determined and mitigation strategies are outlined as the project is defined. The MPO utilizes the PD&E study process as an opportunity to reinforce that no outcome is predetermined. Although a capacity need may be included in the cost-feasible plan, the concept is not solidified as a project until the PD&E process is complete.


Lake-Sumter MPO
TRANSPORTATION 2040
ENVIRONMENTALLY PROTECTED AREAS
MAP 8
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
PASCO
POLK
OSCEOLA
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
Public Lands Managed by Federal Agency
Public Lands Managed by State Agency
Public Lands Managed by Local Agency
MAP COMPOSITION: SEPTEMBER, 2015
Lake-Sumter MPO

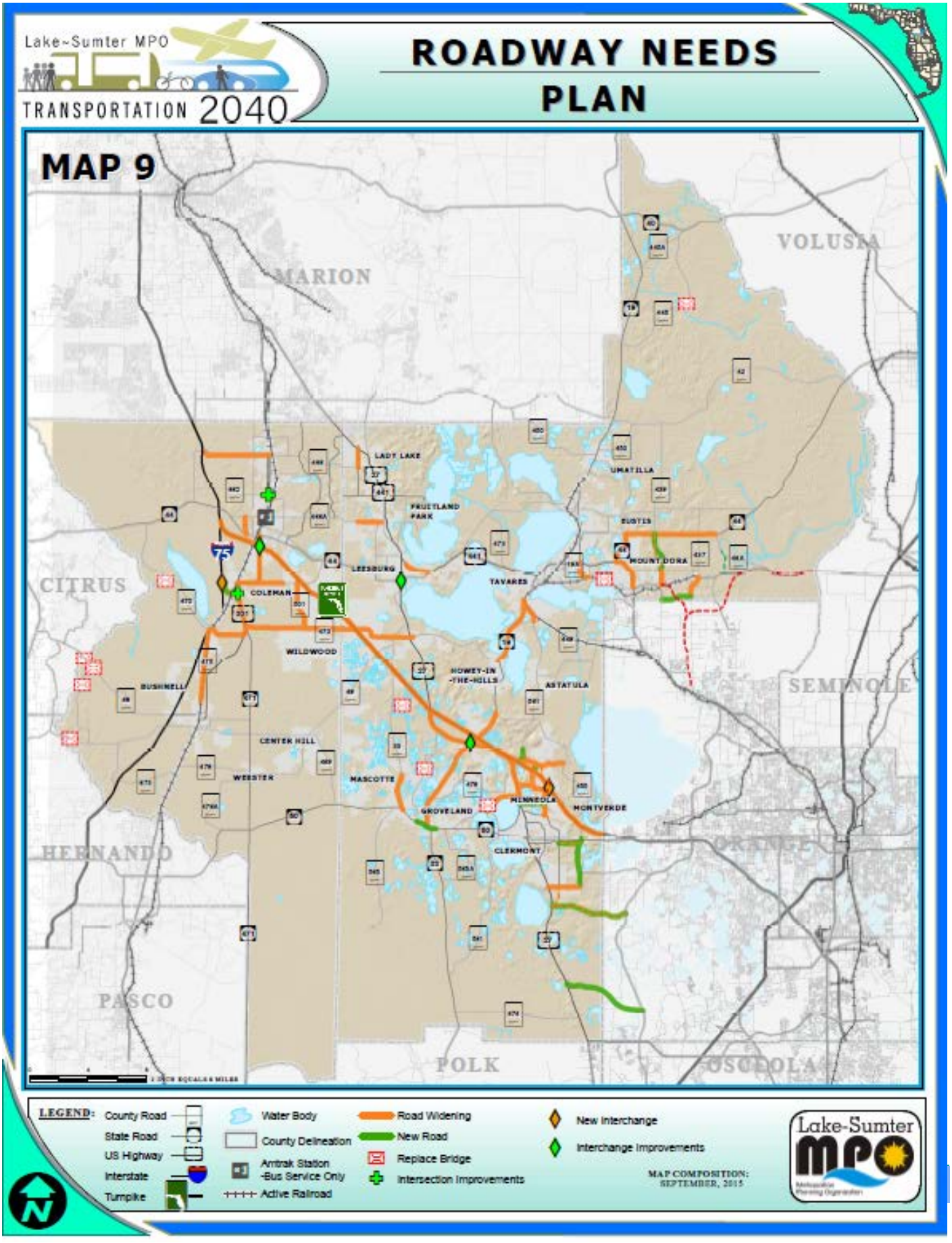
Transportation Needs Analysis

Roadways

The transportation needs analysis began with the establishment of the existing-plus-committed network (E+C) to ensure that all projects identified in the five-year work program and local capital improvement programs were properly coded into the Central Florida Regional Planning Model (CFRPM) version 6.0. These projects represent those anticipated to complete by 2019. Working with the Florida Department of Transportation, the study team then reviewed the CFRPM files against the locally adopted levels of service as identified in the MPO's Transportation Management System (TMS). As a result, the capacities of individual roadways were adjusted based on specific roadway characteristics and physical capacity. Once the base model analysis was complete and future roadway deficiencies identified, the study team began identifying specific projects and alternatives to address these long term needs.

Recognizing the MPO's adopted Constrained Roadways Map (See Map 9), constrained corridors were identified for Alternative Transportation Strategies. The remaining corridors with projected deficiencies were identified for improvements. Additionally, long-term projects identified in the List of Priority Projects (LOPP) not funded in the five-year work program were also added to the list of project needs, reflecting local priorities. This list of projects was vetted through the public outreach process and further refined to reflect the needs plan. This resulting needs assessment focused identifying projects and strategies to:

- Apply Complete Streets methods to develop appropriate transportation improvements for deficient facilities that deliver solutions appropriate for the surrounding community context and while meeting quality of life goals.
- Optimizing regional corridors with management and operations strategies (i.e. intelligent transportation systems (ITS), timing signalization, intersection improvements)
- Strategic widening projects connecting major destinations and addressing future congestion issues.
- Additional roadway connections to disperse traffic more evenly across the network and increase network efficiency that also provide safe bicycle and pedestrian options.


Lake~Sumter MPO
TRANSPORTATION 2040
ROADWAY NEEDS PLAN
MAP 9
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
ORANGE
PASCO
POLK
OSCEOLA
LADY LAKE
UMATILLA
FRUITLAND PARK
EUSTIS
LEESBURG
TAVARES
MOUNT DORA
COLEMAN
WILDWOOD
BUSHNELL
HOWEY-IN-THE-HILLS
ASTATULA
CENTER HILL
WEBSTER
MASCOTTE
MINNEOLA
MONTVERDE
GROVELAND
CLERMONT
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
Road Widening
New Road
Replace Bridge
Intersection Improvements
New Interchange
Interchange Improvements
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO

Transit and Intermodal Facility Needs

Overall transit needs across the two-county region focus on efforts to maintain and enhance the accessibility of the transportation system for all users including the young, elderly, the economically-disadvantaged and the disabled. Public transit and para-transit services provide transportation for citizens who typically cannot drive. In addition to this segment of the population, transit is increasingly being seen as a viable option for riders who may have access to an automobile but choose to take transit because it provides a more attractive alternative or supports broader community goals. As such, *Transportation 2040* seeks to enhance and expand transit service as part of its long term multimodal mobility strategy.

A key message of the Lake County Transit Development Plan (TDP) was the need for enhanced coordination between local governments and other agencies to evaluate current demands and to plan for future public transportation needs in Lake County. In particular, it was recognized that the county is currently transitioning from its designation as a rural transit service provider to a small urban designation, and newly designated urbanized areas in South Lake based upon anticipated population increases in the county documented in the 2010 Census.

Proactively addressing the needs of residents and anticipating future demands has been an important part of the implementation strategy over the last year. The recommendations from the Lake County TDP most recent update have been incorporated into *Transportation 2040* to ensure that transportation efforts of all government entities are consistent with the overall transportation goals for the region.

The TDP identifies needed improvements to the existing transit system as well as several expansions that address weekend service, increased hours of operation, and increased frequency. The TDP also identifies the need to commence new service along SR 50 in the South Lake region, a newly designated urbanized area part of the Orlando UA expansion into Lake County. Additionally the plan identifies several corridors where a combination of transit, management and operations, bicycle and pedestrian improvements will be targeted in the future (See Map 10).

Intermodal connectivity between air, rail, vehicles, bicyclists and pedestrians is another factor of MPO planning. This plan incorporates recommendations from the Leesburg Airport Master Plan and the Tavares Seaplane Master Plan.

Bicycle and Pedestrian Needs

The transportation needs analysis conducted for *Transportation 2040* identified pedestrian and bicycle facility network needs in the MPO area based on analyzing existing conditions and engaging stakeholders and the public in the planning process. Specific projects and policy recommendations are included in the new *Transportation 2040* Programs Areas developed to serve as a guide to improve the safety and connectivity of walking and biking within the MPO Planning area. The ultimate goal of the Transportation Needs Analysis is to identify a network of sidewalks and bicycle facilities that provide a safe and efficient alternative transportation system. And finally the

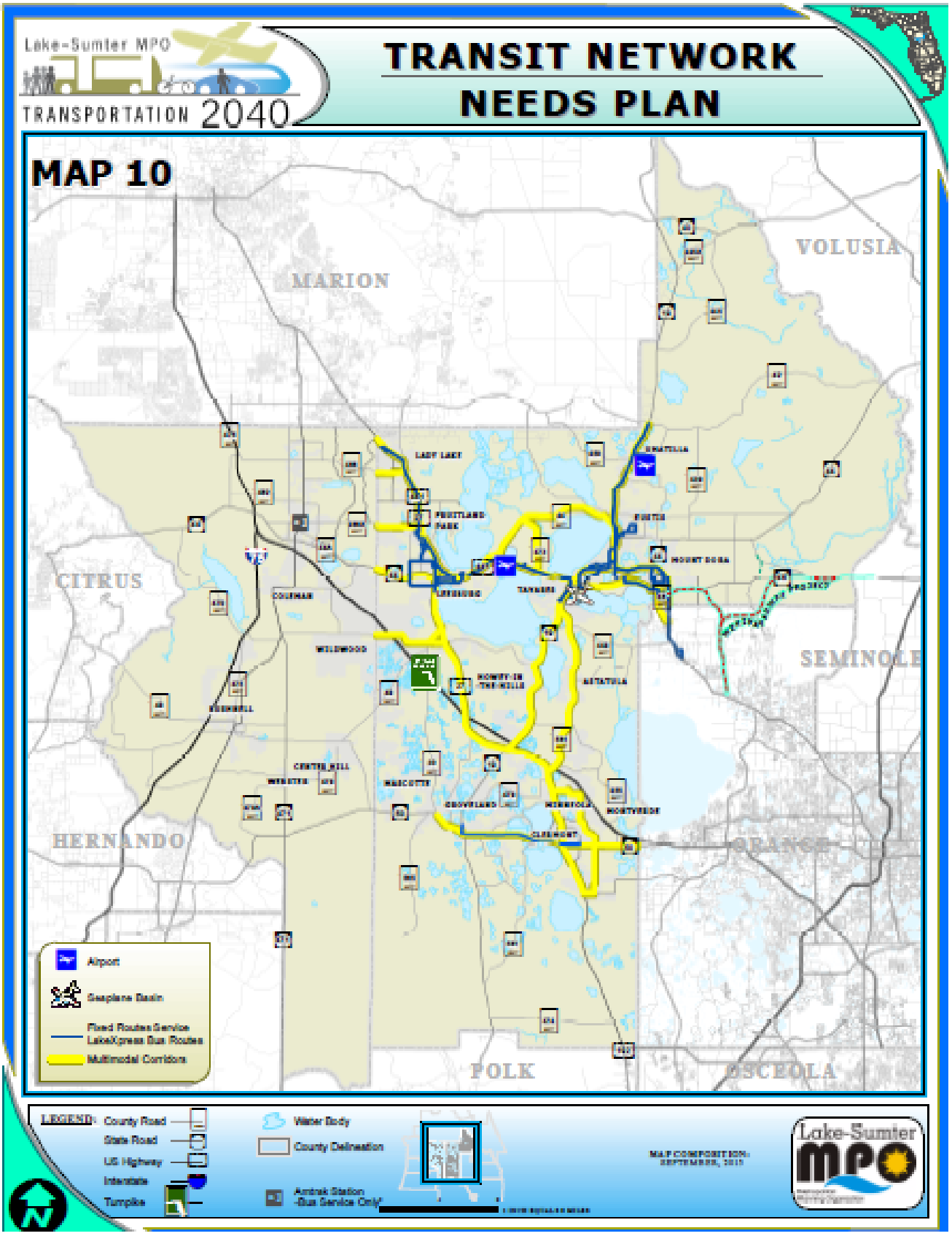
Transportation 2040 plan will capitalize on the area's position within Florida's rapidly growing trail network by planning for a series of paved multi-use trails that connect to other regional trails in Florida, including the Coast-to-Coast Trail and the Heart of Florida Loop. These trails will not only provide greater connectivity and recreational opportunities, but are intended to bring economic benefits to the region as well.

Communities within the MPO planning area are implementing new approaches to transportation planning, such as better coordinating land use and transportation; increasing the availability of high-quality transit service; creating redundancy, resiliency and connectivity within their road networks; and ensuring connectivity between pedestrian, bike, transit, and road facilities. This multi-modal approach to transportation with supportive development patterns, helps create a variety of transportation options for the residents and visitors to the region.

Bike/Walk Central Florida

Lake County joined forces with Bike Walk Central Florida (BWCF) to promote and create safe and courteous roads, trails, and transit ways, where bicycling and walking for transportation and recreation are accessible and a common part of our daily experience, enhancing our physical health and the quality of life in our community. BWCF promotes walkable and bikeable communities through raising public awareness and advocating for safe, active transportation, and recreation by:

- Educating walkers, cyclists, motorists and transit riders about Florida's road laws, their rights, responsibilities, and courteous behaviors;
- Supporting transportation corridor planning and design using Complete Streets principles;
- Encouraging the development and maintenance of trails throughout Florida;
- Promoting a built environment that supports physical, environmental and economic health, provides for safe transportation choices, and encourages interaction among citizens of all ages, incomes and abilities.


Lake~Sumter MPO
TRANSPORTATION 2040
TRANSIT NETWORK
NEEDS PLAN
MAP 10
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
POLK
OSCEOLA
LADY LAKE
FRUITLAND PARK
LEESBURG
TAVARES
MOUNT DORA
WILDWOOD
CENTER HILL
WEBSTER
BUSHNELL
Airport
Seaplane Basin
Fixed Routes Service
LakeXpress Bus Routes
Multimodal Corridors
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter
MPO

Public Outreach Process

The Lake~Sumter MPO actively seeks and considers public input on transportation policies, plans, and ultimately the prioritization of transportation investments. A major function of the MPO is to ensure that the public (comprised of a diverse constituency of interested and affected parties) maintains a strong voice in the transportation planning process. As part of the MPO planning process for *Transportation 2040*, the MPO implemented a broad public outreach strategy to ensure early and continued involvement in the development of the plan. These outreach efforts provided substantial public input that ultimately shaped the identified policies and projects in the plan.

The MPO used its adopted Public Involvement Plan for *Transportation 2040*. The plan is robust in its guidance and requirements for engaging the public in the MPO Planning Area. The Public Involvement Plan was prepared in accordance with Title 23 Code of Federal Regulations, Section 450.316(b)(1). Opportunities that were available to the public to be involved in all phases of the planning process exceeded the minimum requirements of the law.

The public involvement process had multiple components including the formation of the Long Range Transportation Plan Subcommittee comprised of members from the Citizens' Advisory Committee, Bicycle & Pedestrian Advisory Committee, and Technical Advisory Committee. Presentations and updates were made regularly to the MPO Governing Board, Citizen's Advisory Committee, Bicycle & Pedestrian Advisory Committee, Technical Advisory Committee, Transportation Disadvantaged Coordinating Boards for both Lake County and Sumter County and the MPO Task Forces – South Lake, East Lake, North Lake, CR 470 Corridor, and Public Transportation. Three (3) public workshops were held in various locations throughout the region to present the plan and solicit input from the entire community.

In addition to the workshops, the plan was presented at community outreach events as well as to chambers of commerce, civic organizations, city and town councils, and county commissions. The MPO public involvement mailing list and e-mail list were utilized to inform the public about the workshops and to provide copies of the draft documents and presentation materials. In an effort to promote environmental justice and to meet the requirements of Title VI, special efforts were undertaken to involve population segments that are traditionally underserved and/or represented.

Several communication tools and outreach strategies were utilized throughout the plan development process including visualization techniques, interactive workshop activities, web-based information sharing, multimedia and informational exhibits displaying maps and charts. The various strategies were utilized to effectively convey plan development content and key issues for consideration. Comment cards, flip charts, and hands-on 'mark-ups' of maps were utilized to record community input at each outreach event.

The MPO's website also served as the major information portal for the Transportation 2040 plan development. All of the plan information including workshop handouts, presentations, technical documents, and summaries of comments were made available to the public via the website. Advertisements for public meetings and workshops were posted online and placed in local newspapers. Social media efforts complemented the public involvement efforts by alerting participants to opportunities for input.

This outreach process resulted in the creation of the final goals and objectives and identification of needed projects. The resultant cost-feasible plan was derived from a combination of input received from the public, sound technical analysis and compliance with all federal, state and local regulations.

Alternative Transportation Strategies and Project Needs

As described in the Plan Development section, *Transportation 2040* is organized around five alternative transportation strategies: Roadway Capacity Projects; Complete Streets Program; Regional Trails Program; Safe Schools Emphasis Program; Management and Operations Program; Intelligent Transportation Systems Program; and Sidewalk Program. With these strategies in mind, the plan identified project needs that address long term mobility and economic growth needs.

Roadway Capacity Projects

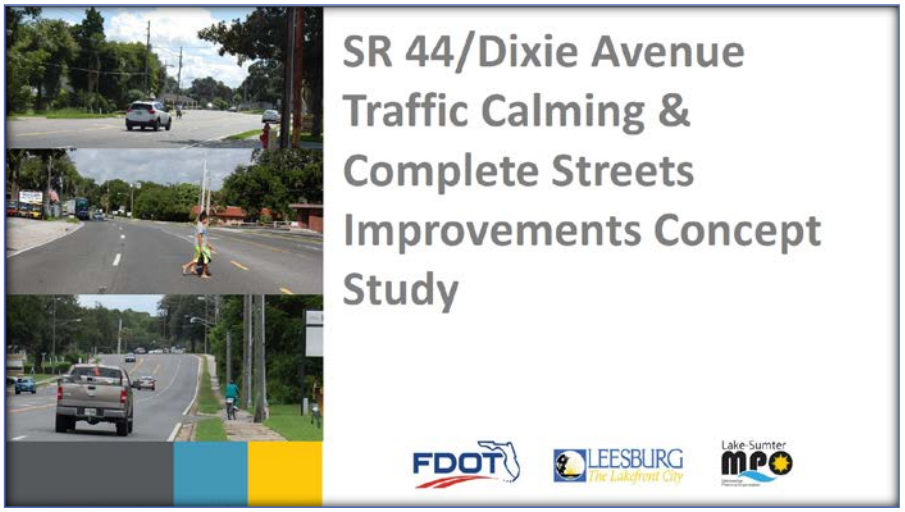
Transportation 2040 includes a list of strategic capacity improvements, specifically, potential roadway widening, to local roadways, state roads, and Strategic Intermodal System (SIS) facilities.

Most of the capacity projects were identified in *Transportation 2035* as project needs, but have not yet been funded through construction. Also included in the plan are new roadways. Each new roadway project identified as a need provides a key connection to enhance accessibility and to provide connectivity.

Complete Streets Program

Understanding projects adding capacity to the roadway network will never completely meet the capacity needs or solve the mobility issues of the region, more and more consideration is being given to implementing Complete Streets as one way to transform transportation corridors from vehicle dominated roadways into

community-oriented streets that safely and efficiently accommodate all modes of travel, not just motor vehicles. The premise of Complete Streets is that there is a way to maintain quality of life while balancing the mobility needs of the area and accommodating future growth.



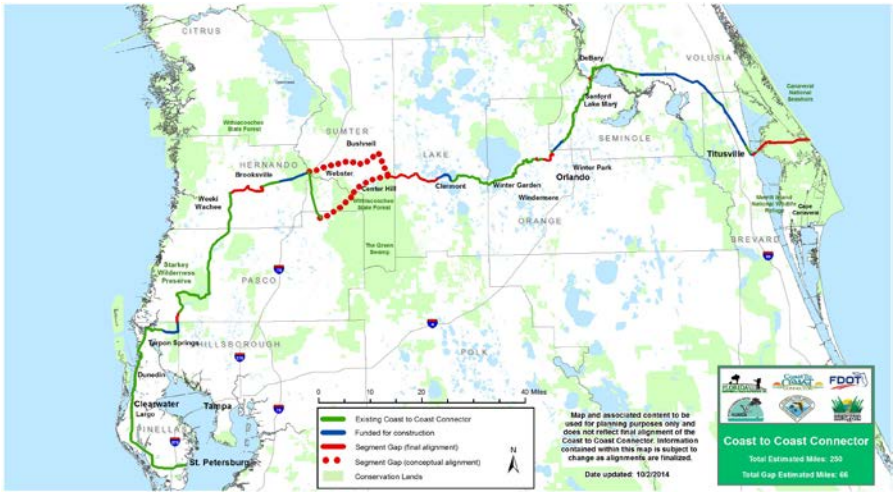
The Florida Department of Transportation has embraced the concept of Complete Streets and issued a policy for Complete Streets on September 14, 2014. The directive in the policy is to routinely plan, design, construct, reconstruct and operate a context sensitive system of Complete Streets. To accomplish this, FDOT is integrating their Complete Streets Policy into all appropriate internal planning, design, construction and operations manuals and guidelines.

The MPO supports Complete Streets as an alternative transportation strategy to balance quality of life and mobility issues. Following FDOT's lead, the MPO is drafting a Complete Streets Policy for approval by the MPO Governing Board. The policy will include Complete Streets Goals (e.g., economic revitalization, business retention and expansion, and public safety) and Complete Streets Guiding Principles (e.g. integrate land use strategies with transportation goals, create corridors that serve multimodal needs, and enhanced safety). The MPO will coordinate with FDOT to ensure the MPO's policy comports with FDOT's policy. Once adopted,

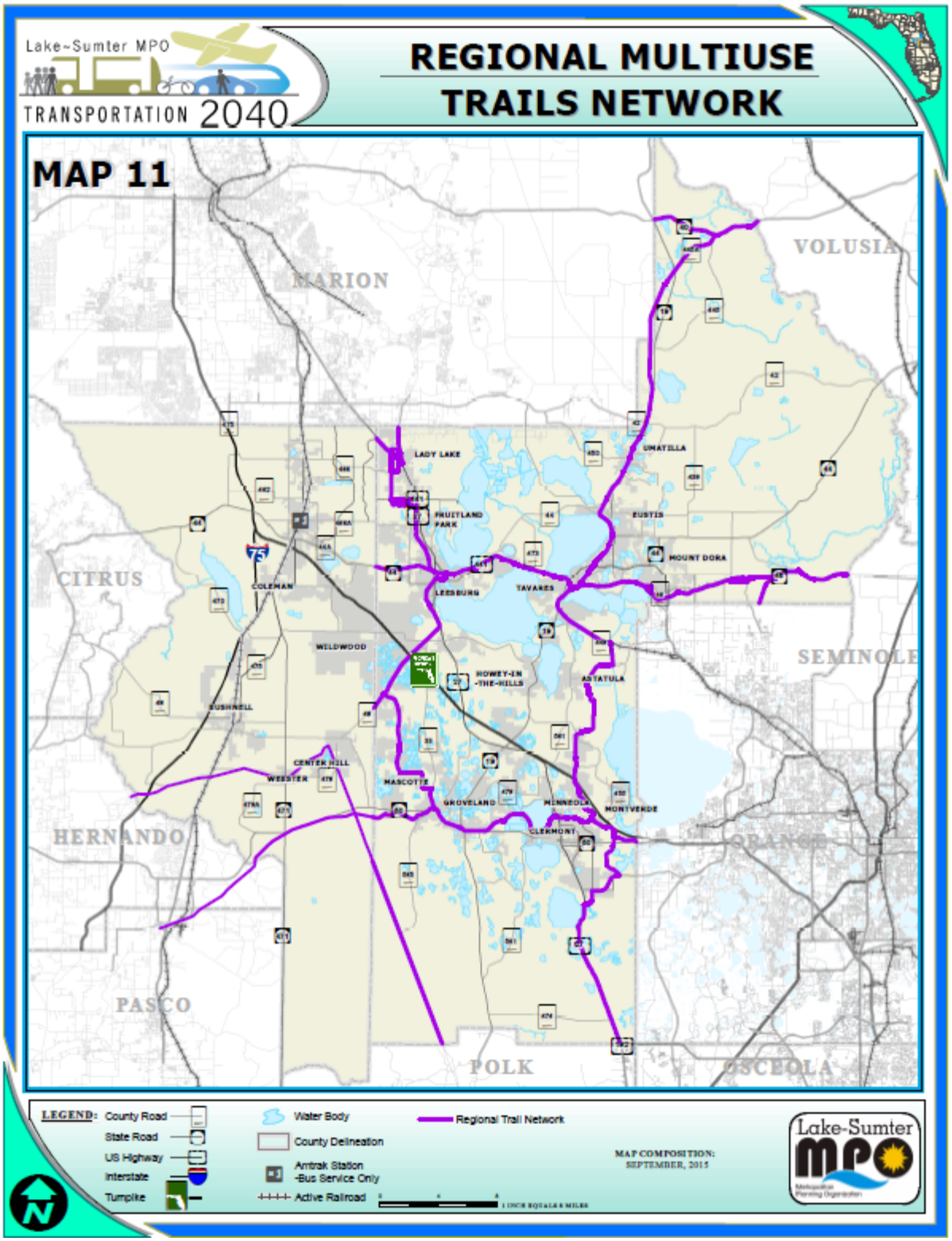
Transportation 2040 will be amended to include the new policy is it as a tool to guide the Complete Streets Program.

Regional Trails Program

The MPO is a strong proponent of a regional trail system. Progress by the MPO on the Central Florida Coast to Coast Connector Trail, the Wekiva Trail, the Heart of Florida Loop and other similar projects is indicative of the MPO's commitment to the Regional Trails Program as an alternative transportation strategy. The Lake County Trails Master Plan and the South Sumter Connector Trail project are the basis of the MPO's two-county Regional Trails Program and are the foundation on which the program will build. The program will incorporate existing, planned and conceptual trails and ecological greenways that form a connected, integrated regional network. The Regional Trails Program will serve as a green infrastructure plan for the region, tying together the greenways and trails plans and planning activities of communities throughout and beyond the MPO Planning Area.



The MPO's program is consistent with the Florida Greenways and Trails System Plan (See Map 11). The intent of the Regional Trails Program is to provide a long-term vision for bringing a realistic and practical approach to connectivity among schools, parks, neighborhoods, town centers, libraries, and the surrounding counties. To accomplish this, the MPO will produce policy and guiding principles for incorporation into Transportation 2040. The policy and guiding principles will be developed following adoption of Transportation 2040.


Lake~Sumter MPO
TRANSPORTATION 2040
REGIONAL MULTIUSE TRAILS NETWORK
MAP 11
MARION
VOLUSIA
CITRUS
SEMINOLE
HERNANDO
PASCO
POLK
OSCEOLA
LADY LAKE
UMATILLA
FRUITLAND PARK
EUSTIS
MOUNT DORA
COLEMAN
LEESBURG
TAVARES
WILDWOOD
HOWEY-IN-THE-HILLS
ASTATULA
BUSHNELL
CENTER HILL
WEBSTER
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
CLERMONT
LEGEND:
County Road
State Road
US Highway
Interstate
Turnpike
Water Body
County Delineation
Amtrak Station
-Bus Service Only
Active Railroad
Regional Trail Network
MAP COMPOSITION:
SEPTEMBER, 2015
Lake-Sumter MPO

Safe Schools Emphasis Program

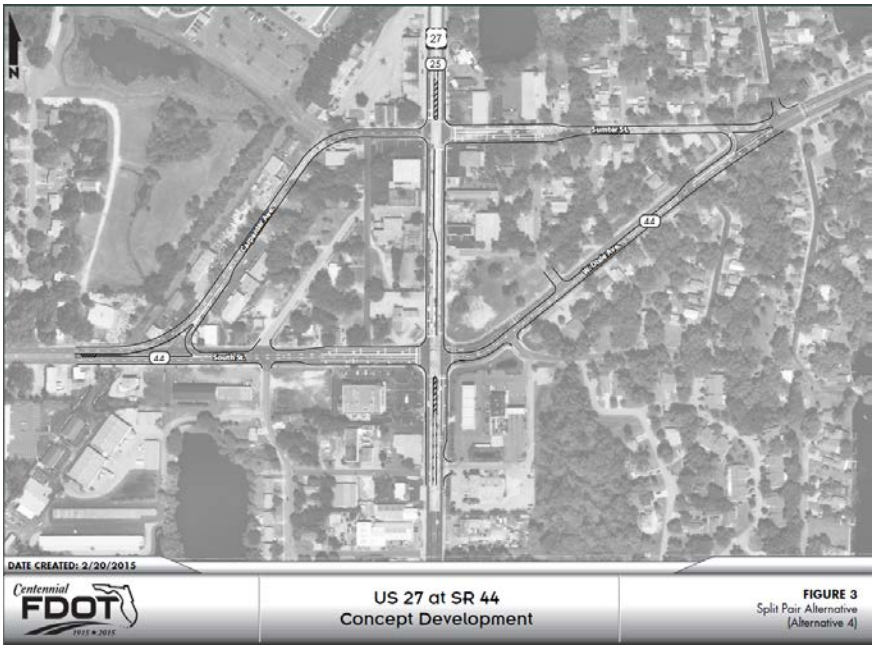
The MPO received funding from FDOT for the Safe School Access Transportation Study (SSATS) to assess the transportation conditions of each school located within both Lake and Sumter counties. The primary goal of the SSATS was to develop transportation master plans for each school in the study area, focusing on a 10-year planning horizon. The plans were based on data collected and analyzed for each school in the study area, as well as recommendations for improvement for all modes of travel to and from the individual school sites, and within a two-mile radius of each school, which is considered the "walk zone" or the "parent responsibility zone."

To implement the recommendations made in the SSATS, the MPO is establishing a Safe Schools Emphasis Program. The program will be used to assist the counties and municipalities identify and prioritize the most urgent needs within the two-mile radius, "parent responsibility zone," for each school. Components of the program will include a Safe Schools Emphasis Policy and Safe Schools Emphasis Guiding Principles that will incorporated into *Transportation 2040* after Governing Board adoption.

Transportation System Management and Operations (TSM&O) Program

The Federal Highway Administration (FHWA) defines Transportation Systems Management and Operations (TSM&O) as "an integrated program to optimize the performance of existing multimodal infrastructure through implementation of systems, services, and projects to preserve capacity and improve the security, safety, and reliability of our transportation system." FDOT describes it as a program based on measuring performance, actively managing the multimodal transportation network, and delivering positive safety and mobility outcomes to the travelling public in Florida.

The MPO has embraced the need to look beyond capacity improvements – there will never be enough funding available to meet all needs nor does the community vision support road widening in many situations. Just as the Complete Streets Program will address situations where road widening is not an option for congestion relief, the TSM&O Program will provide the means to mitigate congestion, reduce travel demand and optimize capacity on the existing transportation system. Examples of TSM&O strategies are Intelligent Transportation Systems (*e.g.*, traveler information, transit signal priority); Active Traffic Management (*e.g.*, variable speed



signage); Incident Management; and Event Management. The MPO will develop a TSM&O Program, Policy, and Guiding Principles that are complimentary to FHWA and FDOT definition of TSM&O. Once developed and adopted by the MPO Governing Board, *Transportation 2040* will be amended to include the TSM&O Program, Policy, and Guiding Principles.

Intelligent Transportation Systems (ITS) Program

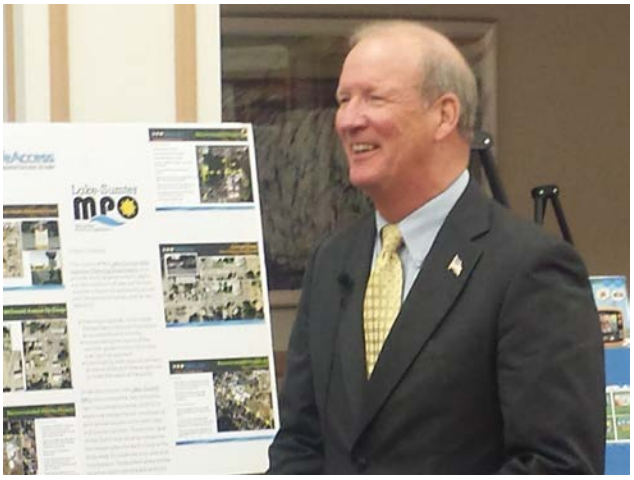
Building on the TSM&O efforts, Intelligent Transportation Systems utilize technology as a means to create additional capacity within existing infrastructure. Understanding that additional roadway capacity (expanded facilities or new facilities) is not always the most feasible approach to address traffic congestion challenges, the MPO will develop an Intelligent Transportation Systems (ITS) policy in a continued effort to better enhance the region's existing transportation infrastructure and to get a better return on transportation investments. The shift toward TSM&O and ITS is due to increasing travel demands, significant number of constrained roadways, high construction costs, and environmental and community impacts. ITS has moved to the forefront of transportation planning, focusing on making the existing transportation system more efficient and responsive to drivers instead of making high-cost major road capacity enhancements. ITS applies of a combination of advanced technologies, robust planning, improved preparedness, and extensive coordination to improve the safety, mobility and reliability of the surface transportation network and transit system. Examples of ITS approaches applicable to the MPO's efforts include traffic signal interconnectivity and synchronization, signal preemption to provide priority to emergency vehicles and to transit vehicles, variable message boards and

variable speed limit signs adaptive to traffic conditions, camera monitoring of traffic conditions and real-time adaptive signal timing to respond to changes in traffic conditions.

Strategic themes to the MPO ITS plan, which set the direction, including priorities, are meant to focus the attention on intended outcomes. These themes could:

- enable safer vehicles and roadways;
- enable mobility;
- limit environmental impacts;
- promote innovation; and/or
- support transportation system information sharing.

Sidewalk Program



The MPO will establish a sidewalk program to address those pedestrian needs that are not covered by one or more of the other programs. The program will be designed to address sidewalk needs in high pedestrian traffic areas that do not require a Complete Streets study or are not within the two-mile "parent responsibility zone" of the Safe School Emphasis Program. While there may be overlap of the Sidewalk Program, Complete Streets Program, and Safe School Emphasis Program, the main purpose of this separate program is to be prepared for all funding opportunities that may become available. Having a Program, Policy, and Guiding Principles will ensure readiness for any funding opportunity. Once adopted by the MPO Governing Board, *Transportation 2040* will be amended to include these Programs, Policies and Guiding Principles.

Cost Feasible Elements

Distinct from the constrained needs plan, the cost feasible plan elements identify those project priorities that can likely be funded over the next 25 years given available revenues.

The following pages include tables and map (See Table 1 – Table 6 and Map 12) illustrating the cost feasible plan projects. The cost feasible projects list represents the next round of projects that are likely to move into the local Capital Improvement Plans (CIPs) and the five year Transportation Improvement Plan (TIP) and are also consistent with the List of Priority Projects (LOPP).

Unfunded Needs

The long term strategies for addressing unfunded transportation needs include:

- Continued coordination with member jurisdictions to seek public-private partnerships to fund future roadway, transit and bicycle and pedestrian needs associated with new growth plans.
- Continued emphasis on exploring creative funding strategies and approaches to increase local revenues for transportation funding.
- Continued coordination with member jurisdictions on coordinated land use and transportation planning to encourage non-vehicular modes of travel.

LAKE~SUMTER MPO - COST FEASIBLE PROJECTS

TABLE 1 - STATE PROJECTS (STRATEGIC INTERMODAL SYSTEM / FLORIDA'S TURNPIKE / CENTRAL FLORIDA EXPRESSWAY AUTHORITY)

Facility	From	To		Project	Current Year Cost Estimate		Funded Phase	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phase
I-75 & CR 514	NEW INTERCHANGE		SIS	NEW INTERCHANGE	$	58.2					
US 27/SR 25	CR 561 SOUTH	FLORIDA'S TURNPIKE NORTHERN RAMPS	SIS	WIDEN ROAD (4 TO 6 LANES)	$	50.9					
US27 & SR19	INTERCHANGE		SIS	IMPROVEMENTS	$	29.1					
SR 91/FLORIDA'S TURNPIKE & US 301	INTERCHANGE		FLORIDA'S TURNPIKE	IMPROVEMENTS	$	29.1					
SR 91/FLORIDA'S TURNPIKE	MINNEOLA INTERCHANGE	ORANGE COUNTY LINE	SIS	WIDEN ROAD (4 TO 8 LANES)	$	100.9					
SR 91/FLORIDA'S TURNPIKE	SUMTER COUNTY LINE	MINNEOLA INTERCHANGE	SIS	WIDEN ROAD (4 TO 8 LANES)	$	315.2					
SR 91/FLORIDA'S TURNPIKE	LAKE COUNTY LINE	US 301	SIS	WIDEN ROAD (4 TO 8 LANES)	$	128.5					
SR 91/FLORIDA'S TURNPIKE	US 301	I-75	SIS	WIDEN ROAD (4 TO 6 LANES)	$	34.0					
FOSGATE ROADWAY & BRIDGE	CITRUS GROVE RD.	BLACKSTILL LAKE RD.	FLORIDA'S TURNPIKE	NEW ROADWAY & BRIDGE	$	10.0					

TOTAL COST ESTIMATE $ 745.90 $ -

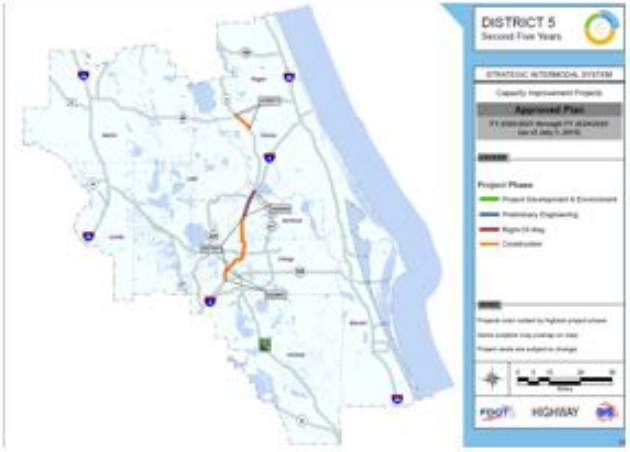


Table 2 - Other Arterial (State / Federal Funds)

Facility	From	To	County	Project	Current Year Cost Estimator	Year of Expenditure Cost Estimator	Funded Phase	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phase Note
US 301 & C-472	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	$ 2.1	$ 2.4	PD&E	PE/ROW/CST	-	-	-
SR 44	ORANGE AVENUE	US 441	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 18.5	$ 22.2	PD&E/PE/ROW	CST	-	-	-
SR 50/SR 33	CR 565 (VILLA CITY ROAD)	BROWN STREET	LAKE	NEW 4 LANE ROAD	$ 33.8	$ 41.7	PD&E/PE	ROW	CST	-	-
US 301/SR 35	SR 44	C-470 W	SUMTER	WIDEN ROAD (2 TO 4 LANES)	$ 51.1	$ 87.3	PD&E/PE	ROW	-	CST	-
US 301 & CR 525E	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	$ 1.9	$ 2.2	PD&E/ROW	PE/CST	-	-	-
US 441	SR 44	SR 46	LAKE	WIDEN ROAD (4 TO 6 LANES)	$ 14.6	$ 20.7	PD&E/PE	ROW	CST	-	-
C-470	TURNPIKE WEST RAMPS	CR 527	SUMTER	WIDEN ROAD (2 TO 4 LANES)	$ 45.5	$ 76.8	PD&E	PE/ROW/CST	-	CST	-
CR 470	TP WEST RAMPS	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 18.4	$ 26.9	PD&E/ROW	ROW	CST	-	-
SR 44 & US 27	INTERSECTION	0	LAKE	UPGRADE INTERSECTION	$ 2.1	$ 2.5	PD&E/PE/ROW	CST	-	-	-
US 441/SR 500	PERKINS STREET	SR 44	LAKE	WIDEN ROAD (4 TO 6 LANES)	$ 8.7	$ 16.1	PD&E/PE/ROW	-	-	CST	-
CR 48	EAST OF US 27 (PALATLAKAHA BRIDGE)	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 6.3	$ 11.5	PD&E/PE	-	ROW	-	CST
BUENA VISTA BLVD. EXTENSION	SR 44	CR 470	SUMTER	NEW 4 LANE ROAD	$ 70.0	$ TBD	None	PD&E/PE	ROW/CST		Public Private Partnership
SR 19	CR 561	CR 48	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 41.7	$ -	PD&E/PE	-	-	-	ROW/CST
SR 50	HERNANDO CO	CR 33	SUMTER	CORRIDOR IMPROVEMENT	$ 33.7	$ -	None	-	-	-	PD&E/PE/ROW/CST
LAKE ORANGE PARKWAY	US 27	ORANGE COUNTY LINE	LAKE	NEW 4 LANE ROAD	$ 85.5	$ -	None	-	-	-	PD&E/PE/ROW/CST
SR 44	SR 44 & ORANGE AVENUE	CR 46A	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 8.1	$ -	None	-	-	-	PD&E/PE/ROW/CST
SR 19	SR 50	CR 455	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 62.5	$ -	None	-	-	-	PD&E/PE/ROW/CST
				Total	**$ 202.75**	**$ 310.35**					
				Other Arterial Funds		**$ 303.50**					
				Balance (+ / -)		**$ (6.85)**					

PROJECTS ABOVE RED LINE ARE COST FEASIBLE BY 2040

TABLE 3 - MPO AREA ALTERNATIVE TRANSPORTATION STRATEGIES

Program						Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
REGIONAL TRAILS PROGRAM						Boxed Funds - Prioritized Annually in the MPOs List of Priority Projects				
COMPLETE STREETS AND SIDEWALKS PROGRAM										
SAFE SCHOOLS EMPHASIS PROGRAM										
TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS PROGRAM										
INTELIGENT TRANSPORTATION SYSTEMS PROGRAM										
SIDEWALK PROGRAM										

TABLE 4 - MPO AREA TRANSIT (FEDERAL FUNDS)

Facility				Project			Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
LAKE~SUMTER TRANSIT DEVELOPMENT PLAN							Adopted Lake~Sumter TDP				

TABLE 5 - LAKE COUNTY LOCAL / IMPACT FEE /DEVELOPER FUNDED

Facility				Project	Total Needs Cost Estimate		Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
LAKE COUNTY				LOCAL PROJECTS	$ 282.90		Local / Developer Funded				
LAKE COUNTY BRIDGES				LOCAL PROJECTS	$ 6.00						
				TOTAL (COST ESTIMATE)	$ 288.90						

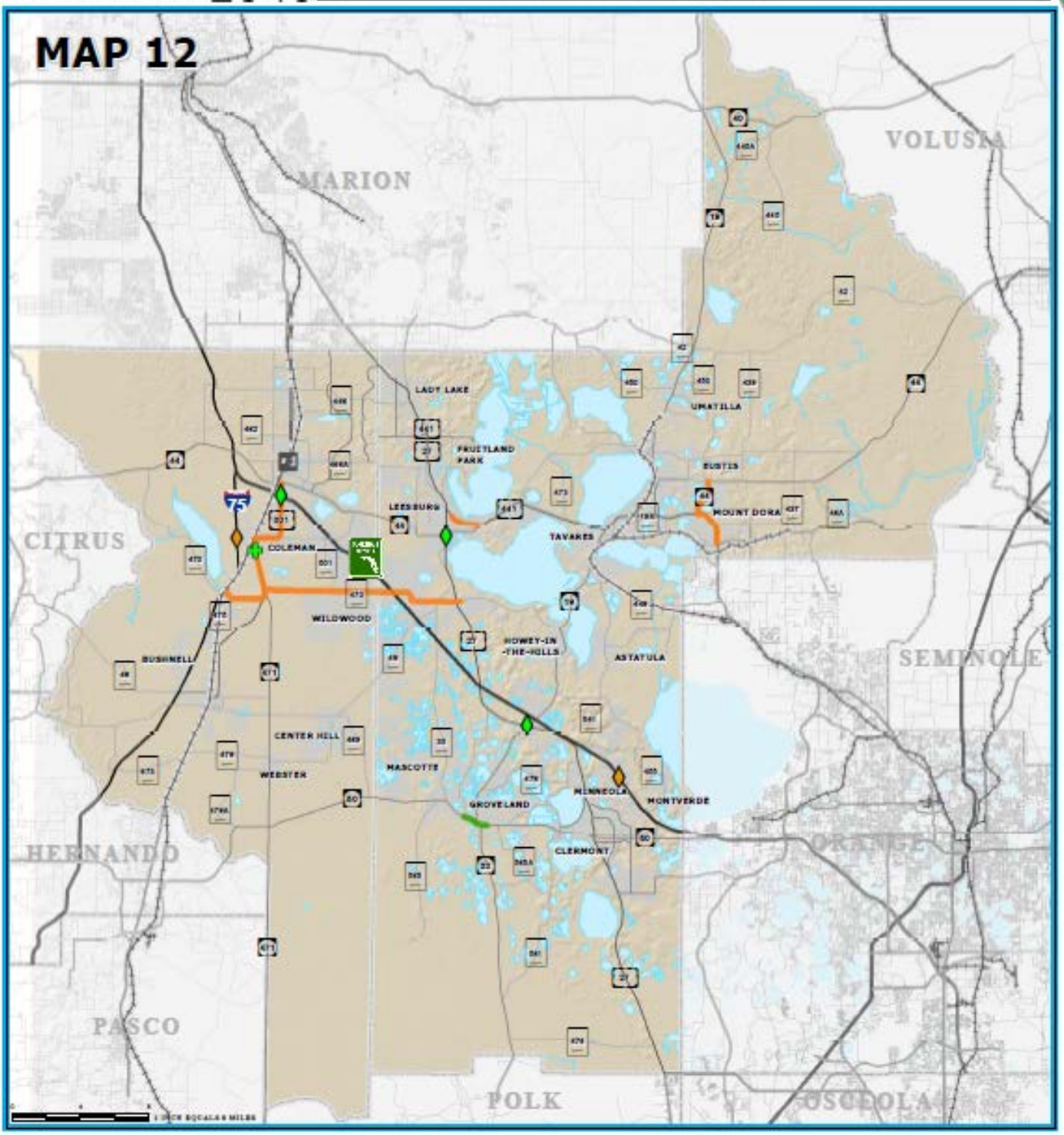
TABLE 6 - SUMTER COUNTY LOCAL / IMPACT FEE / DEVELOPER FUNDED

Facility				Project	Total Needs Cost Estimate		Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
SUMTER COUNTY				LOCAL PROJECTS	$ 113.70		Local / Developer Funded				
SUMTER COUNTY BRIDGES				LOCAL PROJECTS	$ 5.00						
				TOTAL (COST ESTIMATE)	$ 118.70						

Lake~Sumter MPO
TRANSPORTATION 2040

COST FEASIBLE PLAN MAP

MAP 12



LEGEND:

- County Road
- State Road
- US Highway
- Interstate
- Turnpike
- Water Body
- County Delineation
- Amtrak Station -Bus Service Only
- Active Railroad
- Road Widening
- New Road
- Replace Bridge
- Intersection Improvements
- New Interchange
- Interchange Improvements

MAP COMPOSITION: SEPTEMBER, 2015

Lake-Sumter MPO

APPENDIX A:

PROGRAM POLICIES

1. **Policy 2016-3 Complete Streets**

2. **Policy 2016-4 Regional Trails**

3. **Policy 2016-6 Sidewalk Program**

4. **Policy 2016-7 Safe Schools Emphasis**

5. **Policy 2017-1 Transportation System Management and Operations**

Lake-Sumter MPO
Metropolitan Planning Organization

Policy 2016-3
Complete Streets Policy

1. POLICY OBJECTIVE:

The Lake~Sumter MPO (MPO) will enhance safety, mobility, accessibility and convenience for transportation network users of all ages and abilities, including pedestrians, transit users, bicyclists, commercial and emergency vehicles, freight drivers and motorists by planning, designing, operating and maintaining a network of multi-modal streets. This objective is consistent with regional transportation goals and visions set forth in TRANSPORTATION 2040, the MPOs long range transportation plan.

2. BACKGROUND:

The Lake~Sumter MPO (MPO) has long been a proponent of creating a multimodal, safe and efficient transportation system that ensures accessibility to all roadway users. Complete Streets are necessary to advance multiple long-term community goals defined by the Goals and Objectives of TRANSPORTATION 2040. Complete Streets will enhance our region's quality of life over the long-term by advancing mobility, economically sound compact and connected development patterns, public health and safety, livability, environmental protection and enhancement, sustainability, equity, affordability, economic activity, climate resiliency, and excellence in urban design and community character.

The MPO has worked with its partners to better understand how it can help make the region as attractive, livable, and prosperous as possible. The foundation of this process was our participation in the *How Shall We Grow* process, *Our Community, Our Future* community visioning, and *Sumter 2030*. The objective of these three outreach efforts was to create a vision for our region that addressed the anticipated growth over the next 20 to 30 years in a way that would enhance the region aesthetically and economically.

This Complete Streets policy builds upon these efforts as well as the Florida Department of Transportation's (FDOT) adopted Complete Streets Policy. It promotes a multimodal transportation system that is designed and built to safely and comfortably accommodate all users of roadways, including motorists, cyclists, pedestrians, transit and school bus riders, delivery and service personnel, freight haulers, and emergency responders.

The benefits of Complete Streets can be both qualitative and quantitative, and can act both in the short and long-term:

- Safety – reduction of conflict and encouragement of more predictable interaction among motorists, bicyclists and pedestrians of all ages and abilities
- Environmental – less air and noise pollution
- Maintenance – less use of roads by automobiles if significant mode shifts occur
- Congestion – integration of transit and non-motorized modes can reduce local congestion if a mode shift occurs
- Health – increased physical activity and reduction in healthcare costs
- Accessibility – consideration must be given to the segment of the population cannot or does not drive; increased compliance with the Americans with Disabilities Act (ADA) will provide better access for people of all ages and abilities
- External Costs – reductions correlated with less costly modal choices
- Economic Activity – A network of complete streets is safer and more appealing to residents and visitors, which is good for retail and commercial development.
- Quality of Life – A variety of transportation options allow everyone – particularly people with disabilities and older adults – to get out and stay connected to the community

3. DEFINITION:

Complete Streets are roadways designed to safely and comfortably accommodate all users, including, but not limited to motorists, cyclists, pedestrians, transit and school bus riders, delivery and service personnel, freight haulers, and emergency responders. "All users" includes people of all ages and abilities.

4. GOALS:

1) To create a comprehensive, integrated, and connected transportation network that supports compact, sustainable development and provides livable communities.

2) To ensure that the safety and convenience of all users of the transportation system are accommodated, including pedestrians, bicyclists, users of mass transit, people with disabilities, the elderly, motorists, freight providers, emergency responders, and adjacent land users.

3) To ensure the use of the latest and best design standards, policies and guidelines.

4) To recognize the need for flexibility to accommodate different types of streets and users;

5) To ensure that the Complete Streets design solutions fit within the context(s) of the local and/or regional vision.

5. POLICY:

The MPO will promote the Complete Streets concept throughout the region and, therefore, recommends that all member governments adopt comprehensive Complete Streets policies, consistent with this policy. The MPO will seek incorporation of Complete Streets concepts and policy into the development of all transportation projects within the region at all phases of development, including planning, design, construction, and performance monitoring.

6. APPLICABILITY:

This Complete Streets Policy applies to all projects, including the new construction, reconstruction, rehabilitation, repair, maintenance, or planning of roadways, trails and other transportation facilities that will use state or federal funds allocated through the MPO.

7. REQUIREMENTS:

- Project sponsors must complete and submit a Project Information Application.
- Each project shall use the most appropriate design standards and procedures. For projects using MPO attributable federal funding, it will be necessary to meet or exceed standards and procedures acceptable to the Florida and U.S. Departments of Transportation.
- Designs shall include accommodation of all users and be sensitive to the context of the project setting. It is important to note that Complete Streets may look different for every project and road type. For example, wide lanes or paved shoulders may be sufficient in a rural area, whereas sidewalks and/or bike lanes are needed in an urban setting. Also, when re-striping projects are considered, where the right-of-way will not change, options such as bike lanes, sharrows, and pedestrian crosswalks could still be implemented.
- A systems approach shall be used in developing roadway projects, especially to ensure coordination with nearby jurisdictions, projects, and plans irrespective of the project sponsor.
- If there is another project planned or in development near this project the two should be coordinated to ensure consistency in the facilities serving the corridor.
- Logical termini should be chosen to include connections through "pinch points," such as overpasses, railroad crossings, and bridges. Logical termini should not be chosen so that the project ends before such a "pinch point" unless there is a compelling reason to do so.
- If the project serves a destination point, such as a school, recreational facility, shopping center, hospital, or office complex, the project shall provide the

opportunity for the destination to have access to the project's pedestrian and bicycle facilities.

- The project sponsor shall provide the local transit agency the opportunity to participate throughout the entire process and require the involvement of the local transit agency in the design process to ensure that sufficient accommodation of transit vehicles and access to transit facilities is provided.
- Public transit facilities shall be designed with the goals of Complete Streets in mind, by including sidewalks, bicycle connections, or secure bicycle parking, among others.
- Every project shall provide the opportunity for utility/telecommunications infrastructure to be appropriately accommodated to allow for existing and future growth. Efficient use of right-of-way during construction and maintenance should be considered to improve access to utility systems, including future broadband networks. This policy is not intended to create new rights for utilities outside those provided by existing law and contract.
- Every project shall ensure that the provision of accommodations for one mode does not prevent safe use by another mode (e.g., a bus shelter should not block the clear walking zone on the sidewalk).

8. JURISDICTION:

The MPO will provide the leadership to implement this policy on all transportation projects and programs that require MPO approval. This policy is consistent with the FDOT Complete Streets Policy.

Transportation projects (new construction, reconstruction, maintenance) funded through the MPO are subject to this policy. Any projects or programs that require approval or signature of the MPO will be reviewed according to this policy.

The MPO is not directly responsible for maintenance and operations of roadways and transportation systems. However, the MPO encourages jurisdictions within the Lake~Sumter MPO Planning Area to consider maintenance and operations as an opportunity to provide safer more accessible transportation options for all users. For example, when maintaining traffic signal equipment, it may be possible to adjust sensitivity of detection equipment to respond to the presence of cyclists, thus creating safer crossings for these roadway users.

The MPO also encourages all local jurisdictions within the Lake~Sumter MPO Planning Area to adopt a Complete Streets policy. The MPO will help any member government craft a policy tailored to its community and also consistent with the Complete Streets policies of FDOT and the MPO.

The MPO recognizes the need for interdisciplinary and cross-jurisdictional coordination to effectively develop, operate, and maintain bicycle and pedestrian networks and transit facilities. The MPO will work with the member governments within the MPO Planning Area, the FDOT, transit providers, and other stakeholders to achieve this goal. The MPO will engage in early coordination to identify whether a project will impact any transit facilities or bicycle and pedestrian routes identified on local and regional plans.

9. APPEALS:

When a member government is not in agreement with the MPO's decision regarding accommodations for transit users, bicyclists, pedestrians, or motorists in projects subject to the Transportation Improvement Program Selection Process, the jurisdiction may introduce a formal appeal by means of a resolution adopted by their local governing body. The resolution must be submitted to the MPO and proceed through the established transportation planning process. As such, the resolution will be subject to review and comment by the Technical Advisory Committee, Citizens Advisory Committee, and the Bicycle/Pedestrian Advisory Committee. The MPO Governing Board, after considering comments from the other three committees, will make the final decision on the appeal.

10. EXCEPTIONS:

There are conditions where it may be inappropriate to provide bicycle, pedestrian, or transit facilities. These exceptions include:

1. Facilities such as highways where bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the same transportation corridor and to provide safe crossings for bicyclists and pedestrians.
2. The cost of providing bicycle and pedestrian facilities would be excessively disproportionate to the need or probable use. "Excessively disproportionate" is exceeding twenty percent (20%) of the cost of the project.
3. Where there is a demonstrated absence of need or where it would not be prudent. For example, sidewalks, bikeways, and transit accommodations may not be provided in rural or undeveloped areas where future growth is not anticipated for the next twenty (20) years.
4. On projects that are pavement preservation/resurfacing only, the MPO will only consider bicycle, pedestrian, or transit improvements that do not require right-of-way acquisition, utility relocation, or major construction. Relocating or enclosing roadside drainage is an example of major construction that would not be considered as part of a preservation project. However, retrofits such as narrowing lanes, restriping, and other minor changes that can provide improved access is encouraged on preservation projects.

Exceptions for not accommodating bicyclists, pedestrians, and transit users in accordance with this policy will require approval of the MPO Governing Board. These exceptions will be submitted to the MPO and proceed through the established transportation planning process. As such, the exception will be subject to review and comment by the Technical Advisory Committee, Citizens Advisory Committee, and the Bicycle/Pedestrian Advisory Committee. The MPO Governing Board will consider comments from three advisory committees and make the final decision. A jurisdiction may appeal this decision once using the process outlined in the Appeals section.

For exceptions on state and federal projects, coordination with and approval of FDOT will also be necessary.

11. RECOMMENDATIONS:

- All users should be considered during the entire life cycle of a project, including planning, design, construction, operations, and maintenance.
- Street furniture, such as bike racks or benches, should be considered as part of all projects as long as they do not impede any user.
- When designing a facility that includes or crosses an existing or future transit route, ensure that the appropriate pedestrian and wheelchair access is provided to and from the transit stops.
- Traffic-calming elements including, but not limited to, landscaping, street trees, and narrowing of lanes, should be considered where safe and appropriate.
- Project sponsors should consider including street trees and landscape components, with careful analysis of tree, site, and design considerations.
- Special consideration should be given to future planned facilities or services.
- Each project design should be coordinated with appropriate access management strategies. Access management strategies should consider the placement of sidewalks and ramps to eliminate sight distance issues.
- Although this policy focuses on engineering projects, the project sponsor should provide education, encouragement, and enforcement strategies during or after the project. The education component should include government officials, developers, and the public. The MPO staff will compile and make available best practices, ideas, and other resources to help with these efforts.
- While this policy focuses on transportation, local governments should review their land use and zoning policies to provide for mixed land use developments and projects that provide direct non-vehicular connections within a given development.
- Each local community should regularly update its project design standards and procedures and train its staff to adhere to them.

- Local governments are encouraged to adopt their own Complete Streets policies, consistent with this regional policy and federal and state design standards.

12. IMPLEMENTATION:

Upon approval and adoption of this Complete Streets policy, it will become part of MPOs planning process and project selection for state and federal funding. The principles of this policy will also guide MPO staff in preparation of MPO planning documents and regional transportation planning efforts to which it contributes. TRANSPORTATION 2040 will be amended to incorporate this policy in accordance with the requirements of the plan at adoption. A list of Complete Streets projects meeting the requirements of this policy will also be included in the amendment of TRANSPORTATION 2040. Also, the List of Priority Projects will be amended as necessary in order to seek funding for projects as the result of the completion and recommendation of a Complete Streets project study.

13. EVALUATION:

The MPO, at a minimum, evaluate this policy and the documents associated with it on an annual basis. This evaluation may include recommendations for amendments to the Complete Streets Policy, including the development of exemption guidance, and subsequently be considered for adoption by the MPO Governing Board.

Policy Approved on: May 25, 2016

Lake~Sumter Metropolitan Planning Organization

Leslie Campione, Chairman

Approved as to form and legality:

Melanie Marsh, MPO Attorney

Lake-Sumter MPO
Metropolitan Planning Organization

POLICY 2016-4

REGIONAL TRAILS POLICY

1. POLICY OBJECTIVE

The Lake~Sumter MPO (MPO) will enhance safety, mobility, accessibility and convenience for regional trail users of all ages and abilities, including pedestrians, bicyclists, by planning a network of regional trails. This objective is consistent with regional transportation goals and visions set forth in TRANSPORTATION 2040, the MPOs long range transportation plan.

2. BACKGROUND:

Trails contribute to a community by providing people of all ages with an attractive, safe, and accessible place for recreation and transportation. The ultimate goal of a trail is to connect people to destinations.

Regional Trails are characterized by their interconnection to regional destinations and other statewide trails including the SUNTrail statewide network and trails identified in FDEP, Office of Greenways & Trails, Land Trail Opportunity Map and the Lake County Trails Masterplan. In addition to their ability to provide long distances of travel for recreational users by connecting major trail systems, these trails connect destinations, such as schools, parks and downtown areas, to communities. They are considered the backbone of larger state-wide trail systems. Regional Trails are designed to also attract users from other areas of the state or country and are the "showcase" of the area.

Regional trails are restricted to non-motorized modes of transportation and intended for a variety of user types to share. Typical uses include recreational and commuter purposes such as bicycling, in-line skating, roller skating, pet walking, pedestrians, exercising, nature walks, etc. The most common trail would be an asphalt or concrete surface of 12-14 feet in width with travel in both directions. The Regional Trails would be expected to connect regionally significant destinations or trail systems and would provide trailheads, rest stops, wayfinding and an overall user experience of the surrounding environment.

3. DEFINITION:

The MPO's definition of a regional trail is a trail that is separated from motor vehicle traffic and serves transportation, recreation, and health purposes for non-motorized transportation. Trails are regional in nature when they connect communities and serve the region as a whole. These trails are commonly called shared-use paths, multi-use paths, or bike paths and all have a paved surface. Regional trails are intended to be universally accessible for all users. Hiking and mountain biking trails are not considered regional trails in this plan because they do not serve a significant transportation purpose and are less accessible. A regional trail would provide non-motorized access to hiking and mountain biking trails, serving as a backbone to a larger trails network. Regional trails also provide non-motorized access to community centers and other developed areas as well as open space and other trails.

4. GOALS:

a. Provides a foundation to advance the regional and statewide trail network in our planning area and identifies sources of funding;
b. The establishment of clear priorities for coordinating, directing and focusing resources.
c. Advances a framework for systematically "closing gaps" and connecting priority corridors within our planning area to establish a fully connected and integrated regional trail network.
d. Supports linkages between policy and complementary state and regional trail planning efforts
e. Develop consensus on priorities for regional trails development
f. Act as an information clearing house for regional trails stakeholders
g. Promote awareness of existing and developing trails

5. POLICY

The MPO will promote the Regional Trail network throughout the region and recommends that all member governments adopt Regional Trail policies, consistent with this policy. The MPO will seek incorporation of the Regional Trail network and policy into the development of all transportation projects where applicable.

6. CRITERIA:

The following categories of Trails are considered Regional Trails and are eligible for funding under the Regional Trails Policy for the Lake~Sumter MPO.

a. **SUNTrail** eligible funding projects as identified in 339.81, F.S., and depicted on the SUNTrail Network Map in or adjacent to the Lake~Sumter MPO Planning area.
   i. Coast to Coast Trail
   ii. Heart of Florida Loop Trail
   iii. St. Johns River to Sea Loop Trail

b. Trails included on the **FDEP, Office of Greenways & Trails - Land Trails Opportunity Map.**
   The Land Trails Opportunity Map represents the existing, planned and conceptual non-motorized trails that form a land-based trail network of state and regional importance. This map is a synthesis of trail planning efforts being conducted by cities, counties, transportation planning organizations and other agencies and non-profits throughout Florida. This map does not include all existing, proposed and conceptual trails in Florida, but focuses on linear trails of state and regional significance to form a comprehensive connected system. The Land Trails Opportunity Map is the state companion to community greenways and trails and bicycle and pedestrian master plans, and encompasses a combination of multiple and single-use trails to accommodate uses such as: walking, hiking, bicycling, mountain biking, horseback riding, skating and wildlife viewing.

c. The **Lake County Trails Master Plan** was developed with the intent of providing not only a long-term vision, but bringing that vision into short-term focus with a realistic and practical approach to connectivity between schools, parks, neighborhoods, town centers, libraries, and the surrounding counties. The Master Plan identified 322 miles of shared-use trails, both regional and local trails, developed design standards, and created an implementation plan for the next 20 years. This plan serves as a guide to the location, design, prioritization, implementation, and maintenance of a comprehensive trail network within Lake County. The Plan also provides the information needed by Federal, State, County, municipality, and private stakeholders to preserve right-of-way and focus the funding necessary to implement the trail network. The identified Regional Trail network in the 2008 Lake County Trails Masterplan, are listed below:
   i. Sugar Loaf Mountain Trail
   ii. South Lake Trail
   iii. Lake-Wekiva Trail
   iv. Tav-Lee Trail

v. Tav-Dora Trail
vi. North Lake Trail
vii. Lake Denham Trail
viii. Gardenia Trail
ix. Leesburg To Wildwood Trail
x. Southlake - Citrus Ridge Trail
xi. West Lake Trail
xii. Black Bear Scenic Trail
xiii. Van Fleet Trail

7. REQUIREMENTS

a. Project sponsors must complete and submit a Project Information Application and Maintenance Agreement covering the long term operation and maintenance of the trail facility.

b. Each project should use the most appropriate design standards and procedures. For projects using MPO attributable federal funding, it will be necessary to meet or exceed standards and procedures acceptable to the Florida and U.S. Departments of Transportation.

c. Designs shall include accommodation of all users and be sensitive to the context of the project category, i.e. SUNTrail network, Office of Greenways & Trails Land Trails Opportunity Network and the Lake County Trails Masterplan regional trail design standards.

d. The project sponsor shall provide the local transit agency the opportunity to participate throughout the entire process and require the involvement of the local transit agency in the design process to ensure that sufficient accommodation of transit users and access to transit facilities is provided.

8. APPEALS

When a member government is not in agreement with the MPO's decision regarding regional trails in projects subject to the Transportation Improvement Program Selection Process, the jurisdiction may introduce a formal appeal by means of a resolution adopted by their local governing body. The resolution must be submitted to the MPO and proceed through the established transportation planning process. As such, the

resolution will be subject to review and comment by the Technical Advisory Committee, Citizens Advisory Committee, and the Bicycle/Pedestrian Advisory Committee. The MPO Governing Board, after considering comments from the other three committees, will make the final decision on the appeal.

9. IMPLEMENTATION

Upon approval and adoption of this Regional Trail policy, it will become part of MPOs planning process and project selection for state and federal funding. The principles of this policy will also guide MPO staff in preparation of MPO planning documents and regional transportation planning efforts to which it contributes. TRANSPORTATION 2040 will be amended to incorporate this policy in accordance with the requirements of the plan at adoption. A list of Regional Trail projects meeting the requirements of this policy will also be included in the amendment of TRANSPORTATION 2040. Also, the List of Priority Projects will be amended as necessary in order to seek funding for projects as the result of the completion and resolution of support of a Regional Trail Project Information Application.

10. EVALUATION

The MPO, at a minimum, will evaluate this policy and the documents associated with it on an annual basis. This evaluation may include recommendations for amendments to the Regional Trail Policy, including the development of prioritization criteria, design guidance, and subsequently be considered for adoption by the MPO Governing Board.

Policy Approved on: June 22, 2016

Lake~Sumter Metropolitan Planning Organization

Leslie Campione, Chairman

Approved as to form and legality:

Melanie Marsh, MPO Attorney

Lake-Sumter MPO
Metropolitan Planning Organization

POLICY 2016-6

SIDEWALK PROGRAM POLICY

1. POLICY OBJECTIVE:

The Lake~Sumter MPO (MPO) will enhance safety, mobility, accessibility and convenience for users of all ages and abilities, including children, and seniors by inclusion of sidewalks on all roadway plans and projects. This objective is consistent with the multimodal transportation goals and visions set forth in TRANSPORTATION 2040, the MPOs long range transportation plan.

2. BACKGROUND:

The benefits of walking, such as improving public health, fostering connected communities, decreasing automobile dependence, and reducing air pollution are highlighted in the MPO's Long Range Transportation Plan "TRANSPORTATION 2040". There is an increasing need and responsibility to give people the opportunity to walk. TRANSPORTATION 2040 addresses the importance of walking and what can be done to facilitate and promote it as a viable mode of transportation.

According to the American Association of State Highway and Transportation Officials' A Policy on Geometric Design of Highways and Streets, also known as "the Green Book": "Providing safe places for people to walk is an essential responsibility of all government entities involved in constructing or regulating the construction of public rights-of-way."

When building new infrastructure or renovating existing places, it should always be assumed that people will walk and plans should accommodate pedestrians. Facilities should be accessible to pedestrians of all ages and abilities. Accessible design is the foundation for all pedestrian design and facilities need to be planned, designed, operated, and maintained to be usable by all people. Poor accessibility may create significant barriers to travel.

3. Definition:

Pedestrian Facilities: There are several ways in which pedestrians can be accommodated in the public right-of-way:

a. Sidewalks - walkways parallel to the roadway and designed for use by pedestrians. Sidewalks provided on both sides of a street are the preferred pedestrian facility; however, the construction of sidewalks on both sides of the street would not be required in cases where pedestrians would not be expected such as when the roadway parallels a railroad or drainage canal. Newly constructed, reconstructed, or altered sidewalks must be accessible to and usable.
b. Off-Road Paths - an off-road path, paved or unpaved, can be an appropriate facility in rural or low density suburban areas. Paths are usually set back from the road and separated by a green area, ditch, swales or trees.
c. Shared Streets - shared uses of a street for people walking, bicycling and driving are referred to as shared streets. These are usually specially designed spaces such as pedestrian streets which are used on local urban streets with extremely low vehicle speed.
d. Shoulders - most highway shoulders are not pedestrian facilities, because they are not intended for use by pedestrians, although they can accommodate occasional pedestrian usage.
    - ❖ Florida Green Book 2013 edition

4. GOALS:

a. The primary goal of the Sidewalk Program is to help municipalities and counties within the Lake~Sumter Metropolitan Planning Organization planning area to provide a transportation system where pedestrians can safely and conveniently walk to destinations within a reasonable distance.
b. The Sidewalk Program serves as framework for identifying and selecting pedestrian projects for the Long Range Transportation Plan.
c. To establish a comprehensive vision and strategies for pedestrian accommodations that enhance mobility through connectivity & accessibility, improved safety & quality of life.
d. To provide well-designed, safe, comfortable, continuous, direct, and convenient pedestrian facilities for all users of various skill levels and physical abilities.
e. To provide improved pedestrian connections to existing and future public transit facilities.
f. To maximize the multimodal capacity of existing roadways.
g. To reduce the number of injuries and deaths in crashes involving motorists and pedestrians.
h. Ensure that all roadway and development projects accommodate pedestrians to the fullest extent. Roadways should be designed and buildings sited to make pedestrian access and safety the first priority.
i. The establishment of clear priorities for coordinating, directing and focusing resources.

j. Promote community policies, plans, subdivision regulations, and right-of-way requirements to make sure that sidewalks are included in new construction and rehabilitation projects both at a regional and local level.

5. POLICY:

The MPO will promote the planning and implementation of the Sidewalk Program throughout the region and recommends that all member governments adopt Sidewalk policies, consistent with this policy. The concepts listed provide a broader perspective for both regional and local decision making concerning Sidewalk Program implementation:

a. Create Complete Streets
b. Close Gaps in the Pedestrian Network
c. Improve the Pedestrian Environment
d. Prioritize Transit, Schools, Civic and Commercial Sites
e. Implement Smart Growth Principles

The MPO will seek incorporation of the Sidewalk Program into the development of all transportation projects where applicable.

6. CRITERIA:

a. New Sidewalk Installation: All new construction in urban and suburban areas should be evaluated include places for people to walk, on both sides of a street or roadway.
b. Retrofitting Sidewalks: Many of the streets built in our region in recent decades do not have sidewalks, and these streets should be evaluated for the need to be retrofitted with pedestrian facilities. Local jurisdictions should prioritize pedestrian projects based on context of the roadway and the adjacent land use. The following are suggested criteria for establishing priorities.
    i. Speed — there is a direct relationship between speed and the number and severity of crashes; high-speed facilities may rank higher if speed is a criterion.
    ii. Street Classification — urban arterial streets should take precedence because they generally have higher pedestrian use (due to more commercial uses), have a greater need to separate pedestrians from motor vehicles (due to higher traffic volumes and speeds), and are the main links in a community.
    iii. Crash Data — pedestrian crashes seldom occur with high frequency at one location, but there are clearly locations where crashes occur due to a lack of sidewalks. Usually, there is a pattern of pedestrian crashes up and

down a corridor, indicating a need to provide sidewalks throughout, not just at crash locations.

iv. School Walking Zones — school walking zones typically extend from residential areas to an elementary, middle or high school. Children and young adults are especially vulnerable, making streets in these zones prime candidates for sidewalk retrofitting.

v. Transit Routes — transit riders need sidewalks to access transit stops. Arterials used by transit are prime candidates for sidewalk retrofitting.

vi. Neighborhoods with Low Vehicle Ownership — twenty percent of the U.S. population has a disability and 30 percent of our population does not drive. Walking is the primary mode of transportation for many of the people in this country. People with disabilities live throughout the community. If they are not seen in the community, it may be due to the fact that adequate facilities are not provided. In addition, car ownership is lower and crash rates are often higher in low- and moderate-income neighborhoods with lots of children

vii. Urban Centers/Neighborhood Commercial Areas — areas of high commercial activity generate high pedestrian use, even if they are primarily motorists who have parked their car. Sidewalks are needed to improve safety and enhance the economic viability of these areas.

viii. Other Pedestrian Generators — hospitals, community centers, libraries, sports arenas, and other public places are natural pedestrian generators where sidewalks should be given priority.

ix. Missing Links/Gaps — installing sidewalks to connect pedestrian areas to each other creates continuous walking systems.

x. Local Priorities — local residents may have a sense of where the most desirable walking routes exist.

7. REQUIREMENTS:

a. Sidewalk project sponsors must complete and submit a MPO Project Information Application and Maintenance Agreement covering the long term operation and maintenance of the sidewalk facility. Sidewalks on a county roadway within a municipal boundary will be the responsibility of the local municipality.

b. Each project should use the most appropriate design standards and procedures. For projects using MPO attributable federal funding, it is important to meet or exceed standards and procedures acceptable to the Florida and U.S. Departments of Transportation, i.e., Florida Greenbook, Plans Preparation Manual. All waivers of design criteria as described in the Florida Greenbook and the Plans Preparation Manual are supported in this policy document.

c. Designs should include accommodation of all users and be sensitive to the context of the roadway and adjacent land use for the corridor.
d. The project sponsor should provide the local transit agency the opportunity to participate throughout the entire process and encourage the involvement of the local transit agency in the design process to ensure that sufficient accommodation of transit users and access to transit facilities is provided.

8. APPEALS:

When a member government is not in agreement with the MPO's decision regarding sidewalk projects subject to the Transportation Improvement Program Selection Process, the jurisdiction may introduce a formal appeal by means of a resolution adopted by their local governing body. The resolution must be submitted to the MPO and proceed through the established transportation planning process. As such, the resolution will be subject to review and comment by the Technical Advisory Committee, Citizens Advisory Committee, and the Bicycle/Pedestrian Advisory Committee. The MPO Governing Board, after considering comments from the other three committees, will make the final decision on the appeal.

9. IMPLEMENTATION:

Upon approval and adoption of this Sidewalk Program, it will become part of MPOs planning process and project selection for state and federal funding. The principles of this Program will also guide MPO staff in preparation of MPO planning documents and regional transportation planning efforts to which it contributes. TRANSPORTATION 2040 will be amended to incorporate this Program in accordance with the requirements of the plan at adoption. Also, the List of Priority Projects will be amended as necessary in order to seek funding for projects as the result of the completion and resolution of support of a Sidewalk Project Information Application.

Strategies to Reduce Total Costs:

a. Stand-alone vs. integrated within another project: Installation of sidewalks should always be evaluated for inclusion in road construction projects. Stand-alone sidewalk projects cost more than the same work performed as part of a larger project. Sidewalks can be piggybacked to projects such as surface preservation, water or sewer lines, or placing utilities underground.
b. Combining Projects: A cost-savings can be achieved by combining several small sidewalk projects into one big one. This can occur even if the sidewalks are under different jurisdictions, or even in different localities, if they are close to each other. The basic principle is that bid prices drop as quantities increase.

10. EVALUATION

The MPO through its committee review process will evaluate this Policy and the documents associated with it on an annual basis. This evaluation may include recommendations for amendments to the Sidewalk Program, including the development of prioritization criteria, design guidance, and subsequently be considered for adoption by the MPO Governing Board.

Policy Approved on: August 24, 2016

Lake~Sumter Metropolitan Planning Organization

Leslie Campione, Chairman

Approved as to form and legality:

Melanie Marsh, MPO Attorney

Lake-Sumter MPO
Metropolitan Planning Organization

POLICY 2016-7

SAFE SCHOOLS EMPHASIS PROGRAM POLICY

1. POLICY OBJECTIVE

The program will be used to assist the counties and municipalities identify and prioritize the most urgent needs within the two-mile radius, "parent responsibility zone," for each school in the Lake~Sumter MPO planning area. The Safe Schools Emphasis Program Policy will be incorporated into Transportation 2040 after Governing Board adoption. This objective is consistent with the multimodal transportation goals and visions set forth in TRANSPORTATION 2040, the MPOs long range transportation plan.

2. BACKGROUND

Today more than ever, there is a need to provide options that allow all children, including those with disabilities, to walk and bicycle to school safely. Many communities struggle with traffic congestion around schools and motor vehicle emissions polluting the environment. At the same time, children in general engage in less physical activity, which contributes to the prevalence of childhood obesity. At first glance, these problems may seem to be separate issues, but the Safe Schools Emphasis program can address some of these challenges through coordinated school transportation planning.

Recent studies have found that walking to school is associated with higher overall physical activity throughout the day. There are many potential benefits of physical activity for youth including:

- Weight and blood pressure control
- Bone, muscle, and joint health and maintenance
- Reduction in the risk of diabetes
- Improved psychological welfare
- Better academic performance

3. **Safe Schools Emphasis Program:** The MPO received funding from FDOT for the Safe School Access Transportation Study (SSATS) to assess the transportation conditions of each school located within both Lake and Sumter counties. The primary goal of the SSATS was to develop transportation master plans for each school in the study area, focusing on a 10-year planning horizon. The plans were based on data

collected and analyzed for each school in the study area, as well as recommendations for improvement for all modes of travel to and from the individual school sites. The study area is a two-mile buffer around each school site encompassing any statutorily defined student walk zones and any locally defined parent responsibility zones for long range transportation planning purposes. Each school starts from a unique situation with different circumstances. Some schools have great places for walking and bicycling, but few students taking advantage of it. Other communities have children walking and bicycling to school in unsafe conditions or along poorly maintained routes. The SSATS addressed each school site and its unique conditions and issues and developed recommendations to provide more safe options for walking and biking to and from school. To implement the recommendations made in the SSATS, the MPO is establishing a Safe Schools Emphasis Program.

The benefits of walking and biking , such as improving public health, fostering connected communities, decreasing automobile dependence, and reducing air pollution are all highlighted in the MPO's Long Range Transportation Plan (TRANSPORTATION 2040). There is an increasing need and responsibility to give people the opportunity to walk and bike for transportation. TRANSPORTATION 2040 addresses the importance of walking and biking and what can be done to facilitate and promote it as a viable mode of transportation.

4. DEFINITION

Safe Schools Emphasis Area: For the purposes of this program the Safe School Emphasis area is defined as a 2 mile circular buffer around all school sites. This is a standard school transportation planning boundary established in July 2005, when Congress passed federal legislation that established a national Safe Routes to School program and defined this 2 mile buffer around schools. Specifically, this program addresses the planning, design, and construction of infrastructure related projects that will substantially improve the ability of students to walk and bicycle to school, on any public road or any bicycle or pedestrian pathway or trail within approximately two miles of a school. Educational and encouragement projects and programs are eligible for areas with walking and biking infrastructure in place.

5. GOALS

a. The primary goal of the Safe Schools Emphasis Program is to help municipalities and counties within the Lake~Sumter Metropolitan Planning Organization planning area to provide a transportation system where students can safely and conveniently walk and bike to school.
b. The Safe Schools Emphasis Program serves as framework for identifying and selecting school transportation projects for implementation.

c. To establish a comprehensive vision and strategies for school transportation accommodations that enhance mobility through connectivity & accessibility, improved safety & quality of life.
d. To maximize the multimodal capacity of existing roadways around our schools.
e. To reduce the number of crashes involving motorists and pedestrians and bicyclists around our schools.
f. Promote community policies, plans, subdivision regulations, and right-of-way requirements to make sure that school transportation provisions are included in new construction and rehabilitation projects both at a regional and local level.
g. Safe Schools Emphasis Program aims to create safe, convenient, and fun opportunities for children to bicycle and walk to and from schools.
h. Reverse the decline in children walking and bicycling to schools, increase kids' safety and reverse the alarming nationwide trend toward childhood obesity and inactivity.

6. POLICY

The MPO will promote the planning and implementation of the Safe Schools Emphasis Program throughout the MPO planning area and recommends that all member governments adopt Safe Schools Emphasis policies, consistent with this program. The MPO will seek incorporation of the Safe Schools Emphasis Program into the development of transportation projects and plans where applicable. The concepts listed provide a broader perspective for both regional and local decision making concerning Safe School Emphasis Program implementation:

a. Create Complete Streets around our schools
b. Close gaps in the pedestrian and bicycle network
c. Improve the pedestrian and bicycling environment around our schools
d. Encourage appropriate school siting

7. CRITERIA

Safe Schools Emphasis projects can have different types of benefits, depending on the type of project. It can increase the number of children walking or bicycling to school, it can improve safety, and it can even reduce busing costs. The Lake~Sumter MPO defines Safe Schools Emphasis Program as one of their priorities: "projects that provide safe and convenient access to school locations within the MPO region; projects that complement education, outreach, and planning efforts at school sites The Lake~Sumter MPO will prioritize Safe Schools Emphasis projects in their Transportation Alternatives Program (TAP) application process based on any of the following criteria:

a. The proposed project been identified as a priority in the SSATS or other Plan or is a missing link in a pedestrian or bicycle system within the defined Safe School Emphasis Area.
b. The project resolves a documented hazardous walking condition as defined in Florida Statute and eliminates the resultant school busing requirement.
c. The project meets the objectives and/or guidelines described in the Safe Routes to School Program and is within the defined Safe School Emphasis Area.

8. REQUIREMENTS

a. Safe Schools Emphasis project sponsors must complete and submit a MPO Project Information Application and Maintenance Agreement covering the long term operation and maintenance of the Safe Schools Emphasis facility
b. Each project should use the most appropriate design standards and procedures. For projects using MPO attributable federal funding, it is important to meet or exceed standards and procedures acceptable to the Florida and U.S. Departments of Transportation, i.e., Florida Greenbook, Plans Preparation Manual. All waivers of design criteria as described in the Florida Greenbook and the Plans Preparation Manual are supported in this policy document.
c. Designs should include accommodation of all users and be sensitive to the context of the roadway and adjacent land use for the corridor.
d. The project sponsor should provide the local transit agency the opportunity to participate throughout the process and encourage the involvement of the local transit agency in the design process to ensure that sufficient accommodation of transit users and access to transit facilities is provided.

9. APPEALS

When a member government is not in agreement with the MPO's decision regarding Safe Schools Emphasis projects subject to the Transportation Improvement Program Selection Process, the jurisdiction may introduce a formal appeal by means of a resolution adopted by their local governing body. The resolution must be submitted to the MPO and proceed through the established transportation planning process. As such, the resolution will be subject to review and comment by the Technical Advisory Committee, Citizens Advisory Committee, and the Bicycle/Pedestrian Advisory Committee. The MPO Governing Board, after considering comments from the other three committees, will make the final decision on the appeal.

10. IMPLEMENTATION

Upon approval and adoption of this Safe Schools Emphasis Program, it will become part of the MPO's planning process and project selection for state and federal funding. The principles of this Program will also guide MPO staff in preparation of MPO planning documents and regional transportation planning efforts to which it contributes. TRANSPORTATION 2040 will be amended to incorporate this Program in accordance with the requirements of the plan at adoption. Also, the List of Priority Projects will be amended as necessary in order to seek funding for projects as the result of the completion and resolution of support of a Safe School Emphasis Project Information Application.

11. EVALUATION

The MPO, through its committee review process, will evaluate this Policy and the documents associated with it on an annual basis. This evaluation may include recommendations for amendments to the Safe Schools Emphasis Program, including the development of prioritization criteria, design guidance, and subsequently be considered for adoption by the MPO Governing Board.

Policy Approved on: September 25, 2014

Lake~Sumter Metropolitan Planning Organization

Leslie Campione, Chairman

Approved as to form and legality:

Melanie Marsh, MPO Attorney

Lake-Sumter MPO
Metropolitan Planning Organization

POLICY 2017-1

TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS POLICY

1. POLICY OBJECTIVE

Improving the efficiency of the existing transportation system, supporting the principles of improving mobility, reducing funding needs and congestion, and resource consumption. The intent of the Transportation Systems Management and Operations (TSM&O) policy is to encourage active management of the transportation system and to implement strategies in lieu of, or strategically in conjunction with, capacity expansion. Common types of TSM&O strategies include, but are not limited to:

a. Intelligent Transportation Systems (Traveler Information, Adaptive Signal Control, Transit Signal Priority, etc.)
b. Active Traffic Management (Active Arterial Management, Dynamic Routing, Queue Warning, Freight Management, etc.)
c. Emergency Management
d. Incident Management
e. Event Management
f. Information Management (Archived Data, Big Data, Performance Management, etc.)

These strategies can help to increase the efficiency of the system by shifting travel demand to off-peak periods and less congested facilities, optimizing travel speeds for fuel efficiency, and utilizing existing capacity to the greatest extent possible.

2. BACKGROUND

Transportation Systems Management and Operations (TSM&O) is a program within the Florida Department of Transportation (FDOT) that is based upon:

a. Performance measurement,
b. Active management of the multi-modal transportation network, and

c. Positive safety and mobility outcome delivery to Florida's traveling public.

Initially envisioned in 2008, formally endorsed as a program in 2010, and actively being implemented across the country, TSM&O offers ways to optimize the use of limited transportation funding to maximize transportation system safety, efficiency, and effectiveness.

Vision: Provide an efficient, reliable, safe, and environmentally friendly multi-modal transportation experience through inter-agency cooperation that utilizes cost effective and innovative TSM&O methods to enhance the quality of life for the citizens of Lake County.
Mission: To deploy a customer-driven TSM&O program focused on mobility outcomes through real-time and effective management of the existing transportation system toward its maximum efficiency.
Formal Definition: TSM&O is an integrated program to optimize the performance of existing multimodal infrastructure through implementation of systems, services, and projects to preserve capacity and improve the security, safety, and reliability of our transportation system.

3. POLICY

The MPO will promote the planning and implementation of the TSM&O Policy throughout the MPO planning area and recommends that all member governments adopt TSM&O Policies consistent with this program. The MPO will seek incorporation of the TSM&O Policy into the development of transportation projects and plans where applicable. The concepts listed provide a broader perspective for both regional and local decision making concerning TSM&O Policy implementation:

a. Coordinating with transportation, transit agencies, emergency service providers and our member governments to define their TSM&O projects, their concept of operations and providing assistance to meet the consistency requirements; and developing necessary integration and interfaces.
b. Institutionalize TSM&O within the MPO Planning Area
c. Incorporating TSM&O into entire project development cycle: Planning, PD&E, Design, Operations, Construction, and Maintenance

4. REQUIREMENTS

a. TSM&O project sponsors must complete and submit a MPO Project Information Application and Maintenance Agreement (if applicable) covering the long term operation and maintenance of any TSM&O infrastructure.

b. Each project should use the most appropriate TSM&O planning, design standards and procedures, i.e., Central Florida ITS Architecture, AASHTO Transportation Systems Management and Operations Guidance, and the Florida Transportation Systems Management and Operations Strategic Plan.

5. APPEALS

When a member government is not in agreement with the MPO's decision regarding TSM&O projects subject to the Transportation Improvement Program Selection Process, the jurisdiction may introduce a formal appeal by means of a resolution adopted by their local governing body. The resolution must be submitted to the MPO and proceed through the established transportation planning process. As such, the resolution will be subject to review and comment by the Technical Advisory Committee, Citizens Advisory Committee, and the Bicycle/Pedestrian Advisory Committee. The MPO Governing Board, after considering comments from the other three committees, will make the final decision on the appeal.

6. IMPLEMENTATION

Upon approval and adoption of this TSM&O Policy, it will become part of the MPO's planning process and project selection for state and federal funding. The principles of this Program will also guide MPO staff in preparation of MPO planning documents and regional transportation planning efforts to which it contributes. TRANSPORTATION 2040 will be amended to incorporate this Program in accordance with the requirements of the plan at adoption. Also, the List of Priority Projects will be amended as necessary in order to seek funding for projects as the result of the completion and resolution of support of a ITS Project Information Application.

7. EVALUATION

The MPO, through its committee review process, will evaluate this Policy and the documents associated with it on an annual basis. This evaluation may include recommendations for amendments to the TSM&O Policy, including the development of

prioritization criteria, design guidance, and subsequently be considered for adoption by the MPO Governing Board.

Policy Approved on: January 25, 2017

Lake~Sumter Metropolitan Planning Organization

Pat Kelley, Chairman

Approved as to form and legality:

Melanie Marsh, MPO Attorney

APPENDIX B:

COMMITTED PROJECTS FOR FISCAL YEAR 2015/16 THROUGH FISCAL YEAR 2019/20

LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION
EXISTING PLUS COMMITTED PROJECTS
FISCAL YEAR 2015/16 THROUGH 2019/2020

NAME OR DESIGNATION	FM NUMBER **DOT	PROJECT SEGMENT	WORK DESCRIPTION	PROJECT PHASE	FUNDING SOURCES BY YEAR ($000's)																			
					2015/16				2016/17				2017/18				2018/19				2019/20			
					State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private
WEST SR 50	4358591	FROM SUMTER /HERNANDO COUNTY LINE TO CR33 LAKE COUNTY	CORRIDOR/SUBAREA PLANNING	PD&E	11	0	0	0	2,087	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,608	0	0	0
SR 46 / US 441	2382752	FROM W OF US 441 TO E OF VISTA VIEW LANE	ADD LANES AND RECONSTRUCT	PE	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	5,373	0	0	0	5,400	0	0	0	3,605	0	0	0	1,094	0	0	0	0	0	0	0
				CST		0	0	0	23,107	22,961	0	0	0	0	0	0	0	0	0	0	80	0	0	0
SR 46	2382753	FROM EAST OF VISTA VIEW LANE TO EAST OF ROUND LAKE ROAD	ADD LANES AND RECONSTRUCT	CST	0	0	0	0	9,435	0	0	0	0	0	0	0	0	0	0	0	39	0	0	0
				ENV	2,925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	4,405	0	0	0	3,200	0	0	0	3,396	0	0	0	0	0	0	0	0	0	0	0
				RRU	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 429/46 (WEKIVA PKWY)	2382757	FROM W OF OLD MCDONALD RD TO E OF WEKIVA RIVER RD	NEW ROAD CONSTRUCTION	DSB	0	0	0	0	201,890	35,894	0	0	0	0	0	0	0	0	0	0	200	0	0	0
				ENV	2,580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PE	0	0	0	0	1,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	3,945	0	0	0	10,375	0	0	0	15,576	0	0	0	8,429	0	0	0	0	0	0	0
CR 46A REALIGNMENT	2382758	FROM SR 46 TO NORTH OF ARUNDEL WAY	NEW ROAD CONSTRUCTION	CST	0	0	0	0	0	14,715	0	0	0	0	0	0	0	0	0	0	0	194	0	0
				ENV	216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PE	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	4,078	36	0	0	4,156	36	0	0	3,278	0	0	0	1,715	0	0	0	0	0	0	0
SR 500 (US 441)	2383943	FROM PERKINS ST TO SR 44	ADD LANES AND RECONSTRUCT	PE	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 500 (US 441)	2383955	FROM LAKE ELLA RD TO AVENIDA CENTRAL	ADD LANES AND RECONSTRUCT	CST	0	0	0	0	0	0	0	0	0	0	0	0	22,354	10,880	0	0	0	0	0	0
				PE	0	0	0	0	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 25 (US 27)	2384221	FROM BOGGY MARSH RD TO LAKE LOUISA RD	ADD LANES AND RECONSTRUCT	CST	17,116	25,791	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				INC	0	0	0	0	0	0	0	0	990	0	0	0	0	0	0	0	0	0	0	0
SR 93 (I-75)	2426263	FROM C-470 TO SR 91 (FLORIDA TURNPIKE)	ADD LANES AND REHABILITATE PAVEMENT	DSB	0	0	0	0	0	0	0	0	140	164	0	0	0	0	0	0	0	0	0	0
				INC	0	0	0	0	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I-75/TURNPIKE INTERCHANGE	4061101	FROM NORTHERN TERMINUS TO (MP 309)	INTERCHANGE IMPROVEMENT	DSB	56,269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I-75/TURNPIKE INTERCHANGE	4061102	I-75 WIDENING 4 TO 6 LANES, MP 20.8-SR 44	ADD LANES AND RECONSTRUCT	CST	19,894	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 500 (US 441)	4293561	FROM SR 44 TO NORTH OF SR 46	ADD LANES AND REHABILITATE PAVEMENT	ROW	0	0	0	0	0	0	0	0	1,809	0	0	0	1,750	0	0	0	1,714	0	0	0
SR 35 (US 301)	4301321	FROM C-470 N TO SR 44	ADD LANES AND REHABILITATE PAVEMENT	PE	0	0	0	0	1,000	0	0	0	2,836	4,334	0	0	0	0	0	0	0	0	0	0
US 301	4301881	AT SR 44	ADD TURN LANES	CST	0	0	532	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0
MINNEOLA INTERCHANGE	4338301	MINNEOLA PARTIAL INTERCHANGE (TPK MP 279)	INTERCHANGE RAMP (NEW)	DSB	0	0	0	0	1,640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HANCOCK RD EXTENSION	4338303	AT MINNEOLA INTERCHANGE	INTERCHANGE (NEW)	PE	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				CST	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-478	4344031	FROM US 301 TO SR 471	NEW ROAD CONSTRUCTION	CST	0	0	0	0	0	0	0	0	0	0	0	0	1,938	0	646	0	0	0	0	0
SR 471	4344561	AT CR 528	ADD TURN LANES	CST	0	0	0	0	769	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-470	4349121	FROM CR 527 TO SR 91 (TURNPIKE)	ADD LANES AND REHABILITATE PAVEMENT	PE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,048	0	0
CITRUS GROVE ROAD	4355411	FROM US 27 TO N HANCOCK RD/ FL TURNPIKE	ADD LANES AND RECONSTRUCT	ROW	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NAME OR DESIGNATION	FM NUMBER **DOT	PROJECT SEGMENT	WORK DESCRIPTION	PROJECT PHASE	FUNDING SOURCES BY YEAR ($000's)																			
					2015/16				2016/17				2017/18				2018/19				2019/20			
					State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private
WELLNESS WAY STATE FUNDED SIB	4357231		NEW ROAD CONSTRUCTION	PLN	28,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TURNPIKE	4357851	FROM ORANGE / LAKE C/L TO MINNEOLA INTCHG (MP 274.2 - 279)	ADD LANES AND RECONSTRUCT	PE	3,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TURNPIKE INTERCHANGE	4357871	FROM LEESBURG NORTH INTERCHANGE TO LAKE/SUMTER COUNTY LINE (MP 289.3 - 297.9)	ADD LANES AND RECONSTRUCT	PDE	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PE	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TURNPIKE INTERCHANGE	4357881	FROM LAKE/SUMTER COUNTY LINE TO CR 468 INTERCHANGE (MP 297.9 - 301.4)	ADD LANES AND RECONSTRUCT	PDE	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Old 441-CR 19A	4374641	Old 441/CR 19A AT EUDORA ROAD	ROUNDABOUT	PE	27	328	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HANCOCK ROAD	4374861	AT NORTH RIDGE BOULEVARD	TRAFFIC SIGNAL	PE	0	0	0	0	3	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 44	4306511	FROM SR25/US27/14TH ST TO US 441 (NORTH BLVD)	RESURFACING	CST	0	0	0	0	2,957	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 25/500	4323331	FROM AVENIDA CENTRAL/GRIFFIN AVE. TO SUMTER CO LINE	RESURFACING	CST	0	0	0	0	636	1,404	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR 673	4336701	FROM US 301 TO I-75	RESURFACING	CST	0	0	0	0	1,525	0	509	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 35 (US 301)	4339591	FROM S OF W CHEROKEE AVE TO NOBLE AVENUE	RESURFACING	CST	1,195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 25 (US 27)	4344071	FROM CR 561 TO N OF O'BRIEN RD	RESURFACING	CST	0	0	0	0	0	0	0	0	699	7,143	0	0	0	0	0	0	0	0	0	0
				PE	680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST STREET	4354931	FROM SR 48 TO CR 476	RESURFACING	CST	0	0	0	0	0	0	0	0	99	0	99	0	0	0	0	0	0	0	0	0
BATTLEFIELD PKWY	4354951	FROM CR 476 TO SR 48	RESURFACING	CST	0	0	0	0	0	0	0	0	99	0	99	0	0	0	0	0	0	0	0	0
SR 48 (EAST BELT AVE)	4354961	FROM MAIN STREET TO US 301	RESURFACING	CST	0	0	0	0	0	0	0	0	64	0	64	0	0	0	0	0	0	0	0	0
SR 471	4356621	FROM S OF UNNAMED CANAL TO S OF LITTLE WITHLACOOCHEE RIVER	RESURFACING	CST	0	0	0	0	0	0	0	0	5,098	0	0	0	0	0	0	0	0	0	0	0
				PE	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 91 (Florida Turnpike)	4271442	SURFACING MAINLINE-THERMOPLASTIC- NB FROM MP274- 275 TO MP274-275.5 SB	SIGNING/PAVEMENT MARKINGS	PE	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				CST	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR 466A (PICCIOLA RD)	4344221	FROM DOGWOOD DRIVE TO S OF TWIN PALMS ROAD	PAVE SHOULDERS	CST	0	0	0	0	0	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR 48	4347001	FROM CITRUS CO LINE TO WEST OF CR 616	PAVE SHOULDERS	CST	0	0	0	0	0	2,705	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR 476	4347011	FROM HERNANDO CO LINE TO SR 35 (US 301)	SIGNING/PAVEMENT MARKINGS	CST	0	310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR 475	4361491	NORTH FROM SR 44 TO MARION COUNTY LINE	PAVE SHOULDERS	CST	0	0	0	0	0	0	0	0	17	519	0	0	0	0	0	0	0	0	0	0
				PE	7	164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				CST	0	0	0	0	0	0	0	0	3	68	0	0	0	0	0	0	0	0	0	0
CR 470	4361511	FROM CR 424 TO WILDERNESS DRIVE	PAVE SHOULDERS	CST	0	0	0	0	0	0	0	0	10	296	0	0	0	0	0	0	0	0	0	0
				PE	5	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				CST	0	0	0	0	0	0	0	0	2	46	0	0	0	0	0	0	0	0	0	0
CR 575	4361851	FROM W CR 476 TO W CR 48	PAVE SHOULDERS	CST	0	0	0	0	0	0	0	0	17	519	0	0	0	0	0	0	0	0	0	0
				PE	6	129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 19	4363561	FROM 0.230 MILES N BULLDOG WAY TO CR 445 AND CR 445A	SIGNING/PAVEMENT MARKINGS	CST	0	0	0	0	0	0	0	0	0	494	0	0	0	0	0	0	0	0	0	0
				PDE	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CR 473	4374851	FROM TREADWAY SCHOOL ROAD TO CR 44	PAVE SHOULDERS	PE	0	0	0	0	6	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				CST	0	0	0	0	0	0	0	0	0	0	0	0	18	558	0	0	0	0	0	0
CR 462	4376041	FROM CR475 TO US 301 SAFETY IMPROVEMENTS	PAVE SHOULDERS	PE	0	0	0	0	14	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				CST	0	0	0	0	0	0	0	0	0	0	0	0	19	570	0	0	0	0	0	0
				PE	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NAME OR DESIGNATION	FM NUMBER **DOT	PROJECT SEGMENT	WORK DESCRIPTION	PROJECT PHASE	FUNDING SOURCES BY YEAR ($000's)																			
					2015/16				2016/17				2017/18				2018/19				2019/20			
					State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private	State	Federal	Local	Private
SR 19	2383192	OVER LITTLE LAKE HARRIS BRIDGE # 110026	BRIDGE REPLACEMENT	DSB	0	0	0	0	22,402	25,141	0	0	0	0	0	0	0	45	0	0	0	0	0	0
				PE	0	0	0	0	360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	0	97	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 44 BRIDGE# 110063	4295561	BRIDGE# 110063	BRIDGE REPLACEMENT	PE	103	0	0	0	0	0	0	0	21	500	0	0	0	0	0	0	0	0	0	0
				ROW	0	0	0	0	0	0	0	0	151	1,922	0	0	43	536	0	0	0	0	0	0
				CST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	654	17,836	0	0
SR 33 BRIDGE# 110002	4338601	OVER GREEN SWAMP	BRIDGE REPLACEMENT	CST	0	0	0	0	0	0	0	0	0	0	0	0	0	2,522	0	0	0	0	0	0
				ENV	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ROW	0	0	0	0	0	18	0	0	0	42	0	0	0	43	0	0	0	0	0	0
CR 468 BRIDGE (TPK MP 301.4)	4345182	SAFETY IMPROVEMENTS	BRIDGE REPLACEMENT	CST	356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LAKE TRAIL	4225702	FROM CLERMONT TRAIL TO SILVER EAGLE DR.	BIKE PATH/TRAIL	CST	16	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LAKE TRAIL PH IIIB	4225703	FROM SR 33 (CRITTENGEN ST) TO SILVER EAGLE RD	BIKE PATH/TRAIL	PE	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-WEKIVA TRAIL	4309752	FROM TREMAIN STREET TO CR 46	BIKE PATH/TRAIL	PE	0	505	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-WEKIVA TRAIL	4309753	FROM CR 46 TO HOGIN STREET	BIKE PATH/TRAIL	PE	0	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-WEKIVA TRAIL	4309755	FROM CR 435 TRAILHEADS TO SR 46	BIKE PATH/TRAIL	CST	0	0	0	0	0	0	0	0	0	2,300	0	0	0	0	0	0	0	0	0	0
				PE	0	345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STIS ELEMENTARY AND MIDDLE SCHO	4329541		SIDEWALK	CST	0	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VILLAGES ELEMENTARY SCHOOL	4332001	AT CR 25 3 LOCATIONS	SIDEWALK	CST	0	298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GES ELEMENTARY SCHOOL PED FEAT	4332141	AT US 27 2 LOCATIONS	TRAFFIC SIGNAL UPDATE	CST	0	315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAV-LEE TRAIL EXT	4336731	FROM WOOTEN PARK TO NORTH OF SINCLAIR AVE/RUBY ST	BIKE PATH/TRAIL	CST	0	0	0	0	0	660	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH SUMTER CONNECT/TRAIL SR 50	4354711	FROM SOUTH LAKE TRAIL TO WITHALOOCHOEE TRAIL	BIKE PATH/TRAIL	PLN	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PD&E	0	0	0	0	704	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PE	0	0	0	0	0	0	0	0	0	0	0	0	4,800	4,953	0	0	0	0	0	0
SOUTH LAKE TRAIL - PHASE 4	4358931	FROM VAN FLEET TRAIL TO VILLA CITY ROAD (CR 565)	BIKE PATH/TRAIL	ENV	0	0	0	0	37	475	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				PE	352	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0
				ROW	0	0	0	0	0	0	0	0	1,623	0	0	0	2,914	82	0	0	229	1,500	0	0
HIGHLAND ST	4369351	FROM S. OF CRANE AVENUE TO N. OF SHIRLEY	SIDEWALK	CST	0	0	0	0	0	0	0	0	0	0	0	0	0	1,149	0	0	0	0	0	0
ALTERNATIVE ANALYSIS	4292141	ORANGE BLOSSOM EXPRESS	RAIL CAPACITY PROJECT	PDE	1,500	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-LEESBURG INTL	4315611	DESIGN TERMINAL BUILDING & RAMP	AVIATION CAPACITY PROJECT	CAP	0	0	0	0	61	1,092	61	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-LEESBURG INTL	4315641	AIRPORT IMPROVEMENT PROJE CT	AVIATION SAFETY PROJECT	CAP	415	0	415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-UMATILLA	4316201	DESIGN PARALLEL TAXIWAY S OUTH	AVIATION CAPACITY PROJECT	CAP	0	0	0	0	40	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-UMATILLA	4316221	ACQUIRE CENTRAL AREA LAND	AVIATION CAPACITY PROJECT	CAP	0	0	0	0	96	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-UMATILLA	4316241	CONSTRUCT PARALLEL TAXIWA Y SOUTH	AVIATION CAPACITY PROJECT	CAP	0	0	0	0	0	0	0	0	40	450	10	0	0	0	0	0	0	0	0	0
LAKE-UMATILLA	4316251	CONSTRUCT TERMINAL AREA A PRON	AVIATION CAPACITY PROJECT	CAP	0	0	0	0	0	0	0	0	400	0	100	0	0	0	0	0	0	0	0	0
LAKE-UMATILLA	4335301	MUNI T-HANGAR	AVIATION REVENUE/OPERATIONAL	CAP	0	0	0	0	0	0	0	0	260	0	260	0	0	0	0	0	0	0	0	0
LAKE-LEESBURG INTL	4343062	TAXIWAY ALPHA REALIGNMENT & RAMP EXTENSION	AVIATION CAPACITY PROJECT	CAP	22	248	6	0	240	2,700	60	0	0	0	0	0	0	0	0	0	0	0	0	0
LAKE-UMATILLA	4353161	MUNI AIRPORT IMPROVEMENT PROJECT	AVIATION SAFETY PROJECT	CAP	0	0	0	0	0	0	0	0	0	0	0	0	250	0	250	0	250	0	250	0
LAKE-LEESBURG INTL	4370131	CONSTRUCT TERMINAL AND RAMP	AVIATION REVENUE/OPERATIONAL	CAP	0	0	0	0	100	0	100	0	600	0	600	0	600	0	600	0	600	0	600	0
LAKE-LEESBURG INTL	4370281	PURCHASE & INSTALL EMERGENCY POWER GENERATOR	AVIATION PRESERVATION PROJECT	CAP	100	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX C:

FINANCIAL RESOURCES AND DEVELOPER FUNDING

1. **Lake~Sumter MPO Revenue Forecast**
2. **Final Adopted Cost Feasible Projects Spreadsheet**

RENAISSANCE
PLANNING

TO: TJ Fish, Lake-Sumter MPO

FROM: Nick Lepp, Renaissance Planning Group

DATE: May 28, 2015

RE: Lake-Sumter MPO – 2040 Revenue Projections

The purpose of this memo is to document the financial resources and revenues available for consideration in developing the Cost Feasible element of the 2040 Long Range Transportation Plan (LRTP). This memo identifies both committed and uncommitted transportation revenues at the local and state level, including funding sources dedicated to maintenance and operations activities. All revenues are expressed in year of expenditure dollars (YOE) to account for the effects of inflation.

This financial resources analysis reveals several key points:

- Total revenues are projected at $2.6 billion for 2016 through 2040, with $1.4 billion available for capacity improvements. These amounts are expressed in year of expenditure dollars but do not include state revenues dedicated to Strategic Intermodal System (SIS) projects. The State will continue to place emphasis on SIS facilities in the allocation of State dollars.

- Fuel tax revenues (Constitutional, County, Ninth Cent, and Local Option) are assumed to be policy committed for operations and maintenance purposes. These commitments effectively remove existing these revenues from consideration for capacity projects during preparation of the 2040 Cost Feasible plan.

- Revenues from the Lake County discretionary sales surtax for infrastructure are assumed to be available for capacity projects only, per State statute, although other non-transportation uses of the funds are also permitted. Lake County currently commits at least 50 percent of surtax revenues to transportation purposes.

- One-third of the municipal service taxing unit (MSTU) revenues in Lake County was assumed to be available for road operations and maintenance purposes in the designated MSTU area. However, it should be noted that the County currently is not budgeting any MSTU revenues for road purposes, and is using all of the funds for stormwater and parks purposes.

- Impact fees and other contributions toward transportation improvements can be volatile and difficult to project over the long term, as the results of the recent market downturn showed. Impact fee revenue was projected using current fee rates and the 2040 socioeconomic data forecasts prepared for the LRTP update.

As development of the 2040 LRTP proceeds, at issue for the MPO Board and local governments is to determine what, if any, additional revenue sources or creative financing scenarios should be considered to address future transportation needs. For example, the potential of adding a second (five-cent) Local Option Fuel Tax in either or

both of the counties could be considered. Sumter County could also consider implementing a discretionary sales surtax for infrastructure.

REVENUE PROJECTIONS

The revenue projections are summarized in 5-year increments for the total Lake-Sumter MPO in Table 6, which is found at the end of this document. That table is followed by two appendix tables that present the revenue projections broken out by county – one table for Lake County and the other for Sumter County.

State/Federal Sources

Statewide in Florida, approximately 25 percent of total transportation revenues forecasted by the Florida Department of Transportation (FDOT) for 2014 through 2040 come from Federal sources, 67 percent are from State sources and 8 percent are Turnpike revenues. According to *Florida's Transportation Tax Sources – A Primer*, for FY 2013, the receipts collected by the State Transportation Trust Fund (STTF) broke down as follows: state motor fuel tax comprised 32 percent of STTF receipts; motor vehicle tag and title fees were 15 percent; aviation fuel tax, rental car surcharge, and documentary stamp taxes were each less than three percent; and Federal Aid, which comes primarily from the federal fuel tax, was 34 percent. The balance of receipts came from toll facility reimbursement, local government participation, and other miscellaneous sources.

The figures discussed above represent statewide revenues. Lake and Sumter Counties receive their proportionate shares based on a series of formulas tied to population and gas tax receipts. Table 6 provides revenue projections of State and Federal sources available to Lake and Sumter Counties as provided in the *2040 Revenue Forecast Handbook* (July 2013) prepared by FDOT. "Other Arterials" revenues can be applied to non-FIHS/SIS State Highway System roadways and "Transit" revenues can go toward technical and operating/capital assistance for transit, paratransit, and rideshare programs. "Transportation Management Area" (TMA) funds are the same as "XU" funds in the State's work program. "Transportation Alternatives" funds are used for locally defined projects providing enhancements beyond that typical for projects and are not used to fund capacity improvements. "TRIP" funds apply to improvements on facilities designated as regionally significant and the funds are allocated within each district based on regional project prioritization processes. Table 1 outlines the available state and federal sources and the potential uses of the funds. The Transportation Alternatives and TRIP funds are not included in any of the totals in Table 6 due to their discretionary nature.

TABLE 1: STATE AND FEDERAL REVENUE SOURCES

Funding Type	Source	Uses
SIS	State/Federal	SIS facilities (corridors, connectors and hubs)
Other Arterials	State/Federal	Non-SIS/FIHS state highway system roadways
Transit	State/Federal	Technical , operating or capital assistance for transit, paratransit, or rideshare
TMA	Federal	Federal, state and local roadways, transit, sidewalk and bike infrastructure, and enhancements
Transportation Alternatives	Federal	Non-capacity improvements
TRIP	State/Local (match)	Regionally significant facilities

The State will continue to place an emphasis on allocating revenues to the Strategic Intermodal System (SIS) facilities. SIS facilities in Lake and Sumter Counties eligible for SIS funding include:

- I-75
- Florida's Turnpike
- Wekiva Parkway/SR 429 (planned add)
- SR 40 (emerging)
- CSX Railroad
- Florida Central Railroad (emerging)

Fuel Taxes

Fuel tax revenues were projected only for the Lake and Sumter County governments. Fuel taxes distributed to municipal governments are assumed to be used solely for municipal road operations and maintenance and are not included in Table 6.

State-Distributed Fuel Taxes

There are two types of fuel taxes collected at the State level that are distributed to county governments. These taxes are not part of the local option taxes, and are collected for every gallon of fuel sold in the state. For each gallon of motor fuel sold, the Constitutional Fuel Tax yields two cents per gallon, and the County Fuel Tax yields one cent per gallon. Every county is eligible for Constitutional Fuel Tax and County Fuel Tax revenues through an allocation formula used by the State that is based on the certified fuel gallons sold and a distribution factor calculated using the county's population, land area, and statewide tax collected in the previous fiscal year.

Constitutional Fuel Tax revenues can be used for the acquisition, construction, and maintenance of roads. County Fuel Tax revenues can be used for any legitimate county transportation purpose.

In projecting future Constitutional and County Fuel Tax revenues, the average actual revenue distributions to Lake and Sumter County governments by year from FY 2010-2014 were calculated. This base value for each tax was then projected into the future using the latest long term forecast of annual change in Gross State Product prepared by the UCF Center for Economic Competitiveness, and adjusted for inflation per FDOT guidelines.

Local Option Fuel Taxes

All Florida counties have the option to raise additional revenues by augmenting the State's taxes on highway fuels that are discussed above. Local governments are authorized to collect another 12 cents (Ninth-Cent Fuel Tax and maximum Local Option Fuel Taxes) per gallon, which may be spent on local or state transportation projects. Lake and Sumter Counties have partially exercised their option to raise these taxes by imposing the

first local option tax of six cents per gallon and the Ninth Cent tax. The Counties have the additional, unrealized taxing option of the second local option of up to five cents for locally imposed taxes on motor fuels.

In projecting future Local Option Fuel Tax revenues, the estimated revenue distributions by year and the county population estimates for those years used by the State for revenue sharing were used to calculate per capita revenue values for Lake and Sumter County governments from FY 2009-2013, and the average of those past values was used for the base year (2015) projection. Future years were projected out to 2040 using this average per capita value and adjusting for inflation per FDOT guidelines.

Given the volatility of gas prices and long term revenue tied to fuel consumption, the projections assume that fuel consumption declines by one percent per year after 2015, to reflect the projections for 2040 published by the U.S. Energy Information Administration in its *Annual Energy Outlook 2014*. This equates to a situation where fuel tax revenues gradually decline over time to reflect a peaking of oil consumption and the use of alternate fuels and energy sources into the future. Initiatives are currently underway at the Federal level to re-evaluate fuel tax revenues and consider alternatives to consumption based taxes.

Availability of Fuel Taxes for Capacity Projects

Constitutional, County, and Ninth Cent Fuel Tax revenues are assumed to be used for operations and maintenance functions and are projected to be policy committed for such uses through 2040.

The six-cent Local Option Fuel Tax is a significant local revenue source for Lake and Sumter Counties. For FY 2015, the Florida Legislature's Office of Economic and Demographic Research estimated the distribution to the County governments of these taxes at $5.4 million for Lake County and $4.2 million for Sumter County. The Local Option Fuel Tax revenues shown in Table 6 are assumed to be committed to operations/maintenance expenditures. No Local Option Fuel Tax revenues are projected to be available for future capacity improvements.

Impact Fees

Both the Lake and Sumter County governments charge impact fees on new development to fund transportation facilities. Given the inherent uncertainty of forecasting future development, the projections shown in Table 6 are intended to be conservative and a starting point for discussion. Current impact fee rates were used to project future revenue according to the location of housing unit or employment growth. In Lake County this meant using the appropriate fee rates for the North, Central, and South impact fee districts. In Sumter County this meant distinguishing between growth within The Villages DRI and growth elsewhere in the county.

Renaissance examined the currently available impact fee schedules for the two counties and calculated average fees per dwelling unit (for residential land uses) or per 1,000 square feet (for non-residential land uses) using selected property type categories that were determined to be generally representative of that land use. Residential land uses were classified as single-family or multifamily. The non-residential land uses analyzed were classified as industrial, commercial, or service to conform to the employment categories used in the regional travel demand model. The property types selected to calculate the average impact fee rates are generally described as follows:

- Single-Family Residential: single-family homes
- Multifamily Residential: townhouses, duplexes, and condominiums

- Industrial: warehousing
- Commercial: retail of 200,000 square feet or less
- Service: general office of 100,000 square feet or less, medical office

The average impact fee assumptions per land use for each jurisdiction are shown in Table 3 below.

TABLE 3: IMPACT FEE RATE ASSUMPTIONS

Jurisdiction/Area	Single-Family Residential	Multifamily Residential	Industrial	Commercial	Service
Lake County North/Central District	$500	$229	$259	$569	$485
Lake County South District	$2,706	$1,240	$1,403	$3,080	$2,623
Sumter County General	$2,600	$2,128	$1,124	$3,829	$5,157
Sumter County Villages DRI	$2,582	$1,992	$1,124	$3,829	$5,157

Note: Residential uses are per dwelling unit, non-residential uses are per 1,000 square feet
Source: Impact fee schedules of Lake and Sumter Counties

In order to convert the non-residential impact fee rates from per-1,000-square-feet to per-worker, Renaissance assumed building space usage of one employee per 1,000 square feet for industrial, two employees per 1,000 square feet for commercial, and three employees per 1,000 square feet for service.

The average annual number of new dwelling units and workers forecast for each jurisdiction from 2010-2040 was multiplied by the relevant impact fee rate assumption for that jurisdiction to estimate the annual revenue from transportation impact fees. Furthermore, the non-residential fee estimates were reduced by 25 percent to account for new jobs that "backfill" into existing building space rather than locate within newly developed building space. Unlike the other revenue sources discussed in this memo, future impact fee revenues were not adjusted for inflation because the fee rates are not changed on an annual basis and also to produce a more conservative estimate.

Discretionary Sales Surtax for Infrastructure

Lake County currently imposes an additional 1.0 percent sales tax on goods and services, above the six percent standard sales tax, as a revenue stream for local government infrastructure. Revenue collected may be used to finance, plan, and construct infrastructure, which includes transportation infrastructure. It may also be used to purchase land for public recreation, conservation, or protection of natural resources. It may not be used for the operational expenses of infrastructure. The current surtax is effective until December 31, 2017, and for the purposes of this analysis was assumed to be renewed. It was assumed that the surtax revenue is used for capacity projects. Lake County commits at least 50 percent of the surtax revenues to transportation purposes.

Revenue projections for the existing Lake County surtax were calculated based on the annual average of estimated surtax revenues for 2009-2013. The collected tax receipts are normally distributed to each unit of local government in a county according to a standard allocation formula used by the Department of Revenue. However, a county has the option to set a different allocation formula with its municipalities through an interlocal agreement, which Lake County currently has in place that distributes one-third of the revenue to the County government, one-third to the Lake County School Board, and one-third to the other municipalities in the county.

Municipal Service Taxing Units

Another source of locally generated funds are municipal service taxing units (MSTU). These entities generate property tax revenues to fund capital and/or maintenance costs for identified projects within a specified area. Lake County has a Stormwater, Parks, and Roads MSTU but in recent year its expenditures have been limited to stormwater operations and parks services activities, with no spending on roads currently budgeted. For the purposes of these projections, it was assumed that in the future one-third of available MSTU tax revenues would be available for roads operations and maintenance activities in the designated area. MSTU tax projections were prepared by forecasting the FY 2015 budget revenue estimate into the future using the FDOT guidance on annual inflation. No MSTU revenue was projected for Sumter County.

Transit

LakeXpress and Sumter County Transit receive both operating and capital revenues from federal, state, and local sources. Local operating and capital revenue estimates were collected from the most recent *Transit Development Plan* (TDP). The plan provided estimates of operating and capital revenues through FY 2023. All federal and state revenue assumptions in the TDP, for both the capital and operating categories, were not included in the analysis, in order to reduce the likelihood of double-counting potential federal and state revenues. State and federal transit funding figures from the *2040 Revenue Forecast Handbook* were used instead (see Table 6).

Projections to 2040 were estimated by dividing the TDP-estimated local operating and capital revenues for the transit agencies by the populations of the two counties to obtain per capita revenue values for the fiscal years addressed in the TDP. For subsequent years, the annual increase in revenue was tied to the increase in population and the inflation factors recommended by FDOT. To project revenues for future years, the average of the per capita revenues for the last five fiscal years in the TDP was set as the base per capita value from which to calculate annual inflation-adjusted values. These per capita values were in turn applied to the population projections for the two counties to yield annual local transit revenues.

Other Local Sources

Other local revenue sources available for transportation improvements or maintenance and operations activities include grants, proportionate fair share contributions, ad valorem or general revenues, and tax increment financing or other Community Redevelopment Area sources. Forecasting the availability of these resources is difficult and many of these resources already are being tapped to their maximums. As such, these sources are not included in the projections at this time.

Potential New Revenue Sources

Two potential new revenue sources that are could be implemented in Lake and/or Sumter Counties to generate additional revenues for transportation purposes are the five-cent Local Option Fuel Tax and a Local Government Infrastructure Surtax (in Sumter County).

As noted earlier in this memo, both Lake and Sumter Counties have the additional, unrealized option of taxing motor fuel sales for another five cents per gallon. The five-cent Local Option Fuel Tax is not applied to diesel, and may only be used for transportation expenditures needed to meet the requirements of the capital improvement element of an adopted local government comprehensive plan and other capacity-adding projects. The Department of Revenue estimates the revenue that would be generated each year if the County had levied these two taxes, so the average of the per capita amounts for FY 2009-2013 was used to forecast these new revenues, then adjusted for a gradual long term decline in fuel consumption as discussed above. The five-cent local option tax receipts can be distributed to each unit of local government in the county according to the default allocation formula used by the DOR, or the County has the option to set a different allocation formula with its municipalities through an interlocal agreement. The results are shown in Table 4.

Sumter County can levy a discretionary sales surtax of either 0.5 or 1.0 percent on goods and services, above the six percent standard sales tax, as a revenue stream for local government infrastructure. Fees collected may be used to finance, plan, and construct infrastructure, which includes transportation infrastructure. In order to levy the surtax, an ordinance must be enacted by the County Commission and approved by voters in a countywide referendum. Projection estimates for this surtax, both at 0.5 percent and 1.0 percent, were calculated based on the average of actual surtax revenues that would have been collected in each county from FY 2009-2013 at the two tax rates, based on figures provided by the Department of Revenue. The collected tax receipts can be distributed to each unit of local government in each county according to the default allocation formula used by the DOR, or the County has the option to set a different allocation formula with its municipalities through an interlocal agreement. Revenue projections for the sales surtax at both tax rates are shown in Table 4.

TABLE 4: PROJECTIONS OF POTENTIAL NEW REVENUE SOURCES

Revenue Source	2019-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Five-Cent Local Option Fuel Tax						
Lake County (Default County Share)	$2.2	$6.5	$8.0	$9.8	$11.9	$38.4
Sumter County (Default County Share)	$1.2	$3.7	$4.8	$6.1	$7.7	$23.6
Sumter County Local Government Infrastructure Surtax (Default County Share)						
1 cent per dollar	$26.1	$82.8	$113.5	$151.9	$199.9	$574.1
Half cent per dollar	$13.0	$41.4	$56.7	$75.9	$99.9	$287.0

Note: figures expressed in millions of YOE dollars

Summary of Total Revenues

Table 5 summarizes the revenues projected to be available to the MPO from 2019-2040. Total state and federal revenues are $534.8 million, excluding districtwide funds that may be allocated elsewhere. Total local funds are $2.1 billion, which will be split in some manner between capacity projects and operations/maintenance purposes. The grand total of MPO revenues is $2.6 billion.

Impact fees are a significant source of revenue for capacity projects. Road impact fees are currently not uniform across Lake County, with the rates being substantially higher in the South impact fee district than they are in the North and Central districts. Recognizing that growth patterns over the forecast horizon could lead to a standardization of impact fee rates across the county, Renaissance Planning also prepared an adjusted projection that assumes the current South district rates are applied across the entire county. Using uniform road impact fee rates in Lake County would generate an additional $129.2 million in revenue, or roughly double the amount per year projected using the current North and Central district fee rates.

TABLE 5: SUMMARY OF TOTAL MPO REVENUES

Revenue Source	2019-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
State & Federal	$50.4	$118.1	$116.2	$125.1	$125.1	$534.8
Local	$126.8	$346.6	$424.9	$520.0	$675.7	$2,094.0
TOTAL	**$177.2**	**$464.7**	**$541.1**	**$645.0**	**$800.7**	**$2,628.8**
Total with Uniform Lake County Impact Fee Rates	$188.9	$494.1	$570.5	$674.4	$830.1	$2,758.0

Note: Dollar values expressed in millions

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TABLE 6: TOTAL MPO PROJECTED REVENUES, 2019-2040

PROJECTED REVENUES BY PLANNING PERIOD (in Millions of YOE Dollars)						
	2019-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
STATE/FEDERAL REVENUES (1)						
SIS Highways/FIHS Constr/ROW	n/a	n/a	n/a	n/a	n/a	n/a
Other Arterial Constr/ROW	$33.9	$75.6	$71.5	$78.2	$78.2	$337.4
Transit	$16.5	$42.5	$44.7	$46.9	$46.9	$197.4
TMA Funds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Subtotal Capacity	*$50.4*	*$118.1*	*$116.2*	*$125.1*	*$125.1*	*$534.8*
TALL (<200k pop., districtwide funds)	$1.7	$4.2	$4.2	$4.2	$4.2	$18.4
TALT (districtwide funds)	$10.3	$25.8	$25.8	$25.8	$25.8	$113.6
TRIP Funds (districtwide)	$1.4	$10.0	$10.0	$10.0	$10.0	$41.5
New Starts Funds (statewide)	$63.0	$174.0	$174.0	$174.5	$174.5	$760.0
LOCAL REVENUES (2)						
Impact Fees (capacity) (3)	$28.8	$72.0	$72.0	$72.0	$72.0	$316.6
Constitutional Fuel (debt committed)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Constitutional Fuel (ops/mtc committed)	$19.1	$38.3	$49.3	$63.2	$121.9	$291.8
County Fuel (ops/mtc committed)	$5.1	$15.2	$19.5	$25.1	$32.2	$97.1
Ninth Cent (ops/mtc committed)	$6.5	$19.5	$24.7	$30.7	$37.7	$119.1
Local Option Fuel (debt committed)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Local Option Fuel (ops/mtc) (4)	$27.2	$81.7	$104.0	$129.7	$159.6	$502.2
Sales Surtax for Infrastructure (capacity) (4)	$29.8	$90.9	$118.9	$152.9	$194.4	$586.7
Roads MSTU (ops/mtc) (5)	$3.0	$8.4	$9.9	$11.7	$13.7	$46.7
Subtotal Local Capacity	*$58.5*	*$162.8*	*$190.8*	*$224.9*	*$266.3*	*$903.4*
Subtotal Local Operations & Maintenance	*$60.9*	*$163.1*	*$207.4*	*$260.5*	*$365.1*	*$1,057.0*
Subtotal Debt	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*
Transit Agency Local Capital	$0.1	$0.4	$0.5	$0.7	$0.9	$2.6
Transit Agency Local Operating	$7.2	$20.3	$26.2	$33.9	$43.4	$131.0
Subtotal Local	*$126.8*	*$346.6*	*$424.9*	*$520.0*	*$675.7*	*$2,094.0*
TOTAL Capacity	**$109.1**	**$281.3**	**$307.5**	**$350.6**	**$392.2**	**$1,440.8**
TOTAL Ops & Mtc	**$68.1**	**$183.3**	**$233.6**	**$294.4**	**$408.5**	**$1,188.0**
TOTAL (6)	**$177.2**	**$464.7**	**$541.1**	**$645.0**	**$800.7**	**$2,628.8**

Notes:

(1) State/Federal Revenues from August 1, 2013 *Supplement to the 2040 Revenue Forecast Handbook, 2040 Revenue Forecast for Lake-Sumter Metropolitan Area.* Totals may not sum perfectly due to rounding. Revenues for SIS Highways are already programmed.

(2) Fuel tax collections and distribution rates as reported by the Florida Department of Revenue's Office of Tax Research.
Municipal fuel tax distributions are not included.
Fuel tax revenues projected decline 1% per year from the base assumption over time to account for declining fuel consumption trends.

(3) Impact Fees revenues based on 2010-2040 household and employment forecasts, using current fee rates.

(4) Includes County share of revenue collections only.

(5) Assumes that one-third of Lake County MSTU revenue is devoted to road operations and maintenance.

(6) Total does not include TALL, TALT, TRIP, or New Starts. It does include State/Federal capacity sources.

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APPENDIX TABLE A-1: LAKE COUNTY PROJECTED REVENUES, 2019-2040

PROJECTED REVENUES BY PLANNING PERIOD (in Millions of YOE Dollars)						
	2019-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
STATE/FEDERAL REVENUES (1)						
SIS Highways/FIHS Constr/ROW	n/a	n/a	n/a	n/a	n/a	n/a
Other Arterial Constr/ROW	$33.9	$75.6	$71.5	$78.2	$78.2	$337.4
Transit	$16.5	$42.5	$44.7	$46.9	$46.9	$197.4
TMA Funds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
TOTAL State/Federal Capacity	**$50.4**	**$118.1**	**$116.2**	**$125.1**	**$125.1**	**$534.8**
TALL (<200k pop., districtwide funds)	$1.7	$4.2	$4.2	$4.2	$4.2	$18.4
TALT (districtwide funds)	$10.3	$25.8	$25.8	$25.8	$25.8	$113.6
TRIP Funds (districtwide)	$1.4	$10.0	$10.0	$10.0	$10.0	$41.5
New Starts Funds (statewide)	$63.0	$174.0	$174.0	$174.5	$174.5	$760.0
LOCAL REVENUES (2)						
Impact Fees (capacity) (3)	$11.4	$28.5	$28.5	$28.5	$28.5	$125.2
Constitutional Fuel (debt committed)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Constitutional Fuel (ops/mtc committed)	$8.0	$24.0	$30.8	$39.7	$50.8	$153.2
County Fuel (ops/mtc committed)	$3.5	$10.4	$13.4	$17.2	$22.0	$66.5
Ninth Cent (ops/mtc committed)	$3.9	$11.6	$14.4	$17.6	$21.3	$68.7
Local Option Fuel (debt committed)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Local Option Fuel (ops/mtc) (4)	$14.5	$42.6	$53.0	$64.9	$78.4	$253.3
Sales Surtax for Infrastructure (capacity) (4)	$29.8	$90.9	$118.9	$152.9	$194.4	$586.7
Roads MSTU (ops/mtc) (5)	$3.0	$8.4	$9.9	$11.7	$13.7	$46.7
Subtotal Local Capacity	*$41.1*	*$119.3*	*$147.3*	*$181.4*	*$222.8*	*$712.0*
Subtotal Local Operations & Maintenance	*$32.9*	*$97.0*	*$121.5*	*$151.0*	*$186.2*	*$588.5*
Subtotal Debt	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*
Transit Agency Local Capital	$0.1	$0.4	$0.5	$0.7	$0.9	$2.6
Transit Agency Local Operating	$6.0	$16.9	$21.7	$27.9	$35.4	$107.9
TOTAL Local Capacity	**$41.3**	**$119.7**	**$147.8**	**$182.0**	**$223.7**	**$714.6**
TOTAL Local Ops & Mtc	**$38.9**	**$113.9**	**$143.2**	**$178.9**	**$221.6**	**$696.5**
TOTAL Local Revenues	**$80.1**	**$233.7**	**$291.1**	**$360.9**	**$445.3**	**$1,411.1**

Notes:

(1) State/Federal Revenues from August 1, 2013 *Supplement to the 2040 Revenue Forecast Handbook, 2040 Revenue Forecast for Lake-Sumter Metropolitan Area.* Totals may not sum perfectly due to rounding. Revenues for SIS Highways are already programmed.

(2) Fuel tax collections and distribution rates as reported by the Florida Department of Revenue's Office of Tax Research.
Municipal fuel tax distributions are not included.
Fuel tax revenues projected decline 1% per year from the base assumption over time to account for declining fuel consumption trends.

(3) Impact Fees revenues based on 2010-2040 household and employment forecasts, using current fee rates.

(4) Includes County share of revenue collections only.

(5) Assumes that one-third of MSTU revenue is devoted to road operations and maintenance.

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APPENDIX TABLE A-2: SUMTER COUNTY PROJECTED REVENUES, 2019-2040

PROJECTED REVENUES BY PLANNING PERIOD (in Millions of YOE Dollars)						
	2019-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
STATE/FEDERAL REVENUES (1)						
SIS Highways/FIHS Constr/ROW	n/a	n/a	n/a	n/a	n/a	n/a
Other Arterial Constr/ROW	$33.9	$75.6	$71.5	$78.2	$78.2	$337.4
Transit	$16.5	$42.5	$44.7	$46.9	$46.9	$197.4
TMA Funds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
TOTAL State/Federal Capacity	**$50.4**	**$118.1**	**$116.2**	**$125.1**	**$125.1**	**$534.8**
TALL (<200k pop., districtwide funds)	$1.7	$4.2	$4.2	$4.2	$4.2	$18.4
TALT (districtwide funds)	$10.3	$25.8	$25.8	$25.8	$25.8	$113.6
TRIP Funds (districtwide)	$1.4	$10.0	$10.0	$10.0	$10.0	$41.5
New Starts Funds (statewide)	$63.0	$174.0	$174.0	$174.5	$174.5	$760.0
LOCAL REVENUES (2)						
Impact Fees (capacity) (3)	$17.4	$43.5	$43.5	$43.5	$43.5	$191.4
Constitutional Fuel (debt committed)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Constitutional Fuel (ops/mtc committed)	$11.1	$14.3	$18.4	$23.6	$71.2	$138.6
County Fuel (ops/mtc committed)	$1.6	$4.8	$6.2	$7.9	$10.1	$30.6
Ninth Cent (ops/mtc committed)	$2.6	$7.9	$10.3	$13.1	$16.4	$50.4
Local Option Fuel (debt committed)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Local Option Fuel (ops/mtc) (4)	$12.8	$39.1	$51.0	$64.9	$81.2	$248.9
Sales Surtax for Infrastructure (capacity) (4)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Subtotal Local Capacity	*$17.4*	*$43.5*	*$43.5*	*$43.5*	*$43.5*	*$191.4*
Subtotal Local Operations & Maintenance	*$28.1*	*$66.1*	*$85.9*	*$109.5*	*$178.9*	*$468.5*
Subtotal Debt	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*
Transit Agency Local Capital	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Transit Agency Local Operating	$1.2	$3.3	$4.5	$6.1	$8.0	$23.0
TOTAL Local Capacity	**$17.4**	**$43.5**	**$43.5**	**$43.5**	**$43.5**	**$191.4**
TOTAL Local Ops & Mtc	**$29.3**	**$69.4**	**$90.4**	**$115.6**	**$186.9**	**$491.5**
TOTAL Local Revenues	**$46.7**	**$112.9**	**$133.9**	**$159.1**	**$230.4**	**$682.9**

Notes:

(1) State/Federal Revenues from August 1, 2013 *Supplement to the 2040 Revenue Forecast Handbook, 2040 Revenue Forecast for Lake-Sumter Metropolitan Area.* Totals may not sum perfectly due to rounding. Revenues for SIS Highways are already programmed.

(2) Fuel tax collections and distribution rates as reported by the Florida Department of Revenue's Office of Tax Research.
Municipal fuel tax distributions are not included.
Fuel tax revenues projected decline 1% per year from the base assumption over time to account for declining fuel consumption trends.

(3) Impact Fees revenues based on 2010-2040 household and employment forecasts, using current fee rates.

(4) Includes County share of revenue collections only.

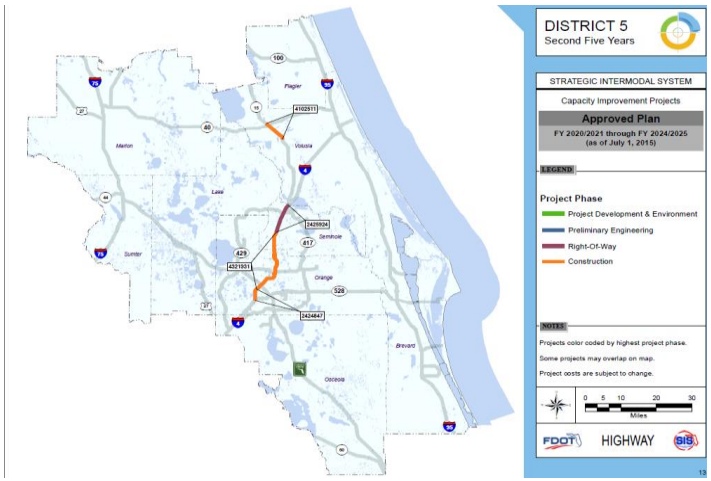
LAKE~SUMTER MPO - COST FEASIBLE PROJECTS

TABLE 1 - STATE PROJECTS (STRATEGIC INTERMODAL SYSTEM / FLORIDA'S TURNPIKE / CENTRAL FLORIDA EXPRESSWAY AUTHORITY)

Facility	From	To		Project	Current Year Cost Estimates		Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
I-75 & CR 514	NEW INTERCHANGE		SIS	NEW INTERCHANGE	$	58.2					
US 27/SR 25	CR 561 SOUTH	FLORIDA'S TURNPIKE NORTHERN RAMPS	SIS	WIDEN ROAD (4 TO 6 LANES)	$	50.9					
US27 & SR19	INTERCHANGE		SIS	IMPROVEMENTS	$	29.1					
SR 91/FLORIDA'S TURNPIKE & US 301	INTERCHANGE		FLORIDA'S TURNPIKE	IMPROVEMENTS	$	29.1					
SR 91/FLORIDA'S TURNPIKE	MINNEOLA INTERCHANGE	ORANGE COUNTY LINE	SIS	WIDEN ROAD (4 TO 8 LANES)	$	100.9					
SR 91/FLORIDA'S TURNPIKE	SUMTER COUNTY LINE	MINNEOLA INTERCHANGE	SIS	WIDEN ROAD (4 TO 8 LANES)	$	315.2					
SR 91/FLORIDA'S TURNPIKE	LAKE COUNTY LINE	US 301	SIS	WIDEN ROAD (4 TO 8 LANES)	$	128.5					
SR 91/FLORIDA'S TURNPIKE	US 301	I-75	SIS	WIDEN ROAD (4 TO 6 LANES)	$	34.0					
CENTRAL FLORIDA EXPRESSWAY AUTHORITY					$	-					

TABLE WILL BE COMPLETED UPON ADOPTION OF FDOT SIS / TURNPIKE AND CFX PLANS

TOTAL COST ESTIMATE **$ 745.90** **$ -**



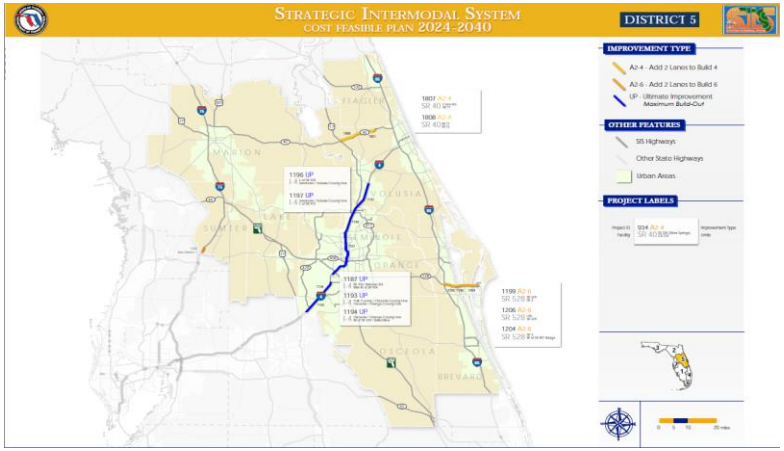


Table 2 - Other Arterial (State / Federal Funds)

Facility	From	To	County	Project	Current Year Cost Estimates	Year of Expenditure Cost Estimates	Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
US 301 & C-472	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	$ 2.1	$ 2.4	PD&E	PE / ROW / CST	-	-	-
SR 44	ORANGE AVENUE	US 441	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 18.5	$ 22.2	PD&E / PE / ROW	CST	-	-	-
SR 50/SR 33	CR 565 (VILLA CITY ROAD)	BROWN STREET	LAKE	NEW 4 LANE ROAD	$ 33.8	$ 41.7	PD&E / PE	ROW	CST	-	-
US 301/SR 35	SR 44	C-470 W	SUMTER	WIDEN ROAD (2 TO 4 LANES)	$ 51.1	$ 87.3	PD&E / PE	ROW	-	CST	-
US 301 & CR 525E	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	$ 1.9	$ 2.2	PD&E / ROW	PE / CST	-	-	-
US 441	SR 44	SR 46	LAKE	WIDEN ROAD (4 TO 6 LANES)	$ 14.6	$ 20.7	PD&E / PE	ROW	CST	-	-
C-470	TURNPIKE WEST RAMPS	CR 527	SUMTER	WIDEN ROAD (2 TO 4 LANES)	$ 45.5	$ 76.8	PD&E	PE / ROW / CST	-	CST	-
CR 470	TP WEST RAMPS	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 18.4	$ 26.9	PD&E / ROW	ROW	CST	-	-
SR 44 & US 27	INTERSECTION	0	LAKE	UPGRADE INTERSECTION	$ 2.1	$ 2.5	PD&E / PE / ROW	CST	-	-	-
US 441/SR 500	PERKINS STREET	SR 44	LAKE	WIDEN ROAD (4 TO 6 LANES)	$ 8.7	$ 16.1	PD&E / PE / ROW	-	-	CST	-
CR 48	EAST OF US 27 (PALATLAKAHA BRIDGE)	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 6.3	$ 1.3	PD&E / PE	-	ROW	-	CST
SR 19	CR 561	CR 48	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 41.7	$ -	PD&E / PE	-	-	-	ROW / CST
SR 50	HERNANDO CO	CR 33	SUMTER	CORRIDOR IMPROVEMENT	$ 33.7	$ -	None	-	-	-	PD&E / PE / ROW / CST
LAKE ORANGE PARKWAY	US 27	ORANGE COUNTY LINE	LAKE	NEW 4 LANE ROAD	$ 85.5	$ -	None	-	-	-	PD & E / PE / ROW / CST
SR 44	SR 44 & ORANGE AVENUE	CR 46A	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 8.1	$ -	None	-	-	-	PD & E / PE / ROW / CST
SR 19	SR 50	CR 455	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 62.5	$ -	None	-	-	-	PD & E / PE / ROW / CST
				Total	**$ 202.75**	**$ 300.16**	(PROJECTS THAT ARE COST FEASIBLE BY 2040)				
				Other Arterial Funds		**$ 303.50**					
				Balance (+ / -)		**$ 3.34**					

TABLE 3 - MPO AREA ALTERNATIVE TRANSPORTATION STRATEGIES

Program						Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
REGIONAL TRAILS PROGRAM						Boxed Funds - Prioritized Annually in the MPOs List of Priority Projects				
COMPLETE STREETS AND SIDEWALKS PROGRAM										
SAFE SCHOOLS EMPHASIS PROGRAM										
TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS PROGRAM										
INTELIGENT TRANSPORTATION SYSTEMS PROGRAM										
SIDEWALK PROGRAM										

TABLE 4 - MPO AREA TRANSIT (FEDERAL FUNDS)

Facility				Project			Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
LAKE~SUMTER TRANSIT DEVELOPMENT PLAN							Adopted Lake~Sumter TDP				

TABLE 5 - LAKE COUNTY LOCAL / IMPACT FEE /DEVELOPER FUNDED

Facility				Project	Total Needs Cost Estimate		Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
LAKE COUNTY				LOCAL PROJECTS	$ 282.90		Local / Developer Funded				
LAKE COUNTY BRIDGES				LOCAL PROJECTS	$ 6.00						
				TOTAL (COST ESTIMATE)	**$ 288.90**						

TABLE 6 - SUMTER COUNTY LOCAL / IMPACT FEE / DEVELOPER FUNDED

Facility				Project	Total Needs Cost Estimate		Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
SUMTER COUNTY				LOCAL PROJECTS	$ 113.70		Local / Developer Funded				
SUMTER COUNTY BRIDGES				LOCAL PROJECTS	$ 5.00						
				TOTAL (COST ESTIMATE)	**$ 118.70**						

Lake~Sumter MPO - Cost Feasible Projects

Table 1- State Projects (SIS / Turnpike / CFX)

Facility	From	To		Project	Current Year Cost Estimates PD&E (Millions)	PE (Millions)	ROW Cost (Millions)	Construction Cost (Millions)	Total	Year of Expenditure (YOE) 2021 - 2025 PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2026 - 2030 PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2031 - 2040 PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2041+ Unfunded
				Inflation rates						1.20	1.20	1.00	1.20	1.30	1.30	1.50	1.50	1.50	1.50	1.50	1.85	2.2
I-75 & CR 514	NEW INTERCHANGE	0	SIS	NEW INTERCHANGE	$ 4.50	$ 2.20	$ 6.70	$ 44.80	$ 58.20	$ 5.40	$ 2.64	$ 6.70	$ 53.76									
US 27/SR 25	CR 561 SOUTH	FLORIDA'S TURNPIKE NORTHERN RAMPS	SIS	WIDEN ROAD (4 TO 6 LANES)	$ 3.90	$ 2.00	$ 5.90	$ 39.10	$ 50.90	$ 4.68	$ 2.40	$ 5.90	$ 46.92									
US27 & SR19	INTERCHANGE	0	SIS	IMPROVEMENTS	$ 2.20	$ 1.10	$ 3.40	$ 22.40	$ 29.10	$ 2.64	$ 1.32	$ 3.40	$ 26.88									
SR 91/FLORIDA'S TURNPIKE & US 301	INTERCHANGE	0	Florida Turnpike	IMPROVEMENTS	$ 2.20	$ 1.10	$ 3.40	$ 22.40	$ 29.10	$ 2.64	$ 1.32	$ 3.40	$ 26.88									
SR 91/FLORIDA'S TURNPIKE	MINNEOLA INTERCHANGE	ORANGE COUNTY LINE	SIS	WIDEN ROAD (4 TO 8 LANES)	$ 7.80	$ 3.90	$ 11.60	$ 77.60	$ 100.90	$ 9.36	$ 4.68	$ 11.60	$ 77.60									
SR 91/FLORIDA'S TURNPIKE	SUMTER COUNTY LINE	MINNEOLA INTERCHANGE	SIS	WIDEN ROAD (4 TO 8 LANES)	$ 24.20	$ 12.10	$ 36.40	$ 242.50	$ 315.20	$ 29.04	$ 14.52	$ 36.40	$ 291.00									
SR 91/FLORIDA'S TURNPIKE	LAKE COUNTY LINE	US 301	SIS	WIDEN ROAD (4 TO 8 LANES)	$ 9.90	$ 4.90	$ 14.80	$ 98.90	$ 128.50	$ 11.88	$ 5.88	$ 14.80	$ 118.68									
SR 91/FLORIDA'S TURNPIKE	US 301	I-75	SIS	WIDEN ROAD (4 TO 6 LANES)	$ 2.60	$ 1.30	$ 3.90	$ 26.20	$ 34.00	$ 3.12	$ 1.56	$ 3.90	$ 31.44									
CENTRAL FLORIDA EXPRESSWAY AUTHORITY					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -									
				Total	$ 57.30	$ 28.60	$ 86.10	$ 573.90	$ 745.90				$ 68.50				$ -				$ -	**$ 68.50** $ -
				SIS Revenues									$ -				$ -				$ -	**$ -**
				Balance (+ / -)									**$ (68.50)**				**$ (68.50)**				**$ (68.50)**	**$ (68.50)**

ADOPT FDOT SIS / TURNPIKE AND CFX PLANS

Table 2 - Other Arterial (State / Federal Funds)

Facility	From	To	County	Project	Current Year Cost Estimates PD&E (Millions)	PE (Millions)	ROW Cost (Millions)	Construction Cost (Millions)	Total	Year of Expenditure (YOE) 2021 - 2025 PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2026 - 2030 PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2031 - 2040 PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2041+ Unfunded	
				Inflation rates						1.20	1.20	1.00	1.20	1.30	1.30	1.25	1.50	1.50	1.50	1.50	1.85	2.2	
US 301 & C-472	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	$ -	$ 0.1	$ 0.2	$ 1.8	$ 2.1	$ -	$ 0.12	$ 0.20	$ 2.10	W / CST									
SR 44	ORANGE AVENUE	US 441	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ -	$ -	$ -	$ 18.5	$ 18.5	$ -	$ -	$ -	$ 22.20	T									
SR 50/SR 33	CR 565 (VILLA CITY ROAD)	BROWN STREET	LAKE	NEW 4 LANE ROAD	$ -	$ -	$ 18.1	$ 15.7	$ 33.8	$ -	$ -	$ 18.10	$ -	$ -	$ -	$ -	$ 23.55	ST					
US 301/SR 35	SR 44	C-470 W	SUMTER	WIDEN ROAD (2 TO 4 LANES)	$ -	$ -	$ 8.5	$ 42.6	$ 51.1	$ -	$ -	$ 8.52	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 78.79	CST		
US 301 & CR 525E	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	$ -	$ 0.1	$ -	$ 1.8	$ 1.9	$ -	$ 0.12	$ -	$ 2.10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
US 441	SR 44	SR 46	LAKE	WIDEN ROAD (4 TO 6 LANES)	$ -	$ -	$ 2.2	$ 12.4	$ 14.6	$ -	$ -	$ 2.20	$ -	$ -	$ -	$ -	$ 18.54	S	$ -	$ -	$ -	$ -		
C-470	TURNPIKE WEST RAMPS	CR 527	SUMTER	WIDEN ROAD (2 TO 4 LANES)	$ -	$ 5.0	$ 4.7	$ 35.7	$ 45.5	$ -	$ 6.00	$ 4.72	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 66.11	CST		
CR 470	TP WEST RAMPS	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ -	$ -	$ 1.4	$ 17.0	$ 18.4	ROW		$ 1.36	R	$ -	$ -	$ -	$ 25.55	S	$ -	$ -	$ -	$ -		
SR 44 & US 27	INTERSECTION	0	LAKE	UPGRADE INTERSECTION	$ -	$ 0.1	$ 0.2	$ 1.8	$ 2.1	/ ROW			$ 2.46	T				$ -	$ -	$ -	$ -		
US 441/SR 500	PERKINS STREET	SR 44	LAKE	WIDEN ROAD (4 TO 6 LANES)	$ -	$ -	$ -	$ 8.7	$ 8.7	/ ROW								$ -	$ -	$ -	$ 16.10	CST		
CR 48	OF US 27 (PALATLAKAHA BF	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ -	$ -	$ 1.0	$ 5.2	$ 6.3	PE						$ 1.31		RO	$ -	$ -		$ -		$ 11.49	CST
SR 19	CR 561	CR 48	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ -	$ -	$ 15.5	$ 26.2	$ 41.7	PE								$ -	$ -	$ -	$ -			$ 91.79	ROW / CST
SR 50	HERNANDO CO	CR 33	SUMTER	CORRIDOR IMPROVEMENT	$ 2.1	$ 1.1	$ 5.1	$ 25.4	$ 33.7	E														$ 74.05	PD&E / PE / ROW / CST
LAKE ORANGE PARKWAY	US 27	ORANGE COUNTY LIN	LAKE	NEW 4 LANE ROAD	$ 3.0	$ 1.5	$ 13.5	$ 67.5	$ 85.5	E														$ 188.10	PD & E / PE / ROW / CST
SR 44	SR 44 & ORANGE AVENUE	CR 46A	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 0.5	$ 0.3	$ 1.2	$ 6.1	$ 8.1	E														$ 17.86	PD & E / PE / ROW / CST
SR 19	SR 50	CR 455	LAKE	WIDEN ROAD (2 TO 4 LANES)	$ 3.8	$ 2.3	$ 9.4	$ 46.9	$ 62.5	E														$ 137.44	PD & E / PE / ROW / CST
				Total	$ -	$ 0.10	$ 26.82	$ 78.54	$ 105.46				$ 70.21				$ 68.95				$ 161.00	**$ 300.00**	$ 520.73		
				Other Arterial Funds									$ 75.60				$ 71.50				$ 156.40	**$ 303.50**			
				Balance (+ / -)									**$ 5.39**				**$ 7.94**				**$ 3.34**	**$ 3.34**			

Table 3 - MPO Area - Transportation Alternatives (Federal Funds)

Facility	From	To	County	Project	Current Year Cost Estimates				Total	Year of Expenditure (YOE) 2021 - 2025		Annual	5 Year Total	Year of Expenditure (YOE) 2026 - 2030				Year of Expenditure (YOE) 2031 - 2040				Year of Expenditure (YOE) 2041+ Unfunded	
				Inflation rates																		2.2	
Regional Trails Program									25%			$ 0.21	$ 1.05			$ 0.21	$ 1.05			$ 0.21	$ 2.10		
Complete Streets / Sidewalks Program									25%			$ 0.21	$ 1.05			$ 0.21	$ 1.05			$ 0.21	$ 2.10		
Safe Scools Emphasis Program									25%			$ 0.21	$ 1.05			$ 0.21	$ 1.05			$ 0.21	$ 2.10		
Management / Operations Program									25%			$ 0.21	$ 1.05			$ 0.21	$ 1.05			$ 0.21	$ 2.10		
				Total	$ -	$ -	$ -	$ -	$ 1.00				$ 4.20				$ 4.20				$ 8.40	**$ 16.80**	$ -		
				Transportation Alternatives									$ 4.20				$ 4.20				$ 8.40	**$ 16.80**			
				Balance (+ / -)									**$ -**				**$ -**				**$ -**	**$ -**			

Lake~Sumter MPO - Cost Feasible Projects

Table 4 - MPO Area - Transit (Federal Funds)

Facility	From	To	County	Project	Current Year Cost Estimates: Cost (Annual)	Current Year Cost Estimates: Cost (5 years)	Year of Expenditure (YOE) 2021 - 2025: Operations	Year of Expenditure (YOE) 2026 - 2030: Operations	Year of Expenditure (YOE) 2031 - 2040: Operations		Year of Expenditure (YOE) 2041+: Unfunded
Lake ~ Sumter Transit Development Plan											
Total	$ -	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
										$ -	
Balance (+ / -)							**$ -**	**$ -**	**$ -**	**$ -**	

NO ADDITIONAL FUNDING FOR NEW SERVICE

Table 5 - MPO Area - Impact Fee / SurTax (Local Funds)

Facility	From	To	Type	Project	Current Year Cost Estimates: PD&E (Millions)	PE (Millions)	ROW Cost (Millions)	Construction Cost (Millions)	Construction Cost (Millions)	Year of Expenditure (YOE) 2021 - 2025: PD&E (1.2)	PE (1.2)	ROW (1.0)	CST (1.2)	Year of Expenditure (YOE) 2026 - 2030: PD&E (1.3)	PE (1.3)	ROW (1.5)	CST (1.5)	Year of Expenditure (YOE) 2031 - 2040: PD&E (1.5)	PE (1.5)	ROW (1.5)	CST (1.9)		Year of Expenditure (YOE) 2041+: Unfunded (2.2)
Lake County				Local Projects	$ 21.70	$ 10.80	$ 32.70	$ 217.70	$ 282.90	$ 0.78	$ 0.39	$ 0.98	$ 7.84	$ 0.71	$ 0.35	$ 1.23	$ 8.16	$ 1.46	$ 0.73	$ 2.21	$ 18.12	$ 42.96	$ 560.14
Lake County Bridges				Local Projects				$ 360.00	$ 360.00				$ 12.96				$ 13.50				$ 29.97		$ 712.80
				Local Revinue Percentage									3.0%				2.5%				4.5%		90%
Total	$ -	$ -	$ -	$ -	$ -								$ 22.95				$ 23.95				$ 52.49	**$ 99.39**	$ -
Lake County Local Funds													$ 28.50				$ 28.50				$ 57.00	**$ 114.00**	
Balance (+ / -)													**$ 5.6**				**$ 4.6**				**$ 4.5**	**$ 4.51**	

Table 6 -Sumter County - Impact Fee / Devel

Facility	From	To	Type	Project	Current Year Cost Estimates: PD&E (Millions)	PE (Millions)	ROW Cost (Millions)	Construction Cost (Millions)	Construction Cost (Millions)	Year of Expenditure (YOE) 2021 - 2025: PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2026 - 2030: PD&E	PE	ROW	CST	Year of Expenditure (YOE) 2031 - 2040: PD&E	PE	ROW	CST		Year of Expenditure (YOE) 2041+: Unfunded
Sumter County				Local Projects	$ 8.80	$ 4.20	$ 13.20	$ 87.50	$ 113.70	$ 0.84	$ 0.40	$ 1.06	$ 8.40	$ 0.80	$ 0.38	$ 1.39	$ 9.19	$ 1.45	$ 0.69	$ 2.18	$ 17.81		$ 185.10
Sumter County Bridges				Local Projects				$ 5.00	$ 5.00				$ 0.48				$ 0.53				$ 1.02		$ 8.14
				Local Revinue Percentage									8.0%				7.0%				11.0%		74%
Total	$ 30.50	$ 15.00	$ 45.90	$ 665.20	$ 756.60								$ 11.18				$ 12.28				$ 23.15	**$ 46.61**	$ 562.34
Sumter County Local Funds													$ 43.50				$ 43.50				$ 87.00	**$ 174.00**	
Balance (+ / -)													**$ 32.3**				**$ 31.2**				**$ 63.9**	**$ 63.85**	

PROJECT	FROM	TO					Length	DESCRIPTION	Construction Per Mile/Unit	Total Construction	10% PD&E	5% PE	15% ROW	Total Cost
State Strategic Intermodal System (SIS) Corridors										**Total Construction**	**PD&E**	**PE**	**ROW**	**Total Cost**
I-75 & CR 514	NEW INTERCHANGE				Dev	SUMTER	1.00	NEW INTERCHANGE	$44,768,983.00	$44.80	$4.50	$2.20	$6.70	$58.20
US 27/SR 25	CR 561 SOUTH	FLORIDA'S TURNPIKE NORTHERN RAMPS		x		LAKE	9.49	WIDEN ROAD (4 TO 6 LANES)	$4,121,486.69	$39.10	$3.90	$2.00	$5.90	$50.90
US27 & SR19	INTERCHANGE					LAKE	1.00	IMPROVEMENTS	$22,384,491.50	$22.40	$2.20	$1.10	$3.40	$29.10
Florida's Turnpike Enterprise										**Total Construction**	**PD&E**	**PE**	**ROW**	**Total Cost**
SR 91/FLORIDA'S TURNPIKE & US 301	INTERCHANGE					SUMTER	1.00	IMPROVEMENTS	$22,384,491.50	$22.40	$2.20	$1.10	$3.40	$29.10
SR 91/FLORIDA'S TURNPIKE	MINNEOLA INTERCHANGE	ORANGE COUNTY LINE	x	x		LAKE	5.76	WIDEN ROAD (4 TO 8 LANES)	$13,468,502.36	$77.60	$7.80	$3.90	$11.60	$100.90
SR 91/FLORIDA'S TURNPIKE	SUMTER COUNTY LINE	MINNEOLA INTERCHANGE	x	x		LAKE	18.00	WIDEN ROAD (4 TO 8 LANES)	$13,468,502.36	$242.50	$24.20	$12.10	$36.40	$315.20
SR 91/FLORIDA'S TURNPIKE	LAKE COUNTY LINE	US 301				SUMTER	7.34	WIDEN ROAD (4 TO 8 LANES)	$13,468,502.36	$98.90	$9.90	$4.90	$14.80	$128.50
SR 91/FLORIDA'S TURNPIKE	US 301	I-75	x	x		SUMTER	3.89	WIDEN ROAD (4 TO 6 LANES)	$6,734,251.18	$26.20	$2.60	$1.30	$3.90	$34.00
CENTRAL FLORIDA EXPRESSWAY AUTHORITY										**Total Construction**	**PD&E**	**PE**	**ROW**	**Total Cost**
State Roads / Other Arterials										**Total Construction**	**PD&E**	**PE**	**ROW**	**Total Cost**
US 301 & C-472	INTERSECTION					SUMTER	1.00	SIGNAL/INTERSECTION IMPROVEMENTS	$1,461,078.00	$1.75	$0.00	$0.10	$0.20	$2.05
SR 44	ORANGE AVENUE	US 441	x	x	CF	LAKE	1.66	WIDEN ROAD (2 TO 4 LANES)	$4,121,486.69	$18.50	$0.00	$0.00	$0.00	$18.50
SR 50/SR 33	CR 565 (VILLA CITY ROAD)	BROWN STREET		x	CF	LAKE	1.89	NEW 4 LANE ROAD	$6,402,060.84	$15.70	$0.00	$0.00	$18.10	$33.80
US 301/SR 35	SR 44	C-470 W	x	x	CF	SUMTER	7.75	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$42.59	$0.00	$0.00	$8.52	$51.11
US 301 & CR 525E	INTERSECTION					SUMTER	1.00	SIGNAL/INTERSECTION IMPROVEMENTS	$1,461,078.00	$1.75	$0.00	$0.10	$0.00	$1.85
US 441	SR 44	SR 46	x	x	CF	LAKE	2.50	WIDEN ROAD (4 TO 6 LANES)	$4,121,486.69	$12.36	$0.00	$0.00	$2.20	$14.56
C-470	TURNPIKE WEST RAMPS	CR 527		x	CF	SUMTER	9.85	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$35.74	$0.00	$5.00	$4.72	$45.45
CR 470	TP WEST RAMPS	CR 33	x	x	CF	LAKE	3.10	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$17.04	$0.00	$0.00	$1.36	$18.40
SR 44 & US 27	INTERSECTION			x	CF	LAKE	1.00	UPGRADE INTERSECTION	$1,461,078.00	$1.75	$0.00	$0.10	$0.20	$2.05
US 441/SR 500	PERKINS STREET	SR 44	x	x	CF	LAKE	1.36	WIDEN ROAD (4 TO 6 LANES)	$4,121,486.69	$8.70	$0.00	$0.00	$0.00	$8.70
CR 48	EAST OF US 27 (PALATLAKAHA BRIDGE)	CR 33		x	CF	LAKE	1.14	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$5.22	$0.00	$0.00	$1.04	$6.26
SR 19	CR 561	CR 48	x	x	CF	LAKE	4.77	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$26.22	$0.00	$0.00	$15.50	$41.72
SR 50	HERNANDO CO	CR 33				SUMTER	14.50	CORRIDOR IMPROVEMENT	$1,461,078.00	$25.42	$2.10	$1.05	$5.08	$33.66
LAKE ORANGE PARKWAY	US 27	ORANGE COUNTY LINE	x	x		LAKE	4.70	NEW 4 LANE ROAD	$6,402,060.84	$67.50	$3.00	$1.50	$13.50	$85.50
SR 44	SR 44 & ORANGE AVENUE	CR 46A				LAKE	1.11	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$6.10	$0.50	$0.30	$1.22	$8.12
SR 19	SR 50	CR 455				LAKE	8.54	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$46.93	$3.85	$2.31	$9.39	$62.47
** Developer funding percentage of total cost (Local funding is 50% or less)*														

*** The Wekiva Parkway funding is comprised of $931,626,811.00 through FDOT, $165,086,662.00 through Florida's Turnpike Enterprise, $305,547,000.00 through CFX, and $193,695,000.00 through Transportation Infrastructure Finance and Innovation (TIFIA) Act funds (to CFX) as detailed in TRANSPORTATION 2035s Plan Technical Support Documentation, Financial Resources and Developer Funding - Wekiva Parkway Financing Plan*

Non-State Roads / Other Arterials														
SUMTER COUNTY (LOCALLY FUNDED)														
										Total Construction	PD&E	PE	ROW	Total Cost
C-468	US 301	CR 505	x	x	CF	SUMTER	3.10	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$14.20	$1.40	$0.70	$2.10	$18.40
C-466	C-475	US 301/SR 35	x	x		SUMTER	4.45	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$20.40	$2.00	$1.00	$3.10	$26.50
C-501	C-468	C-470		x		SUMTER	3.18	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$14.60	$1.50	$0.70	$2.20	$19.00
CR 525E	CR 525	CR 514				SUMTER	1.00	NEW ROAD (COLEMAN ATR)	$6,402,060.84	$6.40	$0.60	$0.30	$1.00	$8.30
CR 525E	US 301	CR 525				SUMTER	0.40	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$1.80	$0.20	$0.10	$0.30	$2.40
CR 219	SR 44	CR 44A				SUMTER	1.18	IMPROVED 2 LANES	$482,833.28	$0.60	$0.10	$0.00	$0.10	$0.80
C-472	CR 117	US 301				SUMTER	0.75	UPGRADE TO URBAN TYPICAL SECTION	$2,797,415.78	$2.10	$0.20	$0.10	$0.30	$2.70
C-462	US 301	C-462				SUMTER	1.08	REALIGNMENT	$4,266,105.41	$4.60	$0.50	$0.20	$0.70	$6.00
C-475	CR 542	C-470 W	x	x	CF	SUMTER	4.97	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$22.80	$2.30	$1.10	$3.40	$29.60
SUMTER COUNTY BRIDGE (LOCALLY FUNDED)														
										Total Construction	PD&E	PE	ROW	Total Cost
CR 48 WITHLACOOCHEE RIVER BRG	BRIDGE ID #184006					SUMTER		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
CR 48 JUMPER CREEK BRG	BRIDGE ID# 184008					SUMTER		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
C-470 LAKE PANASOFFKEE OUTLET BRIDGE	BRIDGE ID# 184054					SUMTER		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
C-476 BRIDGE OVER THE WITHLACHOOEE	BRIDGE ID# 184019					SUMTER		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
C-575 BRIDGE OVER SPRING RUN	BRIDGE ID# 184052					SUMTER		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
LAKE COUNTY (LOCALLY FUNDED)										**Total Construction**	**PD&E**	**PE**	**ROW**	**Total Cost**
CR 466A	TIMBER TOP	SUNNY COURT	x	x	CF	LAKE	3.69	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$16.90	$1.70	$0.80	$2.50	$21.90
CITRUS GROVE ROAD	US 27	N HANCOCK RD		x	CF	LAKE	2.00	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$9.20	$0.90	$0.50	$1.40	$12.00
HARTLE ROAD	SR 50	HARTWOOD MARSH ROAD		x		LAKE	2.29	NEW 4 LANE ROAD	$6,402,060.84	$14.70	$1.50	$0.70	$2.20	$19.10
HARTWOOD MARSH ROAD	US 27	HARTLE ROAD (FUTURE)		x	CF	LAKE	3.17	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$14.50	$1.50	$0.70	$2.20	$18.90
ROLLING ACRES ROAD	US 27/US 441	CR 466	x	x	CF	LAKE	1.28	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$5.90	$0.60	$0.30	$0.90	$7.70
CR 561 & CR 561A REALIGNMENT	N HANCOCK ROAD	CR 561	x	x	CF	LAKE	1.29	NEW 4 LANE ROAD	$6,402,060.84	$8.30	$0.80	$0.40	$1.20	$10.70
CR 561	SR 19	CR 448	x	x	CF	LAKE	1.62	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$7.40	$0.70	$0.40	$1.10	$9.60
SCRUB JAY ROAD	CITRUS GROVE ROAD	CR 561A				LAKE	1.61	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$7.40	$0.70	$0.40	$1.10	$9.60
FOSGATE RD	US 27/SR 25	N GRASSY LAKE RD				LAKE	0.75	NEW4 LANE ROAD	$6,402,060.84	$4.80	$0.50	$0.20	$0.70	$6.20
CR 19A	US 441	CR 44C	x	x	CF	LAKE	1.22	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$5.60	$0.60	$0.30	$0.80	$7.30
HOOKS STREET	HANCOCK ROAD	HARTLE ROAD		x	CF	LAKE	1.43	NEW 4 LANE ROAD	$6,402,060.84	$9.20	$0.90	$0.50	$1.40	$12.00
ROUND LAKE ROAD EXTENSION	WOLF BRANCH ROAD	SR 44	x	x	CF	LAKE	2.57	NEW 4 LANE ROAD	$6,402,060.84	$16.40	$1.60	$0.80	$2.50	$21.30
ROUND LAKE ROAD	SR 46	SR 44	x	x	CF	LAKE	3.57	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$16.30	$1.60	$0.80	$2.50	$21.20
SAWGRASS BAY BOULEVARD EXTENSION	US 27	ORANGE COUNTY LINE	x			LAKE	4.60	NEW 4 LANE ROAD	$6,402,060.84	$29.40	$2.90	$1.50	$4.40	$38.20
CR 437 REALIGNMENT	CR 437	SR 46 & CR 437 N				LAKE	0.90	REALIGNMENT	$4,266,105.41	$3.80	$0.40	$0.20	$0.60	$5.00
CR 561A	N HANCOCK RD	CR 561				LAKE	1.89	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$8.70	$0.90	$0.40	$1.30	$11.30
CR 33	SR 50	SIMON BROWN ROAD				LAKE	2.38	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$10.90	$1.10	$0.50	$1.60	$14.10
CR 561 (LAKE MINNEOLA SHORES)	US 27/SR 25	CR 565A				LAKE	2.77	WIDEN ROAD (2 TO 3 LANES)	$2,289,813.63	$6.30	$0.60	$0.30	$1.00	$8.20
CR 561A	CR 455	CR 561				LAKE	3.18	WIDEN ROAD (2 TO 3 LANES)	$2,289,813.63	$7.30	$0.70	$0.40	$1.10	$9.50
CR 44	SR 19	US 441				LAKE	3.21	WIDEN ROAD (2 TO 4 LANES)	$4,579,627.25	$14.70	$1.50	$0.70	$2.20	$19.10
WOLF BRANCH INOVATION BLVD						LAKE	1.41	NEW 4 LANE ROAD	$4,579,627.25	$7.75	$1.55	$0.77	$1.55	$11.62
LAKE COUNTY BRIDGE (LOCALLY FUNDED)										**Total Construction**	**PD&E**	**PE**	**ROW**	**Total Cost**
CR 445	BRIDGE ID #14047					LAKE		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
CR OLD 441	BRIDGE ID #114089					LAKE		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
CR 48	BRIDGE ID#114023					LAKE		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
VILLA CITY ROAD	BRIDGE ID #114054					LAKE		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
BRIDGES ROAD	BRIDGE ID #114051					LAKE		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
LAKE MINNEOLA SHORES ROAD/CR 561	BRIDGE ID #114045					LAKE		REPLACE BRIDGE	$57,309,120.00	$0.00	$0.00	$0.00	$0.00	$1.00
TRANSIT													**Cost (Annual)**	**Cost (5 years)**
MINNEOLA/CLERMONT CIRCULATOR						LAKE			$500,000.00				$0.50	$2.50
ENHANCEMENT OF EXISTING TRANSIT SERVICE						LAKE			$1,000,000.00				$1.00	$5.00
LADY LAKE CIRCULATOR						LAKE			$2,000,000.00				$2.00	$10.00
GOLDEN TRIANGLE CIRCULATOR						LAKE			$1,500,000.00				$1.50	$7.50

LAKEXPRESS ROUTE 2 - INCREASE FREQUENCY						LAKE			$1,000,000.00	$1.00	$5.00
LAKEXPRESS ROUTE 4 - INCREASE FREQUENCY						LAKE			$1,000,000.00	$1.00	$5.00
LAKEXPRESS ITS INFRASTRUCTURE						LAKE			$1,500,000.00	$1.50	$7.50
LYNX LINK 44 VIA ROUTE 1 ENHANCED CONNECTION						LAKE			$1,500,000.00	$1.50	$7.50
MANAGEMENT & OPERATIONS/BICYCLE/PEDESTRIAN/TRAILS (TA FUND ELIGIBLE)											**Total Cost**
WILSON LAKE - CHERRY LAKE TRAIL						LAKE		NEW TRAIL	$231,278.63		$2.30
MONTVERDE/FERN PARK TRAIL						LAKE		NEW TRAIL	$231,278.63		$2.30
CAGAN'S CROSSING PEDESTRIAN OVERPASS						LAKE		PEDESTRIAN OVERPASS	$376.00		$0.00
ON ROAD CYCLING INFRASTRUCTURE						LAKE/SUMTER		IMPROVE BIKE LANES AND ROAD SHOULDERS	$274,015.00		$2.70
RAIL SAFETY IMPROVEMENTS						LAKE/SUMTER			$500,000.00		$5.00
PEDESTRIAN BRIDGE ACROSS US 27	AT LAKE LOUISA STATE PARK					LAKE		PEDESTRIAN OVERPASS	$376.00		$0.00
NORTH LAKE TRAIL	CR 450	SR 40	UM	NEW TRAIL		LAKE		NEW TRAIL	$231,278.63		$2.30
CR 561	LOG HOUSE/PINE ISLAND	LAKE HILL DR/ PINE RIDGE ELEMENTARY SCHOOL				LAKE		NEW SIDEWALK	$110,391.99		$1.10
CR 473	TREADWAY SCHOOL RD	CR 44				LAKE		NEW SIDEWALK	$110,391.99		$1.10
CR 561 (MONROE ST)	TENNESSEE AVE	CR 48/FLORIDA AVE				LAKE		NEW SIDEWALK	$110,391.99		$1.10
HANCOCK RD	BOND ST	LOST LAKE RD				LAKE		NEW SIDEWALK	$110,391.99		$1.10
RADIO RD	SILVER BLUFF	TREADWAY SCHOOL RD				LAKE		NEW SIDEWALK	$110,391.99		$1.10
HARTWOOD MARSH ROAD	HANCOCK RD	ORANGE COUNTY LINE				LAKE		NEW PAVED SHOULDER	$737,964.00		$7.40
CR 455	@ OLD 50					LAKE	1.00	INTERSECTION IMPROVEMENT/ SIGNAL/ TURN LANE	$1,507,606.00		$15.10
N HANCOCK ROAD	@ NORTH RIDGE BLVD		LC	INTERSECTION IMPROVEMENT/ SIGNAL/ TURN		LAKE	1.00	INTERSECTION IMPROVEMENT/ SIGNAL/ TURN LANE	$1,507,606.00		$15.10

Revenue Source	2016-20*	2021-25	2026-30	2031-40	25-Year Total
SIS Highways Construction/ROW	$ -	$ -	$ -	$ -	$ -
Other Arterial Construction/ROW	$ -	$ 75.60	$ 71.50	$ 156.40	$ 303.50
Transportation Alternatives	$ -	$ 4.20	$ 4.20	$ 8.40	$ 16.80
TMA Funds	$ -	$ -	$ -	$ -	$ -
Transit	$ -	$ 42.50	$ 44.70	$ 93.80	$ 181.00
TOTAL FEDERAL/STATE	**$ -**	**$ 445.70**	**$ 728.90**	**$ 279.30**	**$ 1,844.00**

Revenue Source	2016-20*	2021-25	2026-30	2031-35	25-Year Total
Impact Fees - Lake County	$ -	$ 28.50	$ 28.50	$ 57.00	$ 114.00
Impact Fees - Sumter County	$ -	$ 43.50	$ 43.50	$ 87.00	$ 174.00
Sales Surtax - Lake	$ -	$ -	$ -	$ -	$ -
Sales Surtax - Sumter	$ -	$ -	$ -	$ -	$ -
TOTAL LOCAL	**$ -**	**$ 72.00**	**$ 72.00**	**$ 144.00**	**$ 288.00**

Year of Expenditure	Inflation_CST	Inflation_PE_PDE
	1.033	**1.025**
Completed	N/A	N/A
Underway	N/A	N/A
Committed	N/A	N/A
2019-2020	1.140	1.160
2021-2025	1.270	1.219
2026-2030	1.500	1.379
2031-2040	1.910	1.561
Unfunded	2.270	1.854

Unfunded Year → **2040**

APPENDIX D:

PUBLIC INVOLVEMENT

1. TRANSPORTATION 2040 Public Involvement Plan

Lake~Sumter Metropolitan Planning Organization Public Involvement Plan

Prepared by the Lake~Sumter Metropolitan Planning Organization
1616 South 14th Street
Leesburg, FL 34748
352.315.0170/352.315.0993 (fax)
www.LakeSumterMPO.com

Adopted April 25, 2012
Amended January 28, 2015

FORWARD:

Representatives of Lake County and Sumter County governments, the 14 municipalities of Lake County, the five municipalities of Sumter County, the Florida Department of Transportation (FDOT)' Florida Central Railroad, Lake County Schools, Sumter District Schools and the U.S. Department of Transportation (USDOT) are involved in the transportation planning process facilitated by the Lake~Sumter Metropolitan Planning Organization (MPO). The MPO's purpose is to provide effective leadership in the initiation and development of transportation plans, programs and strategies.

As the governmental body most directly responsible for the guidance of the transportation planning process, the MPO strives to ensure that the recommendations are in keeping with the goals and standards of the Federal Government, the State, Lake County, Sumter County, and the 19 incorporated jurisdictions. The MPO functions include, but are not limited to, the preparation of the tasks required by state rule or by federal policy.

The MPO's major annual responsibilities are to perform the tasks of preparing the Unified Planning Work Program (UPWP), the Transportation Improvement Program (TIP), the annual List of Priority Projects (LOPP), Transportation Disadvantaged Service Plan (TDSP), and the annual MPO Audit Report. As with all transportation planning legislated by federal and state laws, the MPO is responsible for ensuring adequate representation of and compatibility among state, county, and municipal projects in the transportation planning process. This includes consideration of all modes of transportation with respect to various members of the public. For example, the MPO incorporates into its planning efforts the needs of the elderly and handicapped as outlined in the Americans with Disabilities Act.

As part of the MPO planning process, public involvement is given a major priority. Projects funded through public dollars are to be planned in a manner that encourages public participation and incorporates public comments into planning efforts. As a result, a responsibility is placed on MPOs to develop a plan where the opportunity for public involvement is assured. As part of that plan, a required element is the outlining of the means by which to measure the success of the public involvement activities. By strategizing public involvement techniques and then monitoring and measuring the effectiveness, better planning products emerge that genuinely capture the needs of the public.

Anyone wishing to contact the MPO with comments, questions or complaints, please contact Michael Woods, Transportation Planner at 352-315-0170 or mwoods@LakeSumterMPO.com.

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LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION

RESOLUTION 2015 - 1

RESOLUTION OF THE LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION ENDORSING AND APPROVING THE PUBLIC INVOLVEMENT PLAN UPDATE

WHEREAS, the Lake~Sumter Metropolitan Planning Organization (MPO) has been designated by the Governor of the State of Florida as the body responsible for the urban transportation planning process for the Lake-Sumter Urbanized Areas; and

WHEREAS, Florida Statutes 339.175; 23 U.S.C. 134; and 49 U.S.C. 5303 requires that the urbanized areas, as a condition of the receipt of federal capital or operating assistance, have a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs consistent with the comprehensively planned development of the urbanized area; and

WHEREAS, a Public Involvement Plan is defined as part of the transportation planning work program, which identifies the planning strategies and the planning activities to be undertaken by the Lake ~Sumter Metropolitan Planning Organization; and

WHEREAS, engaging the public in the decision-making process is important to the success of all of the MPO's transportation planning programs and activities, and the purpose of a Public Involvement Plan is to provide goals and guidelines to ensure that public participation is facilitated; and

WHEREAS, the Public Involvement Plan previously adopted April 25, 2012, is being updated with two substantive changes: clarifying language distinguishing between amendments and revisions; and an adjustment from 45 days to 21 days for public comment on MPO documents and agenda items, excluding the Public Involvement Plan which requires 45 days.

NOW, THEREFORE BE IT RESOLVED that the Lake~Sumter Metropolitan Planning Organization hereby endorses the Public Involvement Plan Update attached hereto and incorporated herein as Exhibit "A", and approves the new iteration of the Public Involvement Plan for the Lake-Sumter Planning Area.

PASSED AND ADOPTED this 28th day of January, 2015.

Lake~Sumter Metropolitan Planning Organization

Ray Goodgame, Chairman
This 28th day of January, 2015

Approved as to form and legality:

Erin Hunter for
Sanford A. Minkoff

OBJECTIVES OF THE PUBLIC INVOLVEMENT PLAN:

- To make readily available information on the activities of the MPO; to provide requested information to the public, government agencies and elected officials in a responsive and timely manner; and to increase public awareness of the MPO and its role in transportation.

- To increase public participation in the MPO planning process, especially from those segments of the population that are considered to be traditionally underserved; and to increase and enhance the levels of participation by the public in the planning process.

- To explore new and innovative means by which to engage the public on the transportation planning process; to utilize technologies to better communicate with the public; and to establish methods by which public input targets all demographic segments of the community.

- To establish goals and objectives for public involvement activities; to establish monitoring methods in order to analyze public involvement activities; and to establish measures by which the MPO may determine the effectiveness of public involvement activities.

PURPOSE OF THE PUBLIC INVOLVEMENT PLAN:

The MPO is a transportation policy-making board comprised of representatives from local government and transportation authorities. The MPO is responsible for establishing, according to federal and state laws, a continuing, cooperative and comprehensive transportation planning process for the Lake and Sumter areas.

The purpose of the MPO Public Involvement Plan (PIP) is to provide a process that ensures opportunities for the public to be involved in all phases of the MPO planning process. This is accomplished through the following means:

- Providing complete information about MPO activities
- Timely public notification
- Full access to key decisions
- Early and continued involvement in the development of transportation plans and programs
- Outreach programs to stakeholders
- Addressing Title VI provisions

Public Participation means participation in the planning process by people (public) outside the MPO staff, committees, and board members. Public therefore refers to general citizens of the MPO area, including low-income and minority populations, as well as citizens representing the complete spectrum of community demographics. Public Participation is an organized process of citizens taking part in the transportation planning and decision-making that affects the community. Determination of where and when the MPO meetings will be held is distributed between our established planning Task Force areas. (See maps in Appendix A) The

MPO efforts to secure participation will target individuals, groups, or entities that could significantly be affected by the transportation plan recommendations or could significantly influence implementation. Stakeholders include but are not limited to: the general public; low-income, minority and disabled communities; neighborhood representatives; chambers of commerce; special transportation interests such as freight shippers, transit users, bicycle and pedestrian organizations; local officials; and federal and state transportation agencies. The MPO supports the public's right to have a strong voice in the transportation planning process. Public involvement informs and educates the public about transportation planning and creates an informed community, which in turn leads to better planning. Public involvement also engages the public and encourages meaningful feedback to be incorporated into planning products.

Metropolitan planning organizations, such as Lake~Sumter MPO, are charged in federal law with developing five specific plans:

1) Long Range Transportation Plan (**LRTP**)
2) Transportation Improvement Program (**TIP**)
3) Unified Planning Work Program (**UPWP**)
4) Public Involvement Plan (**PIP**)
5) List of Priority Projects (**LOPP**)

TRANSPORTATION PLANNING REQUIREMENTS OF THE PUBLIC INVOLVEMENT PLAN

Long Range Transportation Plan:

The **LRTP** identifies transportation improvements necessary to maintain adequate mobility and to accommodate growth forecasted over the next 20 years. The current LRTP (Transportation 2035) includes projects through the year 2035. The process includes innovative technical modeling and continuous public input. Public involvement during development of the long range transportation plan is guided by an independent Public Involvement Plan, though strategies and tactics are coordinated with this document to ensure continuity.

As required by federal law, a formal public comment is held prior to board adoption, providing a formal avenue for public input. The official 21 day public comment period for Long Range Transportation Plan follows the same timeline as the Advisory Committee review, with a draft document available at least 21 days prior to board action. The deadline to submit a comment is included in legal advertisements and notification associated with the public comment period. This deadline is generally seven days prior to date board action is scheduled.

Public notification for the public comment period takes many forms (see Public Involvement Strategies). Public comment period notices are also sent to MPO's community database. Additionally, draft plan documents are available on MPO's website and in print at locations throughout the region and by request at least seven days prior to the public comment period.

Citizens unable to attend the public comment period or Governing Board meeting may submit written public comments to the MPO during the official public comment period in three additional ways: 1) via postal service, 2) via the Voice your Ideas form on the website www.lakesumtermpo.com/voice.aspx or 3) by emailing mwoods@LakeSumterMPO.com.

'Not Substantial' Amendments to the LRTP

Not substantial amendments may include minor changes to project phase costs, minor changes to funding sources of previously included projects and changes to project phase initiation dates. These types of revisions do not require public review and comment and re-demonstration of fiscal constraint.

Amendments to the LRTP deemed 'not substantial' are reviewed by the organization's advisory committees for input and recommendations prior to board adoption. In addition to the public comment periods provided at each committee meeting, opportunities for public input are also a standard part of every board meeting, prior to board action. The standard board agenda includes a public comment period prior to action items on the agenda. During the review process and following board adoption, the proposed amendment is electronically published on www.LakeSumterMPO.com.

'Substantial' Amendments to the LRTP

Substantial Amendments are revisions that may involve the addition or deletion of a major project or a major change in project cost or a major change in design concept or design scope (changing termini or the number of through traffic lanes, for example). Substantial amendments require public review and comment and re-demonstration of fiscal constraint.

The following actions are potential amendments:

- Adding or deleting a federally-funded or regionally significant project, including earmarks.
- Increasing or decreasing the cost of project phases in excess of the thresholds for administrative modifications established by the Florida Department of Transportation. (See Appendix C for "FDOT LRTP Amendment Thresholds")
- Making a major change to the scope of work to an existing project. A major change would be any change that alters the original intent (e.g. a change

in the number of lanes, a change in the project length more than 20%, or a change in location).

For amendments to the long range transportation plan deemed 'substantial,' Lake~Sumter MPO follows a similar public involvement process to the original adoption of the plan, including a formal 21 day public comment period after any required technical analysis and review by the organization's advisory committees for both input and recommendations prior to board adoption. Public notification of the public comment period for the amendment follows the approved advertisement process. During the review process and following board adoption, the proposed amendment is electronically published on www.LakeSumterMPO.com

Transportation Improvement Plan

The **TIP** is a five-year plan that assigns available funding to specific projects in the near future. The MPO develops this plan each year, which includes a period of review by the organization's advisory committees.

As required by federal law, a formal public comment period is held prior to board adoption, providing a formal avenue for public input. The official public comment period for Transportation Improvement Plan follows the same timeline as the Advisory Committee review, with a draft document available at least 21 days prior to board action. The deadline to submit a comment is included in legal advertisements and notification associated with the public comment period. This deadline is generally seven days prior to date board action is scheduled.

Public notification for the public comment period takes many forms (see Public Involvement Strategies section). Public comment period notices are also sent to MPO's community database. Additionally, draft plan documents are available on MPO's website and in print at locations throughout the region and by request at least seven days prior to the public comment period.

Citizens unable to attend the public comment period or Governing Board meeting may submit written public comments to the MPO during the official public comment

period in three additional ways: 1) via postal service, 2) via the Voice your Ideas form on the website www.lakesumtermpo.com/voice.aspx or 3) by emailing mwoods@LakeSumterMPO.com.

Once adopted, plan is available as an interactive tool on www.LakeSumterMPO.com.

TIP Amendments:

Amendments to the TIP are reviewed by the organization's advisory committees for input. In addition to the public comment periods provided during each committee meeting, opportunities for public comment are also a standard part of each board meeting, prior to board action. During the review process and following board adoption, the proposed amendment is electronically published.

The MPO actively assist local governments and transportation agencies in the development and implementation of public participation techniques for transportation planning and other related studies. For example, in the LRTP and TIP development processes, the MPO will assist Lake County Public Transportation with their Federal Transit Administration (FTA) requirement for Section 5307 Program of Projects public involvement by including the following statement in advertisements and/or other collateral materials as appropriate:

> *"The MPO's LRTP/TIP development process is being used to satisfy the public comment period requirements of FTA's Section 5307 program. This public notice of public involvement activities and the time established for public review and comment on the LRTP/TIP will satisfy the FTA Program of Projects requirements."*

Public input considered in the development and maintenance of the TIP includes the comments and recommendations of MPO committees and the public at large as well as input received at the public comment periods. The MPO complies with statutory planning and programming requirements [23 U.S.C 134/49 U.S.C. 5303 (j) (1) and 23 U.S.C. 135/49 U.S.C. 5304 (g) (2)] that call for continuing

consultation and coordination with partners, MPOs, and non-metropolitan local officials, and Federal and State agencies.

Unified Planning Work Program (UPWP)

3) The **UPWP** provides a work program for each year, including the transportation planning budget and related activities for the metropolitan area. Though the document covers a two-year period, the UPWP is reviewed yearly to refine previously identified tasks and better reflect changes in the economic climate. Prior to board adoption, the public will be provided with the opportunity to review and comment on the Draft UPWP during a 21-day public review period and a draft is presented to the organization's advisory committees for input. In addition to the public comment periods provided during each committee meeting, opportunities for public comment are also a standard part of each board meeting prior to board action. During this review process and following board adoption, the UPWP is electronically published on www.LakeSumterMPO.com and is available in print, by request.

Citizens unable to attend the committee meetings or Governing Board meeting may submit written public comments to the MPO during the official public comment period: 1) via postal service, 2) via the Voice your Ideas form on the website www.LakeSumterMPO.com/voice.aspxor, 3) by emailing mwoods@LakeSumterMPO.com.

When significant public comments are received on a Draft UPWP as a result of public involvement, a summary, analysis and report on the disposition of comments shall be made part of the final UPWP. If the final UPWP differs significantly from the one made available for public comment or raises new material issues, an additional opportunity for public comment will be made available.

UPWP Revisions

UPWP revisions do not change the FHWA approved planning budget or the scope of the FHWA funded work task. Revisions are coordinated with FDOT and are brought through the TAC, CAC, BPAC and MPO Board for approval.

The public is invited to attend and provide comments during each of these meetings at the designated place on the agenda. Revising the UPWP does not require FHWA approval; however, the MPO will notify the FDOT District Liaison when changes are made. The FDOT Liaison will then notify FHWA/FTA.

UPWP Amendments

UPWP amendments change the FHWA approved Planning budget, the scope of the FHWA work task, or add or delete a FHWA work task. The MPO staff will submit all proposed draft UPWP amendments received or initiated by it through the TAC, CAC, BPAC advisory committees and for final MPO Board for approval. The public is invited to attend and provide comments during each of these meetings at the designated place on the agenda. Proposed draft amendments to the approved UPWP shall be distributed for public review and comment as described in Section 2: Public Notification.

Amending the UPWP does require FHWA approval; the MPO will submit the approved UPWP document to FDOT and FHWA for their review and approval.

Public Involvement Plan (PIP)

The **PIP** is defined as part of the transportation planning work program which identifies the public involvement strategies and the outreach activities to be undertaken by the Lake~Sumter Metropolitan Planning Organization. As required by federal law, a formal 45 day public comment period is held prior to board adoption of the PIP to offer another avenue of public input. Once adopted, plan is available on www.LakeSumterMPO.com.

PIP Amendments

The Public Involvement Plan can be amended at any time by providing a 45 day public comment period and the opportunity for public comment on the proposed change in the regular Board and Committee meeting cycle. The opportunity to comment on the proposed change will be provided at regularly scheduled and advertised meetings of the Technical Advisory Committee, Citizens' Advisory Committee, Bicycle & Pedestrian Advisory Committee and Governing Board. Notice of the proposed change will also be posted on the MPO website.

List of Prioritized Projects (LOPP)

The MPO also has a formal process for prioritizing projects adopted in the long range transportation plan. The end result is a document called the **List of Prioritized Project (LOPP).** This document is reviewed annually and adopted by the Governing Board. Prior to board adoption, the public will be provided with the opportunity to review and comment on the Draft LOPP during a 21-day public review period. The draft LOPP is presented to the MPO's advisory committees for input and recommendations. Prior to adoption, the board receives a report from each committee with input and/or recommendations.

Throughout the process, there are also opportunities for general public comment. In addition to public comment periods during each advisory committee meeting, a public comment periods are a standard part of each Governing Board agenda prior to any board action.

During this review process and following board adoption, the LOPP is electronically published on www.LakeSumterMPO.com and is available in print, by request. Citizens unable to attend the committee meetings or Governing Board meeting may submit written public comments to the MPO during the official public comment period: 1) via postal service, 2) via the Voice your Ideas form on the website www.lakesumtermpo.com/voice.aspxor, 3) by emailing

mwoods@LakeSumterMPO.com.

LOPP Amendments:

Amendments to the plan are reviewed by the organization's advisory committees for input. In addition to the public comment periods provided during each committee meeting, opportunities for public comment are also a standard part of each board meeting, prior to board action. During the review process and following board adoption, the proposed amendment is electronically published.

SECTION I: PUBLIC PARTICIPATION PROCESS

The MPO public participation process will provide the public with many opportunities to comment on transportation plans and programs including, but not limited to, the following:

- 45-day comment period on adoption or revision of the PIP
- 21-day comment period on adoption of the LRTP, UPWP, LOPP and TIP
- Regional Transportation Forum on key issues
- Regional Transportation Summit to gain stakeholder input
- Public Meetings on specific transportation projects
- MPO Website: www.LakeSumterMPO.com
- MPO Social Media page and feeds
- MPO Governing Board and Committee meetings (TAC, CAC, BPAC)
- Transportation Disadvantaged Coordinating Boards (Lake & Sumter Counties)
- Task Force meetings (North Lake, East Lake, South Lake, CR470 Corridor, & Public Transportation)
- Efficient Transportation Decision Making (ETDM) Process
- Presentations to other governmental bodies (counties and municipalities)
- Presentations to civic and community groups and organizations

Title 23 Code of Federal Regulations, Section 450.316(b)(1), the Metropolitan Transportation Planning Process, sets forth the requirements for the public involvement process in conjunction with all aspects of transportation planning. The regulation states that the public involvement process shall provide "complete information, timely public notice, full public access to key decisions, and supports early and continuing involvement of the public in developing plans and the major planning documents" produced by the MPO. The MPOs public participation process and development of the TIP satisfies the federal public participation requirements for developing Federal Transit Authority, Program of Projects.

SECTION II: PUBLIC NOTIFICATION

The MPO is a small and relatively unknown agency with the public and thus has the added responsibility of educating the public on the existence of the MPO and how the activities of the MPO are of impact to their lives. This education, combined with other activities within the context of the PIP, help make the plan effective. The following are ongoing activities used by the MPO staff to educate the citizens of the MPO area:

- Project and Plan brochures for distribution at public offices, agencies, libraries and to post on the MPO website: www.LakeSumterMPO.com
- Presentations as requested by citizens groups, public agencies, or local governmental bodies
- Public meetings sponsored by MPO member jurisdictions
- Special Efforts for Underserved/Underrepresented
- Efficient Transportation Decision Making (ETDM) Process
- MPO Social Media Page and Feeds

Notification of meetings, comment periods or other significant events will be provided in the following manner:

- Newspaper publication notifying the public of the opportunity to review documents and provide input will be at least ten days prior to a public comment period. The Public Notice will explain where the public can view information on the proposed transportation plan or program and how they can provide input. For public meetings, as much advanced notice as possible will be provided with a minimum of one (1) weeks' notice. For all LRTP, UPWP, LOPP and TIP adoption a 21-day public review period would be advertised. For PIP

adoption or revisions a 45 day public review period would be advertised.

- Newspaper publication will be at least one (1) week prior to a meeting of the MPO Board and Committees.
- All public notices will be published in the legal section of the regional newspapers for both counties
- All public notices will be posted on the MPO website at: www.LakeSumterMPO.com and the Lake County and Sumter County websites:
- www.lakegovernment.com and www.sumtercountyfl.gov.
- All public notices will be posted on the MPO social media page and feed.

The MPO will also utilize the following techniques to disseminate information to the public:

- Information regarding meetings and events, as well as current document releases, will be placed on the MPO web site: www.LakeSumterMPO.com
- Social Media will focus primarily on the real-time dissemination of information relevant to the transportation planning process.
- Email lists to direct mail information to individuals who sign up for this service.
- Direct mailing sent to the public service agencies and institutions within the MPO area.
- Direct mailing to select individuals, groups, or organizations that have expressed interest or have made comments at previous meetings.
- Public service announcements
- Press releases for the newspaper or other widely circulated publications.
- Use of the Citizens' Advisory Committee (CAC) and the Bicycle & Pedestrian Advisory Committee (BPAC) for citizen outreach and community involvement.
- Informal presentation at regional sites, open houses, round table, or other community forums.

- Formal presentations at various service clubs, civic and professional groups.
- Distribution of information flyers on public transit services.
- Public surveys and comment forms
- Public Media coverage
- Public Involvement Process mailing List
- Efficient Transportation Decision Making (ETDM) Process
- Public inspection of all major documents available at locations geographically located throughout the MPO planning area

Emergency or Special Meetings:

The Chairperson may call for an emergency meeting for the purpose of acting upon emergency matters affecting the public health, safety and welfare. Such meeting agenda shall be prepared by the Chairperson. The agenda and supporting documents shall be made available to the members at least 1 day prior to the meeting. Meeting agenda shall be posted at the site of the meeting and on the MPO website at least 24 hours prior to the meeting and emailed to all members. Minutes of the emergency meeting will be posted to the MPO website within 24 hours the meeting and a full review of approved items will be discussed at the next regularly scheduled Governing Board meeting.

SECTION III: PUBLIC INVOLVEMENT STRATEGIES

The MPO reviewed a number of strategies designed to encourage public involvement in the transportation planning process. Described below are the current strategies utilized by the MPO to solicit and encourage public involvement in the transportation planning process. These strategies are summarized in Table 1.

Table 1

Public Involvement Strategy	Purpose	Elements
Public Workshops and Transportation Forums	Inform public of the nature of regular transportation activities and to solicit public feedback of current processes and procedures	An informal meeting held to educate the public why specific projects are undertaken and how these projects will benefit the citizens and the community at large
Public Hearings	Encourage through public participation, early and continuing public involvement; formally present the plan or project to the public	Generally held at various location through the area prior to the adoption of an MPO transportation related work product; public input is used to develop finalized documents
Governing Board	Governing Board meetings open to the public; provide a forum for discussion of transportation plans and programs.	The Governing Board meets on a monthly basis on the fourth Wednesday of the month at 2 PM, with exceptions.
Technical Advisory Committee (TAC)	The TAC consists of professional and technical planners, engineers and other disciplines; created to provide interagency coordination between the MPO, FDOT, Lake County, Sumter County, and local governments; reviews and makes recommendations concerning transportation plans and programs	The TAC meets on a monthly basis with exceptions.
Citizens' Advisory Committee (CAC)	The CAC is comprised of a diverse group of individuals representing all the local governments in the area in order to encourage a wide range of views and ideas on transportation plans and programs; early involvement in development of the TIP, UPWP and the LRTP.	The CAC meets on a monthly basis with exceptions.
Transportation Disadvantaged Coordinating Board (TDCB)	The primary purpose of each TDCB is to assist the MPO in identifying local service needs and provides input from the underserved and underrepresented community members in Lake and Sumter Counties.	The TDCB meets quarterly and holds a public hearing annually.
Bicycle & Pedestrian Advisory Committee (BPAC)	BPAC consists of members from a broad base of professionals and concerned citizens, whose mission is to advise the MPO Board on bicycle and pedestrian issues.	The BPAC meets on a monthly basis with exceptions.
Public Involvement Process (PIP) Mailing List	Serves to inform the community of various transportation planning activities undertaken by the MPO, such as the LRTP and future workshops and forums.	List includes civic associations, clubs and organizations, municipal governments, newspapers and concerned citizens.
MPO Publications	Documents used to inform the general public about the transportation planning activities and projects being accomplished by the MPO.	Includes summary information, newsletters and brochures; also includes summary of LRTP, highlighting the development process.
Public Media coverage	Inform all members of the public, including those traditionally underserved, so that they are aware of hearings and workshops and can provide input on transportation planning issues and the LRTP.	Include use of public access cable TV, advertising in major and local newspapers and direct mailings.
Public Surveys/Comment Forms	To solicit input on various topics concerning the transportation planning process.	Send to members of the public and those traditionally underserved.
MPO Website	The Lake-Sumter MPO website provides a forum for cooperative decision making concerning transportation issues throughout the urbanized area of Lake and Sumter counties in Florida.	The MPO website includes access to all current and completed work projects of the MPO. Also provides links to information pertaining to transportation planning activities in the Lake and Sumter County.

Special Efforts for Underserved/Underrepresented	Measures taken to involve population segments that are traditional underserved/underrepresented in Lake and Sumter counties, as recommended by the U.S. DOT Title VI requirements.	Focus on geographic locations with a high concentration of underserved and underrepresented.
Efficient Transportation Decision Making (ETDM) Process	To provide the public access to project plans and information regarding potential effects of transportation projects on natural and human environments.	Internet application provides access to project information so the public can formulate commentary about potential sociocultural effects.
Social Media	To provide real-time dissemination of information relevant to the transportation planning process, and notice of public meetings and hearings.	Use of social media will primarily focus on the real-time dissemination of information relevant to the transportation planning process, with a secondary focus on obtaining input on targeted issues of importance.

Federal regulation requires that the MPO evaluate the effectiveness of its PIP on a regular basis. In evaluating its plan the MPO may determine to no longer utilize techniques that are deemed ineffective, or to initiate the use of other innovative techniques that provide better response and more positive feedback. All communications will be monitored throughout the year. Communication effectiveness will ultimately be determined by public, business, agency and media participation during public input sessions, committee meetings, and public events throughout the process. Table 2 provides the guidelines for the evaluation of public involvement techniques identified in the PIP. Additional methods and media outreach to Limited English Proficiency (LEP) non-English speaking populations will be developed as part of the MPO LEP Program.
The PIP reflects the MPO's commitment to honesty and integrity throughout the planning process and active community participation. The MPO looks forward to sharing plan information with the public and interested stakeholders, and creating a dynamic forum for public participation, planning and interagency collaboration.

PERFORMANCE MEASURES

Table 2

Public Involvement Strategy	Quantitative	Qualitative
Public Workshops and Transportation Forums	Number of attendees Number of comments received Number of comment responses Number of events/opportunities for public	Effectiveness of meeting format Public Understanding of process Quality of feedback obtained Timing of public involvement

	involvement	Meeting convenience: time, place and accessibility Was Public's input used in developing the plan?
Public Hearings	Number of attendees Number of comments received Number of comment responses	Public understanding Meeting convenience: time, place and accessibility Was Public's input used?
Governing Board	Number of meetings Number of attendees Number receiving agendas Number receiving full packets Number of public comments	Effectiveness of meeting format Input is captured and made available for consideration
Technical Advisory Committee (TAC)	Number of meetings Number of attendees Number receiving agendas Number receiving full packets	Effectiveness of meeting format Input is captured and made available for consideration
Citizens' Advisory Committee (CAC)	Number of meetings Number of attendees Number receiving agendas Number receiving full packets Diversity of representation	Effectiveness of meeting format Input is captured and made available for consideration
Transportation Disadvantaged Coordinating Board (TDCB)	Number of meetings Number of attendees Number receiving agendas Number receiving full packets	Effectiveness of meeting format Input is captured and made available for consideration
Bicycle & Pedestrian Advisory Committee (BPAC)	Number of meetings Number of attendees Number receiving agendas Number receiving full packets	Effectiveness of meeting format Input is captured and made available for consideration
Public Involvement Process (PIP) Mailing List	Number of contacts added Number of groups	How and when contact is made Categorize contacts by area and affiliation
MPO Publications	Number of work products distributed including but not limited to: newsletter, TIP, UPWP, LRTP, TDP, TOP, B/P Masterplan, LOPP	Concise and clear information Effectiveness of news articles Continue items that receive favorable comments and correct or improve mistakes or items that receive negative comments
Public Media coverage	Number of news releases Number of direct mailings Number of public access cable TV spots Number of avenues used to reach audiences Number of attendees survey respondents indicating that they saw a meeting notice and/or project information Amount of positive media coverage	Effectiveness of notification and communication tools How and when contact is made
Public Surveys/Comment Forms	Percentage of meeting attendees who filled out comment forms Number of surveys/comment forms Number of calls Number of letters	Input is captured and made available for consideration
MPO Website, Social Media Page and Feeds	Number of visitors, Friends, Likes, Followers Number of comments received Number of comment responses Number of survey respondents Number of links established Number of documents downloaded	Monitor effectiveness of website, Social Media Page and Feeds, format/presentation Monitor the use of public involvement tools to increase advertisement of the website
Special Efforts for Underserved/Underrepresented	Number of notices placed in grocery stores, laundromats and places frequented by the traditionally underserved. Number of notices of involvement opportunities	Increase or decrease distribution to more accurately target an area that may be affected

	and informational materials provided to community leaders. Number of avenues or techniques used to reach underserved/underrepresented	
Efficient Transportation Decision Making (ETDM) Process	Provide project and community demographic data	Review summary report containing key recommendations and conclusions for the effects identified

SECTION IV: ACCESS TO INFORMATION

The MPO will provide the public with reasonable and timely access to technical and policy information relating to the data or content in the development of the transportation plans, programs and projects. Documents will be available for public inspection on the MPO web site www.LakeSumterMPO.com and at the office of the MPO located at 1616 South 14th Street, Leesburg, FL 34748 during normal business hours. Copies of draft plans and programs for public review will also be placed at the following locations:

- Lake County Administration Building, 315 West Main Street, Tavares
- Clermont City Hall, 685 West Montrose Blvd., Clermont
- Leesburg Public Library, 100 E. Main Street, Leesburg
- Lady Lake Town Hall, 409 Fennell Blvd., Lady Lake
- Sumter County Service Center, 7375 Powell Road, Wildwood

SECTION V: PUBLIC INVOLVEMENT MAILING LIST

The MPO staff maintains and updates a mailing list for the purpose of informing the community about various transportation planning activities undertaken by the MPO. The mailing list includes civic associations, clubs, municipal governments, newspapers, concerned citizens and all attendees to any of the transportation related public meetings held in the MPO area. The mailing list is used to inform the community about scheduled TAC, CAC, BPAC, TDCB, and Governing Board meetings; future public workshops and hearings; and to provide brief updates concerning the status and progress of ongoing transportation planning activities and projects.

SECTION VI: LAKE~SUMTER MPO WEBSITE

The MPO maintains an internet site providing a forum for the most current information on activities and projects, meetings, public hearings, Board meetings; downloadable plans for each citizen to review interactive maps of transportation projects; links to related sites; and several opportunities to provide commentary to the MPO regarding their plans and programs. Archived presentations of MPO and other public meetings are also provided for viewing or download. The website can be accessed at www.LakeSumterMPO.com.

SECTION VII: SOCIAL MEDIA

The MPO is implementing social media opportunities including development of a Facebook page along with consideration of other social media sites including

Twitter. The use of social media is included in the MPO's public involvement plan with the following goals:

- Use as an accessible resource for the public and organizations to receive consistently updated information about MPO
- Use to repost important and relevant articles/postings /ideas
- Use as a way to receive public feedback via links to surveys
- Use to help integrate the public into more planning and allow the public to understand MPO's plans/projects/improvements
- Use as a source of announcements- meetings, projects, press releases, office closures, special events, news, project announcements, website updates
- Overall to allow more accessibility and understanding of MPO's mission and allow more room for constant dialogue between the organization and the public/other organizations
- Allow both input and output- not only post things, but also respond to other organization's accomplishments

SECTION VIII: PUBLIC MEETINGS

Public information meetings will be held at various locations in the MPO area to inform the public of the planning process and to solicit ideas, input and feedback. The intent of holding public informational meetings at diversified locations is to solicit broad public comments. General locations of meetings will be at the Lake~Sumter Metropolitan Planning Organization office, Lake County Administration Building, the Lake-Sumter State College, the Sumter County Service Center, and other locations such as municipal city halls and/or offices, churches, community centers, etc.

Notice of public hearings and public informational meetings will be given in accordance with and listed in Section II (Public Notification). A reasonable attempt will be made to notify organizations representing minority and disabled people. Public meetings will be held at locations accessible to and at times convenient to minority and disabled residents.

Special arrangements will be made to accommodate persons with disabilities, low income, and people who do not speak English. For meetings involving individuals without transportation and the disabled, the MPO will schedule meetings during the time public transit and Para-transit services are operating or will make special arrangements to ensure that individuals have an opportunity to access transportation to the meetings. The MPO will ensure that all segments of the population including LEP persons have been involved or have the opportunity to be involved in the transportation planning process. Interpreters will be provided, when advanced notice is given of the need and an interpreter can be located to accommodate non-English speaking individuals. The MPO LEP Plan may be reviewed at the following link: www.LakeSumterMPO.com

SECTION IX: OPPORTUNITIES FOR PARTICIPATION

The MPO will take a proactive approach to providing the opportunity for the public to be involved early and with continuing involvement in all phases of the planning process. Extensive public notice of public information meetings and hearings will be undertaken as listed in Section II and access to information as listed in Section III. Prior to the beginning of the public participation process, a list of names, addresses, and email addresses of citizens and organizations will be developed that will be contacted on a continued basis to serve as a base of interested citizens

for input and comment. This list will be expanded as additional citizens attend the informational public meetings and make comment. Additionally, meeting agendas for all MPO Board and Committee meetings include a public input period.

SECTION X: RESPONSE TO PUBLIC INPUT

Responses to questions and comments from the public concerning the public participation process, draft transportation plans, programs, or public agency consultation process will be made directly to the individual by letter, telephone call or email. A summary analysis and report on disposition of comments will be made as part of the final plan or program. Rationale for policy decisions will be available to the public in writing if requested.

SECTION XI: ADVISORY COMMITTEES

Advisory committees have been formed to advise the MPO Governing Board and staff in the preparation and review of public participation plans, transportation plans, programs and other related matters. Each of the MPO committees provided its own unique contributions to the development of the MPO planning documents.

The **Technical Advisory Committee** (TAC) is comprised of planners and engineers from the various local governments that make up the MPO. Therefore, the input provided by the TAC is of a very technical nature. This may include making design recommendations and verifying that all documents conform to the appropriate standards.

The **Citizens' Advisory Committee** (CAC) is comprised of interested community members representing the various local governments that make up the MPO. This committee has a special advisory role to the MPO because it provides a necessary communication link between the MPO and the community it serves. The committee also solicits input and recommendations from other citizens groups and interested stakeholders when reviewing transportation plans and programs.

The **Transportation Disadvantaged Coordinating Board** (TDCB) is an advisory group to an MPO on para-transit issues. The MPO has two TDCBs under its purview, Lake County's TDCB and Sumter County's TDCB. The TDCB is comprised of various community groups as outlined in Florida Statutes and committee representatives are appointed by the Governing Board. The purpose of the TDCB is to develop local service needs and to provide information, advice and direction to the Governing Board regarding the coordination of services to be provided to the transportation disadvantaged. As such the TDCB provides a forum for the needs of the transportation disadvantaged to be heard.

The **Bicycle & Pedestrian Advisory Committee** (BPAC) consists of members from a broad base of professionals and concerned citizens, whose mission is to advise the Governing Board on bicycle and pedestrian issues. Also, the BPAC is to assist the Governing Board in the formulation of goals and objectives for shaping the urban and rural environments through the effective planning for bicycle and pedestrian facilities. The committee also solicits input and recommendations from other citizens groups and interested stakeholders when reviewing transportation plans and programs.

SECTION XII: TITLE VI REQUIREMENTS

The MPO will reach out to members of the low income, minority, and disabled communities as part of the transportation planning process to meet the requirements of Title VI and to better serve the community. The MPO will utilize the FDOT ETDM Demographic Tool to conduct socio-economic analysis of communities to determine where concentrations of Title VI groups and issues may exist.

Localized meetings to discuss transportation issues will be held periodically to encourage participation. Public notifications outlined in Section II will be conducted to attempt to get the word out about upcoming meetings and hearings. Citizens that express interest or make comments at a public meeting or hearing will be put on a mailing list to be notified of upcoming meetings. The MPO will hold meetings and public hearings during times when public transit and Para-transit services are available for those without transportation or the disabled

Consistent with the USDOT order on environmental justice, special efforts are undertaken to involve population segments that are traditionally underserved and/or underrepresented in Lake and Sumter Counties. These requirements, based on Title VI of the 1964 civil Rights Act, ISTEA, and NEPA, are designed to ensure the interests of minority and low income populations are considered and addressed in all transportation decision making. These efforts may include the following:

- Identify geographic locations with a high concentration of the traditionally underserved and underrepresented;
- Host traditional workshops convenient to these geographic locations;

- Invite community leaders from these geographic locations to participate on CAC and other committees as appropriate;
- Distribute information regarding the transportation planning process and opportunities for public involvement by providing information on public transit.
- Meet with and make presentations to organizations that represent this segment of the population.

The MPO Title VI Plan may be reviewed at the following link:

www.lakesumtermpo.com/about/title_vi_dbe.aspx

SECTION XIII: FOLLOW-UP AND CONTINUING EFFORTS

This document establishes the basic techniques for disseminating the information to the public and engaging the citizens in interactive discussions about the transportation process. MPO staff will work to quantify the results of the public involvement efforts and make an annual report to the Governing Board. The annual report will give a summary of public input for the past year, and future reports will compare current results to prior years.

In this way the MPO can gauge the effectiveness of the PIP in order to highlight opportunities for improvement. MPO staff will track and quantify the following lists of activities in order to better gauge public input in the transportation planning process.

- Attendance and input at public information meetings and public hearings
- Number of organizations and groups to which mailings are sent
- Email list

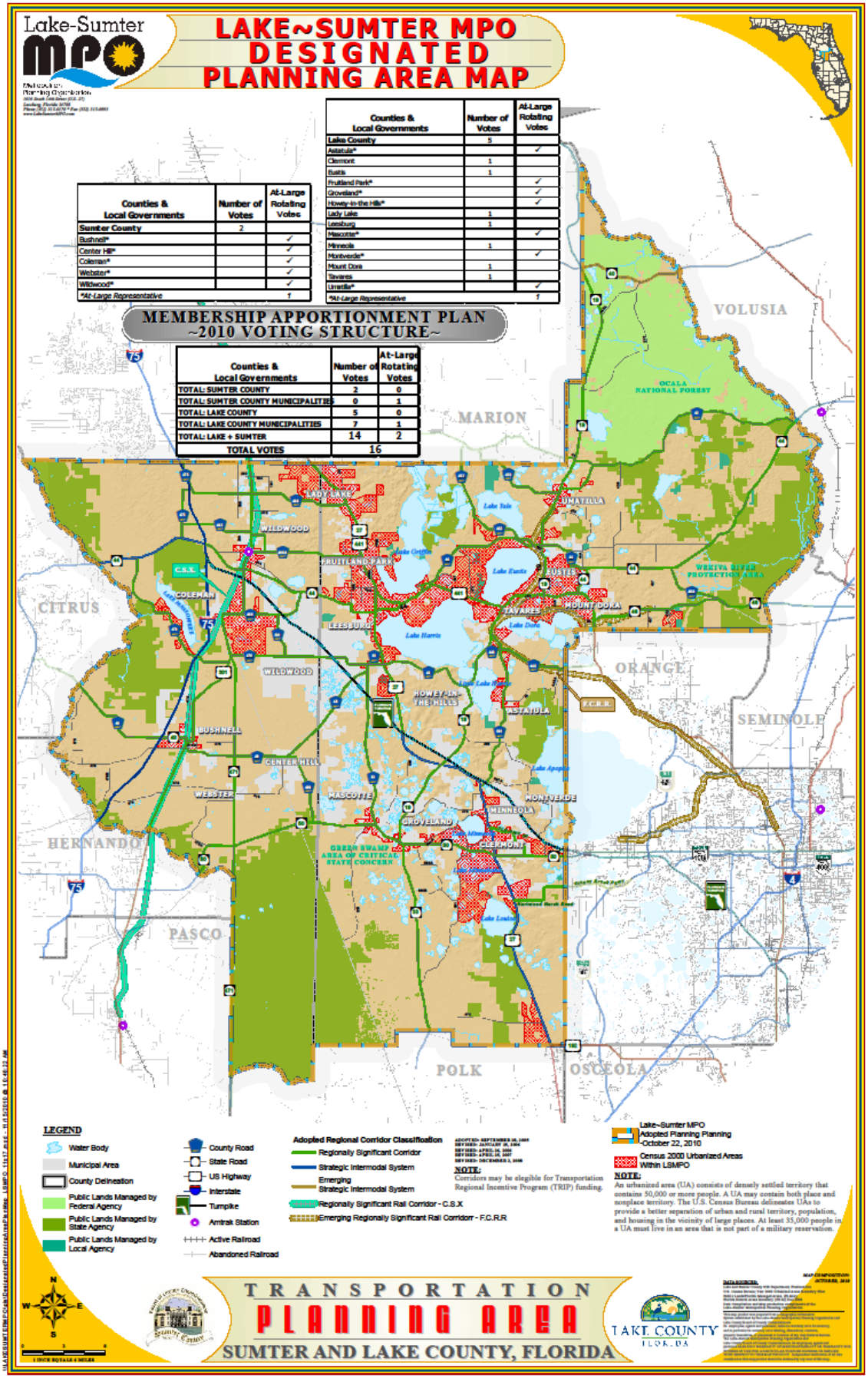
- Public Involvement Process Mailing List
- Communications received from public whether they use mail, email, and comments at public information meetings or public hearings
- Tracking of presentations given to public groups
- Efficient Transportation Decision Marking (ETDM) Process
- Scrapbooking of all public meetings including photos, attendance sheets, meeting handouts.

In addition to these tracking and reporting efforts, the MPO staff will continue to research new and innovative ways to further involve the public in the MPO transportation planning process.

SECTION XIV: SUMMARY

The MPO recognizes the importance of the public involvement process as a means to inform, educate, and involve citizens in the transportation decisions that impact our daily lives. By involving the public in the planning process early and often, transportation planners are able to ensure that plans and programs are developed in a way that reflects our community values and benefits all segments of the population equally.

APPENDIX A: MPO PLANNING AREA MAP


Lake-Sumter MPO
LAKE~SUMTER MPO
DESIGNATED
PLANNING AREA MAP
Counties & Local Governments | Number of Votes | At-Large Rotating Votes
Sumter County | 2
Bushnell* | ✓
Center Hill* | ✓
Coleman* | ✓
Webster* | ✓
Wildwood* | ✓
*At-Large Representative | 1
Counties & Local Governments | Number of Votes | At-Large Rotating Votes
Lake County | 5
Astatula* | ✓
Clermont | 1
Eustis | 1
Fruitland Park* | ✓
Groveland* | ✓
Howey-in-the-Hills* | ✓
Lady Lake | 1
Leesburg | 1
Mascotte* | ✓
Minneola | 1
Montverde* | ✓
Mount Dora | 1
Tavares | 1
Umatilla* | ✓
*At-Large Representative | 1
MEMBERSHIP APPORTIONMENT PLAN
~2010 VOTING STRUCTURE~
Counties & Local Governments | Number of Votes | At-Large Rotating Votes
TOTAL: SUMTER COUNTY | 2 | 0
TOTAL: SUMTER COUNTY MUNICIPALITIES | 0 | 1
TOTAL: LAKE COUNTY | 5 | 0
TOTAL: LAKE COUNTY MUNICIPALITIES | 7 | 1
TOTAL: LAKE + SUMTER | 14 | 2
TOTAL VOTES | 16
VOLUSIA
MARION
CITRUS
HERNANDO
PASCO
POLK
OSCEOLA
SEMINOLE
ORANGE
OCALA NATIONAL FOREST
WEKIVA RIVER PROTECTION AREA
GREEN SWAMP AREA OF CRITICAL STATE CONCERN
WILDWOOD
COLEMAN
BUSHNELL
CENTER HILL
WEBSTER
LEESBURG
TAVARES
MOUNT DORA
EUSTIS
UMATILLA
FRUITLAND PARK
LADY LAKE
HOWEY-IN-THE-HILLS
ASTATULA
MASCOTTE
GROVELAND
MINNEOLA
MONTVERDE
CLERMONT
C.S.X.
F.C.R.R.
LEGEND
Water Body
Municipal Area
County Delineation
Public Lands Managed by Federal Agency
Public Lands Managed by State Agency
Public Lands Managed by Local Agency
County Road
State Road
US Highway
Interstate
Turnpike
Amtrak Station
Active Railroad
Abandoned Railroad
Adopted Regional Corridor Classification
Regionally Significant Corridor
Strategic Intermodal System
Emerging Strategic Intermodal System
Regionally Significant Rail Corridor - C.S.X
Emerging Regionally Significant Rail Corridor - F.C.R.R
NOTE:
Corridors may be elegible for Transportation Regional Incentive Program (TRIP) funding.
Lake~Sumter MPO Adopted Planning Planning -October 22, 2010
Census 2000 Urbanized Areas Within LSMPO
NOTE:
An urbanized area (UA) consists of densely settled territory that contains 50,000 or more people. A UA may contain both place and nonplace territory. The U.S. Census Bureau delineates UAs to provide a better separation of urban and rural territory, population, and housing in the vicinity of large places. At least 35,000 people in a UA must live in an area that is not part of a military reservation.
TRANSPORTATION
PLANNING AREA
SUMTER AND LAKE COUNTY, FLORIDA
LAKE COUNTY
FLORIDA

APPENDIX B: TRANSPORTATION ACRONYMS & GLOSSARY

AADT Annual Average Daily Traffic: The total volume of traffic on a highway segment for one year, divided by the number of days in the year. Both directions of traffic volumes are reported as well as total two-way volumes.

ADA Americans with Disabilities Act of 1990: A Federal law that requires public facilities (including transportation services) to be accessible to persons with disabilities, including those with mental disabilities, temporary disabilities, and the conditions related to substance abuse.

ADT Average Daily Traffic: The number of vehicles passing a fixed point in a day, averaged over a number of days. The number of count days included in the average varies with the intended use of data.

AE Annual Element: The first fiscal year of the Transportation Improvement Plan.

AFV Alternative Fuel Vehicle: A vehicle that runs on a fuel other than "traditional" petroleum fuels.

AICP American Institute of Certified Planners: AICP is the American Planning Association's professional institute, providing recognized leadership nationwide in the certification of professional planners, ethics, professional development, planning education, and the standards of planning practice.

AMPO Association of Metropolitan Planning Organizations: A national

nonprofit membership organization serving the interests of metropolitan planning organizations nationwide.

APA American Planning Association: The American Planning Association brings together thousands of people, practicing planners, citizens, elected officials, committed to making great communities happen.

AQ Air Quality: generally refers to the amount of air pollutants of various types in the air. The pollutants can include hydrocarbons (also called volatile organic compounds), nitrogen oxides, particulate matter, carbon monoxide, sulfur dioxide and so on.

ARRA American Recovery and Reinvestment Act: An Act making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending September 30, 2009, and for other purposes.

ASCE American Society of Civil Engineers: Founded in 1852, the American Society of Civil Engineers (ASCE) represents more than 133,000 members of the civil engineering profession worldwide, and is America's oldest national engineering society. ASCE's vision is to position engineers as global leaders building a better quality of life.

AVO Average Vehicle Occupancy: The ratio of person trips to vehicle trips; often used as a criteria in judging the success of trip reduction programs.

AVR Average Vehicle Ridership: The number of employees scheduled to start work during specified hours divided by the number of vehicles arriving at the site

during those same hours.

BCC Board of County Commissioners: The State constitution gives the Board of County Commissioners the power to adopt ordinances (local laws), approve the County budget and set millages, and establish the requirements for the departments under its control. The Board governs all unincorporated areas of the county directly; municipalities may call upon the County for specialized services.

BMS Bridges Management Systems: Process for analyzing existing conditions and identifying future needs with respect to bridges; required for the National Highway System (NHS) as a part of ISTEA; and the extent to which the remaining public bridges are included in the process is left to the discretion of state and local officials.

BOA Board of Adjustments: The Board of Adjustment reviews applications submitted for a variance to the Land Development Regulations. The Board then approves or denies the applications based on staff reports and evidence submitted during the hearing, taking into consideration the applicant's and other testimony in favor or against the request.

BPAC Bicycle & Pedestrian Advisory Committee: Advisory Committee that examines alternatives and makes recommendations to the Lake~Sumter MPO on bicycle and pedestrian issues.

BRP State Bridge Rehabilitation: Funds for replacement or repair of bridges on the State Primary System based on statewide priority.

BRRP State Bridge Repair and Rehabilitation: Funds for the repair and rehabilitation of bridges.

BRT Federal Bridge Replacement: Funds for bridge replacement on Federal National Highway and Surface Transportation Program systems; used for critical bridges based on a statewide priority as approved by the FHWA.

CAAA Clean Air Act Amendments of 1990: Amendments to the federal Clean Air Act which classify nonattainment areas and provide for rules dealing with air pollution in such areas; specifically brought transportation decisions into the context of air quality control.

CAC Citizens' Advisory Committee: Advisory committee utilized by most metropolitan planning organizations (MPOs) for citizen input into the transportation planning process.

CBD Central Business District: The area of a community with the most intense commercial and business development.

CCI Community Characteristics Inventory: The history of a community with present and future conditions of an area. Includes physical characteristics of an area, narrative text that describes the community, tables or graphics that summarize data.

CE Categorical Exclusion: A technical exclusion for projects that do not result in significant environmental impacts. Such projects are not required to prepare environmental reviews.

CEI Construction Engineering Inspection: FDOT highway project phase following construction.

CEMO Central Environmental Management Office: Represents FDOT in protecting and enhancing a sustainable human and natural environment while developing safe, cost effective and efficient transportation systems.

CFMPOA Central Florida MPO Alliance: A coalition of transportation and government organizations committed to addressing transportation challenges on a regional basis. The alliance is comprised of representatives from Space Coast TPO, MetroPlan Orlando, River to Sea TPO, Polk TPO, Ocala/Marion TPO and the Lake~Sumter MPO.

CFR Code of Federal Regulations: The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation. Each volume of the CFR is updated once each calendar year and is issued on a quarterly basis.

CIGP County Incentive Grant Program: This program provides grants to counties to improve a transportation facility which is located on the State Highway System or which relieves traffic congestion on the State Highway System.

CIE Capital Improvements Element: A required element of local comprehensive plans which evaluates the need for public facilities, their cost and funding/schedule for construction; specific content for the CIE is found in Rule 9J 5.016 of the Florida Administrative Code and Chapter 163.3177(3), Florida Statutes.

CLC Community Liaison Coordinator: The FDOT district person responsible for implementing effective public involvement to identify potential sociocultural effects for transportation projects; responsible for public involvement and assessment of sociocultural effects in the non-MPO areas of the state.

CMAQ Congestion Mitigation and Air Quality Improvement Program: A categorical funding program created under ISTEA, which directs funding to projects that contribute to meeting national air quality standards in non-attainment areas for ozone and carbon monoxide.

CMS Congestion Management System: A systemic process required under ISTEA to provide information on transportation system performance and identify alternative strategies to alleviate congestion and enhance mobility of persons and goods; process must be developed in Transportation Management Areas (TMAs), the use of CMS in non TMAs is left to the discretion of state and local officials; in Florida, MPOs will take the lead for the CMS in urbanized areas and FDOT will take the lead elsewhere.

CMS Concurrency Management System: A systematic process utilized by local governments to ensure that new development does not occur unless adequate infrastructure (such as public facilities) is in place to support growth; requirements for the CMS are found in Rule'9J 5.0055, Florida Administrative Code.

CNU Congress for the New Urbanism: CNU advocates the restructuring of public policy and development practices to support the restoration of existing urban centers and towns within coherent metropolitan regions. We stand for the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy.

CTC Community Transportation Coordinator: People contracted by the Transportation Disadvantaged Commission to provide complete, cost effective and efficient transportation services to transportation disadvantaged (TD) persons.

CTD Commission for Transportation Disadvantaged: An independent commission housed administratively within the Florida Department of Transportation. Our mission is to insure the availability of efficient, cost-effective, and quality transportation services for transportation disadvantaged persons.

CTST Community Traffic Safety Team: Partnership represented by various public and private entities that focus on reducing the number and severity of traffic crashes within their community.

CUTR Center for Urban Transportation Research: A legislatively created research center, located at the University of South Florida, whose purpose is to conduct and facilitate research and serve as an information exchange on issues related to urban transportation problems in Florida.

DCA Department of Community Affairs: State and land planning agency responsible for a number of local and regional planning of programs, established in Chapter 163 and 380 of the Florida Statutes.

DEIS Draft Environmental Impact Statement: As indicated in title this is an analysis report describing the impacts of a major transportation improvement project upon the environment, both physical (built) and natural. It is proposed in both draft and final forms, which are reviewed by the local agencies and the general public and approved by the appropriate federal agencies. (FHWA or FTA)

DIS State funds for projects on Strategic Intermodal System

DOT Department of Transportation: Agency responsible for transportation at the local, state, or federal level.

DRI Development of Regional Impact: A large scale development which is required to undergo an extra local review process; the appropriate regional planning council coordinates the review; the appropriate local government makes the approval decision, with the Florida Department of Community Affairs (DCA) retaining appeal authority; Rule 28 24, F.A.C. identified types of development subject to DRI review.

EA Environmental Assessment: A document that must be submitted for approval by the U.S. Environmental Protection Agency and the U.S. Department of Transportation for transportation projects in which the significance of the environmental impact is not clearly established. An EA is required for all projects for which a Categorical Exclusion or Environmental Impact Statement is not applicable.

EAR Evaluation and Appraisal Report: Periodic review and evaluation of a local government comprehensive plan; generally due every five years; requirements for contents are identified in Rule 9J 5.0053, Florida Administrative Code and Chapter 163.3191, Florida Statutes.

ECFRPC East Central Florida Regional Planning Council: provides regional planning service for Brevard, Lake, Orange, Osceola, Seminole and Volusia counties.

EIS Environmental Impact Statement: A document that explains the purpose and need for a project, presents project alternatives, analyzes the likely impact of

each, explains the choice of a preferred alternative, and finally details measures to be taken in order to mitigate the impacts of the preferred alternative.

EPA Environmental Protection Agency: Protects human health and the environment. Since 1970, EPA has been working for a cleaner, healthier environment for the American people. EPA is led by the Administrator, who is appointed by the President of the United States.

ETDM Efficient Transportation Decision Making: Creates a linkage between land use, transportation and environmental resource planning initiatives through early, interactive agency and public involvement.

FAA Federal Aviation Administration: Provides a safe and efficient aerospace system.

FAPA Florida Chapter of the APA: The Florida Chapter of APA provides statewide leadership in the development of sustainable communities by advocating excellence in planning, providing professional development for its members, and working to protect and enhance the natural and built environments.

FBT Floridians for Better Transportation: Statewide business and transportation association dedicated to making transportation safer and more efficient in Florida; created in 1988 by the Florida Chamber of Commerce and the Florida Council of 100.

FDCA Florida Department of Community Affairs: State agency responsible for assisting Florida communities in meeting the challenges of growth, reducing the effects of disasters and investing in community revitalization.

FDEP Florida Department of Environmental Protection: The lead agency in state government for environmental management and stewardship. The department admin

FDOT Florida Department of Transportation: State agency responsible for transportation issues in Florida.

FEIS Final Environmental Impact Statement: A document that evaluates the potential environmental impacts of the proposed action.

FGDL Florida Geographical Data Library (FGDL): Housed at the GeoPlan Center at the University of Florida, contains GIS data from federal, state and local agencies.

FHPP Federal High Priority Projects: Projects earmarked by Congress in TEA 21 as high priorities at the federal level. These amount to roughly 5% of the total transportation budget.

FHWA Federal Highway Administration: Division of the U.S. Department of Transportation responsible for administrating federal highway transportation programs.

FIHS Florida Intrastate Highway System (FIHS): A statewide network of limited and controlled access highways whose primary function is for high speed and high volume traffic movements; built and maintained by FDOT.

FLHSR Florida High Speed Rail: Express rail service between Tampa and Orlando with future plans to extend service to Miami. Trains are projected to reach speeds of at least 168 mph.

FLUAM Future Land Use Allocation Model: A land use forecasting model that projects the land use parameters used in the Florida Standard Urban Transportation Models.

FONSI Finding of No Significant Impact (FONSI): A statement indicating that a project was found to have no significant impacts on the quality of the human environment and for which an environmental impact statement will therefore not be prepared.

FRA Federal Railroad Administration: The purpose of FRA is to promulgate and enforce rail safety regulations; administer railroad assistance programs; conduct research and development to improve railroad safety.

F.S. Florida Statutes: Documents in which Florida's laws are founds.

FSUTMS Florida Standard Urban Transportation Modeling Structure: Computer model used in Florida for transportation planning and traffic forecasting process.

FTA Federal Transit Administration: Federal entity responsible for transit planning and programs.

FTC Florida Transportation Commission: Provides leadership in meeting Florida's transportation needs through policy guidance on issues of statewide importance and maintaining public accountability for the DOT.

FTE Florida Turnpike Enterprise: Responsible for the operation and expansion of toll roads on the Turnpike system.

FTP Florida Transportation Plan: A statewide, comprehensive transportation plan, which establishes long range goals to be accomplished over a 20 25 year time frame; developed by Florida Department of Transportation; updated on an annual basis.

FY Fiscal Year: A budget year; runs from July 1 through June 30 for the State of Florida; and from October 1 through September 30 for the federal governments.

GIS Geographic Information Systems: A technology that integrates the collection, management and analysis of geographic data. This can be used to display the results of data queries as maps and analyze spatial distribution of data.

GPS Global Positioning System: A satellite based navigation system providing accuracy usable for side scan sonar surveys on a worldwide basis. GPS has become a universal, reliable positioning system.

HCM Highway Capacity Manual: A collection of state-of-the-art techniques for estimating capacity and determining level of service for many transportation facilities and modes.

HOT High Occupancy Toll Lanes: Lanes that take advantage of available unused capacity in the HOV lane by allowing vehicles that do not meet the minimum occupancy requirement to pay a toll for access to the lane(s).

HOV High Occupancy Vehicle Lanes: In Florida, vehicles carrying two (2) or more people; freeways, expressways and other large volume roads may have lanes designated for HOV use by carpoolers, vanpools, and buses.

ICE Intergovernmental Coordination Element: Required element of a local

government comprehensive plan addressing coordination between adjacent local governments, and regional and state agencies; requirements for content are found in rule 9J 5.015, F.A.C. and 163.3177(b)(h), F.S.

ISTEA Intermodal Surface Transportation Efficiency Act of 1991: Federal law which restructured transportation planning and funding by requiring consideration of multimodal solutions, emphasis on the movement of people and goods as opposed to traditional highway investments, flexibility in the use of transportation funds, a greater role of MPOs, and a greater emphasis on public participation.

ITE Institute of Transportation Engineers: An international society of professionals in transportation and traffic engineering; publishes Trip Generation (a manual of trip generation rates by land use type).

ITS Intelligent Transportation System: Use of computer and communications technology to facilitate the flow of information between travelers and system operators to improve mobility and transportation productivity, enhance safety, maximize the use of existing transportation facilities, conserve energy resources and reduce adverse environmental effects; includes concepts such as "freeway management systems," "automated fare collection" and "transit information kiosks."

JPA Joint Participation Agreement: Legal instrument describing intergovernmental tasks to be accomplished and/or funds to be paid between government agencies.

LAP Local Agency Program: Contracts between FDOT and other governmental agencies to develop, design, acquire right-of-way, and construct transportation facilities and to reimburse these governmental agencies for services provided to

the traveling public.

LGCP Local Government Comprehensive Plan: As required by Chapter 163, Florida Statutes, requires local governments to develop local comprehensive plans; also contains capital improvements, consistency and concurrency requirements, and provides for Rule Chapter 9J 5, F.A.C.

LOS Level of Service: A qualitative assessment of a road's operating condition, generally described using a scale of A (little congestion) to E/F (severe congestion).

LRT Light Rail Transit: An electric rail system which has single cars or short trains, and passenger's board at track or car floor level.

LRTP Long Range Transportation Plan: A 20 year forecast plan required of state planning agencies and MPOs; must consider a wide range of social, environmental, energy and economic factors in determining overall regional goals and consider how transportation can best meet these goals.

LU Land Use: Refers to the manner in which portions of land or the structures on them are used, i.e., commercial, residential, retail, industrial, etc.

MG Minimum Guarantee: A funding category created in TEA 21 that guarantees a 90% return of contributions on formula funds to every state.

MAP-21 The Moving Ahead for Progress in the 21st Century Act is a funding and authorization bill to govern United States federal surface transportation spending

MMTD Multimodal Transportation District: Jointly administered by FDOT and DCA, this planning framework was established by statute based on

recommendations by the Transportation and Land Use Study Committee (1999), which sought to reconcile transportation programs and land use practices. Its goal is to expand the use of multiple modes by coordinating transportation improvements (such as improved transit service and pedestrian facilities) and land use measures that enable multimodal transportation to succeed.

MPO Metropolitan Planning Organization: The forum for cooperative transportation decision making; required for urbanized areas with populations over 50,000

MPOAC Metropolitan Planning Organization Advisory Council: A statewide advisory council (consisting of one member from each MPO) that serves Florida's 25 MPOs as the principal forum for collective policy discussion; created by law to assist the MPOs in carrying out the urbanized area transportation planning process.

MSTU Municipal Services Tax Unit: A Taxing District authorized by State Constitution, Article VII and Florida Statute 125.01. The MSTU is a legal and financial mechanism for providing specific services and/or improvements to a defined geographical area. An MSTU may levy ad valorem taxes to provide funds for the improvements.

NAAQS National Ambient Air Quality Standards (NAAQS): Establishes maximum concentrations for criteria air pollutants in specified geographical areas. These pollutants include carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO2), particulate matter (PM-10), ozone (O3), and sulfur dioxide (SO2). To prevent established concentrations from being exceeded, State and local governments may require air pollution controls on existing, new, and modified industrial facilities; tighter standards on emissions from motor vehicles; and the use of alternative fuels.

NEPA National Environmental Policy Act of 1969: An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

NHS National Highway System: Specific major roads to be designated by September 30, 1995; the NHS will consist of 155,000 (plus or minus 15%) miles of road and represents one category of roads eligible for federal funds under ISTEA.

NHPA National Historic Preservation Act (NHPA): Law requiring federal agencies to consider the potential effect of a project on a property that is registered on or eligible for the National Register of Historic Places. If effects are identified, federal and state agencies and the public must identify means to mitigate the harm.

PD&E Project Development and Environment Study (PD&E): FDOT's name for a corridor study to establish conceptual design for a roadway and to determine its compliance with federal and state environmental laws and regulations.

PE Preliminary Engineering (design): Highway project phase

PEA Planning Emphasis Area: Planning for the appropriate use of land within communities.

PHF Peak Hour Factor: Traffic engineers focus on the peak-hour traffic volume in evaluating capacity and other parameters because it represents the most critical time period. The analysis of level of service is based on peak rates of flow occurring within the peak hour because substantial short-term fluctuations typically occur during an hour. Common practice is to use a peak 15-minute rate of flow. Flow

rates are usually expressed in vehicles per hour, not vehicles per 15 minutes.

PIO Public Information Officer: The individual in an agency or district responsible for disseminating information and responding to inquiries from the media.

PI Public Involvement: The process by which public concerns, needs, and values are solicited and incorporated into decision-making.

PL Planning Funds: Federal Highway Administration planning funds, also called Section 112 funds.

PIP Public Involvement Plan (PIP): A written plan of public involvement strategies and activities for a specific transportation plan or project. The PIP provides a systematic approach to how the results and outcomes of public involvement activities are integrated into the decision-making process.

PMS Pavement Management System: A systematic process utilized by state agencies and MPOs to analyze and summarize pavement information for use in selecting and implementing cost effective payment construction, rehabilitation, and maintenance programs; required for roads in the National Highway System as a part of ISTEA; the extent to which the remaining public roads are included in the process is left to the discretion of state and local officials; criteria found in 23 CFR 500.021 209.

PTMS Public Transportation Facilities and Equipment Management System: A systematic process (required under ISTEA) utilized by state agencies and MPOs to collect and analyze information on the condition and cost of transit assets on a continual basis; data is to be used to help people choose cost effective strategies

for providing and keeping transit facilities and Transportation Management Areas (TMAs); the use of CMS in non TMAs is left to the discretion of state and local officials.

PUD Planned Unit Development: A zoning category that allows innovation in development by the suspension of standard zoning to be replaced by negotiated agreements. A PUD requires a comprehensive development plan for the entire area, usually including residences, roads, schools, recreational facilities and service areas, plus commercial, office and industrial areas.

RFP Request for Proposals: A document advertising opportunities to submit bids for a particular purchase or service contract.

ROW Right of Way: Real property that is used for transportation purposes; defines the extent of the corridor that can be used for the road and associated drainage.

RPC Regional Planning Council: A multipurpose organization composed of representatives of local governments and appointed representatives from the geographic area covered by the council, and designated as the primary organization to address problems and plan solutions that are of greater than local concern or scope; currently there are 11 regional planning councils in Florida. In some area of Florida the Regional Planning Council is under contract to provide staff services to MPOs.

SAFETEA – Safe, Accountable, Flexible, Efficient Transportation Equity Act:
LU: Legacy for Users: Reauthorization of the Federal Transportation Bill authorizing the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period, 2005-2009.

SCE Sociocultural Effects: The effects a transportation action has on social, economic, aesthetic and livability, relocation and displacement, civil rights and land use issues.

SCOP Small County Outreach Program: Assists small county governments (population of 150,000 or less) in resurfacing or reconstructing county roads or in constructing capacity or safety improvements to county roads.

SIS Strategic Intermodal System: A transportation system comprised of facilities and services for statewide and interregional significance, including appropriate components of all modes.

SOV Single Occupant Vehicle: Privately operated vehicle whose only occupant is the driver.

SIB State Infrastructure Bank: Method of financing large capital projects by taking advantage of borrowing against future state revenues.

SRPP Strategic Regional Policy Plan: A plan, developed by each regional planning council (RPC), which contains goals and policies addressing affordable housing, economic development, emergency preparedness, natural resources of regional significance, and regional transportation issues; must be consistent with the state comprehensive plan.

STIP State Transportation Improvement Program: The FDOT five year work program as prescribed by federal law.

TAC Technical Advisory Committee: A standing committee of most metropolitan

organizations (MPOs); function is to provide advice on plans or actions of the MPO from planners, engineers and other staff members (not general citizens).

TCEA Transportation Concurrency Exception Area: Special areas designated in local government comprehensive plans where special level of service standards or analysis techniques may be prescribed. Usually implemented in support of urban infill, urban redevelopment, and/or downtown revitalization.

TCMA Transportation Concurrency Management Area: Special areas designated in local government comprehensive plans where special level of service standards or analysis techniques may be prescribed. Usually implemented in support of urban infill, urban redevelopment, and/or downtown revitalization.

TD Transportation Disadvantaged: People who are unable to transport themselves or to purchase transportation due to disability, income status or age.

TDCB Transportation Disadvantaged Coordinating Board: This committee is responsible for defining transportation disadvantaged-related goals and objectives, preparing a service plan, and ensuring that the needs of the transportation disadvantaged citizens are being met.

TDM Transportation Demand Management: A transportation planning process that is aimed at relieving congestion on highways by the following types of actions: (1) actions that promote alternatives to automobile use; (2) actions that encourage more efficient use of alternative transport systems, and (3) actions that discourage automobile use.

TDP Transit Development Plan: An intermediate-range transit plan (usually five years) that examines service, markets, and funding to make specific

recommendations for transit improvements.

TDSP Transportation Disadvantaged Service Plan: A tactical plan with Development, Service, Quality Assurance and Cost/Revenue Allocation and Rate Structure Justification components. The TDSP contains goals which the CTC plans to achieve, and the means by which they intend to achieve them.

TE Transportation Enhancements: Specific activities which can be funded with Surface Transportation Program (STP) funds; activities include pedestrian/bicycle facilities, acquisition of scenic easements and scenic historic sites, scenic or historic highway programs, scenic beautification, historic preservation, rehabilitation/operation of historic transportation structures, railway corridor preservation, control/removal of outdoor advertising, archeological planning/research and mitigation of highway runoff water pollution.

TEA 21 Transportation Equity Act for the 21" Century: Federal Legislation authorizing funds for all modes of transportation and guidelines on the use of those funds. Successor to ISTEA, the landmark legislation that clarified the role of the MPOs in the local priority setting process, TEA 21 emphasizes simplicity, fairness, and higher funding levels for transportation.

TIGER Transportation Investment Generating Economic Recovery: Funding for supplemental discretionary grants for capital investments in surface transportation infrastructure under the American Recovery and Reinvestment Act.

TIP Transportation Improvement Program: A priority list of transportation projects developed by a metropolitan planning organization that is to be carried out within the five (5) year period following its adoption; must include documentation of federal and state funding sources for each project and be

consistent with adopted MPO long range transportation plans and local government comprehensive plans.

TMA Transportation Management Association: A membership organization designed to help a group of businesses, companies, and other interested parties implement a commute management program; some funding for these groups is available through the state Commuter Assistance Program (CAP).

TMA Transportation Management Area: A federal term for an urban area of over 200,000 population.

TMS Transportation Management System: Transportation Management System: The implementation of traffic control measures, such as HOV lanes, signal timing adjustments, median closings, and access management strategies to increase the operating efficiency of the traffic circulation system.

TMS Transportation Management System: A LSMPO system that includes traffic counts, tracking of approved developments and crash data resulting in a comprehensive database.

TOP Transit Operations Plan: An operational and cost feasibility analysis performed prior to implementation of transit services.

TPO Transportation Planning Organization: A synonym for a Metropolitan Planning Organization (MPO), responsible for transportation planning and is mandated by state and federal agencies.

TRB Transportation Research Board: A unit of the National Research Council

whose purpose is to advance knowledge about transportation systems; publishes the Highway Capacity Manual.

TRIP Transportation Regional Incentive Program: TRIP was created to improve regionally significant transportation facilities in "regional transportation areas". State funds are available throughout Florida to provide incentives for local governments and the private sector to help pay for critically needed projects that benefit regional travel and commerce. The Florida Department of Transportation (FDOT) will pay for 50 percent of project costs, or up to 50 percent of the nonfederal share of project costs for public transportation facility projects.

TSCP Transportation and Community and Systems Preservation Pilot Program: A federal discretionary grant program created in TEA 21 that is designed to provide funding for revitalizing and rehabilitating transportation corridors.

TSM Transportation Systems Management: Strategies to improve the efficiency of the transportation system through operational improvements such as the use of bus priority or reserved lanes, signalization, access management, turn restrictions, etc.

UA Urbanized Area: The US Census Bureau defines an urbanized area as: "Core census block groups or blocks that have a population density of at least 1,000 people per square mile (386 per square kilometer) and surrounding census blocks that have an overall density of at least 500 people per square mile (193 per square kilometer)."

UPWP Unified Planning Work Program: Developed by Metropolitan Planning Organization (MPOs); identifies all transportation and transportation air quality

tasks and activities anticipated within the next one to two years, including a schedule for the completion of the identified tasks and activities.

USC United States Code: The United States Code is the codification by subject matter of the general and permanent laws of the United States. It is divided by broad subjects into 50 titles and published by the Office of the Law Revision Counsel of the U.S. House of Representatives. Since 1926, the United States Code has been published every six years. In between editions, annual cumulative supplements are published in order to present the most current information.

USDOT United States Department of Transportation: Established by an act of Congress on October 15, 1966, the Department's first official day of operation was April 1, 1967. The mission of the Department is to: Serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future.

VHT Vehicle Hours Traveled: On highways, a measurement of the total hours traveled in a given area for a specified time period. It is calculated by multiplying the number of vehicles by the hours traveled in a given area or on a given highway during the time period. In transit, it is calculated by multiplying the number of vehicles by the hours traveled on a given area or on a different route, line, or network during the time period.

VMS Variable Message Sign: An electronic traffic sign often used on roadways to give travelers information about special events. Such signs warn of traffic congestion, accidents, incidents, roadwork zones, or speed limits on a specific highway segment. They may also ask vehicles to take alternative routes, limit

travel speed, warn of duration and location of the incidents or just inform of the traffic conditions.

VMT Vehicle Miles Traveled: On highways, a measurement of the total miles traveled in a given area for a specified time period. It is calculated by multiplying the number of vehicles by the miles traveled in a given area or on a given highway during the time period. In transit, it is calculated by multiplying the number of vehicles by the miles traveled on a given area or on a different route, line, or network during the time period.

WAGES Work and Gain Economic Self Sufficiency: Florida's welfare to work program.

WRPC Withlacoochee Regional Planning Council: Provides regional planning services for Citrus, Hernando, Levy, Marion, and Sumter Counties.

APPENDIX C: FLORIDA LRTP AMENDMENT THRESHOLDS

Florida LRTP Amendment Thresholds

March 5, 2014

LRTP Amendments

Project Cost Changes that Require an LRTP Amendment

An LRTP amendment will be required for LRTP cost increases that exceed 50% of project cost and $50 million.

When assessing project cost changes (including project costs documented in NEPA documents), the cost of the project includes the phases after the PD&E which, for purposes of this document, are Design/PE, ROW and Construction phases.

Other Changes that Require an LRTP Amendment

A. Design Concept or Scope Changes: A major change in the project termini (e.g. expansion) or a change in a project concept(s) such as adding a bridge, addition of lanes, addition of an interchange, etc.

B. Deleting a full project from the CFP.

C. Adding a new project where no phases are currently listed in the CFP.

D. Projects or Project Phase Initiation Date for projects in the CFP:

a) Advancing a project phase from the 3rd 5 years and the last 10 year band of the LRTP to the TIP/STIP years; advancing a project more than one 5 year band (see table with LRTP amendment examples below).

b) Adding a phase to an existing CFP project (e.g. if ROW is funded, adding CST Phase)where (1) the new phase is funded in the TIP/STIP years/1st 5-year band of the LRTP and(2) one or more phases of a

different project must be deferred to a later band or to the Needs/Illustrative List in order to demonstrate fiscal constraint.

c) For advancing phases of minor projects, please see the LRTP Modifications section.

E. Projects or Project Phase Initiation Date for projects beyond the CFP:

a)Moving a new project from a Needs or Illustrative List to the CFP where no phases are currently listed in the CFP.

b)Moving new phases from a Needs or Illustrative List to an existing CFP project where (1)the new phase is funded in the TIP/STIP years/1st 5-year band of the LRTP and (2) one or more phases of a different project must be deferred to a later band or to the Needs/Illustrative List in order to demonstrate fiscal constraint.

LRTP Modifications

Changes that are less significant than those above that trigger an LRTP amendment would only require a modification. These include:

A. Design Concept or Scope Changes: A minor change in the project termini equal to or less than 10% of the total project, i.e., adjusting length for turn lane tapers.

B. Identification of planned use of Federal funds for existing CFP projects if Federal funds are added to a project funded with only state or local funds in the adopted LRTP.

C. Project or Project Phase Initiation Date:

a)Advancing a project from a 5- or 10-year band to an adjacent 5 year band beyond the TIP/STIP years/1st 5-yr band.

b)Adding a new phase to an existing CFP project (e.g. if ROW is funded, adding CST Phase)where the new phase is funded beyond the TIP/STIP years/1st 5-year band of the LRTP.

c) Adding a new phase to an existing CFP project (e.g. if ROW is funded, adding CST Phase) from a Needs or Illustrative list to the CFP where the new phase is funded beyond the TIP/STIP years/1st 5-year band of the LRTP.

d) Adding a new phase to an existing CFP project (e.g. if ROW is funded, adding CST Phase) from a Needs or Illustrative list to the CFP where (1) the new phase is funded in the TIP/STIP years/1st 5-year band of the LRTP and (2) the added phases use new funds not contained in the LRTP Revenue Forecast to the CFP.

Advancing Phases for Minor Projects

Projects and/or project phases of $5 million or less can be moved from any 5-yr band to any 5-yr band by modification to the LRTP.

Background and Related Information

TIP/STIP Consistency with LRTP

TIP/STIPs are required to be consistent with LRTPs {23 CFR 450.216(k) and 23 CFR 450.324(g)}. The TIP/STIP is consistent with the LRTP when:

A. TIP/STIP project costs are within 50% and $50 million of projects costs shown in the LRTP.

B. TIP/STIP initiation phase is within the first two 5-year bands of the LRTP;

C. Project Scope (including termini, number of lanes, interchanges, etc.,) is consistent between the TIP/STIP and LRTP. Project Termini may have minor variations if there is no major scope change.

For initial STIP approval, TIPs are incorporated into the STIP unchanged {23 CFR 450.216(b)}.

NEPA Consistency and Approval

A NEPA document is consistent with the LRTP and STIP/TIP when:

A. NEPA discussion of the project implementation reflects the planning documents in these areas: scope, cost, general funding sources, description, and logical termini.

B. An amendment to either the LRTP or STIP/TIP is NOT needed.

C. The limits in the NEPA document (logical termini) are addressed in the LRTP CFP or Needs Plan, regardless of the implementing constructible segments.

Modifications should occur to the STIP/TIP or LRTP prior to NEPA approval whenever possible. However, modifications may be completed after the NEPA signature in accordance with the state and MPO established planning procedures. The NEPA document must provide reasonable assurances that the changes will occur as noted in the Commitments and Recommendations Section of the NEPA document.

For the final NEPA document to be signed:

In an MPO area

A. The project must be described within the LRTP. The description, at a minimum, must include roadway identification, termini, implementation time frame and full project cost.

B. Ideally, all phases of the project will be funded in the LRTP CFP.

C. At least one subsequent phase of the entire project must be in the LRTP CFP. If the next phase for the entire project is not in the CFP, then at least one segment of the project must be fully funded in the CFP through construction.

D. The information that is then displayed in the TIP/STIP would depend on the timing of the programming for the next phase of the project implementation.

In a non-MPO area

A. The project must be consistent with the Florida Transportation Plan.

B. If the project is on the SIS, the SIS 10-Year CFP may be used to show the project's planned implementation. If the project is not on the SIS, other publically available long range considerations may be used to show the project's planned implementation, such as local government comprehensive plans.

C. The project or phase of a project must be in the STIP. If funding of the project is beyond the timeframe of the STIP, the STIP must contain

an informational project with a description of the subsequent phase(s) as reflected in the

Review and Revision of Florida LRTP Amendment Thresholds

This guidance will be reviewed and revised as needed should the state be subject to Air Quality Conformity requirements. The effectiveness of this document will be evaluated after a one-year implementation period which ends in October 2014. Revisions as agreed upon by the parties will be made as needed. This guidance sets the minimum thresholds for project changes that trigger an LRTP Amendment. Even if a project change does not require an amendment, an MPO may still elect to do an amendment at its option if appropriate circumstances warrant.

APPENDIX D: FEDERAL REQUIREMENTS FOR THE PUBLIC PARTICIPATION

Federal Requirements for Public Participation

The public involvement process requirements in 23 CFR450, Section 450.316(b) (1), are listed below.* These requirements encourage a pro-active public involvement process and support early and continuing involvement of the public in the planning process. A reference to the section of this plan describing how the Lake~Sumter MPO meets these requirements is included following each criterion listed below.

(i) Require a minimum public comment period of forty-five days before the public involvement process is initially adopted or revised;

(ii) Provide timely information about transportation issues and processes to persons, affected public agencies, representatives of transportation agency employees, private providers of transportation, other interested parties and segments of the community affected by transportation plans, programs and projects (including but not limited to central city and other local jurisdiction concerns);

(iii) Provide reasonable public access to technical and policy information used in the development of plans and TIP's, and open public meetings where matters related to the Federal- aid highway and transit programs are being considered;

(iv) Seek out and consider the needs of those traditionally underserved by existing transportation systems, including but not limited to low-income and minority households;

(v) When significant written and oral comments are received on the draft transportation plan or TIP (including the financial plan) as a result of the public involvement process, a summary, analysis, and report on the disposition of comments shall be made part of the final plan and TIP;

(vi) If the final transportation plan or TIP differs significantly from the one which was made available for public comment by the MPO and raises new material issues which interested parties could not reasonably have foreseen from the public involvement efforts, an additional opportunity for public comment on the revised plan or TIP shall be made available.

(vii) Public involvement processes shall be periodically reviewed by the MPO in terms of their effectiveness in assuring that the process provides full and open access to all;

(viii) These procedures will be reviewed by the FHWA and the FTA during certification reviews for TMAs, and as otherwise necessary for all MPOs, to assure that full and open access is provided to decision-making processes.

(ix) Metropolitan public involvement processes shall be coordinated with statewide public involvement processes wherever possible to enhance public consideration of the issues, plans, and programs and reduce redundancies and costs.

* **Please Note**: Other components of the legislation which support 23CFR450, Section 450.316(b) (1) are:

- 450.212(a) –Public Involvement
- 450.214 – Statewide Transportation Plan
- 450.216 -- Statewide transportation improvement program (STIP)
- 450.318(b) - - Metropolitan Transportation Planning Process: Major Metropolitan Transportation Investments
- 450.322(c) - - Metropolitan Planning Process: Transportation Plan
- 450.324(c) - - Transportation Improvement Program: General

APPENDIX E:

RESOLUTIONS

1. **Resolution 2015 (26) Adopting TRANSPORTATION 2040**
2. **Resolution 2017 (7) Amending TRANSPORTATION 2040**
3. **Resolution 2017 (21) Amending TRANSPORTATION 2040**

LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION

RESOLUTION 2015 - 26

RESOLUTION OF THE LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION ADOPTING *TRANSPORTATION 2040* AND AUTHORIZING TRANSMITTAL TO THE FLORIDA DEPARTMENT OF TRANSPORTATION AND THE FEDERAL HIGHWAY ADMINISTRATION

WHEREAS, the Lake~Sumter Metropolitan Planning Organization (MPO) is the duly designated and constituted body responsible for carrying out the urban transportation planning and programming process for Lake-Sumter Planning Area; and

WHEREAS, 23 CFR Section 450.322(a) and Florida Statute 339.175(6) require each Metropolitan Planning Organization to develop and approve a Long Range Transportation Plan, addressing at least a twenty-year planning horizon, at least every five years; and

WHEREAS, a Long Range Transportation Plan includes both long-range and short-range strategies and actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods; and

WHEREAS, after extensive public meetings and public presentations during the development of the plan and after review and recommendation by MPO committees, the draft document was approved by the Governing Board October 28, 2015, at which time a public comment period was opened and the formal draft document was made available for public review; and

WHEREAS, the Lake~Sumter MPO's *Transportation 2040* has been prepared in accordance with Chapter 4 of the Florida Department of Transportation MPO Program Management Handbook.

NOW, THEREFORE, BE IT RESOLVED by the Lake~Sumter MPO that:

1. *Transportation 2040* is hereby endorsed and adopted; and
2. The Chairman of the MPO is hereby authorized and directed to transmit *Transportation 2040* to the Florida Department of Transportation and the Federal Highway Administration.

DULY PASSED AND ADOPTED this 9 day of December, 2015.

Lake~Sumter Metropolitan Planning Organization

Ray Goodgame

Ray Goodgame, Chairman

Approved as to form and legality:

Melanie Marsh

Melanie Marsh, MPO Attorney

LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION

RESOLUTION 2017 - 7

A RESOLUTION OF THE LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION (MPO), AMENDING *TRANSPORTATION 2040*, THE MPO'S LONG RANGE TRANSPORTATION PLAN TO ADD TWO COST-FEASIBLE ROADWAY PROJECTS: CITRUS GROVE ROAD EXTENSION TO FOSGATE ROAD IN LAKE COUNTY AND BUENA VISTA BOULEVARD EXTENSION IN SUMTER COUNTY; ADDING THE *TRANSPORTATION 2040* PROGRAM POLICIES AS APPENDIX A; AND AUTHORIZING TRANSMITTAL TO THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

WHEREAS, the Lake~Sumter Metropolitan Planning Organization (MPO) is the duly designated and constituted body responsible for carrying out the urban transportation planning and programming process for Lake-Sumter Planning Area; and

WHEREAS, 23 CFR Section 450.322(a) and Section 339,175(7), Florida Statute require each Metropolitan Planning Organization to develop and approve a Long Range Transportation Plan, addressing at least a twenty-year planning horizon, at least every five years; and

WHEREAS, *TRANSPORTATION 2040,* the MPO's Long Range Transportation Plan ("LRTP" or the "Plan"), was adopted on December 9, 2015; and

WHEREAS, *TRANSPORTATION 2040* was prepared in accordance with Chapter 4 of the Florida Department of Transportation MPO Program Management Handbook; and

WHEREAS, the LRTP must identify project priorities that can likely be funded over the next 20 years given available revenues; and

WHEREAS, the concept of extending Citrus Grove Road in Lake County east to cross Florida's Turnpike (SR 91) and to align with Fosgate Road, as shown in Exhibit A to this resolution, is recognized by the Florida Turnpike Enterprise, the City of Minneola, and Lake County as a logical east-west connection providing enhanced connectivity to North Hancock Road and the new Minneola Interchange; and

WHEREAS, the extension of Citrus Grove Road east to align with Fosgate Road is contemplated as a public-private partnership to achieve cost feasibility, with the City of Minneola requiring the Hills of Minneola landowner to commit to construct the eastern extension of Citrus Grove Road to the western right-of-way of Florida's Turnpike, with Florida's Turnpike Enterprise committing to construct a two-lane bridge across Florida's Turnpike, and with Lake County committing to construct or to gain developer commitments to construct a roadway extension of Fosgate Road west to the eastern right-of-way of Florida's Turnpike; and

WHEREAS, the concept of the extension of Buena Vista Boulevard in Sumter County from its existing terminus at SR 44 south to C-470, as shown in Exhibit B to this resolution, is recognized by Sumter County and Wildwood as a logical north-south connection providing enhanced connectivity

between SR 44 and C-470 and to regional facilities such as I-75, US 301, Florida's Turnpike, and C-470; and

WHEREAS, the extension of Buena Vista Boulevard south from SR 44 to C-470 is contemplated as a public-private partnership to achieve cost feasibility, with the City of Wildwood and Sumter County coordinating on gaining private-sector commitments as land development progresses and with the project eligible for federal or state funding by virtue of inclusion in the LRTP; and

WHEREAS, the document *TRANSPORTATION 2040 Program Policies* is a compilation of policies adopted by resolutions by the MPO from May 2016 through January 2017 and the document is to be added to the LRTP as Appendix A; and

WHEREAS, the Lake~Sumter MPO desires to amend *TRANSPORTATION 2040* to include these projects as cost feasible projects and to add the Program Policies as an Appendix.

NOW, THEREFORE, BE IT RESOLVED by the Lake~Sumter MPO that:

1. *TRANSPORTATION 2040* is hereby amended to add the extension of Citrus Grove Road over the Florida's Turnpike to Fosgate Road and the Buena Vista Boulevard southern extension from SR 44 south potentially over Florida's Turnpike to C-470, as Cost Feasible Projects; and

2. *TRANSPORTATION 2040* is hereby amended to add as Appendix A, "Program Policies" developed in support of the *TRANSPORTATION 2040* Goals, Objectives and Strategies that support regional and local issues and initiatives, and set the framework for project priorities to better address the many transportation challenges faced in the Lake~Sumter region; and

3. The Chair of the MPO is hereby authorized and directed to transmit the *TRANSPORTATION 2040* amendment to the Florida Department of Transportation and the Federal Highway Administration.

DULY PASSED AND ADOPTED this 26 day of April, 2017.

Lake~Sumter Metropolitan Planning Organization

Pat Kelly, Chair

This 26 day of April, 2017.

Approved as to form and legality:

Melanie Marsh, MPO Attorney

LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION

RESOLUTION 2017 - 21

A RESOLUTION OF THE LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION (MPO), AMENDING *TRANSPORTATION 2040*, THE MPO'S LONG RANGE TRANSPORTATION PLAN, TO ADD THE WELLNESS WAY URBAN SERVICE AREA PLANNED ARTERIAL ROADWAY NETWORK AND THE STATE ROAD 50 DESIGN PHASE AS COST-FEASIBLE PROJECTS; AND AUTHORIZING TRANSMITTAL TO THE CENTRAL FLORIDA EXPRESSWAY AUTHORITY, THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), AND THE FEDERAL HIGHWAY ADMINISTRATION (FHWA)

WHEREAS, the Lake~Sumter Metropolitan Planning Organization (MPO) is the duly designated and constituted body responsible for carrying out the urban transportation planning and programming process for Lake-Sumter Planning Area; and

WHEREAS, 23 CFR Section 450.322(a) and Section 339.175(7), Florida Statutes require each Metropolitan Planning Organization to develop and approve a Long-Range Transportation Plan, addressing at least a twenty-year planning horizon, at least every five years; and

WHEREAS, *TRANSPORTATION 2040,* the MPO's Long Range Transportation Plan ("LRTP" or the "Plan"), was adopted on December 9, 2015; and

WHEREAS, *TRANSPORTATION 2040* was prepared in accordance with Chapter 4 of the Florida Department of Transportation MPO Program Management Handbook; and

WHEREAS, the LRTP must identify project priorities that can likely be funded over the next 20 years given available revenues; and

WHEREAS, *Transportation 2040* was amended on April 26, 2017 to add two cost-feasible roadway projects: Citrus Grove Road extension to Fosgate Road in Lake County and Buena Vista Boulevard extension in Sumter County; and

WHEREAS, Transportation 2040 was amended on April 26, 2017 to add program policies as Appendix A; and

WHEREAS, the Lake County Board of County Commissioners adopted the Wellness Way Urban Service Area (USA) Plan; and

WHEREAS, the Wellness Way USA Plan includes a conceptual roadway network that is anticipated to be developed as land uses develop; and

WHEREAS, the northernmost east-west corridor in the Wellness Way USA Plan, connecting from US 27 in Lake County to SR 429 and the existing interchange with New Independence Parkway in Orange County, is already in *Transportation 2040* as "Lake-Orange Parkway," a facility shown in the MPO's plan as cost-feasible as a public-private partnership of developer investment and grant

funding or unanticipated state or federal funding; and the corridor is to be renamed in *Transportation 2040* as "Wellness Way"; and

WHEREAS, the Wellness Way USA Plan also includes an east-west corridor south of Wellness Way identified as Schofield Road connecting US 27 in Lake County to SR 429 and the existing interchange with Schofield Road in Orange County; and

WHEREAS, the Wellness Way USA Plan also includes a north-south corridor identified as the extension of CR 455 from SR 50 south through the USA connecting to the planned extension of Sawgrass Bay Boulevard; and

WHEREAS, just as with Wellness Way, Schofield Road and the CR 455 Extension are to be included in *Transportation 2040* as cost-feasible projects based on potential public-private partnerships of developer investment and grant funding or unanticipated state or federal funding; and

WHEREAS, the FDOT has programmed 16.4 million in FY 2017/18 for the design phase of the SR 50 four-lane project from the Hernando/Sumter County Line to CR 33 in Mascotte and Lake County; and

WHEREAS, FDOT's programming of the funds for the design phase of SR 50 from the Hernando/Sumter County Line to CR 33 in Mascotte and Lake County was accompanied by a request of the MPO from FDOT to amend *Transportation 2040* for plan consistency.

NOW, THEREFORE, BE IT RESOLVED by the Lake~Sumter MPO that:

1. *TRANSPORTATION 2040,* the MPO's Long Range Transportation Plan, is hereby amended to incorporate the conceptual roadway network of the Wellness Way Urban Service Area (USA) Plan, including Schofield Road and the CR 455 Extension, and to rename the corridor currently named in the plan as "Lake-Orange Parkway" to "Wellness Way", as described in Exhibit A, attached hereto; and

2. The Wellness Way Urban Service Area (USA) Plan conceptual roadway network is incorporated into *Transportation 2040,* the MPO's Long Range Transportation Plan, as cost-feasible based on potential public-private partnerships of developer investment and grant funding or unanticipated state or federal funding; and

3. *TRANSPORTATION 2040* is hereby amended to add the design phase of SR 50 from the Hernando/Sumter County Line to CR 33 in Mascotte and Lake County as a cost-feasible project based on $16.4 million in funding programmed by the Florida Department of Transportation in FY 2017/18; and

3. The Chair of the MPO is hereby authorized and directed to transmit the *TRANSPORTATION 2040* amendment to the Central Florida Expressway Authority, the Florida Department of Transportation and the Federal Highway Administration.

DULY PASSED AND ADOPTED this 25 day of October, 2017.

Lake~Sumter Metropolitan Planning Organization

_____

Pat Kelly, Chair

This 25 day of October, 2017.

Approved as to form and legality:

_____

Melanie Marsh, MPO Attorney

APPENDIX F:

TRAVEL DEMAND MODELING AND LAND USE ASSUMPTIONS

1. **CFRPM 6.0 A Comparison of Model Growth for 2040**
2. **CFRPM 5.0 Model Calibration and Validation Results**

CFRPM Version 6.0
FDOT District 5

A Comparison of
Model Projected Growth for 2040

Prepared by:
Leftwich Consulting Engineers, Inc.
12151 Science Drive, Suite 101
Orlando, Florida 32826
(407) 281-8100

February 2015

1.0 GENERAL OVERVIEW OF CFRPM 6.0 YEAR 2010 MODEL

The Florida Department of Transportation (FDOT) District Five Central Florida Regional Planning Model (CFRPM) Version 6.0 follows the traditional four step process:

- **Trip Generation** defines the number of person trips based on socio-economic data assigned to the Traffic Analysis Zones (TAZs) within the model. A total number of trips are generated for individual TAZs based on dwelling unit and population data (e.g. Productions). Employment and school enrollment data relates to the opportunities individual TAZs have for satisfying the produced trips (e.g. Attractions).
- **Trip Distribution** is based on a gravity model which is used to simulate travelers' destination choices with respect to distance and/or travel time from those destinations. In general, production trip ends are more likely to be satisfied by attraction ends that are closer in distance/travel time than those attraction ends further away.
- **Mode Split** determines the mode by which the trips travel by. The split is based on auto occupancy for highway trips and type of transit (local bus, express bus, or fixed guide-way transit) for non-highway trips.
- **Trip Assignment** next assigns the individual trip pairings to the highway and transit networks. This involves selecting the path that an actual traveler would take. Generally, the route is based or being either the shortest or the fasted means for assigning the trip.

2.0 DATA USED FOR VALIDATION

Travel demand forecasting models use current data for socio-economic (SE) files (zdata 1 for population and zdata2 for employment). Specifically, the CFRPM 6.0 SE data is based on information provided by the various local agencies comprising each of the 9 counties within District Five, plus all of Polk County and a portion of Indian River County. This applies both for the existing 2010 base year and the 2040 future horizon year.

The model uses many checks and balances to help review the data. Current surveys are used if available and/or information is utilized from previous surveys as needed. The best and most up-to-date resources are referenced to ensure that the most accurate information is developed.

For any new model validation, the base year traffic counts are always referenced since this is collected on an annual basis by FDOT and the various county and local municipality agencies. Travel demand models use the current traffic counts to validate the model. This means that the basis of the validation is to obtain a base year assignment which replicates reasonably the observed local traffic. One of the measures used to check how closely the traffic patterns are validated to is the Percent Root Mean Square Error (%RMSE). There are different ranges set for different traffic count ranges such that the higher the traffic count, the lower the allowed %RMSE. This is based on the basis that the higher volume roads such as freeways and higher count arterials should most closely match between the validated model volume and the observed traffic count. For lower count volumes, the differences between the two can be higher. On a daily basis the allowable deviation, or % RMSE, for the CFRPM 6.0 validation was established as being between 32 and 39 percent based on general model guidelines. The actual model validation was 34.72 percent which means is more than adequately meets the standard established.

Individual count ranges closely follow the allowed %RMSE ranges, as well. For an 11 county model, it is reasonable that not all count ranges be exactly within their ranges as long as the overall %RMSE is achieved. Notably, the only count ranges slightly outside the range are 1-5000, 5-1000, and 90000-100000 (the later has only 2 links with counts). Table 1 illustrates the daily %RMSE achieved. As noted, the model utilized 6907 traffic counts to validate to.

Table 1
CFRPM 6.0 Year 2010 %RMSE

CFRPM6 v6.0 Daily Counts							
Vol Group	Count Range	Model %RMSE	Allowed RMSE Range	Volume	Count	Volume/ Count	No of Links
1	1-5,000	75.06%	45 - 55%	7,453,920	6,478,237	1.15	1,796
2	5,000-10,000	49.15%	35 - 45%	16,783,788	15,533,502	1.08	2,136
3	10,000-20,000	29.02%	27 - 35%	31,625,659	31,212,820	1.01	2,186
4	20,000-30,000	22.22%	24 - 27%	14,273,279	13,838,456	1.03	582
5	30,000-40,000	15.03%	22 - 24%	3,781,668	3,979,018	0.95	116
6	40,000-50,000	19.40%	20 - 22%	788,500	848,284	0.93	19
7	50,000-60,000	5.84%	18 - 20%	999,395	997,914	1.00	18
8	60,000-70,000	14.41%	17 - 18%	1,114,197	1,174,721	0.95	18
9	70,000-80,000	10.63%	16 - 17%	1,265,822	1,338,590	0.95	18
10	80,000-90,000	12.68%	15 - 16%	1,189,186	1,327,908	0.90	16
11	90,000-100,000	18.38%	14 - 15%	158,411	182,000	0.87	2
ALL	**1-500,000**	**34.72%**	**32 - 39%**	**79,433,825**	**76,911,450**	**1.03**	**6,907**

3.0 GROWTH TRENDS

From the 1980's up until year 2005, traffic counts have mostly increased within the District. For future years, new development reflected extensive new development (Developments of Regional Impact, etc.).

Following the 2008 Recession, which had not only local but global impact, the trends observed in the preceding past changed drastically. When comparing the 2010 traffic counts to the year 2005 traffic counts, 78% of the 2010 counts were lower than the 2005 counts. That is more than 3/4 of all the counts. This means that the area had still not recovered fully from the impact of the Recession.

Trip Productions

Table 2 was prepared to show the comparison of the existing and the future model volumes, for respectively the CFRPM 5.5 and the CFRPM 6.0 models. The CFRPM 5.5 model was based on data relative to the 2005 base year, whereas the CFRPM 6.0 reflects a 2010 base year. Specifically, Table 2 has four columns of daily model results:

- Base Year 2005 CFRPM 5.5 Model with Polk County
- Base Year 2010 CFRPM 6.0 Model with Polk County
- Future Year 2040 CFRPM 5.5 Model with Polk County
- Future Year 2040 CFRPM 6.0 Model with Polk County

Table 2
Comparison of CFRPM 5.5 and CFRPM 6.0 Daily Model Statistics

Description	CFRPM 5.5 2005 Base	CFRPM 6.0 2010 Base	CFRPM 5.5 2040 SE Data	CFRPM 6.0 2040 SE Data
Productions	15,211,528	15,214,558	29,150,797	23,601,722
Population	4,425,234	4,850,497	7,641,804	7,525,942
Dwelling Units	1,999,287	2,259,205	3,664,100	3,437,549
Occupied Dwelling Units	1,725,336	1,960,941	3,211,209	2,999,037
Average Trip Rate	8.82	7.76	9.08	7.87
System Miles	8,572	8,716	9,275	8,848
Average Volume	13,682	13,122	25,496	19,075
Lane Miles	21,195	22,263	26,184	23,251
VMT Using Volumes	115,589,884	110,051,268	261,625,974	179,470,000
Volume All Links	288,228,644	287,402,573	573,996,050	435,995,495

Within the short time frame of the two models being developed, future year land use projections have drastically reduced as noted in the table. Table 2 was prepared to demonstrate the basis for the land use projections between the two model forecasts. As shown, base years 2005 and 2010 trip production statistics for the two models are essentially the same even though there is a five year difference. In fact the average trip rate reduced from 8.82 to 7.76, which means that individual dwelling units are making fewer trips than in year 2005. The future traffic projections show slightly higher average trip rates for both, but the general trip production trends remain; resulting in a reduction in the year 2040 forecasted trip productions for the CFRPM 6.0 model as compared to the CFRPM 5.5 model. The result is a reduction from about 29.1 million to 23.6 million (a negative 19 percent difference). The total volumes for all the links also went down from about 574 million to 436 million trips (a negative 24 percent difference).

Volume-to-Count Ratios

Figure 1 shows the base year 2010 CFRPM 6.0 on 2010 network volume-to-capacity (V/C) ratios and illustrate were current congestion occurs (V/C > 1.0). As observed, the majority of congestion within District Five occurs in the Orlando area with dispersed congestion on links in surrounding areas.

Figure 2 shows the horizon year 2040 CFRPM 6.0 on 2019 Existing-Plus-Committed (E+C) network V/C ratios and highlights areas where congestion is projected, prior to any additional improvements being implemented from year 2020 through 2040. Notably, Figure 2 illustrates extensive additional roadway congestion within the model area. The Orlando area is even more congested and congestion occurs distinctly throughout other areas of the District.

To understand further the reason previous future year models had more roadway links exceeding available capacity, Figure 3 was prepared. Figure 3 illustrate the daily traffic count locations within the network with a comparison of the year 2005 versus year 2010 base year traffic counts. As indicated in the figure, and as mentioned above, traffic counts have in most cases reduced over the five year time frame. Noted in red are the 2005 counts which are higher than the 2010 counts (78 percent). Green illustrates the counts which are lower, meaning traffic counts have increased in the five year period (22 percent). Since traffic counts serve as the main variable for validating a base year model, it is reasonable that the future traffic projections decreased between the two model forecasts.

Figure 1

CFRPM 6.0 Base Year 2010 Traffic on 2010 Base Network

Volume-to-Capacity Ratios > 1.0

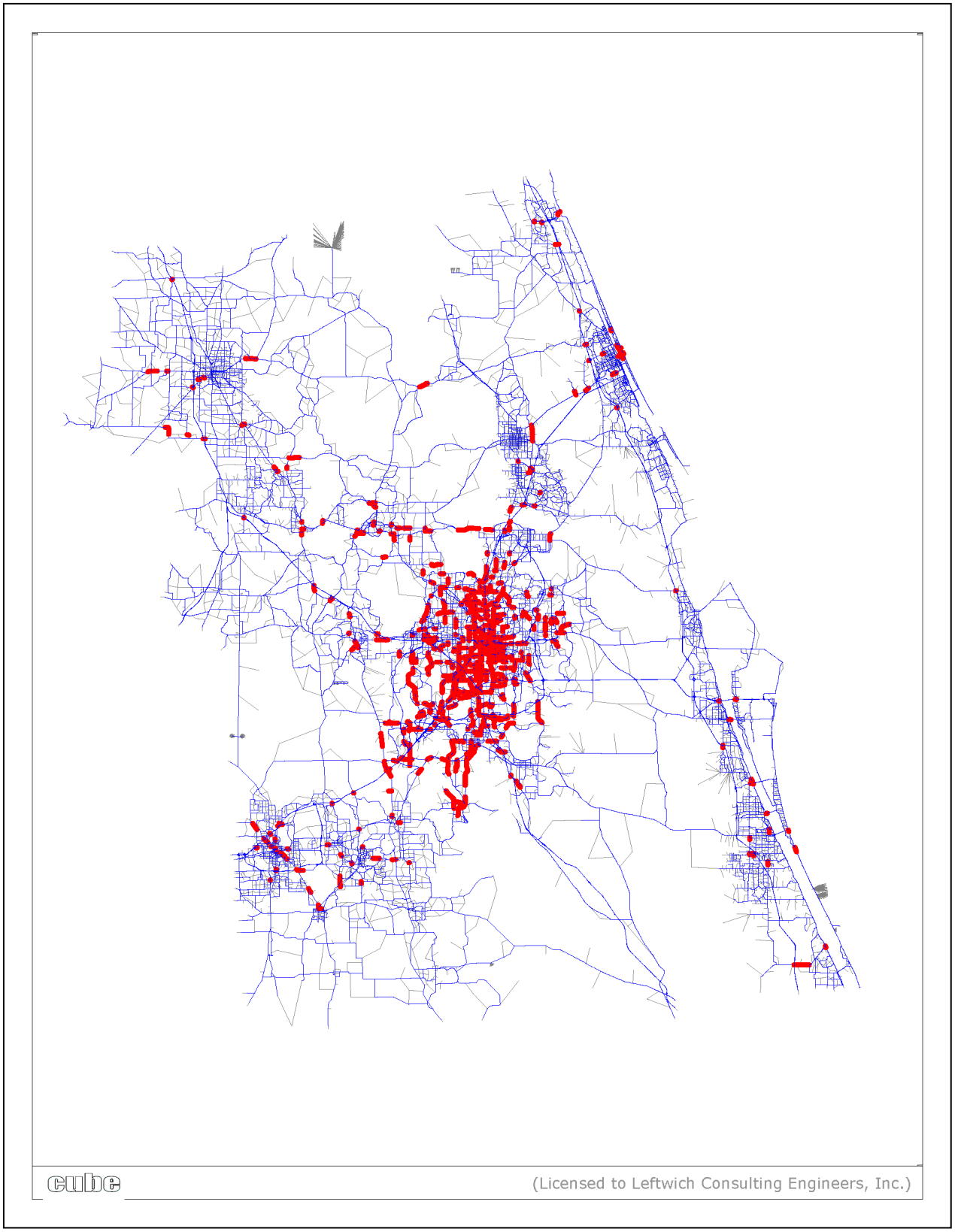


Figure 2

CFRPM 6.0 Horizon Year 2040 Traffic on 2019 E+C Network

Volume-to-Capacity Ratios > 1.0

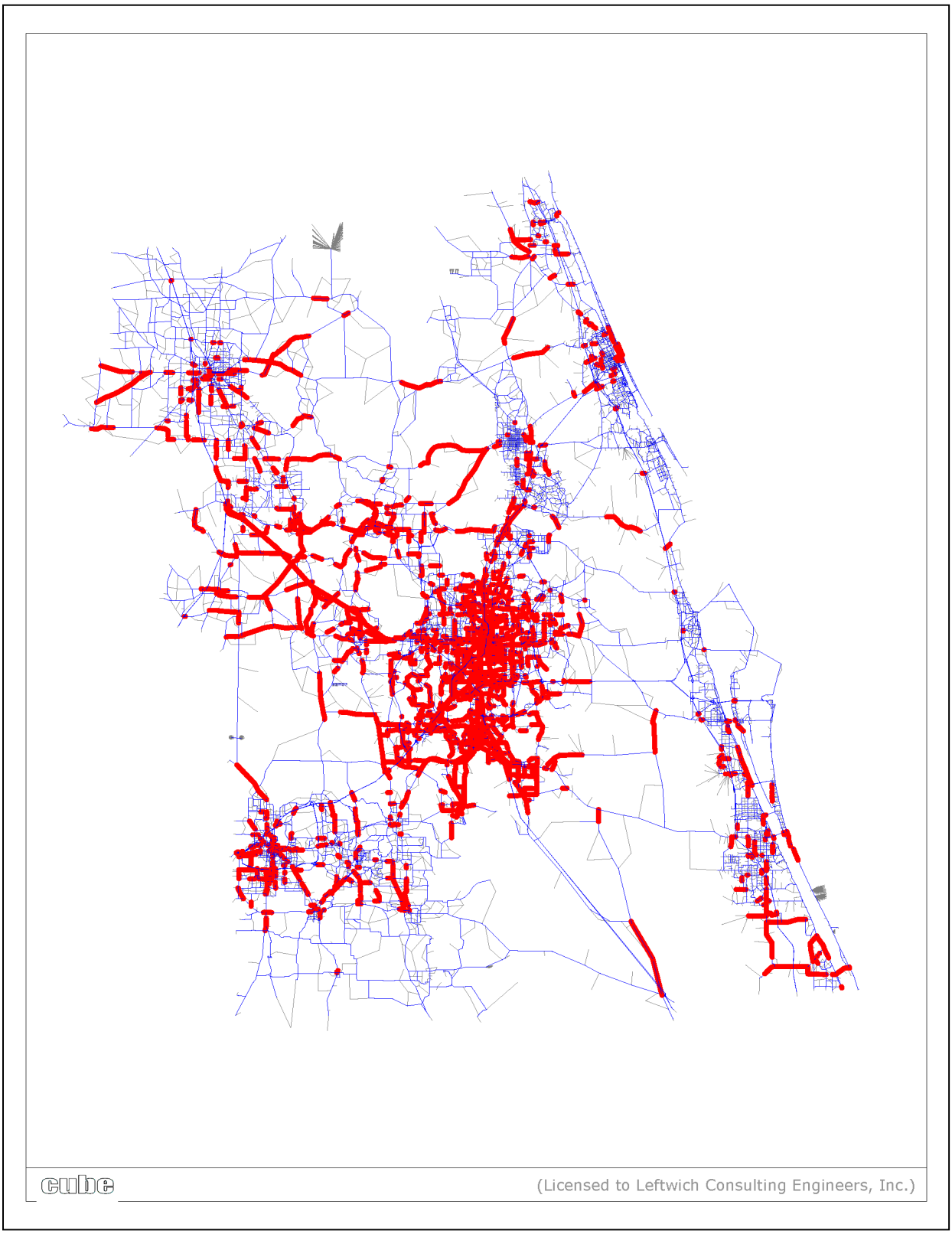
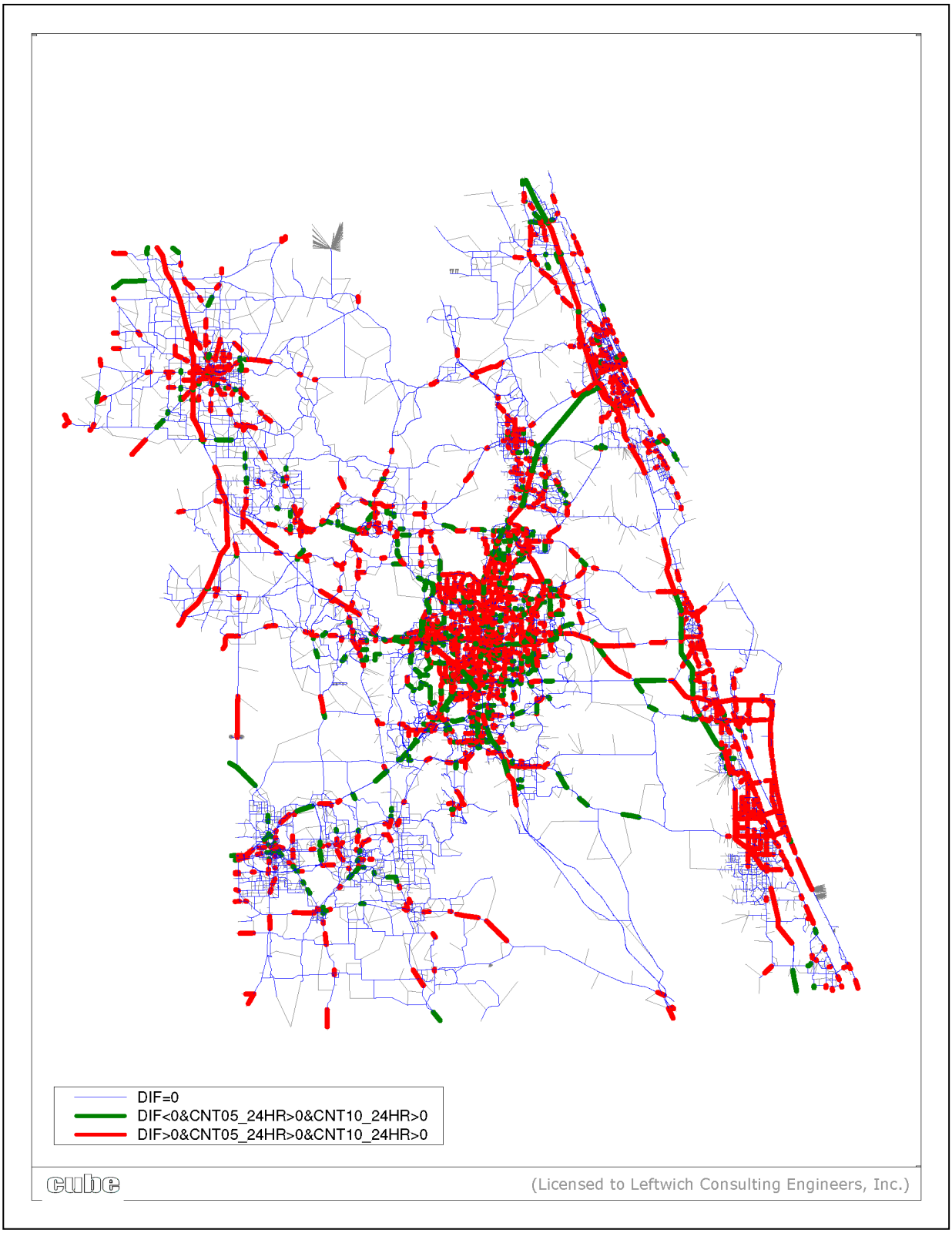


Figure 3

Comparison of 2005 and 2010 Observed Traffic Counts

Decreases vs. Increases Over the Five Year Period



Decreased Growth Comparison

A comparison of the differences between the base year model and the future year assignments for respectively the CFRPM 5.5 and the CFRPM 6.0 travel demand was also prepared.

Table 3 shows the comparison between the year 2005 and the year 2010 base year statistics. Notably, there is essentially no growth in the trip productions and many of the statistics decrease over the five year period.

Table 3
Comparison of CFRPM 5.5 to CFRPM 6.0 Base Year % Difference

Description	Base Difference 2005 to 2010	% Difference
Productions	3,030	0.02%
Population	425,263	9.61%
Dwelling Units	259,918	13.00%
Occupied Dwelling Units	235,605	13.66%
Average Trip Rate	-1.06	-12.02%
System Miles	144	1.68%
Average Volume	-560	-4.09%
Lane Miles	1,068	5.04%
VMT Using Volumes	-5,538,616	-4.79%
Volume All Links	-826,071	-0.29%

To summarize, the following highlights the differences between the two base year models and their data sets and resulting statistics:

- Population increased 9.61 percent from 2005 to 2010
- Occupied Dwelling Units increased 13 percent from 2005 to 2010
- Average Trip Rate decreased 12.02 percent from 2005 to 2010
- Vehicle-Miles-Traveled (VMT) decreased 4.79 percent from 2005 to 2010

Table 4 shows the relative growth for each the CFRPM 5.5 and the CFRPM 6.0 base year to horizon year 2040 model assignments and includes a percent difference to demonstrate the overall growth. As shown, both models have projected land use growth but the amount of increase vary greatly. Since the base years growth resulted in essentially the same trip productions, a comparison was also made to show the relative reduction in percent growth differences between the CFRPM 5.5 and the CFRPM 6.0 data and corresponding statistics. The comparison further demonstrates the great variation in land use projections between the two models.

Table 4
Comparison of CFRPM 5.5 and CFRPM 6.0 Base to Horizon Year Growth

Description	v5.5 Growth 2005 to 2040	% Difference	v6.0 Growth 2010 to 2040	% Difference	v5.5 to v6.0 Comparison
Productions	13,939,269	91.64%	8,387,164	55.13%	-36.51%
Population	3,216,570	72.69%	2,675,445	55.16%	-17.53%
Dwelling Units	1,664,813	83.27%	1,178,344	52.16%	-31.11%
Occupied Dwelling Units	1,485,873	86.12%	1,038,096	52.94%	-33.18%
Average Trip Rate	0.26	2.95%	0.11	1.42%	-1.53%
System Miles	703	8.20%	132	1.51%	-6.69%
Average Volume	11,814	86.35%	5,953	45.37%	-40.98%
Lane Miles	4,989	23.54%	988	4.44%	-19.10%
VMT Using Volumes	146,036,090	126.34%	69,418,732	63.08%	-63.26%
Volume All Links	285,767,406	99.15%	148,592,922	51.70%	-47.44%

The following summarized the major observations made when comparing the differences between the two models and their base year to future year growth patterns:

- Production growth percent difference decreased from 91.64 percent to 55.13 percent
- Population growth percent difference decreased from 72.69 percent to 55.16 percent
- Average Trip Rate percent difference reflects relatively minimal growth
- Vehicle-Miles-Traveled (VMT) decreased from 126.34 percent to 63.08 percent
- All other statistics also decreased relatively

Furthermore, even though the occupied dwelling units and the population experienced growth from 2005 to 2010 the average trip rate and VMT decreased.

4.0 CONCLUSION

The growth reflected in the CFRPM 5.5 model compared to the CFRPM 6.0 model was reduced by a factor of essentially 50 percent (126.34% vs. 63.08%). This along with the other statistical comparisons presented explains why there is a drop in both the average trip rate and the future trip projections for the CFRPM 6.0 year 2040 horizon year. If anything, the 2040 forecast made for the 2005 base year CFRPM 5.5 model may have been unrealistically high and were based on assumption that the economy would be bouncing back almost immediately and that development growth within the District would be continuing to inflate at the before Recession rates. Today, in the year 2015, there is still evidence of the slowed growth in development when reviewing traffic count volumes as compared to ten years ago and thus District-wide growth trends appear to have changed and are likely to continue long term.

SUGGESTED METHODOLOGY
FOR REVIEWING ROADWAY LINK TRAFFIC PROJECTIONS

The key to using travel demand forecasts for future years is to apply it as one of several tools for evaluating whether individual corridors need improvements, whether these improvements be in the form of roadway widening, transit expansion, Transportation System Management and Operations (TSM&O), or a combination of difference options. Various tools which may apply including, but not limited to:

1. Adjust Future Model Volumes Based on Model Validation Volume-to-Count Ratios
2. Prepare Regression Analysis
3. Apply A Growth Rate Factor
4. Check for Competing Parallel Roadway Widening
5. Evaluate Potential for Extra Development Not Reflected in SE Data
6. Local Knowledge and Traffic Expectations

Most MPO's provide adjustments to their travel demand forecasts to take into account how well an individual corridor was validated. Below is one methodology for preparing such a spreadsheet adjustment:

- **If volume-to count ratio is above 1.2 or below 0.8**, adjust the future year model volume by the difference in base year model volume and traffic count.
- **If the volume-to-count ratio is between 1.2 and 0.8**, adjust the future year model volume by the inverse of the volume-to-count ratio (for example traffic count is 10,000 and base model volume is 11,000; then future year model volume of 20,000 would be adjusted to 18,200 to adjust for the slight over-assignment).

An average of several different methodologies may provide for another review of forecasted traffic projections. Regardless of the procedure applied, local knowledge should always be considered to check for reasonability.

Notably, the above tools have been used for previous LRTP's for reviewing travel demand forecasts and were applied before any growth patterns had changed like those observed in recent times.

Central Florida Regional Planning Model (CFRPM)
Version 6.0

Technical Memorandum:
Year 2010 Model Calibration and Validation

Prepared for:

FLORIDA DEPARTMENT OF TRANSPORTATION

DISTRICT 5

Prepared by:

Leftwich Consulting Engineers, Inc.

October 16, 2014

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1.0 Introduction

The Florida Department of Transportation (FDOT), District Five has contracted with Leftwich Consulting Engineers, Inc. to develop an update to the Central Florida Regional Planning Model (CFRPM) to year 2010 conditions. The model has both a Daily and Time-of-Day (TOD) travel demand component. The CFRPM Version 6.0 Daily Model is to be used in the development of the year 2040 Long Range Transportation Plans for the area Metropolitan Planning Organizations (MPOs) and Transportation Planning Organizations (TPOs) within FDOT District Five.

Specifically, the scope of services for the development of the new CFRPM v6.0 lists several new features to be added to the CFRPM Version 5.0 model (e.g. Household Income, Lifestyle Trip Generation for all counties, a Truck model, incorporating all of Polk County, and Time-of day assignments) to obtain a calibrated model to year 2010 conditions. The methodology builds on the existing CFRPM Version 5.0 Daily and CFRPM version 5.5 TOD models to develop the CFRPM Version 6.0 Model. The efforts have been divided into several tasks (across three Task Work orders) as outlined below:

- Incorporate Polk County into the CFRPM v6.0 Model
  - Development of Highway Network Expansion for Polk County
  - Update GIS Boundary File to include Polk County
  - Update External Trips/Special Attractors to include Polk County
- Lifestyle Model Enhancements
- Income Model Enhancements
- Time-of-Day Model Enhancements – Four Time periods (e.g. Morning, 6:30 AM to 9:00 AM, Midday, 9:00 AM to 3:30 PM, Afternoon, 3:30 PM to 6:30 PM, and Night 6:30 PM to 6:30 AM)
- Truck Model Enhancements – Light Trucks (FHWA classifications 5-7) and Heavy Trucks (FHWA classifications 8-13)
- Model Calibration and Validation

This Technical Memorandum entitled “Year 2010 Model Calibration and Validation” provides a summary of the results of the highway and transit model validation for the CFRPM Version 6.0 Model.

1.1 Task Overview

As mentioned above, the documentation of the results of the highway model calibration and validation are presented as part of this task. The following information is presented as part of the model calibration and validation efforts:

- Supporting Project Documentation
- Trip Generation Enhancements
- Daily and TOD Model Description
- External Stations
- Highway Network
- Model Distribution
- Highway and Transit Assignment

1.2 CFRPM Study Area

The CFRPM Model is a distinct model in that it encompasses a large area comprised of eleven (11) counties with varying densities and travel characteristics.

The model includes the nine counties represented by FDOT's District Five as follows: Brevard, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia Counties. In addition, the CFRPM v6.0 Model contains all of Polk County and part of Indian River County for purposes of interactions with these areas. **Figure 1-1** shows the CFRPM 6.0 study area. Orange, Seminole, and Osceola are part of the Orlando Urban Area and are distinctly urbanized in both their population and their employment character. Volusia and Lake County are nearby counties with many of its residents traveling to the Orlando area for work. The other counties are more rural in character and thus have more inter-county travel patterns.

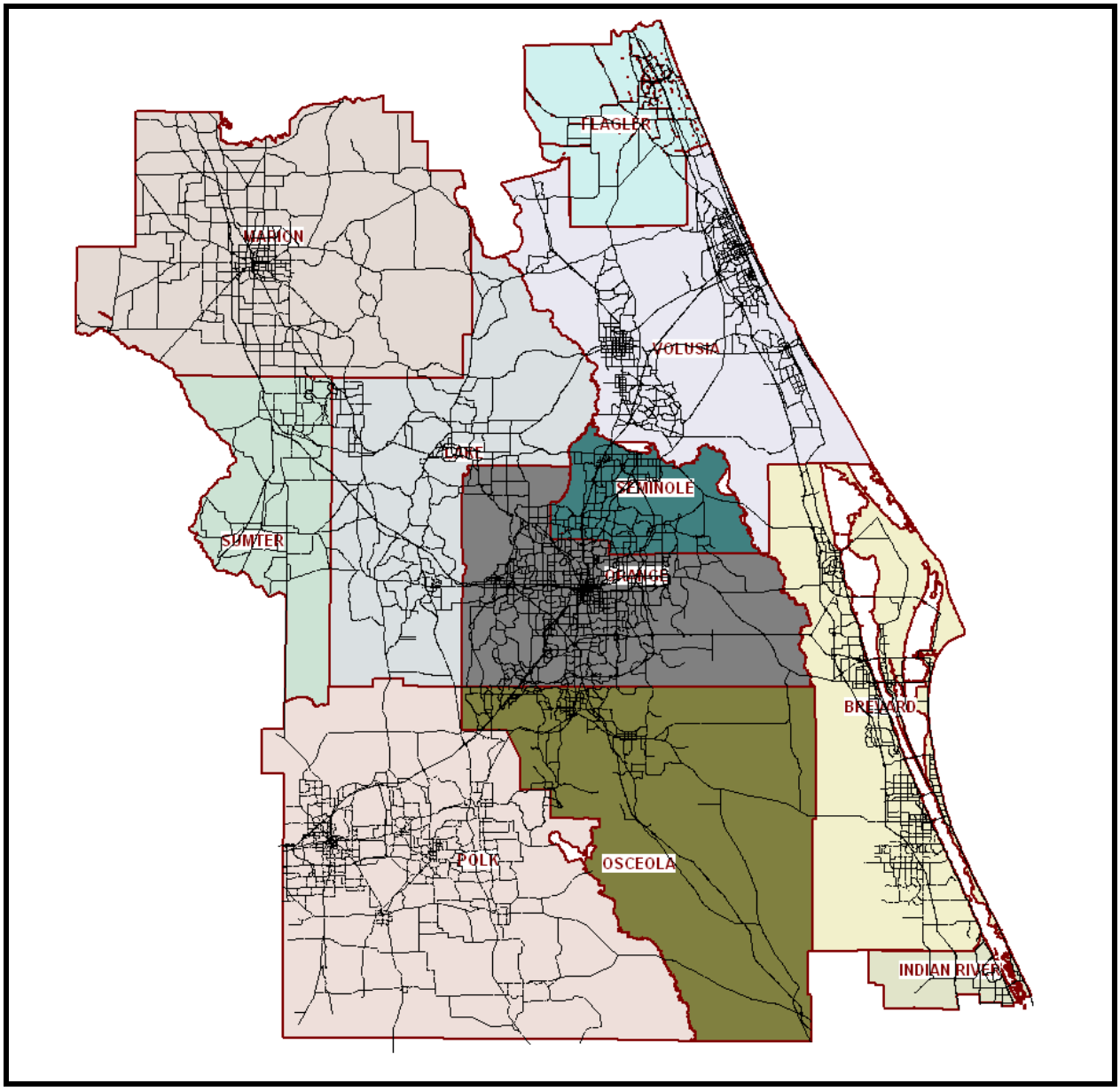


Figure 1-1. Geographic Area Covered by CFRPM Model Version 6.0

1.3 Trip Generation – Lifestyle and by Standard Low, Medium, and High Income

The original concept was to convert CFRPM 5.0 from only using Lifestyle Trip Generation procedure for Volusia County to all Counties in the model. At the same time, households were to be divided into Low, Medium, and High Income for the Standard Trip Generation and then the percentages of Household with and without workers, with and without children, and auto ownership (STP 60 file) was to be applied to end up with Lifestyle trip generation (Productions and Attractions by Trip Purpose) by Low, medium, and High income groups. The CUBE/voyager scripting was done as shown in **Figure 1-2** and testing was performed (under Task Work order 14) with preliminary files (refer to Technical Memorandum: CFRPM "Income" Model testing Summary[8], for details). Under Task Work Order 17, a "Lifestyle" model framework was developed as a guide to incorporate into the CFRPM 6.0 Model (refer to Technical Memorandum: CFRPM "Lifestyle" Model Framework[7], for more details).

During the actual validation work for CFRPM 6.0, the scripting was done to incorporate both the Income and Lilestyle procedures as shown in **Figure 1-3**. As testing was being done, it showed that the scripts were making the correct computations and that a set of Productions and Attractions (Ps and As) were available to combine with the Lifestyle generated Ps&As.

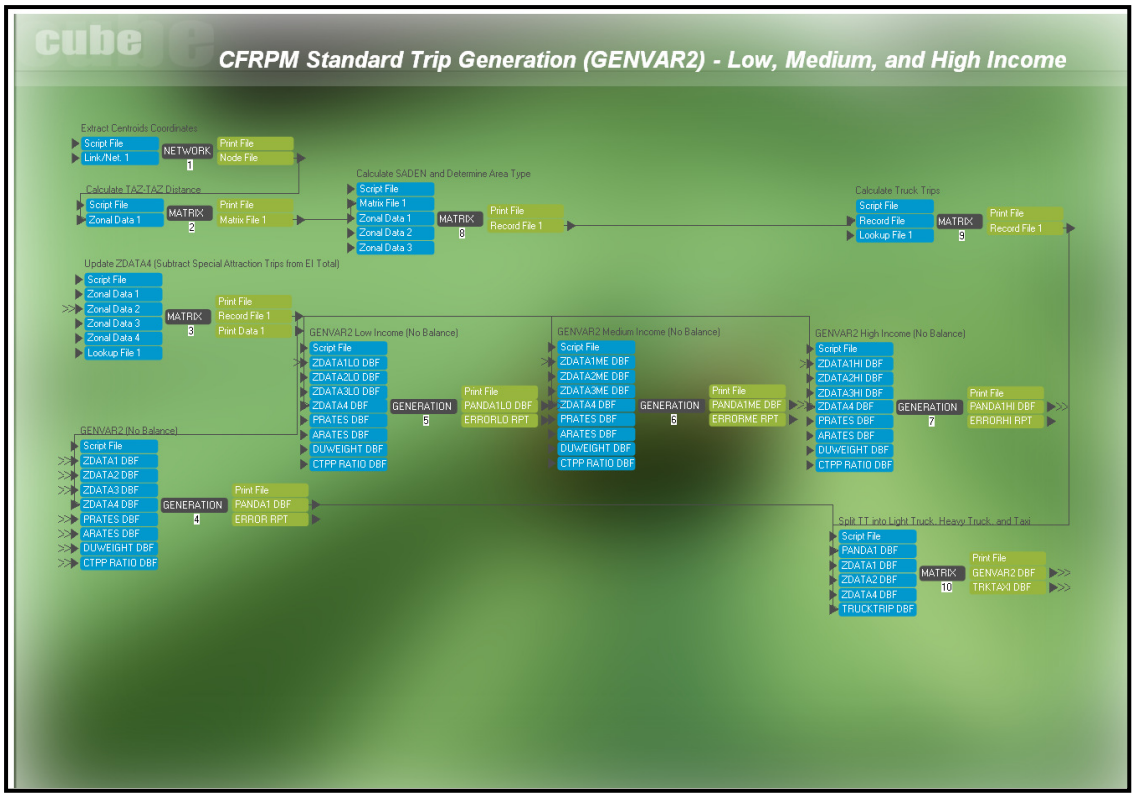


Figure 1-2. Early testing version of Standard Trip Generation Process broken down into Low, Medium, and High Income Productions and Attractions

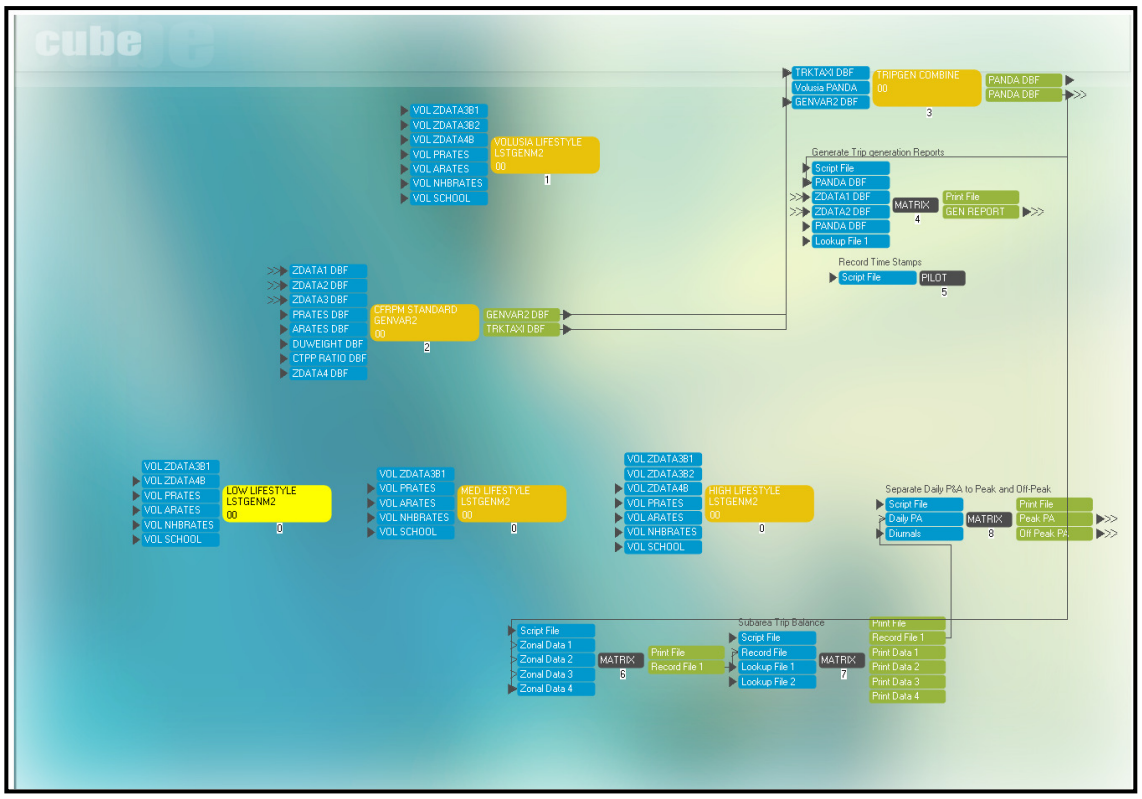


Figure 1-3. Early testing version of Lifestyle Trip Generation Process broken down into Low, Medium, and High Income Productions and Attractions

However, during the CFRPM 6.0 validation work, using the actual 2010 input files created (Zdata1 and Zdata2 for all counties, split into Low, Medium, and High, based for Zdata2 (Attraction Variables) on percentages provided by FDOT from work done (under a separate contract) with DTS and for Zdata1 on percentages from parcel level land values, the model was not providing good results. In fact, using the Lifestyle Trip Generation process for all Counties did provide good results, but not when combined with the ”Income” procedure. The decision was made to not use the “Income” model procedure and just maintain the “Lifestyle” model for the Trip Generation Module.

1.4 CFRPM 6.0 Modeling Process

The model calibration and validation performed for the CFRPM Version 5.5 TOD Model was a supplement to the CFRPM Version 5.0 Daily Model and its validation. The validated Version 5.0 Model served as the starting point for the Version 5.5 TOD Model, and was subsequently refined to incorporate TOD input files and resulting validation refinements. Information such as general discussions of the CFRPM Model and the 2005 base year socio-economic data should be referenced from the FDOT document "Technical Memorandum CFRPM v5.0 Model Calibration and Validation Results" dated September 2010[2]. Both of these models were used as Starting point for the development of the CFFRPM v6.0 model.

The CFRPM Version 6.0 Model generally follows the Florida Standard Urbanized Transportation Modeling Structure (FSUTMS)[1]. There is a Daily and a TOD component that applies the general modules of External Trips (EXTERNAL Module), Trip Generation (TRIP GENERATION Module), Highway Network and Build Highway Paths (HIGHWAY NETWORK Module); then for the Daily version, it does Trip Distribution (DISTRIBUTION Module), Build Transit Networks and Build Transit Paths (TRANSIT Module), Mode Choice (MODE CHOICE Module), Transit Assignment (TRANSIT ASSIGNMENT Module), and finally the Highway Assignment (HIGHWAY ASSIGMENT Module). For the TOD Version, it then does modules of Trip Distribution (DISTRIBUTION Module), Build Transit Networks and Build Transit Paths (TRANSIT Module), Mode Choice (MODE CHOICE Module), Transit Assignment (TRANSIT ASSIGNMENT Module), and finally the Highway Assignment (HIGHWAY ASSIGMENT Module). The highway Assignment module does a period assignment for AM, MD, PM, and NT time periods and then combines the four assignments into a 24HR assignment that is different from the "Daily" assignment developed in the Daily Model.

Figure 1-4 illustrates the individual modules of the FSUTMS daily modeling process.

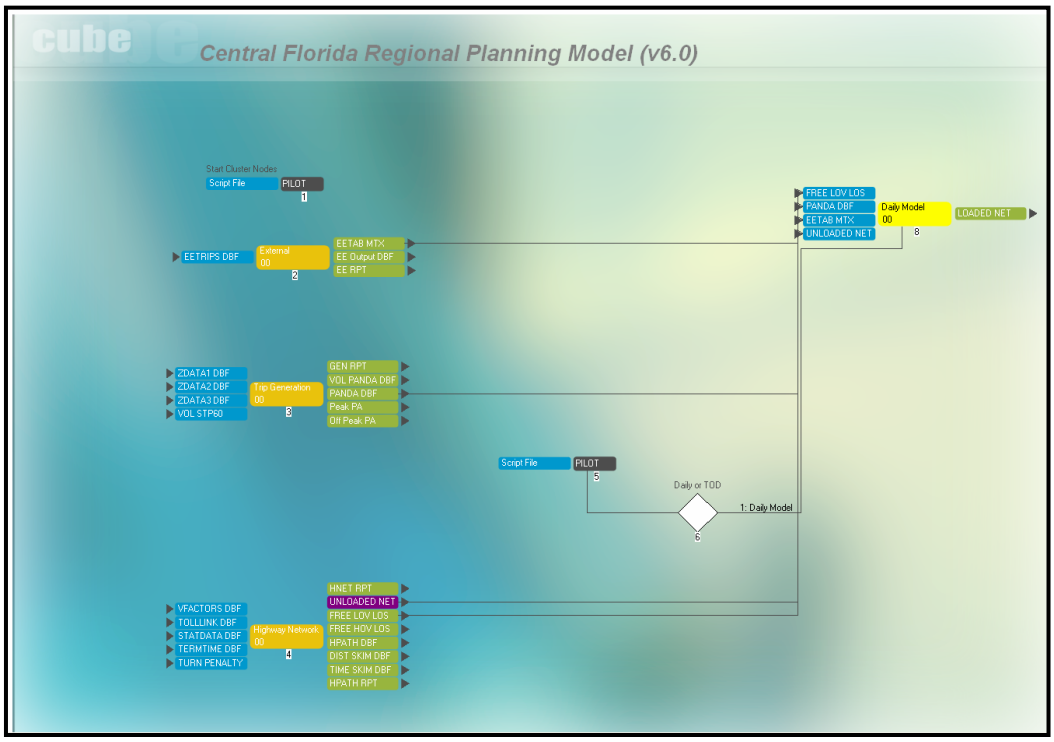


Figure 1-4. FSUTMS Model Flow Process used by CFRPM Version 6.0

2.0 General Project Overview

This Technical Memorandum "Year 2010 Model Calibration and Validation" adds to a series of technical memoranda, which have been prepared for the CFRPM Version 2005 5.5 TOD Model development work. The individual technical memorandum (TM) provides documentation of specific components of the Model development. The following serves as an overview the technical memoranda and the role they each represent in the calibration and validation of the Version 5.5 Model, the base for the CFRPM v6.0 model:

- TM "Literature Review of TOD Models": Documents the current TOD modeling efforts within Florida and nationally.
- TM "Development of TOD Framework": Presents the model flowchart and framework for the CFRPM Version 5.5 TOD Model, along with an analysis of future data requirements.
- TM "Update CFRPM Model Structure and CUBE/Voyager Scripts": Revises scripts and related programs to implement the recommended TOD model framework, along with assessment of quad versus dual-quad processor optimizations.
- TM "Development of Peak Periods": Details the efforts involved in the selection and identification of the TOD periods to be used for the Version 5.5 Model.
- TM "Review Traffic Count Data in Current 2005 CFRPM Model Network": Provides a review of traffic count locations in the CFRPM Version 5.0 base year 2005 model network along with adjustments made based on electronically collected TOD counts.
- TM "Surrogate Traffic Count Data for 2005 CFRPM Model": Summarizes the procedures used to develop base year 2005 TOD counts for locations where only daily counts are available.
- TM "Model Calibration and Validation Performance Measures and Standards: Outlines the standards which will be evaluated for the TOD model validation results.

In summary, the above documents served as the basis for the development of the CFRPM v6.0 Year 2010 Daily and TOD models and provided general direction and recommendation on validation performance evaluations and criteria utilized.

In addition to the technical memoranda, several other deliverables have also been prepared for the CFRPM Version 5.5 Model. These items relate to the development of travel corridor observed speeds and the development of BPR curves. Updated Friction Factor curves and other model input files have also been derived. Detailed descriptions of the additional components are provided as part of this Technical Memorandum "Model Calibration and Validation."

3.0 Description of TOD Model

As indicated previously, several technical memoranda were prepared to develop the set-up for the CFRPM Version 5.5 TOD Model. Technical Memoranda "Development of TOD Framework" and "Update CFRPM Model Structure and CUBE/Voyager Scripts" provide a description of the scripts used by the Model for each of the FSUTMS modules. **Figure 3-1** shows the CFRPM Version 5.5 Model Flow Chart. The Technical Memorandum "Update CFRPM Model Structure and CUBE/Voyager Scripts" provides detailed review of the flow charts for individual Modules. As indicated in the figure, separate pathways are taken for the Daily model assignment and the TOD peak period assignments. A combined 24-hour model is also achieved by adding the individual time period highway assignments (four) into one.

3.1 TOD Peak Periods

The peak periods were developed in the Technical Memorandum "Literature Review of TOD Models." The derivation of the four time periods was based on a thorough review of local traffic counts and the Trip Purposes from the 2008 National Household Travel Survey (NHTS) and their daily distribution patterns, along with LYNX transit service. Numerous Project Team meetings and correspondences were conducted in order to establish the time periods which best represents the CFRPM Version 5.5 TOD Model. Ultimately, the Orange County traffic count and the NHTS HBW distribution patterns were selected as the premise for the TOD periods, with verifications from the LYNX transit services and the CFPRM Version 5.5 travel speed corridor studies (including those associated with I-4). The following summarizes the TOD periods utilized by the CFRPM Version 5.5 Model:

- AM Period from 6:30 a.m. to 9:00 a.m.
- MD Period from 9:00 a.m. to 3:30 p.m.
- PM Period from 3:30 p.m. to 6:30 p.m.
- NT Period from 6:30 p.m. to 6:30 a.m.

The AM and PM Peak Periods are further referred to as the Peak Period and the MD and NT Periods are referred to as the Off-Peak Period. The Peak and Off-Peak Periods are utilized in the TOD Model through the Mode Choice Module, with the individual Periods used in the Highway Assignments. The same time periods have been utilized for CFRPM 6.0.

3.2 Model Trip Purposes

Version 6.0 Model includes the same Trip Purposes as Version 5.0 Model. They are as follows:

- Home-Based Work (HBW)
- Home-Based Shopping (HBSHOP)
- Home-Based Social Recreation (HBSOCREC)
- Home-Based Other (HBO)
- Non-Home Based (NHB)

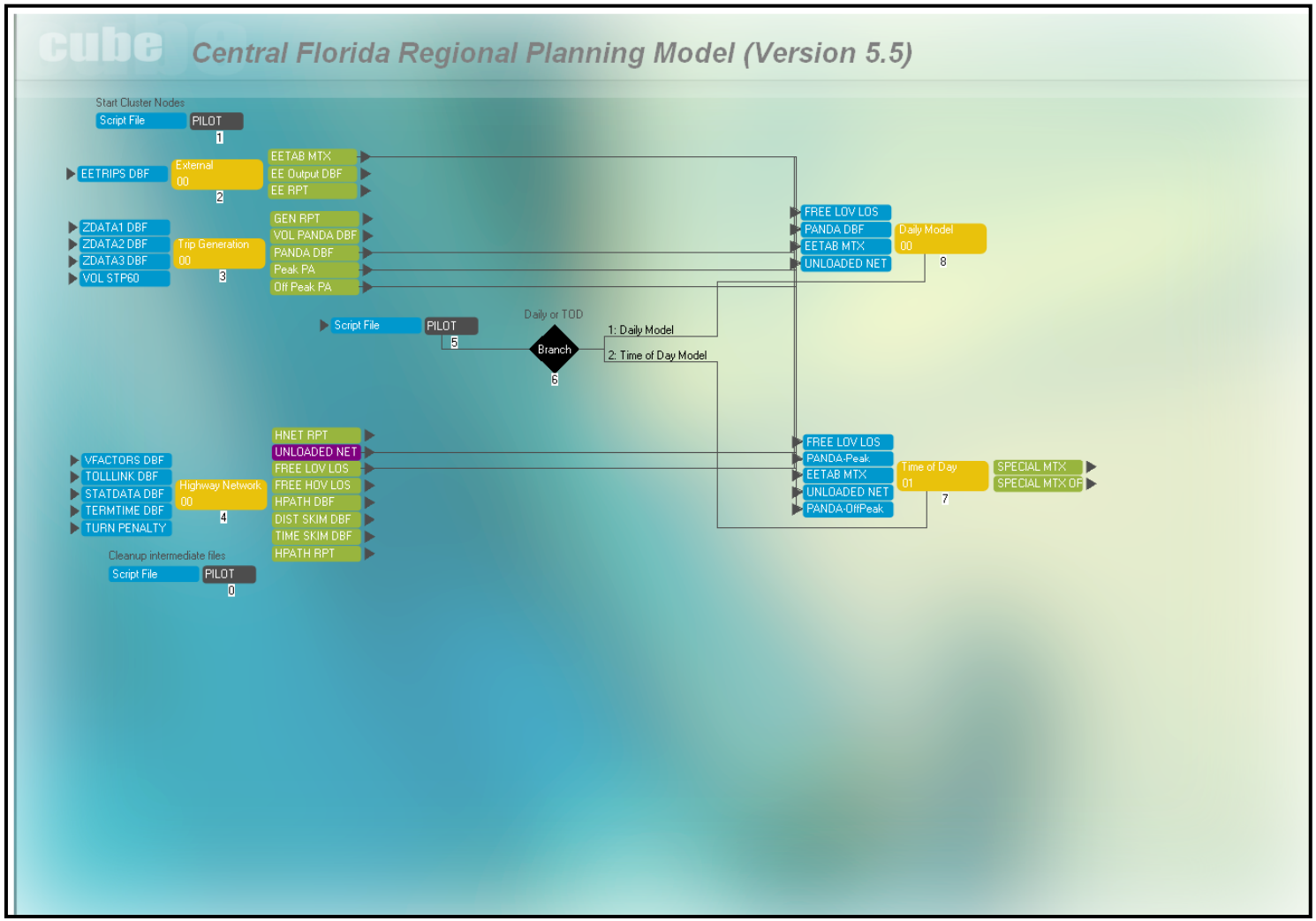


Figure 3-1. FSUTMS Model Flow Process used by CFRPM Version 5.5

- External-External (EE)
- External-Internal (EI)
- Light Truck Internal-Internal (LTII)
- Heavy Truck Internal-Internal (HTII)
- Taxi (Taxi)
- Airport Tourist (APT-T)
- Airport Resident (APT-R)
- Airport External-Internal (APT-EI)
- Orange County Convention Center Tourist (OCCC-T)
- Orange County Convention Center Resident (OCCC-R)
- Orange County Convention Center External-Internal (OCCC-EI)
- Universal Orlando Tourist (UNI-T)
- Universal Orlando Resident (UNI-R)
- Universal Orlando External-Internal (UNI-EI)
- SeaWorld Tourist (SEW-T)
- SeaWorld Resident (SEW-R)
- SeaWorld External-Internal (SEW-EI)
- Disney Tourist (DIS-T)
- Disney Resident (DIS-R)
- Disney External-Internal (DIS-EI)
- Kennedy Space Center Tourist (KSC-T)
- Kennedy Space Center (KSC-R)
- Kennedy Space Center External-Internal (KSC-EI)
- Port Canaveral Tourist (DIS-T)
- Port Canaveral Resident (DIS-R)
- Port Canaveral External-Internal (DIS-EI)

4.0 External Stations

External Stations exist in a model to represent the traffic entering and exiting the model boundary. There are two types of external trips, namely External-Internal and External-External trips. The External-Internal trips are those trips that start outside of a model network, entering at the roadway that crosses the model boundary, and are destined within the model network. External-External trips, on the other hand, are those trips that start outside and end outside of a model network, and as such are trips passing through the network without stopping inside.

Modeling external trips is accomplished in the External Module. Locations where external trips enter and exit the model network are referred to as external stations. A few changes were made to the external station locations to accommodate all of Polk County. The external stations are numbered sequentially in a clockwise direction starting at A1A in Indian River and ending at A1A in St. Johns County. **Table 4-1** provides a summary of the External Station locations and includes the County and roadway descriptions associated with each station. The External trips are summarized in **Table 4-2** and the External-External trip interchanges are presented in **Table 4-3**.

5.0 Highway Network

The Highway Network Module contains the information relating to the roadways simulated by the Model. Each roadway is represented by a set of nodes and links, which represent its physical location. Various attributes then describes the characteristics of the individual roadway

Table 4-1
CFRPM Version 6.0 External Station Locations

TAZ	LOCATION	County
5351	A1A	Indian River County Line
5352	US 1	Indian River County Line
5353	58th Ave	Indian River County Line
5354	66th Ave	Indian River County Line
5355	82nd Ave	Indian River County Line
5356	I-95	Indian River County Line
5357	CR 512	Indian River County Line
5358	SR 60	Indian River County Line
5359	SR 91	Indian River County Line
5360	US 441	Indian River County Line
5361	CR 64	Polk County Line
5362	US 27	Polk County Line
5363	US 17	Polk County Line
5364	SR 37	Polk County Line
5365	CR 674	Polk County Line
5366	CR 540	Polk County Line
5367	CR 676	Polk County Line
5368	SR 50	Polk County Line
5369	OLD MUL	Polk County Line
5370	Medulla Rd	Polk County Line
5371	Fancy Farm Rd	Polk County Line
5372	Rice Rd	Polk County Line
5373	US 92	Polk County Line
5374	I-4	Polk County Line
5375	CR 582	Polk County Line
5376	Deeson Rd	Polk County Line
5377	US 98	Polk County Line
5378	SR 50	Hernando County Line
5379	US 301	Hernando County Line
5380	I-75	Hernando County Line
5381	CR 476	Hernando County Line
5382	CR 48	Citrus County Line
5383	SR 44	Citrus County Line
5384	SR 200	Citrus County Line
5385	US 41	Citrus County Line
5386	SR 40	Levy County Line
5387	CR 336	Levy County Line
5388	US 41	Levy County Line
5389	SR 464	Levy County Line
5390	CR 326	Levy County Line
5391	US 27	Levy County Line
5392	CR 318	Levy County Line
5393	CR 320	Levy County Line
5394	CR 329	Alachua County Line
5395	I-75	Alachua County Line
5396	US 441	Alachua County Line
5397	US 301	Alachua County Line
5398	SR 21	Putnam County Line
5399	CR 315	Putnam County Line
5400	SR 19	Putnam County Line
5401	US 17	Putnam County Line
5402	SR 20	Putnam County Line
5403	CR 13	St. Johns County Line
5404	I-95	St. Johns County Line
5405	US 1	St. Johns County Line
5406	A1A	St. Johns County Line

Table 4-2
CFRPM Version 6.0 Daily External Trip Summary

TAZ	County	Location	EI/IE Trips	EE Trips	Total Trips	EI/IE Trips %	EE Trips %
5351	Indian River County Line	A1A	8,157	110	8,267	99	1
5352	Indian River County Line	US 1	6,820	1,796	8,616	79	21
5353	Indian River County Line	58th Ave	6,897	78	6,975	99	1
5354	Indian River County Line	66th Ave	7,785	86	7,871	99	1
5355	Indian River County Line	82nd Ave	298	0	298	100	0
5356	Indian River County Line	I-95	25,875	9,080	34,955	74	26
5357	Indian River County Line	CR 512	4000	0	4000	100	0
5358	Indian River County Line	SR 60	3,395	1,552	4,947	69	31
5359	Indian River County Line	SR 91	19,775	6,544	26,319	75	25
5360	Indian River County Line	US 441	1,456	1,034	2,490	58	42
5361	Polk County Line	CR 64	399	0	399	100	0
5362	Polk County Line	US 27	19,325	0	19,325	100	0
5363	Polk County Line	US 17	8,567	0	8,567	100	0
5364	Polk County Line	SR 37	2,286	0	2,286	100	0
5365	Polk County Line	CR 674	1,689	0	1,689	100	0
5366	Polk County Line	CR 540	6,171	0	6,171	100	0
5367	Polk County Line	CR 676	1,097	0	1,097	100	0
5368	Polk County Line	SR 50	16,431	0	16,431	100	0
5369	Polk County Line	OLD MUL	772	0	772	100	0
5370	Polk County Line	Medulla Rd	2,278	0	2,278	100	0
5371	Polk County Line	Fancy Farm Rd	82	0	82	100	0
5372	Polk County Line	Rice Rd	167	0	167	100	0
5373	Polk County Line	US 92	8,257	0	8,257	100	0
5374	Polk County Line	I-4	112,484	500	112,984	100	0
5375	Polk County Line	CR 582	5,324	0	5,324	100	0
5376	Polk County Line	Deeson Rd	7,073	0	7,073	100	0
5377	Polk County Line	US 98	7,933	0	7,933	100	0
5378	Hernando County Line	SR 50	5,094	182	5,276	97	3
5379	Hernando County Line	US 301	3,580	0	3,580	100	0
5380	Hernando County Line	I-75	22172	16132	38,304	58	42
5381	Hernando County Line	CR 476	2,583	0	2,583	100	0
5382	Citrus County Line	CR 48	4,750	0	4,750	100	0
5383	Citrus County Line	SR 44	8,791	0	8,791	100	0
5384	Citrus County Line	SR 200	13,132	1424	14,556	90	10
5385	Citrus County Line	US 41	18,337	1606	19,943	92	8
5386	Levy County Line	SR 40	1954	1134	3088	63	37
5387	Levy County Line	CR 336	1,111	562	1,673	66	34
5388	Levy County Line	US 41	2,842	1,356	4,198	68	32
5389	Levy County Line	SR 464	1,187	0	1,187	100	0
5390	Levy County Line	CR 326	1,384	0	1,384	100	0
5391	Levy County Line	US 27	4949	1033	5,982	83	17
5392	Levy County Line	CR 318	2,658	508	3,166	84	16
5393	Levy County Line	CR 320	406	0	406	100	0
5394	Alachua County Line	CR 329	1,148	37	1,185	97	3
5395	Alachua County Line	I-75	26,309	22993	49,302	53	47
5396	Alachua County Line	US 441	7,323	624	7,947	92	8
5397	Alachua County Line	US 301	6,194	5,038	11,232	55	45
5398	Putnam County Line	SR 21	617	438	1,055	58	42
5399	Putnam County Line	CR 315	1,304	438	1,742	75	25
5400	Putnam County Line	SR 19	2,149	142	2,291	94	6
5401	Putnam County Line	US 17	4,097	138	4,235	97	3
5402	Putnam County Line	SR 20	3,977	10	3,987	100	0
5403	St. Johns County Line	CR 13	3,081	0	3,081	100	0
5404	St. Johns County Line	I-95	43,285	8,569	51,854	83	17
5405	St. Johns County Line	US 1	9,721	1,552	11,273	86	14
5406	St. Johns County Line	A1A	2,984	0	2,984	100	0
Total			**491,912**	**84,696**	**576,608**	**85**	**15**

Table 4-3
CFRPM Version 6.0 Daily External-External Trip Interchanges

External Station	5351	5352	5353	5354	5355	5356	5357	5358	5359	5360	5361	5362	5363	5364	5365	5366	5367	5368	5369	5370	5371	5372	5373	5374	5375	5376	5377	5378	5379	5380	5381	5382	5383	5384	5385	5386	5387	5388	5389	5390	5391	5392	5393	5394	5395	5396	5397	5398	5399	5400	5401	5402	5403	5404	5405	5406	Totals
5351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	18	0	0	0	0	0	0	0	0	0	0	55
5352	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	758	0	898
5353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	26	0	39
5354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	29	0	43
5355	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1068	0	0	0	0	0	43	0	0	3353	0	0	4540
5357	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5358	0	0	0	0	0	0	0	57	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	519	0	0	0	0	0	0	0	0	0	0	0	776
5359	0	0	0	0	0	0	57	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	895	23	1728	0	0	0	0	0	0	150	0	0	3272
5360	0	0	0	0	0	0	0	200	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	211	0	0	0	0	0	0	0	0	0	0	0	517
5361	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5362	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5364	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5365	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5367	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5369	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5371	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5373	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5376	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5378	0	0	0	0	76	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	91
5379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7905	161	0	0	0	0	0	0	0	0	0	0	8066
5381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5383	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5384	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	4	559	0	0	62	0	0	0	47	0	0	714
5385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126	0	678	0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	866
5386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0	0	0	0	0	504
5387	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	281
5388	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	678	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	678
5389	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5391	0	0	0	0	0	0	0	314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	164	0	0	0	0	0	0	0	0	0	0	0	489
5392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	8	232	0	0	0	0	0	0	0	0	0	254
5393	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5394	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5395	18	0	13	14	0	1068	0	519	895	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7905	0	0	0	42	51	223	0	0	0	0	164	14	0	0	116	0	0	0	9	3	0	0	256	0	0	11522
5396	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	161	0	0	0	0	0	0	0	0	0	0	0	4	8	0	0	116	0	0	0	0	0	0	0	0	0	0	0	312
5397	0	0	0	0	0	0	0	0	1728	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	559	0	0	0	0	0	232	0	0	0	0	0	0	0	0	0	0	0	0	0	2519
5398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	0	0	0	0	0	0	0	219
5399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	0	0	0	0	0	0	0	0	0	219
5400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	71
5401	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	10	18	0	74
5402	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5404	37	140	26	29	0	3353	0	0	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	0	0	5	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	256	0	0	0	0	0	0	10	0	0	0	0	4553
5405	0	758	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	776
5406	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	55	898	39	43	0	4540	0	776	3272	517	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	0	0	91	0	8066	0	0	0	710	740	630	281	678	0	0	544	254	0	37	11471	312	2519	219	219	71	64	10	0	4016	776	0	42348

links (e.g. area type, facility type, capacities, traffic count, and speeds). A general overview of the CFRPM Version 6.0 Model network is described here.

5.1 Area Types and Facility Types

In CFRPM Version 6.0 as in CFRPM 5.0, "Area Types are one-digit codes used in the model to designate the type of adjacent land use development along a roadway or corridor." As with CFRPM 5.0, version 6.0 includes a refinement to earlier versions which had the Area Types "hard coped" for each roadway link. The refined method is based on "activity density" for each TAZ (please refer to documentation for CFRPM Version 5.0 for further detail). Five Area Types are used in the Model. Table **5-1** summarizes the CFRPM v6.0 Area Types.

Table 5-1
CFRPM Version 6.0 Description of Area Types

Area Type	Description
1	CBD (Old AT = 1, CBD)
2	High Density (Old AT = 2, CBD Fringe)
3	Medium Density (Old AT = 4, Outlying Business District)
4	Low Density (Old AT = 3, Residential)
5	Very Low Density (Old AT= 5, Rural)

The Facility Types utilized by the CFRPM Version 6.0 are based on adopted FDOT facility classifications and local comprehensive plans and relate to facilities designated as freeways, arterials, collectors, and centroid connectors. **Table 5-2** summaries the different facility types employed by the CFRPM Model. The Version 6.0 model network is consistent with the latest version of the CFRPM Version 5.0 Model.

Table 5-3 illustrates the number of links by Area Type and Facility Type. **Table 5-4** provides the Total System Miles by Facility Type and Area Type. **Table 5-5** provides the Total Lane Miles by Facility Type and Area Type.

5.2 Capacities

Table 5-6 provides the Average Capacities for individual links according to Area Type and Facility Type. CFRPM Version 6.0 uses the capacity lookup tables that have been updated based on the FDOT 2009 Level of Service (LOS) Handbook provided by FDOT Central Office modeling staff. The speeds coded in the network are based on actual Posted Speeds for each facility.

5.3 Traffic Counts

A critical component to the model calibration and validation is the identification of base year traffic counts. One of the parameters for evaluating the model results is the model's ability to reasonably replicate in-field traffic counts for the base year. Since the CFRPM Version 6.0 Model has a TOD component, a separate task was assigned to develop traffic counts by TOD Peak Periods. Specifically, electronic versions of the counts were obtained from the various area agencies in 15-minute format, and when necessary 1-hour or daily formats. TOD counts by direction were coded into the 2010 network for the AM, MD, PM, and NT periods. **Table 5-7** summarizes the TOD traffic count statistics (e.g. percentage of links with counts) for CFRPM version 6.0 Model. **Table 5-8** shows the Daily Percentages of Links with Counts.

Table 5-2
CFRPM Version 6.0 Description of Facility Types

Facility Type	Description
1X -- Freeways and Expressways	
11	Urban Freeway Group 1 (cities of 500,000 or more)
12	Other Freeway (not in Group 1)
16	Controlled Access Expressways
17	Controlled Access Parkways
2X -- Divided Arterials	
21	Divided Arterial Unsignalized (55 mph)
22	Divided Arterial Unsignalized (45 mph)
23	Divided Arterial Class I
24	Divided Arterial Class II
25	Divided Arterial Class III / IV
26	Divided Signalized Arterial with High Capacity
3X -- Undivided Arterials	
31	Undivided Arterial Unsignalized with Turn Bays
32	Undivided Arterial Class I with Turn Bays
33	Undivided Arterial Class II with Turn Bays
34	Undivided Arterial Class III / IV with Turn Bays
35	Undivided Arterial Unsignalized without Turn Bays
36	Undivided Arterial Class I without Turn Bays
37	Undivided Arterial Class II without Turn Bays
38	Undivided Arterial Class III / IV without Turn Bays
39	Undivided Signalized Arterial with High Capacity
4X--Collectors	
41	Major Local Divided Roadway
42	Major Local Undivided Roadway with Turn Bays
43	Major Local Undivided Roadway without Turn Bays
44	Other Local Divided Roadway
45	Other Local Undivided Roadway with Turn Bays
46	Other Local Divided Roadway without Turn Bays
47	Low Speed Local Collector
48	Very Low Speed Local Collector
5X -- Centroid Connectors	
51	Basic Centroid Connector
52	External Station Centroid Connector
53	Dummy Zone Centroid Connector
54	Dummy Link for Dummy Centroid
6X -- One-Way Facilities	
61	One-Way Facilities Unsignalized
62	One-Way Facilities Class I
63	One-Way Facilities Class II
64	One-Way Facilities Class III / IV
66	Frontage Road Class I
68	Frontage Road Class III / IV
7X--Ramps	
71	FreewayOn/OffRamp
72	Freeway On /Off Loop Ramp
73	OtherOn/OffRamp
74	Other On /Off Loop Ramp
75	Freeway-to-Freeway Ramp
8X -- HOV Facilities	
81	Freeway Group 1 HOV Lane (Barrier Separated)
82	Other Freeway HOV Lane (Barrier Separated)
83	Freeway Group 1 HOV Lane (Non-Barrier Separated)
84	Other Freeway HOV Lane (Non-Barrier Separated)
85	Non Freeway HOV Lane
86	AM & PM Peak HOV Ramp
87	AM Peak Only HOV Ramp
88	PM Peak Only HOV Ramp
89	AllDayHOVRamp
9X – Toll Facilities	
91	Toll Facility– Florida Turnpike
92	Toll Facility – SR 408
93	Toll Facility – SR 417
94	Toll Facility – SR 429
95	Toll Facility–SR 528
96	Toll Facility–Osceola Parkway
97	Acceleration Lanes - Toll Facility
98	Deceleration Lanes - Toll Facility

Table 5-3
CFRPM Version 6.0 Number of Links by Area Types and by Facility Type

Number of Links by Area Type and Facility Type						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways and Expressways	29	35	146	219	187	**616**
Divided Arterials	121	186	1,822	2,154	1,181	**5,464**
Undivided Arterials	102	78	478	1,048	1,040	**2,746**
Collectors	327	301	2,198	4,161	3,319	**10,306**
One-Way Facilities	89	32	64	145	63	**393**
Ramps	49	89	358	414	277	**1,187**
HOV Facilities	0	0	0	0	0	**0**
Toll Facilities	12	69	377	449	284	**1,191**
Total	**729**	**790**	**5,443**	**8,590**	**6,351**	**21,903**

Table 5-4
CFRPM Version 6.0 Total System Miles by Facility Type and Area Type

Systen Miles by Facility Type and Area Type						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways and Expressways	30	29	118	225	293	**694**
Divided Arterials	28	52	492	615	476	**1,663**
Undivided Arterials	31	32	182	417	629	**1,291**
Collectors	88	92	720	1,502	1,658	**4,060**
One-Way Facilities	8	6	14	28	9	**65**
Ramps	7	25	95	109	57	**293**
HOV Facilities	0	0	0	0	0	**0**
Toll Facilities	6	19	148	232	245	**651**
Total	**196**	**255**	**1,769**	**3,129**	**3,367**	**8,716**

Table 5-5
CFRPM Version 6.0 Total Lane Miles by Facility Type and Area Type

Lane Miles by Facility Type and Area Type						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways and Expressways	81	80	363	600	727	**1,851**
Divided Arterials	110	219	2,216	2,541	1,925	**7,011**
Undivided Arterials	71	76	416	908	1,319	**2,790**
Collectors	190	209	1,693	3,251	3,428	**8,772**
One-Way Facilities	23	14	32	58	16	**143**
Ramps	8	30	119	122	70	**348**
HOV Facilities	0	0	0	0	0	**0**
Toll Facilities	10	44	343	477	474	**1,347**
Total	**493**	**672**	**5,181**	**7,958**	**7,959**	**22,261**

Table 5-6
CFRPM Version 6.0 Highway Average Capacity by Area Type and Facility Type

Average Capacity by Area Type and Facility Type							
FT	Description	CBD	High Density	Medium Density	Low Density	Very Low Density	Average
11	Urban Freeway Group 1 (cities of 500,000 or more)	2048	2048	2048	2048	1833	**2005**
12	Other Freeway (not in Group 1)	2048	2048	2048	2048	1833	**2005**
16	Controlled Access Expressways	2048	2048	2048	2048	1833	**2005**
17	Controlled Access Parkways	2048	2048	2048	2048	1833	**2005**
21	Divided Arterial Unsignalized (55 mph)	1788	1788	1788	1788	1560	**1742**
22	Divided Arterial Unsignalized (45 mph)	1788	1788	1788	1788	1560	**1742**
23	Divided Arterial Class I	968	968	968	968	795	**933**
24	Divided Arterial Class II	933	933	933	933	795	**905**
25	Divided Arterial Class III / IV	850	850	850	850	795	**839**
26	Divided Signalized Arterial with High Capacity	850	850	850	850	795	**839**
31	Undivided Arterial Unsignalized with Turn Bays	1703	1703	1703	1703	1480	**1658**
32	Undivided Arterial Class I with Turn Bays	920	920	920	920	1330	**1002**
33	Undivided Arterial Class II with Turn Bays	888	888	888	888	755	**861**
34	UndividedArterialClassIII/IVwithTurnBays	808	808	808	808	755	**797**
35	Undivided Arterial Unsignalized without Turn Bays	808	1345	1345	1345	1180	**1205**
36	Undivided Arterial Class I without Turn Bays	730	730	730	730	1060	**796**
37	Undivided Arterial Class II without Turn Bays	703	703	703	703	598	**682**
38	UndividedArterialClassIII/IVwithoutTurnBays	640	640	640	640	598	**632**
39	Undivided Signalized Arterial with High Capacity	640	640	640	640	598	**632**
41	Major Local Divided Roadway	768	838	838	838	1040	**864**
42	Major Local Undivided Roadway with Turn Bays	723	798	798	798	1040	**831**
43	Major Local Undivided Roadway without Turn Bays	555	608	608	608	1040	**684**
44	Other Local Divided Roadway	605	605	605	605	1040	**692**
45	Other Local Undivided Roadway with Turn Bays	575	575	575	575	1020	**664**
46	Other Local Divided Roadway without Turn Bays	458	458	458	458	1010	**568**
47	Low Speed Local Collector	458	458	458	458	1010	**568**
48	Very Low Speed Local Collector	458	458	458	458	1010	**568**
61	One-Way Facilities Unsignalized	770	1618	1618	1618	1348	**1394**
62	One-Way Facilities Class I	873	873	873	873	718	**842**
63	One-Way Facilities Class II	843	843	843	843	718	**818**
64	One-Way Facilities Class III / IV	770	770	770	770	718	**760**
66	Frontage Road Class I	873	873	873	873	718	**842**
68	Frontage Road Class III / IV	770	853	853	770	718	**793**
71	Freeway On /Off Ramp	1618	1618	1618	1618	1803	**1655**
72	Freeway On/Off Loop Ramp	770	843	873	843	1803	**1026**
73	Other On/Off Ramp	1618	1618	1618	1618	1803	**1655**
74	Other On/Off Loop Ramp	770	843	873	843	1803	**1026**
75	Freeway-to-Freeway Ramp	1618	1618	1618	1618	1803	**1655**
91	Toll Facility - Turnpike	2048	2048	2048	2048	1833	**2005**
92	Toll Facility - SR 408	2048	2048	2048	2048	1833	**2005**
93	Toll Facility - SR 417	2048	2048	2048	2048	1833	**2005**
94	Toll Facility - SR 429	1788	1788	1788	1788	1560	**1742**
95	Toll Facility - SR 528	1703	1703	1703	1703	1480	**1658**
96	Toll Facility - Osceola Parkway	1703	1703	1703	1703	1480	**1658**
97	Acceleration Lanes - Toll Facility	1618	1618	1618	1618	1803	**1655**
98	Deceleration Lanes -Toll Facility	1618	1618	1618	1618	1803	**1655**
Average		**1167**	**1206**	**1207**	**1204**	**1256**	**1208**

Table 5-7
CFRPM Version 6.0 Percentage of Links with TOD Counts

TOD Percentage of Links with Counts						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeway	51.70	28.60	29.50	33.80	27.30	**31.30**
Divided Arterial	20.70	25.80	34.10	27.60	19.70	**27.90**
Undivided Arterial	14.70	25.60	26.80	18.10	10.70	**16.90**
Collector	2.10	3.70	12.60	7.10	3.00	**6.70**
One Way Facilities	13.50	6.30	34.40	23.40	17.50	**20.60**
Ramps	16.30	16.90	15.60	12.30	10.80	**13.50**
Toll Facilities	8.30	10.10	15.90	15.40	9.90	**13.90**
Average	**11.40**	**14.30**	**22.20**	**15.30**	**8.90**	**15.00**

Table 5-8
CFRPM Version 6.0 Percentage of Links with Daily Counts

24 HR Percentage of Links with Counts						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeway	51.70	28.60	33.60	34.20	27.80	**32.60**
Divided Arterial	21.50	26.90	34.90	28.70	20.70	**28.80**
Undivided Arterial	19.60	30.80	28.70	21.50	15.30	**20.60**
Collector	2.40	4.30	16.70	10.20	5.20	**9.60**
One Way Facilities	14.60	6.30	35.90	24.80	20.60	**22.10**
Ramps	30.60	20.20	18.70	18.10	17.70	**18.90**
Toll Facilities	8.30	10.10	16.40	15.40	10.60	**14.20**
Average	**13.40**	**15.70**	**24.60**	**17.70**	**11.30**	**17.40**

5.4 Screenlines

The Screenlines are set to study the traffic patterns associated with traffic crossing a particular corridor and are usually located along major roadway facilities associated with the network. Cutlines, on the other hand, reflect a specific location where the travel patterns are reviewed for general reference. **Figure 5-1** illustrates the Screenlines and Cutlines utilized by the CFRPM 6.0 Model and are presented with respect to the link count locations (the original CFRPM Version 5.0 Model screenline and cutline figures are included in **Appendix A**). No adjustments have been made from the Version 5.0 Model in terms of the general location of screenlines/cutlines for CFRPM 6.0.

6.0 Model Distribution

The following provides an overview of the Diurnal Factors, the Sub-Area Balancing, the Friction Factors, and the resulting average trip lengths associated with the CFRPM Version 6.0 Model.

6.1 Diurnal Factors

The Trip Distribution Module takes the trip productions and attractions generated in the Trip Generation Module and distributes the trips. For the CFRPM Version 5.5 TOD Model, the trip productions and attractions are based on Diurnal factors that serve to categorize daily trips into TOD period trips. For purposes of the trip distribution, the Diurnal-derived productions and attractions are initially distributed according to Peak and Off-Peak periods and do not distinguish between the individual time periods (e.g. AM, PM, MD, NT). The individual time period components of the Diurnal Factors are utilized during the Traffic Assignment Module.

Figure 5-1
CFRPM Version 6.0 Screenline/Cutline Locations

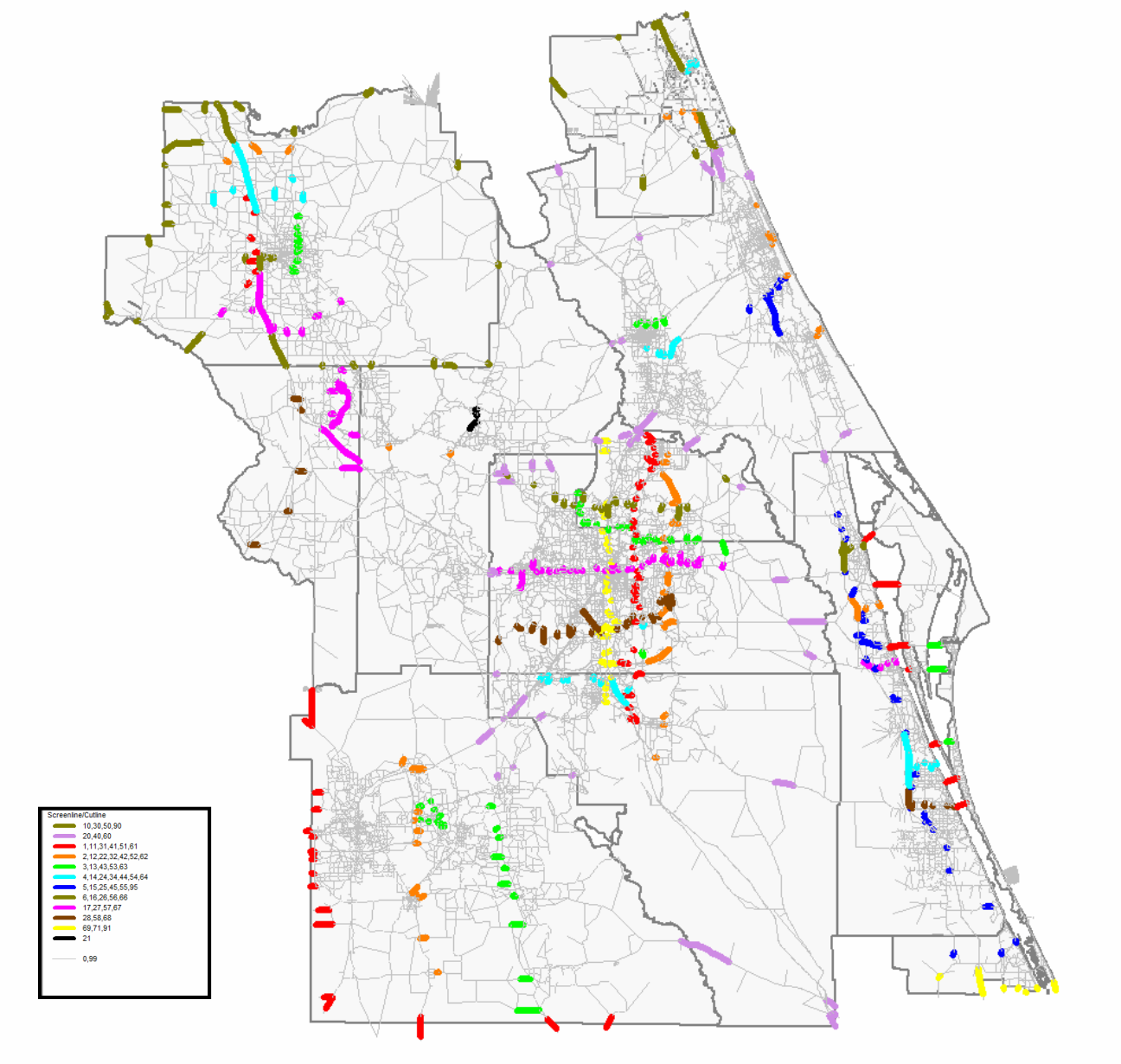


Table 6-1 summarizes the Diurnal Factors applied for each of the Purpose Types (HBW, HBNW, and NHB) according to Peak and Off-Peak Fractions (F_PK, F_OP) and individual period to corresponding Peak or Off-Peak Fractions (F_AM, F_MID, F_PM, F_NT), along with PA Factors for each TOD period (PA_AMP, PA_MID, PA_PMP, PA_NT). The trip purposes HBSHOP, HBSOSCREC, and HBO only need Peak and Off-Peak diurnal percentages because the factors for the HBNW (sum of three purposes) are used for the fractions and PA factors. The factors were derived from the 2008 National Household Travel Survey (NHTS) and take into account the travel characteristics reported by the surveyed households. The presented Original Diurnal Factors are the factors therefore derived directly from the NHTS survey. Minor refinements were made to the factors to ensure that the proper number of trips was distributed amongst the four time periods. This was achieved by comparing the ratio of the modeled traffic assignment to the observed traffic counts, in other words TOD model volume-to-count ratios, along with the TOD Vehicle-Mile-Traveled (VMT) volume-to-count ratios. The Final Validated Diurnal Factors represents the factors used by the CFRPM Version 6.0 TOD Model to achieve time-of-day trips.

Final Validated Diurnal Factors are also presented for Special Attractions, namely the Orlando Airport (MCO), the Orange County Convention Center (OCC), Universal Studios (UNI), SeaWorld (SEW), Disney (DIS), I-Drive (IDR), Kennedy Space Center (KSC), and Port Canaveral (PTC). The Diurnal Factors for the Special Attractions are based on data developed by HNTB for this project. The Special Attractions Diurnal Factors are used to designate the Special Attractions File from daily generations into TOD generations (see **Appendix B** for Special Attractions File).

Diurnal Factors for Taxi were set at 0.6 for F_PK and at 0.4 for F_OP. For EI trips, the factors were set at 0.45 for F_PK and at 0.55 for F_OP. LOV, HOV, LTRK, HTRK are used at the external stations to define Peak Period vehicle occupancy and truck traffic components.

6.2 Sub-Area Balancing

As CFRPM v 5.0, CFRPM Version 6.0 also utilizes Sub-Area Balancing for distribution of trips within the region. For HBW trips, the sub-areas are broken into the following four (4) subareas that are related to the HBW travel patterns of the region:

- Subarea 1: Seminole, Orange, Osceola, South Lake, West Volusia, and Polk
- Subarea 2: Flagler and East Volusia
- Subarea 3: Brevard and Indian River
- Subarea 4: Marion, Sumter and North Lake

For the HBNW trips, the following five (5) subareas are applied:

- Subarea 1: Seminole, Orange, Osceola, and Polk
- Subarea 2: Lake and Sumter
- Subarea 3: Brevard and Indian River
- Subarea 4: Marion
- Subarea 5: Volusia and Flagler

During the development of the CFRPM v5.5 model, a detailed assessment of the sub-areas was performed by reviewing the 2008 NHTS travel logs. The longitude and latitude pairs for each the beginning and the end of each trip was converted into equivalent Origin and Destinations (e.g. Traffic Analysis Zones), with distinction for the number of NHTS-weighted trips corresponding with each trip. **Figure 6-1** illustrates the HBW travel pairs and **Figure 6-2** illustrates the HBNW travel pairs, with distinction for the number of NHTS-weighted trips

corresponding with each trip. Included in the figures are the Version 5.5 Sub-Area Balancing subareas that have been colored to distinguish between the different categories.

Table 6-1
CFRPM Version 6.0 Diurnal Factors

Original 2008 NHTS Factors

PURPOSE	PERIOD	F_PK	F_OP	F_AMP	F_MID	F_PMP	F_NT	PA_AMP	PA_MID	PA_PMP	PA_NT
HBW	PK			0.566		0.434		0.979		0.076	
HBW	OP				0.496		0.504		0.556		0.436
HBW	ALL	0.574	0.426								
HBNW	PK			0.375		0.625		0.754		0.407	
HBNW	OP				0.672		0.328		0.503		0.317
HBNW	ALL	0.370	0.630								
HBSH	ALL	0.297	0.703								
HBSR	ALL	0.291	0.709								
HBO	ALL	0.476	0.524								
NHB	PK			0.316		0.684		0.500		0.500	
NHB	OP				0.857		0.143		0.500		0.500
NHB	ALL	0.321	0.679								

Final Validated Diurnal Factors

PURPOSE	PERIOD	F_PK	F_OP	F_AMP	F_MID	F_PMP	F_NT	PA_AMP	PA_MID	PA_PMP	PA_NT
HBW	PK			0.538		0.463		0.979		0.076	
HBW	OP				0.433		0.567		0.556		0.436
HBW	ALL	0.546	0.455								
HBNW	PK			0.357		0.644		0.754		0.407	
HBNW	OP				0.587		0.413		0.503		0.317
HBNW	ALL	0.352	0.649								
HBSH	ALL	0.282	0.718								
HBSR	ALL	0.277	0.724								
HBO	ALL	0.452	0.548								
NHB	PK			0.300		0.700		0.500		0.500	
NHB	OP				0.748		0.252		0.500		0.500
NHB	ALL	0.305	0.695								
Taxi	ALL	0.600	0.400								
EI	ALL	0.450	0.550								
SPEC	LOV			0.141	0.411	0.210	0.238	0.567	0.489	0.428	0.528
SPEC	HOV			0.141	0.411	0.210	0.238	0.567	0.489	0.428	0.528
SPEC	LTRK			0.172	0.466	0.191	0.172	0.567	0.489	0.428	0.528
SPEC	HTRK			0.140	0.441	0.147	0.272	0.567	0.489	0.428	0.528
MCO	ALL			0.111	0.463	0.221	0.205	0.500	0.500	0.500	0.500
OCC	ALL			0.048	0.608	0.206	0.138	0.500	0.500	0.500	0.500
UNI	ALL			0.077	0.483	0.281	0.158	0.500	0.500	0.500	0.500
SEW	ALL			0.056	0.482	0.273	0.189	0.500	0.500	0.500	0.500
DIS	ALL			0.110	0.456	0.255	0.179	0.500	0.500	0.500	0.500
IDR	ALL			0.300	0.200	0.300	0.200	0.500	0.500	0.500	0.500
KSC	ALL			0.000	0.612	0.384	0.004	0.500	0.500	0.500	0.500
PTC	ALL			0.022	0.808	0.141	0.029	0.500	0.500	0.500	0.500

Figure 6-1
CFRPM Version 5.5 Review of HBW Sub-Area Balancing Using 2008 NHTS

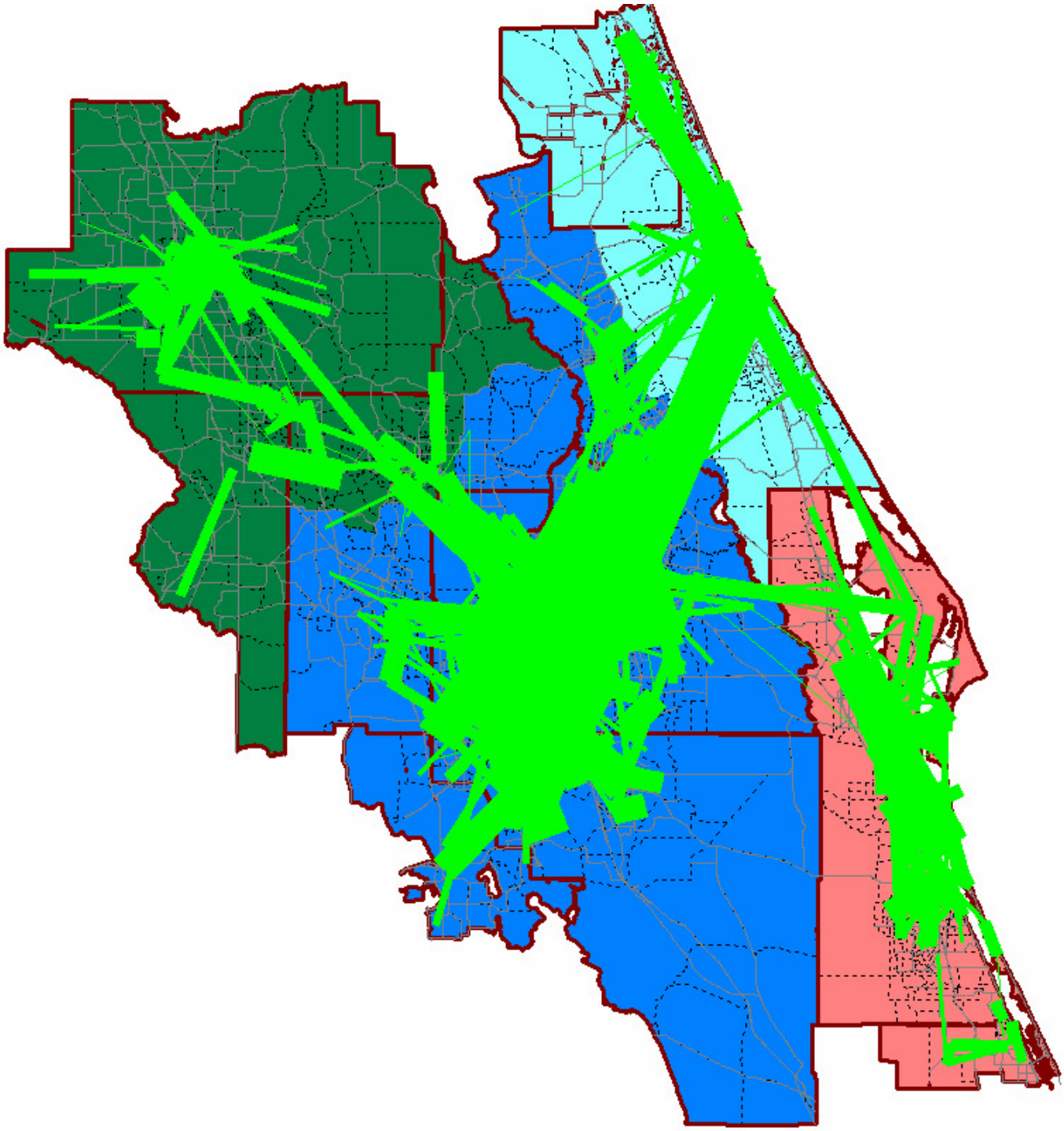
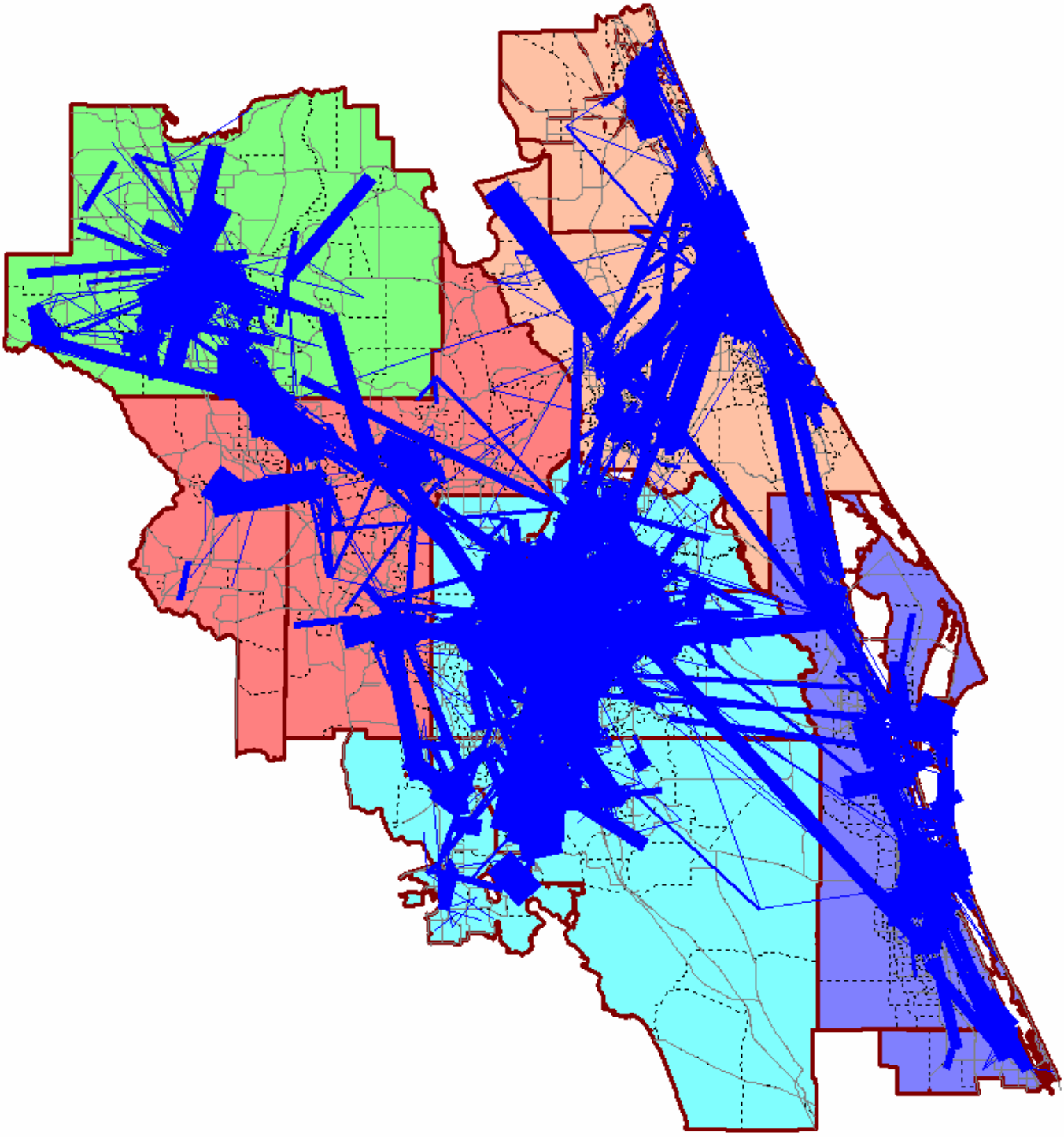


Figure 6-2
CFRPM Version 5.5 Review of HBNW Sub-Area Balancing Using 2008 NHTS



The figures show that the CFRPM Version 5.5 Sub-Area Balancing provides reasonable representation of the travel patterns within the region. The only area where a potential adjustment to the Sub-Area Balancing could be considered would be to include an additional eastern portion of Lake County with the HBW Orlando Urban Area grouping (e.g. Orange, Seminole, Osceola, South Lake, West Volusia, and Polk). No adjustment was made to the Sub-Areas, though, based on agreement by the Project Team.

6.3 Friction Factors

The model distribution step of the FSUTMS model chain is based on the gravity model. Essentially trip productions are balanced to trip attractions based on the weighted desirability of the attractions. Friction Factors are used in the gravity model to represent the effect of travel impedance. The 2008 NHTS travel data was reviewed for application to the CFRPM Version 5.5 TOD Model, as described below.

First Origin and Destination pairs were obtained by Trip Purpose from the NHTS data. Based on the NHTS Origin and Destination pairs, and their corresponding TAZ Production and Attractions, Friction Factor tables were developed by Trip Purpose and by Peak and Off-Peak periods. Separate Friction Factor curves were created for each for the six (6) Metropolitan Planning Organization's (MPOs) based Friction Factor sets contained in the original CFRPM Version 5.0 Model, as indicated below:

- Brevard and Indian River (previously BATS)
- Lake (previously LCTS)
- Marion (previously OATS)
- Orange, Osceola, Polk, and Seminole (previously OUATS)
- Sumter (previously CFRPM5.0 Sumter)
- Volusia and Flagler (previously VCATS)

The Friction Factor tables and corresponding curves obtained from the NHTS data is limited to 9,018 travel logs, which are then aggregated into the five (5) Trip Purposes (HBW, HBSHOP, HBSOCREC, HBO, and NHB) and into the two periods (Peak and Off-Peak). When combined with the six (6) MPO areas, there are in all 60 separate Friction Factor sets. The travel logs for the 60 sub-categories range from 5 to 584 entries, depending on the location and the individual Trip Purpose. Based on the NHTS trip purposes and trip locations, the AM Congested speed assignment was used to develop trip lengths for the Peak Origin and Destination pairs and the MD Free Flow speed assignment was used for the Off-Peak pairs. The model trip length were used because the NHTS responses were not deemed reliable. This is due to the fact that respondents do not always report accurate times and, in fact, tend to round off their trip lengths. Furthermore, terminal times are not being included in the NHTS travel survey times.

With the limited number of entries and the great variation in resulting trip lengths derived from the model for the Origin and Destination pairs, only 15 percent of the 60 Friction Factor curves could be accurately developed. In lieu of making manual adjustments to the other 85 percent, the reported NHTS trip lengths and their corresponding Peak-to-Off-Peak ratios were used, by Trip Purpose, to adjust the MPO based CFRPM Version 5.0 Friction Factors. In doing so, the original Friction Factors were established as the Off-Peak Friction Factors and the NHTS ratio of Peak-to-Off-Peak was applied to derive the Peak Friction Factors. **Table 6-2** presents the NHTS Peak-to-Off-Peak ratios, by MPO model area. The CFRPM Version 5.5 Peak and Off-Peak Friction Factor tables, along with the detailed NHTS trip length summations by MPO area and by Trip Purpose, are provided in **Appendix C**. The same friction factor files have been used for CFRPM 6.0.

Table 6-2
CFRPM Version 5.5 Referenced 2008 NHTS Trip Length Peak-to-Off-Peak Ratios

PEAK	BATS	LAKE	MARION	OUATS	SUMTER	VCATS
HBW	21.5	31.8	17.8	30.1	39.5	23.7
HBSHOP	12.1	10.6	13.3	13.9	20.0	15.6
HBSOCREC	15.3	16.0	13.4	17.0	21.6	24.1
HBO	15.1	23.3	19.2	15.5	17.5	17.6
NHB	12.3	20.5	16.0	20.7	9.7	19.7

OFFPEAK	BATS	LAKE	MARION	OUATS	SUMTER	VCATS
HBW	18.0	26.3	19.9	26.7	21.3	22.9
HBSHOP	12.3	18.8	17.9	12.2	13.0	14.2
HBSOCREC	18.3	17.2	20.3	16.6	29.4	18.2
HBO	15.4	20.9	19.8	17.1	27.0	18.1
NHB	13.8	14.4	12.7	16.0	13.4	14.8

RATIO	BATS	LAKE	MARION	OUATS	SUMTER	VCATS
HBW	1.19	1.21	0.89	1.13	1.85	1.03
HBSHOP	0.98	0.56	0.74	1.14	1.54	1.10
HBSOCREC	0.84	0.93	0.66	1.02	0.73	1.32
HBO	0.98	1.11	0.97	0.91	0.65	0.97
NHB	0.89	1.42	1.26	1.29	0.72	1.33

6.4 Model Average Trip Lengths

Based on CFRPM Version 6.0 trip distribution, which uses the previously described input files as a basis for its gravity model balancing, average trip lengths were reported by the Model for each Trip Purpose. The trip lengths by Trip Purpose are presented in **Tables 6-3** and **6-4** for each the Off-Peak (Average Free Flow speeds) and the Peak (Congested speeds).

7.0 Highway Assignment

The results of the calibration and validation of the Model is herein presented in relation to the highway assignment statistics.

7.1 Validation Assignment Files

The VFACTOR and Capacity Factor files utilized by the Model are described along with their relationship to the Model's traffic assignment.

7.1.1 VFACTORS File

The CFRPM Version 5.0 VFACTORS file was used as the basis for the development of a refined VFACTORS file for CFRPM 5.5 while taking into consideration observations made for the travel corridors (e.g. observed traffic speeds and volumes). The VFACTORS file is comprised of UROAD factors, BPR coefficients, and BPR exponents that are used by the model to relate volumes to delays for each of the model facility types based on a curvilinear relationship associated with the three components (e.g. BPR curves). The following illustrates the BPR curve equation:

$$S = S_f \; / \; (\; 1+\alpha \; (\; V / C \;)^{\beta} \;)$$

Where:

- S is observed speed
- S_f is model free-flow speed
- α, β are the coefficient and exponential parameters of the BPR curve
- C is model capacity
- V is observed traffic volume

As an overview, for CFRPM Version 5.5, the free-flow speed is based on a calculated equation that uses posted speeds and facility types. The model capacity is based on a look-up table, which references facility type and area type. Other components are derived based on the in-field observed data and the results of fitting the BPR curves based on the adjustment of the alpha and beta parameters. The final CFRPM 5.5 VFACTORS file was used for CFRPM 6.0.

Table 6-3
CFRPM Version 6.0 Off-Peak Average Length by Trip Purpose

Trip Purpose	Total Trips	Trip-Minutes	Average Minutes	Trip-Miles	Average Miles
HBW	2,293,252	47,875,568	20.88	29,475,784	12.85
HBSH	1,456,719	22,847,901	15.68	13,496,561	9.27
HBSR	1,376,295	27,425,011	19.93	16,975,982	12.34
HBO	3,523,399	57,968,766	16.45	33,554,791	9.52
NHB	4,457,355	69,452,608	15.58	38,941,250	8.74
LTK	1,313,458	19,094,756	14.54	10,521,874	8.01
HTK	300,381	4,247,641	14.14	2,344,858	7.81
TAXI	14,582	209,371	14.36	113,788	7.80
IE	479,686	14,373,453	29.96	10,730,464	22.37

Table 6-4
CFRPM Version 6.0 Peak Average Trip Length by Trip Purpose

Trip Purpose	Total Trips	Trip-Minutes	Average Minutes	Trip-Miles	Average Miles
HBW	2,293,252	66,053,517	28.80	31,376,158	13.68
HBSH	1,456,719	30,632,488	21.03	14,089,649	9.67
HBSR	1,376,295	38,177,560	27.74	18,185,659	13.21
HBO	3,523,399	76,214,003	21.63	34,993,990	9.93
NHB	4,457,355	94,247,916	21.14	41,078,060	9.22
LTK	1,313,458	25,314,110	19.27	11,062,457	8.42
HTK	300,381	5,667,444	18.87	2,451,779	8.16
TAXI	14,582	279,790	19.19	119,902	8.22
IE	479,686	16,060,732	33.48	10,896,036	22.72

The CFRPM Version 6.0 VFACTORS file (same as the CFRPM 5.5 version) is provided in **Table 7-1** and includes highlights for those facility types that were modified. Notably, the freeway Facility Types 11 and 12 were based on data gathered for the I-4 corridor. Since the travel speeds and travel volumes were not collected at the same time, a best fit was made using the data, which was available.

UROAD Factors

The UROAD factor component of the BPR curves is used to convert the "possible" capacity (LOS E) to a "practical" capacity (LOS C). Essentially, the volume-to-delay relationship and the UROAD factors work together. LOS C is used for the CFRPM Version 5.5 Model due to the fact that the Orlando Urban area and other areas of the region are not saturated in terms of capacity. The CFRPM uses factors ranging from 0.51 to 1.00 depending on the facility type. The same UROAD factors have been used for CFRPM 6.0.

CONFAC Factors

The CONFAC factors are the adjustments used during the BPR curve development to convert hourly model capacities to daily model capacities. The CFRPM Version 5.5 Model uses factors of 0.09 for Facility Types 11 and 12 and 0.10 for remaining facility types, and are consistent with the Version 5.0 Model. The same CONFAC factors have been used for CFRPM 6.0.

BPR Coefficients and Exponents

The BPR Coefficient represents the alpha value of the BPR curve and the BPR Exponent represents the beta value. The final BPR curve is achieved by adjusting these parameters until a fit is obtained for the curve in comparison to the corresponding data points for congested to uncongested speed and volume to capacity. **Table 7-1** includes the individual facility type BPR Coefficient and Exponent values. The same BPR coefficients and exponents have been used for CFRPM 6.0.

7.1.2 Capacity Factors

Traditionally, Capacity factors are contained in the FSUTMS Model to convert hourly model capacities into daily capacities. For purposes of this TOD Model, the Capacity factors represent the proportioning of the peak hour capacities to capacities associated with each individual Peak Period (e.g. AM, MD, PM, and NT). For the CFRPM Version 5.5 Model and also used for CFRPM 6.0, the capacity factors are named respectively the AMCAPFAC, MDCAPFAC, PMCAPFAC, and NTCAPFAC factors and are included in the "Key" area of CUBE/Voyager catalog. **Table 7-2** presents the Model TOD Capacity Factors.

Table 7-1
CFRPM Version 6.0 Adjusted VFACTOR File

Facility Type	UROAD Factor	CONFAC Factor	BPR Coefficient	BPR Exponent	Facility Type	UROAD Factor	CONFAC Factor	BPR Coefficient	BPR Exponent
10	0.68000	0.10000	0.15000	6.50000	55	1.00000	0.10000	0.15000	4.50000
11	0.68000	0.09000	***0.75000***	***8.50000***	56	1.00000	0.10000	0.15000	4.50000
12	0.68000	0.09000	***0.75000***	***8.50000***	57	1.00000	0.10000	0.15000	4.50000
13	1.00000	0.10000	0.15000	6.50000	58	1.00000	0.10000	0.15000	4.50000
14	1.00000	0.10000	0.15000	6.50000	59	1.00000	0.10000	0.15000	4.50000
15	0.68000	0.10000	0.15000	6.50000	60	0.96000	0.10000	0.15000	4.50000
16	0.68000	0.10000	0.15000	6.50000	61	0.68000	0.10000	0.15000	4.50000
17	0.68000	0.10000	0.15000	6.50000	62	0.81000	0.10000	0.15000	4.50000
18	1.00000	0.10000	0.15000	6.50000	63	0.95000	0.10000	0.15000	4.50000
19	0.68000	0.10000	0.15000	6.50000	64	0.96000	0.10000	0.15000	4.50000
20	0.92000	0.10000	0.15000	5.50000	65	0.68000	0.10000	0.15000	4.50000
21	0.73000	0.10000	0.15000	***8.50000***	66	0.81000	0.10000	0.15000	4.50000
22	0.73000	0.10000	***0.75000***	***4.50000***	67	0.95000	0.10000	0.15000	4.50000
23	0.81000	0.10000	***0.75000***	***4.50000***	68	0.96000	0.10000	0.15000	4.50000
24	0.95000	0.10000	***0.75000***	***4.50000***	69	1.00000	0.10000	0.15000	4.50000
25	0.96000	0.10000	0.15000	***8.50000***	70	0.68000	0.10000	0.15000	6.50000
26	0.81000	0.10000	0.15000	***8.50000***	71	0.51000	0.10000	0.15000	6.50000
27	1.00000	0.10000	0.15000	5.50000	72	0.92000	0.10000	0.15000	6.50000
28	1.00000	0.10000	0.15000	5.50000	73	0.51000	0.10000	0.15000	6.50000
29	1.00000	0.10000	0.15000	5.50000	74	0.92000	0.10000	0.15000	6.50000
30	0.92000	0.10000	0.15000	4.50000	75	0.68000	0.09000	0.15000	6.50000
31	0.68000	0.10000	0.15000	***8.50000***	76	0.92000	0.10000	0.15000	6.50000
32	0.81000	0.10000	0.15000	***8.50000***	77	0.51000	0.10000	0.15000	6.50000
33	0.95000	0.10000	***0.75000***	4.50000	78	0.92000	0.10000	0.15000	6.50000
34	0.88000	0.10000	0.15000	4.50000	79	0.68000	0.09000	0.15000	6.50000
35	0.68000	0.10000	0.15000	4.50000	80	0.68000	0.10000	0.30000	8.50000
36	0.81000	0.10000	***0.75000***	4.50000	81	0.68000	0.10000	0.30000	8.50000
37	0.95000	0.10000	0.15000	4.50000	82	0.68000	0.10000	0.30000	8.50000
38	0.96000	0.10000	0.15000	4.50000	83	0.68000	0.10000	0.30000	8.50000
39	0.81000	0.10000	0.15000	4.50000	84	0.68000	0.10000	0.30000	8.50000
40	0.86000	0.10000	0.15000	4.50000	85	0.68000	0.10000	0.30000	8.50000
41	0.92000	0.10000	0.15000	***8.50000***	86	0.68000	0.10000	0.30000	8.50000
42	0.92000	0.10000	***0.75000***	***8.50000***	87	0.68000	0.10000	0.30000	8.50000
43	0.92000	0.10000	0.15000	***8.50000***	88	0.68000	0.10000	0.30000	8.50000
44	0.86000	0.10000	0.15000	4.50000	89	0.68000	0.10000	0.30000	8.50000
45	0.86000	0.10000	0.15000	4.50000	90	0.68000	0.10000	0.15000	6.50000
46	0.86000	0.10000	***0.75000***	4.50000	91	0.75000	0.10000	0.15000	***3.00000***
47	0.86000	0.10000	0.15000	4.50000	92	0.68000	0.09000	0.15000	6.50000
48	0.86000	0.10000	0.15000	4.50000	93	0.68000	0.09000	0.15000	6.50000
49	1.00000	0.10000	0.15000	4.50000	94	0.68000	0.09000	0.15000	6.50000
50	1.00000	0.10000	0.15000	4.50000	95	0.68000	0.09000	0.15000	6.50000
51	1.00000	0.10000	0.15000	4.50000	96	0.68000	0.10000	0.15000	5.50000
52	1.00000	0.10000	0.15000	4.50000	97	0.51000	0.10000	0.15000	6.50000
53	1.00000	0.10000	0.15000	4.50000	98	0.51000	0.10000	0.15000	6.50000
54	1.00000	0.10000	0.15000	4.50000	99	1.00000	0.10000	0.15000	6.50000

Modified for v5.5.

Table 7-2
CFRPM Version 6.0 Hourly-to-TOD Capacity Factors

Catalog Key Name	Factor
AMCAPFAC	2.5
MDCAPFAC	6.0
PMCAPFAC	3.0
NTCAPFAC	10.0

7.2 General Validation Results

FDOT has established guidelines to be achieved for daily model highway assignments. The Traffic Assignment Accuracy Levels are defined in **Table 7-3** and serve as the general guidelines for evaluating the CFRPM Version 6.0 Model, with specific model standards having been developed for the TOD period evaluations.

Table 7-3
FDOT Traditional Daily Traffic Assignment Accuracy Levels

Validation Check	Scale of Computation	Level of Accuracy
Assigned VMT/Count VMT	Area	± 5%
Assigned VHT/Count VHT	Area	± 5%
Volume-Count Ratio	Screenlines	± 10% (> 50,000 VPD) ± 20% (< 50,000 VPD)
Volume-Count Ratio	Cutlines	± 10% (> 50,000 VPD) ± 20% (< 50,000 VPD)
Assigned VMT/Count VMT	Facility Type, Area Type, No. of Lanes	± 15% (> 100,000 VPD) ± 25% (< 100,000 VPD)
Assigned VHT/Count VHT	Facility Type, Area Type, No. of Lanes	± 15% (> 20,000 VPD) ± 25% (< 20,000 VPD)
Percent Root Mean Square Error	Area	35% - 50%
Percent Root Mean Square Error	Link Volume Groups	± 10% (> 50,000 VPD) ± 20% (< 50,000 VPD)

7.2.1 Systemwide Statistics

Systemwide model statistics are reflected in the HASSIGN.RPT output file for the model assignment. Included in the statistics are information on links and corresponding mileage, Vehicle-Miles-Traveled (VMT) and Vehicle-Hours-Traveled (VHT), and average speeds. **Table 7-4** summarizes the overall systemwide statistics for the Daily model. The key items in the table are the VMT and VHT, which are 1.03 and 1.04, respectively. These are well within the +/- 5% requirement at the systemwide level.

Systemwide model statistics for each of the eleven (11) counties contained within the CFRPM 6.0 network are presented in **Table 7-5**. As indicated in **Table 7-5**, all of the counties meet the overall area standards for %RMSE. They range from a low of 29.07 (Flagler) to high of 38.35 (Volusia), well within the 35-50% standard previously shown in **Table 7-3**. Individual County ratios for VMT and VHT are within +/- 10 percent. For Volume-to-Count ratios, again all of the County ratios are within +/- 10%.

Table 7-4
CFRPM Version 6.0 Overall Systemwide Daily Model Statistics

Measurement	Values Measured Daily
TOTAL_NUMBER OF LINKS	21,903
TOTAL SYSTEM MILES	8,716.43
TOTAL LANE MILES	22,262.51
TOTAL DIRECTIONAL MILES	15,687.42
TOTAL VMT USING VOLUMES (LINKS WITH COUNTS)	45,487,935
TOTAL VMT USING COUNTS (LINKS WITH COUNTS)	44,370,976
TOTAL VMT V/C (LINKS WITH COUNTS)	1.03
TOTAL VHT USING VOLUMES (LINKS WITH COUNTS)	1,244,293
TOTAL VHT USING COUNTS (LINKS WITH COUNTS)	1,198,295
TOTAL VHT V/C (LINKS WITH COUNTS)	1.04
TOTAL VOLUMES ALL LINKS	287,402,573
AVERAGE TOTAL VOLUME	13,121.61
TOTAL VMT ALL LINKS	110,051,268
TOTAL VHT ALL LINKS	3,060,509
TOTAL ORIGINAL SPEED (MPH)	39.70
TOTAL CONGESTED SPEED (MPH)	36.50

Table 7-5
CFRPM Version 6.0 Systemwide Daily Model Statistics by County

Description	Seminole	Orange	Osceola	Lake	Volusia	Brevard	Marion	Sumter	Flagler	Polk	Indian River	CFRPM Total
Total Number of Links	1,204	4,896	1,231	1,293	3,404	2,485	1,705	536	425	4477	247	**21,903**
Total System Miles	431	1,628	692	681	1,136	991	1,008	368	284	1395	103	**8,716**
Total Lane Miles	1,241	4,640	1,686	1,621	2,810	2,610	2,445	836	702	3439	234	**22,263**
VMT Using Volumes (000s)	4,219	14,889	2,672	2,024	5,140	7,007	3,158	1,788	1,298	3071	216	**45,487**
VMT Using Counts (000s)	4,088	14,006	2,465	1,881	5,044	7,333	3,183	1,854	1,385	2,915	211	**44,370**
Total VMT Ratio	1.03	1.06	1.08	1.08	1.02	0.96	0.99	0.96	0.94	1.05	1.02	**1.03**
VHT Using Volumes (000s)	128	493	104	55	129	153	61	29	21	62	4	**1,244**
VHT Using Counts (000s)	125	453	95	51	127	165	62	31	23	59	4	**1,198**
Total VHT Ratio	1.02	1.09	1.10	1.07	1.02	0.93	0.98	0.96	0.95	1.05	1.05	**1.04**
Original Speed (MPH)	39.77	40.17	41.89	41.18	37.27	39.44	40.60	41.97	46.53	39.00	42.15	**39.75**
Congested Speed (MPH)	34.52	33.61	36.29	37.69	35.67	37.94	39.10	41.21	45.14	37.44	40.34	**36.56**
Volume / Count Ratio	1.08	1.10	1.05	1.06	0.99	0.90	0.94	0.92	1.02	1.02	1.00	**1.03**
Percent RMSE	32.67	34.42	34.41	31.72	38.35	31.50	33.53	31.92	29.07	33.75	36.03	**34.72**

7.2.2 VMT and VHT by Area Type and Facility Type

For Vehicle Miles of travel (VMT) and Vehicle Hours of Travel (VHT) results, a summation by Area Type and by Facility Type has also been prepared. The VMT and VHT serve as useful measures for reviewing fuel consumption and is traditionally reported for travel demand forecasting models. **Tables 7-6** and **7-7** indicate the CFRPM Version 6.0 Daily model results for VMT and VHT, respectively.

7.3 Count Validation Results

The count validation results are provided relative to the model links, screenlines, and percent Root Mean Squared Error (RMSE).

7.3.1 Link Volume-to-Observed Count Ratios

In addition to systemwide statistics, detailed Model Volume-to-Observed Count ratios are calculated by Facility Type and Area Type. **Table 7-8** provides the Volumes-to-Count ratios for the Daily and 24-hour total (addition of four time periods). As indicated in the table, all but the High Density Area Type meet the volume-to-count ratio standard of plus or minus 10 percent for the Daily and 24HR model assignments.

Based on the Technical Memorandum "Model Calibration and Validation Performance Measures and Standards" literature review, the model statistics compare relatively to other TOD models which document volume-to-count ratios for TOD periods. The comparison to the Southeast Regional Planning Model (SERPM) Version 6.5[3], Memphis[4], and the Sacramento[5] TOD model results are provided in **Table 7-9**. CFRPM Version 6.0, along with SERPM Version 6.5, provides the best volume-to-count ratio statistic comparisons. Memphis also achieves reasonable volume results for all TOD periods with all periods less than nine (9) percent different from the traffic counts. Sacramento emphasizes the validation to its AM and PM peak periods.

7.3.2 Screenline Volume-to-Observed Count Ratios

Volume-to-Count ratios are also reported for Screenlines and Cutlines within the CFRPM 6.0 network. The FDOT daily standards for Screenlines and Cutlines are plus or minus 10 percent for over 50,000 vehicles per day and plus or minus 20 percent for less than 50,000 vehicles per day, as previously shown in **Table 7-3**. As shown in **Table 7-10**, the FDOT daily standard is achieved for a majority of the locations. Only 14 of the 42 Screenlines/Cutlines do not meet the daily standard. The overall V/C ratio for all screenlines is 1.03 and the system total V/C ratio is 1.03 for all links with counts.

Table 7-6
CFRPM Version 6.0 Total Vehicle Miles Traveled (VMT) for Daily Model

Daily Total Vehicle Miles Traveled (VMT)						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways	864,709	1,179,227	4,914,541	6,406,520	7,876,600	**21,241,596**
Divided Arterials	557,402	1,507,751	15,482,668	14,199,065	9,323,486	**41,070,372**
Undivided Arterials	324,264	270,753	2,191,205	4,455,073	6,253,477	**13,494,773**
Collectors	374,775	613,164	5,856,933	7,414,841	5,947,416	**20,207,129**
One-Way Facilities	151,280	72,828	248,593	345,448	55897	**874,046**
Ramps	66,123	244,865	671,059	570,116	319,632	**1,871,795**
Toll Facilities	59,827	358,148	3,342,322	4,197,495	3,333,764	**11,291,556**
Total	**2,398,379**	**4,246,736**	**32,707,322**	**37,588,559**	**33,110,271**	**110,051,268**

Table 7-7
CFRPM Version 6.0 Total Vehicle Hours Traveled (VMT) for Daily Model

Daily Total Vehicle Hours Traveled (VHT)						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways	22,240	40,106	137,721	131,446	159,107	**490,620**
Divided Arterials	16,196	64,581	553,128	401,958	226,242	**1,262,104**
Undivided Arterials	9,835	8,296	62,685	116,095	138,512	**335,423**
Collectors	13,050	21,812	215,209	270,540	161,141	**681,752**
One-Way Facilities	6,354	2,637	11,832	11,575	1664	**34,062**
Ramps	2,857	11,585	27,656	21,438	10,879	**74,417**
Toll Facilities	1,000	7,486	53,993	69,859	49,794	**182,132**
Total	**71,532**	**156,503**	**1,062,224**	**1,022,912**	**747,338**	**3,060,509**

Table 7-8
CFRPM Version 6.0 Daily Volume-to-Count Ratios

Daily Volume to Count Ratios for Links with Counts						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways	0.88	0.94	0.96	0.98	1.02	**0.97**
Divided Arterials	1.04	1.20	1.07	0.98	0.95	**1.03**
Undivided Arterials	1.07	1.07	1.11	1.01	1.24	**1.10**
Collectors	0.76	1.38	1.15	0.95	1.02	**1.05**
One-Way Facilities	1.65	2.30	1.53	1.00	0.81	**1.21**
Ramps	1.34	1.15	1.00	1.05	1.23	**1.09**
Toll Facilities	0.88	1.00	0.96	1.02	1.00	**0.99**
Total	**1.03**	**1.13**	**1.07**	**0.98**	**1.02**	**1.03**

24HR Volume to Count Ratios for Links with Counts						
Facility Type	CBD	High Density	Medium Density	Low Density	Very Low Density	Total
Freeways	1.25	1.23	1.21	1.12	1.11	**1.17**
Divided Arterials	1.12	1.27	1.10	0.98	1.04	**1.06**
Undivided Arterials	1.04	0.98	1.03	0.98	1.14	**1.03**
Collectors	0.60	1.95	1.03	0.94	0.98	**0.99**
One-Way Facilities	1.18	1.73	1.53	0.96	0.72	**1.11**
Ramps	1.55	1.40	1.20	1.19	1.22	**1.24**
Toll Facilities	1.05	1.15	1.01	1.01	1.01	**1.02**
Total	**1.17**	**1.26**	**1.09**	**0.99**	**1.06**	**1.06**

Table 7-9
Comparison to Other TOD Model Volume-to-Count Ratios (by TOD Period)

MODEL	AM	PM	MD	NT	Daily 24-Hour
CFRPM 6.0	1.06	1.01	1.07	1.08	1.04
CFRPM 5.5	0.98	0.94	1.00	1.00	0.98
SERPM 6.5	1.01	1.01	1.00		1.00
Memphis, Tennessee	1.09	1.05	0.93	0.94	0.99
Sacramento, California	1.03	1.01	0.88	0.78	0.92

Table 7-10
CFRPM Version 6.0 Daily Model Screenline/Cutlines Volume-to-Count Ratios

Daily				
Screenline Number	Number of Links	Estimated Volume	Count	V/C Ratio
1	32	198,708	199,090	1.00
2	12	179,875	164,300	1.09
3	7	82,209	68,683	1.20
4	3	80,968	93,403	0.87
10	28	131,319	129,940	1.01
11	10	91,271	101,948	0.90
12	4	21,541	19,076	1.13
13	10	100,125	118,256	0.85
14	4	83,786	78,322	1.07
16	4	97,226	97,940	0.99
17	10	145,333	163,638	0.89
20	6	147,044	171,700	0.86
21	6	30,524	31,624	0.97
22	2	39,892	35,430	1.13
27	20	146,948	149,758	0.98
28	4	13,474	15,120	0.89
30	12	132,521	134,958	0.98
32	8	35,262	33,474	1.05
40	18	317,641	281,104	1.13
42	16	171,965	165,180	1.04
43	6	45,221	47,888	0.94
44	4	93,652	90,376	1.04
45	12	114,537	120,828	0.95
51	16	205,752	227,810	0.90
52	2	50,202	45,500	1.10
53	6	77,017	89,402	0.86
54	10	140,701	144,670	0.97
55	46	432,371	430,770	1.00
56	7	86,018	104,695	0.82
57	8	94,682	113,478	0.83
58	14	195,698	197,774	0.99
60	42	600,888	550,566	1.09
61	44	722,617	719,810	1.00
62	36	566,716	580,972	0.98
63	38	686,921	596,682	1.15
64	12	214,990	182,242	1.18
66	34	472,025	456,648	1.03
67	62	880,550	896,300	0.98
68	40	893,215	806,370	1.11
69	55	1,014,112	982,992	1.03
71	12	67,023	66,250	1.01
95	4	31,199	31,660	0.99
98	1,170	11,701,493	11,303,059	1.04
Screenline Totals	1,896	21,635,233	21,039,686	1.03
99	5,011	57,798,618	55,871,764	1.03
System Totals	**6,907**	**79,433,851**	**76,911,450**	**1.03**

7.3.3 Modeled-to-Observed Percent RMSE

Florida adheres to a set of percent RMSE standards for daily model validations, as demonstrated in **Table 7-11**. The standards are based on traffic count ranges from 1 to 500,000 daily volumes. For the count range from 1 to 5,000 daily volumes, no distinction is provided for lower count groups. Since the TOD period counts represent a component of the daily traffic counts, a significant number of the CFRPM Version 6.0 observed peak period traffic counts exist within this lower count range and therefore require guidelines that are more refined.

As documented in the Technical Memorandum "Model Calibration and Validation Performance Measures and Standards," a set of RMSE guidelines for the TOD Peak Period assignments was established as referenced in **Table 7-12**. The TOD RMSE guidelines were refined to seven (7) individual lower count groups, as compared to the FDOT eleven (11) daily count groups, and were based on a general assessment of the "Add A Lane/Drop A Lane" premise associated with the accuracy level of traditional travel demand forecasts. A RMSE range for the overall TOD assignment was also prepared and represents a range of 42 to 90 Percent RMSE. In addition to the individual TOD periods, an overall %RMSE standard for the combined daily TOD assignment is established as being between 35 and 50, as documented in the technical memorandum. The reason for a different standard for the daily TOD assignment, as compared to the FDOT standard for non-TOD daily models, is the fact that the combined daily TOD assignment includes the various TOD period assignments. Specifically, the NT period assignment does not provide for adequate number of iterations to adjust for individual network routes and thus provides a less accurate assignment; especially as it relates to I-4. Therefore, it would be unrealistic to achieve a combined daily TOD assignment which could be compared directly to a daily only assignment (e.g. without TOD components). Finally, it should be noted that the presented %RMSE guidelines have not been designed to account for specific variations in individual peak period lengths (e.g. 2.5, 3, 6.5, and 12 hours for the AM, PM, MD, and NT periods, respectively), beyond the referenced higher Percent RMSEs for lower count groups and the overall TOD Peak period RMSE higher range. Potentially, separate Percent RMSE guidelines could exist for each TOD period. A similar set of guidelines was prepared for traffic assignment of Trucks in the "Central Florida Regional Planning Model Version 5.0 with Truck Component" Technical Memorandum "Model Calibration and Validation (Final) dated March 29, 2013, by Leftwich Consulting Engineers, Inc. for FDOT District Five[9]. **Table 7-13** shows the Guidelines derived for Truck %RMSE.

Table 7-13 presents the CFRPM 6.0 Daily model (e.g. LOV, HOV, Light Truck, and Heavy Truck trip purposes) validation Percent RMSE statistics. The count ranges used are the same as those presented in **Table 7-11** with the FDOT Standards. As indicated, the individual count ranges for volume groups 3 through 10 are within the allowed %RMSE range. For Volume groups 1 and 2, the lowest count ranges, the Model %RMSE is 75.06% (allowed range is 45-55%) and 49.15% (allowed range is 35-45%), respectively. For Volume Group 11, the highest count range in the model, the %RMSE is 18.38% (allowed range is 14-15%). The overall %RMSE is 34.72%, well within the allowed range of 32-39%. The Daily model meets the guideline for model volume-to-count ratio with 1.03 (accepted range is 0.95 to 1.05).

In addition to %RMSE statistics for all vehicles, the CFRPM Version 6.0 Model's Truck Component (e.g. Light and Heavy Truck Purposes) statistics are presented in **Table 7-15.** These statistics are based on comparisons of truck volumes (Light and Heavy truck purposes combined into one) against Truck Counts (total truck count). As indicated in **Table 7-15**, the validated CFRPM Version 6.0 Model statistics for Trucks are well within the allowed ranges presented in **Table 7-13**.

Table 7-11
FDOT Daily Model Percent RMSE Standards

Daily Group	Count Range		Allowed %RMSE Range	
1	1	5,000	45	55
2	5,000	10,000	35	45
3	10,000	20,000	27	35
4	20,000	30,000	24	27
5	30,000	40,000	22	24
6	40,000	50,000	20	22
7	50,000	60,000	18	20
8	60,000	70,000	17	18
9	70,000	80,000	16	17
10	80,000	90,000	15	16
11	90,000	100,000	14	15
12	100,000	500,000	Less than	14
All	**1**	**500,000**	**32**	**39**

Table 7-12
CFRPM Version 6.0 TOD Model Percent RMSE Standards

TOD Group	Count Range		Allowed %RMSE Range	
1	1	500	60	160
2	500	1,250	50	140
3	1,250	2,500	44	94
4	2,500	5,000	38	60
5	5,000	10,000	32	42
6	10,000	20,000	27	35
7	20,000	50,000	Less than	27
TOD All	**1**	**50,000**	**42**	**90**
TOD Daily	**1**	**500,000**	**35**	**50**

Table 7-13
Truck Percent RMSE Derived Guidelines

Count Group	Truck Volume Count Range		Allowed %RMSE Range	
1	1	1,250	50	140
2	1,250	2,500	44	94
3	2,500	5,000	38	60
4	5,000	10,000	32	42
5	10,000	20,000	27	35
6	20,000	50,000	Less than	27
TOD All	**1**	**50,000**	**42**	**90**

Table 7-14
CFRPM Version 6.0 Daily Model Percent RMSE Statistics – All Vehicles

CFRPM6 v6.0 Daily Counts							
Vol Group	Count Range	Model %RMSE	Allowed RMSE Range	Volume	Count	Volume/ Count	No of Links
1	1-5,000	75.06%	45 - 55%	7,453,920	6,478,237	1.15	1,796
2	5,000-10,000	49.15%	35 - 45%	16,783,788	15,533,502	1.08	2,136
3	10,000-20,000	29.02%	27 - 35%	31,625,659	31,212,820	1.01	2,186
4	20,000-30,000	22.22%	24 - 27%	14,273,279	13,838,456	1.03	582
5	30,000-40,000	15.03%	22 - 24%	3,781,668	3,979,018	0.95	116
6	40,000-50,000	19.40%	20 - 22%	788,500	848,284	0.93	19
7	50,000-60,000	5.84%	18 - 20%	999,395	997,914	1.00	18
8	60,000-70,000	14.41%	17 - 18%	1,114,197	1,174,721	0.95	18
9	70,000-80,000	10.63%	16 - 17%	1,265,822	1,338,590	0.95	18
10	80,000-90,000	12.68%	15 - 16%	1,189,186	1,327,908	0.90	16
11	90,000-100,000	18.38%	14 - 15%	158,411	182,000	0.87	2
ALL	**1-500,000**	**34.72%**	**32 - 39%**	**79,433,825**	**76,911,450**	**1.03**	**6,907**

Table 7-15
CFRPM Version 6.0 Daily Model Percent RMSE Statistics – Trucks

CFRPM6 v6.0 Truck Daily Counts							
Vol Group	Count Range	Model %RMSE	Allowed RMSE Range	Volume	Count	Volume/ Count	No of Links
1	1-1250	129.72%	50 -160%	215,197	109,170	1.97	110
2	1,250-2,500	76.87%	44 - 94%	239,153	167,093	1.43	98
3	2,500-5,000	29.34%	38 - 60%	253,733	275,900	0.92	77
4	5,000-10,000	21.55%	32 - 42%	436,679	476,486	0.92	72
5	10,000-20,000	n/a	27 - 35%	n/a	n/a	n/a	n/a
ALL	1-50,000	44.13%	42 - 90%	1,144,762	1,028,649	1.11	357

Table 7-16 presents the CFRPM 6.0 TOD model validation Percent RMSE statistics for the four time periods (e.g. AM, MD, PM, and NT) and the 24HR sum. As indicated, the individual Peak Periods all meet the guidelines for model volume-to-count Percent RMSE comparisons for each of the count groups. The overall Percent RMSE is also met for each Peak Period and is respectively 45.56 percent, 43.97 percent, 38.00 percent, and 66.09 percent for the AM, MD, PM, and NT Peak Periods. For the Combined 24-Hour Daily assignment, it is 40.10 percent and is well below the 50 percent guideline.

A comparison is provided for the CFRPM Version 6.0 Model in relation to the limited number of TOD models available that report Percent RMSEs for lower count groups, based on the documented literature review for the Technical Memorandum "Model Calibration and Validation Performance Measures and Standards." As indicated in **Table 7-17**, the validated CFRPM Version 6.0 Model statistics are relatively comparable to the reported Percent RMSEs for the Atlanta and Ohio TOD models[6] that include lower count ranges with their daily model statistics for percent RMSE. Further, the overall TOD Percent RMSEs for the individual Peak Periods are also consistent with the limited literature review data available for TOD model statistics (SERPM Version 6.5 and Sacramento TOD models) as demonstrated in **Table 7-18**. As indicated, the CFRPM 6.0 TOD higher NT Peak Period Percent RMSE compares closely to the results of the Sacramento TOD Model. All other Peak Periods are within the high-30 to lower-40 range for all reviewed TOD Models.

Table 7-16
CFRPM Version 6.0 Model Percent RMSE Statistics by Period and 24HR

AM							
Vol Grp	Count Range	Model RMSE(%)	Allow RMSE Range	Volume	Count	Volume/Count	No of Links
1	1-500	140.61%	60 -160%	139,369	98,549	1.41	252
2	500-1,250	68.62%	50 -140%	1,545,009	1,398,999	1.10	1,566
3	1,250-2,500	44.83%	44 - 94%	3,816,623	3,659,031	1.04	2,036
4	2,500-5,000	34.80%	38 - 60%	3,670,441	3,456,150	1.06	1,049
5	5,000-10,000	27.95%	32 - 42%	848,226	855,724	0.99	133
6	10,000-20,000	21.31%	27 - 35%	547,631	504,657	1.09	41
7	20,000-50,000	0.00%	LT 27 %	0	0	0.00	0
ALL	1-50,000	45.56%	42 - 90%	10,567,299	9,973,110	1.06	5,077

MD							
Vol Grp	Count Range	Model RMSE(%)	Allow RMSE Range	Volume	Count	Volume/Count	No of Links
1	1-500	0.00%	60 -160%	0	0	0.00	0
2	500-1,250	103.65%	50 -140%	69,204	48,002	1.44	43
3	1,250-2,500	71.88%	44 - 94%	2,045,932	1,803,878	1.13	914
4	2,500-5,000	53.12%	38 - 60%	7,693,735	7,395,674	1.04	2,034
5	5,000-10,000	36.58%	32 - 42%	12,870,094	12,317,800	1.04	1782
6	10,000-20,000	28.22%	27 - 35%	3,645,740	3,189,723	1.14	260
7	20,000-50,000	22.93%	LT 27 %	1,586,973	1,354,309	1.17	48
ALL	1-50,000	43.97%	42 - 90%	27,911,678	26,109,386	1.07	5,081

PM							
Vol Grp	Count Range	Model RMSE(%)	Allow RMSE Range	Volume	Count	Volume/Count	No of Links
1	1-500	0.00%	60 -160%	0	0	0.00	0
2	500-1,250	65.47%	50 -140%	593,174	578,714	1.02	515
3	1,250-2,500	47.04%	44 - 94%	3,705,551	3,733,514	0.99	2,053
4	2,500-5,000	31.40%	38 - 60%	7,003,828	7,099,605	0.99	2,025
5	5,000-10,000	29.54%	32 - 42%	2,855,109	2,706,229	1.06	431
6	10,000-20,000	23.92%	27 - 35%	874,370	758,185	1.15	56
7	20,000-50,000	0.00%	LT 27 %	0	0	0.00	0
ALL	1-50,000	38.00%	42 - 90%	15,032,032	14,876,247	1.01	5,080

NT							
Vol Grp	Count Range	Model RMSE(%)	Allow RMSE Range	Volume	Count	Volume/Count	No of Links
1	1-500	139.63%	60 -160%	5,012	3,496	1.43	9
2	500-1,250	65.36%	50 -140%	749,550	739,136	1.01	749
3	1,250-2,500	66.47%	44 - 94%	3,486,001	3,402,659	1.02	1,876
4	2,500-5,000	45.94%	38 - 60%	6,335,833	6,220,606	1.02	1,799
5	5,000-10,000	43.15%	32 - 42%	4,025,872	3,640,228	1.11	554
6	10,000-20,000	59.33%	27 - 35%	1,240,374	934,893	1.33	68
7	20,000-50,000	58.16%	LT 27 %	839,103	568,642	1.48	25
ALL	1-50,000	66.09%	42 - 90%	16,681,745	15,509,660	1.08	5,080

24Hr							
Vol Grp	Count Range	Model RMSE(%)	Allow RMSE Range	Volume	Count	Volume/Count	No of Links
1	1-5,000	70.24%	45 - 55%	2,612,458	2,847,765	0.92	717
2	5,000-10,000	48.86%	35 - 45%	14,528,871	14,787,349	0.98	2,015
3	10,000-20,000	33.00%	27 - 35%	31,286,558	30,792,044	1.02	2,157
4	20,000-30,000	31.16%	24 - 27%	15,385,302	13,674,999	1.13	575
5	30,000-40,000	22.36%	22 - 24%	4,148,206	3,946,818	1.05	115
6	40,000-50,000	25.47%	20 - 22%	950,022	848,284	1.12	19
7	50,000-60,000	20.92%	18 - 20%	1,157,057	997,914	1.16	18
8	60,000-70,000	31.99%	17 - 18%	1,444,230	1,174,721	1.23	18
9	70,000-80,000	32.40%	16 - 17%	1,341,162	1,047,090	1.28	14
10	80,000-90,000	26.76%	15 - 16%	1,521,819	1,245,650	1.22	15
11	90,000-100,000	37.41%	14 - 15%	230,085	182,000	1.26	2
12	100,000-500,000	0.00%	LT 14 %	0	0	0.00	0
ALL	**1-500,000**	**40.10%**	**32 - 39%**	**74,605,770**	**71,544,634**	**1.04**	**5,665**

Table 7-17
Comparison to Other TOD Models Percent RMSE (by Version 5.5 Count Ranges)

CFRPM Version 5.5 TOD RMSE Count Groups			Percent RMSE					
			Atlanta*	Mid-Ohio*	CFRPM Version 5.5		CFRPM Version 6.0	
Group No.	Count Range		Daily		AM	PM	AM	PM
1	1	500	306	220	103	115	141	n/a
2'	500	1,250	122	90	62	64	69	65
3'	1,250	2,500	80	58	40	42	45	47
4'	2,500	5,000	47-57	45-50	29	29	35	31
5'	5,000	10,000	38-44	34-44	30	23	28	30
6	10,000	20,000	23-35	23-32	18	19	21	24
7'	20,000	50,000	12-24	15-23	0	22	n/a	n/a

***Source:** "The Travel Forecasting Model Set for the Atlanta Region, 2008 Documenation", Atlanta Regional Commision.
Refences "MORPC Model Validation-Summary", Ohio Department of Transportation.
Reported %RMSE have been compiled into relative CFRPM5.5 count groupings, with low and high %RMSEs presented.

'Note: Indicates Atlanta/Mid-Ohio count groups that are slightly different from CFRPM5.5 count groups.

Table 7-18
Comparison to Other TOD Models Percent RMSE (by TOD Periods)

MODEL	AM	PM	MD	NT
CFRPM 6.0	45.6	38.0	44.0	66.1
CFRPM 5.5	41.8	35.1	38.0	65.5
SERPM 6.5	42.0	35.6	33.0	
Sacramento, California	39	38	37	60

8.0 Transit Assignment

The CFRPM version 6.0 model includes the mass transit systems in place in the year 2010 for LYNX in the Orlando Metro area, Space Coast Area Transit (SCAT) in Brevard County, Votran in Volusia County, LakeXpress in Lake County, and Suntran in Marion County). The CFRPM version 5.0 year 2005 bus routes were updated to 2010 routes (TROUTE_10A.LIN file). The PCWALK_10A.DAT (percent walk by TAZ) file was updated accordingly.

The model-wide observed ridership for 2010 was obtained from the different transit operators within the District (e.g. LYNX, SCAT, Votran, LakeXpress, and Suntran, GIS shapefiles and other system characteristics data was obtained for the year 2010 system. The total observed daily average transit ridership for 2010 was 101,047 and the model predicted ridership is 104,813 as shown in **Table 8-1**.

Table 8-1
CFRPM 6.0 Year 2010 Transit Ridership Summary

Systemwide Transit	2010 Observed Daily Ridership	2010 Model Daily Ridershp	Ratio (M/O)
Totals	101,047	104,813	1.037

The transit assignment ratio of Daily Model ridership to observed ridership is 1.037. This ratio is very close to the +/- 3% criteria set by FDOT for transit validation at the system wide level.

9.0 Summary of Model Calibration and Validation

Leftwich Consulting Engineers, Inc. has completed the model validation and calibration for the CFRPM Version 6.05 Daily and TOD Model. As documented in this report, the Version 6.0 Model provides a good model validation representation of year 2010 conditions, as confirmed by the following statistics:

Daily Model:
- The Overall %RMSE for the Daily Model is 34.72.
- The Overall V/C Ratio for the Daily Model is 1.03.

Time-of-day Model:
- Peak Period V/C Ratios for AM (1.06), MD (1.07), PM (1.01) and NT (1.08)
- Peak Period %RMSE for AM (45.6), MD (44.0), PM (38.00), and NT (66.1)
- The Overall %RMSE for the Combined 24-Hour Model is 40.1
- The Overall V/C Ratio for the Combined 24-Hour Model is 1.04

As indicated above, the Version 6.0 Daily and TOD Models meet all general guidelines for a validated model, based on traffic count comparisons.

This technical memorandum has been prepared as the final product for the CFRPM Version 6.0 Daily and TOD Model documentation. The CFRPM version 6.0 Model represents the current validated model for FDOT District Five.

10.0 Final Observations

The technical memorandum has documented the data and results of the CFRPM Version 6.0 Model with the main emphasis on year 2010 count data matching.

The CFRPM v6.0 daily model is ready to be utilized for its intended principal purpose, the development of the area MPOs/TPOs Long Range Transportation Plans for the year 2040.

References

1. www.fsutmsonline.net

2. "Technical Memorandum CFRPM v5.0 Model Calibration and Validation Results" CFRPM Model Version 5.0, Florida Department of Transportation District Five, prepared by Gannett Fleming, Inc. and AECOM Consult, Inc., September 2010.

3. "Technical Reports 1 & 2: Model Data Calibration and Validation" for SERPM Version 6.5, Florida Department of Transportation District Four, prepared by The Corradino Group, October 2008.

4. "Appendix E-Travel Demand Model Technical Memorandum for 2030 Long-Range Transportation Plan", Memphis Metropolitan Planning Organization, Transportation Planning Section, prepared by Kimley-Horn and Associates, Inc., March 2008.

5. "Sacramento Regional Travel Demand Model Version 2007 (SACMET 07): Model Reference Report, Review Draft", Sacramento Area Council of Governments, November 2008.

6. "The Travel Forecasting Model Set for Atlanta Region, 2008 Documentation", Atlanta Regional Commission, 2008.

7. "Technical Memorandum: CFRPM "Lifestyle" Model Framework (Final)" for CFRPM v6.0 Update, Florida Department of Transportation District Five, prepared by Leftwich Consulting Engineers, Inc., March 14, 2012.

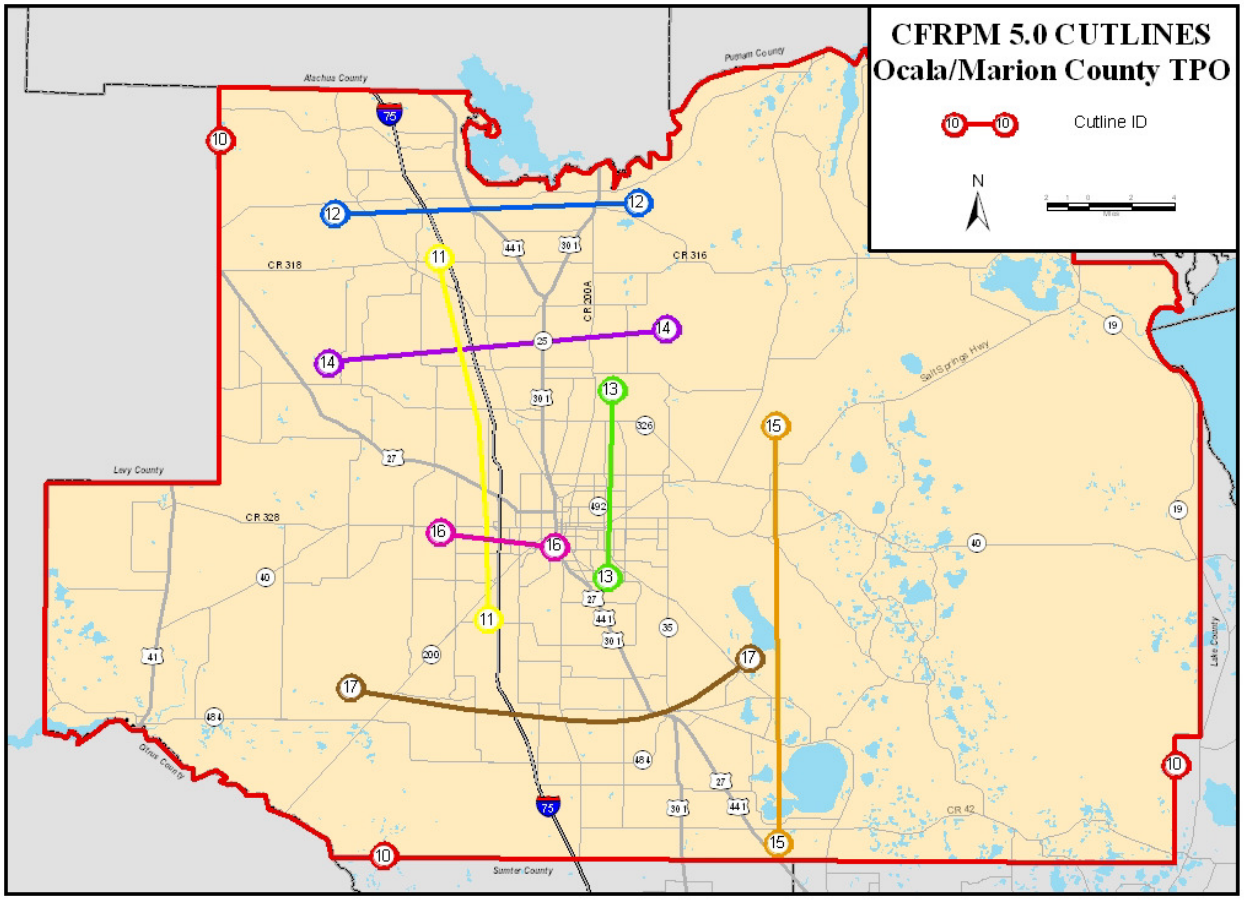
8. "Technical Memorandum: CFRPM "Income" Model Testing Summary (Final)" for CFRPM v6.0 Update, Florida Department of Transportation District Five, prepared by Leftwich Consulting Engineers, Inc., March 24, 2013.

9. "Technical Memorandum: Model Calibration and Validation (Final)" for Central Florida Regional Planning Model Version 5.0 with Truck Component, Florida Department of Transportation District Five, prepared by Leftwich Consulting Engineers, Inc., March 29, 2013.

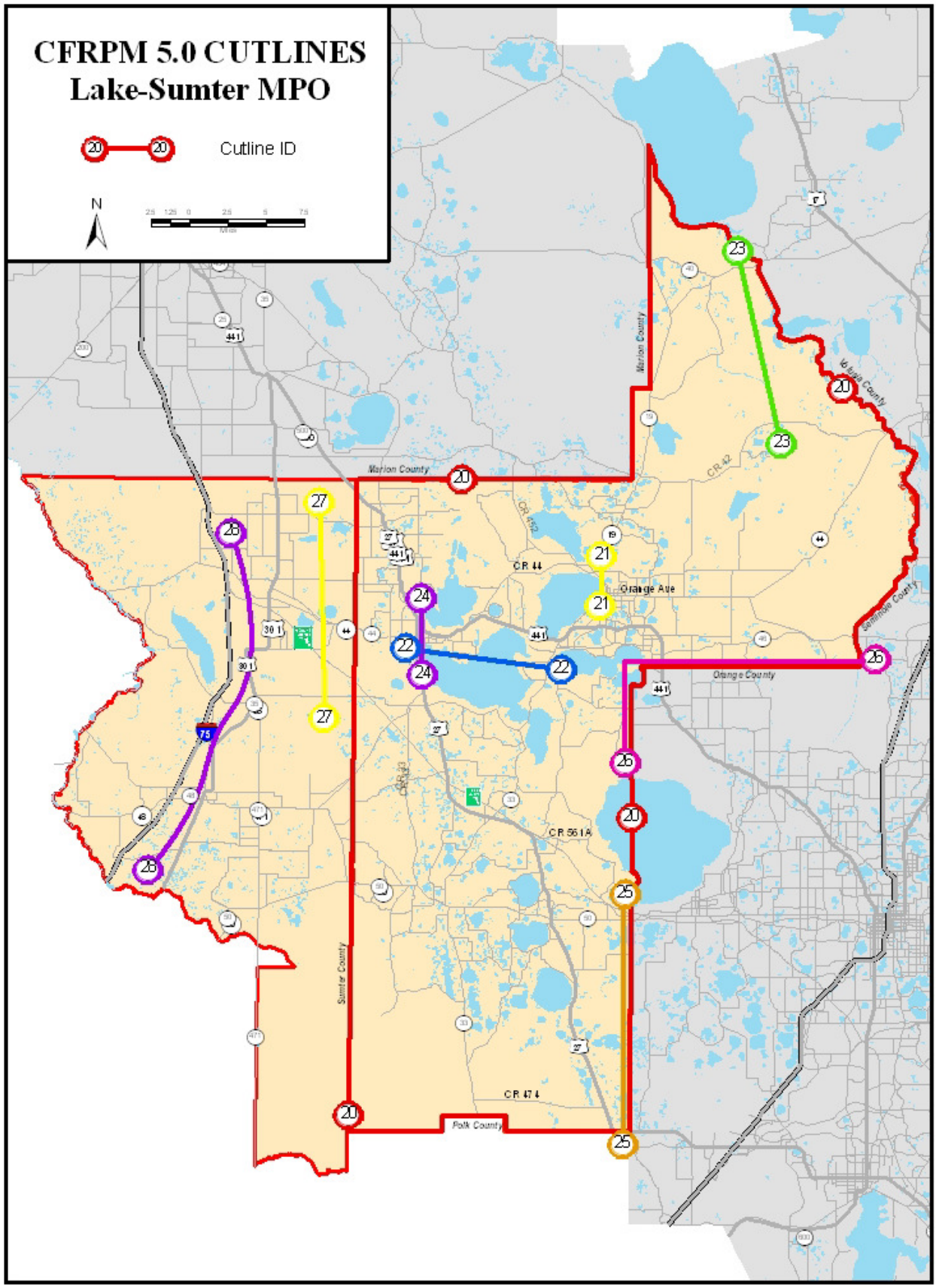
APPENDICES

Appendix A:
CFRPM Version 5.0 Screenline/Cutline Location Maps

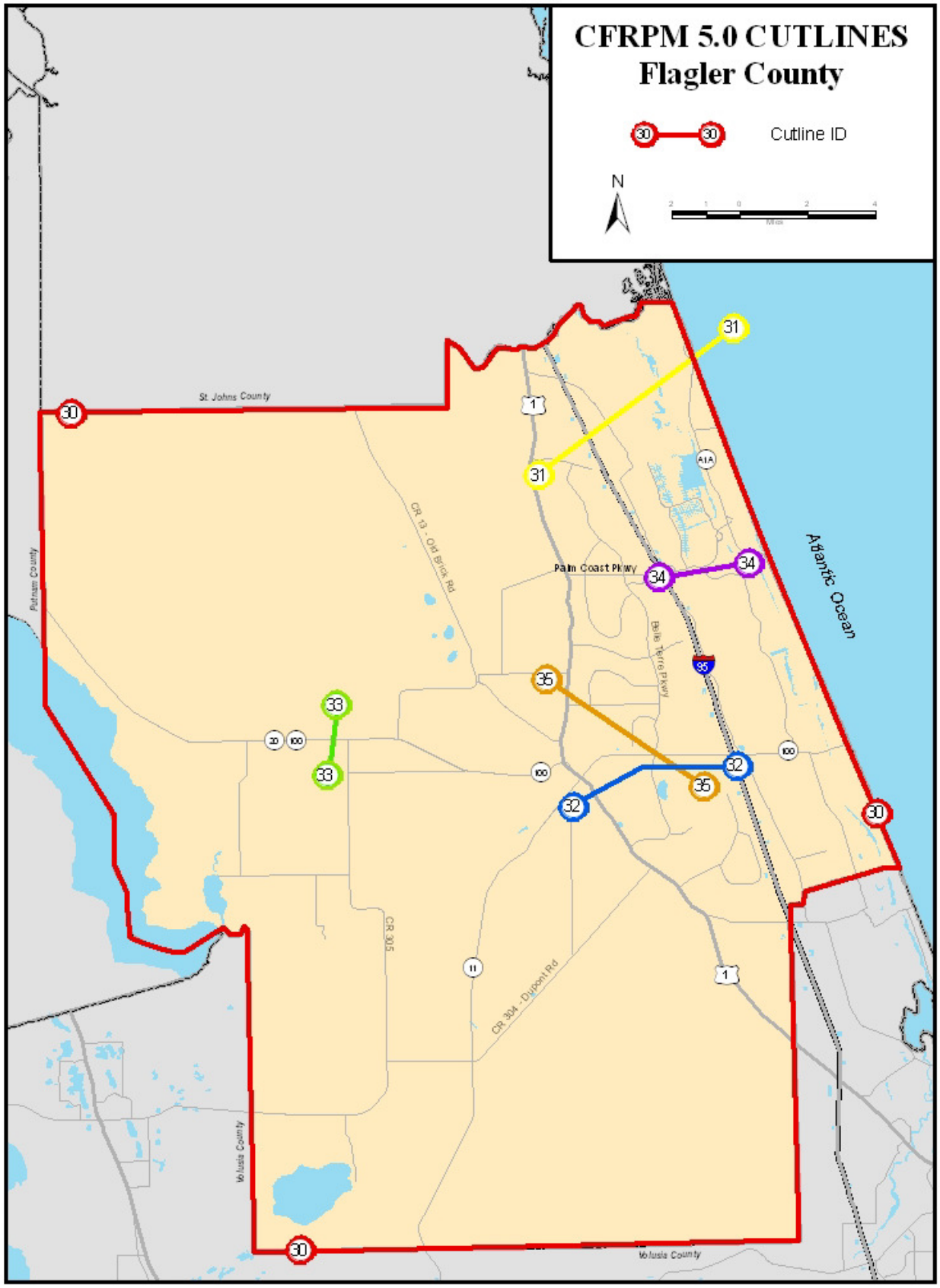
Appendix A 1
Ocala/Marion County TPO Cutlines



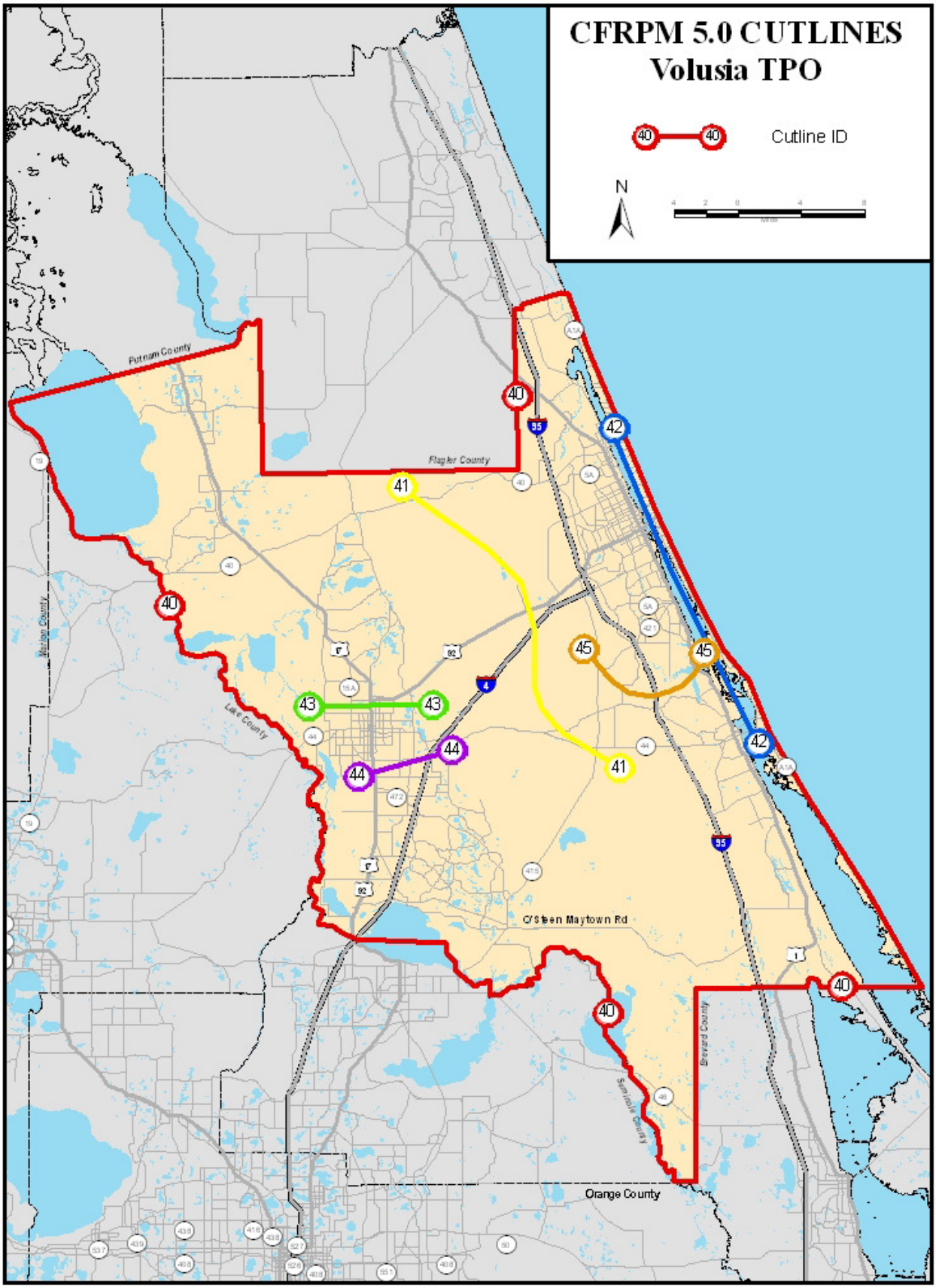
Appendix A-2
Lake-Sumter MPO Cutlines



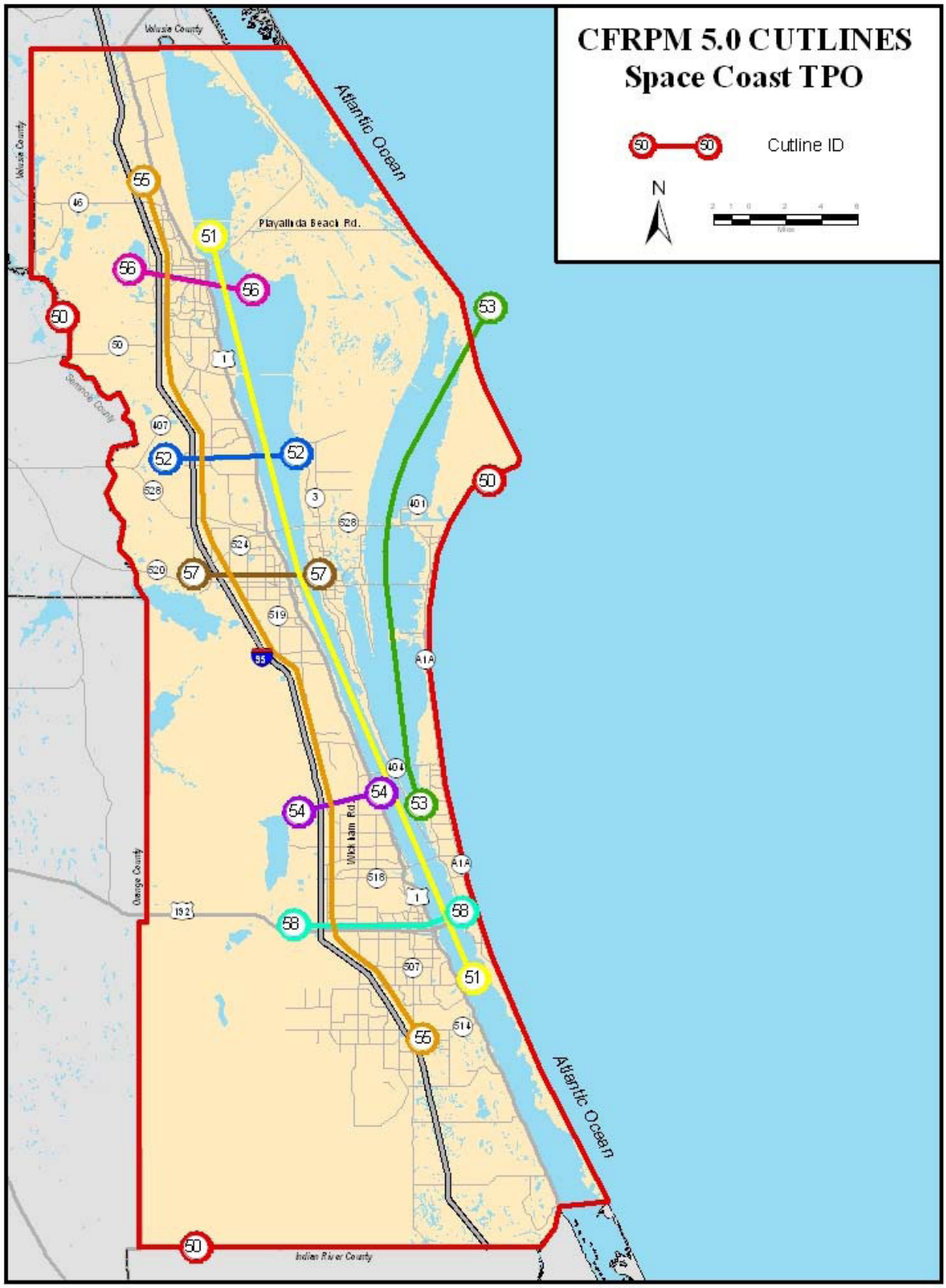
Appendix A-3
Flagler County Cutlines



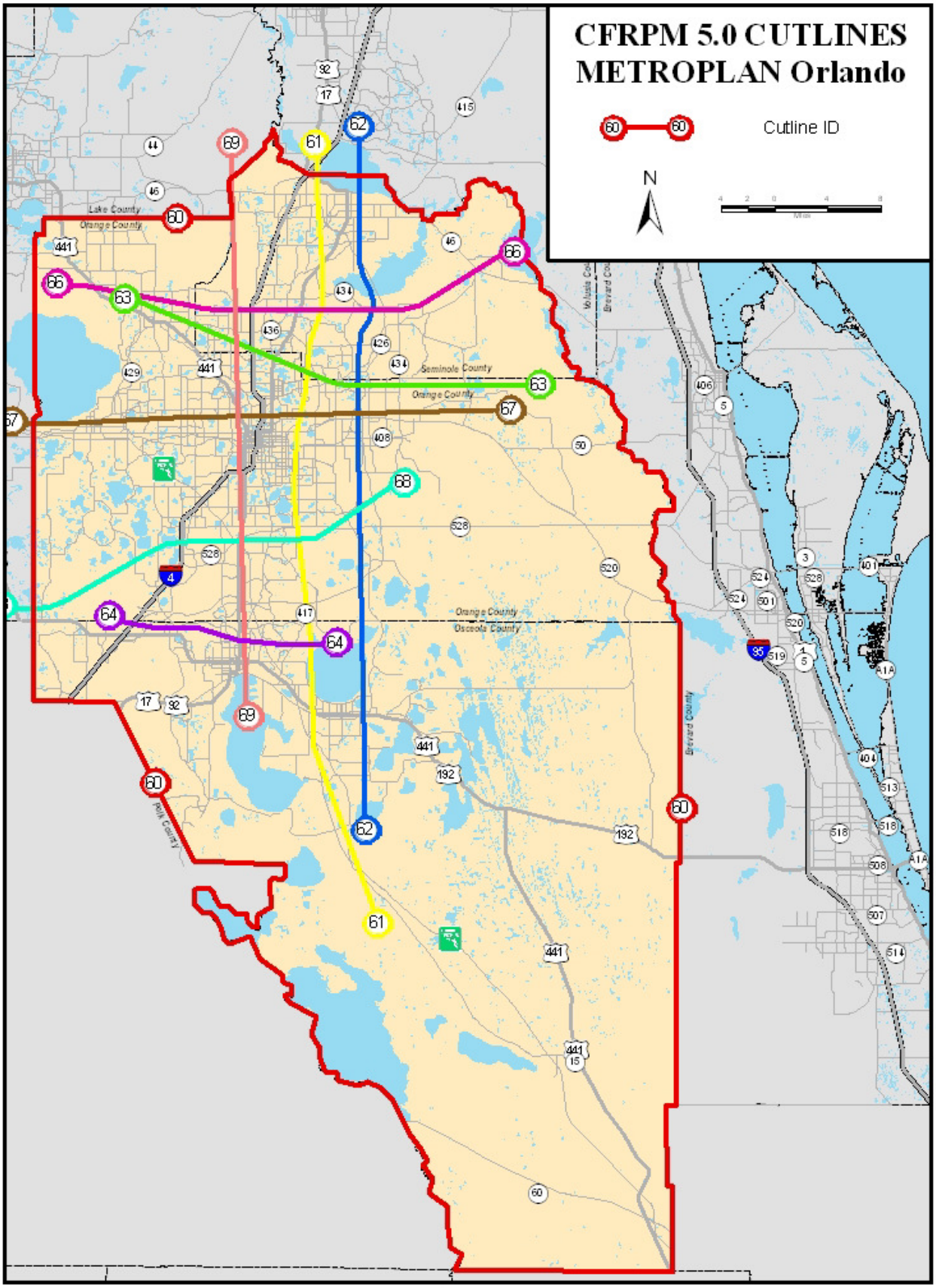
Appendix A-4
Volusia TPO Cutlines



Appendix A-5
Space Coast TPO Cutlines



Appendix A-6
METROPLAN Orlando Cutlines



Appendix B:
Special Attractions File

Special Attractions File
SPECATR1_10A.dbf for CFRPM 6.0

COUNTER	ZONE	PRODS	VISRATE	RESRATE	EXTRATE	APTFLAG	DISTRICT	GROUP	DESCR
1	977	89,038	69.90%	26.81%	3.29%	1	1	1	Orlando International Airport
2	978	0	69.90%	26.81%	3.29%	2	1	1	Orlando International Airport exp
3	928	50,000	34.72%	38.47%	26.81%	0	2	2	Orange County Convention Center
4	927	0	34.72%	38.47%	26.81%	0	2	2	Orange County Convention Center exp
5	799	0	80.57%	10.92%	8.51%	0	3	3	Universal Orlando
6	801	84,770	80.57%	10.92%	8.51%	0	3	3	Universal Orlando Expansion
7	931	17,270	70.63%	16.98%	12.39%	0	4	4	Sea World
8	908	2,542	88.05%	4.98%	6.97%	0	5	5	Typhoon Lagoon
9	902	17,662	71.64%	22.64%	5.72%	0	6	5	Pleasure Island / Downtown Disney
10	905	15,709	94.44%	4.44%	1.12%	0	7	5	MGM Studios
11	900	13,105	91.61%	4.64%	3.75%	0	8	5	Animal Kingdom
12	903	31,450	91.44%	4.52%	4.05%	0	9	5	EPCOT Center
13	899	3,903	85.77%	8.30%	5.93%	0	10	5	Blizzard Beach
14	898	28,339	93.50%	4.02%	2.48%	0	11	5	Magic Kingdom
15	2,994	5,090	77.64%	11.53%	10.83%	0	12	6	Kennedy Space Center
16	3,182	15,336	36.87%	37.32%	25.81%	0	13	7	Port Canaveral

Appendix C:
Off-Peak and Peak Friction Factor Tables & 2008 NHTS Trip Lengths (BATS, LCTS, OATS, OUATS, Sumter, and VCATS MPO Areas)

Reported NHTS Trip Lengths

County	Trip Purpose	Trip (Logs)	Trips (Wgtd)	Avg Min (Logs)	Avg Min (Wgtd)	PK/OFF Ratio
BREVARD	HBO PK	140	34,252,234	15.9	15.1	
INDIAN RIVER	HBO PK	3	165,089	12.3	10.6	
Total	**HBO PK**	**143**	**34,417,323**	**15.9**	**15.1**	
BREVARD	HBO OFF	200	36,120,062	17.2	15.7	**0.98**
INDIAN RIVER	HBO OFF	15	2,485,393	16.8	10.8	
Total	**HBO OFF**	**215**	**38,605,455**	**17.2**	**15.4**	
BREVARD	HBSHOP PK	157	22,872,275	12.1	12.3	
INDIAN RIVER	HBSHOP PK	14	1,765,079	7.4	8.7	
Total	**HBSHOP PK**	**171**	**24,637,353**	**11.7**	**12.1**	
BREVARD	HBSHOP OFF	304	42,001,266	13.0	11.8	**0.98**
INDIAN RIVER	HBSHOP OFF	23	3,371,279	15.0	18.1	
Total	**HBSHOP OFF**	**327**	**45,372,545**	**13.1**	**12.3**	
BREVARD	HBSOCREC PK	39	8,664,279	16.0	17.5	
INDIAN RIVER	HBSOCREC PK	4	2,099,284	6.8	6.3	
Total	**HBSOCREC PK**	**43**	**10,763,563**	**15.2**	**15.3**	
BREVARD	HBSOCREC OFF	95	15,715,687	17.3	15.6	**0.84**
INDIAN RIVER	HBSOCREC OFF	11	2,646,117	17.7	34.6	
Total	**HBSOCREC OFF**	**106**	**18,361,804**	**17.3**	**18.3**	
BREVARD	HBW PK	150	43,330,723	20.7	21.7	
INDIAN RIVER	HBW PK	7	2,112,939	12.4	17.0	
Total	**HBW PK**	**157**	**45,443,662**	**20.3**	**21.5**	
BREVARD	HBW OFF	88	29,529,236	20.4	18.0	**1.19**
INDIAN RIVER	HBW OFF	5	889,079	17.0	15.1	
Total	**HBW OFF**	**93**	**30,418,315**	**20.2**	**18.0**	
BREVARD	NHB PK	140	33,789,343	13.0	11.9	
INDIAN RIVER	NHB PK	4	783,131	15.5	26.7	
Total	**NHB PK**	**144**	**34,572,474**	**13.1**	**12.3**	
BREVARD	NHB OFF	341	62,769,842	13.9	13.8	**0.89**
INDIAN RIVER	NHB OFF	45	7,383,012	15.6	14.0	
Total	**NHB OFF**	**386**	**70,152,853**	**14.1**	**13.8**	
Area Total	**PK**	**658**	**149,834,375**	**15.2**	**15.9**	
Area Total	**OFF**	**1127**	**202,910,972**	**15.2**	**14.8**	
AREA TOTAL	**ALL**	**1785**	**352,745,347**	**15.2**	**15.3**	
LAKE	HBO PK	39	8,752,009	23.3	23.3	**1.11**
LAKE	HBO OFF	66	10,066,454	19.5	20.9	
LAKE	HBSHOP PK	36	7,123,835	12.5	10.6	**0.56**
LAKE	HBSHOP OFF	114	17,175,887	16.6	18.8	
LAKE	HBSOCREC PK	24	3,014,506	15.0	16.0	**0.93**
LAKE	HBSOCREC OFF	44	4,619,733	12.4	17.2	
LAKE	HBW PK	41	11,916,304	28.4	31.8	**1.21**
LAKE	HBW OFF	29	7,418,682	26.1	26.3	
LAKE	NHB PK	44	8,925,783	19.6	20.5	**1.42**
LAKE	NHB OFF	133	19,872,729	14.9	14.4	
Area Total	**PK**	**184**	**39,732,437**	**20.4**	**22.4**	
Area Total	**OFF**	**386**	**59,153,485**	**16.8**	**18.5**	
AREA TOTAL	**ALL**	**570**	**98,885,922**	**17.9**	**20.0**	
MARION	HBO PK	83	22,529,901	17.8	19.2	**0.97**
MARION	HBO OFF	113	26,258,241	17.2	19.8	
MARION	HBSHOP PK	71	14,380,568	16.0	13.3	**0.74**
MARION	HBSHOP OFF	238	30,643,245	17.2	17.9	
MARION	HBSOCREC PK	36	4,475,197	13.5	13.4	**0.66**
MARION	HBSOCREC OFF	64	11,009,560	17.3	20.3	
MARION	HBW PK	62	15,918,377	21.3	17.8	**0.89**
MARION	HBW OFF	38	13,329,127	20.4	19.9	
MARION	NHB PK	66	15,760,131	16.2	16.0	**1.26**
MARION	NHB OFF	203	34,306,080	13.2	12.7	
Area Total	**PK**	**318**	**73,064,173**	**17.3**	**16.7**	
Area Total	**OFF**	**656**	**115,546,253**	**16.2**	**17.2**	
AREA TOTAL	**ALL**	**974**	**188,610,426**	**16.5**	**17.0**	

Reported NHTS Trip Lengths (Cont'd)

County	Trip Purpose	Trip (Logs)	Trips (Wgtd)	Avg Min (Logs)	Avg Min (Wgtd)	PK/OFF Ratio
ORANGE	HBO PK	163	56,836,122	17.5	16.0	
OSCEOLA	HBO PK	48	20,080,127	15.5	13.7	
POLK	HBO PK	12	4,259,376	17.9	20.2	
SEMINOLE	HBO PK	108	28,814,642	17.4	15.0	
Total	**HBO PK**	**331**	**109,990,267**	**17.2**	**15.5**	
ORANGE	HBO OFF	196	59,859,780	18.4	15.4	
OSCEOLA	HBO OFF	44	12,697,219	23.6	24.9	
POLK	HBO OFF	13	3,608,501	21.3	33.5	**0.91**
SEMINOLE	HBO OFF	145	35,060,596	16.6	15.6	
Total	**HBO OFF**	**398**	**111,226,095**	**18.4**	**17.1**	
ORANGE	HBSHOP PK	137	35,321,496	13.8	14.1	
OSCEOLA	HBSHOP PK	34	5,838,339	15.1	14.0	
POLK	HBSHOP PK	9	4,116,469	13.6	11.1	
SEMINOLE	HBSHOP PK	79	15,340,003	17.7	14.1	
Total	**HBSHOP PK**	**259**	**60,616,306**	**15.1**	**13.9**	
ORANGE	HBSHOP OFF	285	81,191,639	13.4	12.2	
OSCEOLA	HBSHOP OFF	62	17,099,955	15.0	15.2	
POLK	HBSHOP OFF	57	10,526,622	15.7	11.7	**1.14**
SEMINOLE	HBSHOP OFF	180	31,186,650	12.1	11.0	
Total	**HBSHOP OFF**	**584**	**140,004,866**	**13.4**	**12.2**	
ORANGE	HBSOCREC PK	52	13,453,946	18.3	14.0	
OSCEOLA	HBSOCREC PK	8	1,430,207	14.6	19.0	
POLK	HBSOCREC PK	5	494,302	25.8	36.2	
SEMINOLE	HBSOCREC PK	38	6,441,350	21.3	21.1	
Total	**HBSOCREC PK**	**103**	**21,819,805**	**19.5**	**17.0**	
ORANGE	HBSOCREC OFF	128	43,912,632	18.0	14.7	
OSCEOLA	HBSOCREC OFF	22	6,082,617	13.7	20.9	
POLK	HBSOCREC OFF	11	576,934	11.8	10.8	**1.02**
SEMINOLE	HBSOCREC OFF	74	10,628,642	23.5	22.6	
Total	**HBSOCREC OFF**	**235**	**61,200,824**	**19.0**	**16.6**	
ORANGE	HBW PK	213	80,165,277	28.4	29.3	
OSCEOLA	HBW PK	47	19,428,103	30.9	41.9	
POLK	HBW PK	10	2,997,818	45.7	55.2	
SEMINOLE	HBW PK	147	36,277,926	24.1	23.6	
Total	**HBW PK**	**417**	**138,869,124**	**27.6**	**30.1**	
ORANGE	HBW OFF	131	73,937,267	23.9	24.6	
OSCEOLA	HBW OFF	41	16,460,614	25.0	33.3	
POLK	HBW OFF	8	1,011,821	35.8	34.6	**1.13**
SEMINOLE	HBW OFF	82	27,581,603	24.4	28.2	
Total	**HBW OFF**	**262**	**118,991,305**	**24.6**	**26.7**	
ORANGE	NHB PK	165	54,862,882	18.1	20.8	
OSCEOLA	NHB PK	45	13,092,341	21.4	22.4	
POLK	NHB PK	14	4,153,476	27.0	18.3	
SEMINOLE	NHB PK	114	24,490,119	18.8	19.9	
Total	**NHB PK**	**338**	**96,598,818**	**19.1**	**20.7**	
ORANGE	NHB OFF	343	97,355,019	17.0	16.9	
OSCEOLA	NHB OFF	107	27,903,941	14.9	14.6	
POLK	NHB OFF	62	7,658,253	15.0	13.3	**1.29**
SEMINOLE	NHB OFF	194	42,648,523	15.7	15.3	
Total	**NHB OFF**	**706**	**175,565,736**	**16.2**	**16.0**	
Area Total	**PK**	**1448**	**427,894,320**	**20.4**	**21.2**	
Area Total	**OFF**	**2185**	**606,988,826**	**17.1**	**17.5**	
AREA TOTAL	**ALL**	**3633**	**1,034,883,146**	**18.5**	**19.1**	

Reported NHTS Trip Lengths (Cont'd)

County	Trip Purpose	Trip (Logs)	Trips (Wgtd)	Avg Min (Logs)	Avg Min (Wgtd)	PK/OFF Ratio
SUMTER	HBO PK	7	1,076,549	15.7	17.5	0.65
SUMTER	HBO OFF	18	1,820,635	25.8	27.0	
SUMTER	HBSHOP PK	17	1,851,490	15.4	20.0	1.54
SUMTER	HBSHOP OFF	57	4,898,108	12.9	13.0	
SUMTER	HBSOCREC PK	12	2,195,958	13.8	21.6	0.73
SUMTER	HBSOCREC OFF	32	5,657,419	15.8	29.4	
SUMTER	HBW PK	6	1,139,304	36.8	39.5	1.85
SUMTER	HBW OFF	5	1,213,813	22.4	21.3	
SUMTER	NHB PK	15	1,693,951	10.1	9.7	0.72
SUMTER	NHB OFF	46	3,740,457	13.1	13.4	
Area Total	**PK**	**57**	**7,957,252**	**16.0**	**20.7**	
Area Total	**OFF**	**158**	**17,330,432**	**15.3**	**20.5**	
AREA TOTAL	**ALL**	**215**	**25,287,684**	**15.5**	**20.6**	
FLAGLER	HBO PK	32	5,977,648	12.5	11.8	
VOLUSIA	HBO PK	94	22,297,256	18.1	19.1	
Total	**HBO PK**	**126**	**28,274,905**	**13.6**	**17.6**	0.97
FLAGLER	HBO OFF	38	8,638,562	16.6	12.2	
VOLUSIA	HBO OFF	135	29,111,341	19.7	19.8	
Total	**HBO OFF**	**173**	**37,749,903**	**15.5**	**18.1**	
FLAGLER	HBSHOP PK	31	3,480,623	16.6	12.8	
VOLUSIA	HBSHOP PK	122	19,980,873	16.6	16.1	
Total	**HBSHOP PK**	**153**	**23,461,496**	**13.3**	**15.6**	1.10
FLAGLER	HBSHOP OFF	72	4,417,402	14.3	14.2	
VOLUSIA	HBSHOP OFF	338	69,861,665	14.7	14.2	
Total	**HBSHOP OFF**	**410**	**74,279,066**	**12.1**	**14.2**	
FLAGLER	HBSOCREC PK	16	757,300	10.4	8.8	
VOLUSIA	HBSOCREC PK	31	6,542,206	21.5	25.9	
Total	**HBSOCREC PK**	**47**	**7,299,506**	**14.4**	**24.1**	1.32
FLAGLER	HBSOCREC OFF	33	1,681,878	17.5	18.2	
VOLUSIA	HBSOCREC OFF	93	18,485,742	17.1	18.2	
Total	**HBSOCREC OFF**	**126**	**20,167,620**	**12.8**	**18.2**	
FLAGLER	HBW PK	35	5,589,741	22.3	26.8	
VOLUSIA	HBW PK	127	36,643,002	25.8	23.2	
Total	**HBW PK**	**162**	**42,232,743**	**20.3**	**23.7**	1.03
FLAGLER	HBW OFF	22	3,506,637	17.4	22.3	
VOLUSIA	HBW OFF	52	14,526,220	25.0	23.1	
Total	**HBW OFF**	**74**	**18,032,857**	**17.8**	**22.9**	
FLAGLER	NHB PK	29	2,404,177	13.9	13.6	
VOLUSIA	NHB PK	94	21,578,596	18.0	20.4	
Total	**NHB PK**	**123**	**23,982,773**	**13.9**	**19.7**	1.33
FLAGLER	NHB OFF	108	18,523,934	18.7	13.4	
VOLUSIA	NHB OFF	339	61,268,043	14.0	15.3	
Total	**NHB OFF**	**447**	**79,791,978**	**10.7**	**14.8**	
Area Total	**PK**	**611**	**125,251,423**	**15.4**	**20.1**	
Area Total	**OFF**	**1230**	**230,021,424**	**12.5**	**16.1**	
AREA TOTAL	**ALL**	**1841**	**355,272,847**	**13.5**	**17.5**	
CFRPM TOTAL	**PK**	**3276**	**823,733,979**	**18.1**	**19.7**	
CFRPM TOTAL	**OFF**	**5742**	**1,231,951,393**	**15.6**	**16.9**	
CFRPM TOTAL	**ALL**	**9018**	**2,055,685,372**	**16.5**	**18.0**	