Technical Appendix A:
CFRPM, Version 7 -
Draft Model Validation Report

Central Florida Regional Planning Model 7.0

Model Validation Report

WORKING DRAFT

January 2021

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SPACE COAST TPO

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List of Acronyms

AADT	Average Annual Daily Traffic
BPR	Bureau of Public Roads
CFRPM	Central Florida Regional Planning Model
DOT	Department of Transportation
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FSUTMS	Florida Standard Urban Transportation Model Structure
GIS	Geographic Information System
HBO	Home-Based Other Trips
HBW	Home-Based Work Trips
HBS	Home-Based Shop Trips
HM	Hotel/Motel
LOS	Level of Service
MPO	Metropolitan Planning Organization
MUT	Multi-Unit Trucks
NCHRP	National Cooperative Highway Research Program
NHB	Non-Home-Based Trips
NHO	Non-Home Other Trips
NHW	Non-Home Work Trips
NHTS	National Household Travel Survey
PRMSE	Percent Root Mean Square Error
RMSE	Root Mean Squared Error
SUT	Single-Unit Trucks
TAZ	Traffic Analysis Zone
TOD	Time-of-Day
TRB	Transportation Research Board
V/C	Volume-to-Capacity Ratio
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled

1 Introduction

The Florida Department of Transportation (FDOT), District 5 developed Central Florida Regional Planning Model, Version 7 (CFRPM 7). The 2015 base year and 2045 future year CFRPM 7 models provide the MPOs/TPOs, the FDOT and other entities with a dependable tool for forecasting travel demand in the District's nine counties.

CFRPM 7 includes a new roadway network and enhanced traffic analysis zone (TAZ) system across the entire District. It is a time-of-day model that is implemented in ArcGIS, Cube Voyager, and Federal Transit Administration's Simplified Trips on Project Software (STOPS) programs. It consists of three major components: a Geographic Information System (GIS)-based interface for editing, visualization and reporting of the roadway network and socio-economic data; a primary travel demand model that includes trip generation, distribution, mode choice and assignment steps; and a dedicated transit-only STOPS model that estimates public transportation ridership.

There are two companion documents. The model is fully described in the *CFRPM 7 Model Description Report*. Network editing and model running procedures can be found in the *CFRPM 7 User Guide*.

A travel model is designed by its nature to react and respond appropriately to reasonable changes in sociology-demographic variables and transportation systems. The purpose of the validation process is to assess the model's ability to reflect travel characteristics. CFRPM 7 has been validated at each major step of the model. The model outputs were also validated to the common performance measures used today, including congested travel times and person flows. Longitudinal tests were conducted so that errors in horizon year input data or model calibration can be addressed before the model is used in Long Range Transportation Plan (LRTP) applications. This *CFRPM 7 Model Validation Report* details the model validation procedures and results.

The process of model calibration and validation is vital to producing defensible travel demand forecasts. In calibration, parameters in the models were adjusted to assure that each model step is replicating known travel behavior. Validation primarily involved comparing model results to the known observed data but can also involve comparing results to independently-derived benchmarks.

Validation can help ensure that CFRPM 7 reasonably reflects existing the transportation network and demand so that it can be a useful tool for developing LRTPs and other studies. The validation results inform planners, policy and decision-makers of the model's strengths and weaknesses beyond its immediate intended purpose and identify future CFRPM adjustments to address those weaknesses or accentuate its strengths.

1.1 Validation Tests and Metrics

There are four categories of tests commonly used in the travel model validation. The descriptions of these tests are taken from FHWA's Reasonableness Manual.

Comparisons of base year model results to observation or benchmarks might be considered "traditional" validation. The comparisons might be of model results to disaggregate data such as data from a supplementary survey not used for model estimation or to aggregate data such as traffic counts or transit boardings. The practice of comparing the base year model to data that was used to estimate or calibrate a model is not as robust as comparing to independent data. However, this practice is unavoidable especially for the validation tests of trip generation and distribution sections, as the data used for model estimation or calibration are the only data available.

Reasonableness and logic checks include the comparison of estimated (or calibrated) model parameters against those estimated in other regions with similar models. Reasonableness and logic checks may also include "components of change" analyses or an evaluation of whether the model procedures "tell a coherent story" about the transportation system and how people use it (as recommended by the FTA for New Starts analysis).

Model sensitivity testing includes several important types of checks including both disaggregate and aggregate checks. Disaggregate checks, such as the determination of model elasticities, are performed during model estimation. Aggregate checks are tested from temporal validation. Sensitivity testing can also include model application using alternative demographic, socioeconomic, transportation supply, or policy assumptions to determine the reasonableness of the resulting travel forecasts.

Longitudinal tests are important aspects of model validation since, by definition, it implies comparing model results to data not used in model estimation. Both backcasts and forecasts may be used for model validation. For example, if a model is estimated using 2007 survey data, the model could be used to backcast to 2000 conditions and compared to the year 2000 traffic counts, transit boardings, CTPP data, or other historical data. Likewise, if a model is estimated or calibrated using the 2005 survey data, a forecast validation might be performed against 2008 data.

CFRPM 7 validation process included tests in three of the four categories:

- Comparisons of base year model results to observations or benchmarks,
- Reasonableness and logic checks, and
- Longitudinal tests.

The tests were applied to all components of CFRPM 7: socio-economic and roadway network data validation, trip generation, trip distribution, special area sub-models & non-motorized trips, highway assignment, longitude tests and transit assignment from STOPS.

It is important to note that models can be considered valid even if they do not replicate each observed value exactly, or meet every benchmark, reasonableness, or logic check. Sometimes there are errors or issues in the way the observed data was collected that make it challenging for a demand model to replicate. In other circumstances, the benchmarks and reasonableness checks reflect an "average" city and are not always directly relatable to Central Florida and its unique travel markets. In fact, models that "pass" every validation test are commonly found later to be over-calibrated. Over-calibrating occurs when the model is adjusted in a way – usually to achieve an improved validation result – that does not directly conform to a specific aspect of travel behavior. Over-calibration deprives the model of its ability to properly react to changed socio-demographic or transportation conditions, resulting in illogical or confusing results. Consequently, models that do not meet every benchmark can be considered valid, and sometimes more valid than those "passing" extensive lists of validation tests.

1.2 Validation Process

The validation process for each model component is:

1. Assemble the described observed data and benchmarks.
2. Determine the extent of how the observed data can be used for validation testing. For example, the observed data could have systemic biases or variability that make it untenable for validation purposes.
3. Assemble the appropriate CFRPM 7 model input data and outputs.
4. Compare CFRPM 7 model input data and outputs to the observed data and/or benchmarks.
5. Assess the model's performance given the quality of the observed data and identify significant differences.
6. Discuss the root cause of significant differences between model input data and outputs and observed data or benchmarks. Adjust the model if the adjustment conforms to well-studied aspects of travel behavior.
7. Summarize the model's performance, highlighting its strengths, weaknesses, and unknowns.

For CFRPM 7, the observations are from the various data resources such as American Community Survey (ACS), 2017 National Household Travel Survey (NHTS), Census Transportation Planning Products (CTPP), 2017 Transit On-Board Survey, etc. The benchmarks are from the Department's *Model Calibration and Validation Standards Report* produced in 2008 that is based on a variety of national sources, including Census data, household travel surveys, NHTS tabulations, and Federal and State guidelines on modeling practice. Travel time metrics related to performance-based planning are also used in model validation.

A travel model is designed by its nature to react and respond appropriately to reasonable changes in sociology-demographic variables and transportation systems. The purpose of the validation process is to assess the model's ability to reflect travel characteristics. Unfortunately, over-calibrating is readily instinctive to modeling analysts because of the inherent desire to have the model match observed values or benchmarks as closely as mathematically possible. This desire is misplaced and therefore needs to be tempered with the realization that over-calibrating both restricts the model's ability to provide helpful information for project-level analysis and mistakenly disregards the natural variability of the observed data. CFRPM 7 project team made every effort to adjust the model in a way to avoid over-calibrating. However, some of the validation results could not be improved without over-calibrating. In these situations, the team did not over-calibrate but instead let the results stand to allow users to make adjustments as necessary for their individual studies. These specific areas can be easily identified by comparing CFRPM 7 results to the benchmarks and metric thresholds. Please refer to *CFRPM 7 Model Description Report* for details of adjustments.

1.3 Report Outline

The purpose of this validation report is to summarize the validation results of CFRPM 7 and inform the reader which aspects of transportation CFRPM 7 knows well, knows somewhat, and does not know. A wide range of calibration adjustments were made to the modeling system to produce positive validation results in CFRPM 7. The validation results in this report demonstrate that CFRPM 7 does a reasonable job of replicating the transportation system and how people use the transportation system.

The report is organized as follows:

- Chapter 2 –Data Validation. This section summarizes the validation of various input data used in CFRPM 7 such as traffic analysis zone (TAZ) level household and demographic information as well as network information.
- Chapter 3 – Trip Generation. This section summarizes the trip generation validation results for CFRPM 7. Comparisons with benchmarks and CFRPM 6.2 trip generation outputs are presented.
- Chapter 4 – Trip Distribution. This section provides the trip distribution validation results. Three aspects are reviewed: county-to-county flows, average trip length by trip purposes, and percentage of trips that occur within a single TAZ.
- Chapter 5 – Special Area Sub-Models & Non-Motorized Trips. This section compares the non-motorized, OIA, and transit trip results to observed values.
- Chapter 6 – Highway Assignment. This section provides numerous comparisons of observed data (traffic counts and travel time observations) and the model estimates.

- Chapter 7 – Longitudinal Tests. Good validation practice should include longitudinal tests for at least one year other than the base year for model estimation or calibration. This section presents the backcast results to 2010 and a forecast to 2045.
- Chapter 8 – Summary. An overall review of all validation results is presented in this section.

2 Data Validation

This chapter summarizes the validation of socio-economic data and network data used in CFRPM7. The process of obtaining socio-economic data and network data is explained in Chapters 2 and 3, respectively, in the *CFRPM 7 Model Description Report.*

Socio-economic data are developed for each traffic analysis zone (TAZ). The TAZs are the specific geographic areas, with homogenous land use and activities, for a trip generation. The socio-economic data includes household, employment, hotel/motel, school enrollment, and other special generator data. This information is pooled from various data sources, which undergoes various corrections and adjustments before arriving at the final dataset. This dataset is called ZDATA.

2.1 Socio-Economic Data

Each of the seven MPO/TPOs in CFRPM region developed socio-economic data (household and employment), which is pooled and to develop CFRPM 7 ZDATA dataset. Table 2-1 presents the household data fields in the ZDATA.

Table 2-1 CFRPM 7 Household Data Elements

Data Element	Description
TAZ	TAZ Numbers
SF_DU	Number of Single Family Dwelling Units
SF_PCT_VNP	Percentage of Single Family are Vacation and Non-Permanent Resident Homes
SF_PCT_VAC	Percentage of Single Family are Vacation Homes
SF_POP	Permanent Single Family Population
SF_0AUTO	Single Family Percentage of 0 Auto-owning households
SF_1AUTO	Single Family Percentage of 1 Auto-owning households
SF_2AUTO	Single Family Percentage of 2+ Auto-owning households
MF_DU	Number of Multiple Family Dwelling Units
MF_PCT_VNP	Percentage of Multiple Family are Vacation and Non-Permanent Resident Homes
MF_PCT_VAC	Percentage of Multiple Family are Vacation Homes
MF_POP	Permanent Multiple Family Population
MF_0AUTO	Multiple Family Percentage of 0 Auto-owning households
MF_1AUTO	Multiple Family Percentage of 1 Auto-owning households
MF_2AUTO	Multiple Family Percentage of 2+ Auto-owning households
HM_DU	Hotel/Motel Dwelling Units
HM_PCT_OCC	Hotel/Motel Occupancy Rate

Data Element	Description
HM_POP	Hotel/Motel Population

Source: CFRPM 7

Along with the household data, employment and school data are also developed to form socio-economic data by TAZ.

Table 2-2 CFRPM 7 Employment and School Data Elements

Data Element	Description
TAZ	TAZ Numbers
IND_EMP	Industrial Employment* by Place-of-Work - All full-time and regular part-time employees, and self-employed persons by job location, whose job is in an industry classified in Standard Industrial Classification (SIC)[1] categories 01 to 39 (i.e., agriculture, forestry, fisheries, mining, contract construction, and manufacturing).
COM_EMP	Commercial Employment* by Place-of-Work - All full-time and regular part-time employees, and self-employed persons, by job location, whose job is in an industry classified in SIC categories 50 to 59 (i.e., retail trade and wholesale trade since both are commonly located in areas zoned for commercial land use activities).
SVC_EMP	Service Employment* by Place-of-Work - All full-time and regular part-time employees, and self-employed persons, by job location, whose job is in an industry classified in SIC categories 40 to 49 and 60 to 93 (i.e., transportation, communication and utilities services; finance, insurance and real estate services; selected personal services; tourism and recreational services, health and educational services; government services).
TOT_EMP	Total Employment by Place-of-Work - The total of industrial, commercial and service employment.
SCHL_K12	Kindergarten through 12th grade (K-12) School Enrollment by School Location
SCHL_POST	Post-secondary (College and above) Enrollment

Source: CFRPM 7

*https://www.fsutmsonline.net/images/uploads/reports/TRGEN.PDF

[1] Standard Industrial Classification (SIC) is defined in the Standard Industrial Classification Manual: 1972, Office of Federal Statistical Policy and Standards, U.S. Department of Commerce, Washington, DC, GPO-SN 4101-0066 (1977 Supplement, SN 003-005-00176-0).

The summary of the socio-economic data is provided in the next sections, followed by checks on the datasets and comparison of CFRPM data with some independent data sources.

2.1.1 Summary of Socio-Economic Data

The following table displays the total values of the household, employment, and school variables in CFRPM ZDATA. CFRPM region includes 4.6 million people, two million jobs and over one million students across its 11 counties.

Table 2-3 CFRPM 7 2015 Regionwide Totals

Metric	Regional Total
Number of Zones with HH/Emp data	7,102
Single Family Occupied DUs	1,375,365
Single Family Population	3,573,782
Multi Family Occupied DUs	456,248
Multi Family Population	1,023,361
Total Population	4,595,383
Total Households	1,998,681
Total Occupied DUs	1,831,613
Total Permanent DUs	1,674,263
Total Vacant DUs	167,068
Total Non-Permanent DUs	157,350
Hotel-Motel Occupied Units	164,267
Hotel-Motel Population	220,329
Total Autos	3,193,630
Occupied DUs with no automobile	101,218
Industrial Employment	236,453
Commercial Employment	388,762
Service Employment	1,427,744
Total Employment	2,052,959
K-12 School Enrollment	755,710
Post-secondary Enrollment	337,871

Source: CFRPM 7

Table 2-4 presents a selection of metrics of the ZDATA commonly used to compare across different regions.

Table 2-4 Selection of ZDATA Metrics

Derived Metrices	Regional Value
Population per Occupied DU	2.51
Employment to Population Ratio	0.45
Employment per Occupied DU	1.12
Autos per Occupied DU	1.74
Students per Occupied DU	0.60
Hotel-Motel Population per Occupied HM Units	1.34
Percent of Single Family DUs Relative to Total Occupied DUs	75%
Percent of vacant units Relative to Total Occupied DUs	9%
Percent of Seasonal Units Relative to Total Occupied DUs	9%
Percent of No Auto DUs Relative to Total Occupied DUs	6%
Percent of Industrial Employment Relative to Total Employment	12%
Percent of Commercial Employment Relative to Total Employment	19%
Percent of Service Employment Relative to Total Employment	70%

Source: CFRPM 7 Geodatabase

2.1.2 LUCHECK

The socio-economic data, developed from various sources, were checked for reasonableness of aggregated metrics. These checks are first level checks to identify and correct any obvious avoidable errors. The LUCHECK program (an abbreviated form of "Land Use Checks") was developed by Mike Brown many years ago to automatically conduct these checks. The LUCHECK program has a series of checks for errors (data-entry errors, typos, and mis-codings) and reasonableness tests (that may uncover deeper issues within the data). These checks are performed for each zone individually. These tests are not performed on "dummy zones", which are zones that do not have any socio-economic data since they are reserved for future applications. In the past, dummy zones were identified as zones with a zero sum of population, dwelling units, hotel/motel units, and employment. Today, dummy zones can be omitted entirely from the socio-economic file.

LUCHECK checks the number of autos and permanent resident DUs, which are not directly available in the household data. These variables are derived from the ZDATA information using the following equations:

$$(1)\ NumAutos = (SF1CPct/100 \times SFDU) + (SF2CPct/100 \times SFDU \times 2.5) + (MF1CPct/100 \times MFDU) + (MF2CPct/100 \times MFDU \times 2.5)$$

Where $NumAutos$ is the number of autos in the TAZ, $SF1CPct$ is the percentage of Single Family 1-car DUs, $SF2CPct$ is the percentage of Single Family 2+-car DUs, $SFDU$ is the number of Single Family permanent DUs, $MF1CPct$ is the percentage of Multi-Family 1-car DUs, $MF2CPct$ is the percentage of Multi-Family 2+-car DUs, and $MFDU$ is the number of Multi-Family permanent DUs. The value of 2.5 is the assumed average number of auto owned by 2+ car households.

$$(2)\ PermResDU = Trunc(TotalDU \times (100 - PercentVANP))$$

Where $PermResDU$ is the total number of permanent resident DUs in TAZ, $TotalDU$ is the number of total DUs of the zone, $PercentVANP$ is the percent of vacant and non-permanent (i.e., seasonal) DUs in the zone, and $Trunc$ is a function that truncates the result of the computation to an integer. Truncation is different from rounding; it only uses the whole number portion of the computation. For example, the truncated values of 235.9, 235.7, 235.5, 235.3, and 235.1 are all the same (235). A similar computation using the HM occupancy rate is performed to calculate occupied HMUs.

Table 2-5 presents the list of error checks performed on household data. A TAZ that achieves the conditions for an error check is found to have "failed" the error check and flagged for manual review.

Table 2-5 Error Checks on Household Data

#	Error Check
1	For single family HHs, both DU=0 and population (POP) >0
2	For single family HHs, both POP=0 and DU>0
3	For multi- family HHs, both DU=0 and POP>0
4	For multi- family HHs, both POP=0 and DU>0
5	For single family HHs, percent vacant DUs is greater than the percent vacant + non-permanent (seasonal) DUs
6	For multi- family HHs, percent vacant DUs is greater than the percent vacant + non-permanent (seasonal) DUs
7	For single family HHs, the sum of the 0, 1 and 2+ auto percentages ≠ 100
8	For multi-family HHs, the sum of the 0, 1 and 2+ auto percentages ≠ 100
9	For single family HHs, DU > 0 and the sum of the 0, 1 and 2+ percent autos is 0
10	For multifamily HHs, DU > 0 and the sum of the 0, 1 and 2+ percent autos is 0
11	Single family HH DUs is less than 0
12	Multi-family HH DUs is less than 0
13	Single family HH population is less than 0

#	Error Check
14	Multi-family HH population is less than 0
15	Hotel/Motel units is less than 0
16	Hotel/Model occupancy rate < 0
17	For hotel/motels, both units>0 and occupancy rate =0
18	For hotel/motels, both units=0 and occupancy rate >0
19	For hotel/motels, both occupancy rate =100 and units >0
20	Total employment does not equal the sum of Industrial, Service and Commercial employment
21	Industrial employment is less than 0
22	Service employment is less than 0
23	Commercial employment is less than 0
24	Total employment is less than 0
25	Both hotel/motel units>0 and service employment =0
26	School enrollment is less than 0
27	School enrollment >0 and service employment =0
28	Single family HH non-permanent % > Multi-family non-permanent %
29	For single family HHs, DUs is greater than POP
30	For multi-family HHs, DUs is greater than POP
31	For hotel/motels, both units=0 and POP > 0
32	For hotel/motels, both POP=0 and units> 0
33	College enrollment < 0
34	College enrollment >0 and service employment =0

Source: LUCHECK program

Table 2-6 presents the list of reasonableness checks performed on household data. A TAZ that achieves the conditions for a reasonableness error check is found to have "failed" the check and flagged for manual review.

Table 2-6 Reasonableness check for Household Data

#	Reasonableness Check
1	Hotel/motel units are between 1-11, inclusive
2	Single family HH seasonal % > 50%
3	Multi-family HH seasonal % > 50%
4	Single family HH vacant % > 30%
5	Multi-family HH vacant % > 30%
6	Single family HH zero car % > 30%
7	Multi-family HH zero car % > 30%
8	Single family HH POP/permanent resident DU < 2.0 and 2+ auto % > 30%

#	Reasonableness Check
9	Multi-family HH POP/permanent resident DU < 2.0 and 2+ auto % > 30%
10	Single family HH POP per permanent resident DU < 1.00 or > 5.00
11	Single family HH autos per permanent resident DU < 1.00 or > 2.25
12	Multi-family HH POP per permanent resident DU < 1.00 or > 2.50
13	Multi-family HH autos per permanent resident DU < 1.00 or > 2.25
14	POP per permanent resident DU < 1.00 or > 3.50
15	Autos per permanent resident DU < 1.00 or > 2.20
16	Hotel/motel POP per occupied unit < 1.00 or > 2.50

Source: LUCHECK program

After performing these error and reasonableness checks on the zonal level household data, the modeling team investigated the zonal information of the zones that failed the tests. For reasonableness checks, any unique circumstances for such results were investigated. The results of the checks were then communicated with the MPO/TPOs for their reviews and clarifications. The MPO/TPOs reviewed the results and updated the dataset. Then the data was tested again. These communications continued till there are no errors and all the results were accepted by the parties (modeling team and the MPO/TPOs).

2.1.3 Socio-Economic Data Metrics

Additional socio-economic data metrics were inspected for reasonableness at the TAZ and county level. These are additional checks, separate from LUCHECK, to establish confidence in reasonableness of the data used for trip generation. Table 2-7 provides a list of these metrics. The county level results of these checks are presented later in this chapter, whereas any outliers at zonal level were investigated and discussed with the respective MPO/TPOs.

Table 2-7 Metrics for Household Data

Metric	Benchmark	
	Low	High
Visual inspection of population and employment and associated densities by TAZ and county	None (reasonable judgment)	
Regionwide persons/dwelling unit or persons/household	2.0	2.7
Regionwide employment/population ratio	0.35	0.75
Regionwide autos/dwelling unit or autos/household	1.75	2.10
Approximate population per TAZ	NA	3,000

Source: Department's *Model Calibration and Validation Report*

Household Data Comparisons

To further verify the ZDATA, the household data was compared with other published datasets. The data sources include Bureau of Economic and Business Research (BEBR, from the University of Florida), the United States Bureau of Economic Analysis (BEA), and 2015 American Community Survey (ACS) 2015 data. BEBR population projections are made for five year intervals, based on census survey. These projections estimate permanent residents only and do not include tourists and seasonal residents. BEA develops its forecasts by using data compiled by other federal agencies and conducting surveys to fill gaps. Its primary goal is to predict economic activity, not household data per se, so the estimates vary quite a bit compared to other sources. In the state of Florida, where seasonal residents are significant, BEA estimates tend to be higher than the actual estimates. ACS is a nationwide household survey that collects various demographic information of the household, and the survey is expanded using appropriate methods. These estimates will be closer to the actual estimates as the sampling is carefully designed.

The following sections compare the ZDATA to these datasets across five metrics at the county level. The positive sign under the columns "% change" reflects that CFRPM value is higher than the other sources and vice versa. Please note that, the Indian River County has not been considered in this comparison analysis as CFRPM 7 includes only a portion of this county.

2.1.3.1 Population

CFRPM 7 total population by county is compared with the population obtained from BEBR and BEA 2015 data. In BEBR, the total population of a geographic area is calculated as the number of occupied household unit times the average household size, plus the group quarter population and the homeless population.

Therefore, in Table 2-8 the BEBR column represents only the population obtained from *BEBR Projections Report*[2] published in January 2016. Also, please note that, in the following table the BEA column represents the population which includes the group quarter population. Please be aware CFRPM 7 population count does not include the group quarter population so CFRPM 7 data will usually be on the lower side to BEBR and BEA estimates.

[2] Rayer S, Wang Y. Projections of Florida population by county, 2020–2045, with estimates for 2016. Florida Population Studies. 2016;49:174.

Table 2-8 Population Comparison by County

County	Population			% Change (CFRPM7 – BEBR)	% Change (CFRPM7 – BEA)
	CFRPM7	BEBR	BEA		
Brevard	555,850	561,714	566,822	-1.0	-1.9
Flagler	101,289	101,353	104,739	-0.1	-3.3
Lake	318,365	316,569	325,699	0.6	-2.2
Marion	333,186	341,205	342,757	-2.4	-2.8
Orange	1,213,443	1,252,396	1,292,008	-3.1	-6.1
Osceola	313,899	308,327	324,189	1.8	-3.2
Polk	655,197	633,052	649,644	3.5	0.8
Seminole	449,141	442,903	449,132	1.4	0.0
Sumter	108,557	115,657	117,210	-6.1	-7.4
Volusia	503,615	510,494	517,512	-1.3	-2.7
Total	**4,552,542**	**4,583,670**	**4,689,712**	**-0.7**	**-2.9**

Source: CFRPM 7, BEBR, BEA

CFRPM's population estimates by county are all within 8% of the BEBR and BEA datasets, indicating that the population estimates match at county level between various sources. Generally, the BEBR and BEA population estimates are higher than CFRPM as expected except for Lake and Osceola county for BEBR while Polk and Seminole county for both BEBR and BEA. Currently, reasons for these differences are unknown. For future adjustment, user needs to be cautious about local condition that might cause these results.

2.1.3.2 Average Household Size Comparison

CFRPM average household size by county was compared to estimates from the 2015 BEBR data. In BEBR data, households are defined as housing units occupied by the permanent residents only; no seasonally-occupied or vacant unit is included in the household. So, Table 2-9 presents the comparison of permanent population per permanently occupied household unit both for CFRPM and BEBR column. Please note CFRPM population count are expected to be lower than BEBR which indicate the expectation of higher household size for CFRPM than BEBR.

Table 2-9 Average Household Size Comparison

County	HH Size		% Change (CFRPM7 – BEBR)
	CFRPM 7	BEBR	
Brevard	2.43	2.34	3.8
Flagler	2.97	2.43	22.2

County	HH Size		% Change (CFRPM7 – BEBR)
	CFRPM 7	BEBR	
Lake	2.45	2.43	0.8
Marion	2.32	2.35	-1.3
Orange	3.15	2.66	18.4
Osceola	3.53	2.95	19.7
Polk	2.76	2.61	5.7
Seminole	3.05	2.55	19.6
Sumter	2.04	2.03	0.5
Volusia	2.43	2.32	4.7

Source: CFRPM 7, BEBR

Overall, household sizes for CFRPM are 5% higher than those from the BEBR data as expected. The differences are significant in Flagler (22%), Orange (18%), Osceola (20%) and Seminole (20%) Counties, but within 10% of all the other counties. Reasons for these differences are unknown at this time. Please note these results depends on all local condition. So, user needs to be cautious about these if they needed to be adjusted in the future. Overall, these estimates are acceptable for long-range planning use.

2.1.3.3 Total Permanently Occupied DUs Comparison

CFRPM total permanently occupied DUs was compared to the ACS 2015 data for each county. In ACS data, the occupied dwelling unit is classified as occupied if a person or group of people live in it permanently, or if the occupants are only temporarily absent from the residence for two months or less for vacation or a business trip. Any unit where people are staying for two months or less, is not considered to be in the occupied units. Therefore, only the permanent DUs from CFRPM 7 ZDATA has been reported in Table 2-10; vacant or seasonally occupied dwelling units are not considered in this comparison.

Table 2-10 Total Occupied DUs Comparison

County	Total Occupied DUs		% Change (CFRPM7 – ACS)
	CFRPM7	ACS	
Brevard	229,036	222,791	3
Flagler	34,071	36,950	-8
Lake	130,103	119,251	9
Marion	143,776	132,287	9
Orange	384,983	434,319	-11

County	Total Occupied DUs		% Change (CFRPM7 – ACS)
	CFRPM7	ACS	
Osceola	88,927	92,338	-4
Polk	236,916	221,381	7
Seminole	147,345	152,260	-3
Sumter	53,257	48,039	11
Volusia	207,592	200,180	4
Total	**1,656,014**	**1,659,796**	**0**

Source: CFRPM 7, ACS 2015

Across the region, the difference is less than 3,500 households or 0.2% which is within the ACS margin of error of 1%. The differences between CFRPM and ACS data is less than 11% for all counties. These results are acceptable because these values lie within ACS margin of error.

2.1.3.4 Seasonally Occupied and Vacant DUs Comparison

CFRPM's seasonally occupied and vacant DUs were compared to the ACS 2015 data by county. According to the ACS variable definition, the housing unit is classified as vacant if no one is living in it, or the unit is occupied entirely by persons who are staying for two months or less and who have a more permanent residence elsewhere at the time of interview. So, CFRPM 7 column represents the sum of vacant and the seasonal DUs in Table 2-11.

Table 2-11 Seasonally Occupied and Vacant DUs Comparison

County	Seasonally Occupied and Vacant DUs		% Change (CFRPM7 – ACS)
	CFRPM 7	ACS	
Brevard	46,727	48,863	-4
Flagler	8,621	12,323	-30
Lake	22,810	26,930	-15
Marion	21,562	31,400	-31
Orange	57,440	67,194	-15
Osceola	35,845	39,847	-10
Polk	44,816	60,867	-26
Seminole	29,870	32,114	-7
Sumter	16,305	13,132	24
Volusia	39,349	55,257	-29
Total	**323,345**	**387,927**	**-17**

Source: CFRPM 7, ACS 2015

The ACS data reports more seasonal and occupied DUs compared to CFRPM data. Relatively, the difference between CFRPM and ACS data is less than 30%. But these differences are relatively small in magnitude: the largest difference in the above table is 16,000 DUs in Polk County. This is less than 10% of the 237,000 occupied DUs in that county Across the region, the difference is less than 65,000 households or 17% which is more than the ACS margin of error of 4%. Not enough data for seasonally and vacant DUs for ACS survey data might be the reason. So, CFRPM data is acceptable for long-range planning use.

2.1.3.5 0-car-owning Occupied DUs

CFRPM zero-car owning occupied DUs was compared with the corresponding data from the ACS 2015 data by county in Table 2-12. Both datasets consider only the occupied housing units with no auto ownership.

Table 2-12 Comparison of Occupied DUs with Zero Autos

County	DUs with Zero Autos		% Change (CFRPM7 – ACS)
	CFRPM7	ACS	
Brevard	14,959	12,350	21
Flagler	2,030	1,589	28
Lake	5,989	6,517	-8
Marion	8,416	8,076	4
Orange	24,073	28,320	-15
Osceola	5,160	5,568	-7
Polk	16,748	15,058	11
Seminole	4,391	5,303	-17
Sumter	1,409	1,672	-16
Volusia	16,852	13,741	23
Total	**100,029**	**98,194**	**2**

Source: CFRPM 7, ACS 2015

From the above table, the differences are relatively strong – as large as 28% – but in terms of magnitude the differences are small, less than 3,000 are the county level. Across the region, the difference is less than 2,000 households or 2% which is within the ACS margin of error of 5%. The county-level variability can be excused given the statistical noise of the survey sample of the ACS data, since all counties have household numbers within ACS margin of error. Therefore, this data is acceptable for long-range planning use.

2.1.4 Employment Data Comparisons

CFRPM employment was compared with the employment data obtained from the Bureau of Labor Statistics (BLS), American Community Survey (ACS), County Business Patterns (CBP), and Bureau of Economic Analysis (BEA) 2015 sources for each county. In CFRPM, employment is estimated as the average number of employees in peak season by the place of work location.

There are many subtle but important differences between these data sources:

- BLS employment data[3] is data summarized by quarterly reports by employers to the United States Bureau of Labor Statistics. This is supplemented by various surveys conducted by BLS for other purposes. This dataset covers more than 95% of jobs in the United States but tends to under-report self-employed individuals. So, BLS data will usually be on the lower side to CFRPM estimates.
- The ACS is a nationwide survey that collects worker information, including residential and employment locations[4]. These estimates tend to be closer to actual estimates as the sampling is carefully designed and includes all types of jobs. Please be aware that no available employment data in the ACS 2015 Flagler and Sumter County datasets.
- The BEA data includes full-time and part-time jobs as well as self-employed workers[5]. A worker holding down two part-time jobs would be counted twice in this dataset. CFRPM defines employment as the average number of employees in the peak season, which should always be lower than BEA's accounting.
- The project team also compared the employment data with the Woods & Poole (W&P) employment database, which is mainly derived from data from the US Department of Commerce's Bureau of Economic Analysis. W&P data is similar to BEA data. Due to disclosure agreements, the W&P data is not presented in this report.
- The U.S. Census' CBP data excludes data on self-employed individuals, employees of private households, railroad employees, agricultural production employees, and most government employees[6]. Consequently, CDP employment data tends to be lower than CFRPM estimates.

Table 2-13 presents the comparison of total employment estimated for CFRPM with BLS, ACS, CBP and BEA 2015 sources for each county. Please note there are no benchmarks to compare the total employment; the comparison itself is the reasonableness check knowing the differences in the different datasets.

[3] https://www.bls.gov/data/#employment. Accessed August 15, 2020.
[4] https://www.census.gov/programs-surveys/acs. Accessed August 15, 2020.
[5] https://www.bea.gov/data/employment. Accessed August 15, 2020.
[6] https://www.census.gov/programs-surveys/cbp/data.html. Accessed August 15, 2020.

Table 2-13 Employment Comparison

County	Total Employment					% Change			
	CFRPM7 (1)	BLS (2)	ACS (3)	CBP (4)	BEA (5)	(1)-(2)	(1)-(3)	(1)-(4)	(1)-(5)
Brevard	252,418	194,456	241,881	169,860	272,836	30	4	49	-7
Flagler	25,805	21,175	NA	17,815	36,271	22	NA	45	-29
Lake	129,709	89,592	129,511	77,497	132,044	45	0	67	-2
Marion	111,501	96,719	111,085	80,011	141,954	15	0	39	-21
Orange	809,428	762,674	655,717	678,721	997,734	6	23	19	-19
Osceola	93,859	84,340	143,825	71,586	127,787	11	-35	31	-27
Polk	193,464	203,802	258,761	174,572	281,016	-5	-25	11	-31
Seminole	186,966	174,086	218,095	163,565	247,353	7	-14	14.	-24
Sumter	30,189	26,134	NA	19,010	40,351	16	NA	59	-25
Volusia	204,694	160,541	209,562	140,144	232,742	28	-2	46	-12
Total	**2,038,033**	**1,813,519**	**1,968,437**	**1,592,781**	**2,510,088**	**12**	**4**	**28**	**-19**

Source: CFRPM 7, BLS, ACS 2015, CBP, BEA

The comparisons are consistent with the differences in the datasets discussed above. CFRPM employment data is slightly higher than BLS and CBP data. It is generally similar to ACS data except for Orange, Osceola, Polk and Seminole Counties. For the Orange and Osceola Counties, the employment estimates from ACS might have some issues since they are either the lowest or highest in all data sources. The BEA employment data is predictably higher than CFRPM data as expected. So, CFRPM data is acceptable for long-range planning use.

The following sections will make similar comparisons by FSUTMS' standard three classifications: industrial, commercial and service.

2.1.4.1 Industrial Employment Comparison

Industrial employment includes employment in forestry, fishing and related activities, mining, quarrying and oil and gas extraction, utilities, construction and manufacturing. In this section, CFRPM industrial employment by county was compared with the industrial employment data obtained from ACS, CBP, BEA and W&P 2015 data sources for each county, and is presented in Table 2-14. The W&P data is not presented due to disclosure agreements. Please be aware that ACS employment data was not available in the 2015 Flagler and Sumter County datasets. In

addition, BLS data is not available to download for industrial employment from the BLS data finder portal[7].

Table 2-14 Comparison of Industrial Employment

County	Industrial Employment				% Change		
	CFRPM7 (1)	ACS (3)	CBP (4)	BEA (5)	(1)-(3)	(1)-(4)	(1)-(5)
Brevard	37,354	37,283	27,897	38,994	0	34	-4
Flagler	2,174	NA	1,987	3,689	NA	9	-41
Lake	14,415	18,377	10,005	18,523	-22	44	-22
Marion	16,695	21,524	11,678	24,002	-22	43	-30
Orange	75,670	99,245	53,827	81,164	-24	41	-7
Osceola	5,637	25,824	6,704	11,071	-78	-16	-49
Polk	28,105	47,416	26,429	43,467	-41	6	-35
Seminole	27,203	30,423	19,870	28,292	-11	37	-4
Sumter	3,902	NA	3,862	7,129	NA	1	-45
Volusia	23,093	32,234	16,848	28,612	-28	37	-19
Total	**234,248**	**312,326**	**179,107**	**284,943**	**-25**	**31**	**-18**

Source: CFRPM 7, ACS 2015, CBP, BEA

The comparisons are consistent with the differences in the datasets discussed above. CFRPM employment data is slightly higher than the CBP data. It is generally similar to ACS data except for Orange, Osceola, and Polk Counties. The reasons for these strong differences are unknown at this time. The BEA employment data is predictably higher than CFRPM data that indicate the acceptance of CFRPM data for long-range planning use.

2.1.4.2 Commercial Employment Comparison

Wholesale and retail trade are defined as commercial employment. In this section, CFRPM commercial employment by county was compared with the corresponding employment data obtained from ACS, CBP, BEA and W&P 2015 data sources for each county, and is presented in Table 2-15. The W&P data is not presented due to disclosure agreements. Please be aware that no available employment data in the ACS 2015 Flagler and Sumter County datasets. BLS data is not available for commercial employment from the BLS data finder portal.

[7] https://www.bls.gov/data/#employment. Accessed August 15, 2020.

Table 2-15 Commercial Employment Comparison

County	Commercial Employment				% Change		
	CFRPM7 (1)	ACS (3)	CBP (4)	BEA (5)	(1)-(3)	(1)-(4)	(1)-(5)
Brevard	44,711	39,680	32,784	39,714	13	36	13
Flagler	5,584	NA	4,013	4,974	NA	39	12
Lake	25,444	18,588	16,716	21,245	37	52	20
Marion	23,393	17,853	20,181	23,446	31	16	0
Orange	128,935	72,482	109,277	131,333	78	18	-2
Osceola	17,233	15,228	17,130	19,941	13	1	-14
Polk	54,217	37,683	34,889	43,886	46	55	24
Seminole	39,914	23,832	34,199	43,080	67	17	-7
Sumter	5,117	NA	3,926	5,648	NA	30	-9
Volusia	38,934	30,513	29,679	36,395	28	31	7
Total	**383,482**	**255,859**	**302,794**	**369,662**	**50**	**27**	**4**

Source: CFRPM 7, ACS 2015, CBP, BEA

The comparisons are consistent with the differences in the datasets discussed above. CFRPM employment data is slightly higher than the CBP data. It is generally similar to ACS data except for Orange, Polk and Seminole Counties. The BEA employment data is usually higher than CFRPM data, but for commercial employment it is lower. The reasons for these strong differences are unknown at this time.

2.1.4.3 Service Employment Comparison

Service employment includes employment in transportation and warehousing, information, finance and insurance, real estate, rental and leasing, professional, scientific and technical services, management of companies and enterprises, administrative services, waste management and remediation services, educational services, health care and social assistance, arts, entertainment and recreational services, accommodation and food services, government and government enterprises and other services. In this section, CFRPM service employment by county was compared with the corresponding employment data obtained from ACS, CBP, BEA and W&P 2015 data sources for each county, and is presented in Table 2-16. The W&P data is not presented due to disclosure agreements. Please be aware that ACS employment data was available in the 2015 Flagler and Sumter County datasets. BLS data is not available for service employment from the BLS data finder portal.

Table 2-16 Comparison of Service Employment

County	Service Employment				% Change		
	CFRPM7 (1)	ACS (3)	CBP (4)	BEA (5)	(1)-(3)	(1)-(4)	(1)-(5)
Brevard	170,353	164,918	109,179	194,128	3	56	-12
Flagler	18,047	NA	11,815	26,227	NA	53	-31
Lake	89,850	92,546	50,776	92,276	-3	77	-3
Marion	71,413	71,708	48,152	94,506	0	48	-24
Orange	604,823	483,990	515,617	785,237	25	17	-23
Osceola	70,989	102,773	47,752	96,775	-31	49	-27
Polk	111,142	173,662	113,254	193,663	-36	-2	-43
Seminole	119,849	163,840	109,496	175,430	-27	9	-32
Sumter	21,170	NA	11,222	25,338	NA	89	-16
Volusia	142,667	146,815	93,617	167,735	-3	52	-15
Total	**1,420,303**	**1,400,252**	**1,110,880**	**1,851,315**	**1**	**28**	**-23**

Source: CFRPM 7, ACS 2015, CBP, BEA

The comparisons are consistent with the differences in the datasets discussed above. CFRPM employment data is slightly higher than the CBP data. It is generally similar to ACS data except for Orange, Osceola, Polk and Seminole Counties. The reasons for these strong differences are unknown at this time. The BEA employment data is predictably higher than CFRPM data.

2.1.5 Enrollment Comparison

Table 2-17 compares the elementary, middle and high school (K-12) enrollment from the ZDATA with the ACS 2015 school enrollment by county. The ACS data, a sampled dataset and therefore not a definitive source, is the only data available that includes public, private and charter school K-12 enrollment by county.

Table 2-17 Comparison of School (K-12) Enrollment

County	K-12 Enrollment		% Difference
	CFRPM7	ACS	
Brevard	84,553	78,793	6
Flagler	15,145	14,544	4
Lake	48,608	47,095	3
Marion	47,104	47,612	-1
Orange	217,899	204,069	7
Osceola	72,466	58,368	24

County	K-12 Enrollment		% Difference
	CFRPM7	ACS	
Polk	108,389	107,145	1
Seminole	76,387	73,195	4
Sumter	8,650	6,815	27
Volusia	70,010	68,124	3
Total	**748,503**	**705,760**	**6**

Source: CFRPM 7, ACS 2015

CFRPM data is higher than the ACS data in all counties. The differences are less than 10% or 10,000 students in 8 of the counties. There are significant differences in Osceola and Seminole Counties. The reasons for these significant differences are unknown at this time, but they correspond to similar differences in the employment data comparisons.

Comparisons for college enrollment are not included here because a reliable data source is not available at this time. Some enrollment data does exist, but currently it does not include both public and private university enrollment and the enrollment is not stratified by campus.

2.2 Roadway Network Data

Verifying the roadway network data is extremely important, as they are the key elements in the trip distribution and traffic assignment steps of CFRPM. Broadly speaking, the roadway network consists of:

- Nodes, elements that describe the position of intersections or shape points on roadway networks.
- Links, network model elements that connect the nodes and have attributes including direction, speed, capacity, and highway functional classification.
- Centroid Connectors connect the zones to the network. They represent the distance and time to be covered between a zone's center of gravity (the center of trip generating and attracting activity) and the model links serving that zone.

Each node and link have data fields that provide information on posted speed limits, number of lanes, free flow speeds, capacity of the roadway, tolls, turn restrictions and other descriptive information.

2.2.1 Posted Speed Limits

The project team reviewed the posted speed limits for accuracy. The team obtained the Roadway Characteristics Inventory (RCI) Geographic Information Systems (GIS) file with posted speed limits from FDOT Central Office. Other roadway files related to posted speed limits were collected from FDOT's GIS online database and other resources including Navteq data, Highway Performance Monitoring System (HPMS) data, Bing and Waze.

The project team reviewed the posted speeds – specifically the POST_SPEED data field – slightly differently for SHS (State Highway System) and Off SHS roadways because speed information is readily-available in GIS for SHS roadways.

For SHS roadways, the posted speed limits in CFRPM network were compared the corresponding data in the Transportation Data and Analytics (TDA) RCI file. If they did not agree, the network was changed to reflect the TDA value.

For Off-SHS roadways, the network posted speeds were compared against corresponding data from a variety of sources, including posted speed signs in Google Maps' Street View, NavTeq data, Bing maps and Waze. If the network speed did not agree with the sources, the best representative posted speed from all the sources was used to update the network values. Table 2-18 presents the number of updated segments of posted speed limits by county.

Table 2-18 Posted Speed Adjustments Summary

County	Number of Segments	Number of Adjusted Segments	Percentage of Adjusted Segments
Brevard	8,937	319	4%
Flagler	1,732	0	0%
Indian river	943	0	0%
Lake	5,864	309	5%
Marion	7,358	295	4%
Orange	16,430	503	3%
Osceola	4,255	205	5%
Polk	9,806	1,486	15%
Seminole	5,361	304	6%
Sumter	2,117	84	4%
Volusia	10,094	0	0%
Total	**72,897**	**3,505**	**5%**

Source: CFRPM 7

2.2.2 Estimated Free-Flow Speeds

Travel models require estimates of free-flow speeds; that is, the speeds that occur during daylight hours with minimal traffic congestion. Free-flow speeds are typically higher than posted speed limits on limited-access roadways, and lower than posted speeds on arterials and signalized roadways. Equations to estimate free-flow speeds[8] were developed using the observed free-flow speed data (using speeds observed on Sundays between 7 and 8 AM). These equations are applied at an aggregate level. Then, the resulting free-flow speeds were compared for each link to the observed free-flow speed data.

To simplify the comparison, a ratio of estimated to observed free-flow speed was computed on the 20,130 links with observed free-flow speeds. A ratio of 1.0 means the estimated and observed values match exactly. Ratios less than 1.0 indicate the estimated speed is less than the observed speed. Ratios greater than 1.0 indicate the estimated speed is greater than the observed speed. The ratio was reviewed by county, facility type and both county and facility type. Table 2-19 presents the comparison between estimated free flow speed and observed free flow speeds.

Table 2-19 Estimated/Observed Free Flow Speed by County

County	Percentage of Links with Est/Obs FF Ratio			Number of Links
	< 0.9 (less than -10%)	Between 0.9-1.1 (within 10%)	> 1.1 (greater than 10%)	
Brevard	12.7	73.0	14.3	3,487
Flagler	15.2	69.1	15.7	362
Indian River	23.3	65.4	11.3	335
Lake	22.7	74.0	3.3	1,157
Marion	15.8	73.6	10.6	1,857
Orange	8.4	60.9	30.6	4,274
Osceola	11.8	65.8	22.5	842
Polk	26.5	53.7	19.7	3,321
Seminole	7.3	77.8	14.9	1,252
Sumter	33.5	64.6	1.9	418
Volusia	16.5	67.8	15.7	2,825
Region	**15.7**	**66.2**	**18.0**	**20,130**

Source: CFRPM 7

[8] Please see Section 3.1.6.3 of *CFRPM 7 Model Description Report* for more details

Regionally, almost two-thirds of all links are within 10% of the observed values, with the remaining links evenly divided between differences of less than -10% and greater than +10%.

Table 2-20 presents the comparison between estimated free flow speed and observed free flow speeds by facility type.

Table 2-20 Estimated/Observed Free Flow Speed by Facility Type

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	13.2	84.5	2.3	523
21	Divided Arterial Unsignalized (Speed 55 & above mph)	11.5	74.1	14.4	1,090
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	26.4	55.7	17.9	106
23	Divided Arterial Class I	11.6	66.4	22.0	5,227
24	Divided Arterial Class II	11.3	71.5	17.1	3,138
31	Undivided Arterial Unsignalized with Turn Bays	18.7	73.3	8.0	573
32	Undivided Arterial Class I with Turn Bays	16.0	65.5	18.5	2,643
33	Undivided Arterial Class II with Turn Bays	19.2	62.0	18.8	1,690
34	Undivided Arterial Class III/IV with Turn Bays	9.4	76.9	13.8	320
35	Undivided Arterial Unsignalized without Turn Bays	16.2	83.8	0.0	74
36	Undivided Arterial Class I without Turn Bays	0.0	100.0	0.0	8
37	Undivided Arterial Class II without Turn Bays	50.0	50.0	0.0	6
38	Undivided Arterial Class III/IV without Turn Bays	100.0	0.0	0.0	1
41	Major Local Divided Roadway	18.5	66.8	14.8	298
42	Major Local Undivided Roadway with Turn Bays	18.2	61.1	20.7	1,708
43	Major Local Undivided Roadway without Turn Bays	28.3	62.7	9.1	431
44	Other Local Divided Roadway	33.3	7.4	59.3	27
45	Other Local Undivided Roadway with Turn Bays	27.7	63.1	9.2	130
46	Other Local Undivided Roadway without Turn Bays	19.5	68.3	12.2	82
47	Low Speed Collector	33.7	44.8	21.5	1,085
52	External Station Connector	35.0	65.0	0.0	20

62	One-Way Facilities Class I	34.0	56.6	9.4	53
63	One-Way Facilities Class II	33.3	57.7	9.0	78
64	One-Way Facilities Class III/IV	0.0	27.6	72.4	58
68	Frontage Road Class III/IV	100.0	0.0	0.0	2
71	Freeway On/Off Ramp-Service Interchange	59.2	23.7	17.1	76
72	Freeway On/Off Loop Ramp-Service Interchange	41.7	8.3	50.0	24
73	Other On/Off Ramp-Urban Interchange	42.9	35.7	21.4	14
74	Other On/Off Loop Ramp-Urban Interchange	50.0	50.0	0.0	2
75	Freeway-to-Freeway Ramp-System Interchange	28.6	61.4	10.0	70
76	Freeway-Collector/Distributor Ramp	71.4	21.4	7.1	14
91	Toll Facility - Freeway	1.2	91.6	7.3	510
92	Toll Facility - Arterial	0.0	31.3	68.8	16
97	Toll On Ramp	70.6	23.5	5.9	17
98	Toll Off Ramp	68.8	31.3	0.0	16
All	**All Facility Type**	**15.8**	**66.3**	**18.0**	**20,130**

Source: CFRPM 7

Appendix C presents the comparison of estimated and observed free flow speed by county and facility type.

There is significant variation in the results by facility type. One reason for this variation is that the estimated free-flow speed equations were developed at an aggregate level, using only 7 facility types (freeways [both toll and non-toll], unsignalized arterials, Class I arterials, Class II/III/IV arterials, local roads, freeway and other on/off ramps, and freeway-to-freeway and freeway-collector/distributor ramps) due to significant noise in the observed dataset. When comparing the results across 35 facility types, variation is to be expected. Another reason is that, due to schedule constraints, the free-flow speed equations had to be developed before the roadway posted speeds could be verified.

Since this is the first time that estimated free-flow speeds are being validated for CFRPM, it is difficult to fairly evaluate these results. The significant noise in the observed dataset, which appears even at the county level, implies that a modest level of accuracy is to be expected. The estimated speeds are very accurate for limited-access facilities, less so for arterials and not accurate for ramps. The observed data for ramp speeds was particularly noisy, so the inaccurate results are expected.

Generally, the project team concludes that the estimated free-flow speeds, at a regional level, are reasonable for long-range planning use. In subsequent updates, the observed free-flow speed data

– especially for ramps – should be reviewed thoroughly before use and updates to the equations should be made after posted speeds are verified.

2.2.3 Number of Lanes

The project team reviewed and updated the number of lanes, using the similar methods used to revise the posted speed limits presented in 2.2.1. The project team reviewed the NUM_LANES data field differently for SHS (State Highway System) and Off SHS roadways because the information is readily-available in GIS for SHS roadways.

For SHS roadways, the number of lanes in CFRPM network were compared the corresponding data in the HPMS and the Transportation Data and Analytics (TDA) RCI file. If they did not agree, the network was updated based on aerial imagery.

For Off-SHS roadways, the network was compared against corresponding data from a variety of sources, including aerial imagery from Google Maps, HPMS data, NavTeq data, Bing maps and Waze. If the number of lanes did not agree, the network was updated based on aerial imagery.

Table 2-21 presents the number of updated segments with number of segments by county.

Table 2-21 QC Segments with the Updated Number of Lanes by County

County	Number of Segments	Number of Adjusted Segments	Length in Miles
Brevard	8,937	71	0.8%
Flagler	1,732	0	0.0%
Indian river	943	0	0.0%
Lake	5,864	25	0.4%
Marion	7,358	8	0.1%
Orange	1,6430	165	1.0%
Osceola	4,255	20	0.5%
Polk	9,806	36	0.4%
Seminole	5,361	33	0.6%
Sumter	2,117	6	0.3%
Volusia	10,094	0	0.0%
Total	**72,897**	**364**	**0.5%**

Source: CFRPM 7

Only a modest number of adjustments were made, indicating the original data was highly accurate.

2.2.4 Visual Inspections

Many of the other aspects of the roadway network are best verified through visual inspection. The project team manually reviewed the following information throughout the development of CFRPM: area types, facility types, and turn prohibitors.

Figure 2-1 to Figure 2-4 present the final figures with these visualizations. Area type and facility type codes are shown in Table 2-22 and Table 2-23.

Table 2-22 Area Type

Area Type Code	Area Type
11	Urbanized area (500,000+) primary city CBD
12	Urbanized area (<500,000) primary city CBD
13	Other urbanized area CBD & small city downtown
14	Non-urbanized area small city downtown
21	All CBD fringe areas
31	Residential area of urbanized areas
32	Undeveloped portions of urbanized areas
33	Transitioning areas/urban areas over 5,000 population
34	Beach residential
41	High density outlying business district (OBD)
42	Other OBD
43	Beach OBD
51	Developed rural areas/small cities <5,000 population
52	Undeveloped rural areas

Source: CFRPM 7

Table 2-23 Facility Type

Facility Type Code	Facility Type
10-19	Freeway Non-Toll
20-29	Divided Arterial
30-39	Undivided Arterial
40-49	Local Roadway
50-59	Centroid Connector
60-69	One-Way Facilities

70-79	Ramp-Service Interchange
90-99	Toll Facility

Source: CFRPM 7

Figure 2-1 CFRPM Area Types

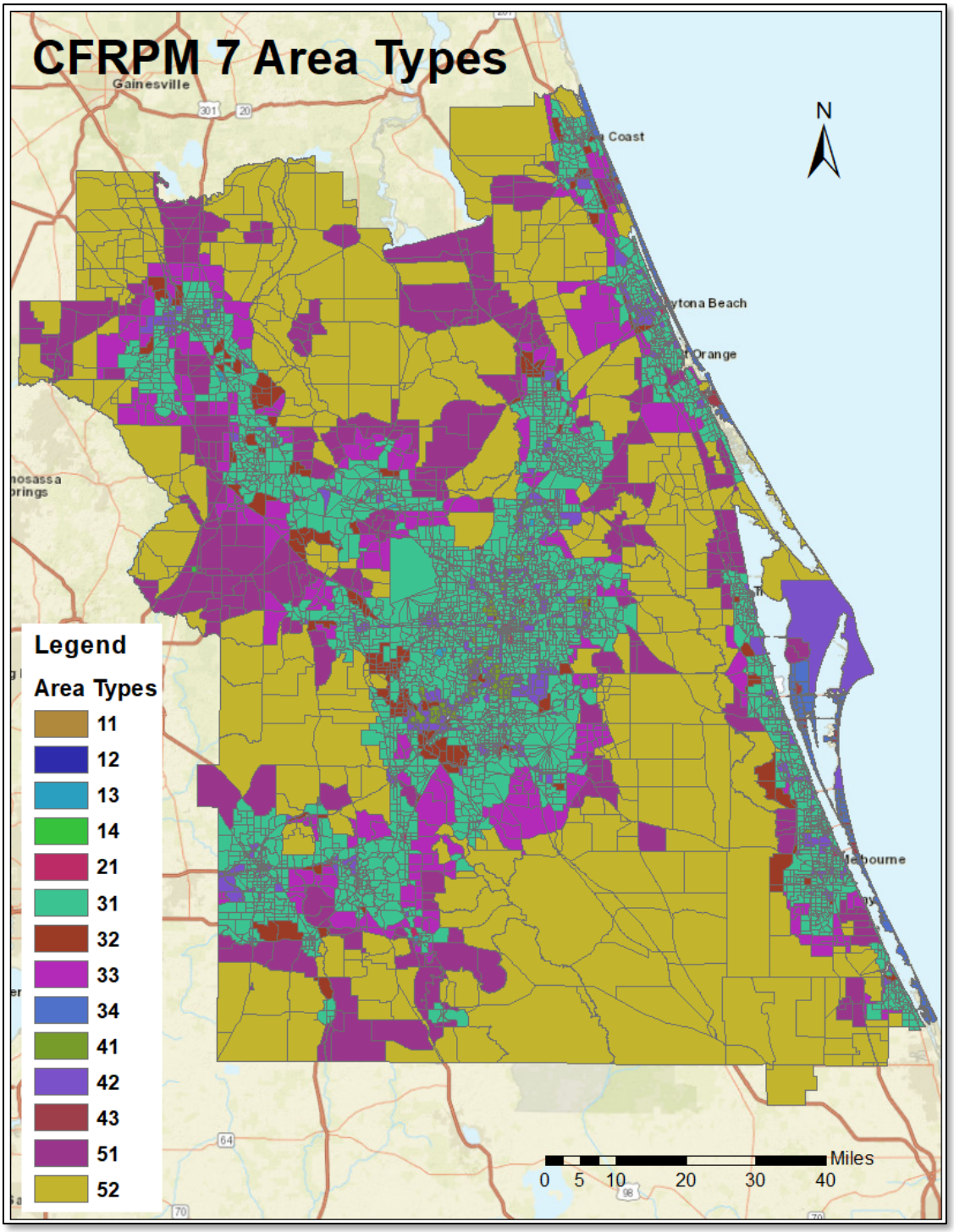


Figure 2-2 CFRPM Facility Types

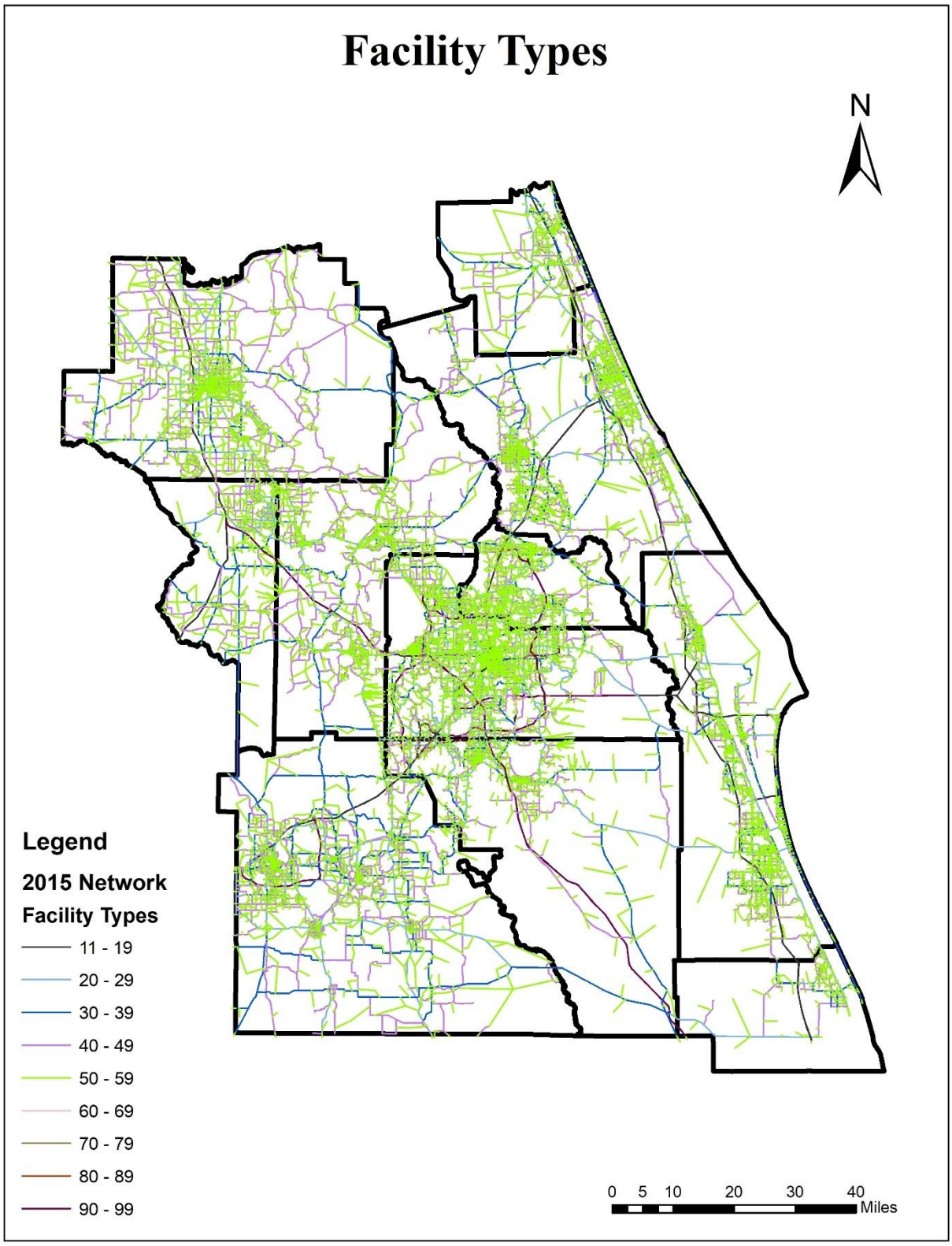


Figure 2-3 CFRPM Number of Lanes

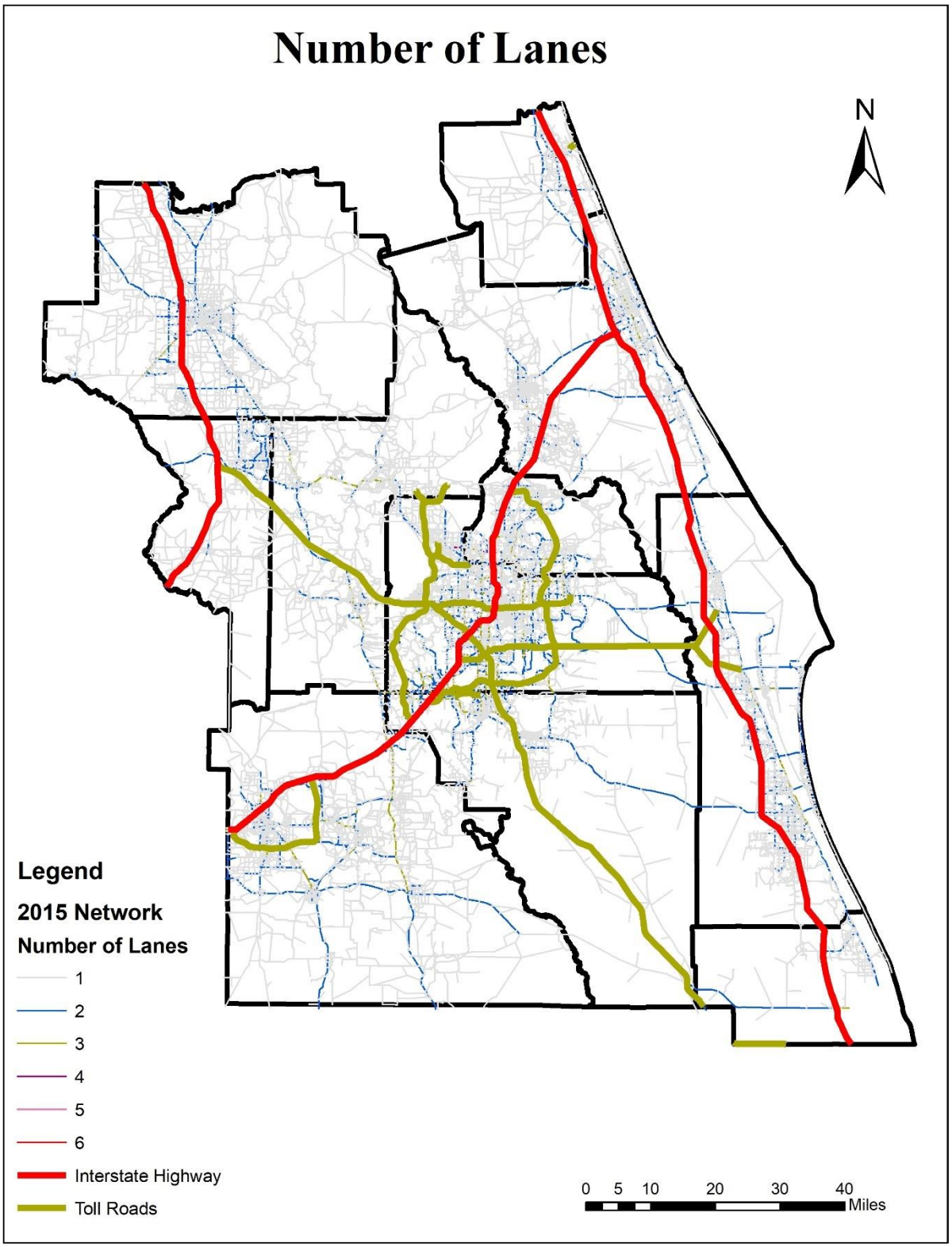
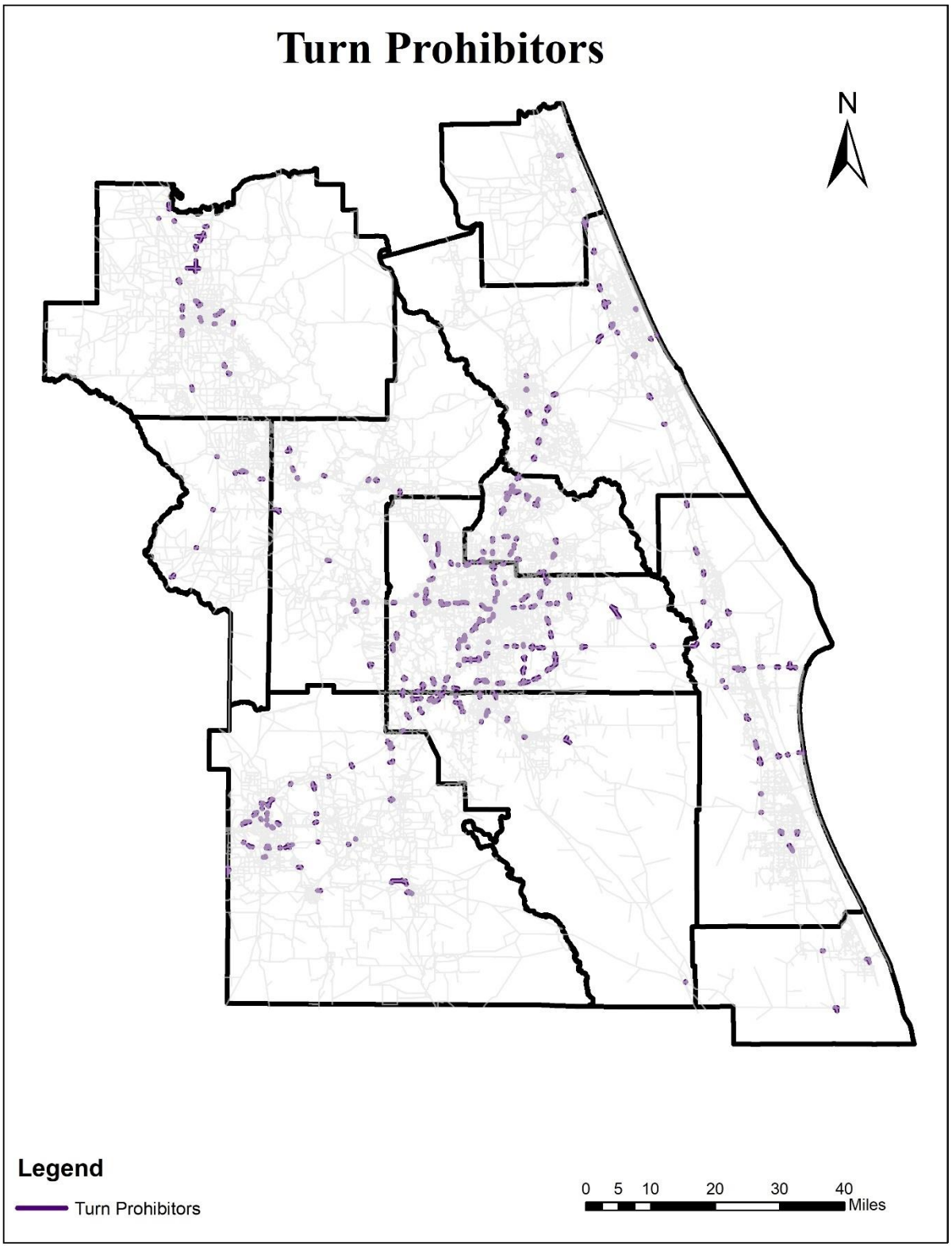


Figure 2-4 Turn Prohibitors



2.2.5 Centerline Miles

It is very important to compare the newly-developed network with an independent data source to validate the fact that CFRPM 7 represents a sufficient amount of the roads by facility type within each county. To validate the coverage, a centerline miles comparison between CFRPM 7 and an independent source, *2015 Road Mileage and Travel (DVMT) report*, was prepared. The centerline miles in Table 2-24 are taken from *the 2015 Road Mileage and Travel (DVMT) Report*. The comparison of centerline miles from the DVMT report and CFRPM 7 are presented in Table 2-26 while Table 2-26 presents the percentage change of these comparison. Please note percent change or percent Delta is defined by the relative difference between CFRPM 7 with DVMT report values. CFRPM 7 has accurate coverage of centerline miles for major road categories including inter-state/freeway/turnpike, principal/divided arterials, and minor/undivided arterials. CFRPM 7 has just 28% of all local roadways in the region. The reason behind this is the lowest level of geography considered in CFRPM 7 is the traffic analysis zone (TAZ). Individual local roads that begin and end within a TAZ cannot be modeled. These local roads are represented as centroid connectors within CFRPM 7 highway network, but centroid connectors will have substantially lower number of centerline miles.

Table 2-24 Centerline Miles from 2015 DVMT Report

Centerline Miles	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Brevard	98	244	160	318	2,727	3,548
Flagler	19	61	62	107	736	986
Lake	24	139	74	478	1,640	2,355
Marion	38	183	131	595	3,030	3,977
Orange	178	195	287	588	3,363	4,610
Osceola	78	165	84	223	975	1,526
Polk	56	244	141	568	3,407	4,416
Seminole	32	89	73	175	1,264	1,633
Sumter	40	60	62	175	712	1,048
Volusia	74	266	146	422	2,492	3,400
Total	**636**	**1,647**	**1,220**	**3,649**	**20,346**	**27,498**

Source: 2015 DVMT Report

Table 2-25 Centerline Miles from CFRPM 7

Centerline Miles	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Brevard	101	222	166	363	577	1,429
Flagler	19	42	75	133	223	492

Centerline Miles	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Lake	24	101	127	525	585	1,362
Marion	38	170	149	787	768	1,912
Orange	188	446	122	626	950	2,332
Osceola	86	119	124	280	392	1,001
Polk	56	264	370	760	834	2,284
Seminole	33	121	45	252	362	813
Sumter	40	53	99	186	262	640
Volusia	73	225	185	559	645	1,687
Total	**658**	**1,763**	**1,462**	**4,471**	**5,598**	**13,952**

Source: CFRPM 7

Table 2-26 Centerline Miles Delta Between DVMT and CFRPM 7

Centerline Miles	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Brevard	3	(22)	6	45	(2,150)	(2,119)
Flagler	0	(19)	13	26	(513)	(494)
Lake	0	(38)	53	47	(1,055)	(993)
Marion	(0)	(13)	18	192	(2,262)	(2,065)
Orange	10	251	(165)	38	(2,413)	(2,278)
Osceola	8	(46)	40	57	(583)	(525)
Polk	(0)	20	229	192	(2,573)	(2,132)
Seminole	1	32	(28)	77	(902)	(820)
Sumter	0	(7)	37	11	(450)	(408)
Volusia	(1)	(41)	39	137	(1,847)	(1,713)
Total	**22**	**116**	**242**	**822**	**(14,748)**	**(13,546)**

Source: CFRPM 7, 2015 DVMT Report

Table 2-27 Centerline Miles %Delta Between DVMT and CFRPM 7

Centerline Miles	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Brevard	3%	-9%	4%	14%	-79%	-60%
Flagler	0%	-31%	21%	24%	-70%	-50%
Lake	0%	-27%	72%	10%	-64%	-42%
Marion	0%	-7%	14%	32%	-75%	-52%
Orange	6%	129%	-57%	6%	-72%	-49%
Osceola	10%	-28%	48%	26%	-60%	-34%

Polk	0%	8%	162%	34%	-76%	-48%
Seminole	3%	36%	-38%	44%	-71%	-50%
Sumter	0%	-12%	60%	6%	-63%	-39%
Volusia	-1%	-15%	27%	32%	-74%	-50%
Total	3%	7%	20%	23%	-72%	-49%

Source: CFRPM 7, 2015 DVMT Report

3 Trip Generation

This chapter summarizes CFRPM 7 trip generation validation results. CFRPM 7 trip generation results were compared to both nationally accepted benchmarks and CFRPM 6.2 trip generation outputs.

The trip generation benchmarks were developed from the Department's *Model Calibration and Validation Standards Report* produced in 2008. They were based on a variety of national sources, including Census data, household travel surveys, NHTS tabulations, and Federal and State guidelines on modeling practice. The trip generation benchmarks were mainly based on historical demographic and socio-economic trends and well-recognized in the social science fields. It is important that these benchmarks are general guideline and any value out of these ranges do not necessarily indicate any potential error in the model.

Table 3-1 Trip Generation Benchmarks (applied to each county)

Metric	Benchmark	
	Low	High
Relative comparison of trip rates by county	None (reasonableness and logic check)	
Person trips per TAZ	n/a	15,000
Person trips per person	3.3	4.0
Person trips per dwelling unit or household	8.0	10.0
HBW person trips/employee	1.20	1.55
Relative difference between unbalanced attractions to productions (all purposes)	0-10%	50% under certain conditions
Percent of HBW trips relative to all other trips	12%	24%
Percent of HBSH trips relative to all other trips	10%	20%
Percent of HBSR trips relative to all other trips	9%	12%
Percent of HBSC trips relative to all other trips	5%	8%
Percent of HBO trips relative to all other trips	14%	28%
Percent of HBNW trips relative to all other trips	45%	60%
Percent of NHB trips relative to all other trips	20%	33%
Percent of EE trips relative to all other trips	4%	21%

Source: Florida Department of Transportation. *Model Calibration and Validation Standards*. 2008.

Comparisons between CFRPM 6.2 and CFRPM 7 trip generation outputs are also presented. The aim of this comparison exercise is to identify potential methodological differences or errors in CFRPM 7 trip generation outputs. For example, CFRPM 7 used the new 2017 NHTS survey data for updated production and attraction rates. The comparison may provide insights on the reasonableness of CFRPM 7 rates.

3.1 Trip Rate Level Comparison

Trip generation estimates the magnitude of person trips for each TAZ. It is derived based on the socio-economic land use data and travel rates. Travel generation is computed in terms of **productions**, the number of trips being "created" by a TAZ, and **attractions**, the number of trips enticed to a TAZ.

The trip generation benchmarks compare the trip rates with ranges experienced in other models around the country. CFRPM 7 results should fall within these ranges. Should the results fall outside these ranges, it may not necessarily mean there was an error or technical issue. There may be localized reasons that justify the results. For example, retirement communities usually produce less work trips than other areas. Counties comprised of significant retirement communities can expect to have a lower amount of work trips compared to other models around the country.

Trip rates were examined across a variety of categories and the relative proportion of different trip purposes. The trip production and attraction rates by different socio-economic category are described in Section 4.2 and Section 4.3, respectively, in CFRPM *7 Model Description Report*. This section contains the comparison of trip generation benchmarks in Table 3-1 with the trip generation results from CFRPM 6.2 and CFRPM 7. Please note the purpose of this comparison exercise is to check the compatibility between CFRPM 6.2 and CFRPM 7 trip generation outputs to find and analyze any inconsistencies. The values obtained from both models were compared against these benchmark ranges. The tables in the following sections are color-coded in such a way to identify which counties in CFRPM 6.2 and CFRPM 7 meet the standard and the paragraph following each table describes how well CFRPM 7 performs against the benchmark. Please note percent change or percent Delta[9] is defined by the relative difference between CFRPM 7 and CFRPM 6.2 values.

3.1.1 Person Trips Per Person By County

The following table shows the person trips per person by the counties. This value was obtained by dividing the total number of trips produced in a county (i.e. HBW, HBSH, HBSR, HBSC, HBCU, HBO, and NHB) by the total population of that county. The values from this analysis indicate how many trips a person generally takes daily by the county. The trip generation benchmarks show that a person is expected to take **3.3 to 4.0** person trips daily.

[9] $\%\boldsymbol{Delta} = \frac{\boldsymbol{CFRPM\ 7 - CFRPM\ 6.2}}{\boldsymbol{CFRPM\ 6.2}} * \mathbf{100}\%$

Table 3-2 Person Trips Per Person By County

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	2.51	3.63	1.12	44%
Flagler	2.26	3.10	0.84	37%
Indian River	2.68	3.22	0.54	20%
Lake	2.52	3.51	0.99	39%
Marion	2.39	3.36	0.97	41%
Orange	3.50	3.25	-0.26	-7%
Osceola	3.00	3.65	0.64	21%
Polk	2.02	3.15	1.13	56%
Seminole	2.96	3.41	0.46	15%
Sumter	2.13	3.47	1.35	63%
Volusia	2.62	3.50	0.88	34%
Region	2.77	3.38	0.61	22%

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

Person trip rates per person for seven of 11 counties in CFRPM 7 meet the trip generation benchmarks. For the remaining four of 11 counties, person trip rates per person in CFRPM 7 are within 10% of the lower bound (3.3 person trips daily). The 2015 overall regional trip rate (person trips per household) in CFRPM 7 is 3.38, which matches well with the trip generation benchmarks of 3.3 to 4.0 person trips daily. The comparisons made in Table 3-2 show that the person trip rates per person are consistent with the trip generation benchmarks.

3.1.2 Person Trips Per Occupied Dwelling Unit By County

This analysis depicts the average person trips generated per occupied dwelling units (DU) by county and the overall person trip generation pattern per occupied DU. The table below represents the average number of person trips generated per occupied dwelling unit (DU) by county. The total number of trips includes HBW, HBSH, HBSR, HBSC, HBCU, HBO, and NHB trips and the occupied DU refers to the living unit where family lives.

The trip generation benchmarks suggest that an occupied DU is expected to generate **8.0 to 10.0** person trips per day.

Table 3-3 Person Trips Per Occupied Dwelling Unit By County

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	5.37	7.72	2.35	44%
Flagler	5.44	8.14	2.70	50%
Indian River	6.10	7.90	1.80	30%

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Lake	5.69	7.70	2.01	35%
Marion	5.14	7.44	2.30	45%
Orange	8.68	9.79	1.11	13%
Osceola	7.63	9.95	2.32	30%
Polk	4.86	8.13	3.27	67%
Seminole	7.15	10.15	3.00	42%
Sumter	3.99	5.61	1.62	41%
Volusia	5.41	7.68	2.27	42%
Region	**6.39**	**8.48**	**2.09**	**33%**

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

Person trip rates per occupied DU for four of 11 counties in CFRPM 7 meet the trip generation benchmarks of 8.0 to 10.0. For the other five of 11 counties, person trip rates per occupied DU in CFRPM 7 are within 10% of the lower bound (8 person trips daily per occupied DU). The low rate in Sumter County may be due to the small household size (2.04 persons per household in Sumter County) in Sumter County. The rate in Seminole County is within 10% of the upper bound probably due to the local travel behavior. The regional person trips per occupied DU is 8.48 in CFRPM 7, which matches well with the trip generation benchmark. The comparisons made in Table 3-3 show that the person trip rates per occupied DU from CFRPM 7 are generally consistent with the benchmarks.

3.1.3 HBW Attractions Per Job

The HBW trips per job metric measure the number of HBW person trips generated by each job. Typically, this value is between 1.20 and 1.55, meaning that 100 jobs generate on average between 120 and 155 HBW person trips. The following table demonstrates the number of Home Based Work (HBW) attractions per job in each county. The job includes industrial, commercial, and service employment categories. This table evaluates how the HBW attractions behave in the mixture of industrial, commercial, and service employment categories. The value of HBW attractions per job is expected to stay between **1.20 to 1.55** based on the trip generation benchmarks. The last row of the table contains the regional level information. HBW attractions per job for all counties in CFRPM 7 meet the trip generation benchmarks. The comparisons made in Table 3-4 show that the HBW attractions per job from CFRPM 7 are consistent with the benchmarks.

Table 3-4 HBW Attractions Per Job By County

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	1.11	1.33	0.22	20%
Flagler	1.78	1.34	-0.44	-25%
Indian River	1.19	1.42	0.23	19%
Lake	1.07	1.33	0.26	24%
Marion	1.12	1.35	0.23	21%
Orange	0.73	1.31	0.58	79%
Osceola	1.49	1.32	-0.17	-11%
Polk	0.96	1.38	0.42	44%
Seminole	0.94	1.35	0.41	44%
Sumter	1.02	1.32	0.30	29%
Volusia	1.16	1.33	0.17	15%
Region	0.96	1.33	0.37	39%

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.4 Relative Difference of Unbalanced Attractions to Productions

Travel demand models balance the total number of home-based trip attractions to the total number of home-based productions by each purpose. It is valuable to review the ratio between unbalanced attractions and productions. A large difference might indicate problems with population or employment estimates, and production and attraction calculations. The table below depicts the relative difference between unbalanced attractions to productions by each trip purpose in the entire region. The attractions and productions were estimated based on different perspectives. For example, employment opportunities, including industry, retail or office activities, generally influence attractions. On the other hand, productions are influenced by mainly socio-demographic factors (household size, number of autos per HH, etc.). Therefore, this comparison analysis was done to evaluate the consistency between the attractions and productions in the region. The relative difference was calculated by dividing the difference between unbalanced productions and attractions by the productions and taking the absolute value. The relative difference between unbalanced attractions to productions is expected to stay between **5% to 50%** based on the trip generation benchmarks.

Table 3-5 Relative Difference Between Attractions (A) to Productions (P)

Trip Purpose	Production (P)	Attraction (A)	Ratio (A/P)	Delta |P-A|	Relative Difference*
HBW	2,731,123	2,328,505	0.85	402,618	15%
HBSH	2,176,458	5,092,743	2.34	2,916,285	134%
HBSR	1,764,257	2,762,253	1.57	994,996	57%
HBO	3,865,873	5,224,071	1.35	1,358,198	35%

Trip Purpose	Production (P)	Attraction (A)	Ratio (A/P)	Delta |P-A|	Relative Difference*
HBSC	1,148,096	1,002,071	0.87	146,025	13%
HBCU	113,215	185,491	1.64	72,276	64%
NHB	3,988,397	4,535,476	1.14	547,079	14%
Total	**15,787,419**	**21,130,612**	**1.34**	**5,343,193**	**34%**

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 7 'PANDA.DBF'

The relative difference between unbalanced attractions to productions for four of the seven trip purposes meets the trip generation benchmarks. For HBSH trips, the high relative difference value is the result of the attractions being run twice for HBSH trips: once for permanent residents and again for seasonal residents. The trip attraction equations do not have distinct variables for permanent and seasonal residents, so the process must be run twice which more than doubles the HBSH relative difference.

3.1.5 Percent of HBW Trips Relative to All Other Trips

The percent trips by purpose is a way to measure whether some trip production or attraction purposes are disproportionate when compared to other similar models. A Home Based Work (HBW) trip is that either the origin or destination of the trip is at the home or work location. The following table presents the percentage of HBW trips in each county. This value was calculated as HBW trips divided by the total number of trips (i.e., the sum of HBW, HBSH, HBSR, HBSC, HBCU, HBO, and NHB). The percentage of HBW trips produced in a county can be used to understand the overall HBW travel pattern and economic activity. The value of the percentage of HBW trips relative to all other trips is expected to be between **12% and 24%** based on the trip generation benchmarks.

The comparisons made in Table 3-6 show that percentages of HBW trips relative to all other trips for 10 of 11 counties in CFRPM 7 meet the trip generation benchmarks. The low value in Sumter County may be due to an exceptionally large retirement community in the county.

Table 3-6 Percent of HBW Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	18.93	17.82	-1.17	-6%
Flagler	18.83	16.37	-2.46	-13%
Indian River	18.73	18.05	-0.68	-4%
Lake	17.08	18.04	0.96	6%
Marion	18.06	16.85	-1.21	-7%
Orange	14.59	17.05	2.46	17%

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Osceola	16.97	19.87	2.90	17%
Polk	20.52	17.75	-2.77	-14%
Seminole	17.92	20.86	2.94	16%
Sumter	15.66	10.22	-5.44	-35%
Volusia	17.90	16.06	-1.84	-10%
Region	17.06	17.59	0.53	0%

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.6 Percent of HBSH Trips Relative to All Other Trips

A Home Based Shopping (HBSH) trip is that either the origin or destination of the trip is at the home or shop location. The following table presents the percentage of HBSH trips in each county. This value was calculated as HBSH trips divided by the total number of trips. The percentage of HBSH trips produced in a county can be used to understand the overall HBSH travel pattern and economic activity. The value of the percentage of HBSH trips relative to all other trips is expected to stay between **10% to 20%** based on the trip generation benchmarks.

The comparisons made in Table 3-7 show that the percentages of HBSH trips relative to all other trips are all within the benchmarks.

Table 3-7 Percent of HBSH Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	11.02	14.17	3.15	29%
Flagler	13.67	14.36	0.69	5%
Indian River	11.79	14.02	2.23	19%
Lake	11.54	14.09	2.55	22%
Marion	11.56	14.35	2.79	24%
Orange	12.10	13.98	1.88	16%
Osceola	12.31	13.29	0.98	8%
Polk	13.47	13.77	0.30	2%
Seminole	9.85	12.79	2.94	30%
Sumter	13.48	17.39	3.91	29%
Volusia	10.72	14.72	4.00	37777%
Region	11.75	14.02	2.27	0%

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.7 Percent of HBSR Trips Relative to All Other Trips

A Home Based Social Recreational (HBSR) trip is that either the origin or destination of the trip is at the home or social/recreation location. The following table presents the percentage of HBSR trips in each county. This value was calculated as HBSR trips divided by the total number of trips. The value of the percentage of HBSR trips relative to all other trips is expected to stay between **9% to 12%** based on the trip generation benchmarks.

The comparisons made in Table 3-8 show that percentages of HBSR trips relative to all other trips meet the trip generation benchmark for 10 of the 11 counties. The high value in Sumter County may be due to its large number of households with retirees.

Table 3-8 Percent of HBSR Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	6.77	10.43	3.66	54%
Flagler	10.20	11.08	0.88	9%
Indian River	8.84	10.78	1.94	22%
Lake	9.04	10.66	1.62	18%
Marion	8.10	11.09	2.99	37%
Orange	8.77	10.68	1.91	22%
Osceola	16.83	10.45	-6.38	-38%
Polk	10.73	10.44	-0.29	-3%
Seminole	7.84	9.68	1.84	23%
Sumter	8.62	12.89	4.27	50%
Volusia	11.57	11.77	0.20	2%
Region	9.58	10.71	1.13	0%

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.8 Percent of HBSC Trips Relative to All Other Trips

A Home Based School (HBSC) trip is that either the origin or destination of the trip is at the home or school location. The following table presents the percentage of HBSC trips in each county. The school trips were generated based on the school enrollment from kindergarten to 12th grade. This percentage value was calculated as HBSC trips divided by the total number of trips. The value of the percentage of HBSC trips relative to all other trips is expected to stay between **5% to 8%** based on the trip generation benchmarks.

CFRPM 6.2 did not estimate any HBSC trips. According to Table 3-9, the percentages of HBSC trips meet the trip generation benchmark for eight of 11 counties. The low value in Sumter County may be due to a large proportion of retired households. The two other counties are within

10% of the upper bound (8.4% for Osceola and 8.01% for Seminole). Overall, the percentages of HBSR trips are consistent with the benchmark.

Table 3-9 Percent of HBSC Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	0	5.51	5.51	Inf
Flagler	0	6.39	6.39	Inf
Indian River	0	6.26	6.26	Inf
Lake	0	5.78	5.78	Inf
Marion	0	5.58	5.58	Inf
Orange	0	7.34	7.34	Inf
Osceola	0	8.40	8.40	Inf
Polk	0	7.01	7.01	Inf
Seminole	0	6.61	6.61	Inf
Sumter	0	3.04	3.04	Inf
Volusia	0	5.27	5.27	Inf
Region	0	6.45	6.45	Inf

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.9 Percent of HBO Trips Relative to All Other Trips

A Home Based Social Other (HBO) trip is that either the origin or destination of the trip is at the home or the other location not shown in other home based trip purposes. The following table presents the HBO trips in each county. This value was calculated as HBO trips divided by the total number of trips. The value of the percentage of HBO trips relative to all other trips is expected to be between **14% to 28%**.

The comparisons made in Table 3-10 show that percentages of HBO trips meet the benchmark for 10 of 11 counties. Again, the high value in Sumter County may be due to a large proportion of retirement households.

Table 3-10 Percent of HBO Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	29.26	26.60	-2.66	-9%
Flagler	33.89	25.98	-7.91	-23%
Indian River	30.49	23.88	-6.61	-22%
Lake	30.01	24.96	-5.05	-17%
Marion	30.29	24.95	-5.34	-18%
Orange	25.03	27.31	2.28	9%
Osceola	29.78	27.24	-2.54	-9%
Polk	37.39	24.53	-12.86	-34%

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Seminole	26.60	23.04	-3.56	-13%
Sumter	32.35	32.31	-0.04	0%
Volusia	27.05	26.87	-0.18	-1%
Region	**28.51**	**26.1**	**-2.41**	**0%**

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.10 Percent of HBNW Trips Relative to All Other Trips

A Home Based Non-Work (HBNW) trip is that either the origin or destination of the trip is at the home or non-work location. The following table presents the percentage of HBNW trips in each county. The HBNW value includes HBSH, HBSR, HBSC, HBCU and HBO trips. This value was calculated as HBNW trips divided by the total number of trips. The value of the percentage of HBO trips relative to all other trips is expected to stay between **45% to 60%** based on the trip generation benchmarks.

The comparisons made in Table 3-11 show that percentages of HBNW trips relative meet the benchmark for 10 of 11 counties. Again, the high value in Sumter County may be due to a large proportion of retired households.

Table 3-11 Percent of HBNW Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Change
Brevard	47.05	56.72	9.67	20%
Flagler	57.76	57.81	0.05	0%
Indian River	51.12	54.94	3.82	7%
Lake	50.60	55.49	4.89	10%
Marion	49.96	55.96	6.00	12%
Orange	45.90	59.31	13.41	29%
Osceola	58.92	59.38	0.46	1%
Polk	61.59	55.75	-5.84	-9%
Seminole	44.29	52.12	7.83	18%
Sumter	54.45	65.64	11.19	21%
Volusia	49.33	58.62	9.29	19%
Region	**49.84**	**57.28**	**7.44**	**0%**

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.1.11 Percent of NHB Trips Relative to All Other Trips

A Non-Home Based (NHB) trip is that either the origin or destination of the trip is both at non home location. The following table presents the percentage of NHB trips in each county. This

value was calculated as NHB trips divided by the total number of trips. The value of the percentage of NHB trips relative to all other trips is expected to stay between **20% to 30%** based on the trip generation benchmarks.

The comparisons made in Table 3-12 show that percentages of NHB trips meet the trip generation benchmarks for all counties, so the percentages of NHB trips are consistent with the benchmark.

Table 3-12 Percent of NHB Trips Realtive to All Other Trips

County	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
Brevard	34.02	25.53	-8.49	-25%
Flagler	23.41	25.82	2.41	10%
Indian River	30.15	27.01	-3.14	-10%
Lake	32.33	26.48	-5.85	-18%
Marion	31.98	27.18	-5.80	-15%
Orange	39.51	23.64	-15.87	-40%
Osceola	24.12	20.75	-3.37	-14%
Polk	17.89	26.49	8.60	48%
Seminole	37.80	27.02	-10.78	-29%
Sumter	29.89	24.14	-5.75	-19%
Volusia	32.76	25.32	-7.44	-23%
Region	**33.10**	**25.12**	**-7.98**	**0%**

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

3.2 Trip Purpose Comparison

The balanced productions and attractions obtained in the trip generation step were compared to CFRPM 6.2 results at a county and regional level. The special visitor, resident and external trips were also compared. These comparisons are made for informational purposes only. Please note that the base year for CFRPM 6.2 is 2010, and 2015 for CFRPM 7 and also HBCU trips is included within HBO.

Table 3-13 presents the number of trips produced in the entire region by trip purpose.

Table 3-13 Trips Productions in the Region

Trip Purpose	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
HBW	2,267,581	2,731,128	463,547	20%
HBSH	1,562,055	2,176,451	614,396	39%
HBSR	1,274,017	1,663,191	389,174	31%
HBSC	0	1,002,086	1,002,086	Inf
HBO	3,789,948	4,051,347	261,399	7%

Trip Purpose	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
NHB	4,400,537	3,900,328	-500,209	-11%
Total	**13,294,138**	**15,524,531**	**2,230,393**	**17%**

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'

Table 3-14 presents the number of balanced attractions by trip purpose.

Table 3-14 Trips Attractions in the Region

Trip Purpose	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
HBW	2,277,077	2,731,090	454,013	20%
HBSH	1,576,891	2,176,528	599,637	38%
HBSR	1,286,116	1,759,500	473,384	37%
HBSC	0	1,002,070	1,002,070	Inf
HBO*	3,793,142	4,051,368	258,226	7%
NHB	4,521,074	3,974,397	-546,677	-12%
Total	**13,454,300**	**15,694,953**	**2,240,653**	**17%**

Source: CFRPM 6.2 'GEN_UBPANDA DBF', CFRPM 7 'PANDA.DBF'
*HBCU trips is included within HBO

The special purpose trips include visitor, resident and external trips to the Orlando International Airport (OIA), Orange County Convention Center (OCC), Universal Orlando (UNI), Sea World (SEA), Disney World (DIS), Kennedy Space Center (KSC) and Port Canaveral (PC). Visitor and resident trips were updated to reflect 2015 attendance. The external trips were updated based on 2015 traffic counts. During this update, an error was identified and corrected in how external trips were produced in earlier versions of CFRPM. Table 3-15 presents the number of special purpose trips.

Table 3-15 Special Trips in the Region

Special Trip Type	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
OIA Visitor	72,166	74,981	2,815	4%
OIA Resident	27,679	36,568	8,889	32%
OIA External	3,397	2,300	-1,097	-32%
OCC Visitor	4,375	5,991	1,616	37%
OCC Resident	4,848	6,463	1,615	33%
OCC External	3,378	148	-3,230	-96%
UNI Visitor	81,130	84,423	3,293	4%
UNI Resident	10,996	14,289	3,293	30%
UNI External	8,569	1,984	-6,585	-77%
SEA Visitor	26,516	28,612	2,096	8%
SEA Resident	6,375	8,470	2,095	33%

Special Trip Type	CFRPM 6.2*	CFRPM 7*	Delta	% Delta
SEA External	4,651	458	-4,193	-90%
DIS Visitor	310,120	313,794	3,674	1%
DIS Resident	18,546	22,218	3,672	20%
DIS External	10,997	3,669	-7,328	-67%
KSC Visitor	3,952	7,694	3,742	95%
KSC Resident	587	1,536	949	162%
KSC External	551	85	-466	-85%
PC Visitor	5,654	11,431	5,777	102%
PC Resident	5,723	11,535	5,812	102%
PC External	3,958	211	-3,747	-95%

Source: CFRPM 6.2, CFRPM 7

4 Trip Distribution

This chapter summarizes the trip distribution results. Trip distribution is the process of linking trip productions to attractions across the region. The distribution results were compared to observed values and benchmarks across four aspects: (1) average trip lengths, and (2) the percentage of trips that occur within a single TAZ (i.e., intrazonal trips), (3) county-to-county flows for the main trip purposes, and (4) county-to-attraction flows for each of the special purposes.

CFRPM 7 uses a gravity model to distribute trips between production and attraction zones for all purposes except for External to External (EE) trips. The gravity model includes friction factors (representing travel impedance between zones) and K-factors (often referred as socioeconomic adjustment factors). The gravity model was calibrated to trip length frequency distributions. Issues raised by initial distribution results were then resolved by investigating issues with the roadway network, production equations or attraction equations. Finally, K-factors were used to fine-tune county-to-county movements.

4.1 Average Trip Lengths

Benchmarks for average trip length were used to assess the model's ability to reflect Central Florida travel patterns. The benchmarks in Table 4-1 were taken from the Department's *Model Calibration and Validation Standards Report* produced in 2008. They are based on Census data and household travel surveys from other cities. These benchmarks are general guidelines and values outside of these ranges do not necessarily indicate errors. The results from both the peak period and off-peak period distributions were compared to the benchmarks.

Table 4-1 Average Trip Length Benchmarks

Metric	Benchmark (%)	
	Low	High
HBW average trip length (minutes)	12	35
HBSH average trip length (minutes)	9	19
HBSR average trip length (minutes)	11	19
HBSC average trip length (minutes)	7	16
HBO average trip length (minutes)	8	20
NHB average trip length (minutes)	6	19
IE average trip length (minutes)	26	58

Source: Department's *Model Calibration and Validation Standards Report*

The following table depicts the average trip length statistics summarized in minutes by trip purposes for peak period. Please note terminal time/intrazonal travel time is included within

these trip lengths and for more details please see section 5.3 of *CFRPM 7 Model Description Report*. The HBW and NHB average trip lengths are within the benchmark values. The average trip length in minutes for HBSH, HBSR, HBO trips are slightly longer (less than ~10%) than the upper benchmark value. Overall, these results indicate that in CFRPM the average lengths consistent with models around the country.

Table 4-2 Average Trip Length by Trip Purpose (Peak Period)

Trip Purpose	Avg. Trip Length (minutes)	Benchmark (%)	
		Low	High
HBW	28.40	12	35
HBSH	20.28	9	19
HBSR	20.91	11	19
HBO	20.41	8	20
NHB	17.31	6	19

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 7

For the off-peak period, the average trip length for HBW, HBSH, HBO, and NHB are within the benchmark values. The average trip length for HBSR is slightly higher (less than 5%) than the high-end benchmark.

Table 4-3 Average Trip Length by Trip Purposes (Off-Peak Period)

Trip Purpose	Avg. Trip Length (minutes)	Benchmark (%)	
		Low	High
HBW	18.20	9	19
HBSH	19.41	11	19
HBSR	16.63	8	20
HBO	17.43	6	19
NHB	18.20	9	19

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK*

Source: CFRPM 7

Overall, these results indicate that CFRPM has the average length consistent with models around the country. This is an incredibly positive result since the gravity model was calibrated to Tampa Bay Regional Planning Model (TBRPM) trip lengths (locally observed data was not available). However, the non-work average trip lengths are near or exceed the high-end benchmarks. One possible explanation is that CFRPM may have too many trips being assigned to the network, and not enough intrazonal trips (see next section).

4.2 Percent of Intrazonal Trips

Intrazonal trips are extremely short trips that have production and attraction located in the same zone. The intrazonal trips do not appear in traffic volumes, but they are important to correctly estimate vehicle-miles of travel and emissions. Intrazonal travel times are computed in CFRPM using 50% of the minimum non-zero time from the origin zone to any other (non-external) zone. The benchmarks in Table 4-1 were developed from the Department's *Model Calibration and Validation Standards Report* produced in 2008.

Table 4-4 Intrazonal Benchmarks

Metric	Benchmark (%)	
	Low	High
Percent of intrazonal HBW trips relative to all HBW trips	1	4
Percent of intrazonal HBSH trips relative to all HBSH trips	3	9
Percent of intrazonal HBSR trips relative to all HBSR trips	4	10
Percent of intrazonal HBSC trips relative to all HBSC trips	10	12
Percent of intrazonal HBO trips relative to all HBO trips	3	7
Percent of intrazonal NHB trips relative to all NHB trips	5	9

Source: Department's *Model Calibration and Validation Standards Report*

The following table displays the percentage of intrazonal trips and the corresponding benchmark. For the peak period, only the percentage of intrazonal HBSH trips fall within the benchmark range. The percentages of intrazonal trips for other purposes are much lower than benchmark ranges, confirming that the observation in 4.2: that CFRPM 7 generally has too few intrazonal trips and is assigning too many interzonal trips.

Table 4-5 Intrazonal Trips (Peak Period)

Trip Purpose	Percent of Intrazonal Trips	Benchmark (%)	
		Low	High
HBW	0.43	1	4
HBSH	1.94	1	9
HBSR	3.22	4	10
HBO	2.26	3	7
NHB	2.15	5	9
Total	1.87	3	5

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK

Source: CFRPM 7

The following table displays the percentage of intrazonal trips related to all trips on the same trip purpose in off-peak period. The results are similar to the peak results.

Combined, these results might be partially explained by the result of CFRPM 7's new zone system, which created smaller zones in most of the model area. Smaller TAZ sizes would naturally decrease the percentage of intrazonal trips. Using the TBRPM trip lengths may have also contributed to this result.

Table 4-6 Intrazonal Trips (Off-Peak Period)

Trip Purpose	Percent of Intrazonal Trips	Benchmark (%)	
		Low	High
HBW	0.35	1	4
HBSH	1.78	1	9
HBSR	3.52	4	10
HBO	3.07	3	7
NHB	1.53	5	9
Total	2.10	3	5

**Blue* = Less than low benchmark; *Red* = Greater than high benchmark; *Green* = OK

Source: CFRPM 7

4.3 Average Trip Length and Percent of Intrazonal Trips

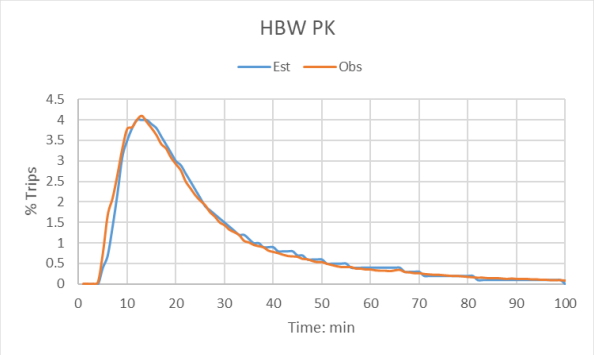
This section compares the observed and estimated Trip Length Frequency Distribution (TLFD) curves for person and vehicle trips. The estimated TLFD curves are calibrated using friction factor adjustments, so in many situations the observed and estimated curves will match closely. Significant differences may indicate issues with the production and attraction equations or the ZDATA.

The 2017 NHTS dataset did not have enough records or location data needed for developing the observed Trip Length Frequency Distribution (TLFD) curves. Consequently, Friction Factors (FFs) were calibrated using Trip Length Frequency Distribution (TLFD) from the Tampa Bay Regional Planning Model (TBRPM) as an observed TLFD. After running CFRPM with the calibrated FFs, an estimated TLFD ("Est") from CFRPM 7 and observed TLFD ("Obs") from the TBRPM were compared as shown in Figure 4-1.

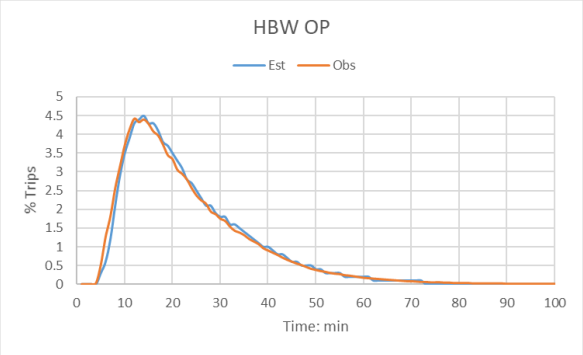
The estimated TLFD curves have a good fit with the observed curves for HBW, HBSR, HBSH, HBSC, HBCU, HBO, and NHB trip purposes. Since CFRPM used separate FFs for the medium truck and heavy truck, they were not compared. Figure 4-1 (o) and (p) show discrepancies in TLFD for Internal to External (IE) trips due to differences in geography and land-use between Tampa Bay and Central Florida.

Figure 4-1: Comparison of Estimated and Observed TLFD

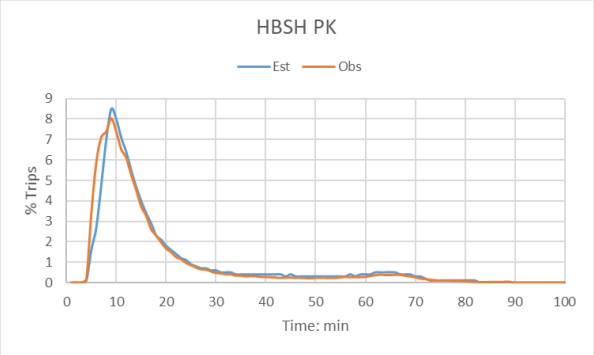
(a) HBW peak



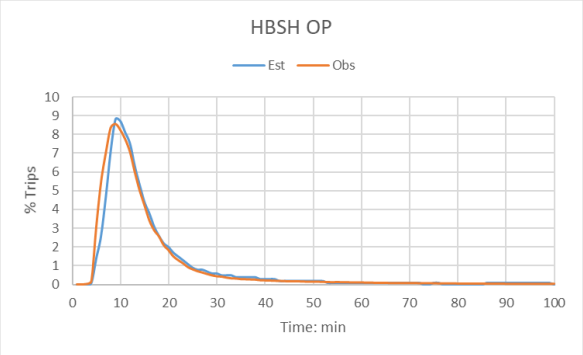
(b) HBW off-peak



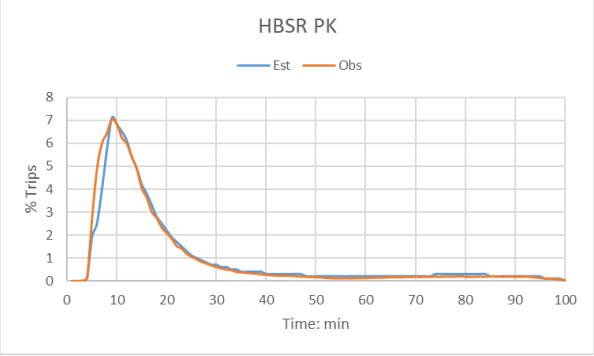
(c) HBSH peak



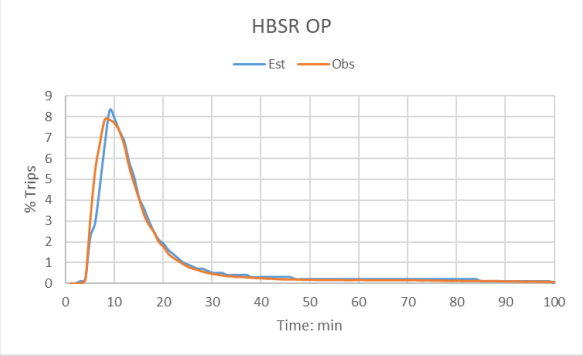
(d) HBSH off-peak



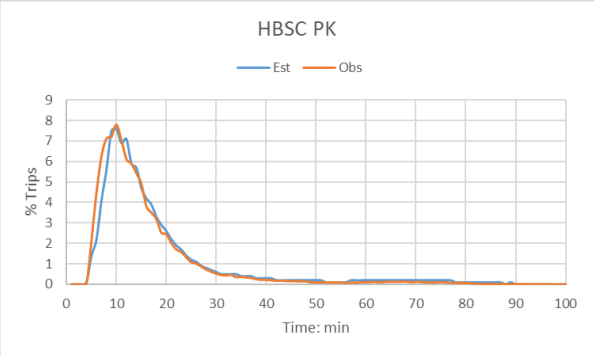
(e) HBSR peak



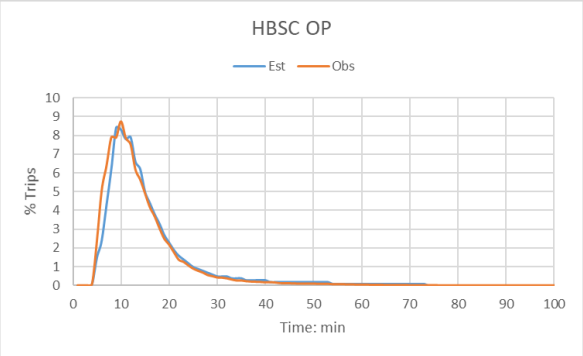
(f) HBSR off-peak



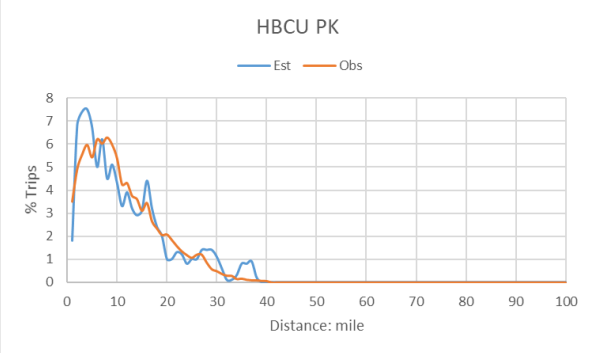
(g) HBSC peak



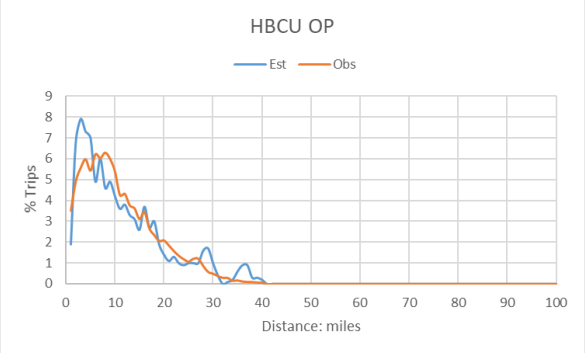
(h) HBSC off-peak



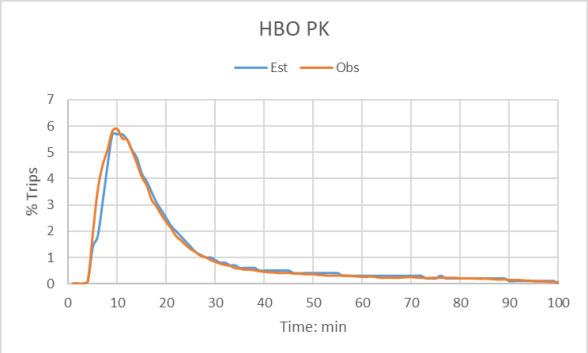
(i) HBCU peak



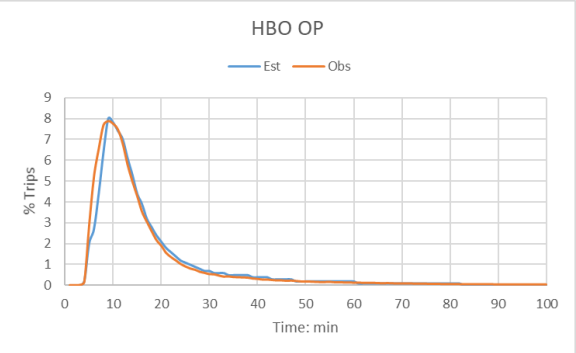
(j) HBCU off-peak



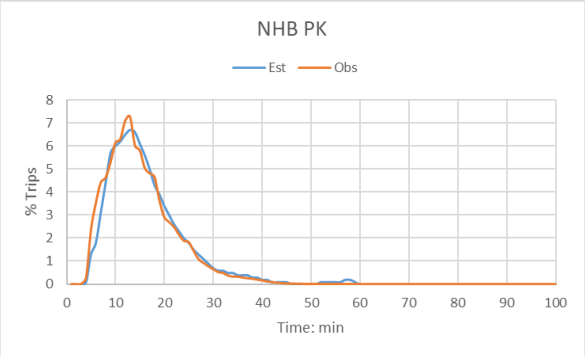
(k) HBO peak



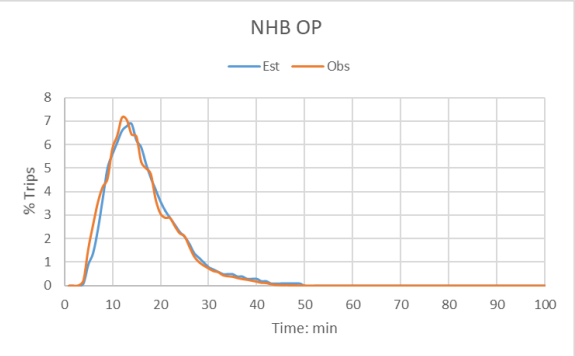
(l) HBO off-peak



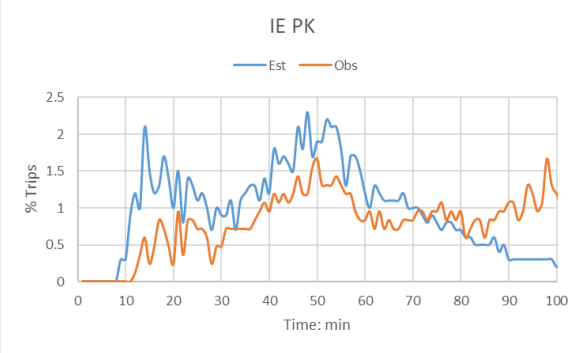
(m) NHB peak



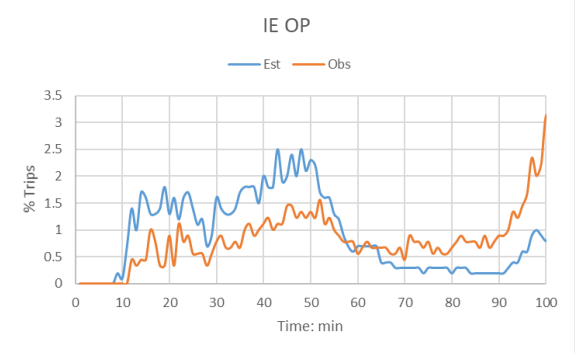
(n) NHB off-peak



(o) IE peak



(p) IE off-peak



4.4 County-to-County Flows

County-to-county travel patterns, or flows, strongly influence the amount of traffic on major arterials and limited-access roadways. In this section, the estimated flows are compared to observed data from the 2015 American Community Survey (ACS) and 2009 National Household Travel Survey (NHTS) data and used to evaluate the estimated county-to-county flows for different trip purposes. The ACS data was used to verify the HBW county-to-county flows, while the NHTS data was used to verify the HBSH, HBSR, HBO, and NHB flows. The 2009 NHTS data was used since it has many times more records than the 2017 NHTS data and contains the trip start- and end- location data. For each trip purpose, the observed county-to-county trip table was adjusted using an arithmetic procedure called Iterative Proportional Fitting (IPF) to match the total productions and attractions for each county. All data compared in this report is in the Production/Attraction (P/A) format.

Unfortunately, there are no standard benchmarks for these comparisons. The estimated flows should reasonably reflect the observed values, although admittedly this is subjective. 4.4.1 through 4.4.6 provide the county-to-county person trip flow comparisons. Sections 4.4.7 through

4.4.9 provide alternate travel pattern comparisons for person trips. 4.4.10 through 4.4.12 provide information on the vehicle trip flow comparisons.

4.4.1 County-to-County Flow Comparison for HBW Trips

The following tables compare the county-to-county flows for HBW trips between the ACS 2015 data and CFRPM 7 results. In Table 4-10 cell values between 10-30% are colored in olive and cell values greater than 30% are colored in red. Table 4-11 summarizes the number of cells and observed trips by error rate.

Table 4-7 HBW Trips from ACS

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	325,818	148	907	125	12	22,174	1,162	174	2,212	0	2,464	355,196
Flagler	96	31,473	0	78	29	441	61	0	421	0	18,362	50,961
Indian River	4,985	0	20,316	0	0	1,630	48	26	164	0	99	27,268
Lake	154	161	0	121,746	947	57,823	3,751	723	6,191	5,126	2,807	199,429
Marion	0	169	0	22,883	147,503	4,124	351	120	599	9,972	1,060	186,781
Orange	1,522	67	6	7,364	161	604,014	11,842	876	38,855	184	2,613	667,504
Osceola	763	6	19	1,953	120	131,526	84,386	2,751	4,226	0	204	225,954
Polk	267	0	15	3,673	71	75,511	18,960	261,459	1,003	132	241	361,332
Seminole	680	58	3	1,409	34	137,227	941	179	171,928	229	5,463	318,151
Sumter	26	0	0	10,687	962	1,538	120	125	362	23,976	21	37,817
Volusia	846	1,850	0	1,258	105	17,475	232	147	23,714	16	234,966	280,609
Total	335,157	33,932	21,266	171,176	149,944	1,053,483	121,854	266,580	249,675	39,635	268,300	2,711,002

Source: ACS 2015

Table 4-8 HBW Trips from CFRPM 7 Estimated Results

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	320,783	137	858	53	0	22,887	2,662	1	4,516	0	3,299	355,197
Flagler	80	29,964	0	101	4	312	0	0	511	2	19,988	50,963
Indian River	6,052	2	20,298	2	0	504	253	7	39	0	113	27,268
Lake	38	147	0	114,160	2,179	57,825	3,991	1,435	9,320	6,607	3,729	199,430
Marion	2	102	0	22,827	144,927	4,579	84	4	433	11,186	2,636	186,780
Orange	3,027	11	2	9,054	35	598,053	13,190	777	39,688	216	3,450	667,504
Osceola	1,948	0	30	2,521	2	127,759	81,320	8,099	4,077	31	169	225,955
Polk	108	0	77	7,355	20	76,953	19,051	256,197	1,238	289	44	361,332
Seminole	1,246	69	0	2,712	2	139,907	1,118	11	166,341	20	6,726	318,151
Sumter	0	0	0	10,036	2,735	3,436	92	51	159	21,259	48	37,816
Volusia	1,873	3,501	0	2,355	39	21,269	94	0	23,355	23	228,098	280,608
Total	335,157	33,933	21,264	171,177	149,944	1,053,484	121,855	266,581	249,676	39,634	268,298	2,711,004

Source: CFRPM 7

Table 4-9 Delta Trips for HBW

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	-5,035	-11	-49	-72	-12	713	1,500	-173	2,304	0	835	1
Flagler	-16	-1,509	0	23	-25	-129	-61	0	90	2	1,626	2
Indian River	1,067	2	-18	2	0	-1,126	205	-19	-125	0	14	0
Lake	-116	-14	0	-7,586	1,232	2	240	712	3,129	1,481	922	1
Marion	2	-67	0	-56	-2,576	455	-267	-116	-166	1,214	1,576	-1
Orange	1,505	-56	-4	1,690	-126	-5,961	1,348	-99	833	32	837	0
Osceola	1,185	-6	11	568	-118	-3,767	-3,066	5,348	-149	31	-35	1
Polk	-159	0	62	3,682	-51	1,442	91	-5,262	235	157	-197	0
Seminole	566	11	-3	1,303	-32	2,680	177	-168	-5,587	-209	1,263	0
Sumter	-26	0	0	-651	1,773	1,898	-28	-74	-203	-2,717	27	-1
Volusia	1,027	1,651	0	1,097	-66	3,794	-138	-147	-359	7	-6,868	-1
Total	0	1	-2	1	0	1	1	1	1	-1	-2	2

Source: CFRPM 7, ACS 2015

Table 4-10 Percent of Delta Trips for HBW

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia
Brevard	-2%	-7%	-5%	-58%	-100%	3%	129%	-100%	104%	100%	34%
Flagler	-17%	-5%	100%	30%	-85%	-29%	-100%	100%	21%	100%	9%
Indian River	21%	100%	0%	100%	100%	-69%	428%	-74%	-76%	100%	14%
Lake	-76%	-8%	100%	-6%	130%	0%	6%	98%	51%	29%	33%
Marion	100%	-39%	100%	0%	-2%	11%	-76%	-97%	-28%	12%	149%
Orange	99%	-84%	-68%	23%	-78%	-1%	11%	-11%	2%	18%	32%
Osceola	155%	-99%	55%	29%	-98%	-3%	-4%	194%	-4%	100%	-17%
Polk	-60%	100%	413%	100%	-71%	2%	0%	-2%	23%	119%	-82%
Seminole	83%	19%	-95%	92%	-94%	2%	19%	-94%	-3%	-91%	23%
Sumter	-99%	100%	100%	-6%	184%	123%	-23%	-59%	-56%	-11%	126%
Volusia	121%	89%	100%	87%	-63%	22%	-60%	-100%	-2%	46%	-3%

**Red* = Greater than 30%; Green = 10%-30%*

Source: CFRPM 7, ACS 2015

Table 4-11 Breakdown of HBW Flow Matrix Errors

Error	# Cells	% Cells	Obs Trips	Pct Obs Trips
<= 10%	26	21%	2,570,524	95%
10-30%	23	19%	97,400	4%
> 30%	72	60%	43,078	2%

Source: CFRPM 7, ACS 2015

About 95% of the HBW trips are in cells that have an error of less than 10%. This indicates that the estimated county-to-county flows are generally consistent with the corresponding observed flows for HBW trips.

4.4.2 County-to-County Flow Comparison for HBSH Trips

The following tables compare the county-to-county flows for HBSH trips between the 2009 NHTS data and the estimated results. Table 4-16 summarizes the number of cells and observed trips by error rate.

Table 4-12 HBSH Trips from NHTS

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	253,505	4	8,920	9	8	18,219	23	54	3,788	5	8	284,543
Flagler	39	30,090	129	32	27	509	82	193	208	19	13,482	44,810
Indian River	256	1	20,990	3	3	55	9	21	22	2	3	21,365
Lake	16	5	52	125,008	1,330	13,093	15,155	79	85	959	503	156,285
Marion	12	4	38	4,175	126,159	27,089	24	57	62	2,217	9	159,846
Orange	1	0	4	0	0	512,675	3	1,199	35,086	1	1	548,970
Osceola	6	2	20	0	0	79,116	72,339	30	32	3	5	151,553
Polk	3	1	9	348	0	809	8,038	272,480	14	1	2	281,705
Seminole	2	1	7	0	150	37,688	4	10	157,574	1	2	195,439
Sumter	23	8	76	12,055	3,317	303	49	23,408	124	25,203	599	65,165
Volusia	9	1,174	29	7	6	28,088	19	43	25,308	4	203,060	257,747
Total	253,872	31,290	30,274	141,637	131,000	717,644	95,745	297,574	222,303	28,415	217,674	2,167,428

Source: 2009 NHTS

Table 4-13 HBSH Trips from CFRPM 7 Estimated Results

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	253,264	0	9,128	1	0	16,137	561	612	4,561	0	279	284,543
Flagler	3	30,585	0	8	0	2,378	28	0	1,911	0	9,896	44,810
Indian River	196	0	21,130	0	0	14	19	6	0	0	0	21,364
Lake	0	5	0	116,814	552	22,194	12,559	52	181	974	2,953	156,285
Marion	0	15	0	3,715	127,154	21,521	144	1,815	1,166	2,506	1,810	159,845
Orange	64	0	0	917	0	516,343	6	1,753	29,881	0	7	548,970
Osceola	40	0	11	424	0	70,752	78,096	1,929	301	0	0	151,553
Polk	0	0	1	1,075	0	682	3,896	276,021	30	0	0	281,705
Seminole	4	0	0	3	0	41,762	26	9	153,525	0	111	195,439
Sumter	0	0	0	18,581	3,292	1,632	362	15,323	1,009	24,937	29	65,165
Volusia	302	684	4	99	0	24,229	48	55	29,738	0	202,588	257,746
Total	253,872	31,289	30,275	141,637	130,999	717,644	95,745	297,574	222,303	28,417	217,672	2,167,426

Source: CFRPM 7

Table 4-14 Delta Trips for HBSH

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	-241	-4	208	-8	-8	-2,082	538	558	773	-5	271	0
Flagler	-36	495	-129	-24	-26	1,869	-54	-193	1,703	-19	-3,586	0
Indian River	-60	-1	140	-3	-3	-41	10	-15	-22	-2	-3	0
Lake	-16	0	-52	-8,194	-778	9,101	-2,596	-27	96	15	2,450	0
Marion	-12	11	-38	-460	995	-5,568	120	1,758	1,104	289	1,801	-1
Orange	63	0	-4	917	0	3,668	3	554	-5,205	-1	6	0
Osceola	34	-2	-9	424	0	-8,364	5,757	1,899	269	-3	-5	0
Polk	-3	-1	-8	727	0	-127	-4,142	3,541	16	-1	-2	0
Seminole	2	-1	-7	3	-150	4,074	22	-1	-4,049	-1	109	0
Sumter	-23	-8	-76	6,526	-25	1,329	313	-8,085	885	-266	-570	0
Volusia	293	-490	-25	92	-6	-3,859	29	12	4,430	-4	-472	0
Total	0	-1	1	0	-1	0	0	0	0	2	-2	-2

Source: CFRPM 7, 2009 NHTS

Table 4-15 Percent of Delta Trips for HBSH

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia
Brevard	0%	-94%	2%	-93%	-100%	-11%	2 340%	1 033%	20%	-100%	3 388%
Flagler	-92%	2%	-100%	-75%	-98%	367%	-65%	-100%	819%	-100%	-27%
Indian River	-24%	-100%	1%	-100%	-100%	-74%	108%	-73%	-99%	-100%	-100%
Lake	-99%	6%	-100%	-7%	-58%	70%	-17%	-34%	113%	2%	487%
Marion	-100%	279%	-100%	-11%	1%	-21%	498%	3 084%	1 780%	13%	20 009%
Orange	6 311%	100%	-99%	100%	100%	1%	111%	46%	-15%	-100%	553%
Osceola	567%	-100%	-43%	100%	100%	-11%	8%	6 330%	841%	-100%	-96%
Polk	-100%	-100%	-88%	209%	100%	-16%	-52%	1%	115%	-100%	-98%
Seminole	83%	-100%	-100%	100%	-100%	11%	557%	-12%	-3%	-100%	5 428%
Sumter	-100%	-100%	-100%	54%	-1%	439%	639%	-35%	714%	-1%	-95%
Volusia	3 253%	-42%	-86%	1 313%	-99%	-14%	151%	29%	18%	-100%	0%

**Red* = Greater than 30%; Green = 10%-30%*

Source: CFRPM 7, 2009 NHTS

Table 4-16 Breakdown of HBSH Flow Matrix Errors

Error	# Cells	% Cells	Obs Trips	% Obs Trips
<= 10%	15	12%	1,812,284	84%
10-30%	16	13%	290,529	13%
> 30%	90	74%	64,615	3%

Source: CFRPM 7, 2009 NHTS

About 85% of the HBSH trips are in cells with an error of less than 10%. Another 13% are in cells between 10-30% different than the observed value. These results generally indicate that the estimated flows are generally consistent with the corresponding observed flows.

4.4.3 County-to-County Flow Comparison for HBSR Trips

The following tables compare the county-to-county flows for HBSR trips between the 2009 NHTS data and the estimated results. Table 4-21 summarizes the number of cells and observed trips by error rate.

Table 4-17 HBSR Trips from NHTS

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	200,126	3	1,798	1,090	16	2,967	2	2	37	21	16	206,078
Flagler	81	27,585	212	127	87	4,156	9	13	207	115	1,308	33,900
Indian River	3,454	1	12,711	7	5	13	0	1	11	6	5	16,214
Lake	13	2	34	99,436	14	14,589	1	433	34	1,961	14	116,531
Marion	415	2	21	6,283	112,185	23	1	100	21	2,901	9	121,961
Orange	5,108	1	11	6	4	401,050	24	1	8,450	6	5	414,666
Osceola	369	70	966	580	399	1,072	90,169	21,979	945	526	405	117,480
Polk	63	12	164	99	68	11,519	669	180,503	18,059	89	69	211,314
Seminole	6	1	17	10	7	32,551	1	1	112,157	9	266	145,026
Sumter	6	1	17	10,361	234	19	1	1	16	36,995	243	47,894
Volusia	3,054	816	28	478	11	12,526	1	2	2,455	15	182,752	202,138
Total	212,695	28,494	15,979	118,477	113,030	480,485	90,878	203,036	142,392	42,644	185,092	1,633,202

Source: 2009 NHTS

Table 4-18 HBSR Trips from CFRPM 7 Estimated Results

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	196,157	94	2,183	311	4	2,953	852	187	1,820	0	1,516	206,077
Flagler	685	25,719	0	567	351	1,618	2	0	1,311	12	3,633	33,899
Indian River	2,531	0	13,286	0	0	214	88	51	25	0	19	16,213
Lake	439	111	0	95,317	12	14,221	1,957	273	2	2,062	2,140	116,533
Marion	5	93	0	4,780	108,533	3,327	125	170	594	3,371	962	121,960
Orange	5,316	84	133	2	1,452	396,016	2	0	8,568	640	2,454	414,665
Osceola	177	3	211	3,489	471	1,108	85,667	22,036	3,146	334	836	117,479
Polk	560	0	95	46	275	13,650	706	178,103	17,384	350	145	211,314
Seminole	1,386	74	24	1,461	189	32,503	440	721	105,767	100	2,361	145,025
Sumter	0	6	0	8,830	358	1	465	1,247	1,039	35,570	379	47,895
Volusia	5,440	2,310	45	3,676	1,387	14,875	574	246	2,734	204	170,646	202,139
Total	212,696	28,493	15,978	118,478	113,032	480,485	90,877	203,035	142,390	42,644	185,091	1,633,199

Source: CFRPM 7

Table 4-19 Delta Trips for HBSR

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	-3,969	91	385	-779	-12	-14	850	185	1,783	-21	1,500	-1
Flagler	604	-1,866	-212	440	264	-2,538	-7	-13	1,104	-103	2,325	-1
Indian River	-923	-1	575	-7	-5	201	88	50	14	-6	14	-1
Lake	426	109	-34	-4,119	-2	-368	1,956	-160	-32	101	2,126	2
Marion	-410	91	-21	-1,503	-3,652	3,304	124	70	573	470	953	-1
Orange	208	83	122	-4	1,448	-5,034	-22	-1	118	634	2,449	-1
Osceola	-192	-67	-755	2,909	72	36	-4,502	57	2,201	-192	431	-1
Polk	497	-12	-69	-53	207	2,131	37	-2,400	-675	261	76	0
Seminole	1,380	73	7	1,451	182	-48	439	720	-6,390	91	2,095	-1
Sumter	-6	5	-17	-1,531	124	-18	464	1,246	1,023	-1,425	136	1
Volusia	2,386	1,494	17	3,198	1,376	2,349	573	244	279	189	-12,106	1
Total	1	-1	-1	1	2	0	-1	-1	-2	0	-1	-3

Source: CFRPM 7, 2009 NHTS

Table 4-20 Percent of Delta Trips for HBSR

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia
Brevard	-2%	3 033%	21%	-71%	-75%	0%	42 488%	9 253%	4 818%	-100%	9 374%
Flagler	746%	-7%	-100%	347%	303%	-61%	-82%	-100%	533%	-90%	178%
Indian River	-27%	-100%	5%	-100%	-100%	1 543%	100%	5 009%	129%	-100%	281%
Lake	3 273%	5 459%	-100%	-4%	-14%	-3%	195 551%	-37%	-93%	5%	15 184%
Marion	-99%	4 529%	-100%	-24%	-3%	14 365%	12 371%	70%	2 726%	16%	10 588%
Orange	4%	8 281%	1 107%	-73%	36 188%	-1%	-90%	-75%	1%	10 571%	48 979%
Osceola	-52%	-96%	-78%	502%	18%	3%	-5%	0%	233%	-36%	106%
Polk	789%	-100%	-42%	-54%	304%	18%	6%	-1%	-4%	293%	111%
Seminole	22 996%	7 299%	41%	14 513%	2 602%	0%	43 874%	71 955%	-6%	1 016%	788%
Sumter	-100%	473%	-100%	-15%	53%	-94%	46 443%	124 632%	6 391%	-4%	56%
Volusia	78%	183%	62%	669%	12 513%	19%	57 336%	12 203%	11%	1 259%	-7%

**Red* = Greater than 30%; Green = 10%-30%*

Source: CFRPM 7, 2009 NHTS

Table 4-21 Breakdown of HBSR Flow Matrix Errors

Error	# Cells	% Cells	Obs Trips	% Obs Trips
<= 10%	21	17%	1,563,074	96%
10-30%	10	8%	51,710	3%
> 30%	90	74%	18,418	1%

Source: CFRPM 7, 2009 NHTS

Over 96% of the HBSR trips are in cells with an error of less than 10%. These results generally indicate that the estimated flows are consistent with the corresponding observed flows.

4.4.4 County-to-County Flow Comparison for HBO Trips

The following tables compare the county-to-county flows for HBO trips between the 2009 NHTS data and the 2015 estimated results. Table 4-26 summarizes the number of cells and observed trips by error rate.

Table 4-22 HBO Trips from NHTS

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	623,318	2	2,722	13	19	18,708	8	7	608	12	8	645,425
Flagler	151	86,176	51	112	159	147	71	63	246	102	13,629	100,907
Indian River	194	20	44,312	143	204	189	91	80	315	130	92	45,770
Lake	42	4	14	286,288	45	33,746	2,110	3,688	69	15,190	20	341,216
Marion	14	1	5	13,464	316,840	14	7	6	24	9,427	7	339,809
Orange	8,172	2	8	4,103	24	1,312,126	748	9	34,589	15	11	1,359,807
Osceola	48	5	16	36	51	82,613	305,729	7,265	10,380	33	23	406,199
Polk	43	4	14	11,482	45	8,594	1,323	622,198	70	29	21	643,823
Seminole	9	1	3	148	1,008	58,266	4	4	393,051	6	4	452,504
Sumter	101	10	34	26,296	17,826	98	47	42	164	84,615	3,337	132,570
Volusia	52	369	17	38	54	12,443	24	21	15,054	35	534,878	562,985
Total	632,144	86,594	47,196	342,123	336,275	1,526,944	310,162	633,383	454,570	109,594	552,030	5,031,015

Source: 2009 NHTS

Table 4-23 HBO Trips from CFRPM 7 Estimated Results

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	619,566	394	1,888	508	5	21,255	0	159	906	0	744	645,426
Flagler	686	84,899	0	898	417	1,431	1	0	1,946	14	10,613	100,906
Indian River	196	0	44,827	0	0	269	300	99	35	0	46	45,771
Lake	360	352	0	288,469	10	31,300	3,988	3,113	388	13,131	106	341,217
Marion	4	180	0	11,467	313,888	3,102	84	106	656	8,226	2,096	339,808
Orange	10,787	185	103	4,537	2,293	1,302,631	1,006	1	36,556	1,707	3	1,359,809
Osceola	3	2	229	20	625	82,086	300,384	11,205	9,313	724	1,609	406,200
Polk	539	0	108	11,721	422	8,654	1,767	616,827	2,684	841	260	643,823
Seminole	0	286	14	53	267	62,903	1,562	666	386,111	229	415	452,505
Sumter	0	3	0	24,445	16,575	18	503	1,109	1,061	84,481	4,376	132,571
Volusia	3	293	28	5	1,773	13,297	567	99	14,916	241	531,763	562,985
Total	632,145	86,595	47,197	342,122	336,276	1,526,945	310,163	633,383	454,571	109,593	552,031	5,031,020

Source: CFRPM 7

Table 4-24 Delta Trips for HBO

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	-3,752	392	-834	495	-14	2,547	-8	152	298	-12	736	1
Flagler	535	-1,277	-51	786	258	1,284	-70	-63	1,700	-88	-3,016	-1
Indian River	2	-20	515	-143	-204	80	209	19	-280	-130	-46	1
Lake	318	348	-14	2,181	-35	-2,446	1,878	-575	319	-2,059	86	1
Marion	-10	179	-5	-1,997	-2,952	3,088	78	100	632	-1,201	2,089	-1
Orange	2,615	183	95	434	2,269	-9,495	258	-8	1,967	1,692	-8	2
Osceola	-45	-3	213	-16	574	-527	-5,345	3,940	-1,067	691	1,586	1
Polk	496	-4	94	239	377	60	444	-5,371	2,614	812	239	0
Seminole	-9	285	11	-95	-741	4,637	1,558	662	-6,940	223	411	1
Sumter	-101	-7	-34	-1,851	-1,251	-80	456	1,067	897	-134	1,039	1
Volusia	-49	-76	11	-33	1,719	854	543	78	-138	206	-3,115	0
Total	1	1	1	-1	1	1	1	0	1	-1	1	5

Source: CFRPM 7, 2009 NHTS

Table 4-25 Percent of Delta Trips for HBO

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia
Brevard	-1%	19 599%	-31%	3 811%	-74%	14%	-100%	2 167%	49%	-100%	9 202%
Flagler	355%	-1%	-100%	702%	162%	874%	-99%	-100%	691%	-87%	-22%
Indian River	1%	-100%	1%	-100%	-100%	42%	230%	23%	-89%	-100%	-50%
Lake	758%	8 704%	-100%	1%	-78%	-7%	89%	-16%	463%	-14%	431%
Marion	-74%	17 851%	-100%	-15%	-1%	22 058%	1 107%	1 667%	2 633%	-13%	29 836%
Orange	32%	9 141%	1 189%	11%	9 456%	-1%	34%	-91%	6%	11 281%	-76%
Osceola	-94%	-61%	1 329%	-45%	1 126%	-1%	-2%	54%	-10%	2 094%	6 897%
Polk	1 154%	-99%	669%	2%	838%	1%	34%	-1%	3 734%	2 800%	1 139%
Seminole	-100%	28 531%	374%	-64%	-73%	8%	38 950%	16 540%	-2%	3 713%	10 265%
Sumter	-100%	-68%	-100%	-7%	-7%	-82%	971%	2 540%	547%	0%	31%
Volusia	-95%	-20%	67%	-87%	3 183%	7%	2 263%	372%	-1%	590%	-1%

**Red* = Greater than 30%; Green = 10%-30%*

Source: CFRPM 7, 2009 NHTS

Table 4-26 Breakdown of HBO Flow Matrix Errors

Error	# Cells	% Cells	Obs Trips	% Obs Trips
<= 10%	23	19%	4,921,014	98%
10-30%	9	7%	78,658	2%
> 30%	89	74%	31,343	1%

Source: CFRPM 7, 2009 NHTS

Over 95% of the HBO trips are in cells with an error of less than 10%. These results generally indicate that the estimated flows are consistent with the corresponding observed flows.

4.4.5 County-to-County Flow Comparison for NHB Trips

The following tables compare the county-to-county flows for NHB trips between the 2009 NHTS data and the estimated results. Table 4-31 summarizes the number of cells and observed trips by error rate.

Table 4-27 NHB Trips from NHTS

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	493,870	1	2,168	26	5	6,871	32	14	6,409	36	5,331	514,763
Flagler	76	61,406	80	162	31	365	198	85	255	218	18,221	81,097
Indian River	1,797	1	39,189	23	4	52	28	12	37	31	10	41,184
Lake	8	1	8	205,615	2,196	68,899	20	896	2,799	14,224	293	294,959
Marion	24	3	25	22,399	271,491	116	63	27	81	9,951	22	304,202
Orange	1,164	0	3	9,169	1	833,497	14,271	595	69,348	7	1,186	929,241
Osceola	8	1	8	16	3	65,981	168,707	2,413	26	22	7	237,192
Polk	512	1	12	23	5	53,572	3,172	485,195	37	32	10	542,571
Seminole	567	0	4	339	2	147,128	10	4	262,919	11	2,646	413,630
Sumter	14	2	15	31,107	2,003	67	36	15	47	57,520	12	90,838
Volusia	2,876	764	12	1,573	5	37,433	29	12	10,338	32	392,475	445,549
Total	500,916	62,180	41,524	270,452	275,746	1,213,981	186,566	489,268	352,296	82,084	420,213	3,895,226

Source: 2009 NHTS

Table 4-28 NHB Trips from CFRPM 7 Estimated Results

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	495,774	0	5,018	0	0	7,476	251	0	4,280	0	1,965	514,764
Flagler	0	61,127	0	1	0	0	0	0	0	0	19,971	81,098
Indian River	4,664	0	36,502	0	0	0	19	0	0	0	0	41,185
Lake	0	37	0	208,412	1,542	62,718	94	2,642	5,589	12,363	1,561	294,958
Marion	0	0	0	21,260	270,732	7	0	0	1	11,644	557	304,201
Orange	139	0	0	8,002	0	842,291	16,650	105	62,050	0	5	929,242
Osceola	15	0	2	59	0	72,091	159,686	5,311	26	0	0	237,191
Polk	0	0	1	3,147	0	48,355	9,859	481,209	0	0	0	542,571
Seminole	7	0	0	120	0	149,245	7	0	263,021	0	1,229	413,629
Sumter	0	0	0	29,085	3,471	202	1	1	0	58,076	0	90,837
Volusia	316	1,016	0	367	1	31,597	0	0	17,327	0	394,924	445,548
Total	500,915	62,181	41,524	270,452	275,745	1,213,982	186,567	489,269	352,295	82,083	420,212	3,895,226

Source: CFRPM 7

Table 4-29 Delta Trips for NHB

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	1,904	-1	2,850	-26	-5	605	219	-14	-2,129	-36	-3,366	1
Flagler	-76	-279	-80	-161	-31	-365	-198	-85	-255	-218	1,750	1
Indian River	2,867	-1	-2,687	-23	-4	-52	-9	-12	-37	-31	-10	1
Lake	-8	36	-8	2,797	-654	-6,181	74	1,746	2,790	-1,861	1,268	-1
Marion	-24	-3	-25	-1,139	-759	-109	-63	-27	-80	1,693	535	-1
Orange	-1,025	0	-3	-1,167	-1	8,794	2,379	-490	-7,298	-7	-1,181	1
Osceola	7	-1	-6	43	-3	6,110	-9,021	2,898	0	-22	-7	-1
Polk	-512	-1	-11	3,124	-5	-5,217	6,687	-3,986	-37	-32	-10	0
Seminole	-560	0	-4	-219	-2	2,117	-3	-4	102	-11	-1,417	-1
Sumter	-14	-2	-15	-2,022	1,468	135	-35	-14	-47	556	-12	-1
Volusia	-2,560	252	-12	-1,206	-4	-5,836	-29	-12	6,989	-32	2,449	-1
Total	-1	1	0	0	-1	1	1	1	-1	-1	-1	0

Source: CFRPM 7, 2009 NHTS

Table 4-30 Percent of Delta Trips for NHB

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia
Brevard	0%	-100%	131%	-100%	-100%	9%	684%	-100%	-33%	-100%	-63%
Flagler	-100%	0%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	10%
Indian River	160%	-100%	-7%	-100%	-100%	-100%	-32%	-100%	-100%	-100%	-100%
Lake	-100%	3 605%	-100%	1%	-30%	-9%	372%	195%	100%	-13%	433%
Marion	-100%	-84%	-100%	-5%	0%	-94%	-100%	-100%	-98%	17%	2 432%
Orange	-88%	100%	-100%	-13%	-100%	1%	17%	-82%	-11%	-100%	-100%
Osceola	84%	-100%	-70%	272%	-100%	9%	-5%	120%	1%	-100%	-100%
Polk	-100%	-100%	-91%	13 582%	-100%	-10%	211%	-1%	-100%	-99%	-100%
Seminole	-99%	100%	-100%	-65%	-100%	1%	-30%	-100%	0%	-100%	-54%
Sumter	-100%	-100%	-100%	-7%	73%	202%	-96%	-90%	-100%	1%	-100%
Volusia	-89%	33%	-100%	-77%	-89%	-16%	-100%	-100%	68%	-100%	1%

**Red* = Greater than 30%; Green = 10%-30%*

Source: CFRPM 7, 2009 NHTS

Table 4-31 Breakdown of NHB Flow Matrix Errors

Error	# Cells	% Cells	Obs Trips	% Obs Trips
<= 10%	20	17%	3,686,088	95%
10-30%	8	7%	156,602	4%
> 30%	93	77%	52,536	1%

Source: CFRPM 7, 2009 NHTS

About 95% of the NHB trips are in cells with an error of less than 10%. These results generally indicate that the estimated flows are consistent with the corresponding observed flows.

4.4.6 County-to-County Flow Comparison for All Five Trip Purposes

The following tables compare the county-to-county flows for all five trip purposes total (HBW, HBSH, HBSR, HBO, and NHB) between the 2015 ACS and 2009 NHTS data and the estimated results. Table 4-36 summarizes the number of cells and observed trips by error rate.

Table 4-32 Trips for All Five Trip Purposes from ACS and NHTS

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	1,896,637	158	16,515	1,263	60	68,939	1,227	251	13,054	74	7,827	2,006,005
Flagler	443	236,730	472	511	333	5,618	421	354	1,337	454	65,002	311,675
Indian River	10,686	23	137,518	176	216	1,939	176	140	549	169	209	151,801
Lake	233	173	108	838,093	4,532	188,150	21,037	5,819	9,178	37,460	3,637	1,108,420
Marion	465	179	89	69,204	974,178	31,366	446	310	787	34,468	1,107	1,112,599
Orange	15,967	70	32	20,642	190	3,663,362	26,888	2,680	186,328	213	3,816	3,920,188
Osceola	1,194	84	1,029	2,585	573	360,308	721,330	34,438	15,609	584	644	1,138,378
Polk	888	18	214	15,625	189	150,005	32,162	1,821,835	19,183	283	343	2,040,745
Seminole	1,264	61	34	1,906	1,201	412,860	960	198	1,097,629	256	8,381	1,524,750
Sumter	170	21	142	90,506	24,342	2,025	253	23,591	713	228,309	4,212	374,284
Volusia	6,837	4,973	86	3,354	181	107,965	305	225	76,869	102	1,548,131	1,749,028
Total	1,934,784	242,490	156,239	1,043,865	1,005,995	4,992,537	805,205	1,889,841	1,421,236	302,372	1,643,309	15,437,873

Source: ACS 2015, 2009 NHTS

Table 4-33 Trips for All Five Trip Purposes from CFRPM 7 Estimated Results

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	1,885,545	626	19,075	873	9	70,708	4,326	959	16,083	0	7,803	2,006,007
Flagler	1,455	232,295	0	1,575	773	5,739	31	0	5,679	27	64,100	311,675
Indian River	13,638	2	136,043	2	0	1,000	679	162	99	0	178	151,802
Lake	837	653	0	823,171	4,296	188,257	22,589	7,515	15,481	35,136	10,489	1,108,423
Marion	10	390	0	64,049	965,235	32,535	437	2,095	2,850	36,933	8,060	1,112,594
Orange	19,333	279	238	22,511	3,780	3,655,334	30,855	2,636	176,743	2,564	5,918	3,920,190
Osceola	2,183	5	483	6,513	1,098	353,796	705,153	48,581	16,864	1,089	2,614	1,138,378
Polk	1,207	0	282	23,343	717	148,295	35,278	1,808,357	21,336	1,480	450	2,040,746
Seminole	2,642	429	38	4,349	458	426,319	3,153	1,406	1,074,765	349	10,841	1,524,749
Sumter	0	9	0	90,978	26,430	5,289	1,424	17,732	3,268	224,323	4,831	374,284
Volusia	7,934	7,804	78	6,502	3,200	105,267	1,283	401	88,069	469	1,528,020	1,749,027
Total	1,934,784	242,492	156,238	1,043,866	1,005,995	4,992,540	805,207	1,889,842	1,421,235	302,371	1,643,305	15,437,874

Source: CFRPM 7

Table 4-34 Delta Trips for All Five Trip Purposes

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	-11,092	468	2,560	-390	-51	1,769	3,099	708	3,029	-74	-24	2
Flagler	1,012	-4,435	-472	1,064	440	121	-390	-354	4,342	-427	-902	0
Indian River	2,952	-21	-1,475	-174	-216	-939	503	22	-450	-169	-31	1
Lake	604	480	-108	-14,922	-236	107	1,552	1,696	6,303	-2,324	6,852	3
Marion	-455	211	-89	-5,155	-8,943	1,169	-9	1,785	2,063	2,465	6,953	-5
Orange	3,366	209	206	1,869	3,590	-8,028	3,967	-44	-9,585	2,351	2,102	2
Osceola	989	-79	-546	3,928	525	-6,512	-16,177	14,143	1,255	505	1,970	0
Polk	319	-18	68	7,718	528	-1,710	3,116	-13,478	2,153	1,197	107	1
Seminole	1,378	368	4	2,443	-743	13,459	2,193	1,208	-22,864	93	2,460	-1
Sumter	-170	-12	-142	472	2,088	3,264	1,171	-5,859	2,555	-3,986	619	0
Volusia	1,097	2,831	-8	3,148	3,019	-2,698	978	176	11,200	367	-20,111	-1
Total	0	2	-1	1	0	3	2	1	-1	-1	-4	1

Source: CFRPM 7, ACS 2015, 2009 NHTS

Table 4-35 Percent of Delta Trips for All Five Trip Purposes

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia
Brevard	-1%	296%	16%	-31%	-85%	3%	253%	282%	23%	-100%	0%
Flagler	228%	-2%	-100%	208%	132%	2%	-93%	-100%	325%	-94%	-1%
Indian River	28%	-93%	-1%	-99%	-100%	-48%	286%	16%	-82%	-100%	-15%
Lake	259%	277%	-100%	-2%	-5%	0%	7%	29%	69%	-6%	188%
Marion	-98%	118%	-100%	-7%	-1%	4%	-2%	576%	262%	7%	628%
Orange	21%	299%	643%	9%	1 890%	0%	15%	-2%	-5%	1 104%	55%
Osceola	83%	-94%	-53%	152%	92%	-2%	-2%	41%	8%	87%	306%
Polk	36%	-100%	32%	49%	280%	-1%	10%	-1%	11%	423%	31%
Seminole	109%	603%	13%	128%	-62%	3%	228%	610%	-2%	37%	29%
Sumter	-100%	-57%	-100%	1%	9%	161%	463%	-25%	358%	-2%	15%
Volusia	16%	57%	-9%	94%	1 668%	-2%	321%	78%	15%	360%	-1%

**Red* = Greater than 30%; Green = 10%-30%*

Source: CFRPM 7, ACS 2015, 2009 NHTS

Table 4-36 Breakdown of Flow Matrix Errors for All Five Trip Purposes

Error	# Cells	% Cells	Obs Trips	% Obs Trips
<= 10%	35	29%	15,101,294	98%
10-30%	15	12%	228,385	1%
> 30%	71	59%	108,194	1%

Source: CFRPM 7, ACS 2015, 2009 NHTS

About 98% of all trips are in cells with an error of less than 10%. These results indicate that the estimated flows are consistent with the corresponding observed flows.

4.4.7 Number of Counties Traveled

The following table compares the number of counties traveled for each trip for all five trip purposes (HBW, HBSH, HBSR, HBO, and NHB) between the 2015 ACS and 2009 NHTS data and the estimated results. This comparison helps gauge whether the model is overstating intra- or inter-county travel. Overstating intra-county travel can result in under-estimated estimates of VMT, while overstating inter-county travel can result in over-estimated VMT estimates.

Table 4-37 Number of Counties Traveled for All Five Trip Purposes

Num Counties Traveled	Observed Trips	Estimated Trips	Delta Trips	% Delta Trips
1	13,163,752	13,038,239	-125,513	-1%
2	1,860,219	1,924,199	63,980	3%
3	400,098	458,123	58,025	15%
4	13,499	17,314	3,815	28%
5	305	0	-305	-100%

Source: CFRPM 7

The estimated number of counties traveled are generally in line with the corresponding observations for all five trip purposes. There is a slight over-estimate of 3- and 4-county trips. The model does not estimate any 5-county trips.

4.4.8 METROPLAN Orlando vs. Outer Regions

The following tables compare the observed and estimated trip distributions between the METROPLAN Orlando MPO region (Orange, Osceola and Seminole Counties) and the other 8 outer counties for all five trip purposes total (HBW, HBSH, HBSR, HBO, and NHB) using the ACS 2015 and 2009 NHTS data and the estimated results. The reason for reviewing this comparison is that METROPLAN Orlando has the largest population and employment in the region (compared to other MPOs) and is the only MPO with more jobs than workers. Therefore, the METROPLAN Orlando area has a significant impact on travel patterns in the region. Over-stating travel to/from the METROPLAN Orlando area would likely result in over-stating VMT.

Table 4-38 Trips Comparison For METROPLAN and Outer Counties

County	Observed Trips*		Estimated Trips**		Delta Trips		% Delta Trips	
	METROPLAN Orlando	Outer Counties	METROPLAN Orlando	Outer Counties	METROPLAN Orlando	Outer Counties	METROPLAN Orlando	Outer Counties
METROPLAN Orlando	6,485,274	98,042	6,442,980	140,337	-42,294	42,295	-1%	43%
Outer Counties	733,704	8,120,853	776,002	8,078,555	42,298	-42,298	6%	-1%

Source: *ACS 2015, 2009 NHTS, **CFRPM 7

The estimated trips distributions within the METROPLAN Orlando MPO and the outer counties are generally consistent with the corresponding observations for all five trip purposes. Travel from the out counties to the METROPLAN Orlando area is over-stated by 6%. The smallest market, trips from METROPLAN Orlando to Outer Counties, is over-estimated by 44%. Overall, the estimated results are consistent with observed values.

4.4.9 Orange vs. Seminole/Osceola vs. Outer Region

Building upon the comparisons in 4.4.8, the following table examine the trip distribution of Orange County, the other two counties in the METROPLAN Orlando MPO region, and the other 8 counties for all five trip purposes total (HBW, HBSH, HBSR, HBO, and NHB) using the ACS 2015 and 2009 NHTS data and the estimated results.

Table 4-39 Observed Trips to Key Areas

County	To Orange	To Seminole/ Osceola	To Outer	Total	% to Orange	% to Seminole/ Osceola	% to Outer
Brevard	68,939	14,281	1,922,785	2,006,005	3%	1%	96%
Flagler	5,618	1,758	304,299	311,675	2%	1%	98%
Indian River	1,939	725	149,137	151,801	1%	0%	98%
Lake	188,150	30,215	890,055	1,108,420	17%	3%	80%
Marion	31,366	1,233	1,080,000	1,112,599	3%	0%	97%
Orange	3,663,362	213,216	43,610	3,920,188	93%	5%	1%
Osceola	360,308	736,939	41,131	1,138,378	32%	65%	4%
Polk	150,005	51,345	1,839,395	2,040,745	7%	3%	90%
Seminole	412,860	1,098,589	13,301	1,524,750	27%	72%	1%
Sumter	2,025	966	371,293	374,284	1%	0%	99%
Volusia	107,965	77,174	1,563,889	1,749,028	6%	4%	89%

County	To Orange	To Seminole/ Osceola	To Outer	Total	% to Orange	% to Seminole/ Osceola	% to Outer
Total	4,992,537	2,226,441	8,218,895	15,437,873	32%	14%	53%

Source: ACS 2015, 2009 NHTS

Table 4-40 Estimated Trips to Key Areas

County	To Orange	To Seminole/ Osceola	To Outer	Total	% to Orange	% to Seminole/ Osceola	% to Outer
Brevard	70,708	20,409	1,914,889	2,006,007	4%	1%	95%
Flagler	5,739	5,711	300,225	311,675	2%	2%	96%
Indian River	1,000	778	150,024	151,802	1%	1%	99%
Lake	188,257	38,069	882,096	1,108,423	17%	3%	80%
Marion	32,535	3,286	1,076,773	1,112,594	3%	0%	97%
Orange	3,655,334	207,597	57,259	3,920,190	93%	5%	1%
Osceola	353,796	722,016	62,566	1,138,378	31%	63%	5%
Polk	148,295	56,614	1,835,837	2,040,746	7%	3%	90%
Seminole	426,319	1,077,918	20,512	1,524,749	28%	71%	1%
Sumter	5,289	4,692	364,303	374,284	1%	1%	97%
Volusia	105,267	89,352	1,554,408	1,749,027	6%	5%	89%
Total	4,992,540	2,226,442	8,218,892	15,437,874	32%	14%	53%

Source: CFRPM 7

Table 4-41 Delta Trips to Key Areas

County	To Orange	To Seminole/ Osceola	To Outer	Total	% to Orange	% to Seminole/ Osceola	% to Outer
Brevard	1,769	6,128	-7,896	2	1%	0%	-1%
Flagler	121	3,953	-4,074	0	0%	1%	-2%
Indian River	-939	53	887	1	0%	1%	1%
Lake	107	7,854	-7,959	3	0%	0%	0%
Marion	1,169	2,053	-3,227	-5	0%	0%	0%
Orange	-8,028	-5,619	13,649	2	0%	0%	0%

County	To Orange	To Seminole/ Osceola	To Outer	Total	% to Orange	% to Seminole/ Osceola	% to Outer
Osceola	-6,512	-14,923	21,435	0	-1%	-2%	1%
Polk	-1,710	5,269	-3,558	1	0%	0%	0%
Seminole	13,459	-20,671	7,211	-1	1%	-1%	0%
Sumter	3,264	3,726	-6,990	0	0%	1%	-2%
Volusia	-2,698	12,178	-9,481	-1	0%	1%	0%
Total	3	1	-3	1	0%	0%	0%

Source: CFRPM 7, ACS 2015, 2009 NHTS

The estimated trips distributions are generally consistent with the corresponding observations for all five trip purposes. No major discrepancies were found in the comparison.

4.4.10 Medium Truck County-to-County Flow

The following table displays the county-to-county flows for medium truck using the estimated results. Medium trucks are defined as a single-unit vehicle with three or four axles. These results are provided for information only since there is no county-to-county truck data available for this study.

Table 4-42 Estimated County-to-County Flows for Medium Truck

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	28,910	0	166	0	0	898	204	0	99	0	260	30,537
Flagler	0	2,260	0	5	0	0	0	0	2	0	915	3,183
Indian River	169	0	164	0	0	0	3	0	0	0	0	336
Lake	0	4	0	18,067	1,251	4,912	463	404	504	2,486	432	28,523
Marion	0	0	0	1,392	25,703	12	0	0	1	1,975	26	29,109
Orange	646	0	0	4,468	4	188,296	12,969	1,352	16,672	54	751	225,212
Osceola	125	0	2	457	0	12,813	15,851	1,910	107	1	0	31,266
Polk	0	0	0	377	0	1,345	1,916	37,318	2	6	0	40,963
Seminole	64	1	0	464	1	16,966	106	2	14,462	0	1,984	34,050
Sumter	0	0	0	2,704	1,781	104	1	8	1	5,315	0	9,915
Volusia	233	857	0	463	18	891	0	0	2,262	0	31,082	35,806
Total	30,146	3,123	332	28,398	28,758	226,236	31,512	40,994	34,112	9,837	35,451	468,899

Source: CFRPM 7

4.4.11 Heavy Truck County-to-County Flow

The following table displays the county-to-county flows for heavy truck using the estimated results. Heavy truck is defined as the truck either with a combination-unit or multiple trailers. These results are provided for information only since there no county-to-county truck data is not available.

Table 4-43 Estimated County-to-County Flows for Heavy Truck

County	Brevard	Flagler	Indian River	Lake	Marion	Orange	Osceola	Polk	Seminole	Sumter	Volusia	Total
Brevard	3,236	7	13	23	6	1,661	262	43	140	4	285	5,680
Flagler	7	85	0	5	6	54	0	0	17	0	197	372
Indian River	13	0	0	0	0	2	0	0	0	0	0	15
Lake	24	5	0	1,407	740	2,586	243	317	325	497	228	6,372
Marion	7	6	0	741	4,154	858	52	58	61	716	136	6,788
Orange	1,655	53	2	2,542	809	36,177	4,026	2,633	4,862	607	2,058	55,424
Osceola	257	0	0	245	49	4,017	1,339	819	263	48	54	7,091
Polk	41	0	0	319	54	2,632	812	5,346	116	68	14	9,402
Seminole	142	17	0	326	59	4,845	260	115	1,408	49	696	7,918
Sumter	5	0	0	499	708	632	49	69	50	444	33	2,491
Volusia	279	196	0	238	134	2,067	53	14	702	33	3,200	6,916
Total	5,665	371	15	6,345	6,720	55,533	7,095	9,414	7,943	2,469	6,901	108,470

Source: CFRPM 7

4.4.12 Internal to External County-to-County Flow

The following table displays the county-to-county flows for Internal to External (IE) trip purpose using CFRPM 7 2015 estimated results. IE attractions were matched with the IE productions from a group of counties near the external station. These results are provided for information only since county-to-county IE data is not available.

Table 4-44 Estimated County-to-County Flows for Internal to External

County	Brevard	Flagler	Indian River	Marion	Osceola	Polk	Sumter	Volusia	Total
Flagler	4,843	7,258	0	4,217	160	0	412	39,314	56,204
Indian River	64,484	0	5,754	0	5,021	8,032	0	3,825	87,116
Marion	12	174	0	70,098	531	679	16,339	3,338	91,171
Osceola	8,800	0	1,114	0	3,669	12,763	14	96	26,457
Polk	1,625	0	47	2,384	15,950	182,330	6,746	2,066	211,147
Sumter	60	4	0	25,187	1,008	8,094	8,371	1,273	43,997
Volusia	166	276	0	950	28	7	154	2,707	4,289
Total	79,989	7,711	6,915	102,835	26,367	211,905	32,037	52,620	520,380

Source: CFRPM 7

4.5 Special Purposes

The methodology of estimating trips for the unique Central Florida attractions dates to the I-Drive transit projects in the mid-1990s. The methodology was originally applied to the Orlando Urban Area Transportation Study (OUATS) model. In CFRPM 7, this methodology is applied to 6 special activity locations: Orange County Convention Center, Disney area, Universal area, Sea World area, Kennedy Space Center (KSC) Visitors Complex, and Port Canaveral (PC). There are three special purposes to these activity areas: visitor-based trips to hotels, resident-based trips to homes and external-based trips to user-specified external stations.

The model interprets production of these trips for special purposes at gate demand (via international attraction trade reports). Attractions of these special trips depend on hotels, homes, or user-specified external stations.

The methodology was originally applied to OUATS and caused the many issues for CFRPM:

- OUATS contained Orange, Osceola and Seminole counties plus parts of Volusia (southwestern portion), Lake (small portion) and Polk (small portion).
- Visitor-based and resident-based trips mostly came from Orange, Osceola and Seminole counties, and very little from other counties.
- With additional counties in CFRPM 7, these patterns become distorted:
    - Visitor-based and resident-based trips are mostly from Orange county, but not as much as before.
    - Meaningful number of trips are from counties some distance away from tourist areas, including Volusia, Polk (entire county), Marion, Brevard, Lake and Sumter.
    - Any hotel room or dwelling unit has equal opportunity to attract special trips regardless of location, which is a key point not included in the original OUATS specification. Too many resident and visitor trips were from outside major tourist areas in METROPLAN Orlando.
    - Methodology was not designed to sufficiently handle KSC and PC trips, since most visitor trips come from I-Drive/tourist areas.

Consequently, the project team adjusted the distribution of special purpose trips by:

- Analyzing 2015 AirSage dataset to identify observed visitor-based, resident-based and external-based shares by county,
- Adjusting the trip generation equations to reflect these shares by county, and
- Updating other factors based on AirSage data to improve directionality.

The following comparisons between the original and adjusted visitor-based, resident-based and external-based shares by county indicate the distributions after adjustment. Since the adjusted shares directly reflect the observed data, these figures are provided for informational purposes only.

Figure 4-2 shows a comparison for Orange County Convention Center between original shares (OCCVISA-O: visitor-based, OCCRESA-O: resident-based, and OCCEXTA-O: external-based) and adjusted shares (OCCVISA-A: visitor-based, OCCRESA-A: resident-based, and OCCEXTA-A: external-based) by county. The adjusted visitor-based and resident-based shares are reasonable with majority share from Orange county and reduced shares from other counties except for resident-based shares from Osceola county. The external-based shares do not need to be adjusted.

Figure 4-2: Orange County Convention Center Trip Shares Comparison

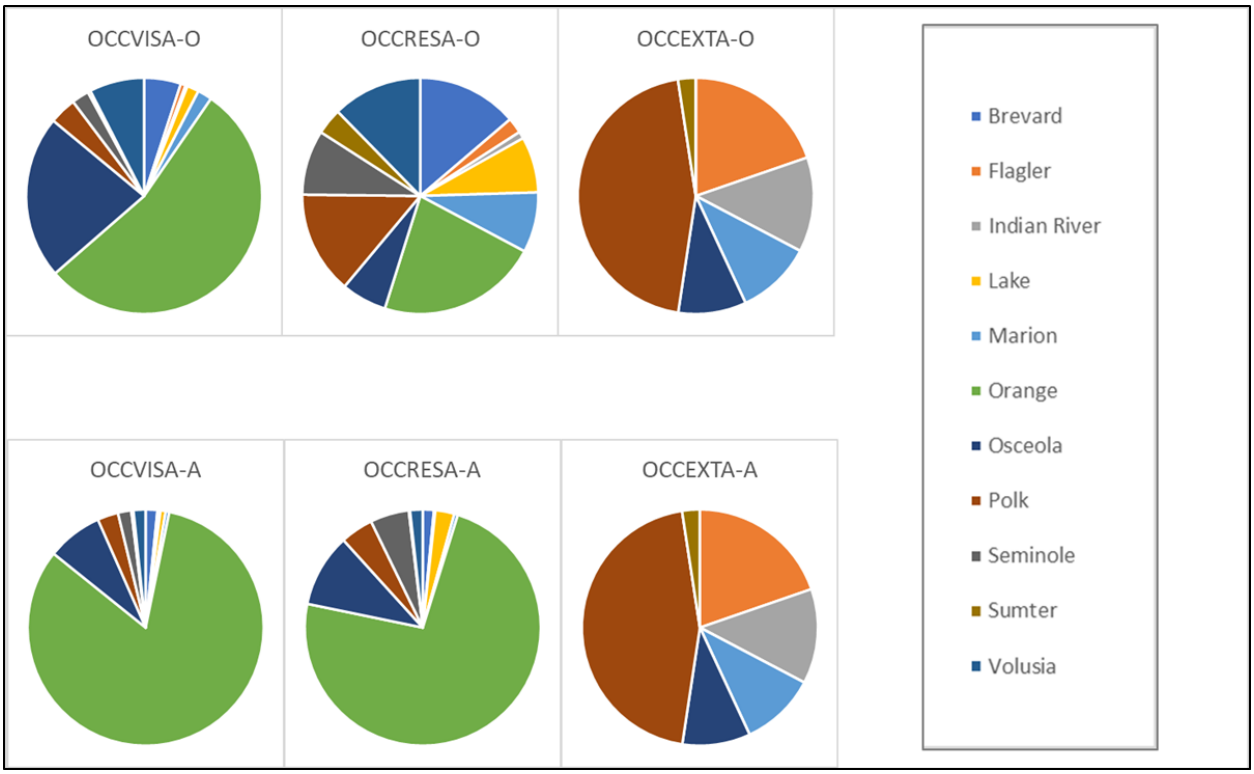


Figure 4-3 shows a similar type of comparison as for Orange County Convention Center by county level for Disney area. Original shares for the Disney area is presented as DISVISA-O: visitor-based, DISRESA-O: resident-based, and DISEXTA-O: external-based and adjusted shares presented as DISVISA-A: visitor-based, DISRESA-A: resident-based, and DISEXTA-A: external-based. The adjusted visitor-based shares are quite similar to the adjusted shares of Orange County Convention Center. Resident-based adjusted shares for Orange county are less than the shares for Orange County Convention Center while the shares for Osceola county are increased. Please note adjusted shares from other counties reduced a handful amount and the external-based shares do not need to be adjusted.

Figure 4-3: Disney Area Trip Shares Comparison

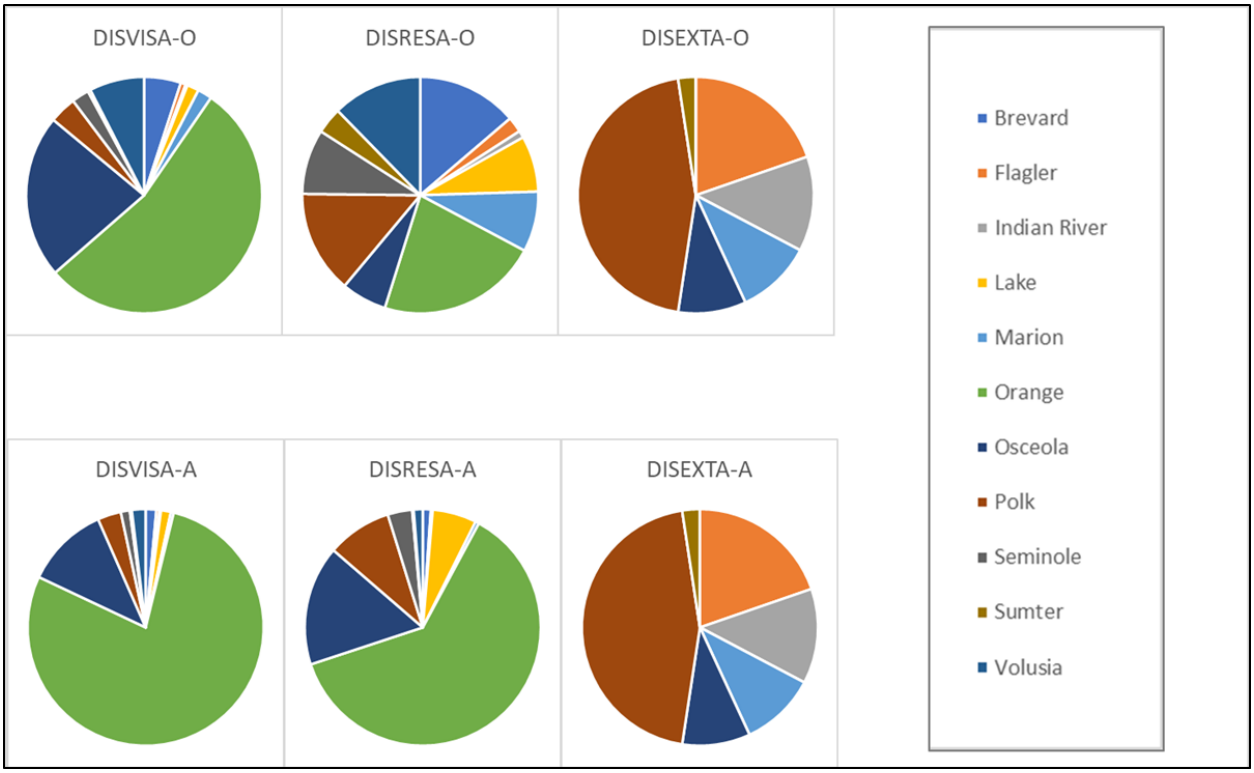


Figure 4-4 captures the comparison of trips in between original shares (O) and adjusted shares (A) by county for Universal Area. The comparison is divided into three categories e.g. VISA: visitor-based, RESA: resident-based, and EXTA-O: external-based. The adjusted visitor-based and resident-based shares are reasonable with majority share from Orange county while reduced shares from other counties except for visitor-based shares from Polk county and resident-based shares from Osceola and Polk county. Please note the external-based shares do not need to be adjusted.

Figure 4-4: Universal Area Trip Shares Comparison

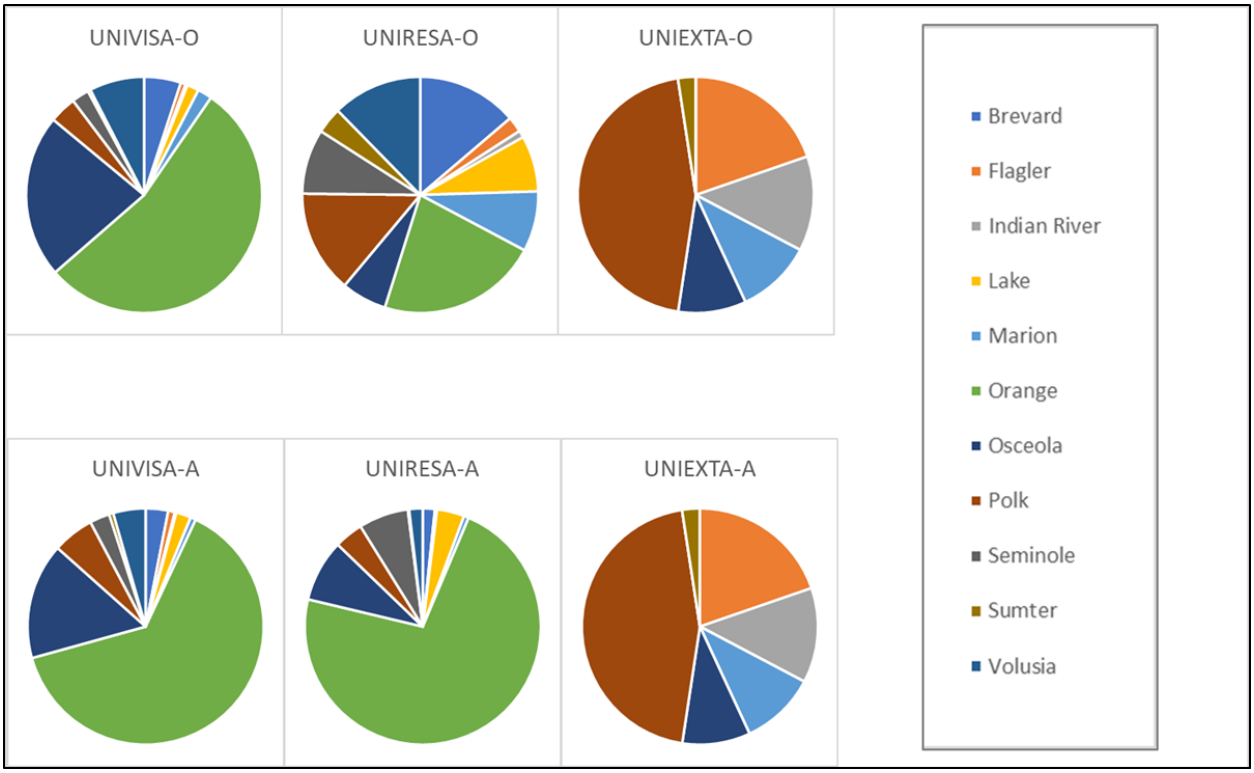


Figure 4-5 shows a comparison for Sea World area between original trip shares and adjusted trip shares and represents quite similar results as trip shares for Orange County Convention Center.

Figure 4-5: Sea World Area Trip Shares Comparison

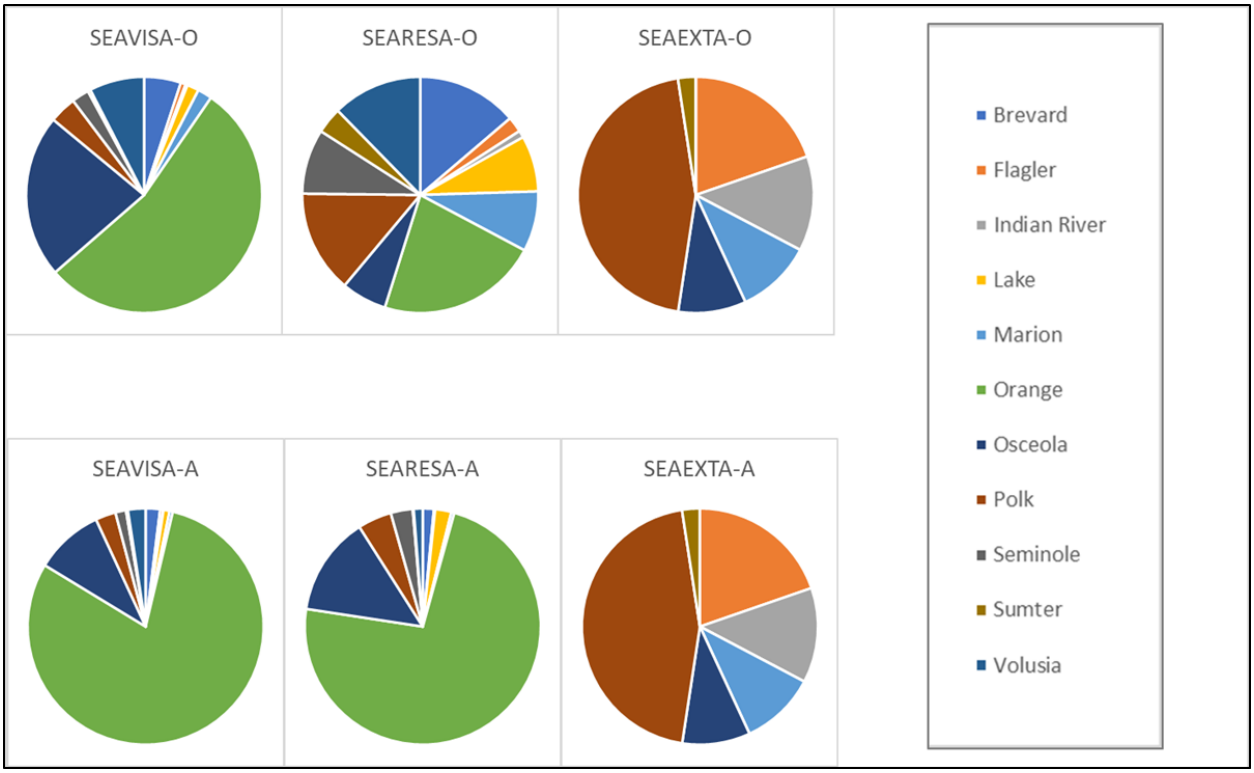
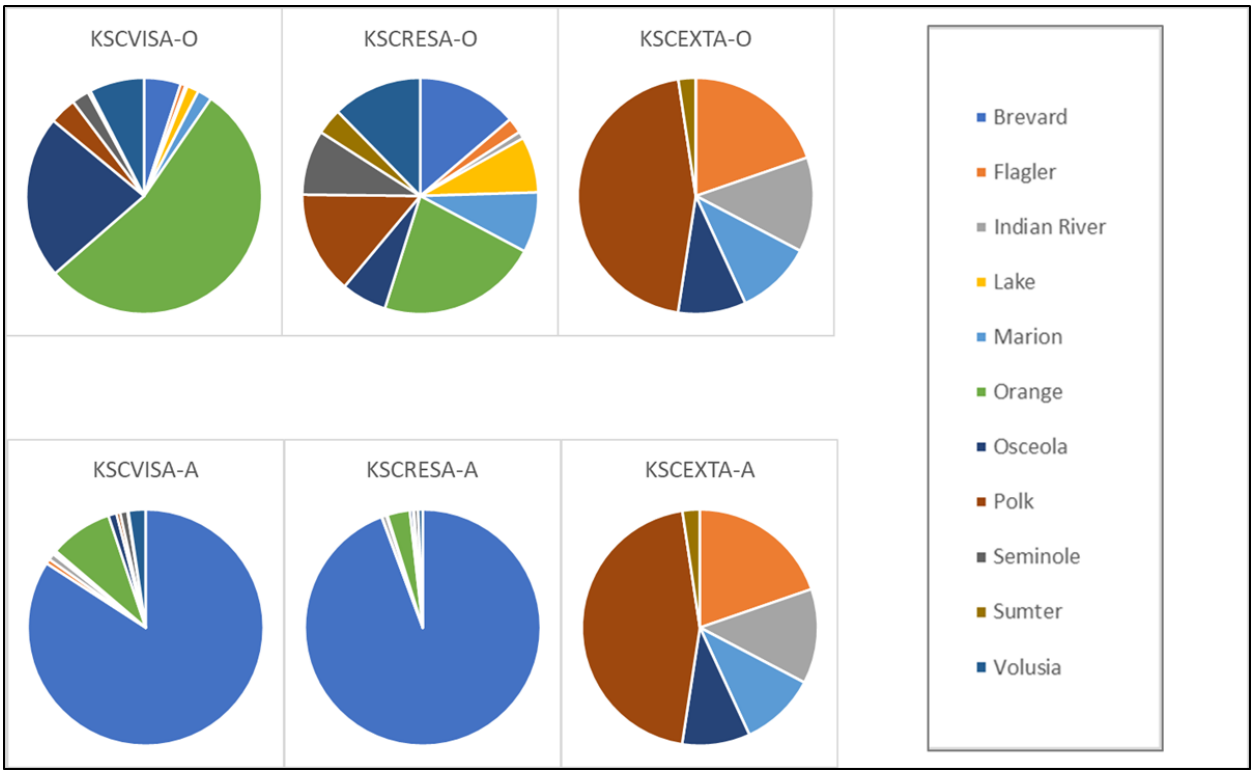


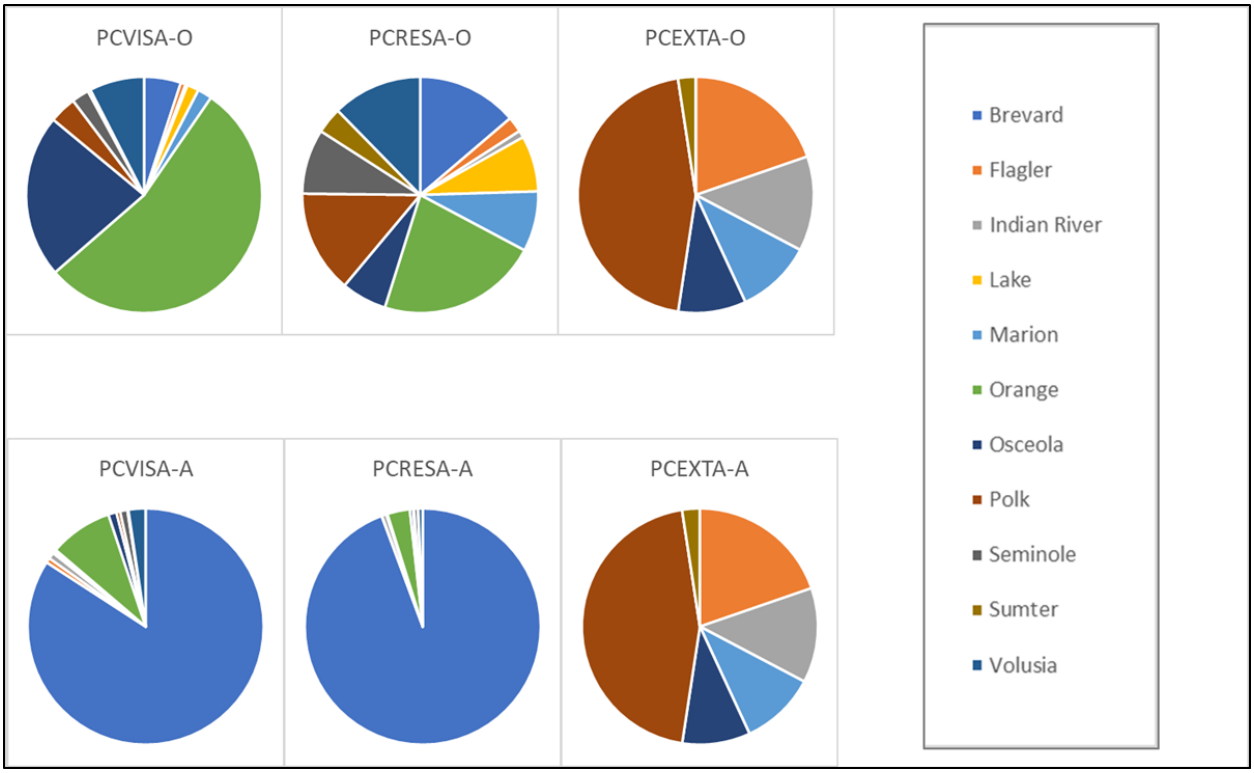
Figure 4-6 shows a comparison for Kennedy Space Center Visitors Complex between original shares (KSCVISA-O: visitor-based, KSCRESA-O: resident-based, and KSCEXTA-O: external-based) and adjusted shares (KSCVISA-A: visitor-based, KSCRESA-A: resident-based, and KSCEXTA-A: external-based). The adjusted visitor-based and resident-based shares are reasonable with majority share from Brevard county and reduced shares from other counties except for visitor-based share from Orange county. Please note the external-based shares do not need to be adjusted.

Figure 4-6: Kennedy Space Center Visitors Complex Trip Shares Comparison



Trip share comparison between original and adjusted shares for Port Canaveral is shown in Figure 4-7 and represents quite similar results as trip shares for Kennedy Space Center Visitors Complex.

Figure 4-7: Port Canaveral Trip Shares Comparison



5 Mode Choice

The mode choice step performs three primary functions. One function is to estimate, separately, the number of regional non-motorized trips, person trips by mode traveling to and from the Orlando International Airport (OIA), and the regional transit trips. (Please note that the estimated regional transit trips occurs in the offline CFRPM STOPS model). A second function is to deduce the non-motorized, OIA and transit trips from the person trip tables computed in the Trip Distribution step. The remaining trips are person auto trips. Finally, the third function converts the person auto trips to vehicle trips for highway assignment.

This chapter compares the estimated values from each of these three functions to observed values.

5.1 Non-Motorized Trips

The project team compared CFRPM non-motorized trip results to observed values in three respects: overall magnitude (expressed in terms of non-motorized share of total trips), trip lengths and demand at specific locations.

Non-motorized trips are computed, for each trip purpose, as a share of all trips using a utility equation based on the trip length as well as the origin and destination land uses. This equation was calibrated to match the corresponding share from the 2017 NHTS data (see Table 5-1). Consequently, the estimated non-motorized shares were compared to the observed values from the 2017 NHTS. The error range for the 2017 NHTS data is ± 22% for a 95% confidence interval. Ranges reflect the margin of error (minimum to maximum) for observed non-motorized trips. The estimated non-motorized shares all reside within the error margins within the NHTS data. This is to be expected because the utility equations were calibrated to produce results within the observed range of values. Please note HBNW trips represents trips made by CFRPM 7 trip purposes HBSC, HBCU, HBSH, HBSR, and HBO.

Table 5-1 Observed and Estimated Non-motorized Shares

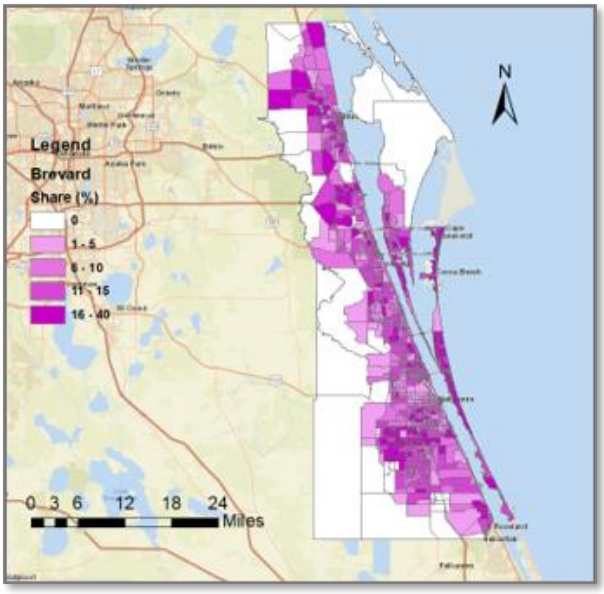
Purpose	NHTS Error Range of Observed Non-Motorized Share of Total Trips	Estimated Non-Motorized Share of Total Trips
HBW	2-3%	3%
HBNW	9-15%	12%
NHB	5-9%	9%
TOTAL	**7-11%**	**9%**

Source: CFRPM 7, 2017 NHTS

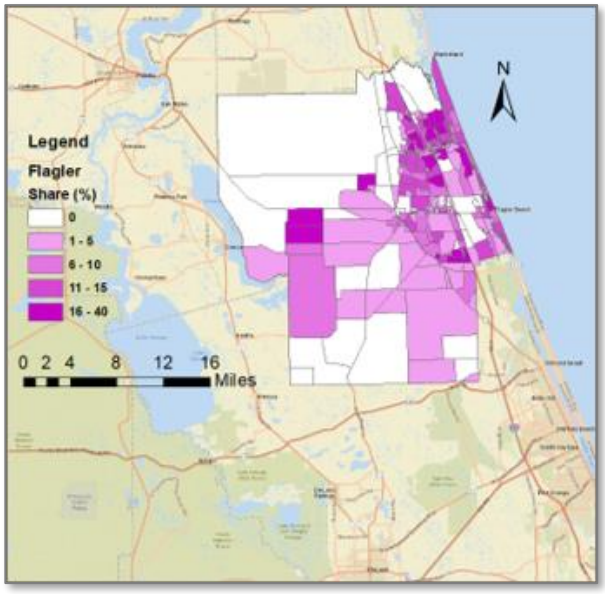
Figure 5-1 illustrates the non-motorized trip shares (visualized using attraction zone share) by zone. The darker colored zones have higher non-motorized trip shares than lighter colored zones. The structure of the utility equation estimates higher shares of non-motorized trips in dense areas such as urban, suburban, and some residential areas. This corresponds with the maps shown in Figure 5-1.

Figure 5-1 Zonal Non-Motorized Shares by County

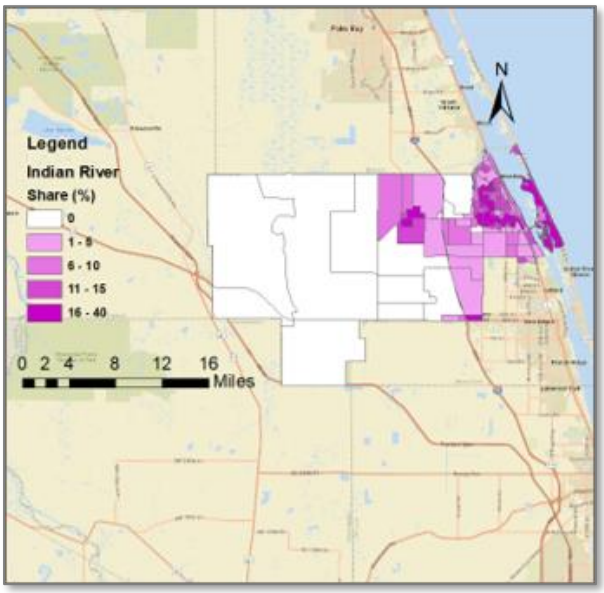
(a) Brevard County



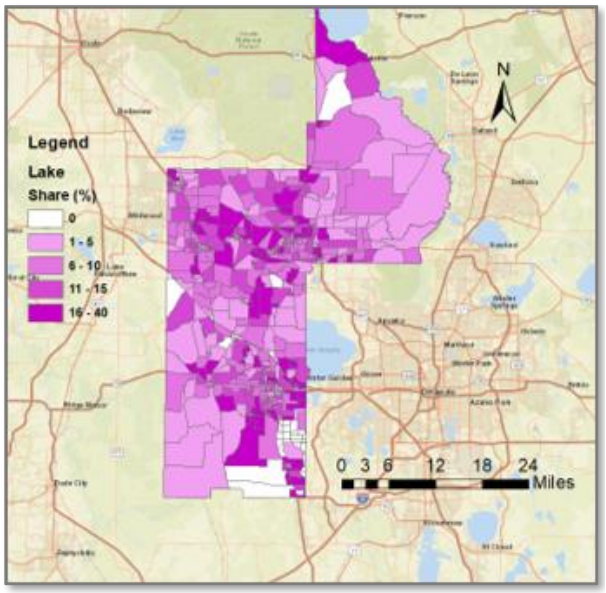
(b) Flager County



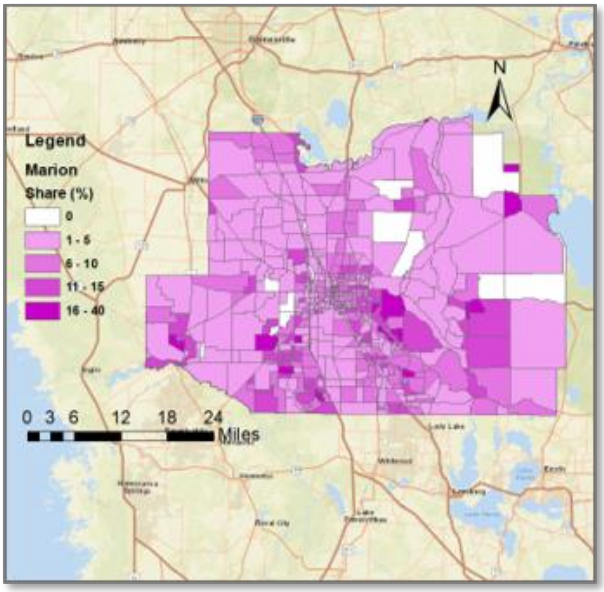
(c) Indian River County



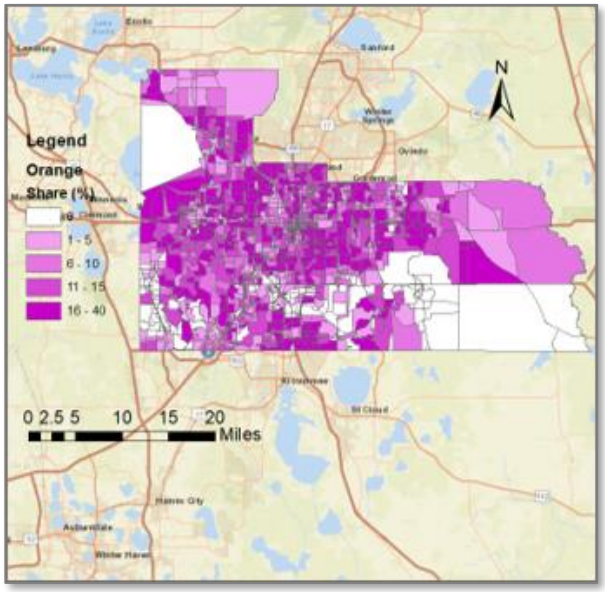
(d) Lake County



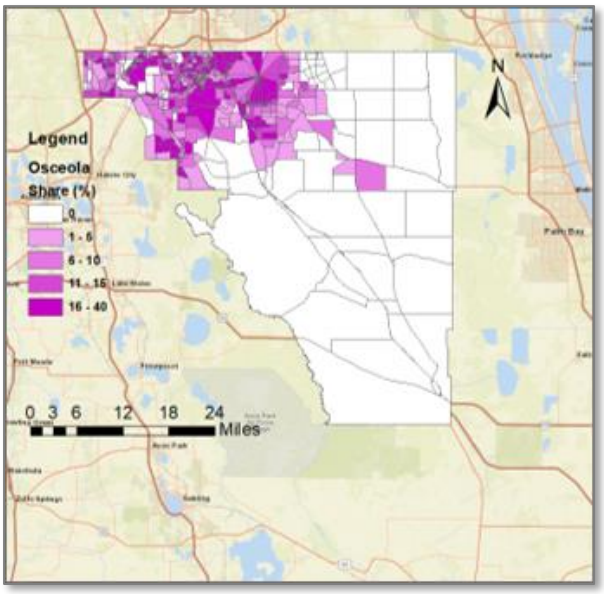
(e) Marion County



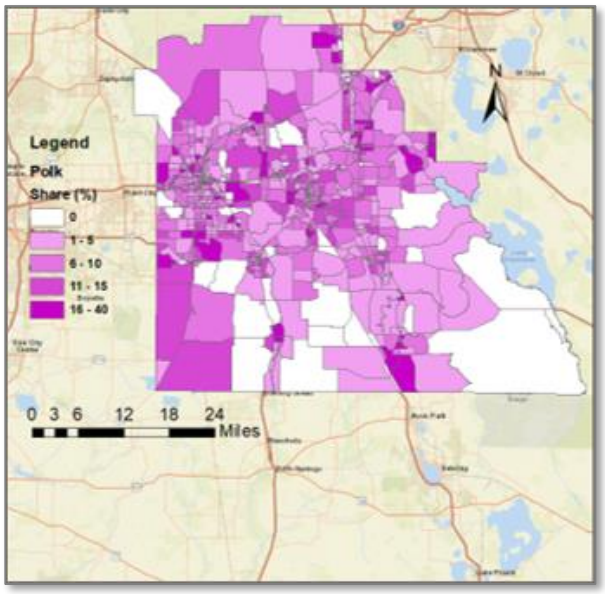
(f) Orange County



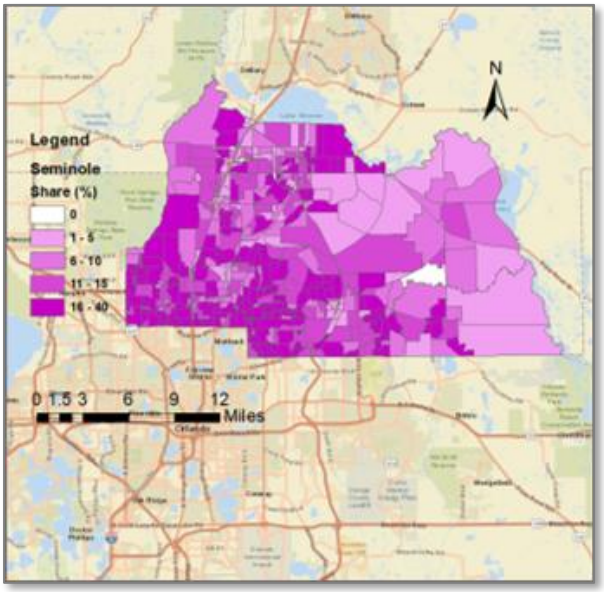
(g) Osceola County



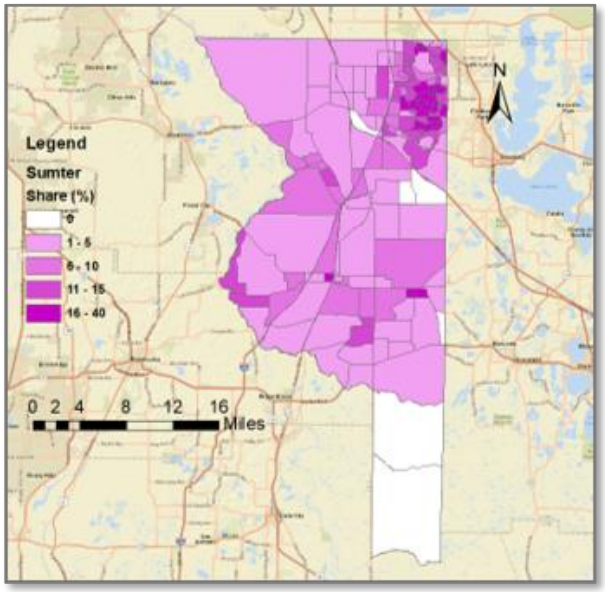
(h) Polk County



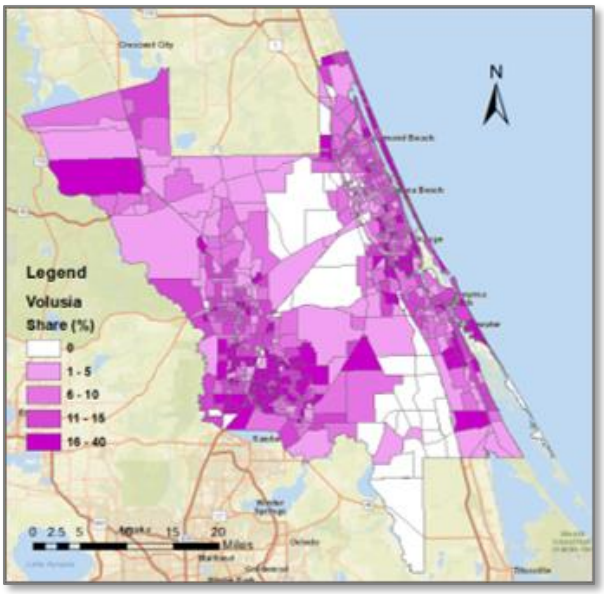
(i) Seminole County



(j) Sumter County



(k) Volusia County



The project team also compared the estimated and observed non-motorized by trip length. Trip lengths were not directly calibrated, so these comparisons can be helpful in assessing the reasonableness of the model estimates. Most non-motorized trips consist of walk and bicycle trips, so their trip length should be shorter than the other trips. Figure 5-2, Figure 5-3, and Figure 5-4 present the trip length for non-motorized trips and total person trips by trip purpose. For all trip purposes, all non-motorized trips are accomplished within four miles, and at least half are between one and three miles. Based on these results, CFRPM non-motorized trip length distributions appear to be reasonable.

Figure 5-2 Percentage of Non-motorized and Total HBW Trip by Distance

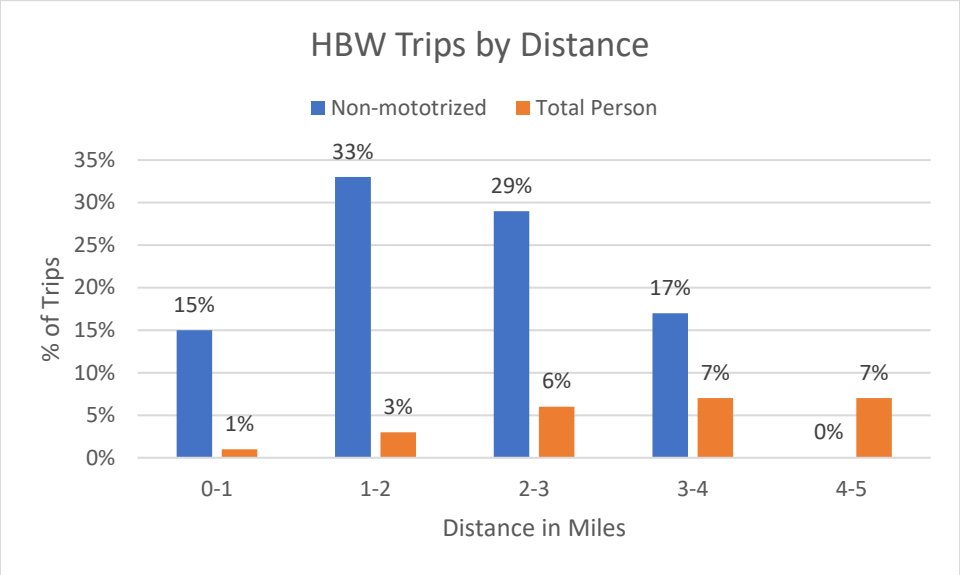


Figure 5-3 Percentage of Non-motorized and Total HBNW Trip by Distance

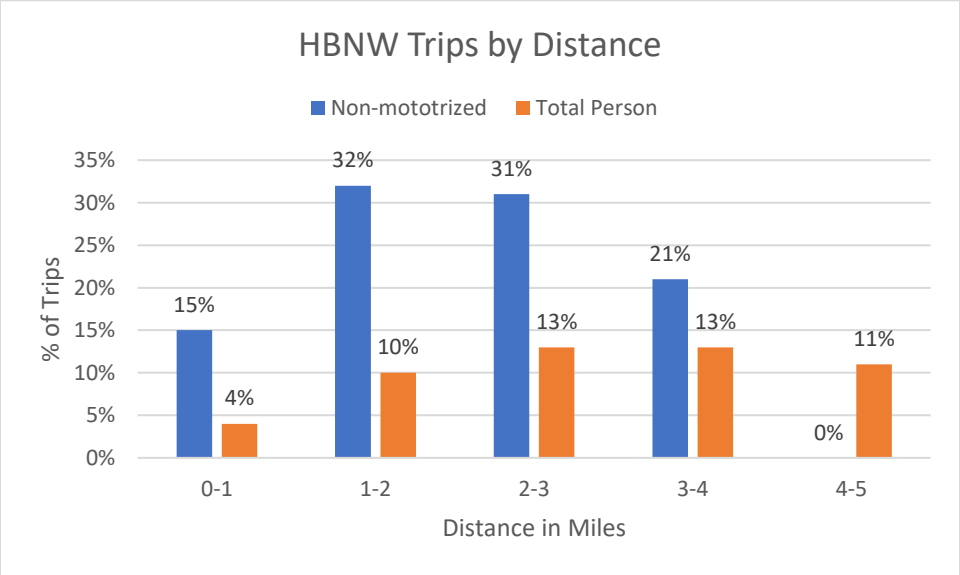
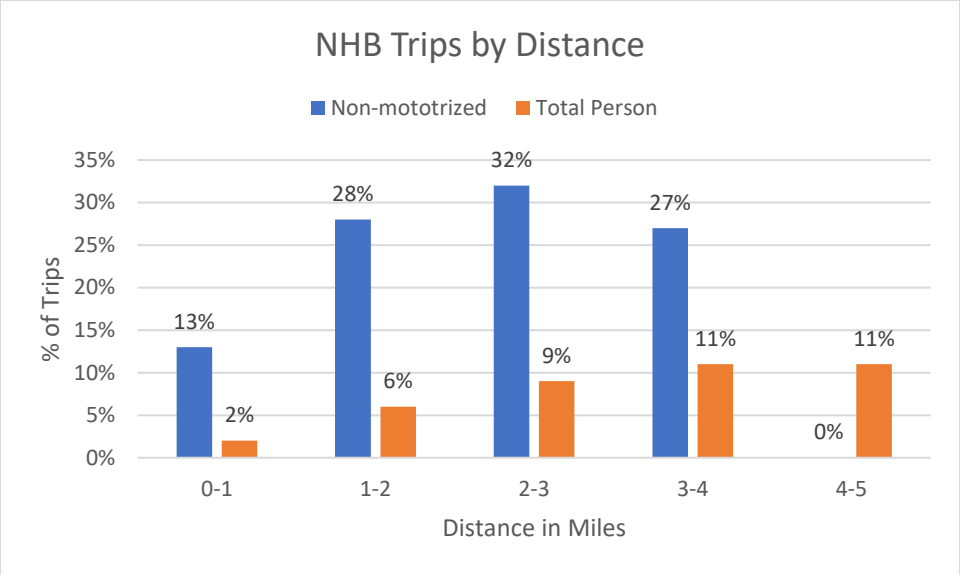


Figure 5-4 Percentage of Non-motorized and Total NHB Trip by Distance



Finally, the project team attempted to compare the estimated non-motorized trips to the bicycle and pedestrian counts recently collected by FDOT District 5. At selected intersections throughout the District, the bicycle/pedestrian count data have daily approach and crossing volumes from each intersection leg. This proved to be challenging because CFRPM estimates non-motorized shares for each zone and does not estimate zone-to-zone flows. These flows would be required to make comparisons to the observed counts.

5.2 Orlando International Airport (OIA) Trips

CFRPM 7 includes separate generation, distribution, and mode choice for the Orlando International Airport (OIA). The 2015 Air Passenger Survey conducted by the Greater Orlando Aviation Authority (GOAA), the agency that operates OIA and supplemental GOAA data, formed the basis of the observed data used to calibrate the generation, distribution, and mode choice models.

The mode choice observed/estimated comparisons are shown in Table 5-2 and

Table 5-3. These are for informational purposes only since the mode choice model was calibrated to produce results nearly identical to the observed values.

Table 5-2 Observed and Estimated Airport Passenger Mode Shares

OBSERVED MODE SHARES									
Mode	Residents, Business - Peak	Residents, Business - Off Peak	Residents, Non-business - Peak	Residents, Non-business - Off Peak	Non-Residents, Business - Peak	Non-Residents, Business - Off Peak	Non-Residents, Non-business - Peak	Non-Residents, Non-business - Off Peak	Total

Onsite Parking	1.10%	1.40%	2.70%	4.10%	0.00%	0.00%	0.00%	0.00%	**9.20%**
Offsite Parking	0.20%	0.70%	1.40%	2.70%	0.00%	0.00%	0.00%	0.00%	**5.00%**
Dropped off	0.90%	2.10%	4.10%	7.90%	0.40%	0.60%	2.40%	3.80%	**22.20%**
Rental Car	0.00%	0.00%	0.00%	0.00%	2.70%	4.30%	9.00%	18.60%	**34.60%**
DME	0.00%	0.00%	0.00%	0.00%	0.20%	0.40%	5.00%	6.50%	**12.10%**
Taxi	0.30%	0.40%	0.80%	1.30%	1.40%	3.20%	2.80%	5.20%	**15.40%**
Walk access-local bus	0.10%	0.10%	0.10%	0.20%	0.10%	0.20%	0.20%	0.50%	**1.40%**
Walk access-premium transit	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Auto access-local bus	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Auto access-premium transit	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Transit sub-total	0.10%	0.10%	0.10%	0.20%	0.10%	0.20%	0.20%	0.50%	**1.40%**
Total	**2.60%**	**4.70%**	**9.10%**	**16.20%**	**4.80%**	**8.50%**	**19.50%**	**34.60%**	**100.00%**
ESTIMATED MODE SHARES									
Mode	**Residents, Business - Peak**	**Residents, Business - Off Peak**	**Residents, Non-business - Peak**	**Residents, Non-business - Off Peak**	**Non-Residents, Business - Peak**	**Non-Residents, Business - Off Peak**	**Non-Residents, Non-business - Peak**	**Non-Residents, Non-business - Off Peak**	**Total**
Onsite Parking	1.00%	1.40%	2.60%	4.10%	0.00%	0.00%	0.00%	0.00%	**9.20%**
Offsite Parking	0.30%	0.70%	1.40%	2.70%	0.00%	0.00%	0.00%	0.00%	**5.10%**
Dropped off	0.90%	2.00%	4.10%	8.00%	0.40%	0.50%	2.40%	3.90%	**22.30%**
Rental Car	0.00%	0.00%	0.00%	0.00%	2.70%	4.30%	9.00%	18.60%	**34.60%**
DME	0.00%	0.00%	0.00%	0.00%	0.30%	0.40%	5.00%	6.40%	**12.10%**
Taxi	0.20%	0.40%	0.90%	1.20%	1.40%	3.20%	2.80%	5.10%	**15.30%**
Walk access-local bus	0.10%	0.10%	0.10%	0.20%	0.10%	0.20%	0.20%	0.50%	**1.40%**
Walk access-premium transit	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Auto access-local bus	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Auto access-premium transit	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Transit sub-total	0.10%	0.10%	0.10%	0.20%	0.10%	0.20%	0.20%	0.50%	**1.50%**
Total	**2.60%**	**4.70%**	**9.10%**	**16.20%**	**4.80%**	**8.50%**	**19.50%**	**34.60%**	**100.00%**

Table 5-3 Difference between Observed and Estimated Shares

PERCENT DIFFERENCE (ESTIMATED - OBSERVED)									
Mode	**Residents, Business - Peak**	**Residents, Business - Off Peak**	**Residents, Non-business - Peak**	**Residents, Non-business - Off Peak**	**Non-Residents, Business - Peak**	**Non-Residents, Business - Off Peak**	**Non-Residents, Non-business - Peak**	**Non-Residents, Non-business - Off Peak**	**Total**
Onsite Parking	-0.01%	0.05%	-0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	**0.01%**
Offsite Parking	0.07%	-0.01%	-0.06%	0.03%	0.00%	0.00%	0.00%	0.00%	**0.03%**
Dropped off	0.02%	-0.07%	0.04%	0.01%	0.01%	-0.02%	0.01%	0.07%	**0.07%**
Rental Car	0.00%	0.00%	0.00%	0.00%	-0.02%	-0.01%	-0.01%	0.02%	**-0.02%**
DME	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	-0.01%	-0.03%	**0.00%**
Taxi	-0.09%	0.04%	0.05%	-0.08%	-0.02%	-0.02%	0.01%	-0.06%	**-0.15%**
Walk access-local bus	-0.01%	-0.01%	-0.02%	0.00%	0.01%	0.02%	0.01%	0.00%	**0.00%**
Walk access-premium transit	0.01%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Auto access-local bus	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	-0.01%	**0.00%**
Auto access-premium transit	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Transit sub-total	0.00%	0.00%	0.00%	0.02%	0.01%	0.01%	0.01%	0.00%	**0.05%**
Total	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Source: 2015 Air Passenger Survey

5.3 Transit Trips

The project team validated transit trips by linked trips, boardings by agency and transfer rates. CFRPM STOPS model, an offline process using FTA's STOPS model, estimates all aspects of transit demand. The results of the STOPS model are compared to observed values in this section.

Linked trips represent the complete journey from origin to destination. Unlinked trips, as called boardings, begin when a rider boards a transit vehicle and ends when the rider alights the same transit vehicle. Unlinked trips are always equal to or greater than the number of linked trips. For any rider's journey, the difference in unlinked and linked trips are transfers. A journey with no transfers produces one linked and one unlinked trip. A journey with two transfers produces one linked and three unlinked trips.

For each agency, the observed unlinked and linked transit trips were taken from locally collected on-board surveys (if available) or imputed from nearby on-board surveys. On-board surveys were available from LYNX, SunRail, LakeXpress and the western portion of VOTRAN. The fieldwork for these surveys was conducted in 2017.

For each of the other agencies, including the remaining portion of VOTRAN, their National Transit Database (NTD) Agency Profile provided the average weekday unlinked trips for 2015 for fixed-route service. Citrus Connection and SunTran provided their most recent ridership (unlinked trip) information, which was used instead of the NTD data. Linked trips by trip purpose and auto ownership were then imputed using the available on-board survey information from LakeXpress, since it serves areas similar to areas served by SCAT, CitrusConnection, and SunTran and their rider characteristics are likely to be similar as well.

5.3.1 Linked Transit Trips

Table 5-4 compares the observed and estimated linked trips from STOPS, and Table 5-5 presents the difference between them. This is for informational purposes only since the STOPS model was calibrated to the linked trips. The differences between the total observed and estimated linked minor – defined as less than 10% or 500 trips – by trip purpose and access mode. Please note HBNW represents trips made by CFRPM 7 HBSH, HBSR and HBO trip purposes.

Table 5-4 Observed and Estimated Linked Trips

Access Mode	Observed				Estimated			
	HBW	HBNW	NHB	Total	HBW	HBNW	NHB	Total
Walk	36,251	31,463	10,403	78,117	37,079	30,805	10,836	78,720
KNR	1,729	1,347	471	3,547	1,713	1,106	422	3,241
PNR	1,069	567	168	1,804	1,579	203	85	1,867
Total	**39,049**	**33,377**	**11,042**	**83,468**	**40,371**	**32,114**	**11,343**	**83,828**

Source: CFRPM 7, County Transit Agency

Table 5-5 Delta Linked Trips (Estimated-Observed)

	Delta (Estimated - Observed)	% Delta (Delta / Observed)

Access Mode	HBW	HBNW	NHB	Total	HBW	HBNW	NHB	Total
Walk	828	-658	433	603	2%	-2%	4%	1%
KNR	-16	-241	-49	-306	-1%	-18%	-10%	-9%
PNR	510	-364	-83	63	48%	-64%	-49%	3%
Total	**1,322**	**-1,263**	**301**	**360**	**3%**	**-4%**	**3%**	**0%**

Source: CFRPM 7, County Transit Agency

5.3.2 Boardings by Agency

The project team compared the boardings by access mode by the transit agency to verify the STOPS results. The observed and estimated boardings are compared in Table 5-6 through Table 5-12. Boardings are not precisely calibrated in STOPS, so this comparison is helpful in assessing the STOPS model's understanding of each county's transit demand.

The public transit agencies that operate in the region include:

- LYNX (Orange, Seminole, Osceola and limited service in Polk Counties),
- SunRail commuter rail (Volusia, Seminole, Orange, Osceola Counties),
- Votran (Volusia County),
- LakeXpress (Lake County),
- Space Coast Area Transit (SCAT) (Brevard County),
- CitrusConnection (Polk County) and
- SunTran (Marion County).

The private I-Ride trolley provides bus transportation along the I-Drive resort area and is extensively used by tourists. The "Synthetic" STOPS mode is designed to reflect transit travel patterns of residents only, so the I-Ride Trolley is not included in this model

For each agency, total estimated trips are within ± 5% of the observed trips for each agency. The differences by access mode are very minor (within 10% or 500 trips). PNR boardings show a high percentage of delta compared to other access modes. However, this has a slight impact on the model validity since this is the least-used access mode in the region.

Table 5-6 LYNX Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	87,468	86,168	(1,300)	-1%
KNR	3,180	2,675	(505)	-16%
PNR	949	1,141	192	20%
Total	**91,597**	**89,984**	**(1,613)**	**-2%**

Source: CFRPM 7, County Transit Agency

Table 5-7 SunRail Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	1,009	1,198	189	19%
KNR	740	881	141	19%
PNR	1,498	1,166	(332)	-22%
Total	**3,247**	**3,245**	**(2)**	**0%**

Source: CFRPM 7, County Transit Agency

Table 5-8 Votran Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	3,809	3,665	(144)	-4%
KNR	190	142	(48)	-25%
PNR	15	17	2	13%
Total	**4,014**	**3,824**	**(190)**	**-5%**

Source: CFRPM 7, County Transit Agency

Table 5-9 LakeXpress Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	1,437	1,374	(63)	-4%
KNR	71	65	(6)	-8%
PNR	6	27	21	350%
Total	**1,514**	**1,466**	**(48)**	**-3%**

Source: CFRPM 7, County Transit Agency

Table 5-10 SCAT Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	7,773	7,871	98	1%
KNR	387	273	(114)	-29%
PNR	32	43	11	34%
Total	**8,192**	**8,187**	**(5)**	**0%**

Source: CFRPM 7, County Transit Agency

Table 5-11 SunTran Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	1,522	1,478	(44)	-3%
KNR	80	100	20	25%
PNR	-	-	-	-
Total	**1,602**	**1,578**	**(24)**	**-1%**

Source: CFRPM 7, County Transit Agency

Table 5-12 CitrusConnection Boardings by Access Mode

Access Mode	Observed	Estimated	Delta	% Delta
Walk	5,152	4,901	(251)	-5%
KNR	256	241	(15)	-6%
PNR	21	44	23	110%
Total	**5,429**	**5,186**	**(243)**	**-4%**

Source: CFRPM 7, County Transit Agency

5.3.3 Transfer Rate

Transfers are the difference between unlinked and linked trips. The transfer rates are calculated using the following equation:

$$Transfer\ Rate = \frac{Unlinked\ Trips}{Linked\ Trips} - 1$$

Transfers are an important characteristic in transit demand since a meaningful percentage of riders transfer within the transit system. Transfers are not precisely calibrated in STOPS, so this comparison is helpful in assessing the STOPS model's understanding of each county's transit demand.

There is an only 3% difference between the observed and estimated regional transfer rate, as seen in Table 5-13, indicating that the transit model understands the transferring activity of Central Florida transfer riders at a regional level.

Table 5-13 Transfer Rate

	Linked Trips	Unlinked Trips	Transfer Rate
Observed	83,466	115,595	38%
Estimated	83,912	113,483	35%

Source: CFRPM 7, County Transit Agency

5.4 Auto Occupancy Rates

CFRPM 7 uses average auto occupancy rates to convert auto person trips to vehicle trips. It uses one occupancy rate for each trip purpose. To assess its reasonableness, we make three rate comparisons in Table 5-14: one for "all auto trips", one that reflects only SR 2 auto trips, and another that reflects only SR 3+ auto trips. These three comparisons help ensure that CFRPM is producing a reasonable balance of drive alone and higher-occupancy vehicle trips. Overall, the all auto occupancy rate is in the 95% confidence interval of the rate – (1.24, 1.44) – derived from the 2017 NHTS data for the Orlando-Kissimmee-Sanford area[10].

Table 5-14 CFRPM 7 Average Auto Occupancy Rates

Occupancy	HBW	HBNW*	NHB	Total
All Auto Trips	1.12	1.51	1.35	1.39
SR 2*	2.22	2.36	2.37	2.35
SR 3+**	3.20	3.45	3.30	3.40

* Shared-Ride (SR) 2: two or more people in a vehicle while driving
* Shared-Ride (SR) 3+: three or more people in a vehicle while driving
* HBNW = HBSH + HBSR + HBSC + HBCU + HBO
Source: CFRPM 7

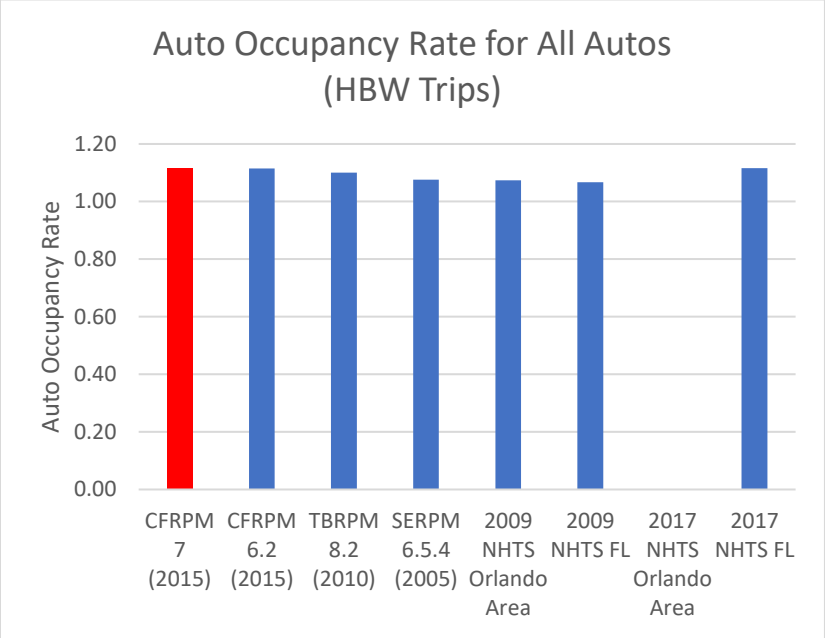
Further comparisons were made with other Florida models and NHTS data (see Figure 5-5). CFRPM 7 auto occupancy rates were compared to the corresponding rates from other trip-based models CFRPM 6.2, TBRPM 8.2, SERPM 6.5.4 as well as 2009 and 2017 NHTS data. Please note 2017 NHTS HBW data for Orlando area is insufficient to estimate.

CFRPM 7 average auto occupancy rates are consistent with rates from other models or NHTS data sources. These high-level comparisons show that CFRPM 7 uses the reasonable average auto occupancy rates.

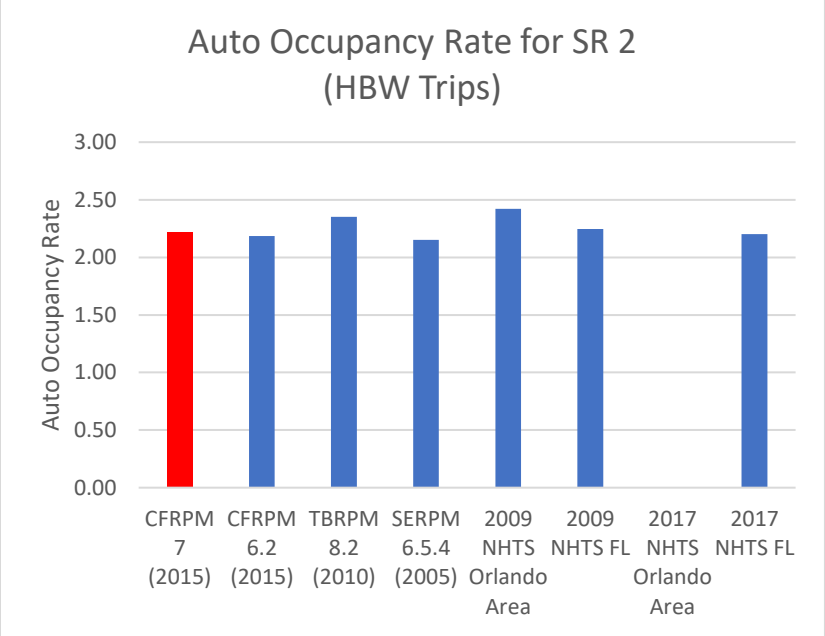
[10] NHTS table Designer (https://nhts.ornl.gov/), Federal Highway Administration, 2017 NHTS

Figure 5-5 Comparison of Auto Occupancy Rate

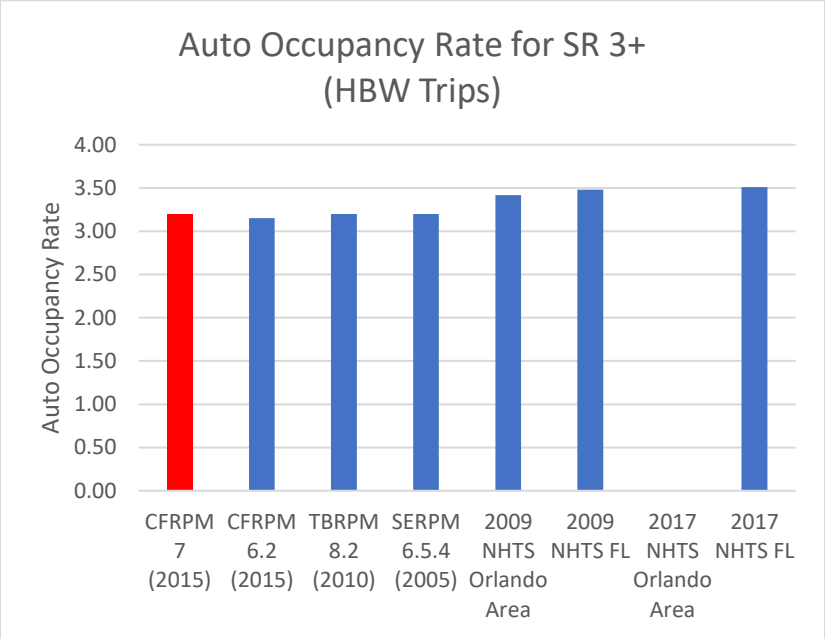
(a) Auto occupancy rate for HBW trips: all auto trips



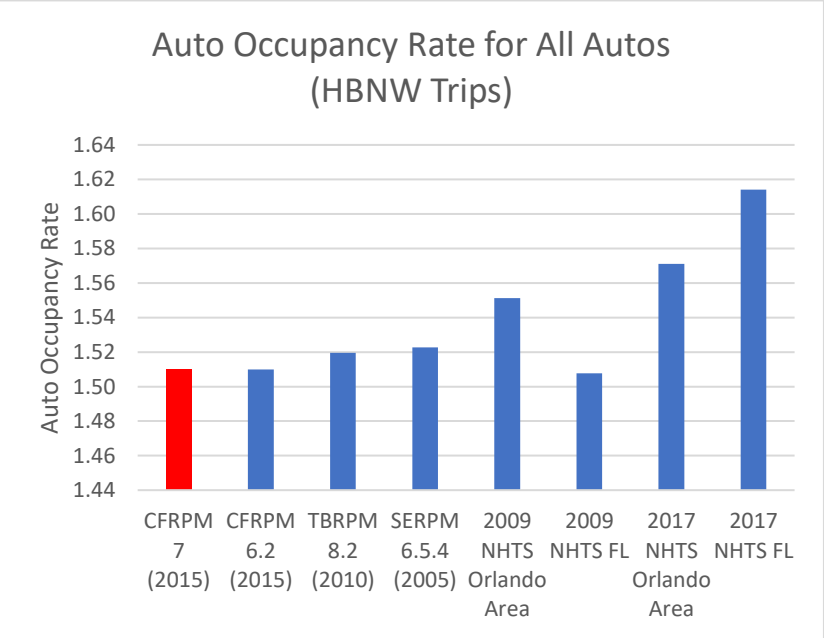
(b) Auto occupancy rate for HBW trips: SR 2



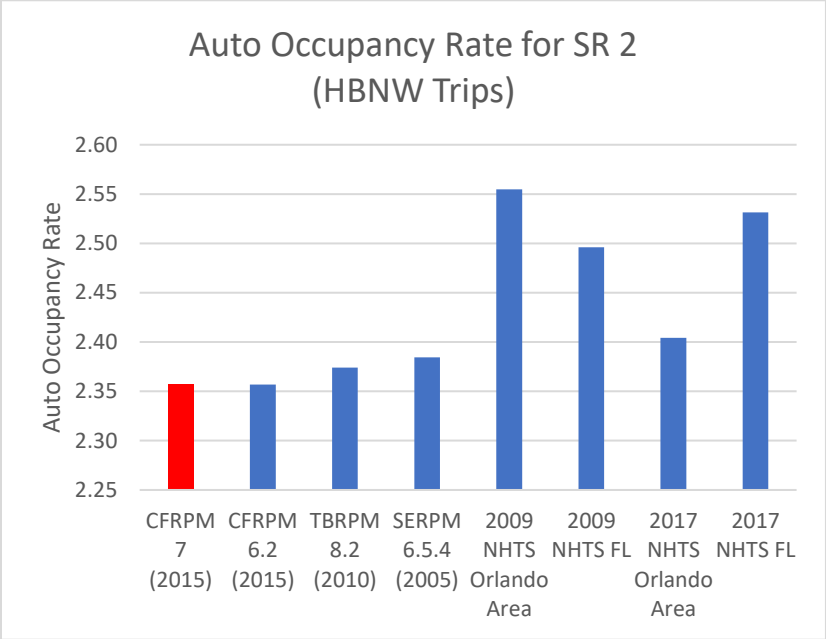
(c) Auto occupancy rate for HBW trips: SR 3+



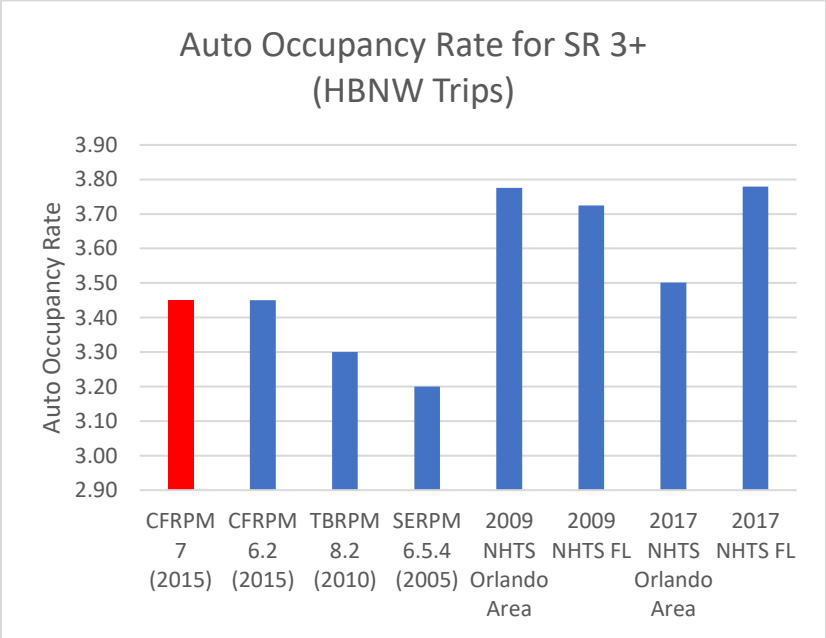
(d) Auto occupancy rate for HBNW trips: all auto trips



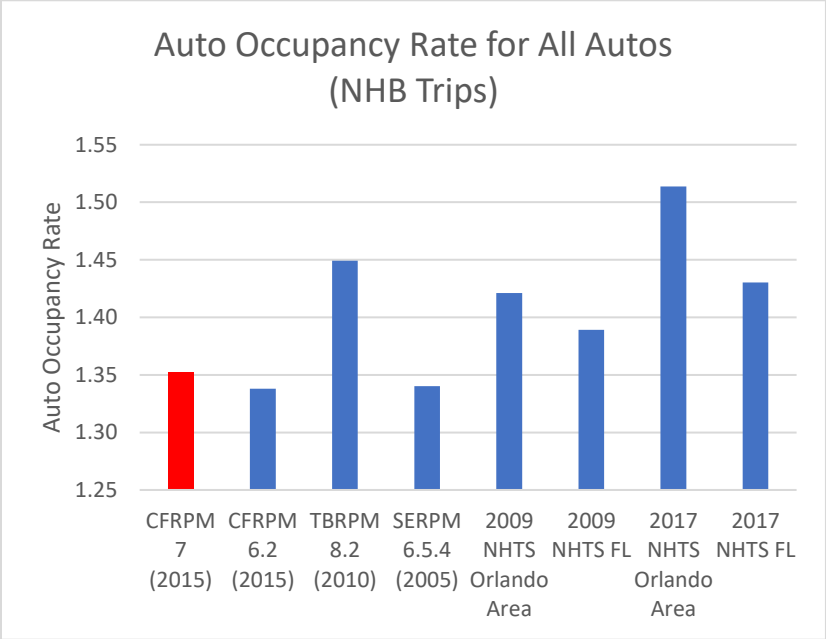
(e) Auto occupancy rate for HBNW trips: SR 2



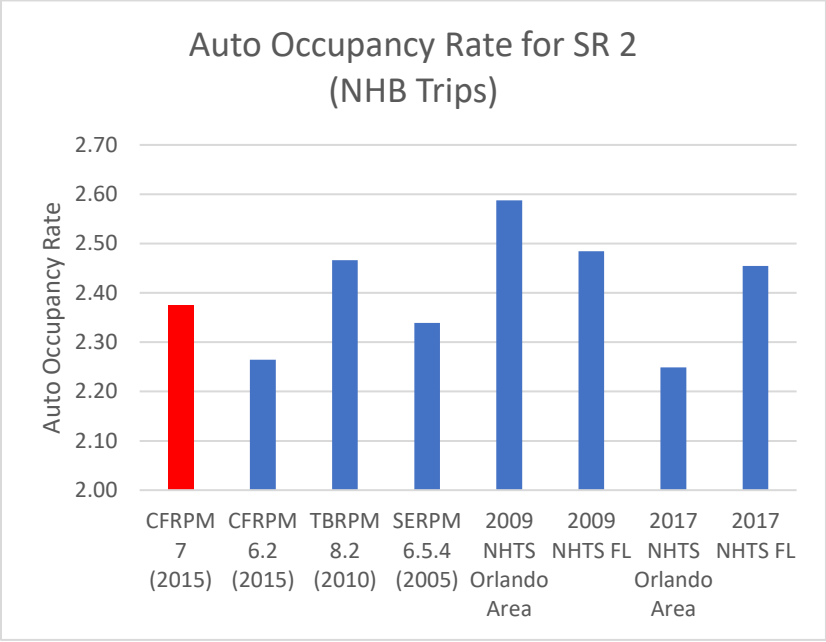
(f) Auto occupancy rate for HBNW trips: SR 3+



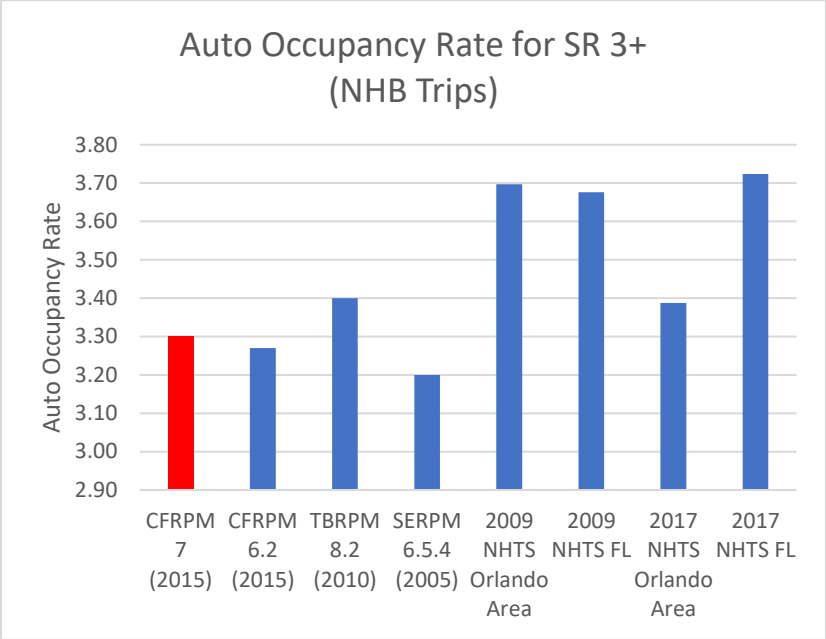
(g) Auto occupancy rate for NHB trips: all auto trips



(h) Auto occupancy rate for NHB trips: SR 2



(i) Auto occupancy rate for NHB trips: SR 3+



Another comparison analyzed CFRPM 7's percentages of drive alone, SR 2 and SR 3+ trips (see Table 5-15) with those from other Florida models and the NHTS data (see Figure 5-6). Please note 2017 NHTS HBW data for SR3+ for Orlando area is insufficient to estimate.

Table 5-15 CFRPM 7 Person Trips by Auto Occupancy and Trip Purpose

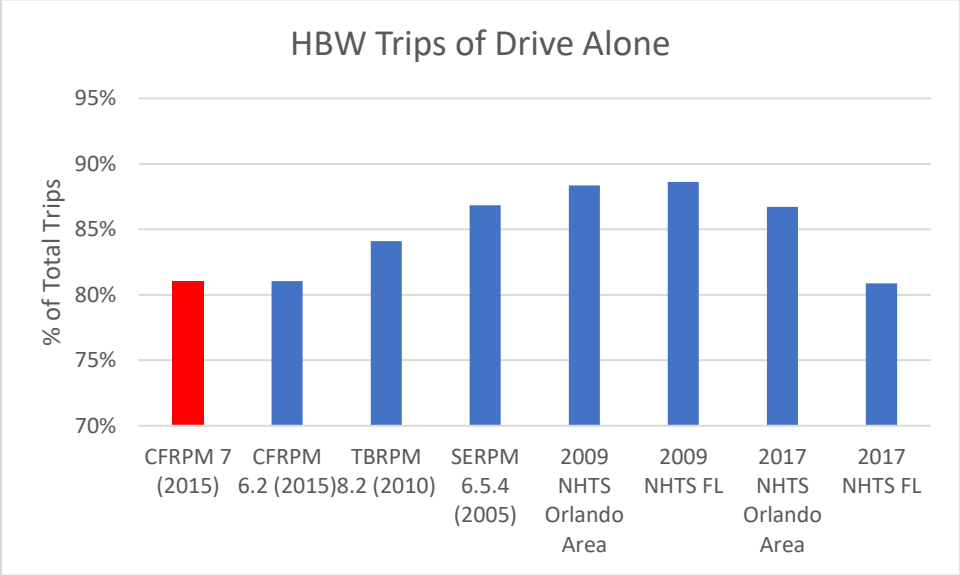
Auto occupancy	HBW	HBNW	NHB	Total
Drive Alone	81.05%	41.34%	55.00%	52.61%
SR 2*	14.00%	37.52%	27.00%	31.63%
SR 3+**	4.95%	21.14%	18.00%	15.76%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

* Shared-Ride 2: two people in a vehicle when driving
* Shared-Ride 3+: three or more people in a vehicle when driving
Source: CFRPM 7

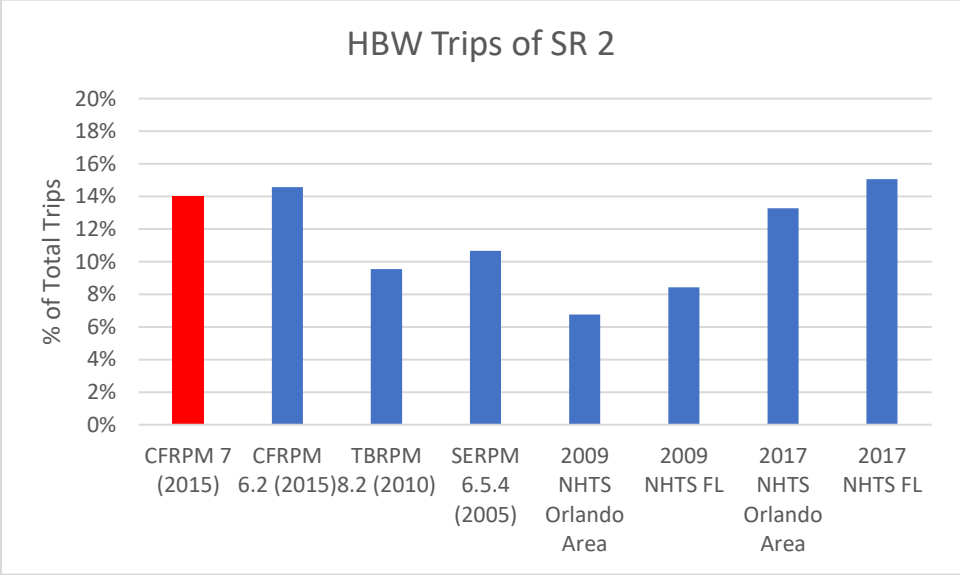
While this comparison does not validate CFRPM 7 values, it does provide reassurance that the values are not significantly incorrect.

Figure 5-6 Percentage of Person Trips by Auto Occupancy and Trip Purpose

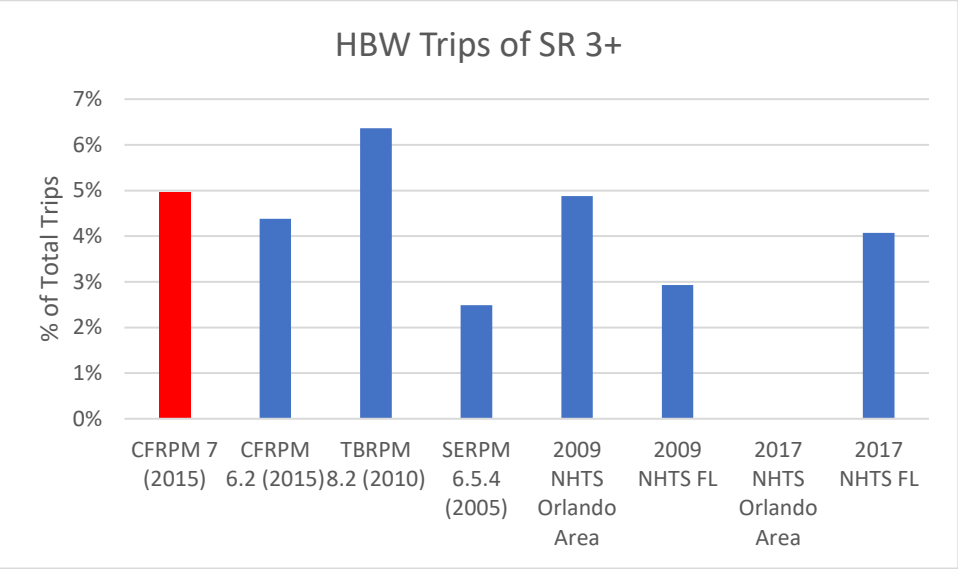
(a) HBW trips: Drive Alone



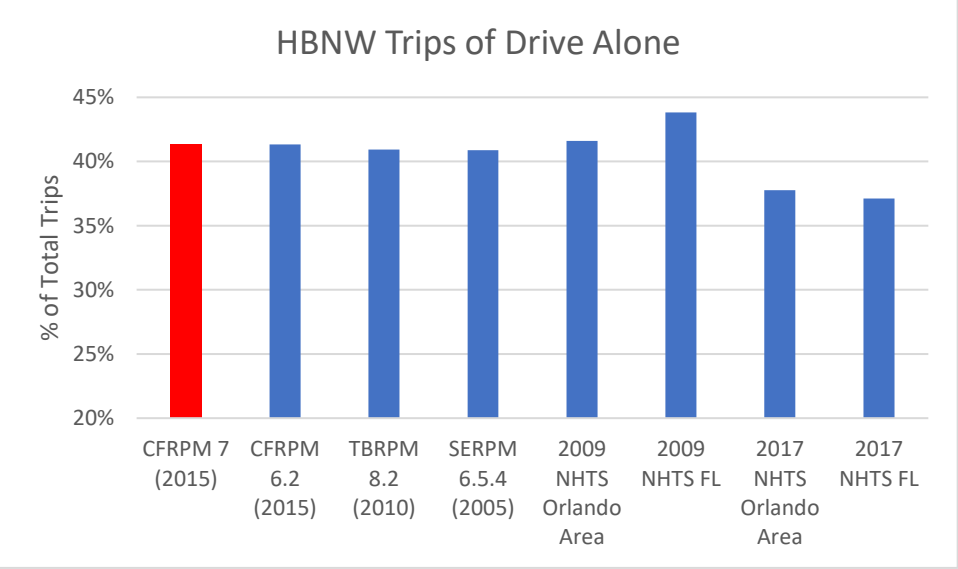
(b) HBW trips: SR 2



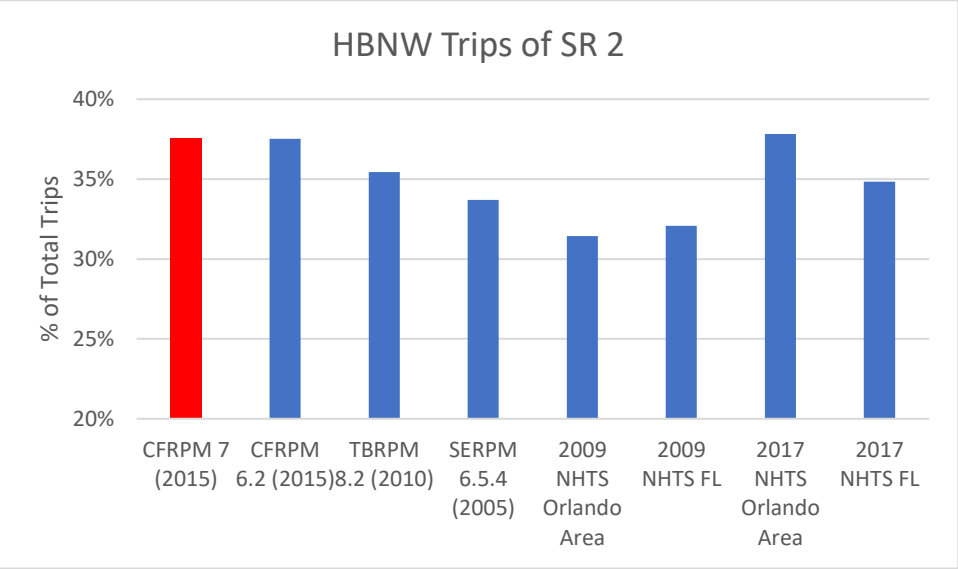
(c) HBW trips: SR 3+



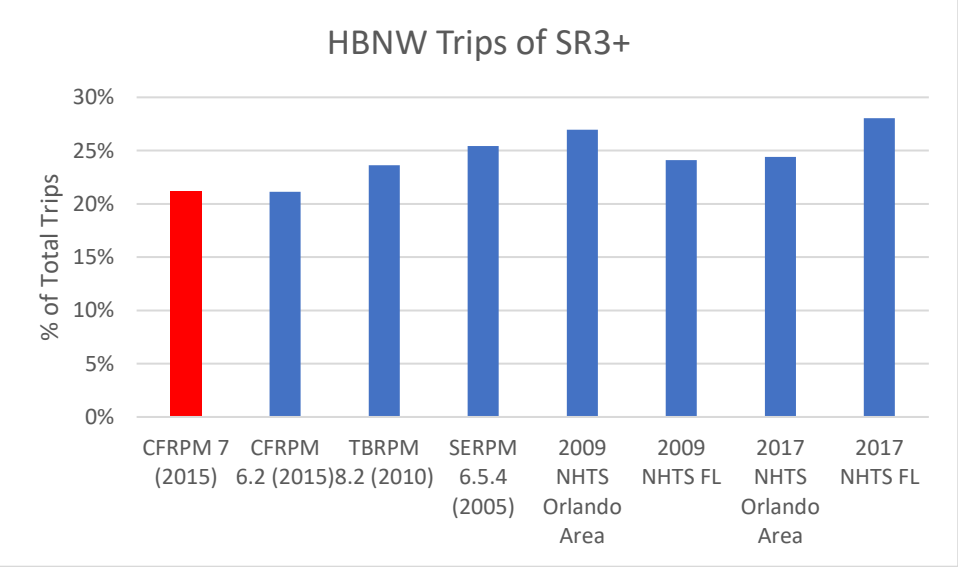
(d) HBNW trips: Drive Alone



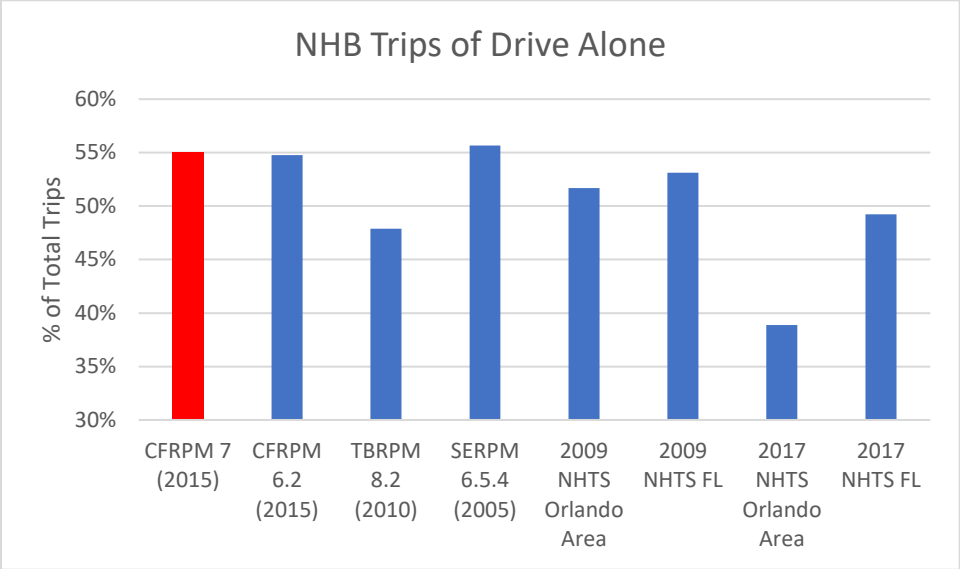
(e) HBNW trips: SR 2



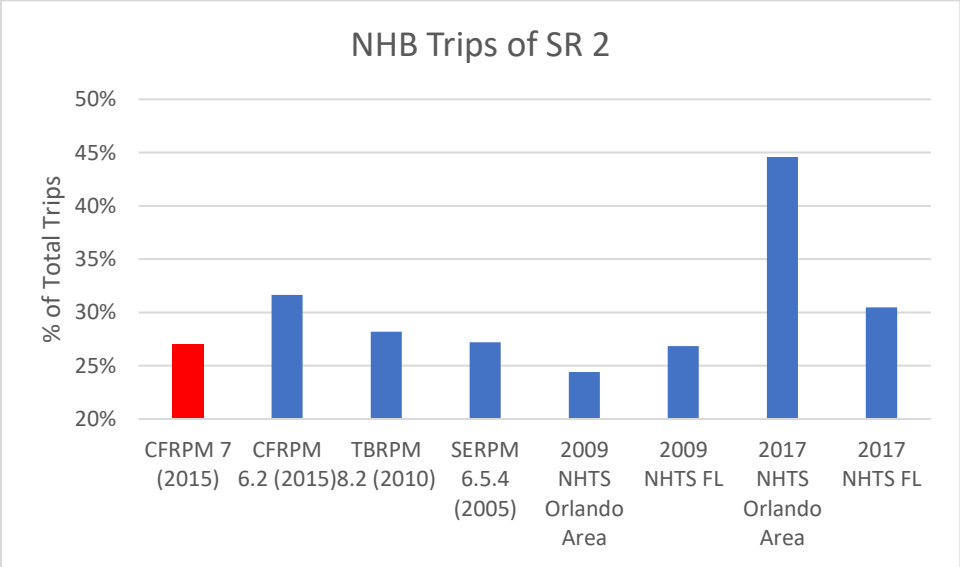
(f) HBNW trips: SR 3+



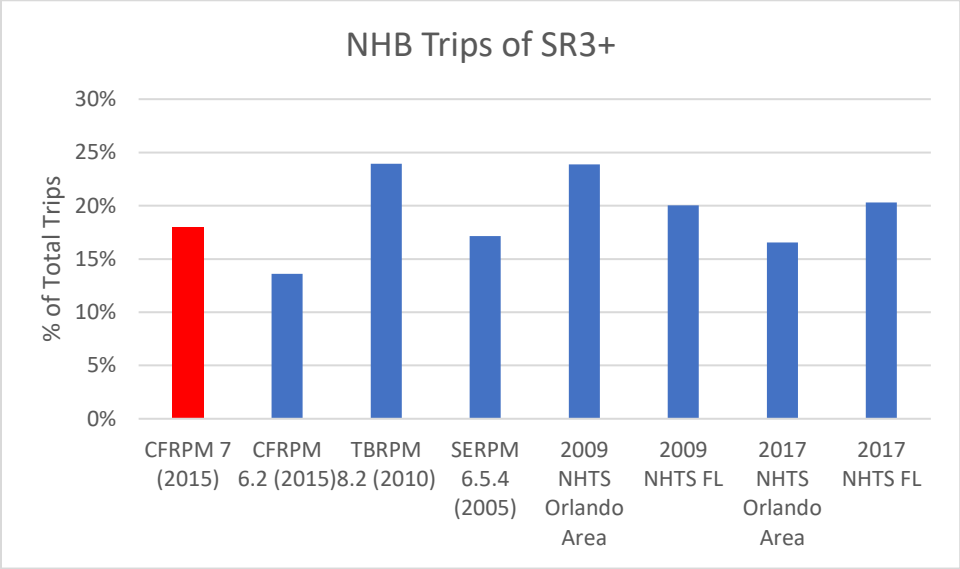
(g) NHB trips: Drive Alone



(h) NHB trips: SR 2



(i) NHB trips: SR 3+



The comparisons of auto occupancy rates and percentages of trips by auto occupancy indicate that CFRPM 7's values are similar to those from the NHTS datasets and other Florida models. This indicates that CFRPM 7's estimates of auto trips for these purposes are reasonable given the number of person trips produced by the Trip Distribution step.

6 Highway Assignment

Validating the highway (or roadway) assignment helps to ensure users that CFRPM 7 reasonably reflects auto travel patterns and the demand of the roadway network. This chapter summarizes the process used to validate highway assignment and provides numerous comparisons of observed data (traffic counts and travel time observations) and model estimates.

6.1 Methodology

The validation process begins by comparing model estimates to observed data. Then, where significant differences exist, the root cause is identified and CFRPM has adjusted accordingly. This compare → identify → adjust process is repeated until no significant differences remain.

The primary observed datasets used for comparison are the 2015 traffic counts and travel speed observations. For CFRPM 7, 11,335 directional traffic counts in 15-minute increments were collected from 6,349 count stations. Also, 20,174 15-minute travel speed observations were collected from 8,242 Traffic Message Channels (TMCs). Both the traffic counts and observed speeds were aggregated into four time periods. The traffic counts were also converted to Average Peak Season Weekday Traffic (PSWDT) levels. The observed speeds are used to verify modeled travel time estimates.

Model estimates are considered "valid" if they fall within pre-specified ranges of benchmarks or metrics. These ranges were specified in 2016 in a document intended for an earlier version of CFRPM, *Recommendations for Expanded Validation Metrics for CFRPM v6.2*. Ranges were specified for many metrics and benchmarks.

Table 6-1 Highway Assignment Benchmarks

Metric	Acceptable	Preferable
Freeway Volume-over-Count Ratio (FT 10s, 80s)	+/- 7%	+/- 6%
Divided Arterial Volume-over-Count Ratio (FT 20s)	+/- 15%	+/- 10%
Undivided Arterial Volume-over-Count Ratio (FT 30s)	+/- 15%	+/- 10%
Collector Volume-over-Count Ratio (FT 40s)	+/- 25%	+/- 20%
One-way/Frontage Road Volume-over-Count Ratio (FT 60s)	+/- 25%	+/- 20%
Ramps Volume-over-Count Ratio (FT 70s)	+/- 25%	+/- 20%
Toll Roads-Freeway Volume-over-Count Ratio (FT 91)	+/- 7%	+/- 6%
Toll Roads-Arterial Volume-over-Count Ratio (FT 92)	+/- 15%	+/- 15%
Volume-over-Count Ratio for External Model Cordon Lines	+/- 1%	+/- 1%
Regional Volume-over-Count Ratio	+/- 16%	+/- 12%
Assigned VMT-over-Count Ratio Regionwide	+/- 5%	+/- 2%
Assigned VHT-over-Count Ratio Regionwide	+/- 5%	+/- 2%

Metric	Acceptable	Preferable
Assigned VMT-over-Count Ratio by FT/AT/No. of Lanes	+/- 25%	+/- 15%
Assigned VHT-over-Count Ratio by FT/AT/No. of Lanes	+/- 25%	+/- 15%
Screenlines with greater than 70,000 AADT	+/- 10%	
Screenlines with 35,000 to 70,000 AADT	+/- 15%	
Screenlines with less than 35,000 AADT	+/- 20%	
Percent error for volume group < 10,000 AADT	50%	25%
Percent error for volume group 10,000-30,000 AADT	30%	20%
Percent error for volume group 30,000-50,000 AADT	25%	15%
Percent error for volume group 50,000-65,000 AADT	20%	10%
Percent error for volume group 65,000-75,000 AADT	15%	5%
Percent error for volume group 75,001+ AADT	10%	5%
RMSE for links with < 5,000 vehicles per day	100%	45%
RMSE for links with 5,000-9,999 vehicles per day	45%	35%
RMSE for links with 10,000-14,999 vehicles per day	35%	27%
RMSE for links with 15,000-19,999 vehicles per day	30%	25%
RMSE for links with 20,000-29,999 vehicles per day	27%	15%
RMSE for links with 30,000-49,999 vehicles per day	25%	15%
RMSE for links with 50,000-59,999 vehicles per day	20%	10%
RMSE for links with 60,000+ vehicles per day	19%	10%
RMSE regionwide	45%	35%
AM peak roadway travel times in selected travel corridors	80% of corridors within 20%	50% of corridors within 10%
Midday roadway travel times in selected travel corridors	80% of corridors within 20%	50% of corridors within 10%
PM peak roadway travel times in selected travel corridors	80% of corridors within 20%	50% of corridors within 10%

Source: Department's *Model Calibration and Validation Standards Report*

Many adjustments were identified throughout the calibration and validation of the highway assignment process. These adjustments, briefly described here individually, are grouped into the team's three perspectives:

1. "Big Picture": for a particular aspect of travel demand, is the assignment correctly reflecting the overall magnitude or perspective?

2. "Regional Focus": for a particular aspect of travel demand, is the assignment correctly reflecting the county-to-county travel demand in magnitude?

3. "Localized Focus": for a particular aspect of travel demand, is the assignment correctly reflecting the travel demand within each county?

This chapter reflects CFRPM 7 results after all adjustments have been made. These adjustments include:

- The CONFAC[11] values, originally defined as the number of hours within each time period, was adjusted to reflect the ratio of peak hour volume to time period volume. The original definition was resulting in extensive free-flow conditions, even during peak periods.
- HBSC trips were adjusted so that they were balanced at the county-level to avoid illogically long student trips that were contributing to inflated VMT and VHT levels.
- HBCU productions were limited to occur only within 20 miles of college campuses to avoid illogically long student trips that were also contributing to inflated VMT and VHT levels.
- Some external trip productions were adjusted to match the latest external counts. They previously were adjusted to an earlier set of external counts.
- Trips to/from the special purposes were modified to better reflect actual travel patterns, as defined by the 2015 AirSage data collected by the Department in 2016. These travel patterns had not been validated in previous versions of CFRPM.
- There were several adjustments to the HBW, HBNW & NHB trip production rates. Earlier versions produced substantially higher VMT and VHT.
- Estimated free-flow speeds were reduced by 5 mph to freeways and collectors. The original free-flow speeds led to higher VMT on these facilities.

Some model adjustments made to improve CFRPM's representation of the county-to-county travel demand magnitude or perspective include:

- County-to-county K-factors were applied for the HBW, HBNW and NHB trip purposes to better reflect the nuanced travel patterns between the Orlando urban area and the surrounding counties. Without these changes travel to/from the Orlando urban area was over-stated.
- The truck generation rates were adjusted for each county. The original rates were consistent across the region and produced extremely high truck volumes.
- The trip generation rates of the counties outside the METROPLAN Orlando area were reduced by 9%. The earlier rates produced significantly higher traffic in those counties.
- The rural roadway capacities to be more consistent with urban/suburban capacities. The original rural roadway capacities were substantially lower than the corresponding urban/suburban capacities.

[11] The Capacity Factors (CONFAC) are designed to convert peak hour capacity to time period capacity for the TOD model. The CONFAC values are determined by the time period count to peak hour count ratios using the traffic count database. For more details, see Chapter 8.1 in *CFRPM 7 Model Description Report*.

- An additional 1-2 minutes of terminal time was added to certain area types so that they were consistent with the terminal times used for the observed TLFDs.
- The IE trip attractions were adjusted towards the non-Orlando urban counties. The original rates resulted in most of the IE trips traveling to the Orlando urban area, resulting in significantly high volumes along I-4.

Some model adjustments were made to improve CFRPM's representation of the demand magnitude within each county include:

- The value-of-time was increased. The original values-of-time, based on the average wage rates for the Orlando area, was causing illogical paths near toll plazas. Vehicles used off- and on-ramps to avoid toll plazas in at least three different counties.
- A distance factor was applied to better reflect the demand on freeways that do not experience regular congestion (i.e., all counties except Orange County). Before applying this factor, freeway demand was much higher than arterial demand in these areas.

6.2 Traffic Volume-Related Comparisons

CFRPM 7 model output volumes were examined and compared to the actual 2015 FDOT traffic ground counts collected on various roadways throughout the network in the following sections.

6.2.1 Daily Comparison for Volume Over Count

Assigned daily volumes from highway assignment are compared to observed daily traffic counts to confirm that the model sufficiently represents the travel patterns of the model area. The volume-to-count ratio (i.e., volume/count) is the primary metric (see Table 6-2) for this comparison. There are acceptable and preferable ranges of the volume/count ratio for each facility type. These ranges have a reciprocal relationship to the count on the facility. For instance, the ratio of a facility with low traffic counts is more sensitive to change in the volume, so it has a wider range. Therefore, a freeway for the heaviest traffic has a narrower range. Exceptionally, the range of an external station connector is the shortest. Since the production of the external station connector is calculated using the traffic counts on the connector, the volume and count should be the same in this case. As seen in Table 6-2, the ratios of all facility types lie within the preferable benchmark range.

Table 6-2 Volume Count Ratio by Facility Type (Daily)

Facility Type	No. of Links	Volume	Count	Volume / Count*	Acceptable	Preferable
Freeway	119	4,181,588	4,038,151	1.04	+/- 7%	+/- 6%
Divided Arterial	3,208	48,697,255	46,397,646	1.05	+/- 15%	+/- 10%

Undivided Arterial	1,549	10,802,601	10,516,651	1.03	+/- 15%	+/- 10%
Collector	4,236	12,170,101	14,495,452	0.84	+/- 25%	+/- 20%
External Station Connector	114	619,342	618,642	1.00	+/- 1%	+/- 1%
One-way/Frontage	108	1,463,019	1,493,796	0.98	+/- 25%	+/- 20%
Ramps	802	5,204,578	5,042,715	1.03	+/- 25%	+/- 20%
Toll Road-Freeway	245	6,880,665	6,621,189	1.04	+/- 7%	+/- 6%
Toll Road-Arterial	4	36,618	38,264	0.96	+/- 15%	+/- 15%
Region	**10,385**	**90,055,767**	**89,262,506**	**1.01**	**+/- 16%**	**+/- 12%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Another key metric is the Percent of Root Mean Square Error (% RMSE), expressed below:

$$\%RMSE = \sqrt{\frac{\sum_{a \in A_v}\left(V^a_{assign} - V^a_{obs}\right)^2}{n-1}} * \frac{100 * n}{\sum_{a \in A_v} V^a_{obs}}$$

Where V^a_{assign} and V^a_{obs} are the assigned volumes and observed volumes (traffic counts) on link a; n is the total number of links that have available link volumes; and, A_v , represents the set of links with available volumes.

Table 6-3 presents %RMSE between the volume and count. Ranges of acceptable and preferable for %RMSE is also reciprocal to the count. All the %RMSE results are within the acceptable benchmark range, with the 15,000 and 19,999 count group in the preferable range.

Table 6-3 %RMSE by Count Group (Daily)

Count Group	No. of Links	Volume	Count	% RMSE*	Acceptable	Preferable
<5,000	4,534	11,694,548	10,885,289	91%	100%	45%
5,000-9,999	2,513	18,188,826	18,203,621	44%	45%	35%
10,000-14,999	1,508	18,864,922	18,638,219	33%	35%	27%
15,000-19,999	930	16,159,719	16,005,141	24%	30%	25%
20,000-29,999	680	16,270,721	16,271,540	18%	27%	15%
30,000-49,999	177	6,143,043	6,407,725	20%	25%	15%
50,000-59,999	19	1,024,041	1,039,971	13%	20%	10%
>=60,000	24	1,709,947	1,810,999	10%	19%	10%
Region	**10,385**	**90,055,767**	**89,262,506**	**38%**	**45%**	**35%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The volume/count and %RMSE metrics are applied to screenlines to ensure that the model reflects observed traffic demand throughout all geographic areas. Screenlines are imaginary lines across a certain boundary or along a specific road in an area. CFRPM 7 screenlines are shown in Figure 6-1. Except for Indian River County, all County boundaries are screenlines, and the other screenlines represent the major movement of the travel patterns in CFRPM 7 area.

Figure 6-1 CFRPM Screenlines

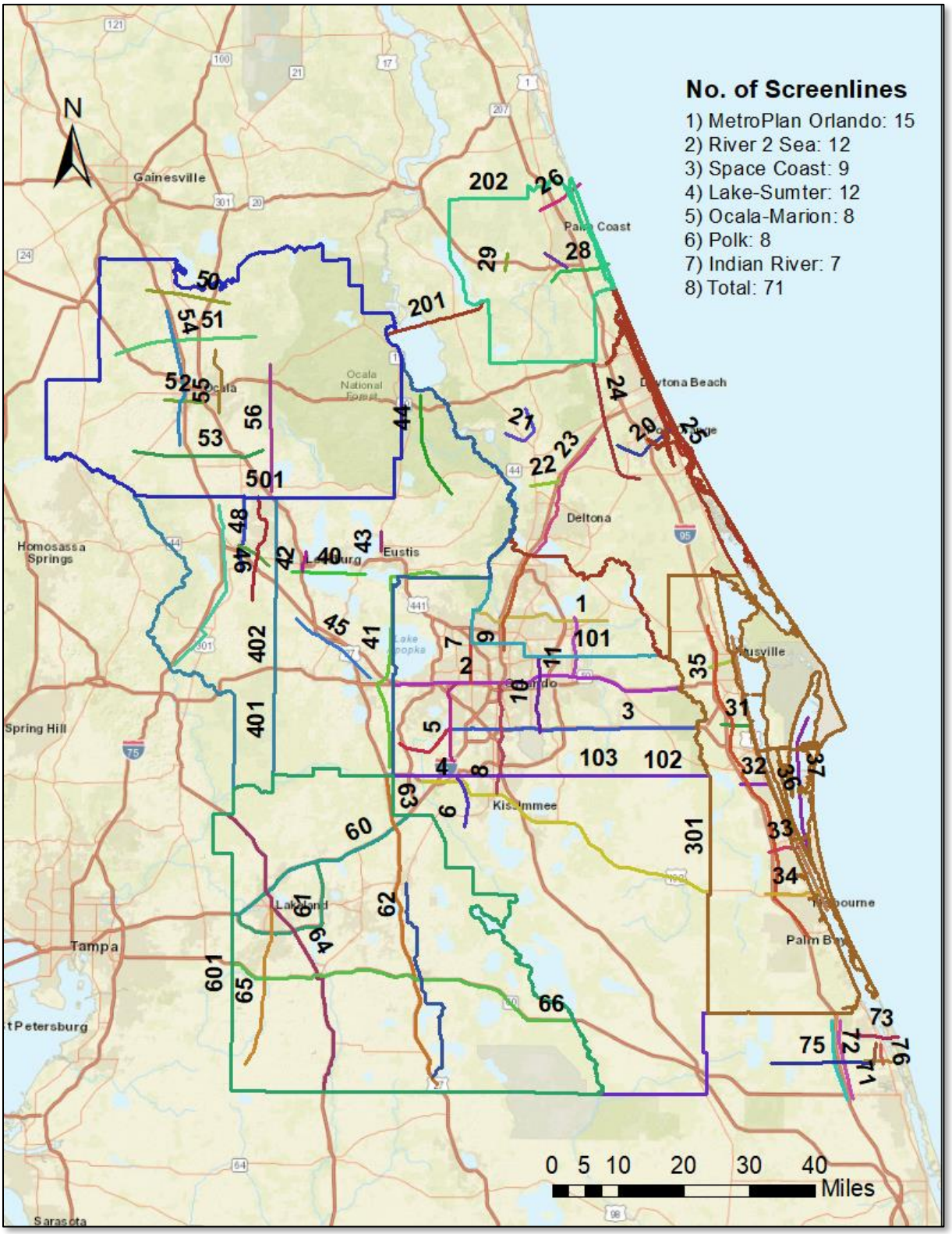


Table 6-4 shows the screenline comparisons for the volume/count ratio and %RMSE metrics. CFRPM 7 overestimates traffic across Volusia County and Flagler County boundaries and

assigns more volumes on SR 60 (Indian River), Polk Parkway (Polk), and SR 19 (Lake). But overall, the screenline analysis shows that CFRPM 7 reasonably reflects traffic demand throughout most areas in the region.

Table 6-4 Screenline Analysis (Daily)

#	County	Direction	Location	Volume	Count	Volume / Count	%RMSE	No. of Links
1	Seminole	East-West	SR 434	837,681	814,505	1.03	13	52
2	Orange	East-West	SR 50	1,990,449	1,844,857	1.08	20	88
3	Orange	East-West	SR 482 - SR 528	1,547,010	1,558,725	0.99	19	57
4	Osceola	East-West	US 192	1,391,060	1,354,541	1.03	12	62
5	Orange	North-South	W of Apopka Vineland	213,991	237,808	0.9	32	18
6	Osceola	North-South	E of Poinciana Blvd	83,717	89,117	0.94	30	12
7	Orange	North-South	E of Hiawassee Rd	183,337	153,400	1.2	39	16
8	Orange	North-South	E of US 441	448,064	485,099	0.92	45	35
9	Seminole	North-South	E of I-4	365,237	406,458	0.9	24	30
10	Orange	North-South	W of Goldenrod Rd	446,513	478,866	0.93	16	24
11	Seminole	North-South	E of SR 434	106,592	117,653	0.91	25	14
12	Orange	North-South	W of I-4	65,349	76,213	0.86	40	10
20	Volusia	East-West	N of SR 44	52,113	45,456	1.15	29	8
21	Volusia	East-West	SE of DeLeon Springs	29,944	21,792	1.37	67	8
22	Volusia	East-West	S of DeLand	148,000	139,772	1.06	11	8
23	Volusia	North-South	E of I-4	167,963	139,360	1.21	41	16
24	Volusia	North-South	W of I-95	92,624	59,425	1.56	59	10
25	Volusia	North-South	Intracoastal Waterway	117,571	100,851	1.17	47	11
26	Flagler	East-West	NE of Flagler	17,615	18,304	0.96	28	6
27	Flagler	North-South	W of US 1	42,344	26,464	1.6	77	4
28	Flagler	East-West	S of SR 100	113,981	107,860	1.06	30	12
30	Brevard	East-West	S of SR 406	37,498	44,474	0.84	30	6
31	Brevard	East-West	S of Fay Blvd	98,848	83,582	1.18	26	6
32	Brevard	East-West	S of SR 520	72,620	59,187	1.23	27	4
33	Brevard	East-West	S of SR 404	165,357	157,531	1.05	26	6
34	Brevard	East-West	N of US 192	139,783	156,276	0.89	20	16
35	Brevard	North-South	E of I-95	420,175	442,647	0.95	26	50
36	Brevard	North-South	E of US 1	239,391	234,196	1.02	13	14
37	Brevard	North-South	W of A1A	105,828	100,303	1.06	9	6
40	Lake	East-West	S of US 441	74,424	67,821	1.1	11	4
41	Lake	NA	Lake-Orange County Line	165,264	152,883	1.08	26	18
42	Lake	North-South	E of US 27	69,429	71,601	0.97	13	6
43	Lake	North-South	W of SR 19	26,914	29,306	0.92	31	6
44	Lake	North-South	E of SR 19	28,077	11,356	2.47	214	8
45	Lake	East-West	S of Turnpike	79,899	62,345	1.28	63	12
46	Sumter	North-South	E of I-75	59,497	45,717	1.3	82	12
47	Sumter	North-South	E of US 301	79,659	71,468	1.11	40	18
48	Sumter	North-South	W of Morse Blvd	117,201	119,820	0.98	30	26

49	Sumter	East-West	N of Turnpike	57,007	38,332	1.49	72	8
50	Marion	East-West	N of CR 316	33,696	23,156	1.46	55	4
51	Marion	East-West	N of SR 326	107,267	82,581	1.3	37	6
52	Marion	East-West	S of SR 40	135,276	110,763	1.22	23	4
53	Marion	East-West	N of CR 484	77,480	55,163	1.4	42	6
54	Marion	North-South	W of I-75	100,898	79,316	1.27	44	6
55	Marion	North-South	E of CR 200A	82,589	84,938	0.97	11	8
56	Marion	North-South	E of SR 30 - US 441	16,941	11,317	1.5	50	2
60	Polk	East-West	I-4	767,727	747,752	1.03	18	16
61	Polk	East-West	POLK PKWY	182,544	84,526	2.16	137	8
62	Polk	North-South	SR 17	79,436	102,111	0.78	49	30
63	Polk	North-South	SR 25/US 27	638,922	443,301	1.44	50	24
64	Polk	North-South	SR 35/US 98	656,579	579,641	1.13	22	34
65	Polk	North-South	SR 37	419,534	402,431	1.04	20	30
66	Polk	East-West	SR 60	457,178	266,444	1.72	74	26
70	Indian River	East-West	N of 65th ST	0	8,495	0	100	2
71	Indian River	North-South	E of I-95	64,746	42,079	1.54	60	4
72	Indian River	North-South	W of I-95	27,645	9,543	2.9	190	2
73	Indian River	East-West	N of 85th St	71,262	49,764	1.43	74	8
74	Indian River	North-South	E of 66th Ave	29,117	16,135	1.8	100	8
75	Indian River	East-West	N of SR 60	7,401	1,908	3.88	421	4
76	Indian River	North-South	W of US 1	27,815	15,404	1.81	89	6
98	Region	NA	All External Stations	619,342	61,8642	1	8	114
99	Region	NA	All Other Counts	71,277,714	72,108,022	0.99	39	9001
101	Seminole	NA	Seminole County Boundary	654,216	595,405	1.1	32	50
102	Orange	NA	Orange County Boundary	1,315,423	1,263,850	1.04	27	78
103	Osceola	NA	Osceola County Boundary	346,578	318,703	1.09	40	28
201	Volusia	NA	Volusia County Boundary	100,175	60,123	1.67	117	18
202	Flagler	NA	Flagler County Boundary	57,765	26,089	2.21	185	8
301	Brevard	NA	Brevard County Boundary	209,269	136,578	1.53	66	20
401	Lake	NA	Lake County Boundary	291,858	185,313	1.57	80	34
402	Sumter	NA	Sumter County Boundary	281,952	203,182	1.39	75	26
501	Marion	NA	Marion County Boundary	80,564	46,780	1.72	97	12
601	Polk	NA	Polk County Boundary	338,832	257,680	1.31	59	31
Total				**90,055,767**	**89,262,506**	**1.01**	**38**	**10385**

Source: CFRPM 7

CFRPM 7 generates truck production separately from the truck model. Heavy trucks are applied Passenger Car Equivalent factor (PCE) to heavy trucks as 1.8 and restricted to access to local roads in the highway assignment. Truck counts from the count sites with detectors that can distinguish vehicle classes are compared with the assigned truck volume as seen in Table 6-5. There are no known benchmarks for truck assignments. The total truck volume/count ratio is within a reasonable range (within 2%), but truck volumes in some areas are inaccurate. Truck

volumes in Flagler County are underestimated by 34% but overestimated by 34% in Indian River County. The high %RMSE means that CFRPM 7 may not assign the truck volume on correct roadways.

Table 6-5 Truck Volume Analysis (Daily)

County	Volume	Count	Volume/Count	%RMSE	Num of Links
Brevard	76,070	78,440	0.97	79	127
Flagler	12,149	18,527	0.66	119	156
Indian River	15,831	11,776	1.34	81	26
Lake	97,911	106,559	0.92	55	115
Marion	79,949	83,719	0.95	151	117
Orange	1,390,353	1,392,823	1.00	91	742
Osceola	87,781	92,128	0.95	96	136
Polk	480,548	493,835	0.97	66	481
Seminole	63,312	67,009	0.94	77	78
Sumter	58,942	63,637	0.93	101	72
Volusia	103,016	102,675	1.00	95	176
D5 Counties	1,969,484	2,005,517	0.98	105	1,719
Total	**2,465,864**	**2,511,128**	**0.98**	**99**	**2,226**

Source: CFRPM 7

6.2.2 Time-of-Day Comparison for Volume-Count

Assigned volumes as a result of highway assignment were compared with observed time-of-day counts from Table 6-6 to Table 6-9. CFRPM 7 can generally produce good volume to count ratios for all four time-of-day periods. The PM freeway volumes are slightly over assigned in CFRPM 7 which may need further investigation by users for traffic studies that involve the PM peak period.

Table 6-6 Volume Count Ratio by Facility Type (AM Peak)

Facility Type	No. of Links	Volume	Count	Volume / Count*	Acceptable	Preferable
Freeway	119	815,795	736,447	1.11	+/- 7%	+/- 6%
Divided Arterial	3,208	9,574,651	8,597,360	1.11	+/- 15%	+/- 10%
Undivided Arterial	1,549	2,168,613	2,006,541	1.08	+/- 15%	+/- 10%
Collector	4,236	2,443,589	2,710,162	0.90	+/- 25%	+/- 20%
External Station Connector	114	104,834	109,475	0.96	+/- 1%	+/- 1%
One-way/Frontage	108	290,755	277,501	1.05	+/- 25%	+/- 20%

Ramps	802	1,066,769	1,018,275	1.05	+/- 25%	+/- 20%
Toll Road-Freeway	245	1,603,488	1,394,624	1.15	+/- 7%	+/- 6%
Toll Road-Arterial	4	9,307	6,084	1.53	+/- 15%	+/- 15%
Region	**10,385**	**18,077,801**	**16,856,469**	**1.07**	**+/- 16%**	**+/- 12%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-7 Volume Count Ratio by Facility Type (Middle Day)

Facility Type	No. of Links	Volume	Count	Volume / Count*	Acceptable	Preferable
Freeway	119	1,313,583	1,279,582	1.03	+/- 7%	+/- 6%
Divided Arterial	3,208	15,167,379	15,531,035	0.98	+/- 15%	+/- 10%
Undivided Arterial	1,549	3,299,715	3,540,750	0.93	+/- 15%	+/- 10%
Collector	4,236	3,700,729	4,758,408	0.78	+/- 25%	+/- 20%
External Station Connector	114	232,032	211,592	1.10	+/- 1%	+/- 1%
One-way/Frontage	108	457,804	516,860	0.89	+/- 25%	+/- 20%
Ramps	802	1,574,177	1,537,079	1.02	+/- 25%	+/- 20%
Toll Road-Freeway	245	1,872,618	1,916,668	0.98	+/- 7%	+/- 6%
Toll Road-Arterial	4	8,917	11,856	0.75	+/- 15%	+/- 15%
Region	**10,385**	**27,626,954**	**29,303,830**	**0.94**	**+/- 16%**	**+/- 12%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-8 Volume Count Ratio by Facility Type (PM Peak)

Facility Type	No. of Links	Volume	Count	Volume / Count*	Acceptable	Preferable
Freeway	119	982,231	817,764	1.20	+/- 7%	+/- 6%
Divided Arterial	3,208	10,890,940	10,381,748	1.05	+/- 15%	+/- 10%
Undivided Arterial	1,549	2,549,461	2,421,607	1.05	+/- 15%	+/- 10%
Collector	4,236	2,953,932	3,424,976	0.86	+/- 25%	+/- 20%
External Station Connector	114	150,074	132,119	1.14	+/- 1%	+/- 1%
One-way/Frontage	108	323,618	330,618	0.98	+/- 25%	+/- 20%

Facility Type	No. of Links	Volume	Count	Volume / Count*	Acceptable	Preferable
Ramps	802	1,237,625	1,129,746	1.10	+/- 25%	+/- 20%
Toll Road-Freeway	245	1,796,355	1,598,077	1.12	+/- 7%	+/- 6%
Toll Road-Arterial	4	11,703	9,453	1.24	+/- 15%	+/- 15%
Region	**10,385**	**20,895,939**	**20,246,108**	**1.03**	**+/- 16%**	**+/- 12%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-9 Volume Count Ratio by Facility Type (Night)

Facility Type	No. of Links	Volume	Count	Volume / Count*	Acceptable	Preferable
Freeway	119	1,069,979	1,204,347	0.89	+/- 7%	+/- 6%
Divided Arterial	3,208	13,064,285	11,875,083	1.10	+/- 15%	+/- 10%
Undivided Arterial	1,549	2,784,812	2,547,702	1.09	+/- 15%	+/- 10%
Collector	4,236	3,071,851	3,602,849	0.85	+/- 25%	+/- 20%
External Station Connector	114	132,402	166,377	0.80	+/- 1%	+/- 1%
One-way/Frontage	108	390,842	368,821	1.06	+/- 25%	+/- 20%
Ramps	802	1,326,007	1,372,472	0.97	+/- 25%	+/- 20%
Toll Road-Freeway	245	1,608,204	1,711,828	0.94	+/- 7%	+/- 6%
Toll Road-Arterial	4	6,691	10,869	0.62	+/- 15%	+/- 15%
Region	**10,385**	**23,455,073**	**22,860,349**	**1.03**	**+/- 16%**	**+/- 12%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The %RMSE between the volume and count for all four time periods are shown from Table 6-10 to Table 6-13. On time-of-day level, CFRPM 7 produces %RMSE results to meet acceptable standards for almost all volume groups.

Table 6-10 %RMSE by Count Group (AM Peak)

Count Group	No. of Links	Volume	Count	% RMSE*	Acceptable	Preferable
<5,000	9,988	15,186,375	13,986,441	54%	100%	45%
5,000-9,999	349	2,202,059	2,214,580	27%	45%	35%

10,000-14,999	36	465,421	440,920	22%	35%	27%
15,000-19,999	9	160,474	151,672	17%	30%	25%
20,000-29,999	3	63,472	62,855	8%	27%	15%
30,000-49,999	0	0	0	0%	25%	15%
50,000-59,999	0	0	0	0%	20%	10%
>=60,000	0	0	0	0%	19%	10%
Region	**10,385**	**18,077,801**	**16,856,469**	**51%**	**45%**	**35%**

**Green* = *Preferable; Blue* = *Acceptable; Red* = *Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-11 %RMSE by Count Group (Middle Day)

Count Group	No. of Links	Volume	Count	% RMSE*	Acceptable	Preferable
<5,000	8,519	14,828,954	15,479,421	56%	100%	45%
5,000-9,999	1,686	10,491,935	11,348,174	24%	45%	35%
10,000-14,999	136	1,453,658	1,596,199	25%	35%	27%
15,000-19,999	29	501,628	500,393	11%	30%	25%
20,000-29,999	13	294,328	314,169	13%	27%	15%
30,000-49,999	2	56,451	65,474	20%	25%	15%
50,000-59,999	0	0	0	0%	20%	10%
>=60,000	0	0	0	0%	19%	10%
Region	**10,385**	**27,626,954**	**29,303,830**	**42%**	**45%**	**35%**

**Green* = *Preferable; Blue* = *Acceptable; Red* = *Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-12 %RMSE by Count Group (PM)

Count Group	No. of Links	Volume	Count	% RMSE*	Acceptable	Preferable
<5,000	9,732	16,281,082	15,700,878	49%	100%	45%
5,000-9,999	584	3,664,732	3,655,461	26%	45%	35%
10,000-14,999	55	685,325	646,558	20%	35%	27%
15,000-19,999	14	264,800	243,211	13%	30%	25%

20,000-29,999	0	0	0	0%	27%	15%
30,000-49,999	0	0	0	0%	25%	15%
50,000-59,999	0	0	0	0%	20%	10%
>=60,000	0	0	0	0%	19%	10%
Region	**10,385**	**20,895,939**	**20,246,108**	**45%**	**45%**	**35%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-13 %RMSE by Count Group (Night)

Count Group	No. of Links	Volume	Count	% RMSE*	Acceptable	Preferable
<5,000	9,360	16,326,339	15,041,939	57%	100%	45%
5,000-9,999	888	5,567,170	5,885,384	26%	45%	35%
10,000-14,999	98	907,688	1,146,954	30%	35%	27%
15,000-19,999	22	315,040	372,832	27%	30%	25%
20,000-29,999	15	287,666	348,058	20%	27%	15%
30,000-49,999	2	51,170	65,182	31%	25%	15%
50,000-59,999	0	0	0	0%	20%	10%
>=60,000	0	0	0	0%	19%	10%
Region	**10,385**	**23,455,073**	**22,860,349**	**50%**	**45%**	**35%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

6.3 Vehicle-Miles-Traveled Comparisons

Comparing observed and estimated Vehicle-Miles-Traveled (VMT) helps to evaluate both the demand and trip distance on roadways. The VMT outputs from CFRPM were compared to observed VMT in two ways: (1) mostly from traffic counts (traffic count multiplied by link distance) and (2) from FDOT's *2015 Road Mileage and Travel (DVMT) Report*.

6.3.1 Daily Comparison for VMT

The VMT comparison from the count and volumes by facility type is presented in Table 6-14. Regionally, vehicles in CFRPM 7 travel 6% longer distance than actual VMT. This difference is slight over the acceptable range and 4% higher than the preferable range. Except for the

undivided arterial VMT, all VMTs of facility types are in the preferable range. Undivided arterials have 20% greater VMT from the volume than the count, but it is in the acceptable range. Generally, CFRPM 7 produces good results to match the observed VMTs.

Table 6-14 VMT Analysis by Facility Type (Daily)

Facility Type	No. of Links	VMT from Count (VMT Cnt)	VMT from Volume (VMT Vol)	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
Freeway	119	6,794,827	7,619,774	1.12	+/- 25%	+/- 15%
Divided Arterial	3,208	15,529,779	16,718,482	1.08	+/- 25%	+/- 15%
Undivided Arterial	1,549	4,496,402	5,398,394	1.20	+/- 25%	+/- 15%
Collector	4,236	5,926,248	5,235,078	0.88	+/- 25%	+/- 15%
External Station Connector	114	240,620	240,885	1.00	+/- 25%	+/- 15%
One-way/Frontage	108	332,119	309,992	0.93	+/- 25%	+/- 15%
Ramps	802	2,103,610	2,201,090	1.05	+/- 25%	+/- 15%
Toll Roads-Freeway	245	5,905,659	6,662,194	1.13	+/- 25%	+/- 15%
Toll Roads-Arterial	4	33,567	32,370	0.96	+/- 25%	+/- 15%
Region	**10,385**	**41,362,831**	**44,418,260**	**1.07**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The VMT comparison by area type in Table 6-15 shows that the estimated vehicles in Rural areas is 43% more than the traffic count. However, the other area types show the preferable VMT ratio.

Table 6-15 VMT Analysis by Area Type (Daily)

Area Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
CBD Areas	234	422,747	434,979	1.03	+/- 25%	+/- 15%
CBD Fringe Areas	211	574,138	604,379	1.05	+/- 25%	+/- 15%
Residential Areas	6,547	24,705,937	25,506,512	1.03	+/- 25%	+/- 15%
OBD Areas	2,509	10,385,462	9,920,410	0.96	+/- 25%	+/- 15%
Rural Areas	884	5,274,546	7,951,979	1.51	+/- 25%	+/- 15%
Region	**10,385**	**41,362,831**	**44,418,260**	**1.07**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The DVMT Report also includes observed VMT by county. This data is compared to CFRPM estimates in Table 6-17. Regionally, CFRPM VMT estimates are within 3%. The county estimates are relatively close as well. Regionally CFRPM is 10% high for interstate/freeways, 33% high for principal/divided arterials, and <10% low for minor/undivided arterials and

collectors. CFRPM is significantly lower local roadways, which is expected since CFRPM only includes 25% of all local roadways in the region.

Table 6-16 Daily VMT from 2015 DVMT Report

Daily VMT	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Brevard	3,896,783	5,287,232	1,976,909	1,303,388	4,372,720	16,837,032
Flagler	1,016,859	664,401	468,339	276,749	1,253,332	3,679,680
Lake	1,039,246	3,404,809	739,165	2,138,586	1,898,870	9,220,676
Marion	2,472,547	2,927,717	1,373,460	2,249,116	2,619,873	11,642,713
Orange	12,206,387	6,870,730	7,101,497	5,035,361	5,987,285	37,201,260
Osceola	3,107,520	3,157,433	1,248,448	1,309,110	1,571,767	10,394,278
Polk	3,339,924	5,443,310	2,001,183	3,176,152	5,349,699	19,310,268
Seminole	2,680,388	2,571,239	1,529,899	1,615,164	2,255,345	10,652,035
Sumter	1,910,677	622,174	409,425	764,398	596,346	4,303,020
Volusia	4,278,609	4,674,549	1,564,926	1,614,835	3,555,594	15,688,513
Total	**35,948,940**	**35,623,594**	**18,413,251**	**19,482,859**	**29,460,831**	**138,929,475**

Source: 2015 DVMT Report

Table 6-17 Daily VMT from CFRPM 7

Daily VMT	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total
Brevard	5,503,888	5,020,408	2,414,770	1,126,554	1,011,576	15,077,196
Flagler	1,071,193	933,889	560,063	343,599	257,444	3,166,188
Lake	1,470,406	3,586,441	1,719,593	2,443,275	756,495	9,976,210
Marion	2,653,575	3,912,916	1,826,605	2,698,168	912,069	12,003,333
Orange	13,082,491	13,776,925	1,463,840	4,087,640	2,723,819	35,134,715
Osceola	2,688,031	3,610,860	1,566,784	1,138,977	542,117	9,546,769
Polk	3,740,848	8,321,720	3,693,340	2,622,981	1,675,999	20,054,888
Seminole	2,715,562	3,847,052	720,394	1,465,030	775,682	9,523,720
Sumter	2,173,474	985,315	1,060,286	819,894	276,761	5,315,730
Volusia	4,521,223	5,407,216	2,247,187	1,317,766	785,349	14,278,741
Total	**39,620,691**	**49,402,742**	**17,272,862**	**18,063,884**	**9,717,311**	**134,077,490**

Source: CFRPM 7

Table 6-18 Delta Percentages Between 2015 DVMT Report and CFRPM 7

Daily VMT	Inter-state/ Freeway/ Turnpike	Principal/ Divided Arterials	Minor/ Undivided Arterials	Major/ Minor Collectors	Locals	Total

Brevard	41.24%	-5.05%	22.15%	-13.57%	-76.87%	-10.45%
Flagler	5.34%	40.56%	19.58%	24.16%	-79.46%	-13.95%
Lake	-26.01%	-23.30%	-53.43%	-57.97%	-80.58%	-43.51%
Marion	41.49%	5.33%	132.64%	14.25%	-60.16%	8.19%
Orange	7.32%	33.65%	32.99%	19.97%	-65.19%	3.10%
Osceola	7.18%	100.52%	-79.39%	-18.82%	-54.51%	-5.56%
Polk	-13.50%	14.36%	25.50%	-13.00%	-65.51%	-8.15%
Seminole	12.00%	52.88%	84.56%	-17.42%	-68.67%	3.86%
Sumter	1.31%	49.62%	-52.91%	-9.30%	-65.61%	-10.59%
Volusia	13.75%	58.37%	158.97%	7.26%	-53.59%	23.53%
Total	**5.67%**	**15.67%**	**43.60%**	**-18.40%**	**-77.91%**	**-8.99%**

Source: CFRPM 7, 2015 DVMT Report

6.3.2 Time-of-Day Comparison for VMT

The VMT comparisons by facility type for four time periods are presented from Table 6-19 to Table 6-22. Generally, CFRPM produces VMT volume/count ratios within the acceptable benchmark range. A small category, arterial toll roads (only 4 links), is outside the acceptable range in three time periods. Regionally, the AM and PM Peak periods are outside the acceptable benchmark range. Overall, these results indicate that CFRPM produces acceptable estimates of VMT by time period.

Table 6-19 VMT Analysis by Facility Type (AM Peak)

Facility Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
Freeway	119	1,228,101	1,489,403	1.21	+/- 25%	+/- 15%
Divided Arterial	3,208	2,895,011	3,300,516	1.14	+/- 25%	+/- 15%
Undivided Arterial	1,549	854,617	1,065,385	1.25	+/- 25%	+/- 15%
Collector	4,236	1,120,881	1,056,483	0.94	+/- 25%	+/- 15%
External Station Connector	114	44,350	40,822	0.92	+/- 25%	+/- 15%
One-way/Frontage	108	58,472	61,071	1.04	+/- 25%	+/- 15%
Ramps	802	424,872	459,109	1.08	+/- 25%	+/- 15%
Toll Roads-Freeway	245	1,224,071	1,530,813	1.25	+/- 25%	+/- 15%
Toll Roads-Arterial	4	5,363	8,266	1.54	+/- 25%	+/- 15%
Region	**10,385**	**7,855,738**	**9,011,867**	**1.15**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-20 VMT Analysis by Facility Type (Middle Day)

Facility Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
Freeway	119	2,194,384	2,404,555	1.10	+/- 25%	+/- 15%
Divided Arterial	3,208	5,138,623	5,206,715	1.01	+/- 25%	+/- 15%
Undivided Arterial	1,549	1,491,814	1,672,995	1.12	+/- 25%	+/- 15%
Collector	4,236	1,917,544	1,585,592	0.83	+/- 25%	+/- 15%
External Station Connector	114	83,589	90,119	1.08	+/- 25%	+/- 15%
One-way/Frontage	108	114,779	97,848	0.85	+/- 25%	+/- 15%
Ramps	802	637,347	661,719	1.04	+/- 25%	+/- 15%
Toll Roads-Freeway	245	1,724,794	1,810,228	1.05	+/- 25%	+/- 15%
Toll Roads-Arterial	4	10,387	7,856	0.76	+/- 25%	+/- 15%
Region	**10,385**	**13,313,262**	**13,537,627**	**1.02**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-21 VMT Analysis by Facility Type (PM Peak)

Facility Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
Freeway	119	1,386,101	1,837,446	1.33	+/- 25%	+/- 15%
Divided Arterial	3,208	3,494,615	3,772,677	1.08	+/- 25%	+/- 15%
Undivided Arterial	1,549	1,024,255	1,286,922	1.26	+/- 25%	+/- 15%
Collector	4,236	1,397,722	1,281,587	0.92	+/- 25%	+/- 15%
External Station Connector	114	52,559	58,430	1.11	+/- 25%	+/- 15%
One-way/Frontage	108	72,921	68,562	0.94	+/- 25%	+/- 15%
Ramps	802	472,483	522,324	1.11	+/- 25%	+/- 15%
Toll Roads-Freeway	245	1,437,238	1,759,609	1.22	+/- 25%	+/- 15%
Toll Roads-Arterial	4	8,297	10,353	1.25	+/- 25%	+/- 15%
Region	**10,385**	**9,346,190**	**10,597,911**	**1.13**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-22 VMT Analysis by Facility Type (Night)

Facility Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
Freeway	119	1,986,229	1,888,370	0.95	+/- 25%	+/- 15%
Divided Arterial	3,208	3,997,817	4,438,573	1.11	+/- 25%	+/- 15%
Undivided Arterial	1,549	1,125,636	1,373,092	1.22	+/- 25%	+/- 15%
Collector	4,236	1,489,979	1,311,416	0.88	+/- 25%	+/- 15%
External Station Connector	114	60,635	51,515	0.85	+/- 25%	+/- 15%
One-way/Frontage	108	85,940	82,511	0.96	+/- 25%	+/- 15%
Ramps	802	573,390	557,938	0.97	+/- 25%	+/- 15%
Toll Roads-Freeway	245	1,519,550	1,561,545	1.03	+/- 25%	+/- 15%
Toll Roads-Arterial	4	9,518	5,894	0.62	+/- 25%	+/- 15%
Region	**10,385**	**10,848,694**	**11,270,854**	**1.04**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The VMT comparison by area type from Table 6-23 to Table 6-26 shows that CFRPM significantly overestimates traffic demand in rural areas in all time periods. Regionally, the AM and PM Peak periods are outside the acceptable benchmark range. Overall, these results indicate that CFRPM produces acceptable estimates of VMT by time period.

Table 6-23 VMT Analysis by Area Type (AM Peak)

Area Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
CBD Areas	234	81,300	88,097	1.08	+/- 25%	+/- 15%
CBD Fringe Areas	211	112,613	123,707	1.10	+/- 25%	+/- 15%
Residential Areas	6,547	4,762,033	5,241,088	1.10	+/- 25%	+/- 15%
OBD Areas	2,509	1,934,388	1,987,148	1.03	+/- 25%	+/- 15%
Rural Areas	884	965,404	1,571,828	1.63	+/- 25%	+/- 15%
Region	**10,385**	**7,855,738**	**9,011,867**	**1.15**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-24 VMT Analysis by Area Type (Middle Day)

Area Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable

CBD Areas	234	146,704	134,851	0.92	+/- 25%	+/- 15%
CBD Fringe Areas	211	197,177	185,033	0.94	+/- 25%	+/- 15%
Residential Areas	6,547	7,854,014	7,676,603	0.98	+/- 25%	+/- 15%
OBD Areas	2,509	3,396,863	3,044,215	0.90	+/- 25%	+/- 15%
Rural Areas	884	1,718,504	2,496,927	1.45	+/- 25%	+/- 15%
Region	**10,385**	**13,313,262**	**13,537,627**	**1.02**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue* = *Acceptable; Red* = *Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-25 VMT Analysis by Area Type (PM Peak)

Area Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
CBD Areas	234	94,002	97,356	1.04	+/- 25%	+/- 15%
CBD Fringe Areas	211	126,668	135,627	1.07	+/- 25%	+/- 15%
Residential Areas	6,547	5,697,684	6,132,392	1.08	+/- 25%	+/- 15%
OBD Areas	2,509	2,304,999	2,297,656	1.00	+/- 25%	+/- 15%
Rural Areas	884	1,122,837	1,934,879	1.72	+/- 25%	+/- 15%
Region	**10,385**	**9,346,190**	**10,597,911**	**1.13**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue* = *Acceptable; Red* = *Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-26 VMT Analysis by Area Type (Night)

Area Type	No. of Links	VMT from Count	VMT from Volume	VMT Ratio (VMT Vol/VMT Cnt)*	Acceptable	Preferable
CBD Areas	234	100,753	114,676	1.14	+/- 25%	+/- 15%
CBD Fringe Areas	211	137,672	160,012	1.16	+/- 25%	+/- 15%
Residential Areas	6,547	6,396,764	6,456,430	1.01	+/- 25%	+/- 15%
OBD Areas	2,509	2,745,560	2,591,391	0.94	+/- 25%	+/- 15%
Rural Areas	884	1,467,944	1,948,345	1.33	+/- 25%	+/- 15%
Region	**10,385**	**10,848,694**	**11,270,854**	**1.04**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue* = *Acceptable; Red* = *Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

6.4 Vehicle-Hours-Travel Comparisons

Vehicle-Hours-Traveled (VHT) is another metric to evaluate both the demand and congestion on roadways. The estimated VHT outputs are compared to the observed values (traffic counts multiplied by the travel time needed to traverse the link).

6.4.1 Daily Comparison for VHT

The VHT of CFRPM region is 3% higher than the VHT from the count. It is out of the preferable range but within the acceptable range. Table 6-27 shows the result of the VHT analysis by facility type. CFRPM 7 appears to estimate VHT reasonably well across multiple dimensions, including facility and area types.

Table 6-27 VHT Analysis by Facility Type (Daily)

Facility Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
Freeway	119	114,723	128,605	1.12	+/- 25%	+/- 15%
Divided Arterial	3,208	407,544	432,328	1.06	+/- 25%	+/- 15%
Undivided Arterial	1,549	122,495	145,254	1.19	+/- 25%	+/- 15%
Collector	4,236	178,761	152,502	0.85	+/- 25%	+/- 15%
External Station Connector	114	4,421	4,426	1.00	+/- 25%	+/- 15%
One-way/Frontage	108	11,836	11,249	0.95	+/- 25%	+/- 15%
Ramps	802	62,257	64,305	1.03	+/- 25%	+/- 15%
Toll Roads-Freeway	245	99,224	110,474	1.11	+/- 25%	+/- 15%
Toll Roads-Arterial	4	611	589	0.96	+/- 25%	+/- 15%
Region	**10,385**	**1,001,871**	**1,049,733**	**1.05**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; *Blue* = Acceptable; *Red* = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The VHT analysis by area type is also conducted as shown in Table 6-28. Similar to the result of the VMT, the VHT ratio of the rural area is out of the preferable and acceptable range. The VHT for rural areas from the volume is 45% greater than the count. This result indicates that CFRPM 7 assigns more vehicles in rural areas, and they travel longer than actual travel time.

Table 6-28 VHT Analysis by Area Type (Daily)

Area Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
CBD Areas	234	14,400	14,829	1.03	+/- 25%	+/- 15%

Area Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
CBD Fringe Areas	211	17,127	17,912	1.05	+/- 25%	+/- 15%
Residential Areas	6,547	601,109	608,443	1.01	+/- 25%	+/- 15%
OBD Areas	2,509	269,923	257,373	0.95	+/- 25%	+/- 15%
Rural Areas	884	99,312	151,175	1.52	+/- 25%	+/- 15%
Region	**10,385**	**1,001,871**	**1,049,733**	**1.05**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Average travel speed can be calculated using the VMT and VHT as an equation below:

$$Average\ travel\ speed = \frac{VMT}{VHT}$$

The daily average travel speed for CFRPM 7 is 39.40 mph as in Table 6-29. There is no equivalent observed value to compare with this estimate. This speed is high when compared to other urban travel demand models. However, this average speed may be reasonable since CFRPM has substantial amounts of uncongested roadways outside the Orlando urban area.

Table 6-29 VMT, VHT, and Average Speed for All Links by Time of Day

Period	VMT	VHT	Average Speed
Daily	141,839,231	3,599,559	39.40
AM	28,077,579	744,135	37.73
MD	44,152,650	1,071,623	41.20
PM	33,355,637	910,006	36.65
NT	36,253,365	873,794	41.49

Source: CFRPM 7

6.4.2 Time of Day Comparison for VHT

Estimated and observed VHT comparisons were made for the four time periods. CFRPM generates results within the acceptable range for most time periods and facilities types. VHT is overestimated for the AM and PM Peaks. Please note speeds are validated in Section 6.5 while the average congested speed per county by facility type is described in *CFRPM 7 Model Description Report*.

Table 6-30 VHT Analysis by Facility Type (AM Peak)

Facility Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
Freeway	119	21,297	26,614	1.25	+/- 25%	+/- 15%

Facility Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
Divided Arterial	3,208	80,385	90,524	1.13	+/- 25%	+/- 15%
Undivided Arterial	1,549	24,396	30,891	1.27	+/- 25%	+/- 15%
Collector	4,236	34,409	31,795	0.92	+/- 25%	+/- 15%
External Station Connector	114	816	752	0.92	+/- 25%	+/- 15%
One-way/Frontage	108	2,126	2,205	1.04	+/- 25%	+/- 15%
Ramps	802	12,889	13,720	1.06	+/- 25%	+/- 15%
Toll Roads-Freeway	245	21,509	26,981	1.25	+/- 25%	+/- 15%
Toll Roads-Arterial	4	98	150	1.54	+/- 25%	+/- 15%
Region	**10385**	**197,924**	**223,633**	**1.13**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-31 VHT Analysis by Facility Type (Middle Day)

Facility Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
Freeway	119	34,518	37,622	1.09	+/- 25%	+/- 15%
Divided Arterial	3,208	127,800	127,506	1.00	+/- 25%	+/- 15%
Undivided Arterial	1,549	38,501	41,991	1.09	+/- 25%	+/- 15%
Collector	4,236	56,349	44,533	0.79	+/- 25%	+/- 15%
External Station Connector	114	1,540	1,653	1.07	+/- 25%	+/- 15%
One-way/Frontage	108	3,958	3,501	0.88	+/- 25%	+/- 15%
Ramps	802	18,236	18,700	1.03	+/- 25%	+/- 15%
Toll Roads-Freeway	245	27,171	28,132	1.04	+/- 25%	+/- 15%
Toll Roads-Arterial	4	189	143	0.76	+/- 25%	+/- 15%
Region	**10,385**	**308,262**	**303,782**	**0.99**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-32 VHT Analysis by Facility Type (PM Peak)

Facility Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
Freeway	119	25,628	34,809	1.36	+/- 25%	+/- 15%
Divided Arterial	3,208	100,707	107,412	1.07	+/- 25%	+/- 15%
Undivided Arterial	1,549	31,151	39,749	1.28	+/- 25%	+/- 15%
Collector	4,236	44,068	39,773	0.90	+/- 25%	+/- 15%
External Station Connector	114	975	1,076	1.10	+/- 25%	+/- 15%
One-way/Frontage	108	3,003	2,808	0.93	+/- 25%	+/- 15%
Ramps	802	14,703	16,536	1.12	+/- 25%	+/- 15%

Toll Roads-Freeway	245	25,235	31,261	1.24	+/- 25%	+/- 15%
Toll Roads-Arterial	4	151	189	1.25	+/- 25%	+/- 15%
Region	**10,385**	**245,623**	**273,612**	**1.11**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-33 VHT Analysis by Facility Type (Night)

Facility Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
Freeway	119	31,185	29,561	0.95	+/- 25%	+/- 15%
Divided Arterial	3,208	97,759	106,886	1.09	+/- 25%	+/- 15%
Undivided Arterial	1,549	27,610	32,623	1.18	+/- 25%	+/- 15%
Collector	4,236	43,296	36,401	0.84	+/- 25%	+/- 15%
External Station Connector	114	1,099	945	0.86	+/- 25%	+/- 15%
One-way/Frontage	108	2,725	2,734	1.00	+/- 25%	+/- 15%
Ramps	802	16,183	15,349	0.95	+/- 25%	+/- 15%
Toll Roads-Freeway	245	23,934	24,100	1.01	+/- 25%	+/- 15%
Toll Roads-Arterial	4	173	107	0.62	+/- 25%	+/- 15%
Region	10,385	243,965	248,707	**1.02**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

The VHT analysis by area type for all four time periods are also conducted as shown from Table 6-34 to Table 6-37. Like the daily result, the VHT of the rural area has been over assigned.

Table 6-34 VHT Analysis by Area Type (AM Peak)

Area Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
CBD Areas	234	2,825	3,049	1.08	+/- 25%	+/- 15%
CBD Fringe Areas	211	3,467	3,848	1.11	+/- 25%	+/- 15%
Residential Areas	6,547	120,748	131,983	1.09	+/- 25%	+/- 15%
OBD Areas	2,509	52,381	54,072	1.03	+/- 25%	+/- 15%
Rural Areas	884	18,503	30,681	1.66	+/- 25%	+/- 15%
Region	10,385	197,924	223,633	**1.13**	**+/- 5%**	**+/- 2%**

**Green* = Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-35 VHT Analysis by Area Type (Middle Day)

Area Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
CBD Areas	234	4,878	4,499	0.92	+/- 25%	+/- 15%
CBD Fringe Areas	211	5,660	5,256	0.93	+/- 25%	+/- 15%
Residential Areas	6,547	182,177	173,092	0.95	+/- 25%	+/- 15%
OBD Areas	2,509	84,698	75,419	0.89	+/- 25%	+/- 15%
Rural Areas	884	30,849	45,516	1.48	+/- 25%	+/- 15%
Region	10,385	308,262	303,782	**0.99**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-36 VHT Analysis by Area Type (PM Peak)

Area Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
CBD Areas	234	3,551	3,635	1.02	+/- 25%	+/- 15%
CBD Fringe Areas	211	4,110	4,380	1.07	+/- 25%	+/- 15%
Residential Areas	6,547	149,771	159,617	1.07	+/- 25%	+/- 15%
OBD Areas	2,509	64,798	64,752	1.00	+/- 25%	+/- 15%
Rural Areas	884	23,394	41,228	1.76	+/- 25%	+/- 15%
Region	10,385	245,623	273,612	**1.11**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Table 6-37 VHT Analysis by Area Type (Night)

Area Type	No. of Links	VHT from Count	VHT from Volume	VHT Ratio (VHT Vol/VHT Cnt)*	Acceptable	Preferable
CBD Areas	234	3,155	3,647	1.16	+/- 25%	+/- 15%
CBD Fringe Areas	211	3,801	4,428	1.16	+/- 25%	+/- 15%
Residential Areas	6,547	145,151	143,750	0.99	+/- 25%	+/- 15%
OBD Areas	2,509	66,842	63,131	0.94	+/- 25%	+/- 15%
Rural Areas	884	25,016	33,751	1.35	+/- 25%	+/- 15%
Region	10,385	243,965	248,707	**1.02**	**+/- 5%**	**+/- 2%**

**Green* = *Preferable; Blue = Acceptable; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

6.5 Travel Time Comparison

Travel time comparisons are used to evaluate the traffic congestion along key roadways. For each time period, the acceptable benchmark is for 80% of the links to have an estimated travel

time within 20% of the observed. The preferable benchmark is for 50% of the links to have an estimated travel time within 10% of the observed. Table 6-38 shows that CFRPM passes this threshold for all four periods.

Table 6-38 Travel Time Analysis

Period	Acceptable Percentage*	Acceptable Standard	Preferable Percentage*	Preferable Standard
AM	88% of links are within 20%	80% of links are within 20%	62% of links are within 10%	50% of links are within 10%
MD	83% of links are within 20%	80% of links are within 20%	52% of links are within 10%	50% of links are within 10%
PM	82% of links are within 20%	80% of links are within 20%	53% of links are within 10%	50% of links are within 10%
NT	99% of links are within 20%	80% of links are within 20%	94% of links are within 10%	50% of links are within 10%

**Green* = *Within Range; Red = Out of Range*

Source: CFRPM 7, Department's *Model Calibration and Validation Standards Report*

Next, observed and estimated travel times of 100 roadway corridors were calculated for all time periods and shown in Table 6-39. Using the same standards, differences within the preferable range (< 10%) are highlighted green, while blue indicates results within the acceptable range (< 20%). Results outside the acceptable range are red.

Generally, CFRPM estimates travel times well, but there is the trend that congestion along I-4 is over-estimated.

Table 6-39 Corridor Travel Time Comparison

Road	Dir	Section	Length (mile)	AM Travel Time (min)			MD Travel Time (min)			PM Travel Time (min)			NT Travel Time (min)		
				Obs	Est	%Δ	Obs	Est	%Δ	Obs	Est	%Δ	Obs	Est	%Δ
I-4	EB	North Polk Boundary to SR 408	24.9	27.2	47.8	76	27.5	29.2	6	31.5	28.5	-9	24.7	30.1	22
I-4	WB	SR 408 to North Polk Boundary	24.9	25.6	27	6	25.1	29.8	19	31.6	48.1	52	25	29.5	18
I-4	EB	SR 408 to I-95	49.5	47.9	48.6	2	47.6	51	7	55.6	70.4	27	46.6	50.1	8
I-4	WB	I-95 to SR 408	48.7	50	61.6	23	45.8	49	7	49.3	50.8	3	45.5	48.5	7
SR 429	NB	I-4 to SR 441	41.4	39	38	-3	38.9	36.2	-7	38.5	37	-4	39	36.1	-7
SR 429	SB	SR 441 to I-4	41	38.2	36	-6	38.6	35.7	-7	38.2	37.2	-2	38.8	35.7	-8
SR 417	NB	I-4 to I-4	52.3	47.6	48.3	1	47.8	45.4	-5	48.7	48.6	0	48.2	45.4	-6
SR 417	SB	I-4 to I-4	51.4	46.9	45.9	-2	46.8	44.5	-5	47	47.4	1	47	44.5	-5
Florida Tpk	NB	West Indian River boundary to SR 417	58.7	49.8	51.2	3	49.8	50.6	2	49.9	50.4	1	50.5	50.5	0
Florida Tpk	SB	SR 417 to West Indian River boundary	59.7	51.1	51.2	0	51	51.5	1	51	53.4	5	51.7	51.3	-1
Florida Tpk	NB	SR 417 to East Lake Boundary	24.1	21.5	25.4	18	21.4	21.4	0	21.4	22.9	7	21.5	21.2	-1
Florida Tpk	SB	East Lake Boundary to SR 417	23.9	21	22.8	9	21	21.3	1	21.3	25.2	18	21.1	20.7	-2
SR 528	EB	I-4 to SR 417	14.6	16.4	15.6	-5	15.7	15.5	-1	16.8	17.4	4	16.1	15.4	-4
SR 528	WB	SR 417 to I-4	14.7	15.2	16.4	8	15.2	15.6	2	17.3	16	-7	15.4	15.6	1
SR 528	EB	SR 417 to SR A1A	38.4	36.1	34.6	-4	36.4	34.8	-4	36.1	43.9	21	36.7	34.7	-5
SR 528	WB	SR A1A to SR 417	38.2	35	43.6	25	34.9	34.6	-1	34.7	34.8	0	35.4	34.6	-2
SR 408	EB	Florida Tpk to SR 50	22.3	23.2	25.3	9	22.6	22.6	0	24	24.6	3	22.8	22.5	-1
SR 408	WB	SR 50 to Florida Tpk	21.7	23.1	23.6	2	21.6	22	2	22	25.1	14	21.7	21.9	1
SR 50	EB	SR 429 to SR 520	28.9	58	52	-10	63.2	51.2	-19	68.9	67.5	-2	47.8	49.1	3
SR 50	WB	SR 520 to SR 429	28.9	60.2	64.5	7	63.6	49.2	-23	65.3	53.9	-17	47.3	49	4
SR 436	NB	SR 528 to US 17	15.2	30.5	25.3	-17	31.4	23.2	-26	34.1	26.6	-22	24.3	22.4	-8
SR 436	SB	US 17 to SR 528	14.9	30.4	24.7	-19	31.8	23.4	-26	35	26.3	-25	24.3	22.6	-7
US 192	EB	I-4 to Florida Turnpike	15.1	28.8	22.6	-22	32.4	23.2	-29	35.1	31.7	-10	25	22.7	-9
US 192	WB	Florida Turnpike to I-4	15.1	29.7	30	1	32.2	23.5	-27	32.3	24.6	-24	24.4	23.1	-5

US 441	NB	US 192 to SR 50	17.2	38.1	36.6	-4	42.2	28.2	-33	45.1	28.1	-38	31.5	27.5	-12
US 441	SB	SR 50 to US 192	17.2	36.6	26.9	-26	40.4	29.2	-28	45.5	37.9	-17	31.3	27.7	-11
US 17/92	NB	SR 50 to SR 46	17.5	35.2	27.5	-22	37.6	27.5	-27	40.5	35.1	-13	29.7	26.9	-10
US 17/92	SB	SR 46 to SR 50	17.6	36	33.4	-7	37.5	27.7	-26	38.2	29.2	-24	29.6	27.5	-7
I-95	NB	North Brevard Boundary to South ST Johns Boundary	63.9	55.1	55.7	1	55.3	55.5	0	55.1	56.6	3	56	55.4	-1
I-95	SB	South ST Johns Boundary to North Brevard Boundary	64.5	55.6	56.2	1	55.8	56	0	55.4	56.5	2	56.5	55.9	-1
US 17	NB	Volusia County Boundary to Glenwood Rd	16.4	30.5	26	-15	32.7	25.4	-22	32.7	33.9	3	26.8	25.1	-6
US 17	SB	Glenwood Rd to Volusia County Boundary	16.4	30.5	31	1	32.7	25.3	-23	32.3	27.1	-16	26.7	24.9	-7
US 1	NB	Halifax Ave to I-95	37.6	58.7	53	-10	61.7	52.5	-15	60.1	55.1	-8	53.5	52	-3
US 1	SB	I-95 to Halifax Ave	37.6	59.2	53.9	-9	62.3	52.5	-16	61.6	55.1	-11	53.7	52.2	-3
SR 40	EB	SR 11 to SR A1A	18.3	26	23.2	-11	27.5	21.9	-20	26.8	22.9	-15	23.2	21.9	-5
SR 40	WB	SR A1A to SR 11	18.3	26	22.4	-14	27.1	21.9	-19	26.8	24.5	-8	23.4	21.8	-7
US 92	EB	Kepler Road to SR A1A	19.4	26.4	23.6	-10	29	22.6	-22	27.9	24.1	-14	24.3	23.1	-5
US 92	WB	SR A1A to Kepler Road	19.4	27	23.4	-13	30	22.3	-26	29.6	24.7	-17	24.7	22.2	-10
SR 421	NB/EB	Howland Blvd to SR A1A	24.4	35.2	31.9	-9	36.5	30.2	-17	35.7	30.8	-14	32	30.3	-6
SR 421	SB/WB	SR A1A to Howland Blvd	24.4	35.5	30.6	-14	37.1	30.3	-18	36.9	33.9	-8	32.4	30.2	-7
SR 100	EB	US 1 to SR A1A	8.2	13.3	11	-18	14	10.9	-22	13.6	11.1	-19	11.7	10.9	-6
SR 100	WB	SR A1A to US 1	8.2	13.5	11	-19	14	10.9	-22	13.7	11	-20	11.9	10.9	-8
I-95	NB	SR 60 to South Volusia Boundary	86.5	74.4	77.9	5	74.6	75.4	1	74.6	76.7	3	75.2	74.4	-1
I-95	SB	South Volusia Boundary to SR 60	86.4	74.1	74.9	1	74.3	75.3	1	74	81.4	10	75	74.3	-1
Wickham Road	NB	SR 514 to St Andrews Blvd	15.9	31.5	32.6	3	32.8	26.3	-20	32.6	26.8	-18	26.2	26.1	0
Wickham Road	SB	St Andrews Blvd to SR 514	15.9	30.3	25.5	-16	31.7	26.6	-16	32.5	34.6	6	26	25.9	0
US 1	NB	SR 514 to US 192	5.9	8.5	10.7	26	8.5	8.4	-1	8.3	8.5	2	7.8	8.4	7
US 1	SB	US 192 to SR 514	5.9	8.5	8.3	-2	8.8	8.5	-3	8.9	11.6	30	8	8.4	5
SR 520	EB	Brevard County Boundary to SR A1A	16.2	24.8	23.1	-7	26.7	22.1	-17	27.1	23.8	-12	22.4	22	-2
SR 520	WB	SR A1A to Brevard County Boundary	16.2	24.7	23.6	-5	26.2	22.4	-15	25.9	24.5	-5	22.1	22.2	1%
US 192	EB	Deer Park Road to SR A1A	19.7	26.3	23.2	-12	28	23.3	-17	27.6	26.7	-3	24.1	23.1	-4

US 192	WB	SR A1A to Deer Park Road	19.7	26.5	25.7	-3	28.6	23.2	-19	28.7	24.1	-16	24.4	23	-6
SR 404	EB	I-95 to SR A1A	6.8	10.1	8.8	-13	9.7	8.7	-10	9.7	9.6	-1	9.2	8.7	-5
SR 404	WB	SR A1A to I-95	6.8	9.2	9.2	0	9.2	8.7	-6	9.3	9	-3	8.7	8.6	-1
US 1	NB	Indian River Blvd to SR 514	22.2	28.3	31.9	13	29.2	30.8	6	28.3	33.2	17	26.9	28.6	6
US 1	SB	SR 514 to Indian River Blvd	23.8	30.2	30.5	1	31.5	32.3	3	30.4	38.6	27	28.6	30.2	6
US 1	NB	US 192 to SR 528	24.4	36.5	35.1	-4	37.3	33.2	-11	37.9	34.7	-8	33.3	33.2	0
US 1	SB	SR 528 to US 192	24.3	37.8	34.5	-8	38.3	33.4	-13	37.9	37.1	-2	33.3	33.1	-1
US 1	NB	SR 528 to SR 46	19.7	27.6	25.8	-6	28.2	25.4	-10	27.5	25.9	-6	25.7	25.4	-1
US 1	SB	SR 46 to SR 528	19.7	28.5	25.5	-11	29.7	25.1	-16	29.1	25.8	-12	26.3	25.1	-5
Florida Tpk	NB	I-75 to Orange Boundary	34.6	30	29.7	-1	30.3	32.2	6	30.1	48.9	62	30.4	30.5	0
Florida Tpk	SB	Orange Boundary to I-75	34.5	30.3	39.7	31	30.4	31	2	30.2	30.7	2	30.8	29.8	-3
US 27	NB	Florida Turnpike to CR 466	17.1	24.7	25.3	2	25.9	24.7	-5	25	29.4	17	22.7	24.1	6
US 27	SB	CR 466 to Florida Turnpike	17.3	25.2	27.8	10	26.7	25.3	-5	26.3	27.9	6	23	24.4	6
US 50	EB	Sumter Boundary to Florida Turnpike	20	30.9	39.9	29	31	30.2	-2	30.3	29.1	-4	27.7	28.5	3
US 50	WB	Florida Turnpike to Sumter Boundary	19.3	28.5	25.9	-9	29.2	29.9	3	29.6	42.6	44	26.3	27.6	5
US 441	EB	US 27 to US 46	18.3	27.9	31.1	12	29.7	26	-13	29.1	28.8	-1	25.4	25.7	1
US 441	WB	US 46 to US 27	18.3	28.6	26.6	-7	30.2	26.3	-13	30	33.4	11	25.5	26.1	2
US 19	NB	US 441 to CR 445	15.7	22.7	21.4	-5	23.3	21.7	-7	23	24.4	6	21.3	21.6	2
US 19	SB	CR 445 to US 441	15.4	22.2	23	3	23.1	20.9	-10	22.7	20.9	-8	20.9	20.8	0
I-75	NB	North Hernando Boundary to South Alachua Boundary	61.3	52.6	52.9	1	53.4	53.3	0	53.1	56.1	6	53.5	52.6	-2
I-75	SB	South Alachua Boundary to North Hernando Boundary	59.9	51.6	52.8	2	51.7	52.4	1	51.8	53.9	4	52.1	51.4	-1
SR 200	NB	Citrus Boundary to US 301	18.4	27.2	25.8	-5	30.5	23.7	-22	29.2	24.3	-17	24.5	23.1	-6
SR 200	SB	US 301 to Citrus Boundary	18.4	26.6	23.3	-12	30	24	-20	29.3	27.9	-5	24.4	23.2	-5
SR 40	EB	Hwy 328 to US 301	10.4	15.5	23.1	49	15.8	17.1	8	15.9	20.8	31	13.7	14.5	6
SR 40	WB	US 301 to Hwy 328	10.4	15.6	14.6	-6	15.7	18.2	16	15.9	26.5	67	13.7	14.9	8
SR 464	EB	SR 200 to SE 110th	14	22.9	18.9	-18	23.3	19.4	-17	23.2	22.3	-4	20	19	-5
SR 464	WB	SE 110th to SR 200	14	22.5	21.4	-5	23.1	19.2	-17	23.3	19.8	-15	20.2	18.9	-6
US 27	NB	SE Highway 42 to SR 464	16.5	24.3	22.6	-7	25.1	21.7	-14	24.9	25.1	1	21.1	20.9	-1

US 27	SB	SR 464 to SE Highway 42	16.5	24.3	23.3	-4	24.9	21.8	-12	24.7	24.3	-2	21	21.4	2
US 41	NB	Citrus Boundary to Levy Boundary	12.9	16.6	14.7	-11	17.6	16.2	-8	17.3	22.2	29	15.4	14.9	-4
US 41	SB	Levy Boundary to Citrus Boundary	10.8	13.5	13.6	1	14.4	13.5	-6	14	14.2	2	12.5	12.5	0
SR 40	EB	US 301 to Hwy 314	10.8	16.8	16.1	-4	18.1	17.6	-3	17.9	18.3	2	15.6	16.2	4
SR 40	WB	Hwy 314 to US 301	10.8	17.1	17.9	5	18.1	17.4	-4	17.5	17.5	0	15.5	15.9	3
I-4	EB	East Hillsborough Boundary to West Osceola boundary	32	27.8	38.1	37	27.9	29.1	4	27.9	30.1	8	28.1	29.2	4
I-4	WB	West Osceola boundary to East Hillsborough Boundary	32	27.7	28.1	2	27.9	29.1	4	27.8	43.3	56	27.8	28.2	1
SR 570	EB	I-4 to I-4	23.8	23.8	22.8	-4	23.8	22.8	-4	23.6	23.2	-2	23.7	22.6	-4
SR 570	WB	I-4 to I-4	23.7	23.6	22.8	-3	23.8	22.8	-4	23.6	23.1	-2	23.6	22.6	-4
US 98	NB	South Polk County Boundary to North Polk County Boundary	49	71.9	73	1	74.3	75.4	2	73.8	78.6	7%	63.6	67.7	6
US 98	SB	North Polk County Boundary to South Polk County Boundary	48.4	69	69.5	1	70.7	73.3	4	70.8	80.4	14	61.4	65.2	6
SR 37	NB	SR 674 to US 98	24.5	35.7	33.2	-7	38.1	31.6	-17	38	32.6	-14	32.4	31.3	-4
SR 37	SB	US 98 to SR 674	24.5	36	31.3	-13	37.7	31.7	-16	37.4	35	-6	32.5	31.2	-4
SR 60	EB	West Polk County Boundary to East Polk County Boundary	55.2	63.3	60	-5	64.5	63.3	-2	63.1	71.6	14	59.5	59.1	-1
SR 60	WB	East Polk County Boundary to West Polk County Boundary	55.9	63.9	64.8	1	64.6	64.1	-1	63.2	68.8	9	60	59.8	0
US 27	NB	South Polk County Boundary to North Polk County Boundary	49.8	62.1	65.8	6	64.3	56.4	-12	63.8	55.2	-14	56.9	57.9	2
US 27	SB	North Polk County Boundary to South Polk County Boundary	49.8	61.7	53.5	-13	63.5	56.4	-11	63.7	71.5	12	56.9	54.7	-4
CR 580	EB	Power Line Rd to Old Plesant Hill Rd	10	14.7	15.9	8	15.2	15.5	2	15	83.1	454	13.3	15.2	14
CR 580	WB	Old Plesant Hill Rd to Power Line Rd	10	14	78.2	459	14.5	15	3	15.3	36.8	141	13	14	7
SR 512	EB	I-95 to US 1	6.4	10.7	9.2	-15	10.7	9.2	-14	10.5	12	14	9.4	9	-4
SR 512	WB	US 1 to I-95	6.5	11.3	10	-11	11.3	9.3	-18	11.2	10	-11	10.1	9.2	-8
			2,648	3,264	3,294	1	3,363	3,073	-9	3,396	3,507	3	3,032	3,000	-1

**Green* = *Preferable; Blue* = *Acceptable; Red* = *Out of Range*

Source: CFRPM 7, HERE Observed Travel Time

6.6 Volume-Delay Functions

Volume-delay functions (VDFs) are used in highway assignment to estimate speeds and travel times degraded (delayed) by auto congestion (volume to capacity). Generally, VDFs do not degrade travel speeds when the volume is significantly below capacity. As volume approaches capacity, speeds are assumed to degrade. Speeds are assumed to degrade rapidly when volume exceeds capacity.

It is difficult to verify VDFs at a link-level. However, by comparing the results of observed/estimated comparisons of volume, VMT, VHT, and travel times, a broad conclusion can be made that CFRPM's VDFs do appear to be reasonable. The VDFs used for I-4 may need to be revised in future versions since the volumes are accurate, but the congested travel times are over-estimated for some roadway facilities.

7 Longitudinal Tests

CFRPM is primarily used to forecast impacts from changes over time to the transportation system and socio-economic conditions. The tests and benchmarks in this report until now have focused on "snapshot" data: how close is CFRPM to observed data in 2015. While it is important that CFRPM reasonably reflect 2015 conditions, the latest year with all available input data, it is equally important that CFRPM provide reasonable forecasts given changes to the input data.

A helpful method to assess CFRPM's forecast ability is to conduct longitudinal tests. Longitudinal tests evaluate how the demand model responds to changes in the transportation system and socio-economic conditions over time. Two longitudinal tests were performed for CFRPM 7. The stronger test was a backcast (i.e., a forecast to a year in the past) to 2010 conditions. The other test evaluated changes to an estimated 2045 "no action" scenario.

7.1 2010 Backcast

This longitudinal test involved developing the 2010 socio-economic data and roadway network and comparing the model results to (a) changes in the model inputs, (b) the 2010 traffic counts used for CFRPM 6 validation and the (c) CFRPM 6 model outputs.

The 2010 roadway network was developed by using the 2015 roadway network as a base and then revising the number of lanes for limited-access facilities and major arterials to match 2010 conditions. Changes in these facilities were identified by reviewing the current Transportation Improvement Program (TIP) and past Long Range Transportation Plans (LRTP) for projects constructed between 2010 and 2015. This network was then compared to CFRPM 6 2010 network and the 2011 Highway Performance Monitoring System (HPMS) roadway GIS file.

The 2010 socio-economic data was developed in multiple steps. The 2015 socio-economic data was scaled down to the 2010 population and employment control totals by county from CFRPM 6. However, the 2010 total population in Volusia and Flagler Counties from CFRPM 6 is higher than the Census, adjustments were made to match the population control totals using the 2010 Census minus group quarter population for these two counties. The special purpose input data use the same attendance levels as CFRPM 6 2010 base year, except for OIA. The 2010 OIA passenger levels were scaled back by using the Compound Annual Growth Rate (CAGR) and transfer rate from the *GOAA traffic summary report*[12].

[12] Please note all inputs were same as trucks, diurnal factor, external trips, IE trips between 2010 backcast and 2015 base year. Also, all number of transit trips are the same. So, the STOPS files used in 2010 are the same as 2015. No 2010 STOPS files were created.

7.1.1 Major Inputs and Outputs

Table 7-1 compares the major inputs (population and employment) and outputs (VMT and VHT) for 2010 and 2015. The table shows that CFRPM 7's traffic levels decreased at the same level as the population and employment levels, although VHT decreases at a greater amount. This indicates there is more auto congestion in 2015 than 2015.

Table 7-1 Comparison of Major Inputs and Outputs

Year	Input		Output	
	Population	Employment	VMT	VHT
2015	4,814,794	2,054,592	139,771,874	3,822,669
2010	4,574,959	1,927,363	136,095,549	3,398,093
Growth%	-5%	-6%	-3%	-11%

Source: CFRPM 7

7.1.2 2010 Traffic Counts

The next test compared the 2010 CFRPM 7 results against the 2010 daily traffic counts used for CFRPM 6 validation. Only 5,572 of CFRPM 6's 6,859 (81%) 2010 daily traffic counts were used for this comparison. The count site IDs for the remaining 19% could not be matched with CFRPM 7 sites. Count site IDs for 613 truck counts for 2010 could be matched. CFRPM 6 documentation was unclear whether the 2010 traffic counts reflected Peak Season Weekday Traffic.

The assignment results are shown in Table 7-2. Overall, CFRPM 7 produces more traffic than is reflected in the daily traffic counts. Assuming the traffic count issues described above are not contributing to these results, they suggest that CFRPM 7's trip lengths are longer than observed in 2010. The amount of traffic appears to be correct given the results in the previous Table 7-1.

Table 7-2 Comparing the Backcast Results to 2010 Traffic Counts

Category	CFRPM 7 (2010)
Regional Volume/Count Ratio (%RMSE), Daily	1.08 (37%)
Volume/Count Ratio (%RMSE), Freeways	1.10 (23%)
Volume/Count Ratio (%RMSE), Trucks	0.90 (83%)
VMT V/Cnt Ratio	1.17
VHT V/Cnt Ratio	1.14

Source: CFRPM 7

7.1.3 Comparison with CFRPM 6 Results

The final backcast test compared the 2010 CFRPM 7 results with the corresponding results from CFRPM 6. This comparison helps to identify major differences between CFRPM 6 and 7 beyond model characteristics.

CFRPM 6 consisted of two different models: one producing daily traffic volumes and another for time-of-day traffic (TOD). The daily model was used to produce the official validation metrics. Only a selected number of CFRPM 6 time-of-day metrics were documented. CFRPM 6 had slightly different time period settings, making direct time period comparisons difficult. There are other differences between CFRPM 6 and 7; these are summarized in the following Table 7-3.

Table 7-3 Difference Summary of CFRPM 6 and CFRPM 7

Category	CFRPM 6 (both TOD and daily models)	CFRPM 7	%Delta
Traffic Analysis Zones (TAZs) (includes zone numbers reserved for future use)	5,406	9,057	+68%
Roadway network links Not including centroid connectors Including centroid connectors	40,503 60,980	46,784 72,898	+16% +20%
Total lane-miles (not including centroid connectors)	22,263	24,911	+12%
Lines of code	34,000	12,000	-65%
Traffic Counts (Time-of-Day)	5,665	10,335	+82%
Traffic Counts (Daily)	6,859	10,426	+52%
Truck Traffic Counts (Daily)	613	2,216	+260%
% of links with traffic counts (TOD)	9%	14%	+56%
% of links with traffic counts (daily)	11%	14%	+27%
Base year	2010	2015	--

Source: CFRPM 7, CFRPM 6

With these differences in mind, Table 7-4 compares the 2010 results of CFRPM 6 daily model, CFRPM 6 time-of-day model and CFRPM 7.

Table 7-4 Comparison CFRPMs 6 (daily and TOD) and 7

Category	CFRPM 6 (Daily)	CFRPM 6 (TOD)	CFRPM 7 (TOD)
Regional Volume/Count Ratio (%RMSE), Daily	1.03 (35%)	1.06 (40%)	1.08 (37%)
Volume/Count Ratio (%RMSE), Freeways	0.97 (13%)	1.17 (34%)	1.10 (23%)
Volume/Count Ratio (%RMSE), Trucks	1.11 (44%)	n/a*	0.90 (83%)
Regional Vehicle Miles Traveled (VMT) VMT V/Cnt Ratio	110M 1.03	110M 1.08	136M 1.17

Category	CFRPM 6 (Daily)	CFRPM 6 (TOD)	CFRPM 7 (TOD)
Regional Vehicle Hours Traveled (VHT)	3.1M	2.5M	3.4M
VHT V/Cnt Ratio	1.04	1.09	1.14
Regional Vehicle Trips (daily)	12M	12M	11M
Average congested speed	36.5 mph	41.0 mph	40.0 mph

* CFRPM 6 combined LOV, LTRK, and HTRK trips together in assignment

Source: CFRPM 7, CFRPM 6

If the structural and traffic count differences between CFRPM 6 and 7 are not significant, the results indicate that CFRPM 7 produces more traffic than CFRPM 6 at a slightly higher average speed. The VMT comparisons in Chapter 6 indicate that CFRPM 7 has approximately the right level of traffic demand (in the form of VMT). These results indicate that the trip lengths might be longer than what might be observed in the real-world. It is interesting that CFRPM 7's results are similar to CFRPM 6 TOD model results. This may indicate that both time-of-day models are not reflecting travel lengths or patterns correctly throughout the day. Overall, these results show that CFRPM 7 produces volume-to-count metrics similar to those from CFRPM 6.

7.2 2045 E+C Forecast

This longitudinal test involved developing the 2045 socio-economic data and roadway network and comparing the model results to changes in the model inputs.

The 2045 roadway network reflects only existing and committed (E+C) projects such as the I-4 Ultimate and Wekiva Parkway. Table 7-5 shows the assumed growth in lane-miles between 2015 and 2045. Lane-miles increase by 11% regionally, with limited-access roadway capacity growing by 26%.

Table 7-5 2045 Network changes (Lane-miles)

County	Limited-access			Arterial Road			Local Road			Total		
	2015	2045	Growth %	2015	2045	Growth %	2015	2045	Growth	2015	2045	Growth %
Brevard	567	614	8%	1,379	1,644	19%	765	815	7%	2,712	3,074	13%
Flagler	119	120	1%	340	360	6%	277	279	1%	736	760	3%
Indian River	67	87	30%	232	264	14%	135	151	12%	434	502	16%
Lake	102	242	137%	748	888	19%	1,076	1,082	1%	1,926	2,211	15%
Marion	239	240	0%	1,012	1,142	13%	1,639	1,661	1%	2,891	3,043	5%
Orange	1,199	1,541	29%	2,385	2,703	13%	1,503	1,643	9%	5,087	5,887	16%
Osceola	395	528	34%	792	945	19%	620	660	6%	1,806	2,133	18%
Polk	337	393	17%	1,916	2,055	7%	1,598	1,630	2%	3,851	4,078	6%
Seminole	201	296	47%	662	747	13%	570	582	2%	1,434	1,626	13%

Sumter	183	253	38%	413	484	17%	393	417	6%	989	1,154	17%
Volusia	391	480	23%	1,321	1,442	9%	1,150	1,170	2%	2,861	3,093	8%
Total	**3,799**	**4,795**	**26%**	**11,201**	**12,675**	**13%**	**9,726**	**10,090**	**4%**	**24,726**	**27,560**	**11%**

Source: CFRPM 7

The 2045 population and employment were developed for the 2045 LRTPs currently being conducted by the MPO/TPOs. The changes between 2015 and 2045 are shown in Table 7-6. The population and employment are expected to grow significantly: a regional 51% and 79% increase, respectively.

Table 7-6 2045 ZDATA Changes

County	Population			Employment		
	2015	2045	Growth%	2015	2045	Growth%
Brevard	555,850	705,162	27%	252,418	371,095	47%
Flagler	101,289	182,148	80%	25,805	50,167	94%
Indian River	47,391	66,824	41%	14,926	18,653	25%
Lake	318,365	511,433	61%	129,709	252,743	95%
Marion	333,186	444,911	34%	111,501	174,481	56%
Orange	1,213,443	1,973,025	63%	809,785	1,364,337	68%
Osceola	313,899	655,186	109%	93,859	276,410	194%
Polk	655,197	917,301	40%	194,740	434,262	123%
Seminole	449,141	588,820	31%	186,966	364,489	95%
Sumter	108,557	223,979	106%	30,189	71,336	136%
Volusia	503,615	698,777	39%	204,694	305,529	49%
Total	**4,599,933**	**6,967,566**	**51%**	**2,054,592**	**3,683,502**	**79%**

Source: CFRPM 7

Like the 2010 backcast, the 2045 forecast also uses 2045 special purpose productions used for CFRPM 6. OIA passengers for 2045 were based upon *GOAA's traffic summary report*. Estimates for Universal Studio's third theme park were also included.

The resulting person trips, VHT and average speed for 2015 and 2045 are shown in Table 7-7. CFRPM 7 generates person trips by county at a rate similar to the population growth rate. VHT and average speed changes are indicators for congestion of the roadways. For example, an increase in the VHT or a decrease in the average speed means that traffic condition is worse than before. Congestion increases regionally since the demand growth is greater than the supply growth: a 56% increase in person trips is 5 times higher than the 11% increase in capacity.

The growth rate of the VHT and average speed may look remarkable given the growth rate of demand for some counties. However, considering that the relationship between volume and delay is exponential, this trend is reasonable.

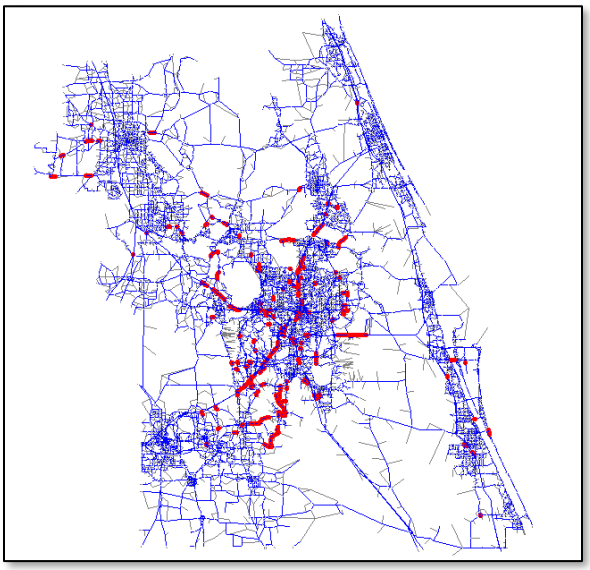
Table 7-7 2045 Results Changes

County	Person Trips			VHT			Average Speed (mph)		
	2015	2045	Growth %	2015	2045	Growth %	2015	2045	Growth %
Brevard	2,044,259	2,569,511	26%	369,955	499,333	35%	42	41	-2%
Flagler	315,197	567,622	80%	65,438	106,634	63%	49	43	-12%
Indian River	153,521	207,492	35%	54,934	63,864	16%	47	48	1%
Lake	1,121,694	1,758,176	57%	265,249	507,613	91%	39	32	-17%
Marion	1,133,548	1,495,334	32%	295,910	407,177	38%	41	36	-12%
Orange	4,309,078	7,458,100	73%	1,003,944	1,817,046	81%	37	33	-11%
Osceola	1,214,634	2,810,861	131%	263,951	785,555	198%	38	22	-41%
Polk	2,069,806	3,024,242	46%	533,877	853,036	60%	39	36	-8%
Seminole	1,567,474	2,043,435	30%	277,665	455,755	64%	36	33	-7%
Sumter	376,805	757,429	101%	120,503	1,587,060	1217%	45	6	-87%
Volusia	1,766,730	2,459,456	39%	348,133	610,245	75%	42	36	-15%
Total	**16,072,744**	**25,151,658**	**56%**	**3,599,559**	**7,693,316**	**114%**	**39**	**28**	**-29%**

Heavy congested roads with a ratio of volume to LOS C capacity higher than 1.5 are shown in Figure 7-1 and Figure 7-2 for 2015 and 2045. Congestion is expected to increase throughout the Orlando urban area, along I-75 into Marion County, along I-4 into Polk and Volusia Counties.

Figure 7-1 2015 Congestion (Volume to LOS C Capacity Ratio > 1.5)

(a) AM



(b) PM

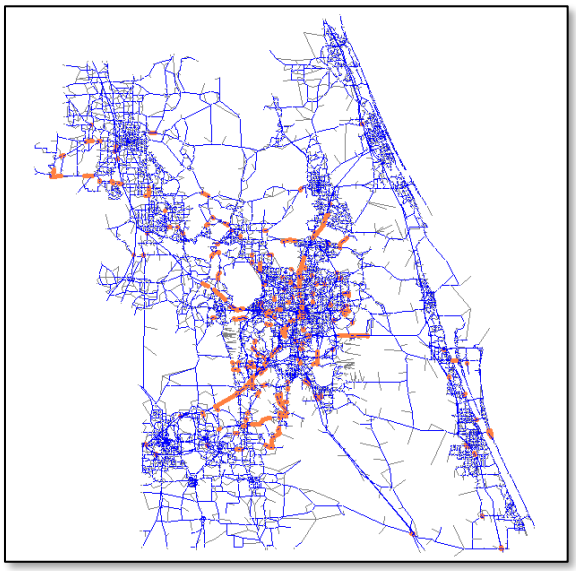
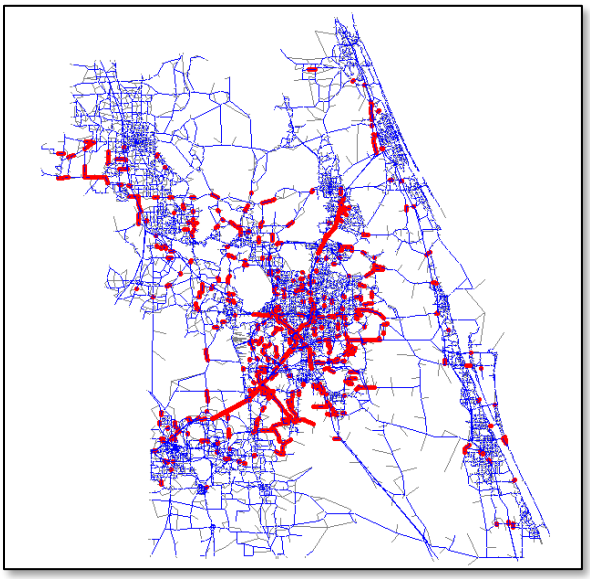


Figure 7-2 2045 Congestion

(a) AM



(b) PM

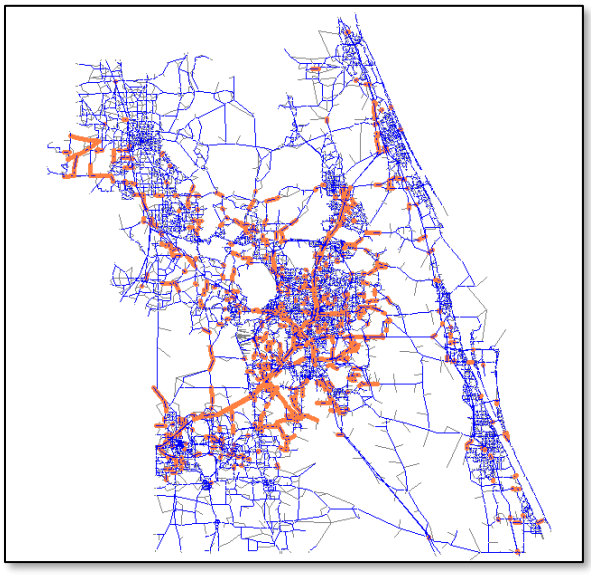


Figure 7-3 AM Volume Change Between 2015 and 2045

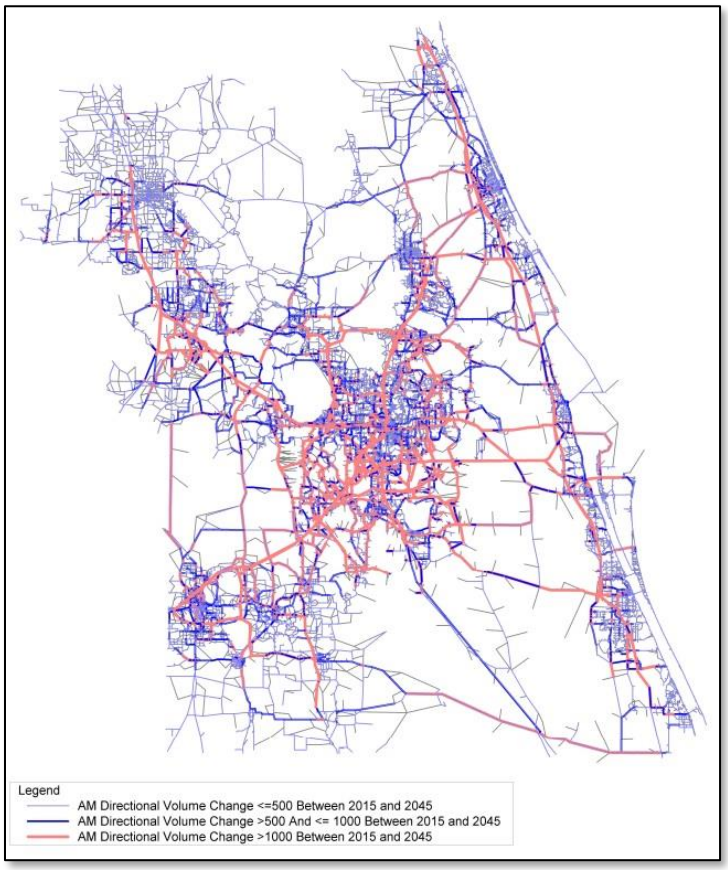
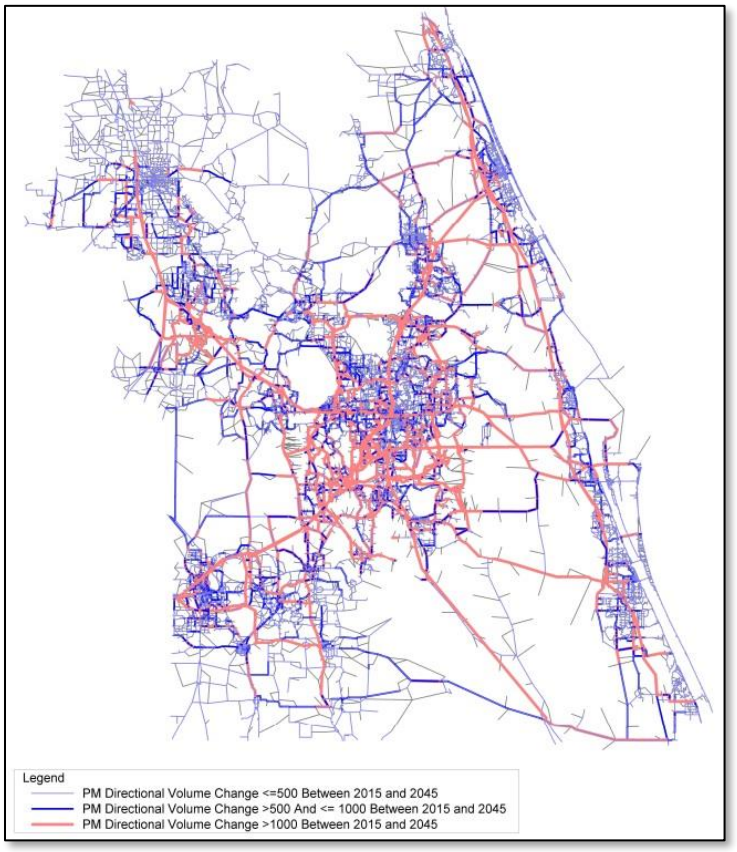


Figure 7-4 PM Volume Change Between 2015 and 2045



8 Summary

The results of each component of CFRPM 7 have been tested against a broad range of tests, benchmarks and metrics. Where possible, results have been compared to observed data. If observed data is not available, results were compared against benchmarks and manual reviews. Taken together, CFRPM 7 has undergone the most comprehensive review more than any previous version.

Initially, the ZDATA (socio-economic data) was run through 53 error and reasonableness tests. Zones that failed to achieve positive results were manually inspected for reasonableness. Then separate tests and comparisons were conducted separately for the household, employment, and K-12 school ZDATA data.

The household data compares favorably to alternate data sources such as BEBR, BEA and the American Community Survey (ACS). The employment data is consistent generally with data from Bureau of Labor Statistics (BLS), American Community Survey (ACS), County Business Patterns (CBP), Woods & Poole (W&P), and Bureau of Economic Analysis (BEA) 2015. One issue is that BEA has significantly more employment in Orange, Osceola, Polk, and Seminole Counties; the reasons for these strong differences are unknown at this time. CFRPM K-12 school enrollment is higher than the ACS data, the only data available during model development, in all counties. Most differences are minor, but there are significant differences in Osceola and Seminole Counties. The reasons for these significant differences are unknown but they correspond to similar differences in the employment data comparisons.

The roadway network is the biggest component to CFRPM. The posted speeds of all 46,784 links were verified against FDOT data and available maps and GPS data. Adjustments were made to 5% of all links. The number of lanes were verified using similar data, with less than 1% of all links requiring corrections. Several other roadway network data, including area types, facility types and turn prohibitors, were reviewed and adjusted via visual inspection.

The estimated free-flow speeds were compared to observed speeds during an average Sunday between 7-8 AM. There is a significant variation in the results by facility type. One reason for this variation is that the estimated free-flow speed equations were developed at an aggregate level due to significant noise in the observed dataset. Another reason is that, due to schedule constraints, the free-flow speed equations had to be developed before the roadway posted speeds could be verified. Generally, the project team concludes that the estimated free-flow speeds, at a regional level, are reasonable for long-range planning use. In subsequent updates, the observed free-flow speed data – especially for ramps – should be reviewed thoroughly before use and updates to the equations should be made after posted speeds are verified.

The trip generation results are mostly within national benchmarks. Sumter County is showing a lower number of work trips than the benchmarks and higher numbers of non-work trips. This may be due to a larger proportion of retired households in that county. Overall, the trip generation results are superior to those from the previous version of CFRPM.

The trip distribution results were reviewed at a regional level using benchmarks. The average trip lengths were longer than mid-point of the benchmark values, but mostly within the ranges. The percentage of intrazonal trips were generally much lower than the benchmarks. These results

may imply that CFRPM might be slightly over-estimating traffic, but the new zone system – which produced, on average, smaller area zones – might be contributing to the results.

The county-to-county trip flows were reviewed manually by purpose. Across all purposes, over 85% of county-to-county movements have errors of less than 10%. This indicates that the estimated county-to-county flows are generally consistent with the corresponding observed flows. Additionally, the estimated trip flows within the METROPLAN Orlando MPO and the outer counties are generally consistent with the corresponding observations for all five trip purposes.

The trips computed in CFRPM's mode choice step were also reviewed for reasonableness. The number of non-motorized trips and their trip lengths are reasonable and consistent with the corresponding NHTS data. The calibrated OIA trip results match their observed values.

The transit results indicate that CFRPM STOPS model understands the transit travel patterns of Central Florida. The differences between the total observed and estimated linked trips are minor – defined as less than 10% or 500 trips – by trip purpose and access mode. For each agency, total estimated trips are within ± 5% of the observed trips. PNR boardings show a high percentage of delta compared to other access modes. However, this has a slight impact on the model validity since this is the least-used access mode in the region. There is only 3% difference between the observed and estimated regional transfer rate, indicating that the transit model understands the transferring activity of Central Florida transfer riders at a regional level.

The comparisons of auto occupancy rates and percentages of trips by auto occupancy indicate that CFRPM 7's values are similar to those from the NHTS datasets and other Florida models. This indicates that CFRPM 7's estimates of auto trips for these purposes are reasonable given the number of person trips produced in the Trip Distribution step.

The highway assignment results were compared using benchmarks for traffic volume, VMT, VHT, and travel time. The daily results are all within the acceptable or preferable benchmark ranges. The screenline results indicate overestimated traffic across Volusia County and Flagler County boundaries and SR 60 (Indian River), Polk Parkway (Polk), and SR 19 (Lake). But overall the screenline analysis shows that CFRPM 7 reasonably reflects traffic demand throughout most areas in the region. Comparisons of VMT to the DVMT Report indicate that CFRPM is producing VMT 3% within observed values.

There was a common theme among the time of day assignment results. Traffic demand in the AM and PM Peak periods tended to be higher than the acceptable benchmark, but within the acceptable or preferable benchmarks for the midday and evening periods. Overall, CFRPM produces time-of-day results that generally meet acceptable standards. CFRPM estimates travel times well, but there is the trend that congestion along I-4 is over-estimated.

It is difficult to verify VDFs at a link-level. However, by comparing the results of observed/estimated comparisons of volume, VMT, VHT and travel times, a broad conclusion can be made that CFRPM's VDFs do appear to be reasonable. The VDFs used for I-4 may need to be revised in future versions since the volumes are accurate, but the congested travel times are over-estimated.

While it is important that CFRPM reasonably reflect 2015 conditions, the latest year with all available input data, it is equally important that CFRPM provide reasonable forecasts given

changes to the input data. Two longitudinal tests were performed for CFRPM 7 to help assess this ability. The stronger test was a backcast (i.e., a forecast to a year in the past) to 2010 conditions. The other test evaluated changes to an estimated 2045 "no action" scenario.

In the 2010 backcast, CFRPM 7 produces more traffic than is reflected in the daily traffic counts. This suggests that CFRPM 7's trip lengths are longer than observed in 2010. The results also indicate that CFRPM 7 produces more traffic than CFRPM 6 at a slightly higher average speed. The VMT comparisons in Chapter 6 indicate that CFRPM 7 has approximately the right level of traffic demand (in the form of VMT). It is interesting that CFRPM 7's results are similar to CFRPM 6 TOD model results. This may indicate that both time-of-day models are not reflecting travel lengths or patterns correctly throughout the day. Overall, these results show that CFRPM 7 produces volume-to-count metrics similar to those from CFRPM 6.

In the 2045 "no action" forecast, CFRPM 7 generates person trips by county at a rate similar to the population growth rate. Congestion increases regionally since the demand growth is greater than the supply growth: a 56% increase in person trips is 5 times higher than the 11% increase in capacity. The growth rate of the VHT and average speed may look remarkable given the growth rate of demand for some counties. However, considering that the relationship between volume and delay is exponential, this trend is reasonable.

Through this extensive review, CFRPM 7 has been shown to reasonably reflect Central Florida transportation demand and travel patterns and is a reliable technical tool for long-range planning analyses.

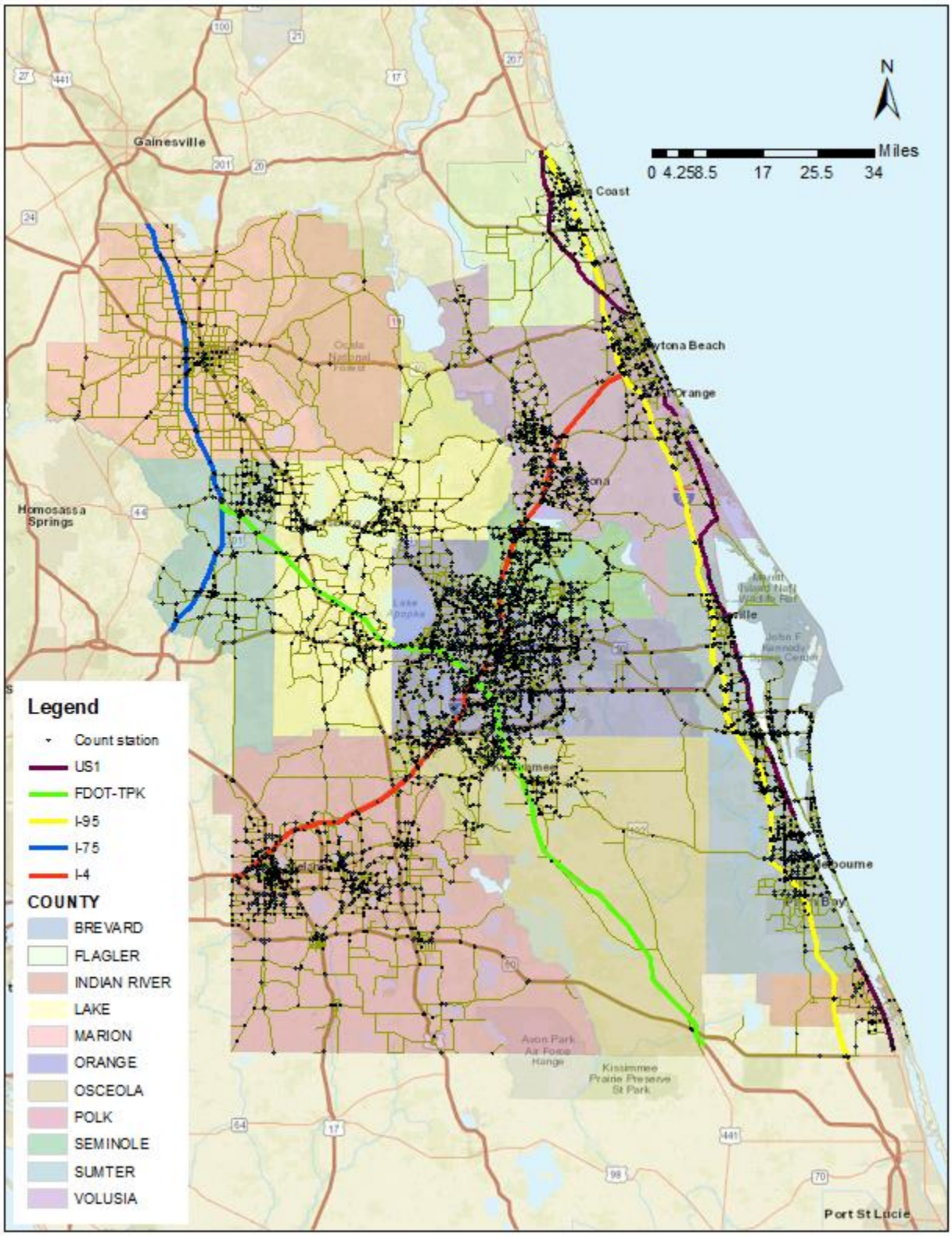
Appendix A: Average Annual Daily Traffic Development

Traffic count data are key pieces of data used to validate the Central Florida Regional Planning Model (CFRPM). In the Central Florida region, traffic counts are collected by different sources, including the Florida Department of Transportation (FDOT), Florida's Turnpike (FDOT-TRK), Central Florida Expressway Authority (CFX), Reedy Creek Improvement District (RCID), Greater Orlando Aviation Authority (GOAA), as well as numerous cities, municipalities and counties. As a result, multiple count data may exist for the same facility.

A master count database was developed for CFRPM validation and other applications. All counts are in 15-minute increments by direction and reflect 2015 conditions, although some counts were collected as early as 2014 and as recent as 2017. The original count data were merged into a common format and converted to Peak Seasonal Weekday Average Daily Traffic (PSWADT). Then multiple count data records (essentially duplicative count records) were removed from the database. Counts with anomalous values were also removed. Finally, the counts are linked to CFRPM highway network for model validation.

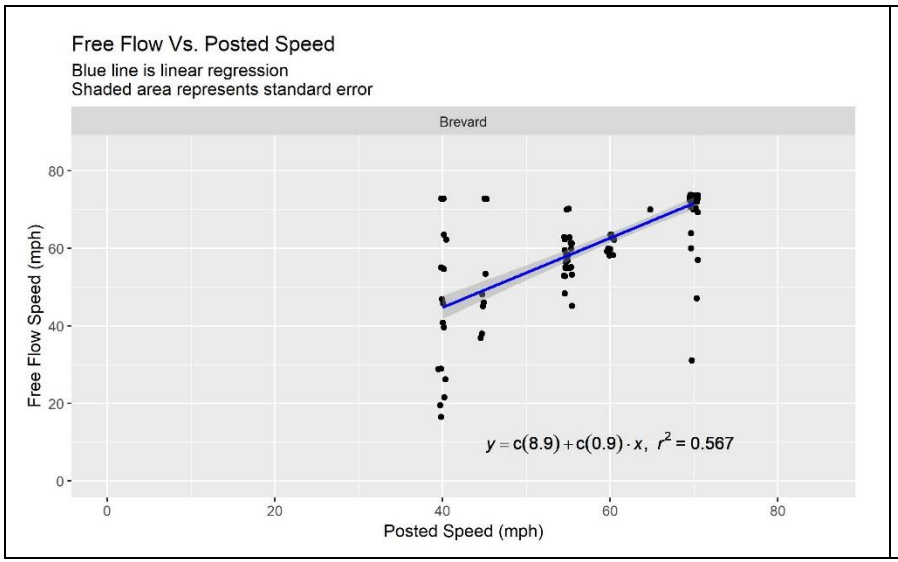
The assembled data came from 6,349 count stations and represent 11,335 counts by direction, each by 15-minute increments. The count stations are shown in Figure A-1.

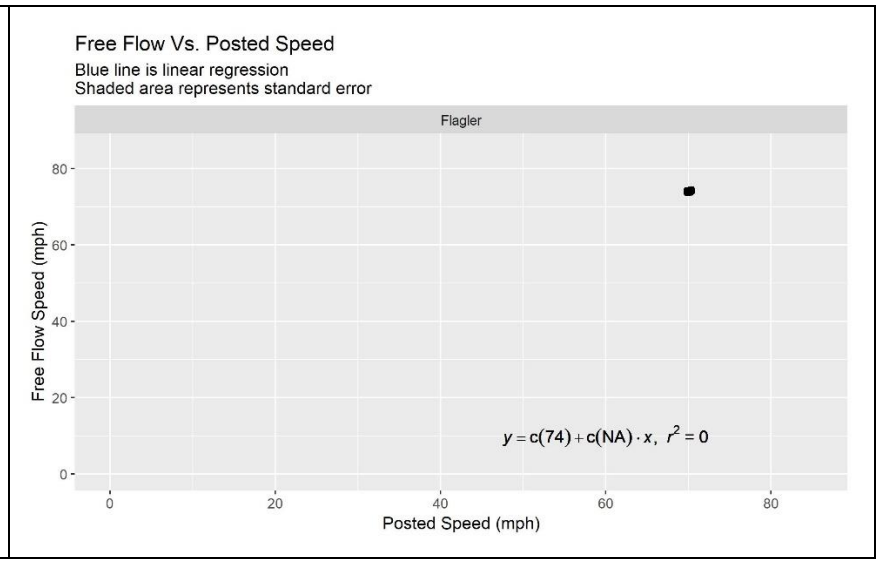
Figure A-1 Count Locations in CFRPM Area

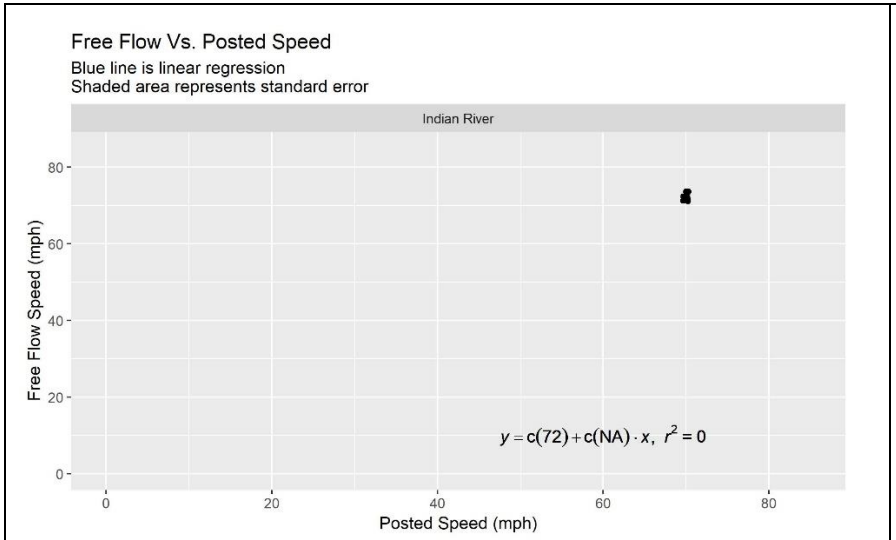


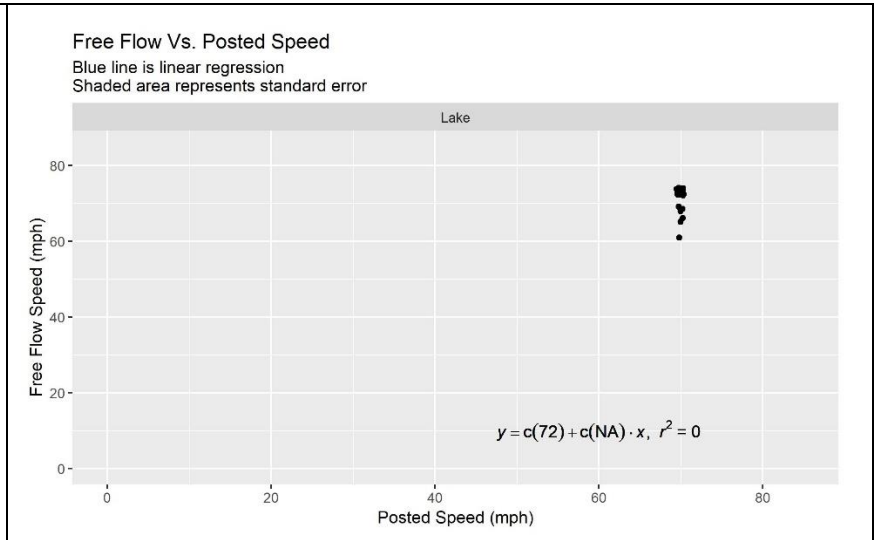
Appendix B: Regression Analysis of Posted and Free Flow Speeds

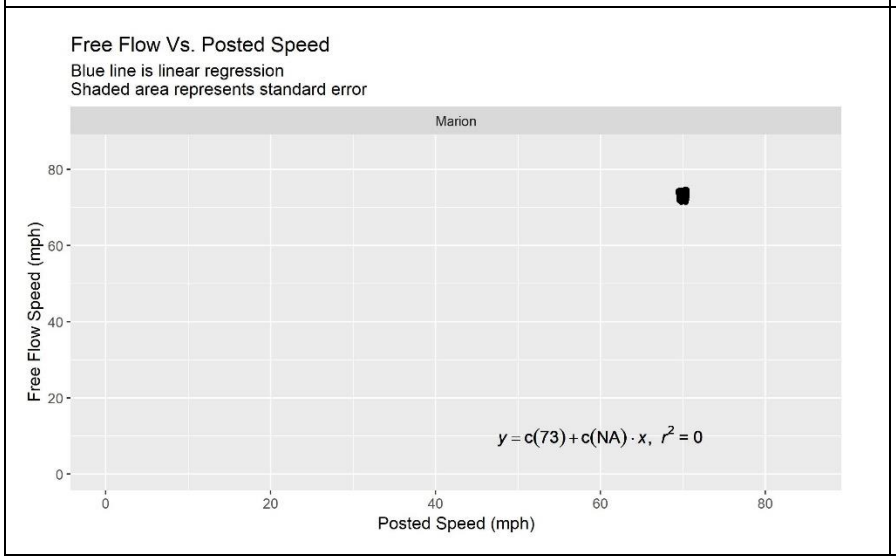
Free Flow Speed Vs. Posted Speed on Freeways by County

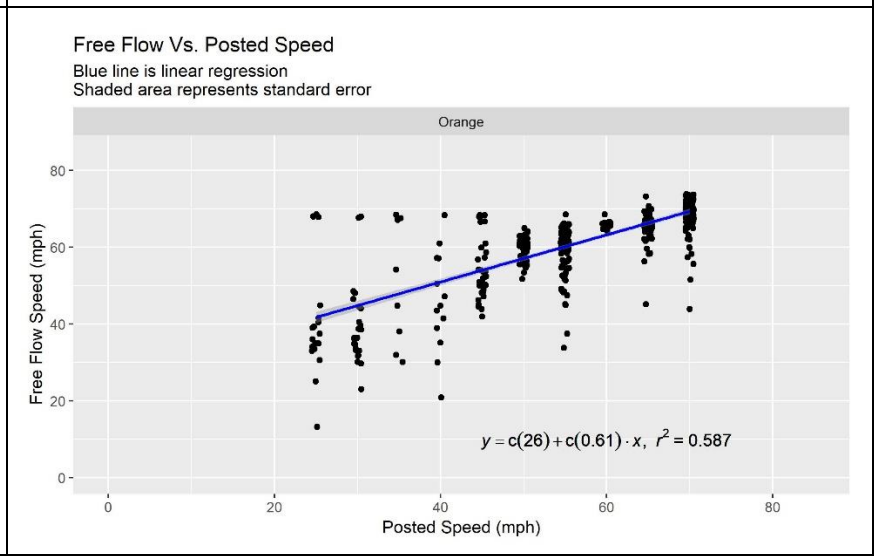


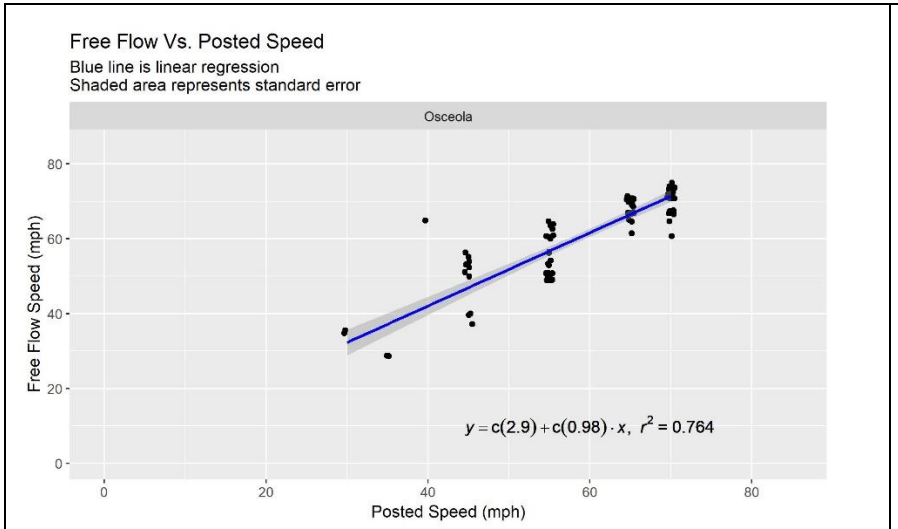


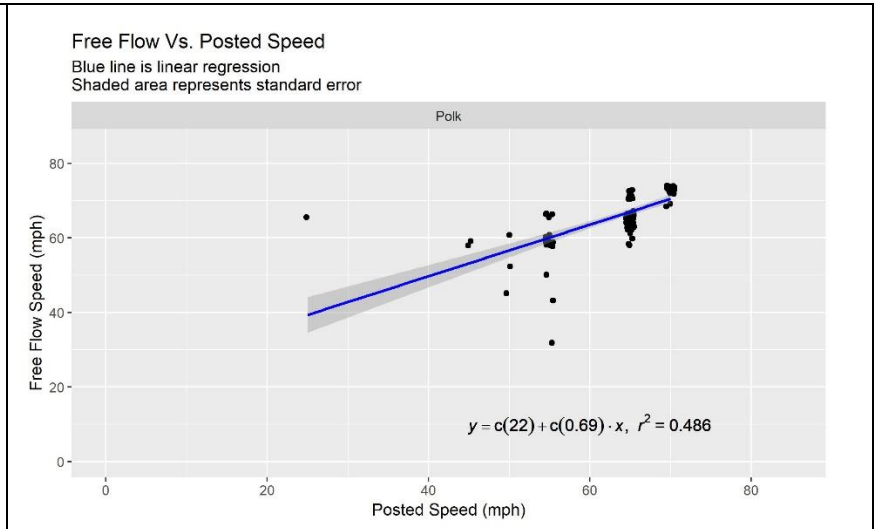

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Indian River
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40
60
80
$y = c(72) + c(NA) \cdot x,\ r^2 = 0$

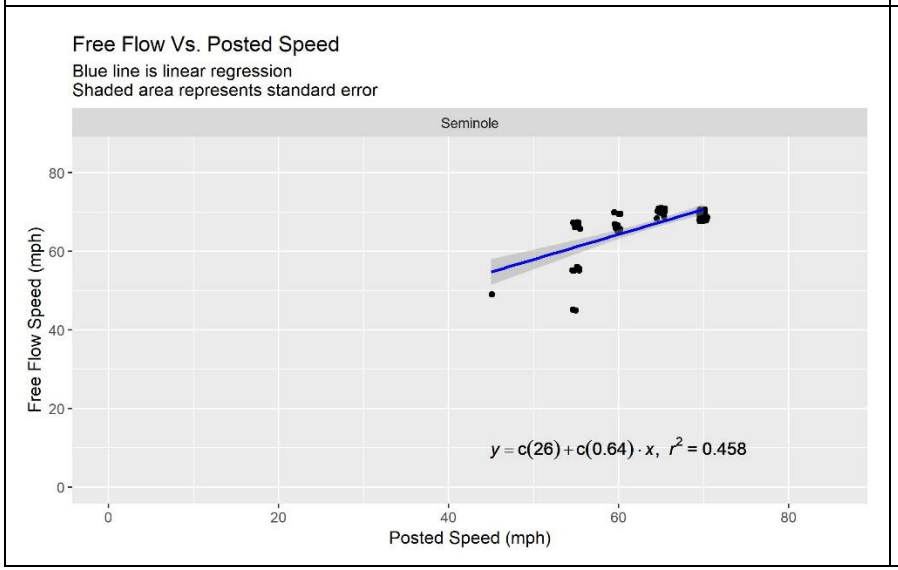

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Lake
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40
60
80
$y = c(72) + c(NA) \cdot x,\ r^2 = 0$

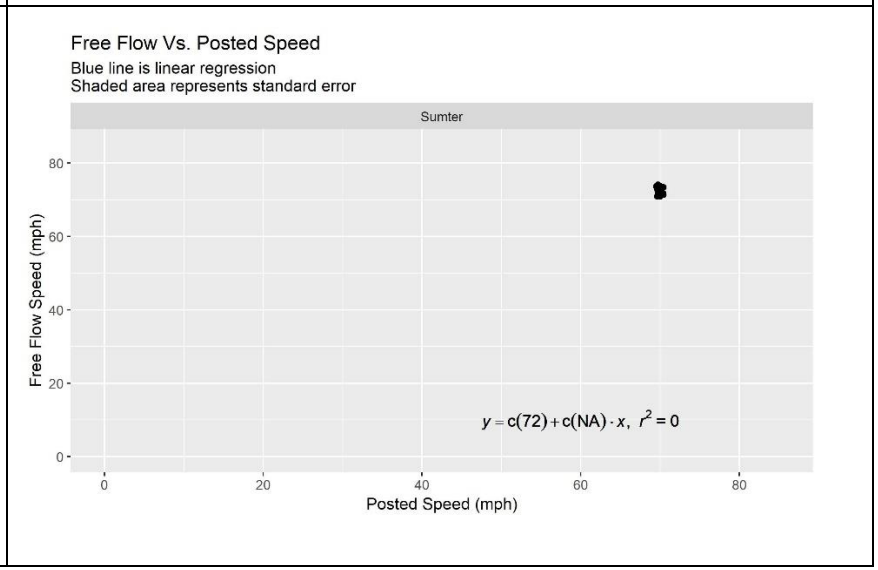

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Marion
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40
60
80
$y = c(73) + c(NA) \cdot x,\ r^2 = 0$

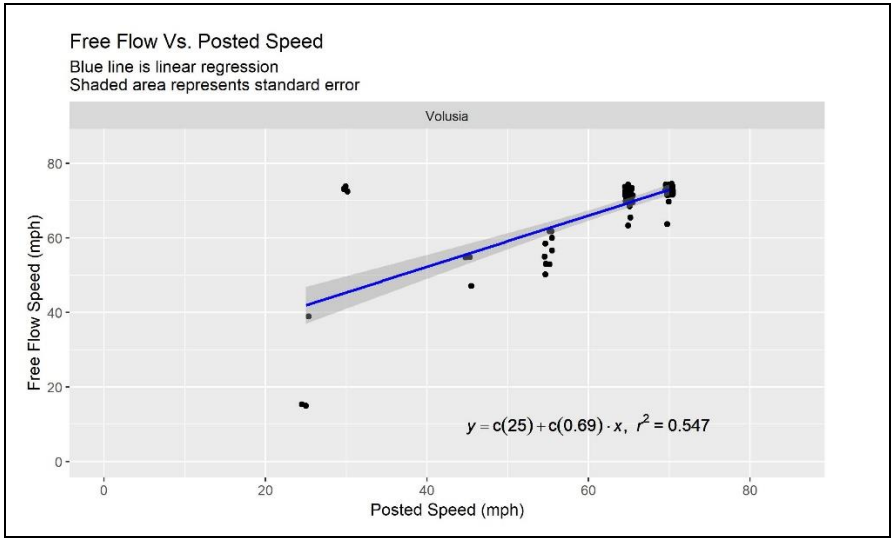

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Orange
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40
60
80
$y = c(26) + c(0.61) \cdot x,\ r^2 = 0.587$


Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Osceola
Free Flow Speed (mph)
Posted Speed (mph)
y = c(2.9) + c(0.98) · x, r² = 0.764

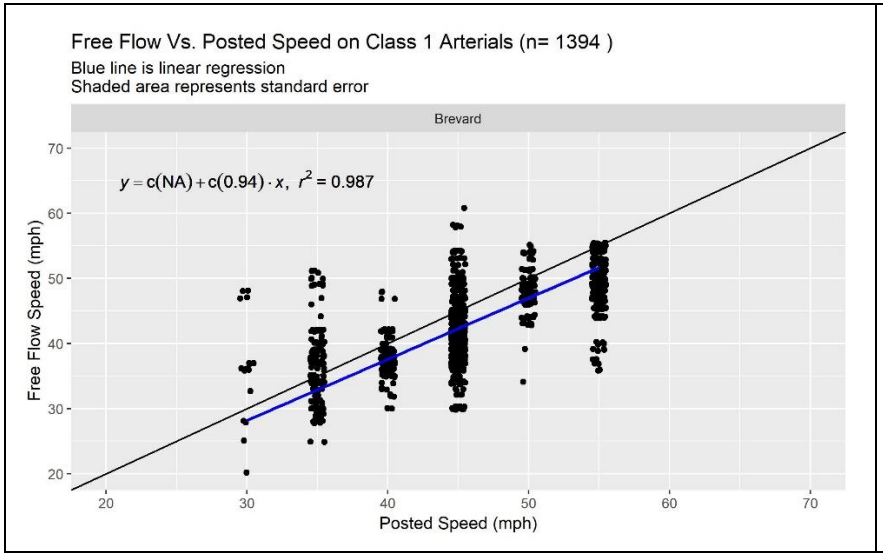

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Polk
Free Flow Speed (mph)
Posted Speed (mph)
y = c(22) + c(0.69) · x, r² = 0.486

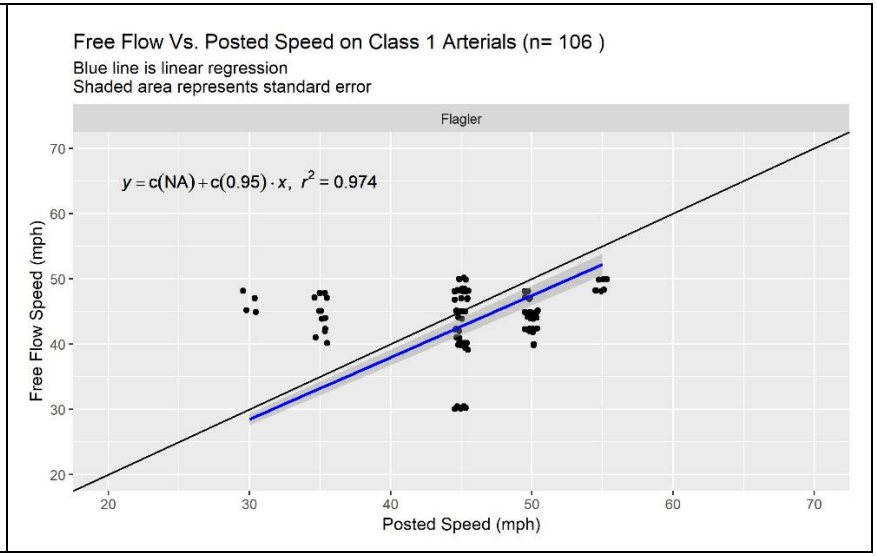

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Seminole
Free Flow Speed (mph)
Posted Speed (mph)
y = c(26) + c(0.64) · x, r² = 0.458

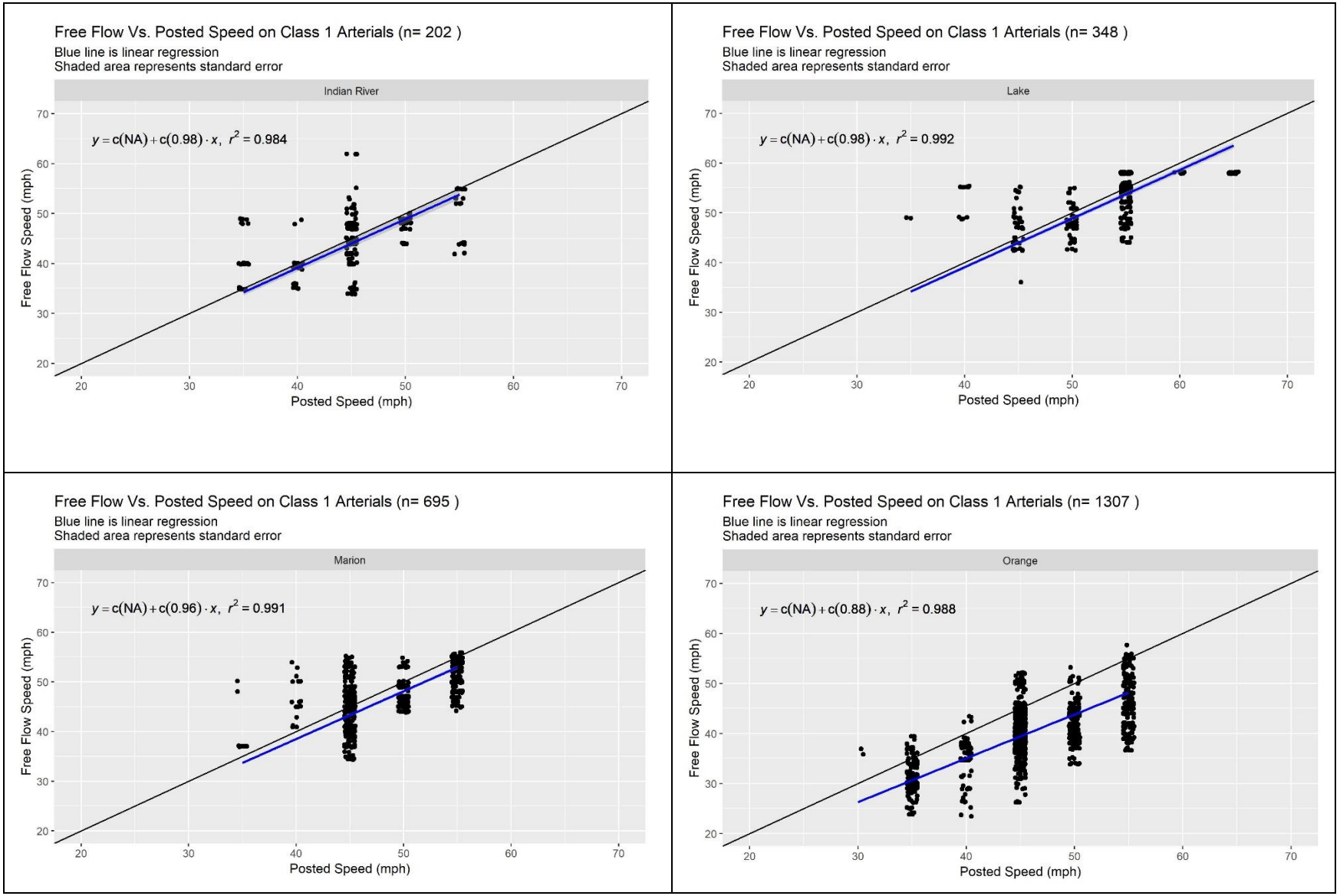

Free Flow Vs. Posted Speed
Blue line is linear regression
Shaded area represents standard error
Sumter
Free Flow Speed (mph)
Posted Speed (mph)
y = c(72) + c(NA) · x, r² = 0

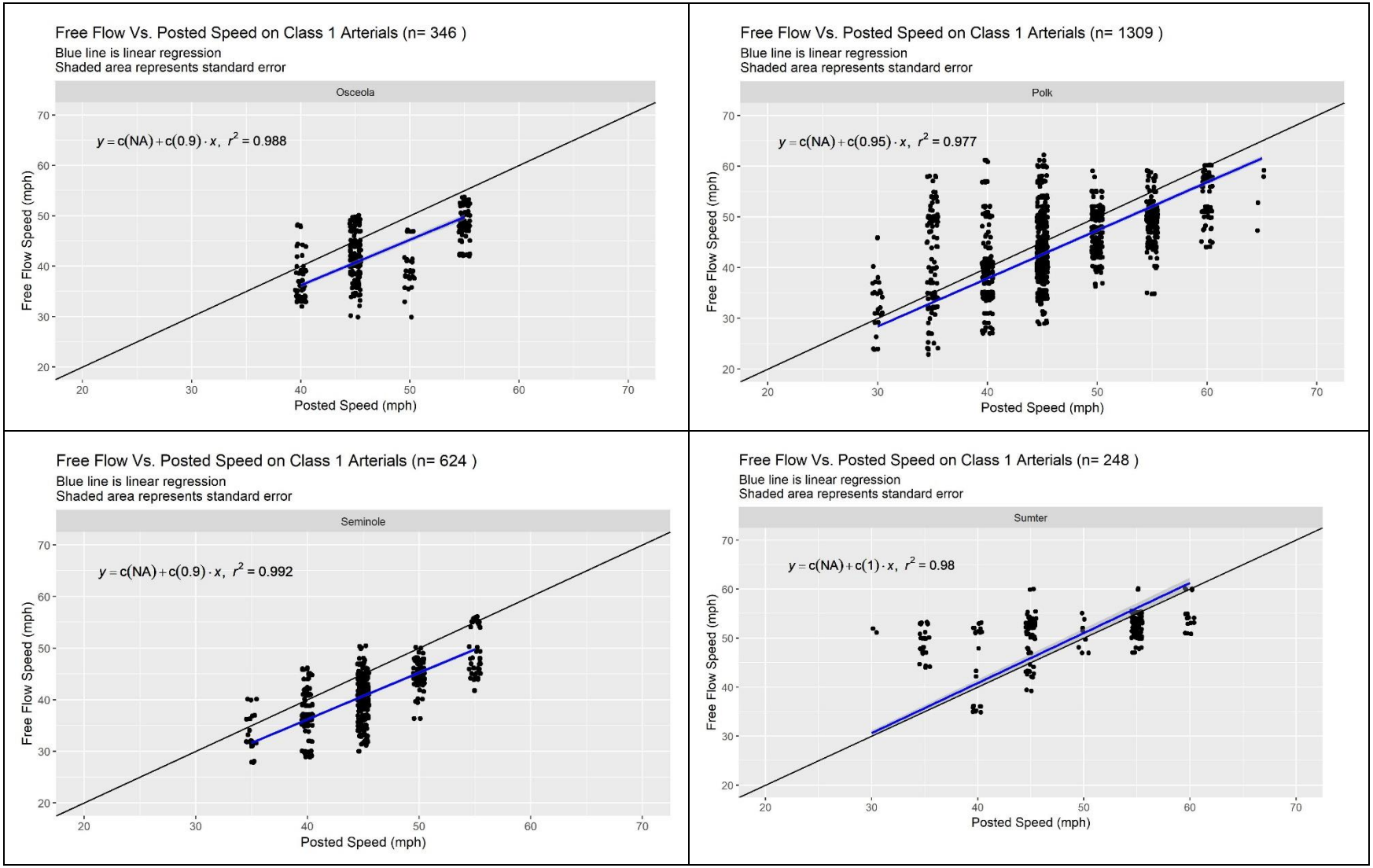


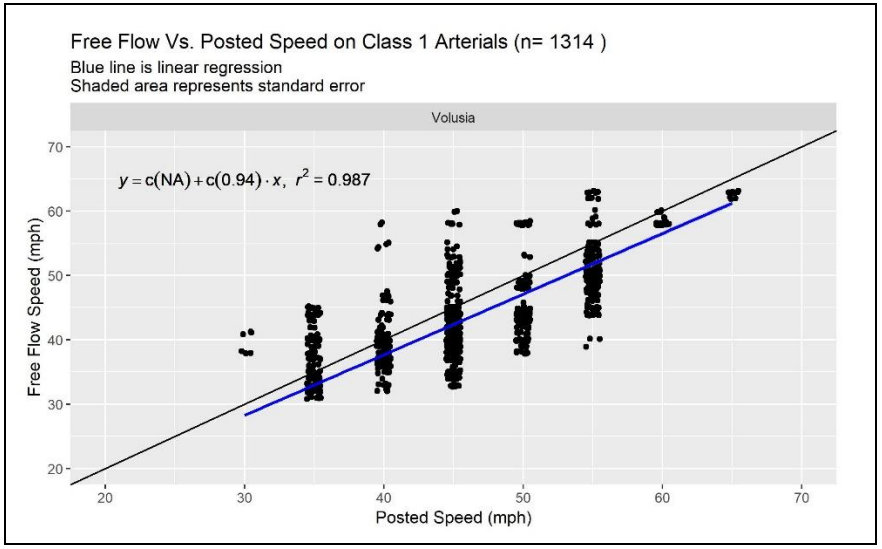
Free Flow Speed Vs. Posted Speed on Class I Arterials by County



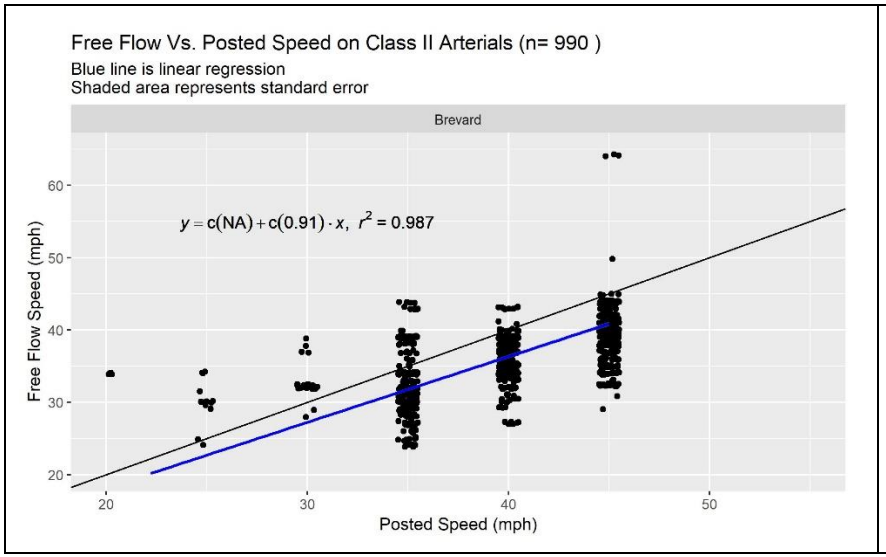


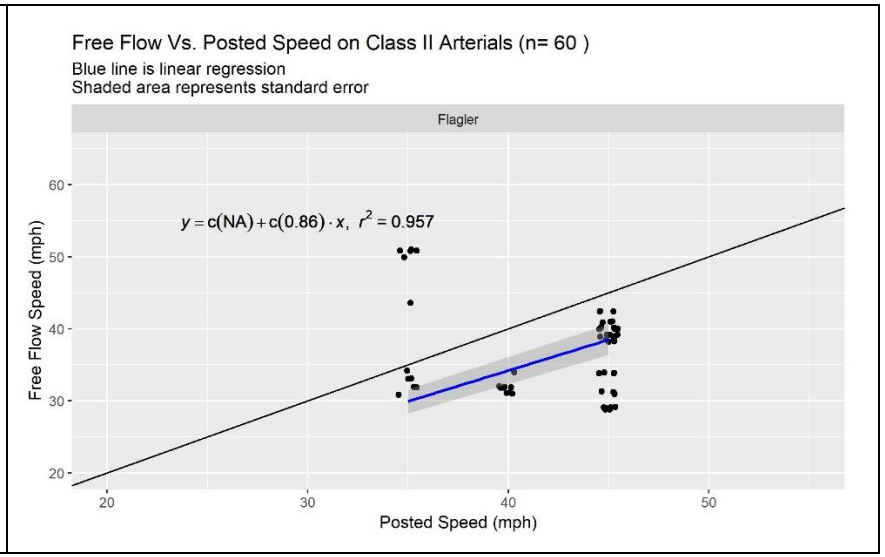

Free Flow Vs. Posted Speed on Class 1 Arterials (n= 202)
Blue line is linear regression
Shaded area represents standard error
Indian River
$y = c(NA) + c(0.98) \cdot x,\ r^2 = 0.984$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class 1 Arterials (n= 348)
Blue line is linear regression
Shaded area represents standard error
Lake
$y = c(NA) + c(0.98) \cdot x,\ r^2 = 0.992$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class 1 Arterials (n= 695)
Blue line is linear regression
Shaded area represents standard error
Marion
$y = c(NA) + c(0.96) \cdot x,\ r^2 = 0.991$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class 1 Arterials (n= 1307)
Blue line is linear regression
Shaded area represents standard error
Orange
$y = c(NA) + c(0.88) \cdot x,\ r^2 = 0.988$
Free Flow Speed (mph)
Posted Speed (mph)

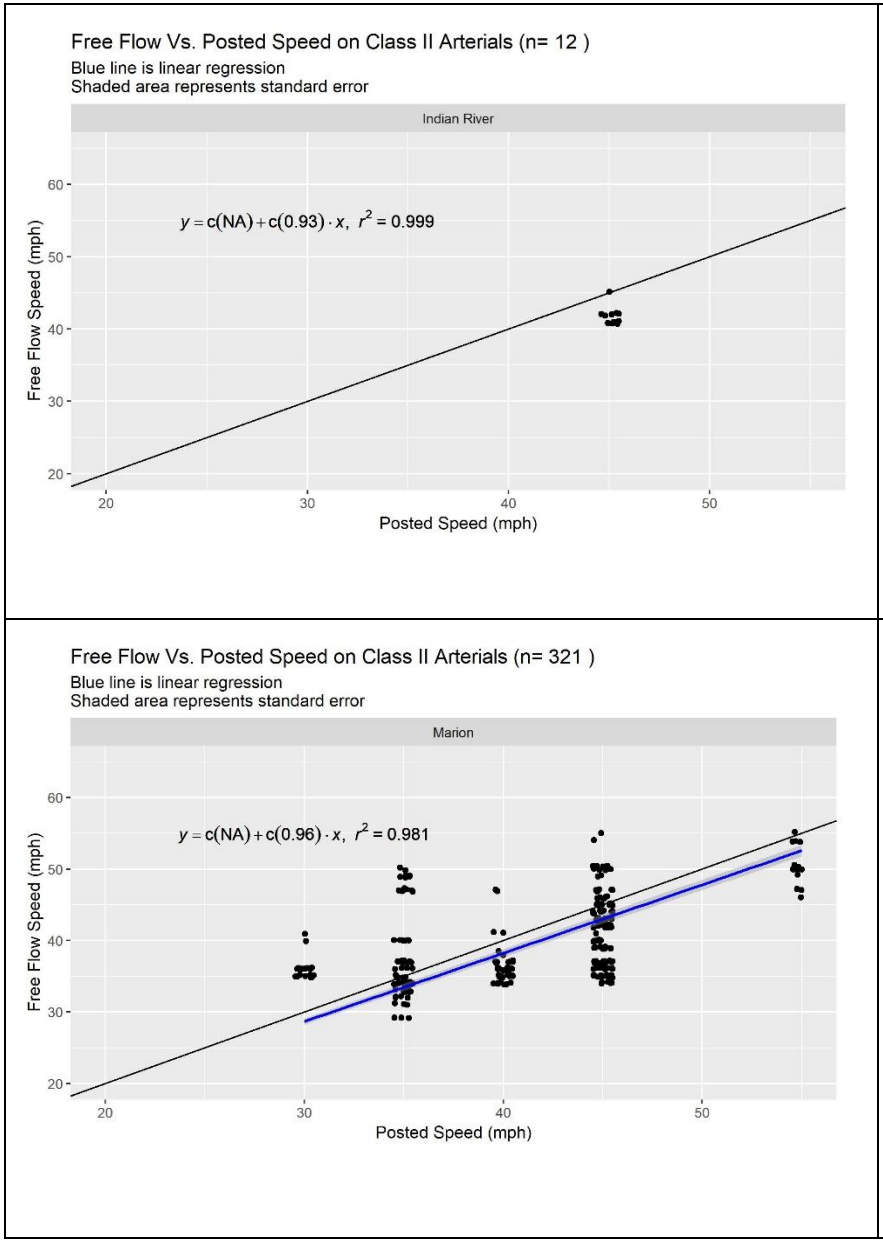

Free Flow Vs. Posted Speed on Class 1 Arterials (n= 346)
Blue line is linear regression
Shaded area represents standard error
Osceola
$y = c(NA) + c(0.9) \cdot x,\ r^2 = 0.988$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class 1 Arterials (n= 1309)
Blue line is linear regression
Shaded area represents standard error
Polk
$y = c(NA) + c(0.95) \cdot x,\ r^2 = 0.977$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class 1 Arterials (n= 624)
Blue line is linear regression
Shaded area represents standard error
Seminole
$y = c(NA) + c(0.9) \cdot x,\ r^2 = 0.992$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class 1 Arterials (n= 248)
Blue line is linear regression
Shaded area represents standard error
Sumter
$y = c(NA) + c(1) \cdot x,\ r^2 = 0.98$
Free Flow Speed (mph)
Posted Speed (mph)

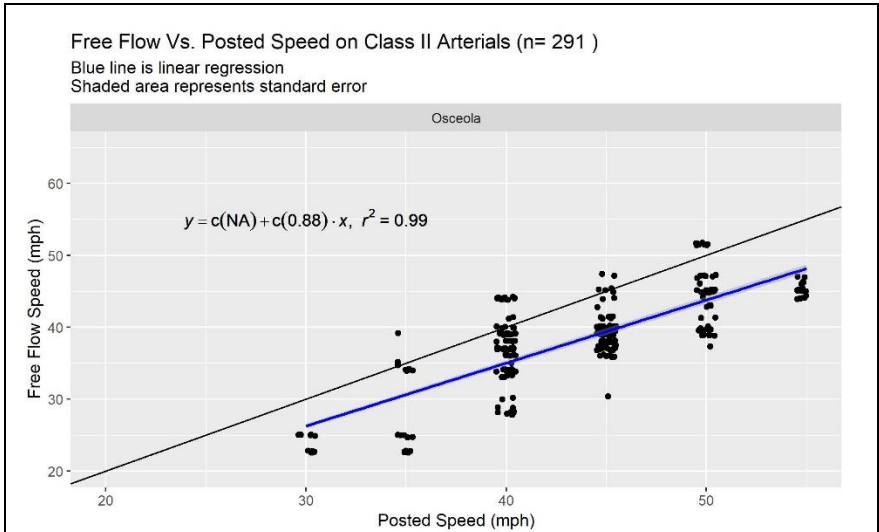


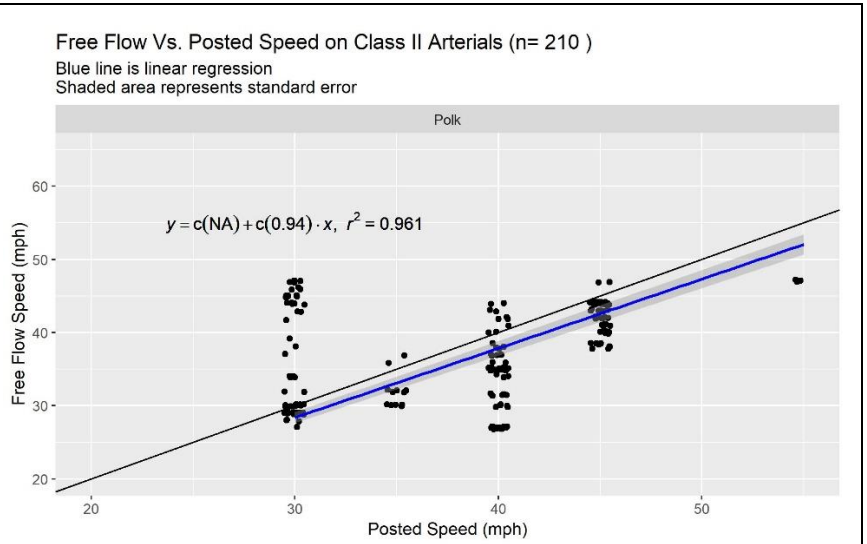
Free Flow Speed Vs. Posted Speed on Class II Arterials by County

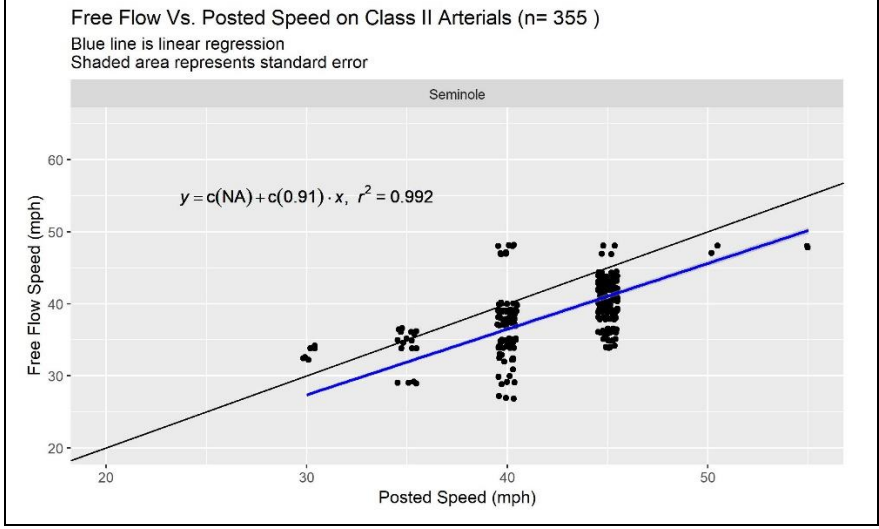


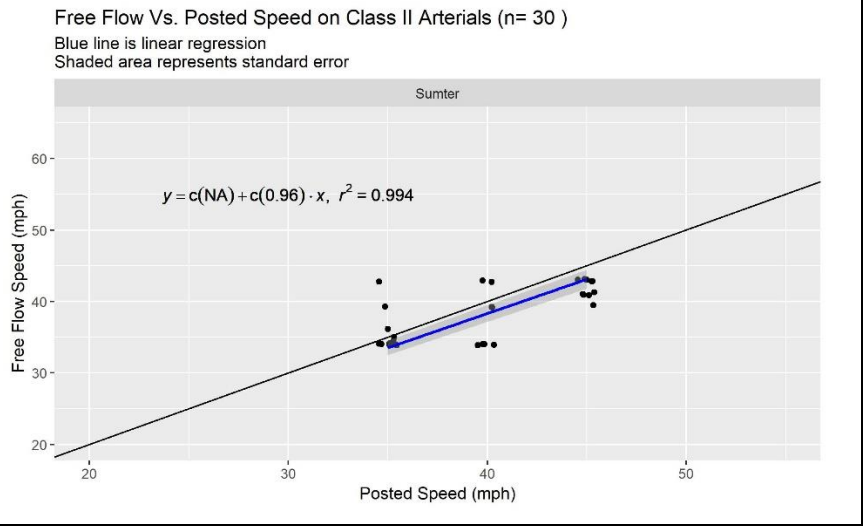


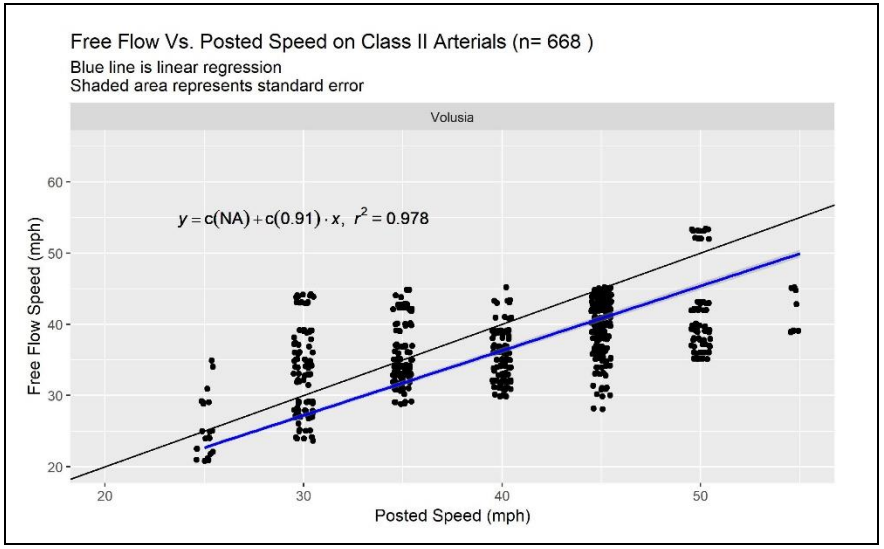

Free Flow Vs. Posted Speed on Class II Arterials (n= 12)
Blue line is linear regression
Shaded area represents standard error
Indian River
$y = c(NA) + c(0.93) \cdot x,\ r^2 = 0.999$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class II Arterials (n= 588)
Blue line is linear regression
Shaded area represents standard error
Lake
$y = c(NA) + c(0.98) \cdot x,\ r^2 = 0.987$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class II Arterials (n= 321)
Blue line is linear regression
Shaded area represents standard error
Marion
$y = c(NA) + c(0.96) \cdot x,\ r^2 = 0.981$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Class II Arterials (n= 1351)
Blue line is linear regression
Shaded area represents standard error
Orange
$y = c(NA) + c(0.87) \cdot x,\ r^2 = 0.987$
Free Flow Speed (mph)
Posted Speed (mph)


Free Flow Vs. Posted Speed on Class II Arterials (n= 291)
Blue line is linear regression
Shaded area represents standard error
Osceola
$y = c(NA) + c(0.88) \cdot x,\ r^2 = 0.99$
Free Flow Speed (mph)
Posted Speed (mph)

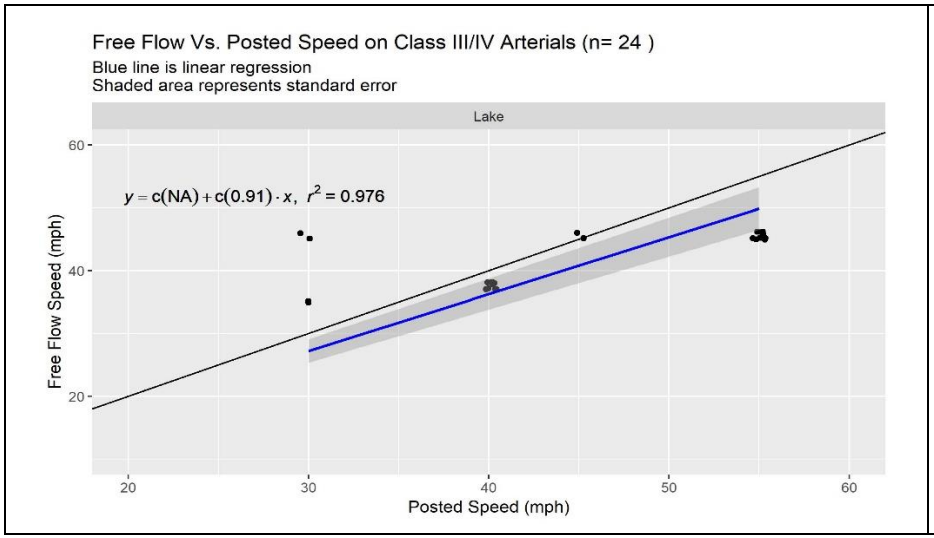

Free Flow Vs. Posted Speed on Class II Arterials (n= 210)
Blue line is linear regression
Shaded area represents standard error
Polk
$y = c(NA) + c(0.94) \cdot x,\ r^2 = 0.961$
Free Flow Speed (mph)
Posted Speed (mph)

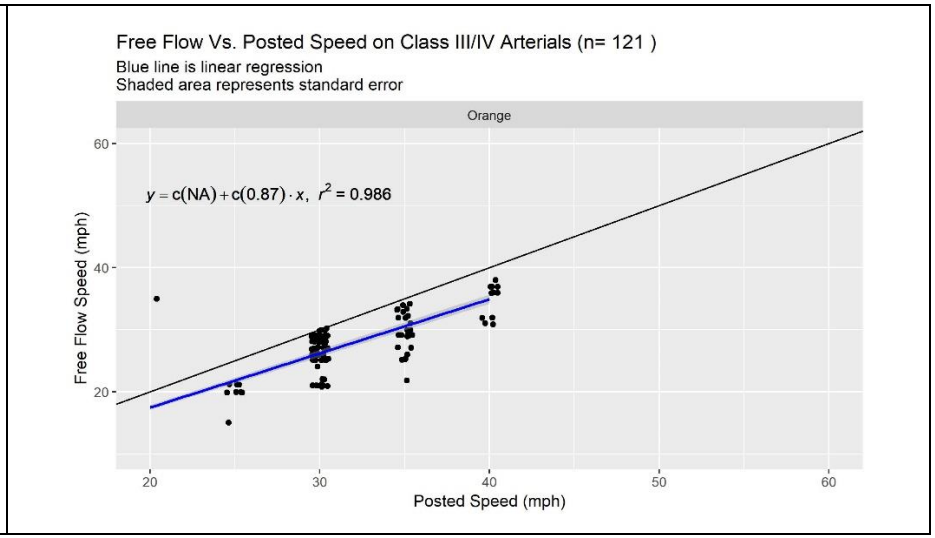

Free Flow Vs. Posted Speed on Class II Arterials (n= 355)
Blue line is linear regression
Shaded area represents standard error
Seminole
$y = c(NA) + c(0.91) \cdot x,\ r^2 = 0.992$
Free Flow Speed (mph)
Posted Speed (mph)

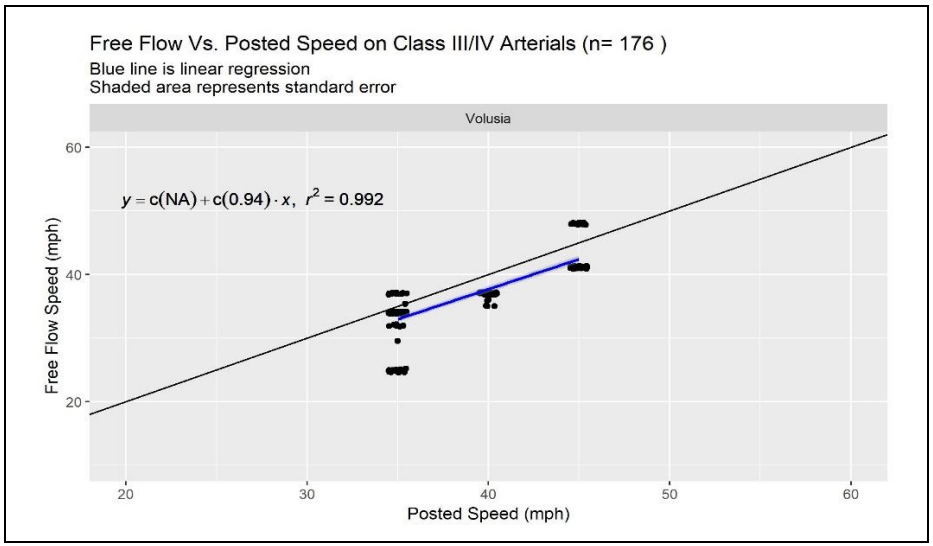

Free Flow Vs. Posted Speed on Class II Arterials (n= 30)
Blue line is linear regression
Shaded area represents standard error
Sumter
$y = c(NA) + c(0.96) \cdot x,\ r^2 = 0.994$
Free Flow Speed (mph)
Posted Speed (mph)



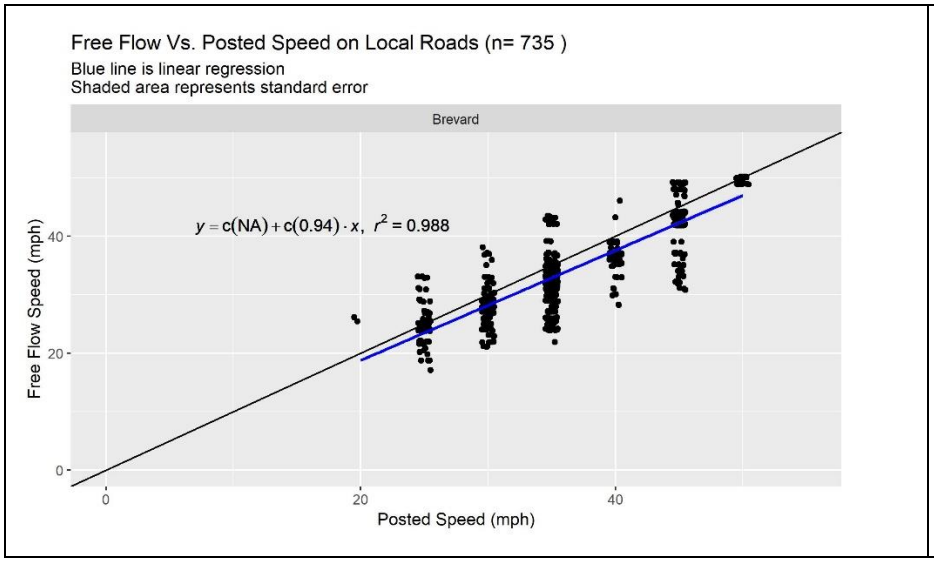
Free Flow Speed Vs. Posted Speed on Class III Arterials by County

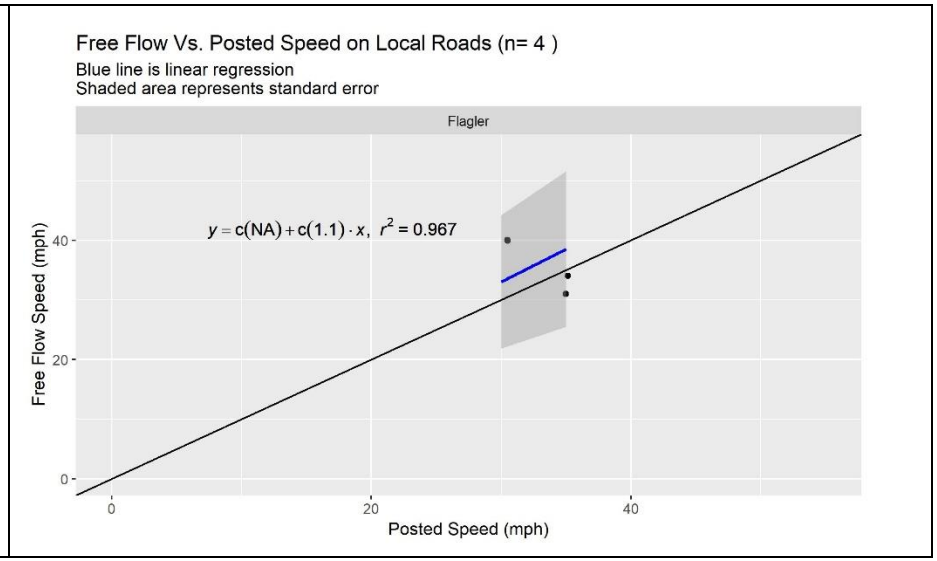


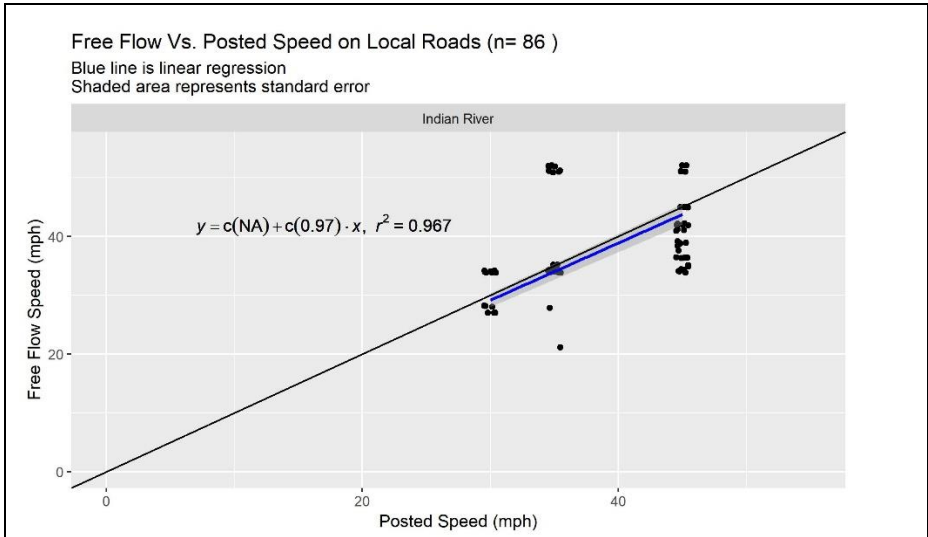


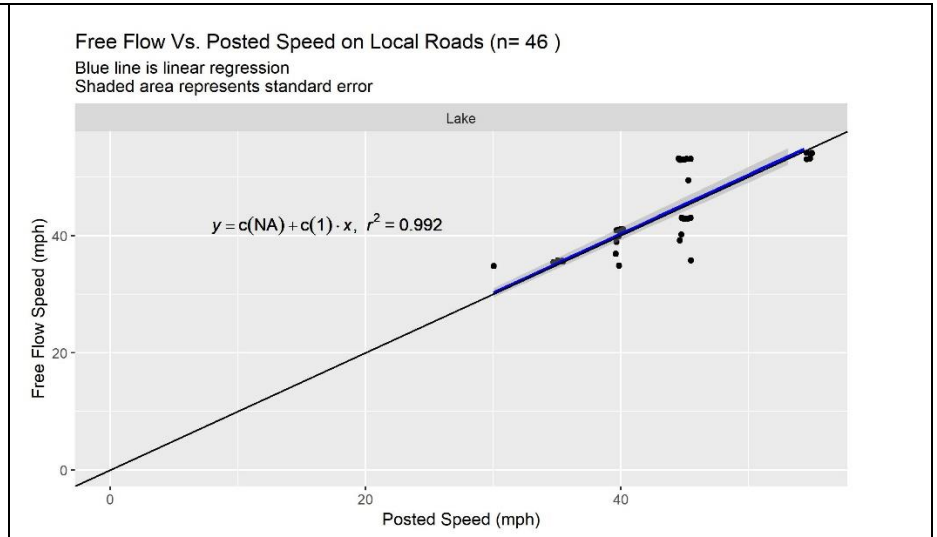


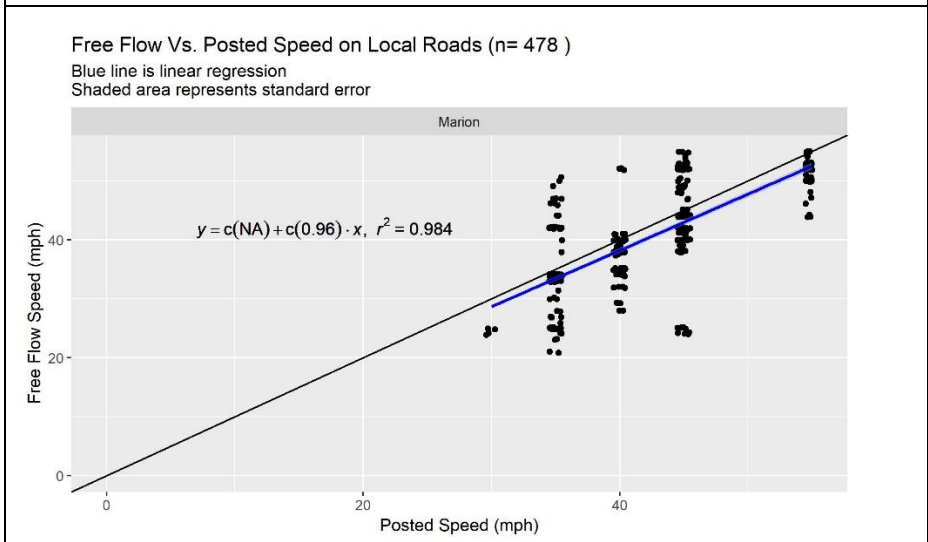
Free Flow Vs. Posted Speed on Local Roads by County

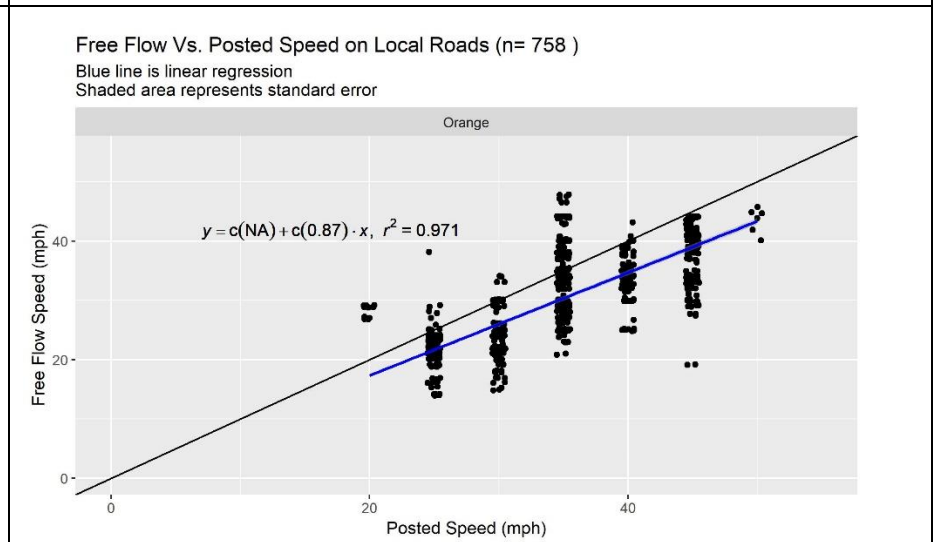


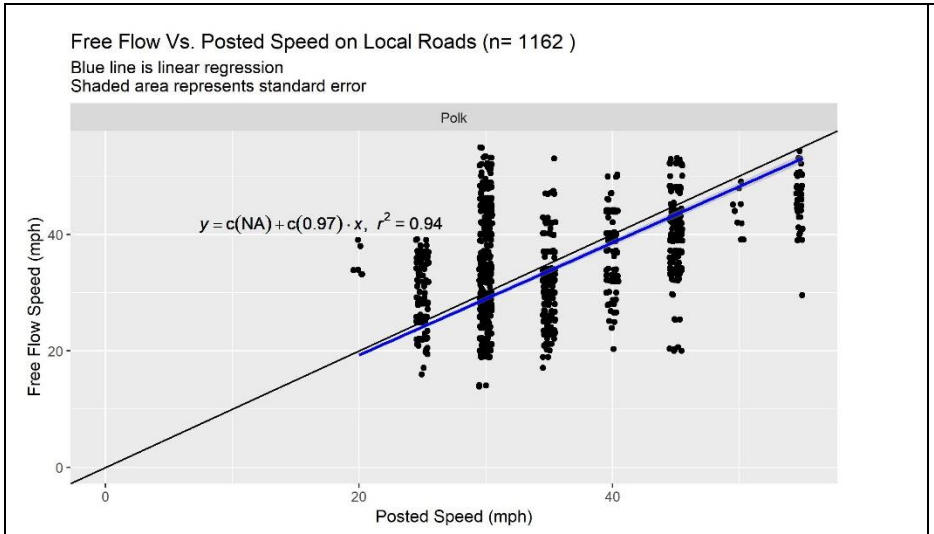


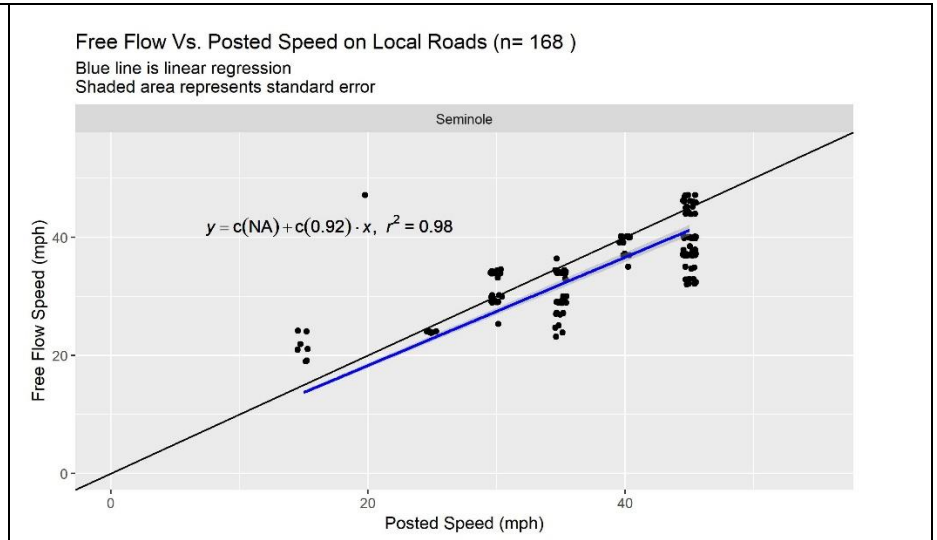

Free Flow Vs. Posted Speed on Local Roads (n= 86)
Blue line is linear regression
Shaded area represents standard error
Indian River
$y = c(NA) + c(0.97) \cdot x,\ r^2 = 0.967$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40

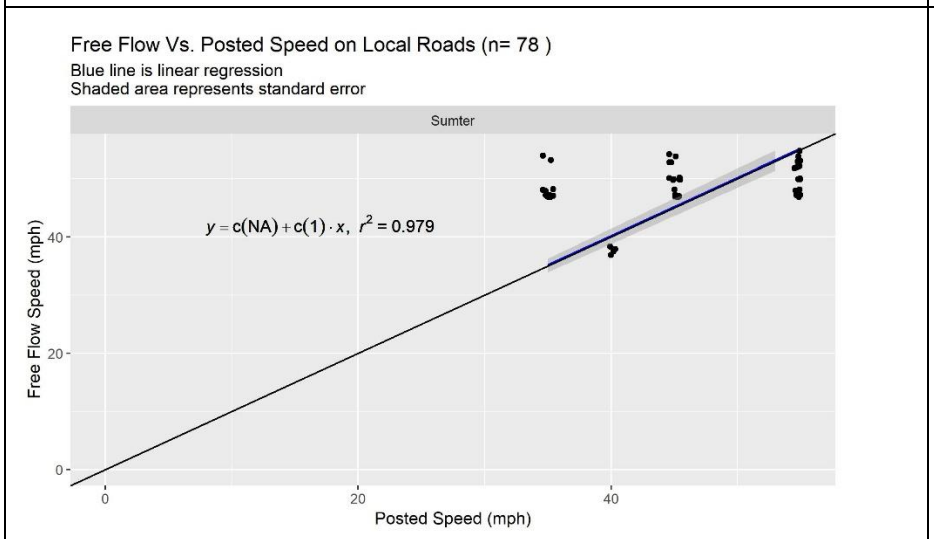

Free Flow Vs. Posted Speed on Local Roads (n= 46)
Blue line is linear regression
Shaded area represents standard error
Lake
$y = c(NA) + c(1) \cdot x,\ r^2 = 0.992$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40

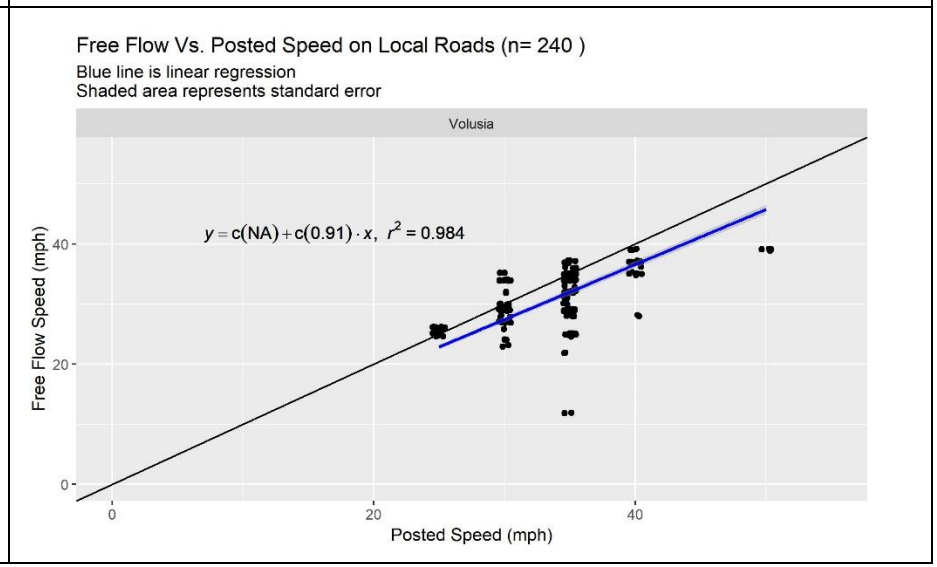

Free Flow Vs. Posted Speed on Local Roads (n= 478)
Blue line is linear regression
Shaded area represents standard error
Marion
$y = c(NA) + c(0.96) \cdot x,\ r^2 = 0.984$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40


Free Flow Vs. Posted Speed on Local Roads (n= 758)
Blue line is linear regression
Shaded area represents standard error
Orange
$y = c(NA) + c(0.87) \cdot x,\ r^2 = 0.971$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40

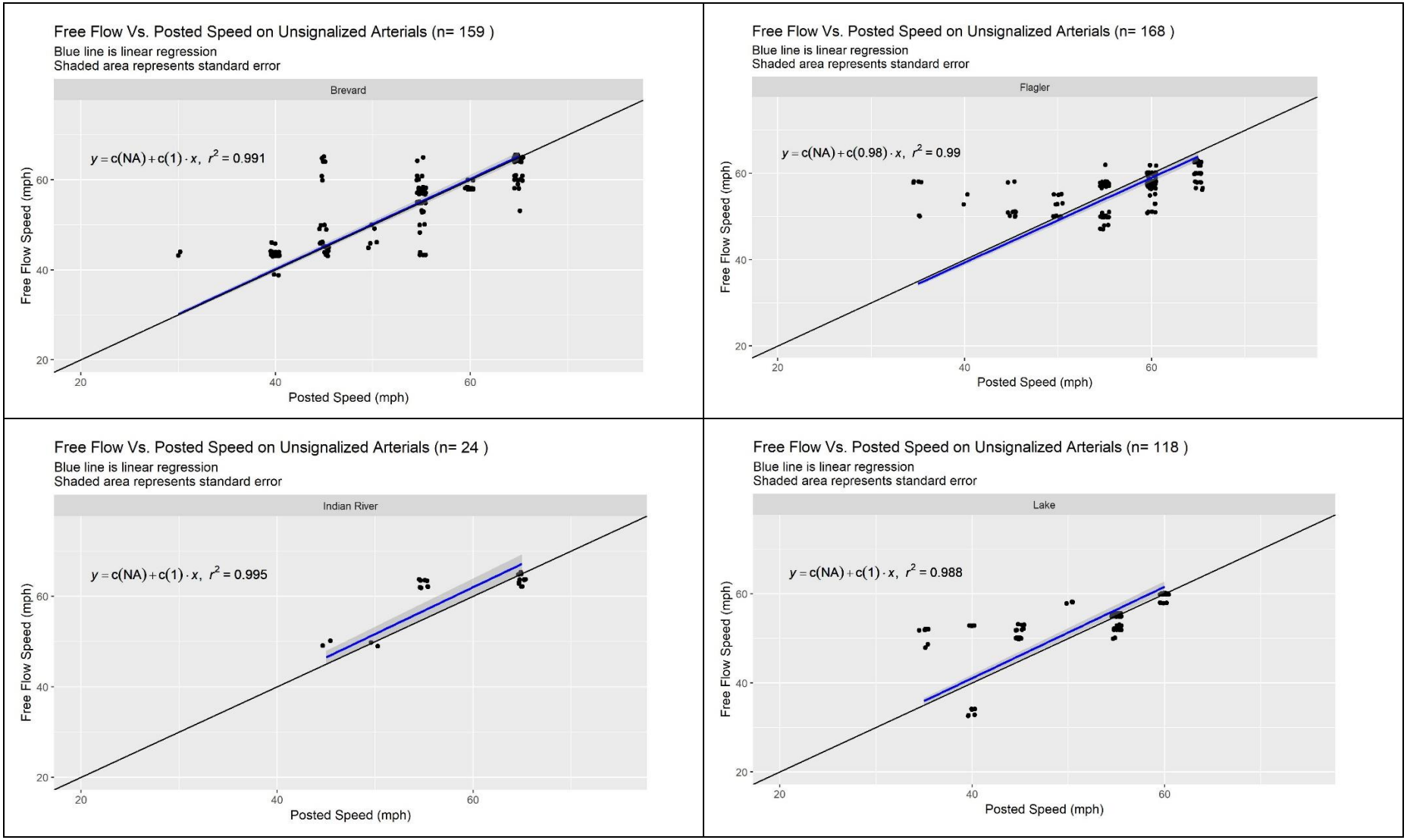

Free Flow Vs. Posted Speed on Local Roads (n= 1162)
Blue line is linear regression
Shaded area represents standard error
Polk
$y = c(NA) + c(0.97) \cdot x,\ r^2 = 0.94$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40

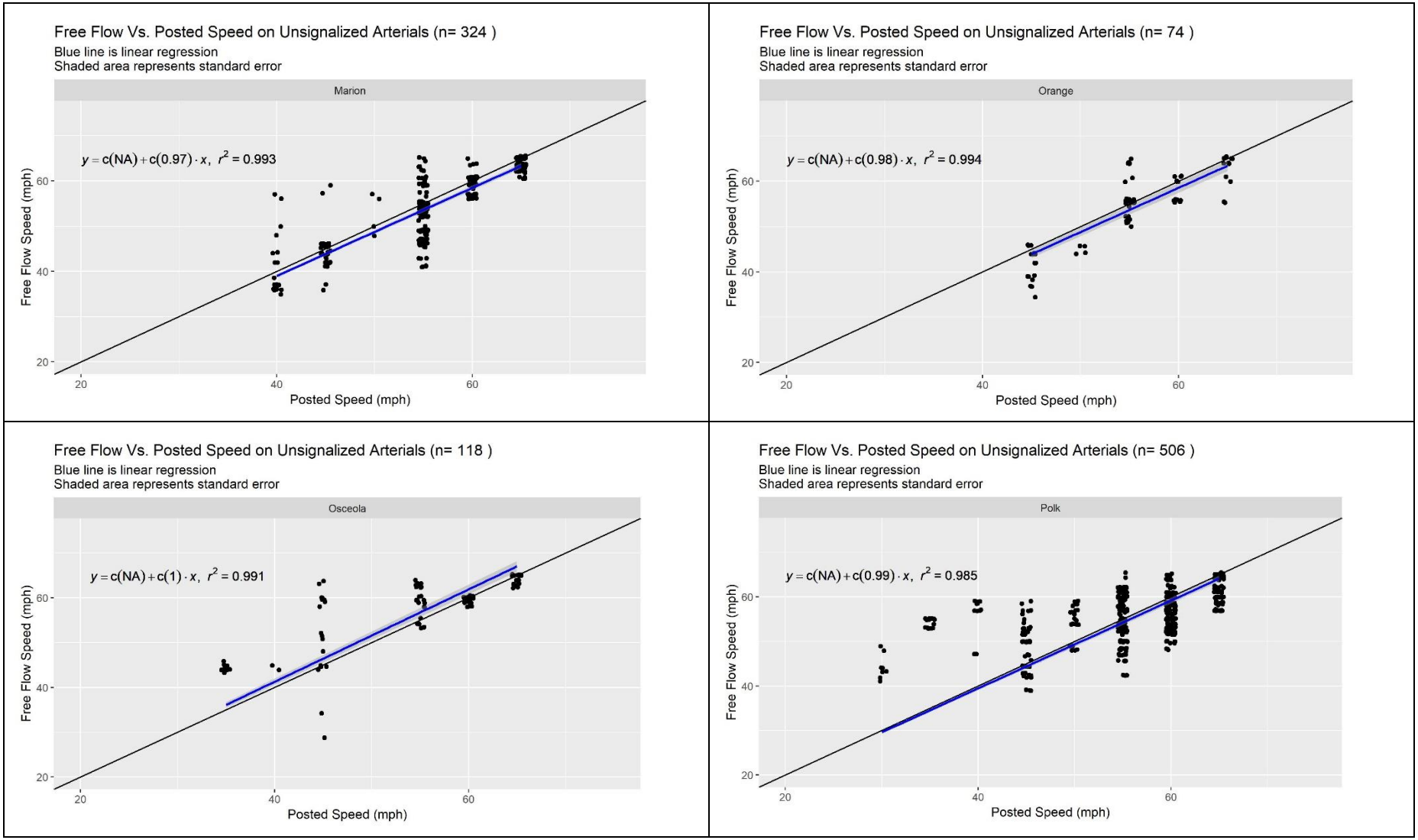

Free Flow Vs. Posted Speed on Local Roads (n= 168)
Blue line is linear regression
Shaded area represents standard error
Seminole
$y = c(NA) + c(0.92) \cdot x,\ r^2 = 0.98$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40

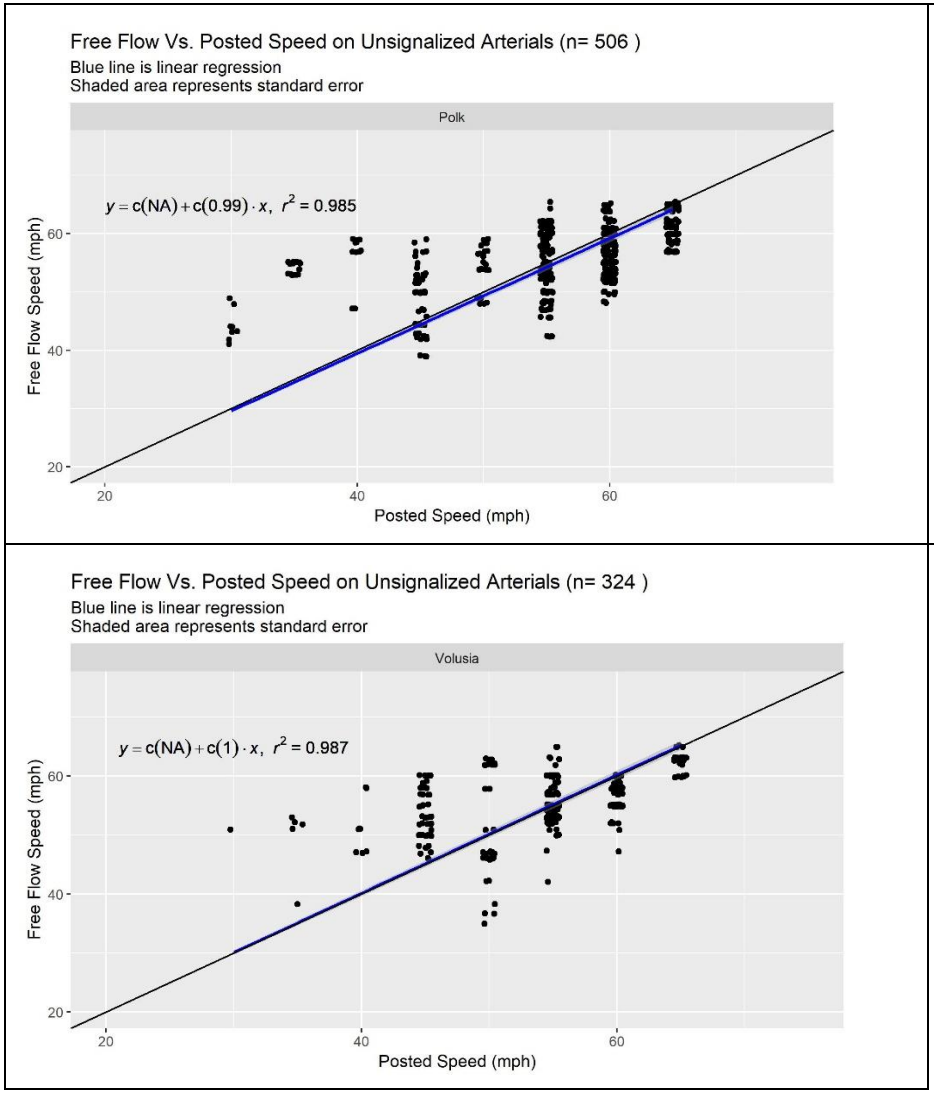

Free Flow Vs. Posted Speed on Local Roads (n= 78)
Blue line is linear regression
Shaded area represents standard error
Sumter
$y = c(NA) + c(1) \cdot x,\ r^2 = 0.979$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40


Free Flow Vs. Posted Speed on Local Roads (n= 240)
Blue line is linear regression
Shaded area represents standard error
Volusia
$y = c(NA) + c(0.91) \cdot x,\ r^2 = 0.984$
Free Flow Speed (mph)
Posted Speed (mph)
0
20
40

Free Flow Speed Vs. Posted Speed on Unsignalized Arterials by County




Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 324)
Blue line is linear regression
Shaded area represents standard error
Marion
$y = c(NA) + c(0.97) \cdot x,\ r^2 = 0.993$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 74)
Blue line is linear regression
Shaded area represents standard error
Orange
$y = c(NA) + c(0.98) \cdot x,\ r^2 = 0.994$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 118)
Blue line is linear regression
Shaded area represents standard error
Osceola
$y = c(NA) + c(1) \cdot x,\ r^2 = 0.991$
Free Flow Speed (mph)
Posted Speed (mph)
Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 506)
Blue line is linear regression
Shaded area represents standard error
Polk
$y = c(NA) + c(0.99) \cdot x,\ r^2 = 0.985$
Free Flow Speed (mph)
Posted Speed (mph)


Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 506)
Blue line is linear regression
Shaded area represents standard error
Polk
$y = c(NA) + c(0.99) \cdot x,\ r^2 = 0.985$
Free Flow Speed (mph)
Posted Speed (mph)
20
40
60
Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 24)
Blue line is linear regression
Shaded area represents standard error
Sumter
$y = c(NA) + c(1.1) \cdot x,\ r^2 = 0.98$
Free Flow Speed (mph)
Posted Speed (mph)
20
40
60
Free Flow Vs. Posted Speed on Unsignalized Arterials (n= 324)
Blue line is linear regression
Shaded area represents standard error
Volusia
$y = c(NA) + c(1) \cdot x,\ r^2 = 0.987$
Free Flow Speed (mph)
Posted Speed (mph)
20
40
60

Appendix C: Comparison of Observed and Estimated Free Flow Speed

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Brevard County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	2.31	91.54	6.15	130
21	Divided Arterial Unsignalized (Speed 55 & above mph)	8.79	86.81	4.40	91
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	25.00	75.00	0.00	8
23	Divided Arterial Class I	14.10	72.83	13.07	773
24	Divided Arterial Class II	9.43	75.09	15.47	530
31	Undivided Arterial Unsignalized with Turn Bays	3.45	86.21	10.34	58
32	Undivided Arterial Class I with Turn Bays	9.79	67.26	22.95	623
33	Undivided Arterial Class II with Turn Bays	15.65	70.00	14.35	460
41	Major Local Divided Roadway	0.00	100.00	0.00	58
42	Major Local Undivided Roadway with Turn Bays	5.63	81.79	12.58	302
43	Major Local Undivided Roadway without Turn Bays	27.20	64.80	8.00	125
44	Other Local Divided Roadway	75.00	0.00	25.00	12
45	Other Local Undivided Roadway with Turn Bays	0.00	20.00	80.00	10
46	Other Local Undivided Roadway without Turn Bays	0.00	100.00	0.00	8
47	Low Speed Collector	18.52	71.30	10.19	216
62	One-Way Facilities Class I	8.33	91.67	0.00	12
63	One-Way Facilities Class II	52.27	43.18	4.55	44
71	Freeway On/Off Ramp-Service Interchange	28.57	57.14	14.29	7
72	Freeway On/Off Loop Ramp-Service Interchange	25.00	0.00	75.00	8
73	Other On/Off Ramp-Urban Interchange	0.00	100.00	0.00	2
76	Freeway-Collector/Distributor Ramp	80.00	20.00	0.00	10
All	All Facility Type	12.70	72.96	14.34	3,487

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Flagler County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	0.00	100.00	0.00	16
21	Divided Arterial Unsignalized (Speed 55 & above mph)	7.58	75.76	16.67	66
23	Divided Arterial Class I	20.00	70.00	10.00	80
24	Divided Arterial Class II	14.29	47.62	38.10	42
31	Undivided Arterial Unsignalized with Turn Bays	7.14	82.14	10.71	56
32	Undivided Arterial Class I with Turn Bays	31.82	50.00	18.18	44
33	Undivided Arterial Class II with Turn Bays	0.00	50.00	50.00	4
35	Undivided Arterial Unsignalized without Turn Bays	21.43	78.57	0.00	28
42	Major Local Undivided Roadway with Turn Bays	0.00	100.00	0.00	2
46	Other Local Undivided Roadway without Turn Bays	100.00	0.00	0.00	2
52	External Station Connector	33.33	66.67	0.00	6
63	One-Way Facilities Class II	0.00	64.29	35.71	14
92	Toll Facility - Arterial	0.00	50.00	50.00	2
All	All Facility Type	15.19	69.06	15.75	362

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Indian River County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	0.00	100.00	0.00	11
21	Divided Arterial Unsignalized (Speed 55 & above mph)	40.00	60.00	0.00	20
23	Divided Arterial Class I	29.69	59.38	10.94	128

31	Undivided Arterial Unsignalized with Turn Bays	0.00	100.00	0.00	4
32	Undivided Arterial Class I with Turn Bays	16.22	70.27	13.51	74
33	Undivided Arterial Class II with Turn Bays	0.00	100.00	0.00	12
42	Major Local Undivided Roadway with Turn Bays	0.00	75.00	25.00	32
43	Major Local Undivided Roadway without Turn Bays	42.86	35.71	21.43	28
45	Other Local Undivided Roadway with Turn Bays	14.29	85.71	0.00	14
47	Low Speed Collector	50.00	50.00	0.00	12
All	All Facility Type	23.28	65.37	11.34	335

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Lake County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	0.00	100.00	0.00	2
23	Divided Arterial Class I	7.09	85.04	7.87	254
24	Divided Arterial Class II	26.90	72.08	1.02	394
31	Undivided Arterial Unsignalized with Turn Bays	20.93	72.09	6.98	86
32	Undivided Arterial Class I with Turn Bays	18.48	80.43	1.09	92
33	Undivided Arterial Class II with Turn Bays	37.21	61.63	1.16	172
34	Undivided Arterial Class III/IV with Turn Bays	20.83	79.17	0.00	24
35	Undivided Arterial Unsignalized without Turn Bays	20.00	80.00	0.00	30
37	Undivided Arterial Class II without Turn Bays	50.00	50.00	0.00	6
42	Major Local Undivided Roadway with Turn Bays	48.48	48.48	3.03	33
43	Major Local Undivided Roadway without Turn Bays	0.00	100.00	0.00	6
46	Other Local Undivided Roadway without Turn Bays	100.00	0.00	0.00	6
47	Low Speed Collector	100.00	0.00	0.00	1
63	One-Way Facilities Class II	15.00	85.00	0.00	20
73	Other On/Off Ramp-Urban Interchange	0.00	50.00	50.00	2
91	Toll Facility - Freeway	0.00	89.66	10.34	29
All	All Facility Type	22.73	73.98	3.28	1,157

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Marion County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	0.00	100.00	0.00	33
21	Divided Arterial Unsignalized (Speed 55 & above mph)	5.63	75.00	19.37	284
23	Divided Arterial Class I	12.50	75.60	11.90	336
24	Divided Arterial Class II	15.12	72.67	12.21	172
31	Undivided Arterial Unsignalized with Turn Bays	0.00	71.43	28.57	28
32	Undivided Arterial Class I with Turn Bays	16.71	77.23	6.05	347
33	Undivided Arterial Class II with Turn Bays	43.62	54.36	2.01	149
35	Undivided Arterial Unsignalized without Turn Bays	0.00	100.00	0.00	12
36	Undivided Arterial Class I without Turn Bays	0.00	100.00	0.00	8
41	Major Local Divided Roadway	0.00	66.67	33.33	24
42	Major Local Undivided Roadway with Turn Bays	12.75	71.08	16.18	204
43	Major Local Undivided Roadway without Turn Bays	32.47	66.23	1.30	154
45	Other Local Undivided Roadway with Turn Bays	7.69	84.62	7.69	52
46	Other Local Undivided Roadway without Turn Bays	11.36	88.64	0.00	44
47	Low Speed Collector	0.00	50.00	50.00	4
52	External Station Connector	16.67	83.33	0.00	6
All	All Facility Type	15.78	73.61	10.61	1,857

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Orange County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	60.00	39.05	0.95	105

21	Divided Arterial Unsignalized (Speed 55 & above mph)	9.62	86.54	3.85	52
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	0.00	54.55	45.45	22
23	Divided Arterial Class I	3.51	58.05	38.44	1,168
24	Divided Arterial Class II	5.54	70.62	23.84	885
32	Undivided Arterial Class I with Turn Bays	1.52	49.24	49.24	132
33	Undivided Arterial Class II with Turn Bays	4.53	58.84	36.64	464
34	Undivided Arterial Class III/IV with Turn Bays	0.00	76.67	23.33	120
38	Undivided Arterial Class III/IV without Turn Bays	100.00	0.00	0.00	1
41	Major Local Divided Roadway	16.94	62.90	20.16	124
42	Major Local Undivided Roadway with Turn Bays	12.89	49.86	37.25	357
43	Major Local Undivided Roadway without Turn Bays	0.00	83.33	16.67	12
44	Other Local Divided Roadway	0.00	100.00	0.00	2
45	Other Local Undivided Roadway with Turn Bays	100.00	0.00	0.00	26
46	Other Local Undivided Roadway without Turn Bays	50.00	0.00	50.00	2
47	Low Speed Collector	1.27	48.95	49.79	237
62	One-Way Facilities Class I	20.00	60.00	20.00	25
64	One-Way Facilities Class III/IV	0.00	27.59	72.41	58
71	Freeway On/Off Ramp-Service Interchange	64.58	18.75	16.67	48
72	Freeway On/Off Loop Ramp-Service Interchange	66.67	33.33	0.00	6
73	Other On/Off Ramp-Urban Interchange	62.50	25.00	12.50	8
75	Freeway-to-Freeway Ramp-System Interchange	25.45	65.45	9.09	55
76	Freeway-Collector/Distributor Ramp	33.33	33.33	33.33	3
91	Toll Facility - Freeway	0.61	90.88	8.51	329
92	Toll Facility - Arterial	0.00	0.00	100.00	4
97	Toll On Ramp	66.67	26.67	6.67	15
98	Toll Off Ramp	71.43	28.57	0.00	14
All	All Facility Type	8.45	60.90	30.65	4,274

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Osceola County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	3.45	93.10	3.45	29
21	Divided Arterial Unsignalized (Speed 55 & above mph)	16.00	84.00	0.00	50
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	65.00	35.00	0.00	20
23	Divided Arterial Class I	10.69	58.28	31.03	290
24	Divided Arterial Class II	9.36	68.54	22.10	267
31	Undivided Arterial Unsignalized with Turn Bays	16.67	79.17	4.17	48
32	Undivided Arterial Class I with Turn Bays	9.26	53.70	37.04	54
33	Undivided Arterial Class II with Turn Bays	0.00	81.82	18.18	22
71	Freeway On/Off Ramp-Service Interchange	50.00	16.67	33.33	6
72	Freeway On/Off Loop Ramp-Service Interchange	40.00	0.00	60.00	5
75	Freeway-to-Freeway Ramp-System Interchange	75.00	25.00	0.00	4
91	Toll Facility - Freeway	0.00	94.59	5.41	37
92	Toll Facility - Arterial	0.00	40.00	60.00	10
All	All Facility Type	11.76	65.80	22.45	842

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Polk County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	0.00	100.00	0.00	52
21	Divided Arterial Unsignalized (Speed 55 & above mph)	13.90	66.00	20.10	403
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	20.00	65.00	15.00	20
23	Divided Arterial Class I	16.99	60.60	22.41	665
24	Divided Arterial Class II	7.69	73.85	18.46	130

31	Undivided Arterial Unsignalized with Turn Bays	36.36	48.05	15.58	77
32	Undivided Arterial Class I with Turn Bays	21.71	55.47	22.82	631
33	Undivided Arterial Class II with Turn Bays	42.50	47.50	10.00	80
41	Major Local Divided Roadway	58.62	37.93	3.45	58
42	Major Local Undivided Roadway with Turn Bays	31.01	47.19	21.81	587
43	Major Local Undivided Roadway without Turn Bays	0.00	54.17	45.83	24
44	Other Local Divided Roadway	0.00	0.00	100.00	1
46	Other Local Undivided Roadway without Turn Bays	100.00	0.00	0.00	2
47	Low Speed Collector	52.66	29.71	17.62	488
62	One-Way Facilities Class I	75.00	25.00	0.00	16
71	Freeway On/Off Ramp-Service Interchange	50.00	30.00	20.00	10
72	Freeway On/Off Loop Ramp-Service Interchange	50.00	0.00	50.00	2
75	Freeway-to-Freeway Ramp-System Interchange	75.00	25.00	0.00	4
91	Toll Facility - Freeway	0.00	94.03	5.97	67
97	Toll On Ramp	100.00	0.00	0.00	2
98	Toll Off Ramp	50.00	50.00	0.00	2
All	All Facility Type	26.53	53.72	19.75	3,321

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Seminole County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	5.88	94.12	0.00	34
23	Divided Arterial Class I	2.29	74.43	23.28	481
24	Divided Arterial Class II	0.68	89.08	10.24	293
31	Undivided Arterial Unsignalized with Turn Bays	13.33	86.67	0.00	30
32	Undivided Arterial Class I with Turn Bays	8.45	85.21	6.34	142
33	Undivided Arterial Class II with Turn Bays	37.10	41.94	20.97	62
41	Major Local Divided Roadway	0.00	73.53	26.47	34

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
42	Major Local Undivided Roadway with Turn Bays	15.07	83.56	1.37	73
46	Other Local Undivided Roadway without Turn Bays	0.00	50.00	50.00	18
47	Low Speed Collector	53.49	46.51	0.00	43
73	Other On/Off Ramp-Urban Interchange	0.00	0.00	100.00	1
75	Freeway-to-Freeway Ramp-System Interchange	0.00	60.00	40.00	5
91	Toll Facility - Freeway	11.11	88.89	0.00	36
All	All Facility Type	7.35	77.80	14.86	1,252

Comparison of Estimated and Observed Free Flow Speed by Facility Type in Sumter County

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	0.00	100.00	0.00	20
21	Divided Arterial Unsignalized (Speed 55 & above mph)	35.71	50.00	14.29	14
23	Divided Arterial Class I	33.33	63.10	3.57	84
24	Divided Arterial Class II	0.00	100.00	0.00	8
31	Undivided Arterial Unsignalized with Turn Bays	40.00	60.00	0.00	10
32	Undivided Arterial Class I with Turn Bays	37.80	60.37	1.83	164
33	Undivided Arterial Class II with Turn Bays	22.73	77.27	0.00	22
42	Major Local Undivided Roadway with Turn Bays	50.00	50.00	0.00	12
43	Major Local Undivided Roadway without Turn Bays	39.39	60.61	0.00	66
52	External Station Connector	66.67	33.33	0.00	6
91	Toll Facility - Freeway	0.00	100.00	0.00	12
All	All Facility Type	33.49	64.59	1.91	418

Comparison of Estimated and Observed Free Flow Speed by Facility Type (Volusia)

Facility Type Code	Facility Type	Percentage of Links with Estimated FF Speed / Observed FF Speed			Total No. of Links
		< 0.9	Between 0.9-1.1	> 1.1	
11	Freeway Non-Toll	0.00	97.85	2.15	93
21	Divided Arterial Unsignalized (Speed 55 & above mph)	12.73	85.45	1.82	110
22	Divided Arterial Unsignalized (Speed 45 & 50 mph)	26.47	55.88	17.65	34
23	Divided Arterial Class I	16.22	66.63	17.15	968
24	Divided Arterial Class II	19.66	58.51	21.82	417
31	Undivided Arterial Unsignalized with Turn Bays	22.16	74.43	3.41	176
32	Undivided Arterial Class I with Turn Bays	12.65	68.24	19.12	340
33	Undivided Arterial Class II with Turn Bays	16.87	62.55	20.58	243
34	Undivided Arterial Class III/IV with Turn Bays	14.20	76.70	9.09	176
35	Undivided Arterial Unsignalized without Turn Bays	0.00	100.00	0.00	4
42	Major Local Undivided Roadway with Turn Bays	5.66	83.02	11.32	106
43	Major Local Undivided Roadway without Turn Bays	0.00	50.00	50.00	16
44	Other Local Divided Roadway	0.00	0.00	100.00	12
45	Other Local Undivided Roadway with Turn Bays	14.29	85.71	0.00	28
47	Low Speed Collector	42.86	51.19	5.95	84
52	External Station Connector	0.00	100.00	0.00	2
68	Frontage Road Class III/IV	100.00	0.00	0.00	2
71	Freeway On/Off Ramp-Service Interchange	80.00	20.00	0.00	5
72	Freeway On/Off Loop Ramp-Service Interchange	33.33	0.00	66.67	3
73	Other On/Off Ramp-Urban Interchange	100.00	0.00	0.00	1
74	Other On/Off Loop Ramp-Urban Interchange	50.00	50.00	0.00	2
75	Freeway-to-Freeway Ramp-System Interchange	0.00	100.00	0.00	2
76	Freeway-Collector/Distributor Ramp	100.00	0.00	0.00	1
All	All Facility Type	16.50	67.82	15.68	2,825

Technical Appendix B: CFRPM 2045 Socioeconomic Data

PROJECT TRAFFIC FOR PD&E AND DESIGN

CFRPM 2045 Socio-Economic Data Development for Space Coast TPO, River to Sea TPO, Lake-Sumter MPO, Ocala/Marion County TPO and MetroPlan Orlando

Financial No. 405859-1-12-06

Prepared For:
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

Prepared By:
Kittelson & Associates, Inc.
March 2020

CFRPM 2045 Socio-Economic Data Development for Space Coast TPO, River to Sea TPO, Lake-Sumter MPO, Ocala/Marion County TPO and MetroPlan Orlando

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March 2020

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1 INTRODUCTION

The Florida Department of Transportation (FDOT) District 5 retained Kittelson & Associates, Inc. (KAI) to develop the Central Florida Regional Planning Model (CFRPM) v7 2045 Socio-Economic (SE) data for the Space Coast Transportation Planning Organization (TPO), the River to Sea Transportation Planning Organization (TPO), the Lake-Sumter Metropolitan Planning Organization (MPO), the Ocala/Marion County Transportation Planning Organization (TPO) and the MetroPlan Orlando. This report documents the steps to develop the 2045 SE data for the five MPOs/TPOs.

The 2045 SE data discussed in this report is based on trend analysis. The future's adopted land use may have some different SE data based on scenario plans and other factors.

2 2045 POPULATION AND EMPLOYMENT PROJECTIONS

To develop the future year land use data, the 2045 population and employment control totals were established for the five MPOs/TPOs (nine counties) study area. The proposed population and employment projections were utilized as control totals. Allocation of the future population and employment data was conducted until the future year control totals for the study area were met.

The following describes the sources for the population and employment projections:

- Population Projections: Florida Bureau of Economic and Business Research (BEBR) Bulletin 180, January 2018; and
- Employment Projections: Woods & Poole Economics 2018 State Profile.

The 2015 CFRPM v7 model doesn't include the group quarter population data because persons who live in the group quarters don't travel on a daily basis. Compared to the BEBR 2015 population data which include the group quarter population, minor differences are expected between the 2015 CFRPM v7 population data and the 2015 BEBR population data. The Woods & Poole historical database is from the US Department of Commerce, Bureau of Economic Analysis. Because the 2015 Woods & Poole data includes full-time and part-time jobs and a person holding two part-time jobs would be counted twice, the 2015 Woods & Poole employment data are expected to be higher than the CFRPM v7 2015 employment data.

To develop the CFRPM v7 2045 population and employment projections, annual growth rates from the BEBR and Woods & Poole projections were referenced. The annual growth rates for population were calculated as:

$$\frac{(2045\ \text{Population Projections} - 2015\ \text{Population})}{2015\ \text{Population} * 30}$$

The annual growth rates for employment were calculated as:

$$\frac{(2045\ \text{Employment Projections} - 2015\ \text{Employment})}{2015\ \text{employment} * 30}$$

- Using the BEBR 2045 medium and BEBR 2045 high population projections, growth rates for the nine counties were developed by comparing them to the 2015 population.
    - **Volusia County** have low growth rates using the BEBR 2045 medium population projections. **Flagler County** have observed some large developments. It was suggested by the River to Sea TPO that the growth rates based on the BEBR 2045 medium to high population projections be used for these two counties.
    - For all other seven Counties including **Brevard, Marion**, **Lake**, **Sumter, Orange**, **Osceola and Seminole,** the growth rates based on the BEBR 2045 medium population projections were used.

- The growth rates from the Woods & Poole 2045 employment were used for the CFRPM v7 2045 employment projections.

Tables 1 through 9 contain the 2045 population and employment projections for each of the nine counties. The **C** and **D** columns represent the 2015 and 2045 population and employment control totals developed in the CFRPM V7 model. Sumter County (3.64%) and Osceola County (3.62%) have the highest annual population growth rate, while Brevard County (0.90%) and Seminole County (1.04%) are at the low end of annual population growth rates for the region. For employment projections, Osceola County (6.48%) and Sumter County (4.57%) have the highest annual employment growth rates, while Brevard County (1.57%) and Volusia County (1.64%) are at the low end of annual employment growth rates.

Table 1 Brevard County 2045 Population and Employment Projections

Brevard County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	561,714		272,727	**555,850**	**252,418**
2045	BEBR Medium Projection	711,100 (Annual Growth Rate: 0.89%)	400,637 (Annual Growth Rate: 1.57%)	**705,162 (Annual Growth Rate: 0.90%)[1]**	**371,095 (Annual Growth Rate: 1.57%)[2]**

1. Annual population growth rate was based on BEBR 2045 medium population projections. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) BEBR medium because of allocation process.
2. Annual employment growth rate was based on 2045 Woods & Poole projection.

Table 2 Flagler County 2045 Population and Employment Projections

Flagler County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	101,353		36,289	**101,289**	**25,805**
2045	BEBR Medium Projection	165,800 (Annual Growth Rate: 2.13%)	70,427 (Annual Growth Rate: 3.13%)	**182,148 (Annual Growth Rate: 2.66%)[1]**	**50,167 (Annual Growth Rate: 3.15%)[2]**
	BEBR High Projection	210,500 (Annual Growth Rate: 3.6%)			

1. Annual population growth rate was based on BEBR 2045 medium to high population projections. Flagler County has observed large amounts of approved large developments growth. It was suggested to use BEBR medium to high projections. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) the middle of annual growth rate between BEBR medium and BEBR high population because of allocation process.
2. Annual employment annual growth rate was based on 2045 Woods & Poole projection.

Table 3 Lake County 2045 Population and Employment Projections

Lake County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	316,569		132,025	**318,365**	**129,709**
2045	BEBR Medium Projection	509,600 (Annual Growth Rate: 2.03%)	258,314 (Annual Growth Rate: 3.19%)	**511,433 (Annual Growth Rate: 2.02%)[1]**	**252,743 (Annual Growth Rate: 3.16%)[2]**

1. Annual population growth rate was based on BEBR 2045 medium projection. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) annual growth rate of BEBR medium population because of allocation process.
2. Annual employment growth rate was based on 2045 Woods & Poole projection.

Table 4 Marion County 2045 Population and Employment Projections

Marion County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	341,205		141,765	**333,186**	**111,501**
2045	BEBR Medium Projection	452,900 (Growth Rate: 1.09%)	241,027 (Growth Rate: 2.33%)	**444,911 (Growth Rate: 1.12%)[1]**	**174,481 (Growth Rate: 1.88%)[2]**

1. Annual population growth rate was based on BEBR 2045 medium to high population projections. Marion County has observed large amounts of approved large developments growth. It was suggested to use BEBR medium to high projections. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) annual growth rate of BEBR high population because of allocation process.
2. Annual employment growth rate was firstly developed based on 2045 Woods & Poole projection, and then adjusted based on review results by Ocala/Marion County TPO.

Table 5 Sumter County 2045 Population and Employment Projections

Sumter County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	115,657		40,444	**107,042**	**30,073**
2045	BEBR Medium Projection	232,600 (Growth Rate: 3.37 %)	95,691 (Growth Rate: 4.57%)	**223,979 (Growth Rate: 3.64%)[1]**	**71,336 (Growth Rate: 4.57%)[2]**

1. Annual population growth rate was based on BEBR 2045 medium projection. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) annual growth rate of BEBR medium population because of allocation process.
2. Annual employment growth rate was based on 2045 Woods & Poole projection.

Table 6 Volusia County 2045 Population and Employment Projections

Volusia County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	510,494		232,518	**503,615**	**204,694**
2045	BEBR Medium Projection	642,400 (Growth Rate: 0.87%)	353,036 (Growth Rate: 1.73%)	**698,777 (Growth Rate: 1.29%)[1]**	**305,529 (Growth Rate: 1.64%)[2]**
	BEBR High Projection	759,400 (Growth Rate: 1.63%)			

1. Annual population growth rate was based on BEBR 2045 medium to high population projections. The BEBR 2045 medium population projection has the annual growth rate less than 1%. It was suggested by the River to Sea TPO to reference BEBR 2045 medium to high projections. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) the middle of annual growth rate between BEBR medium and BEBR high population because of allocation process.

2. Annual employment growth rate was based on 2045 Woods & Poole projection, and then adjusted based on review results by River to Sea TPO.

Table 7 Orange County 2045 Population and Employment Projections

Orange County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	1,252,396		998,072	**1,213,443**	**809,785**
2045	BEBR Medium Projection	2,013,600 (Growth Rate: 2.03%)	1,677,658 (Growth Rate: 2.27%)	**1,974,483 (Growth Rate: 2.09%)[1]**	**1,364,337 (Growth Rate: 2.28%)[2]**

1. Annual population growth rate was based on BEBR 2045 medium population projection. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) annual growth rate of BEBR medium population projection because of allocation process.

2. Annual employment growth rate was based on 2045 Woods & Poole projection.

Table 8 Seminole County 2045 Population and Employment Projections

Seminole County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	442,903		247,234	**449,141**	**186,966**
2045	BEBR Medium Projection	582,600 (Growth Rate: 1.05%)	466,852 (Growth Rate: 2.96%)	**588,820 (Growth Rate: 1.04%)[1]**	**364,489 (Growth Rate: 3.16%)[2]**

1. Annual population growth rate was based on BEBR 2045 medium population projection. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) annual growth rate of BEBR high population because of allocation process.

2. Annual employment growth rate was based on 2045 Woods & Poole projection.

Table 9 Osceola County 2045 Population and Employment Projections

Osceola County	A: BEBR Population Projection		B: Woods & Poole Employment Projection	C: Population Projection in CFRPM V7	D: Employment Projection in CFRPM V7
2015	308,327		127,871	**313,899**	**93,859**
2045	BEBR Medium Projection	649,800 (Growth Rate: 3.69%)	275,094 (Growth Rate: 3.84%)	**655,186 (Growth Rate: 3.62%)[1]**	**276,410 (Growth Rate: 6.48%)[2]**

1. Annual population growth rate was based on BEBR 2045 high population projection. Osceola County has observed significantly large amounts of approved large developments growth. It was suggested to use BEBR high projection. Please note the annual growth rate in the CFRPM v7 model was close to (but not exactly at) annual growth rate of BEBR high population because of allocation process.
2. Annual employment growth rate was based on 2045 Woods & Poole projection, and then adjusted based on review results by Metroplan Orlando.

3 DATA COLLECTION FOR 2045 LAND USE DEVELOPMENT

The data collection efforts for the 2045 land use data development are summarized in this section. Through coordination with FDOT, the Space Coast TPO, River to Sea TPO, Lake-Sumter MPO, Ocala/Marion County TPO, Metroplan Orlando and county and cities agencies, the following data were collected:

- The developed CFRPM v7 2015 land use data

- Approved large development data:
    - The growth management coordinator of each county and the growth management coordinator of each city within the study area were contacted for approved large development data. The three important components of data collected included:
        1. Location of new development
        2. Size of new development
        3. Expected buildout year

      The approved large development data came in different formats that were cleaned and used.

- Future land use and zoning data

- GIS data from County government offices and property appraiser records:
    - Property parcels
    - Appraiser data
    - Other files. These GIS data were downloaded from open public websites and included:
        - Major/Minor Roads
        - Public Lands
        - Lakes
        - Wetlands
        - Municipal Boundaries
        - Conservation Lands

- The 1000 Friends of Florida "Florida 2070" urbanized footprint data

Table 10 shows the counties and the municipalities within the county that were contacted for approved large development plan data, zoning, and future land use data.

Table 10 Counties and Municipalities in Study Area

MPO	County	Cities
River to Sea	Volusia	Volusia County (Unincorporated Area)
		Pierson
		DeLand
		Lake Helen
		Orange City
		Debary
		Deltona
		Ormond Beach
		Holly Hill
		Daytona Beach
		Daytona Beach Shores
		South Daytona
		Port Orange
		New Smyrna Beach
		Edgewater
		Ponce Inlet
		Oak Hill
	Flagler	Flagler County (Unincorporated Area)
		Beverly Beach
		Bunnell
		Flagler Beach
		Marineland
		Palm Coast
Ocala/Marion	Marion	Marion County (Unincorporated Area)
		Ocala
		Belleview
		Dunnellon
		Reddick
		McIntosh
Lake-Sumter	Lake	Lake County (Unincorporated Area)
		Clermont
		Eustis
		Fruitland Park
		Groveland
		Leesburg
		Mascotte

		Minneola
		Mount Dora
		Tavares
		Umatilla
	Sumter	Sumter County (Unincorporated Area)
		Coleman
		Webster
		Wildwood
		Bushnell
		Center Hill
Space Coast	Brevard	Brevard County (Unincorporated Area)
		Titusville
		Cocoa
		Rockledge
		Cape Canaveral
		Satellite Beach
		Cocoa Beach
		Melbourne
		Indian Harbour Beach
		West Melbourne
		Palm Bay
MetroPlan Orlando	Osceola	Osceola County (Unincorporated Area)
		Kissimmee
		St. Cloud
	Seminole	Seminole County (Unincorporated Area)
		Altamonte Springs
		Casselberry
		Lake Mary
		Longwood
		Oviedo
		Sanford
		Winter Springs
	Orange	Orange County (Unincorporated Area)
		Apopka
		Bay Lake (Reedy Creek Improvement District)
		Belle Isle
		Eatonville
		Edgewood
		Lake Buena Vista (Reedy Creek Improvement District)
		Maitland

		Oakland
		Ocoee
		Orlando
		Windermere
		Winter Gardens
		Winter Park

4 DEVELOP 2045 LAND USE DATA FOR FIVE MPOS/TPOS

4.1 GEOCODE APPROVED LARGE DEVELOPMENT DATA INTO CFRPM V7 TAZ

The approved large development data were geocoded into Google Earth using the provided addresses from counties and cities. The Google Earth files were converted to the ArcGIS point shapefiles with the unique JoinID field. The JoinID was joined to the spreadsheets that contained the same JoinID and the approved large development data. All of the city and county unincorporated developments were merged into one point shapefile per county. The point shapefile had fields including:

- MPO (name of MPO)
- County
- City
- SFDUnits
- MFUnits
- Tot_DU
- INDDevelop (square feet of industrial development)
- COMDevelop (square feet of commercial development)
- SEVDevelop (square feet of service development)
- Tot_Devel (sum of INDDevelop, COMDevelop, and SEVDevelop)
- HotelRms (number of hotel rooms in development)
- SchoolStu (number of students that a future school would be built for)
- Buildout (buildout year)
- DevelopmenName (name of development/developer)
- ALF_Beds (number of beds an assisted living facility is expected to provide for)
- Hosp_Beds (number of beds a hospital is expected to provide for)

Figure 1 to Figure 9 show the locations of approved large development data in Brevard, Flagler, Marion, Lake, Sumter, Volusia, Osceola, Seminole, and Orange Counties.

The approved large development data were then converted to data format used by the CFRPM v7 model.

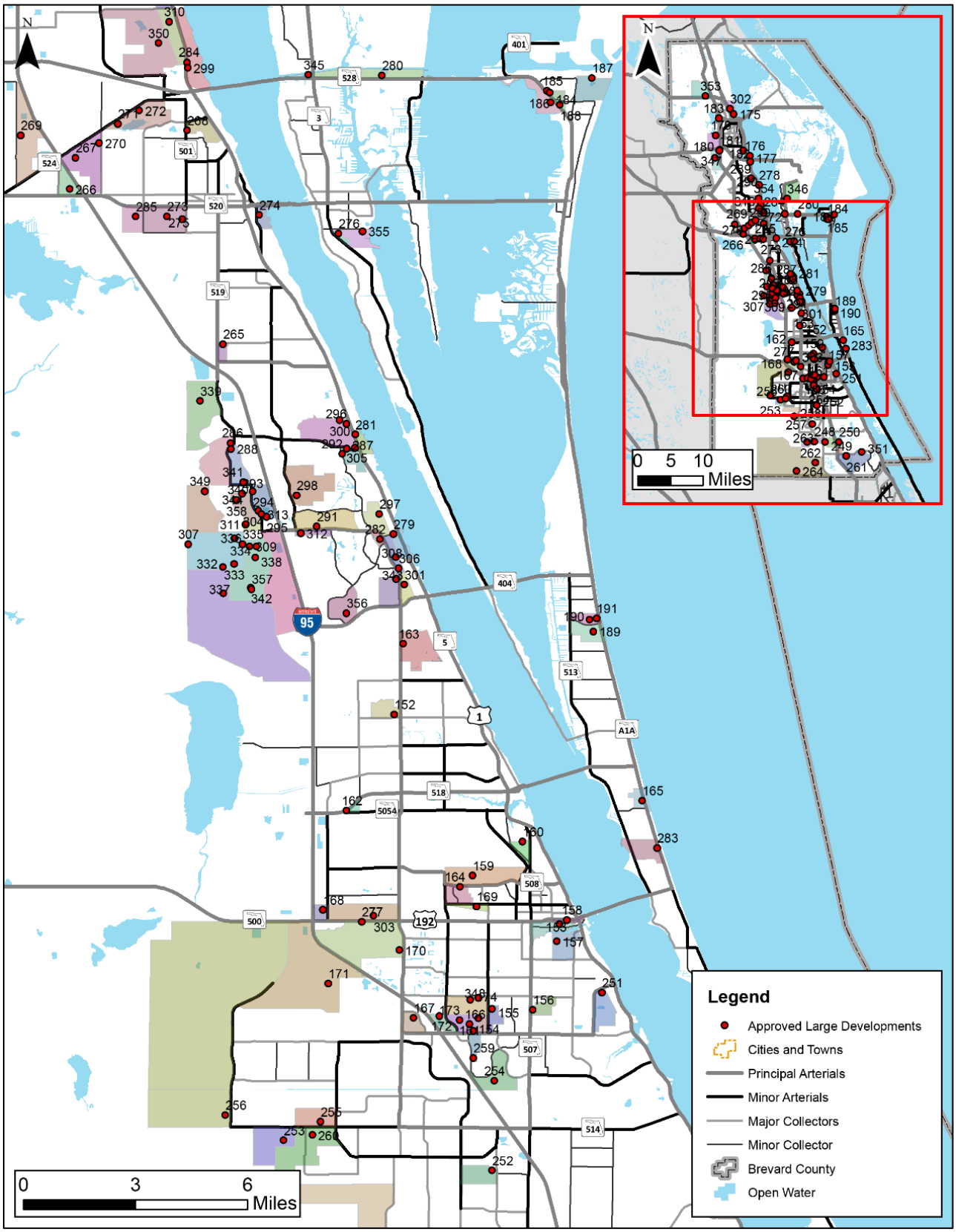

Figure 1 Locations of the Approved Large Developments in Brevard County

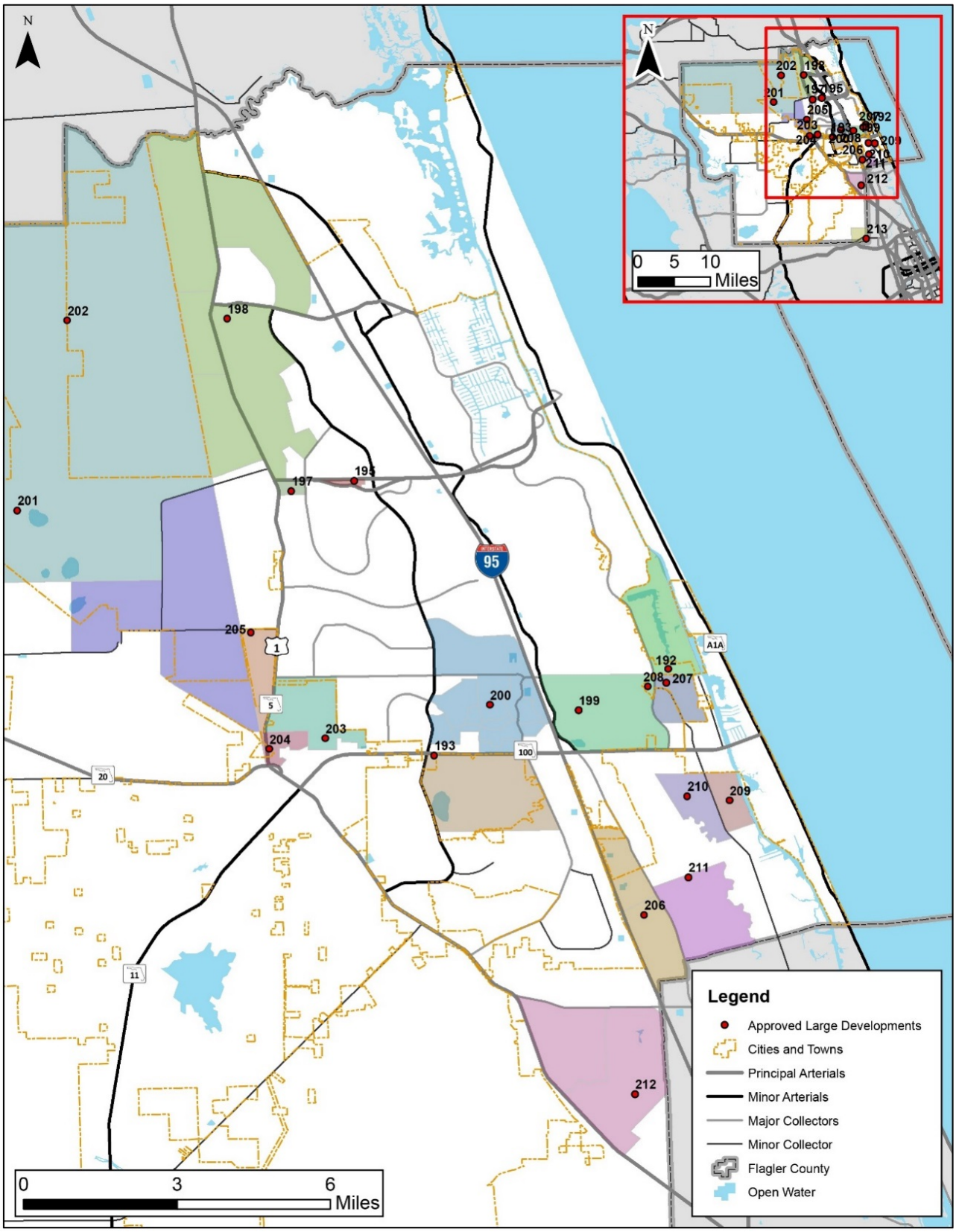

Figure 2 Locations of the Approved Large Developments in Flagler County

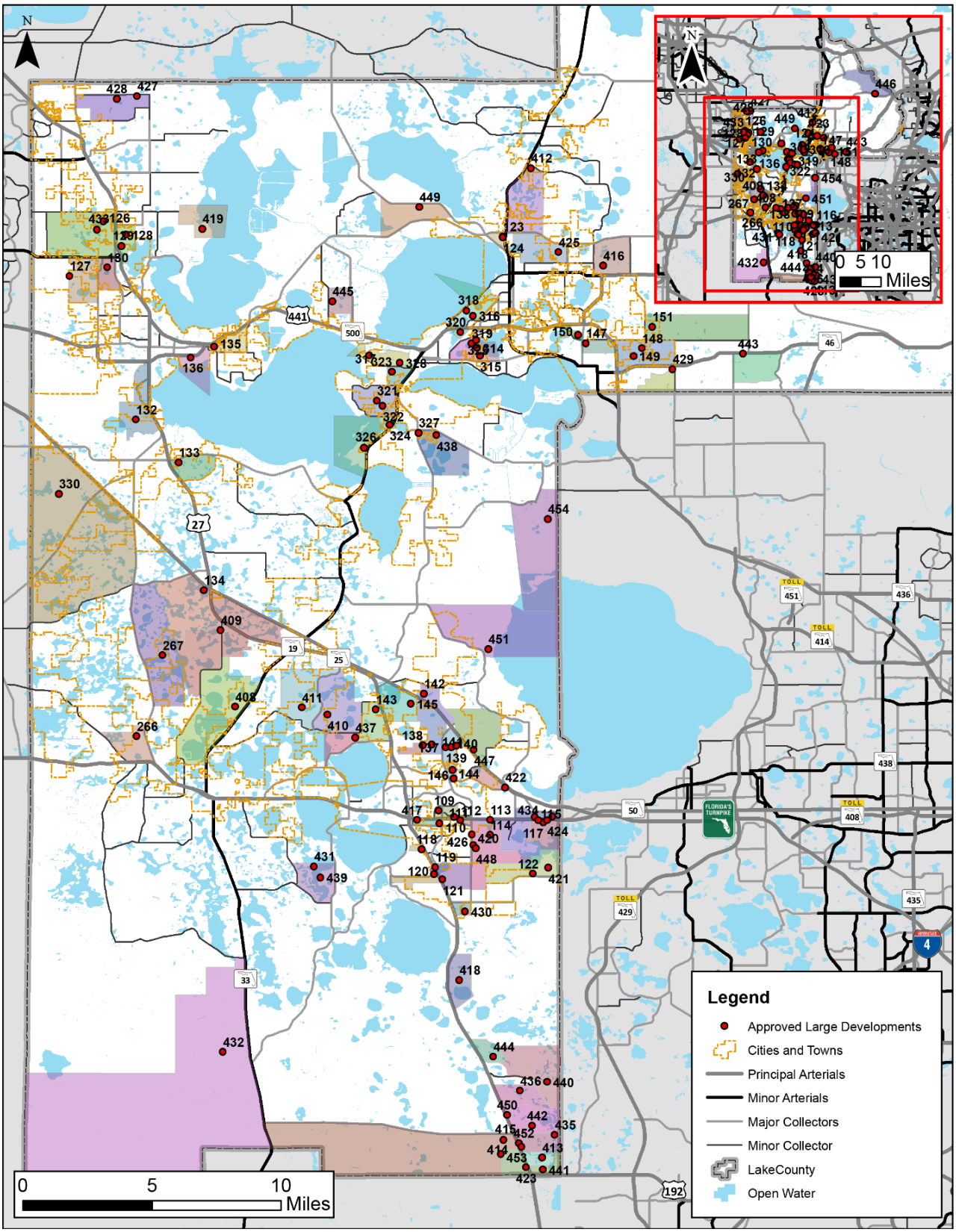

Figure 3 Locations of the Approved Large Developments in Lake County

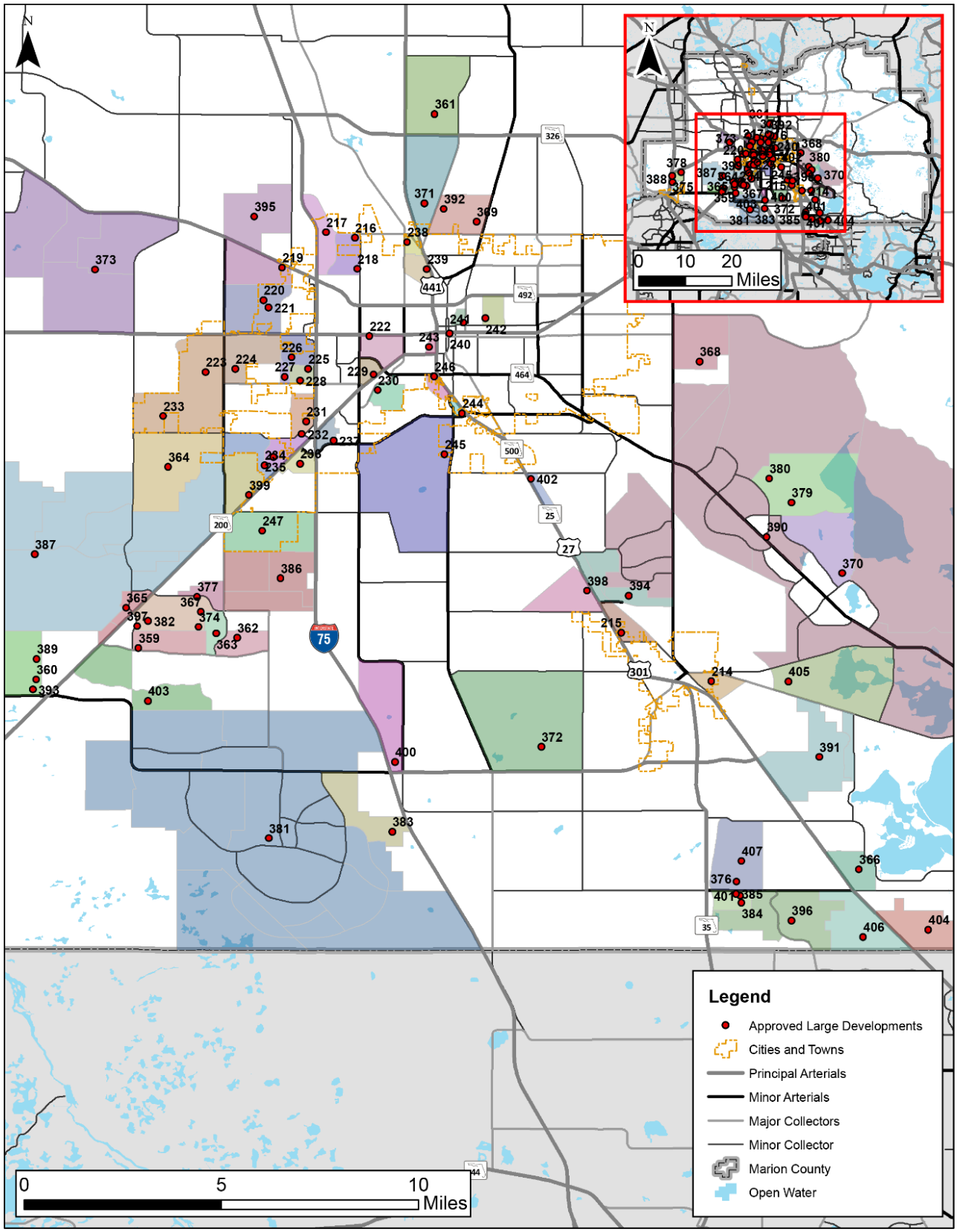

Figure 4 Locations of the Approved Large Developments in Marion County

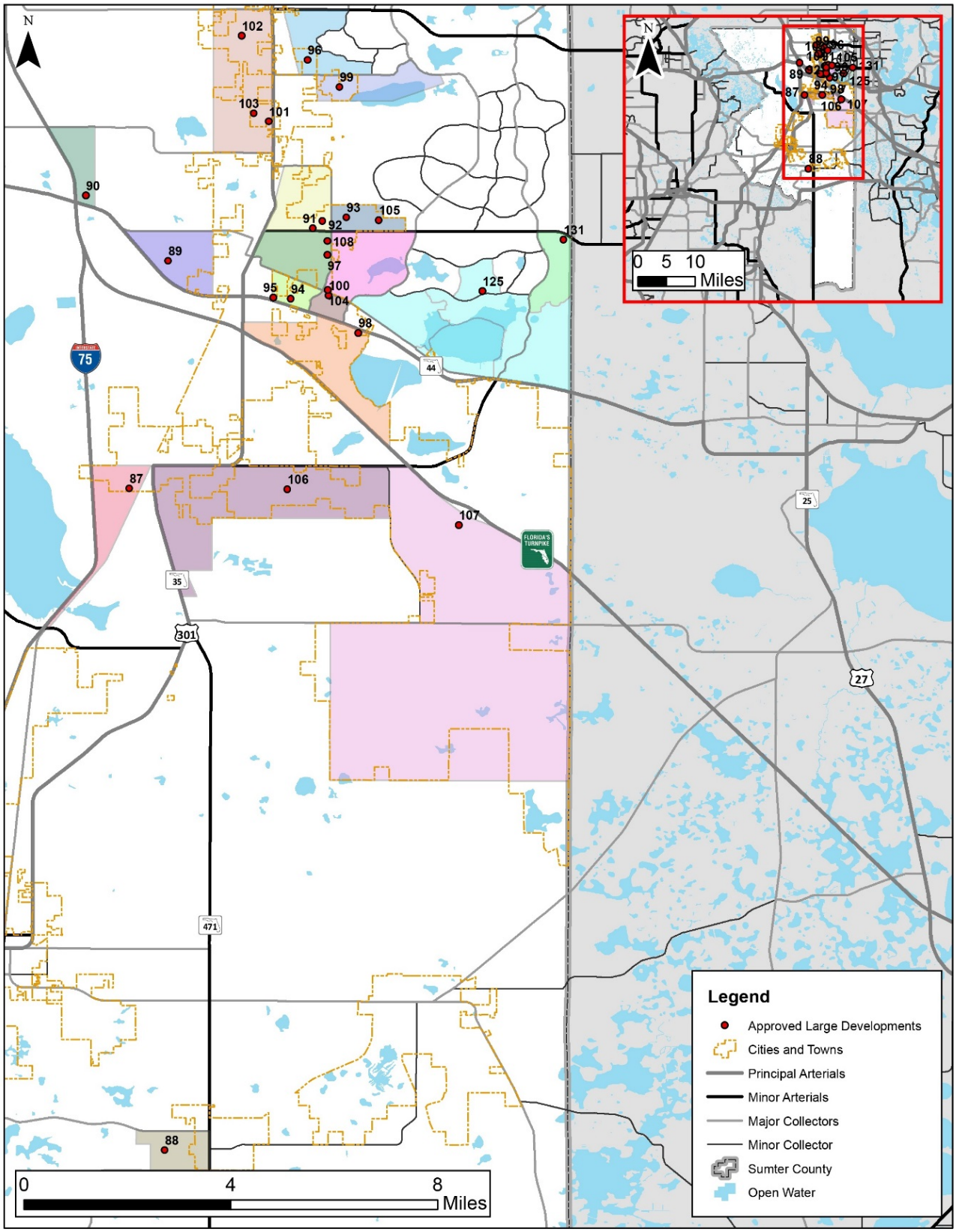

Figure 5 Locations of the Approved Large Developments in Sumter County

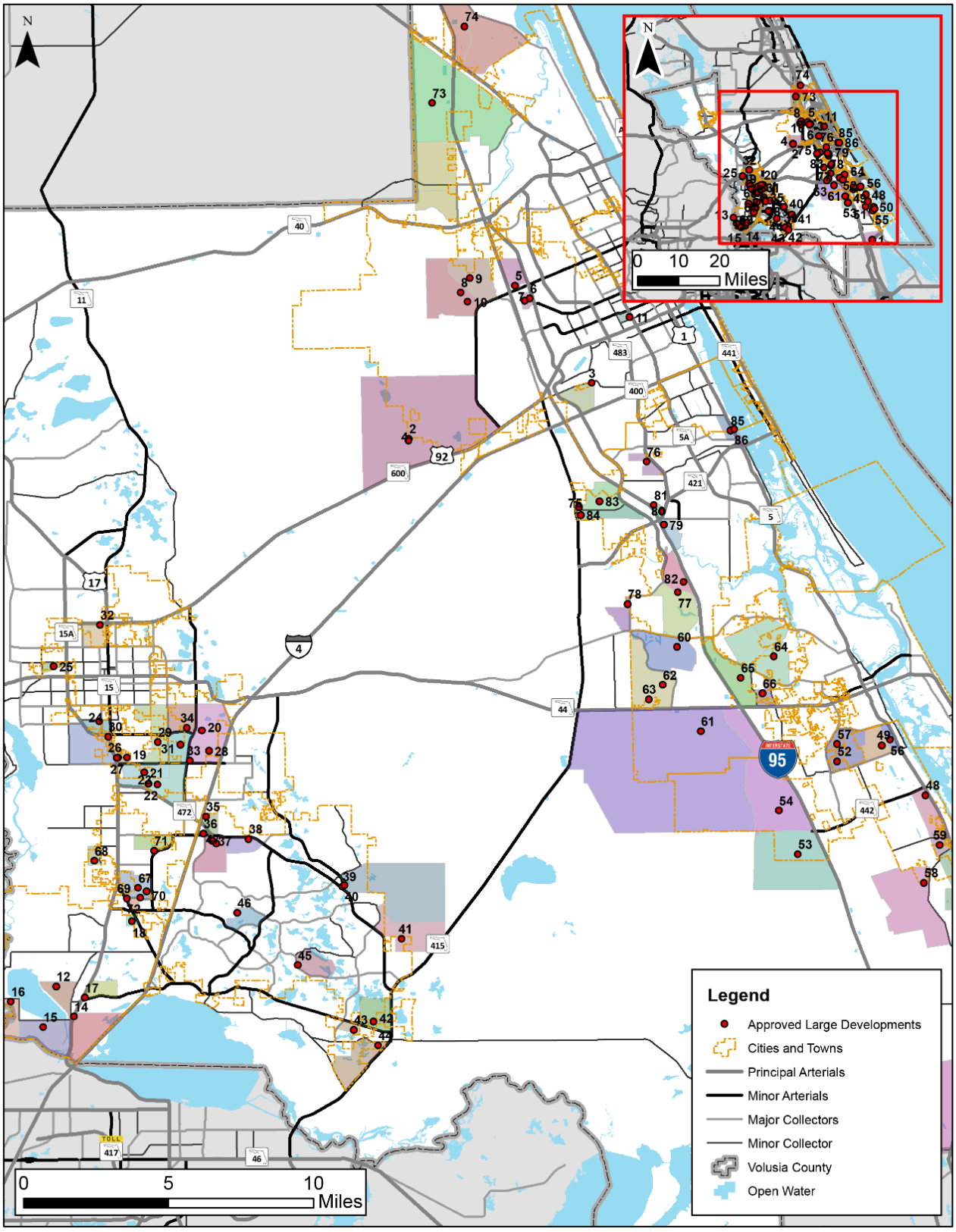

Figure 6 Locations of the Approved Large Developments in Volusia County

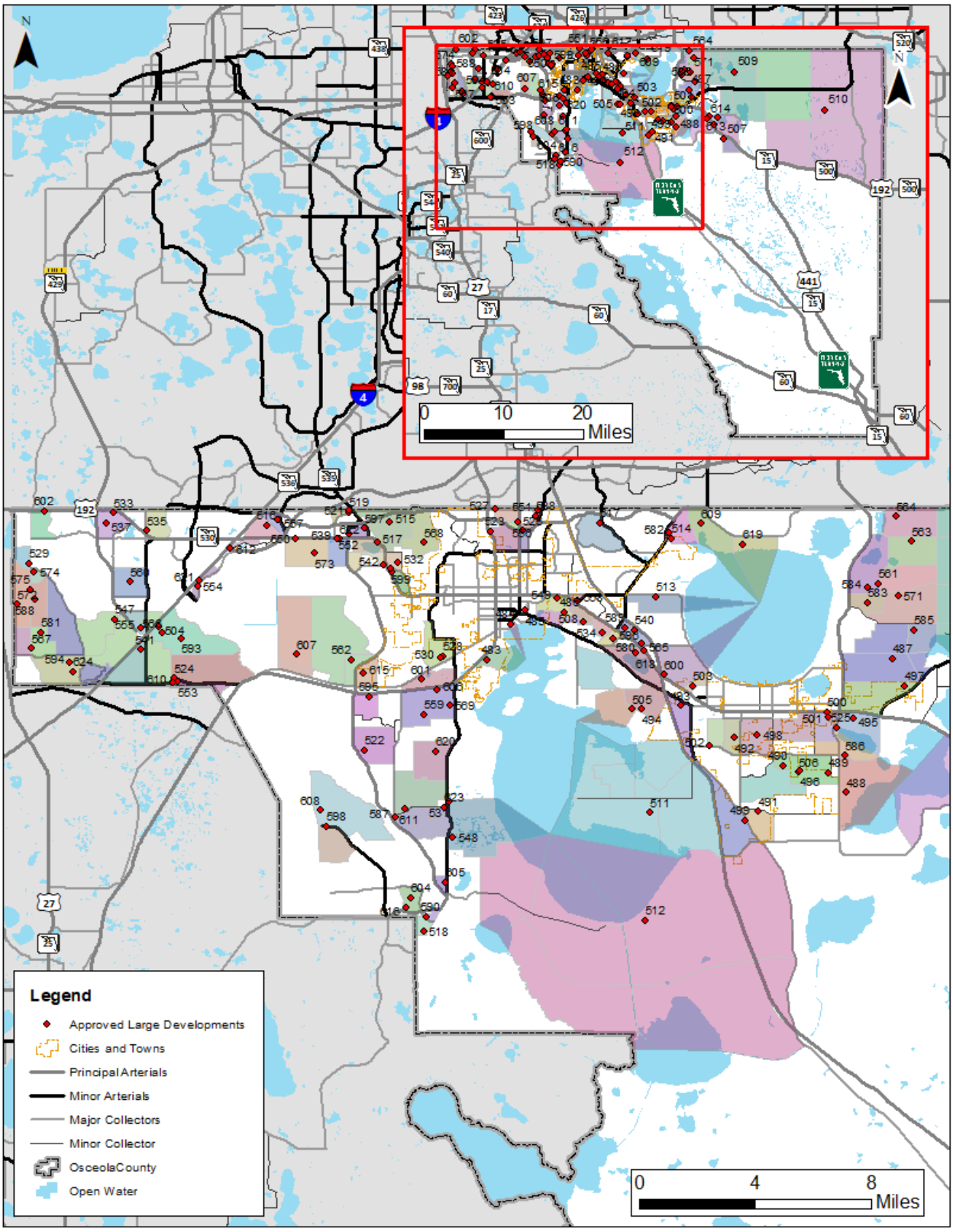

Figure 7 Locations of the Approved Large Developments in Osceola County

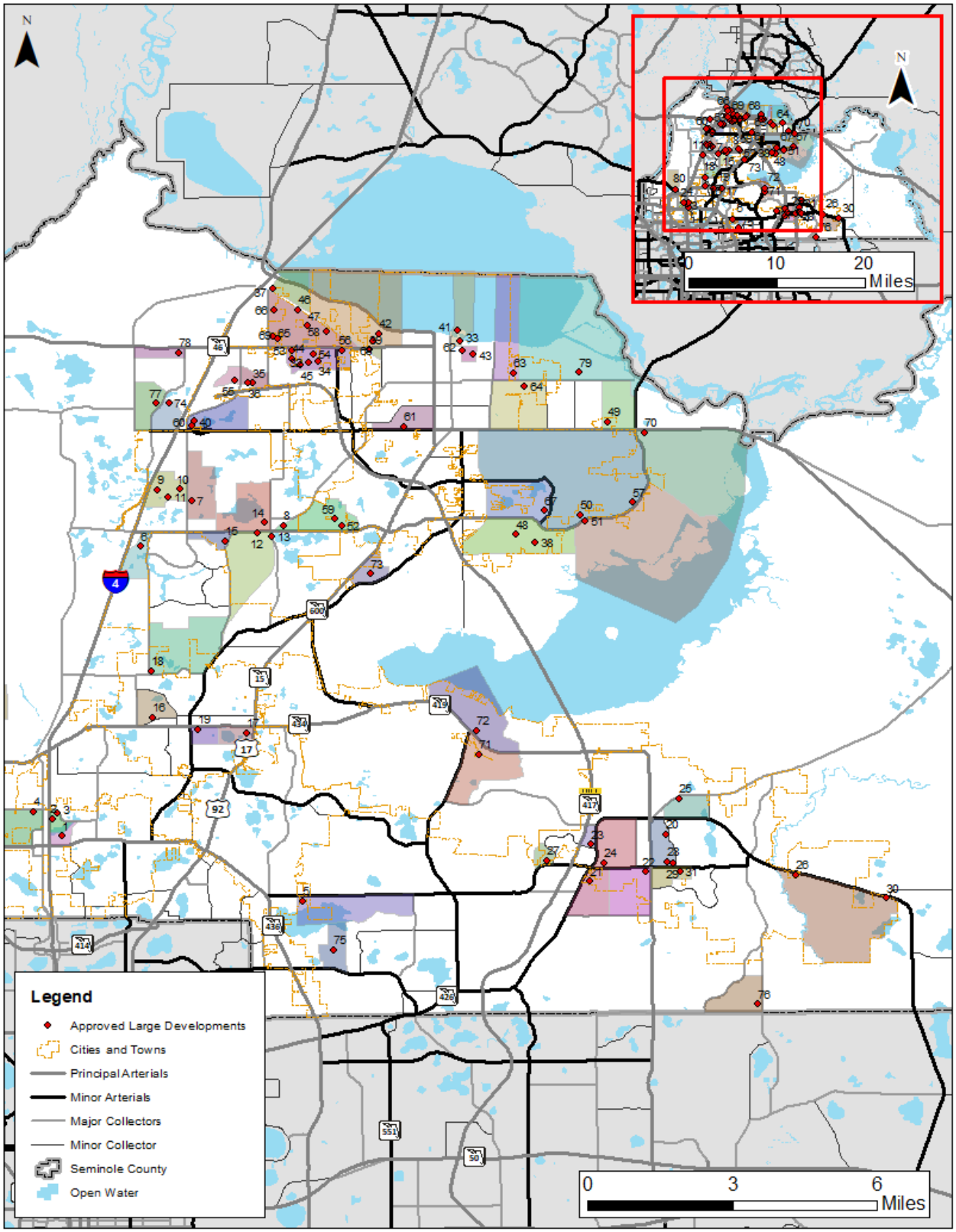

Figure 8 Locations of the Approved Large Developments in Seminole County

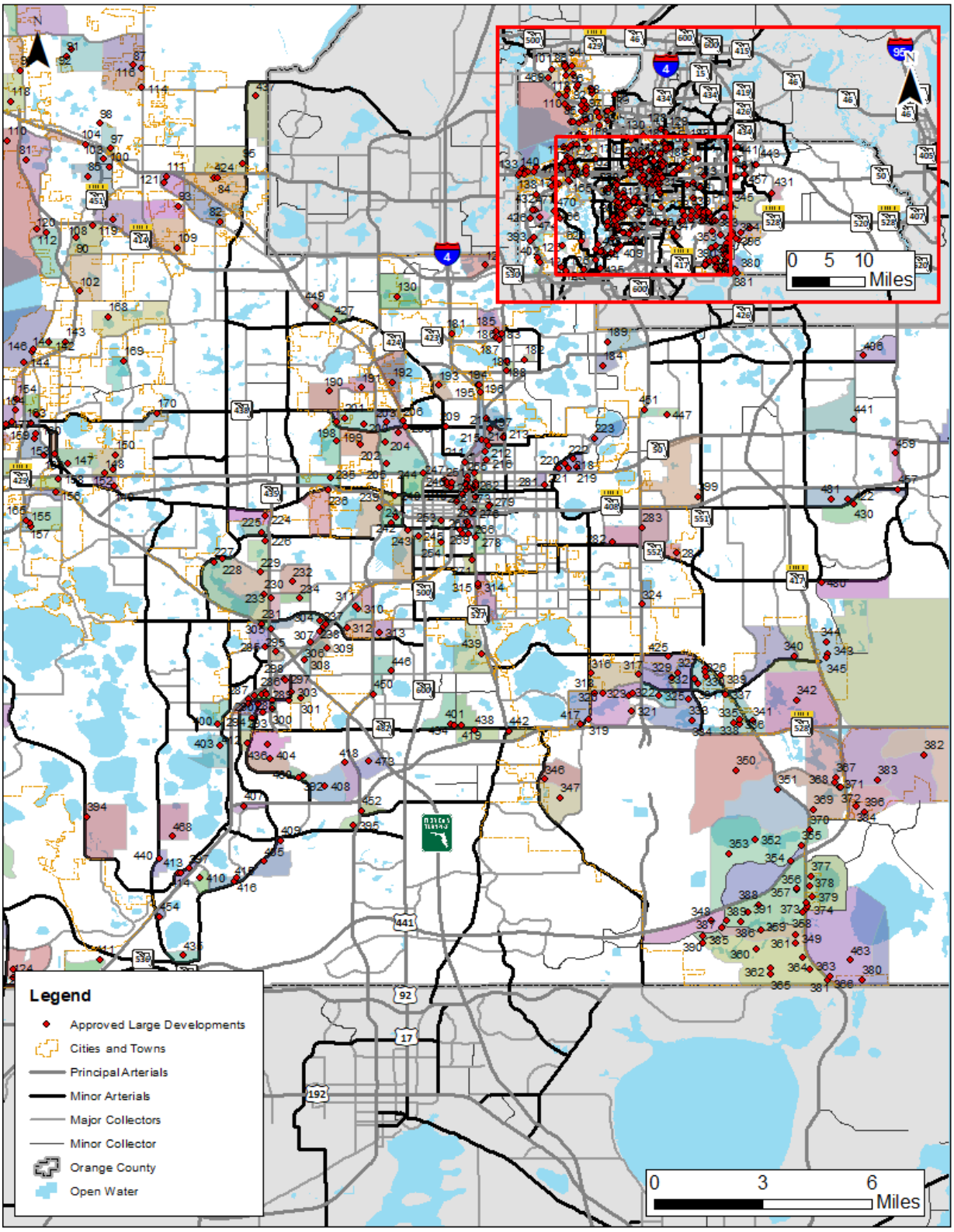

Figure 9 Locations of the Approved Large Developments in Orange County

Some counties or cities provided employment types for these approved large developments. **Table 11** lists various employment types classified by industrial, commercial, and service industries.

Table 11 Employment Types Classified by Industrial, Commercial, and Service Industries

NAICS Code	Description	Industry Categories
11	Agriculture, Forestry, Fishing and Hunting	Industrial
21	Mining, Quarrying, and Oil and Gas Extraction	Industrial
22	Utilities	Industrial
23	Construction	Industrial
31-33	Manufacturing	Industrial
42	Wholesale Trade	Commercial
44-45	Retail Trade	Commercial
48-49	Transportation and Warehousing	Service
51	Information	Service
52	Finance and Insurance	Service
53	Real Estate and Rental and Leasing	Service
54	Professional, Scientific, and Technical Services	Service
55	Management of Companies and Enterprises	Service
56	Administrative and Support and Waste Management and Remediation Services	Service
61	Educational Services	Service
62	Health Care and Social Assistance	Service
71	Arts, Entertainment, and Recreation	Service
72	Accommodation and Food Services	Service
81	Other Services (except Public Administration)	Service
92	Public Administration	Service

Square feet were provided for most of approved large developments development. The conversion rates in Table 12 were used to estimate the number of jobs per each industry type.

Table 12 Approved Large Development Conversion Rates

Land Use	Conversion Rate
Assisted Living Facility	1 bed = 0.5 service employee
Hospital	1 bed = 0.5 service employee
Hotel	1 room = 0.5 service employee
1,000 SF of service development	4 service employees
1,000 SF of industrial employment	1 industrial employee
<200,000 SF of commercial development	2.5 Commercial employees per 1,000 SF
>200,000 SF of commercial development	1.75 commercial employees per 1,000 SF

After converting the employment for each industry type, the updated conversion data were joined to each county's point shape file of approved large developments, and then aggregated to the CFRPM v7 TAZ level data.

4.2 REMAINING BACKGROUND/POTENTIAL 2045 LAND USE DATA

Allocation of the remaining background/potential 2045 land use data to individual TAZs was based on the following steps:

- The 2045 population and employment projections were developed for each county based on the growth rates from the BEBR and Woods and Poole Economics projections, shown in Table 1 to Table 6.
- The individual approved large development data were collected and manually coded (Figure 1 to Figure 9). The data were then converted to the CFRPM v7 2045 future land use data on the TAZ level.
- After the approved large development data were included, the remaining background/potential land use data were added until the control totals were met for each county. This step was done as described below:
    - The current property appraiser data was used to locate the vacant residential parcels, vacant industrial parcels, vacant commercial parcels, and agriculture parcels for each county.
    - Excluded the vacant parcels that could not be developed for reasons including open water and existing protected lands. The vacant parcels and agriculture lands for each county are shown in Figure 10 to Figure 18.
    - The 1000 Friends of Florida developed the Florida 2070 trend scenario for future land use plans. The Florida 2070 report was used as the guide for the future land use pattern in our study area.
    - The areas for each vacant and agriculture parcel were calculated to measure the future land use development potentials using parcel codes. General residential densities were used to convert areas to number of single family units (5 Single Family DUs/Acre) and multiple family units (20 multiple Family DUs/Acre). For employment, the conversation rates were 1 industrial employee or 2.5 commercial employees, or 4 service employees per 1000 square feet. Future land use and zoning data were received from counties and cities. Zoning codes usually have a maximum allowed residential density (dwelling units per acre) and a maximum allowed office/retail density (floor-area ratio) that corresponds to each land use code. The parcel data and general densities were reviewed and consistent with future land use data and zoning data.
    - After conversion, the future land use development potentials from vacant parcels and agriculture data were aggregated to be on the CFRPM v7 TAZ level. The remaining background/potential 2045 land use data were allocated based on the scale of potentials for each TAZ to match population and employment control total. The vacant parcels were allocated first. If the vacant parcels didn't have enough potentials, the agriculture lands were allocated for future land use growth.
    - The developed draft 2045 land use data were sent to each MPO/TPO for review. Received comments were manually checked and addressed on the TAZ level.

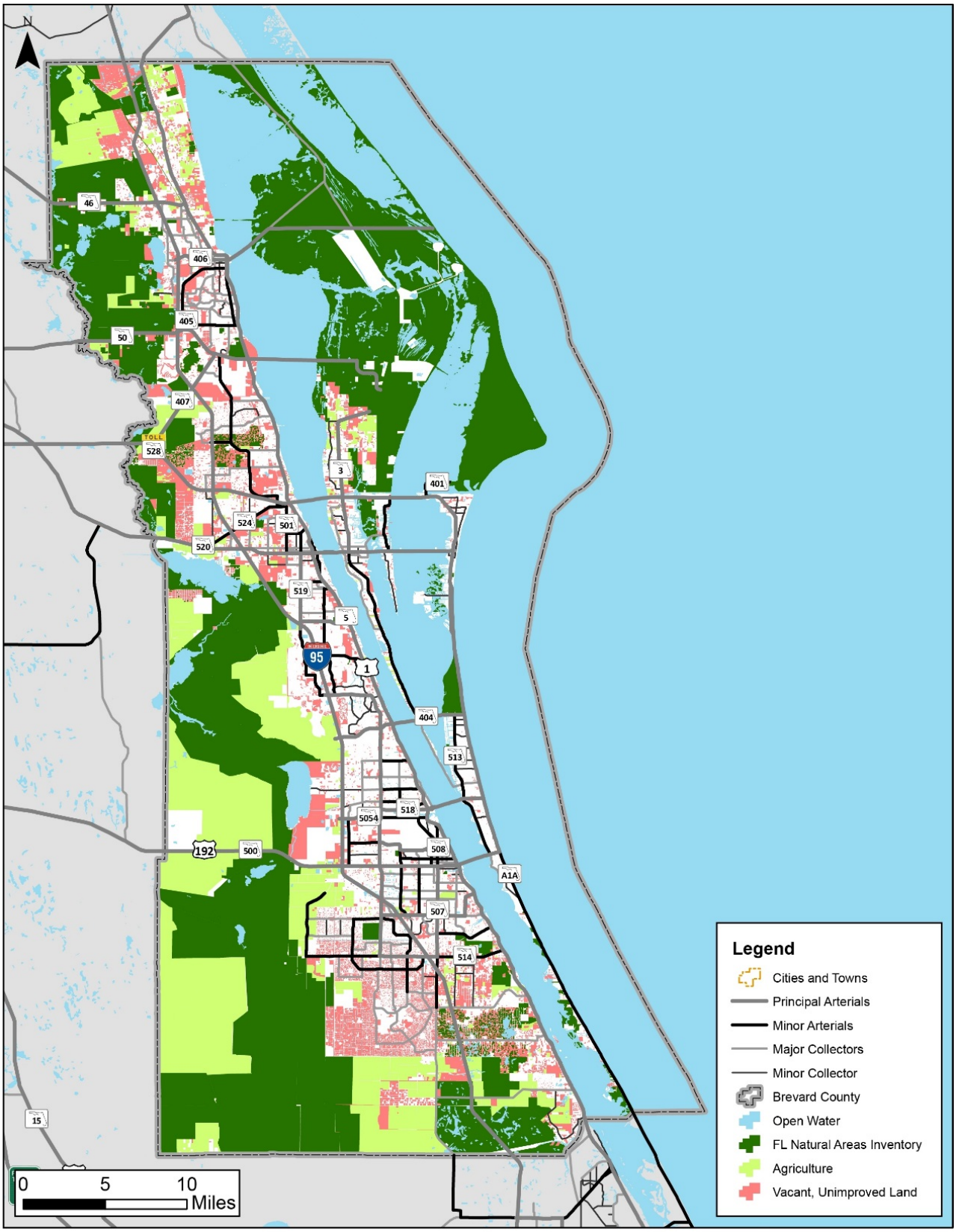

Figure 10 Vacant Parcels and Agriculture Lands in Brevard County

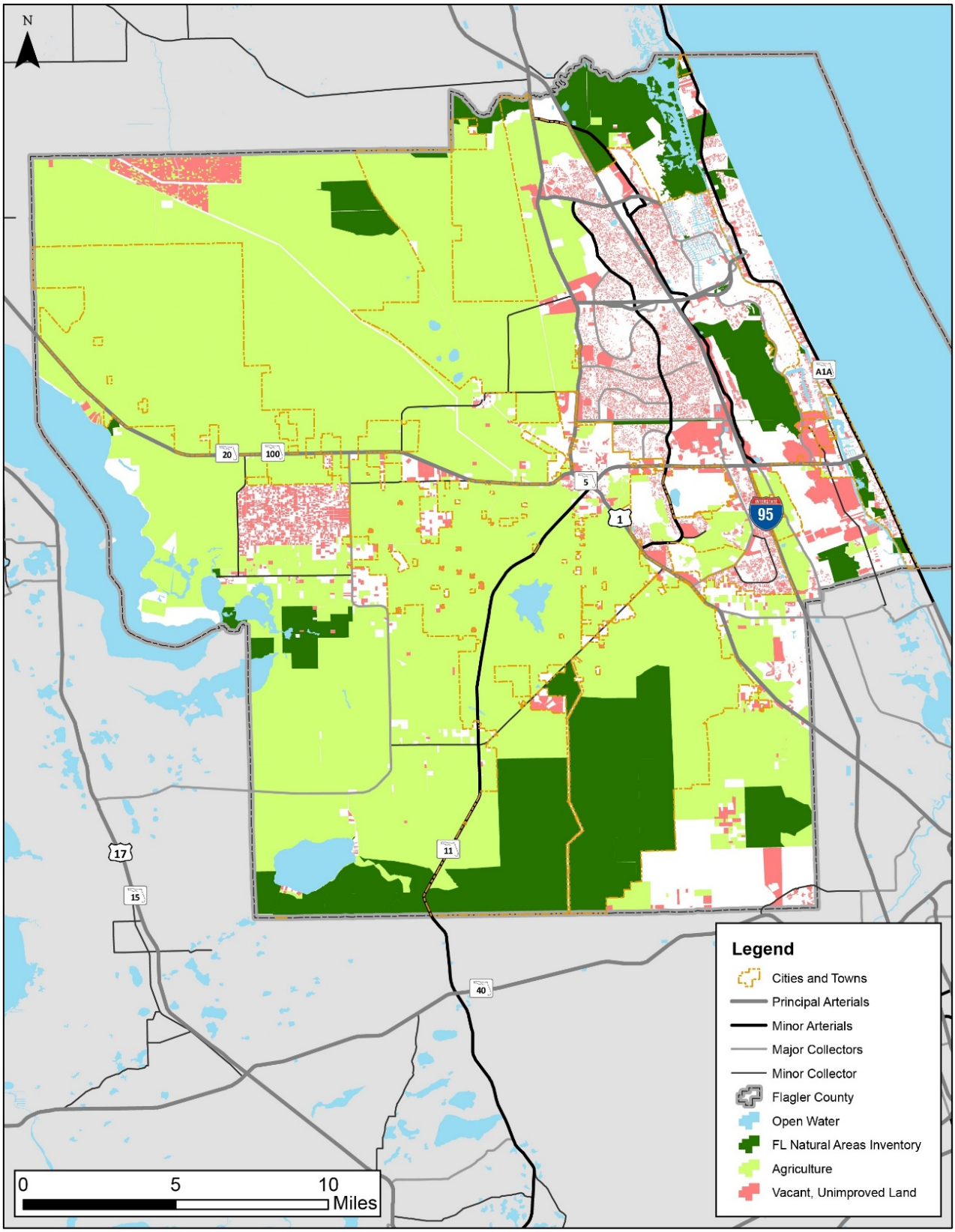

Figure 11 Vacant Parcels and Agriculture Lands in Flagler County

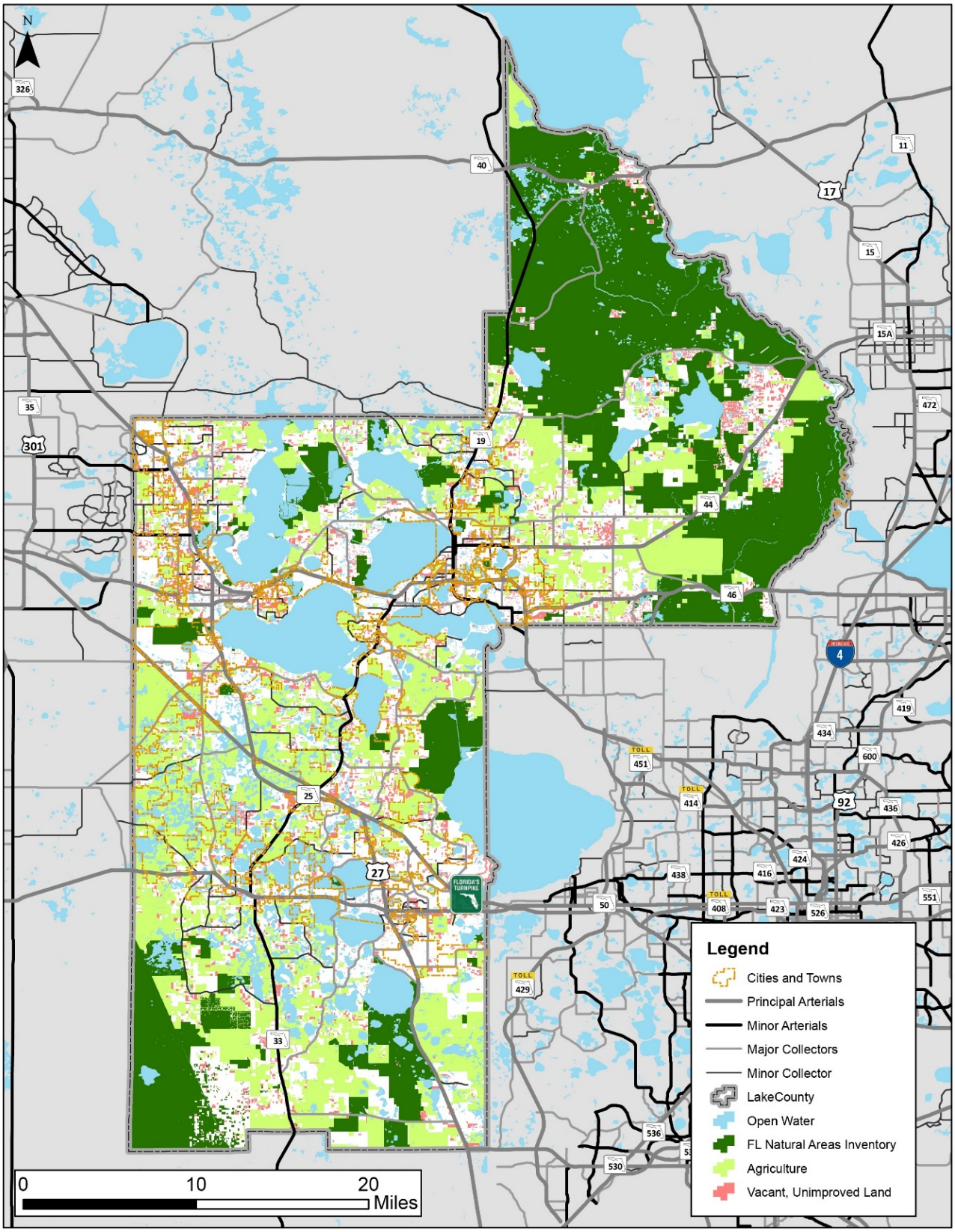

Figure 12 Vacant Parcels and Agriculture Lands in Lake County

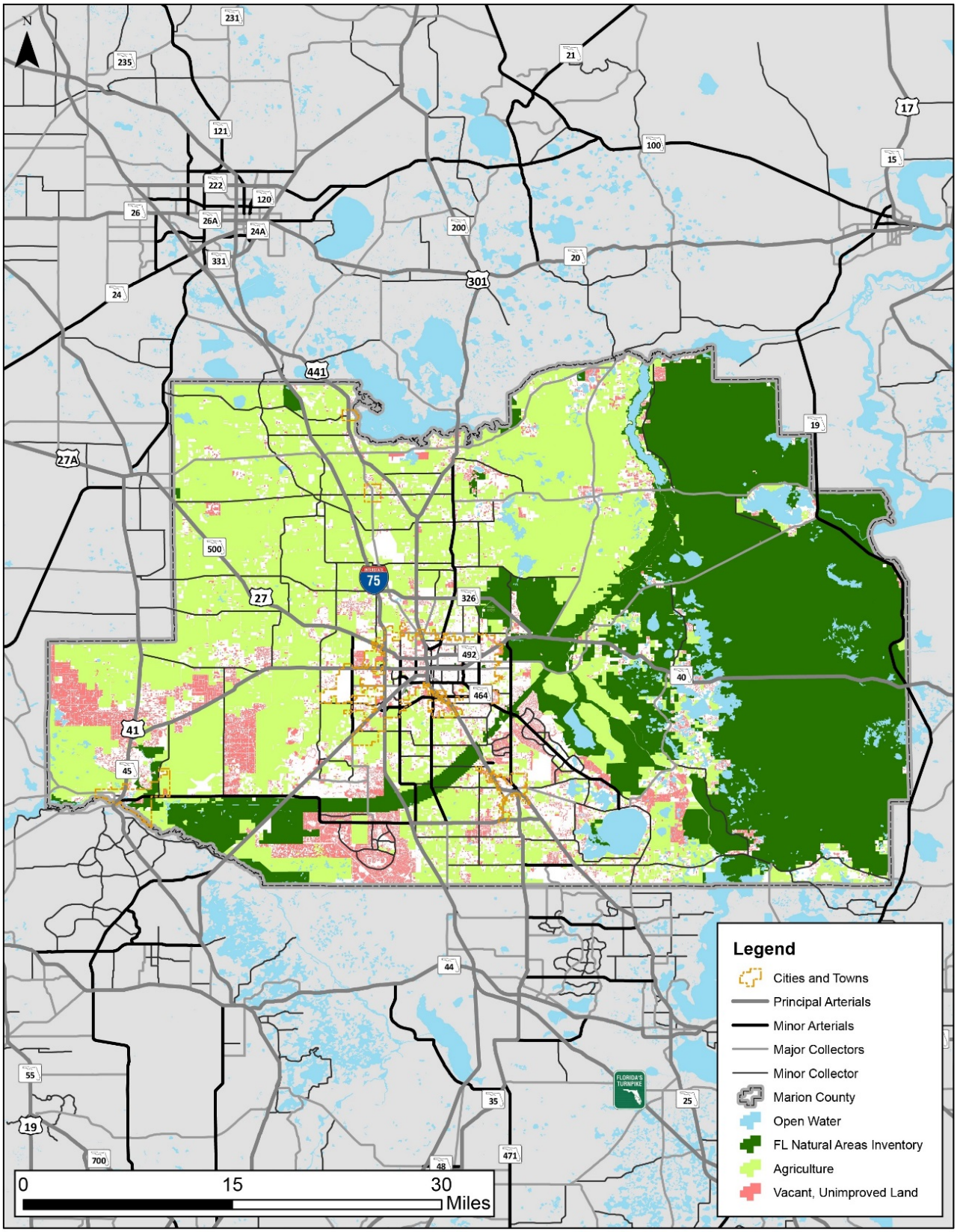

Figure 13 Vacant Parcels and Agriculture Lands in Marion County

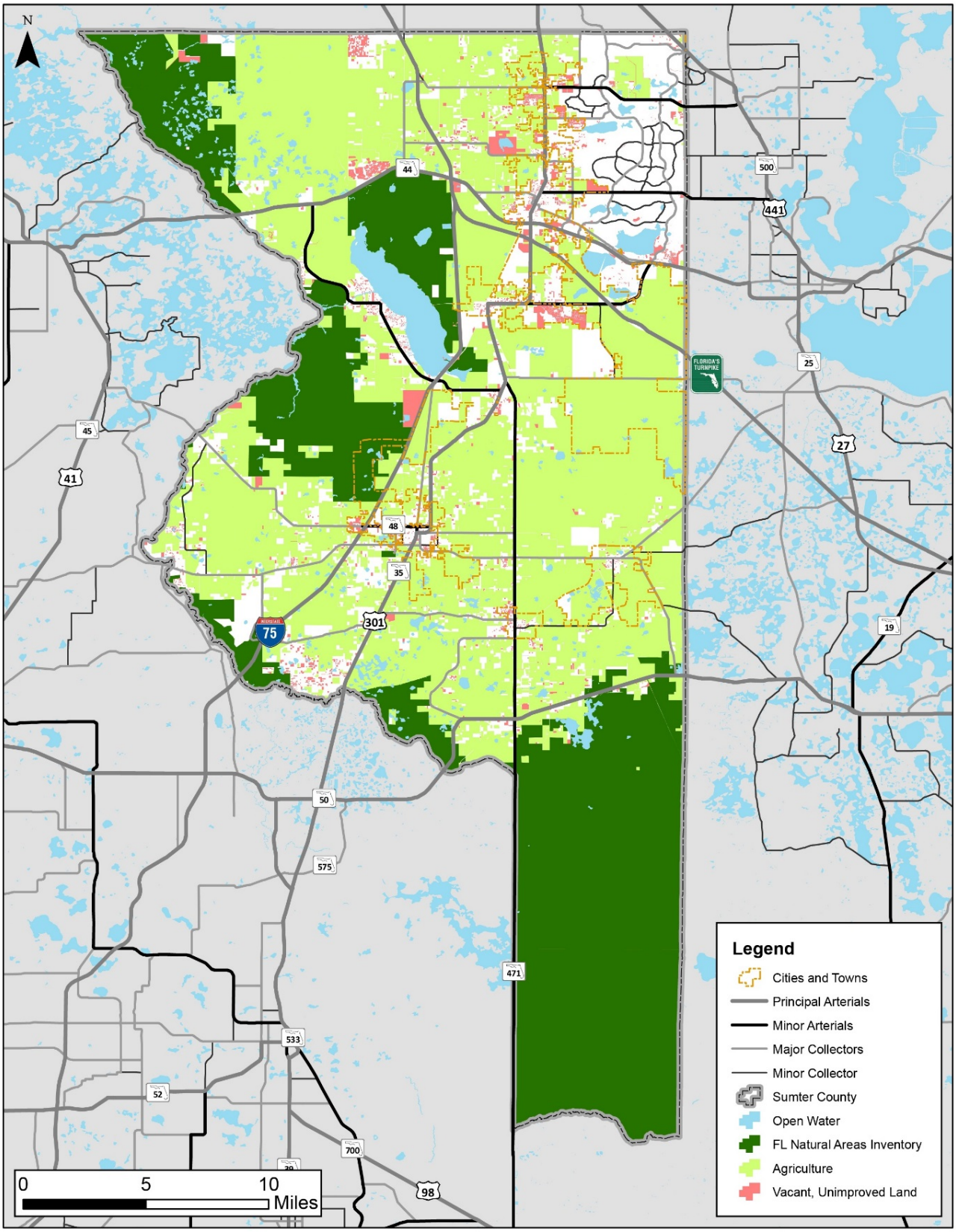

Figure 14 Vacant Parcels and Agriculture Lands in Sumter County

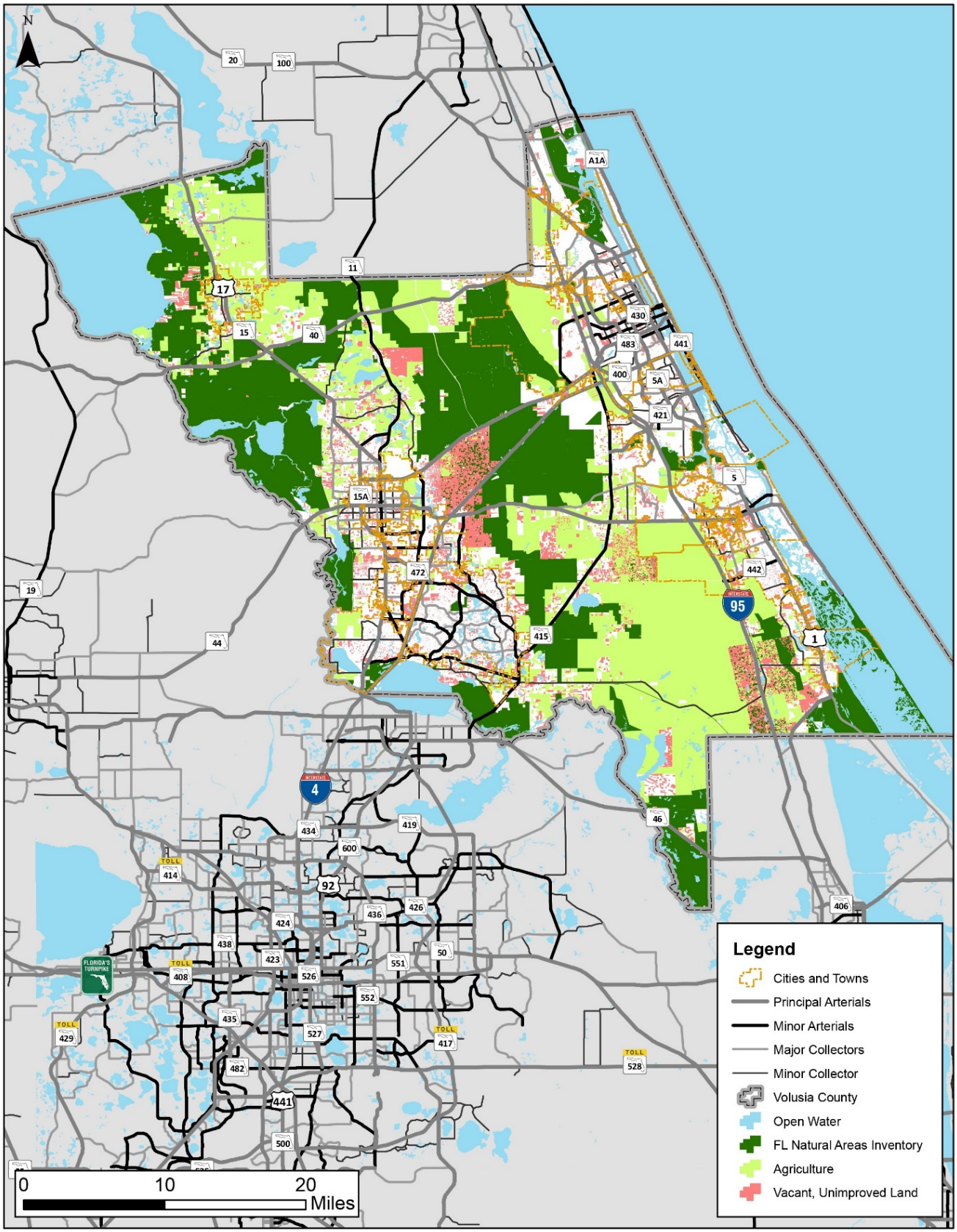

Figure 15 Vacant Parcels and Agriculture Lands in Volusia County

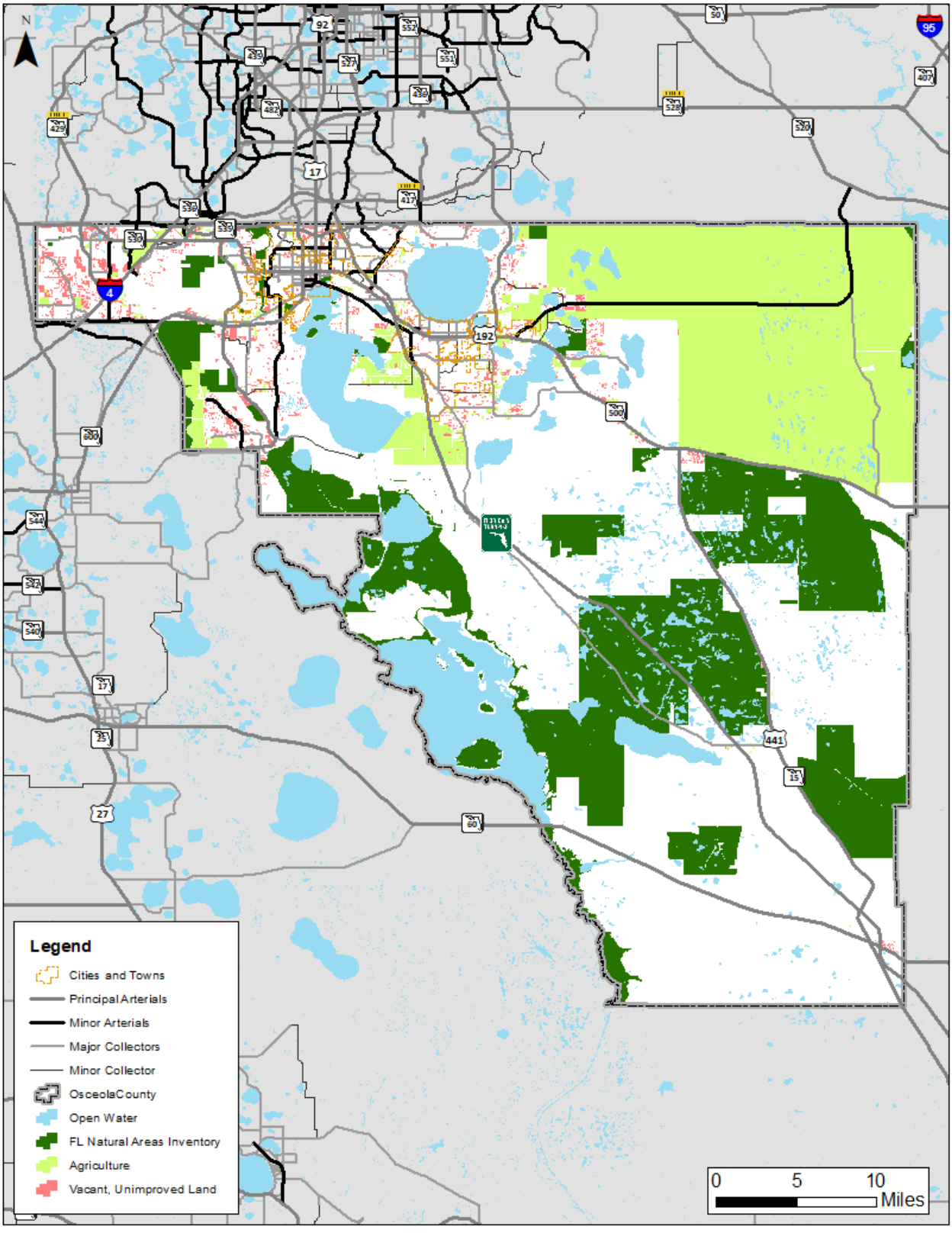

Figure 16 Vacant Parcels and Agriculture Lands in Osceola County

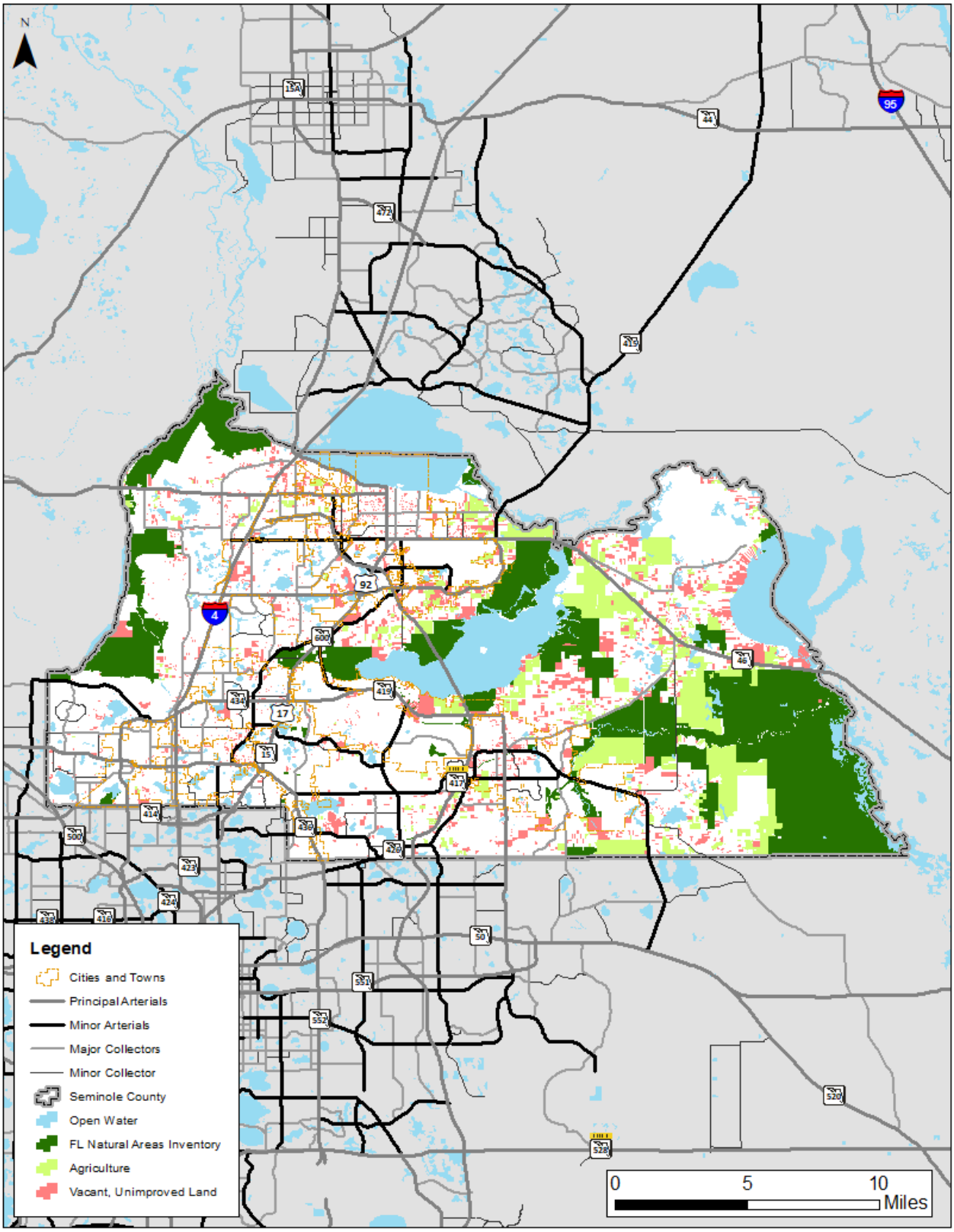

Figure 17 Vacant Parcels and Agriculture Lands in Seminole County

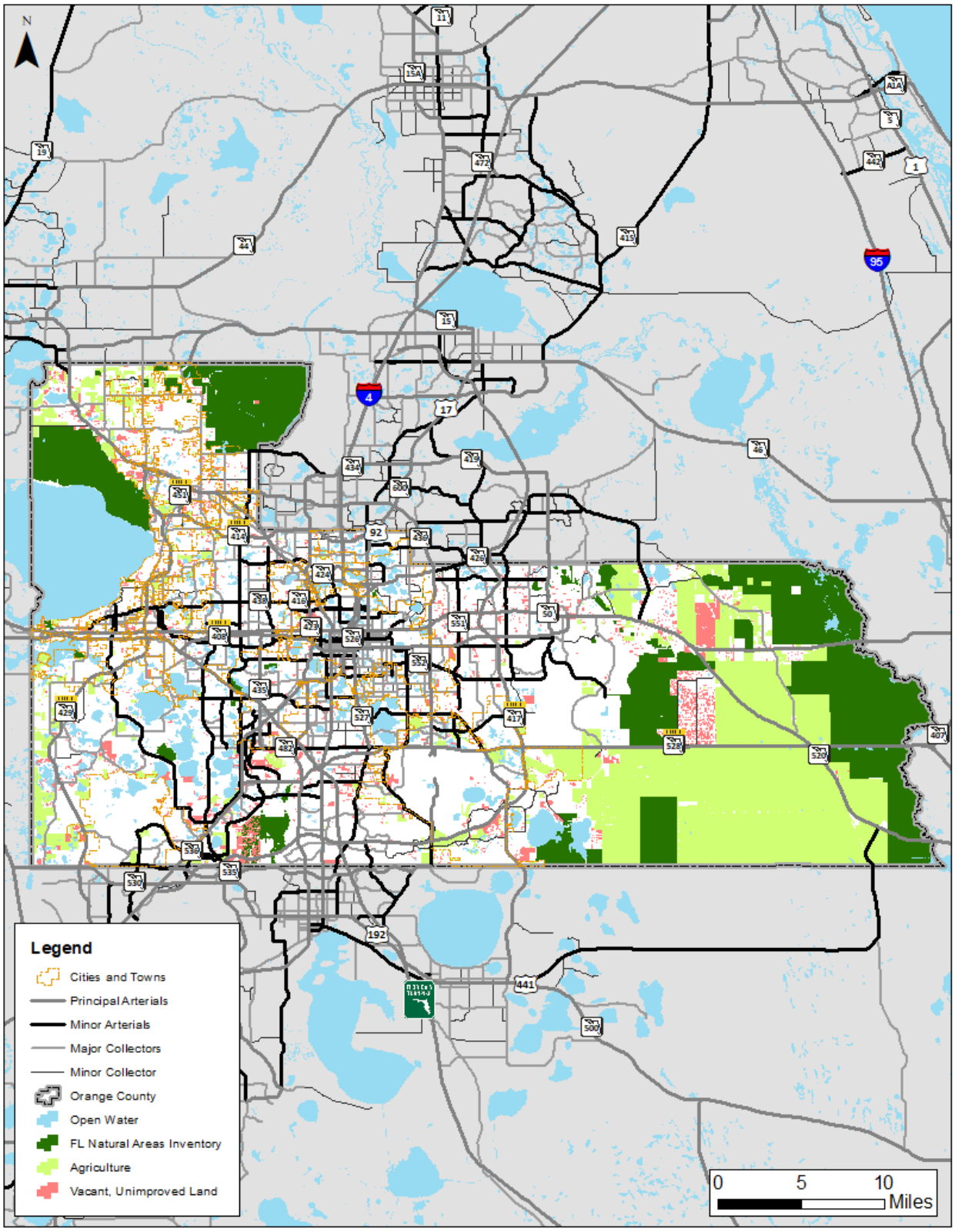

Figure 18 Vacant Parcels and Agriculture Lands in Orange County

4.3 SCHOOL DATA ALLOCATION

4.3.1 Future School Capacity Data Collection

The existing public-school point geometry data were from the US department of Education. The public-school student future capacity information was provided by each of the nine counties' public-school board. Two files were joined using the school name field.

Table 13 shows the counties which provided their public-school future capacity. For the counties that did not provide their existing public school student capacity numbers, the growth rate was applied to the 2015 public schools.

Table 13 Counties that Provided Student Capacity and Future New School Capacity

MPO	County	Provided Existing Public-School Student Capacity	Provided Future New Public-School Student Capacity
River to Sea	Volusia	Y	Y
	Flagler	N	No new schools planned
Ocala/Marion	Marion	Y	Y
Lake-Sumter	Lake	Y	Y
	Sumter	Y	No new schools planned
Space Coast	Brevard	Y	Y
MetroPlan	Orange	Y	Y
	Osceola	Y	Y
	Seminole	Y	N

4.3.2 BEBR population breakdown to estimate total School enrollment

The total school enrollments were derived from the BEBR estimates per age group per county. Elementary school total school enrollments were founded on the BEBR estimates for the age group 5 to 9 years old. Middle school total school enrollments were founded on the BEBR estimates for the age group 10 to 14 years old. High school total school enrollments were founded on the BEBR estimates for the age group 15 to 17 years old. College total enrollments were based on the BEBR estimates for the age group 18 to 24. The 2015 student enrollment was calculated from the 2010 and 2017 BEBR estimates per age group; the 2045 projection was provided by BEBR per age group and the growth rate was the percent change between the BEBR estimate 2015 student enrollment number and the BEBR 2045 projections per age group per county.

Table 14 BEBR Age Group Population Estimates by County

County	Age Type	BEBR 2015 Age Group	BEBR 2045 Age Group	Growth Rate
Brevard	Age 5 to 17	79,328	94,021	18.5%
	Age 18 to 24	43,662	49,847	14.2%
Flagler	Age 5 to 17	14,517	22,217	53.0%

	Age 18 to 24	6,739	9,905	47.0%
Lake	Age 5 to 17	47,444	70,220	48.0%
	Age 18 to 24	22,524	32,973	46.4%
Marion	Age 5 to 17	46,788	57,354	22.6%
	Age 18 to 24	23,675	28,474	20.3%
Orange	Age 5 to 17	213,056	324,427	52.3%
	Age 18 to 24	151,856	219,333	44.4%
Osceola	Age 5 to 17	59,285	108,801	83.5%
	Age 18 to 24	31,213	54,973	76.1%
Seminole	Age 5 to 17	73,297	91,664	25.1%
	Age 18 to 24	43,177	50,925	17.9%
Sumter	Age 5 to 17	7,236	14,295	97.6%
	Age 18 to 24	4,071	7,702	89.2%
Volusia	Age 5 to 17	69,581	83,029	19.3%
	Age 18 to 24	44,321	51,057	15.2%

Demonstrated in Table 22, Sumter County has the highest growth rate from 2015 to 2045 for both age groups 5 to 17 and 18 to 24 followed by Osceola County. Alternatively, Brevard County has the lowest growth rate from 2015 to 2045 for both age groups 5 to 17 and 18 to 24 followed by Volusia County.

4.3.3 School enrollment allocation

The future public-school capacity from each county was used as the maximum number for that school to allocate the school enrollment ZDATA. After the school capacity is achieved, the new school is allocated to reach the school growth in Table 23. For the new school locations, the Florida Department of Revenue (FDOR) 2018 parcel file was utilized. Vacant parcels for public schools were identified and used to school enrollment allocation.

The school enrollments by county are demonstrated in Table 23.

Table 15 Student Enrollments by County

County	School Type	2015 school enrollments in ZDATA	2045 school enrollments in ZDATA	Growth Rate
Brevard	Total K-12	84,553	100,201	18.5%
	Total College	29,764	33,991	14.2%
Flagler	Total K-12	15,247	23,326	53.0%
	Total College	432	635	47.0%
Lake	Total K-12	49,549	73,354	48.0%
	Total College	4,239	6,205	46.4%
Marion	Total K-12	53,301	65,345	22.6%
	Total College	10,221	12,296	20.3%
Orange	Total K-12	218,425	332,708	52.3%
	Total College	152,789	220,628	44.4%
Osceola	Total K-12	72,466	132,985	83.5%

	Total College	1,347	2,372	76.1%
Seminole	Total K-12	94,303	117,945	25.1%
	Total College	19,985	23,562	17.9%
Sumter	Total K-12	8,650	17,090	97.6%
	Total College	413	781	89.1%
Volusia	Total K-12	71,052	84,789	19.3%
	Total College	47,402	54,608	15.2%

Technical Appendix C:
Lake-Sumter MPO
Public Participation Plan

Public Participation Plan

Lake~Sumter Metropolitan Planning Organization

Adopted: April 25, 2018
Amended: August 26, 2020

www.LakeSumterMPO.com

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Appendices

For more information about the Lake~Sumter Metropolitan Planning Organization or to learn about ways to get involved, please contact:

Lake~Sumter MPO Office
1300 Citizens Boulevard
Leesburg, FL 34748
Phone: (352) 315-0170
Fax: (352) 315-0993
Web: www.LakeSumterMPO.com

LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION

RESOLUTION 2020 - 10

RESOLUTION OF THE LAKE~SUMTER METROPOLITAN PLANNING ORGANIZATION UPDATING AND APPROVING THE PUBLIC ENGAGEMENT DOCUMENTATION, PUBLIC INVOLVEMENT PLAN, LIMITED ENGLISH PROFICIENCY PLAN, AND TITLE VI NONDISCRIMINATION PLAN, AND THE DISADVANTAGED BUSINESS ENTERPRISE PLAN.

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 require 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, as part of the transportation planning work program, the public engagement documentation identifies certain 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 Lake~Sumter MPO's transportation planning programs and activities; and

WHEREAS, the purpose of public engagement documentation is to provide goals and guidelines to ensure that public participation and access to information regarding transportation decision making is facilitated and tracked for the general public and traditionally underserved populations; and

WHEREAS, the Public Involvement Plan has been amended to include clear objectives, specific strategies, and tools to measures progress and to include updates to the Limited English Proficiency Plan and the Title VI Nondiscrimination Plan and the Disadvantaged Business Enterprise Plan to comply with new federal and state guidelines.

NOW, THEREFORE BE IT RESOLVED that the Lake~Sumter Metropolitan Planning Organization that the attached Public Engagement Documentation including the Public Involvement Plan, Limited English Proficiency Plan, and Title VI Nondiscrimination Plan and the Disadvantaged Business Enterprise Plan for the Lake~Sumter MPO Planning Area is adopted and approved.

PASSED AND ADOPTED this ___ day of August, 2020.

Lake~Sumter Metropolitan Planning Organization

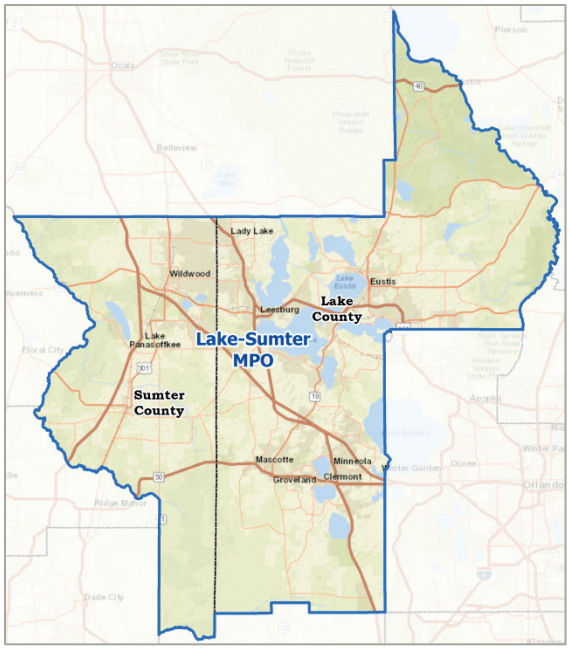
Leslie Campione

Leslie Campione, Chair

Approved as to form and legality:

Diana Johnson, MPO Attorney

ABOUT THE MPO



Representatives of Lake County and Sumter County governments, the fourteen (14) municipalities of Lake County, the five (5) 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 (LSMPO). LSMPO'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, LSMPO strives to ensure recommendations comply with the goals and standards of the Federal Government, the State, Lake County, Sumter County, and the nineteen (19) incorporated jurisdictions. LSMPO functions include, but are not limited to, the preparation of the tasks required by state rule or by federal policy.

LSMPO's major annual responsibilities are to perform the tasks of preparing the Unified Planning Work Program (UPWP), the Long Range Transportation Plan (LRTP), the Public Participation Plan (PPP), the Transportation Improvement Program (TIP), the annual List of Priority Projects (LOPP), the Transportation Disadvantaged Service Plan (TDSP), and the annual LSMPO Audit Report.

As with all transportation planning legislated by federal and state laws, LSMPO 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, LSMPO incorporates into its planning efforts the needs of the elderly and persons with disabilities as outlined in the Americans with Disabilities Act (ADA).

As part of the MPO planning process, public involvement is a major priority. Projects funded through public dollars are 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 participation 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 LSMPO with comments, questions, or complaints regarding Title VI, please contact:

Michael Woods
Executive Director
& Title VI Specialist
(352) 315-0170 MWoods@LakeSumterMPO.com

LESSONS LEARNED

LSMPO developed the current Public Participation Plan as an update to the Plan adopted in 2018 and subsequently amended in 2019. LSMPO staff incorporated feedback provided from the last plan and also considered different methods for improving the involvement and overall public engagement process.

Insight was also drawn from reviewing other Public Participation Plans implemented around the State of Florida. While other MPOs around the State do not have exactly the same needs or infrastructure challenges as LSMPO, the tools and strategies utilized are adaptable and applicable to LSMPO's planning and public participation efforts.

HOW TO GET INVOLVED

Active public participation is critical for the transportation planning process and LSMPO offers various opportunities for involvement. This section details ways to engage and contribute collaboratively in the regional transportation planning process.

Opportunities for Participation

LSMPO will take a proactive approach to providing opportunities 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 the **Outreach Approach** section and access to information as listed in the **Outreach Policies section**.

LSMPO developed a database of email addresses of citizens and organizations that is used to notify citizens of meetings and upcoming opportunities for input. This database is continually expanded as additional citizens ask to be added, attend the informational public meetings, and provide comments. Additionally, meeting agendas for all LSMPO Board and committee meetings include an opportunity for public comment. The agendas for these meetings, as well as an annual notification of meeting dates will be posted on the LSMPO website. Additionally, social media is used to reach out to a broader cross-section of the population. Public meeting notices will be advertised in English and also in Spanish as requested or identified, and to target areas of high limited English proficiency as identified in the Community Characteristics Inventory.

Common Terms

To assist with understanding transportation planning terminology, here are some common terms found in this document:

Americans with Disabilities Act (ADA) – a federal law that requires public facilities (including transportation services) to be accessible to person with disabilities.

Limited English Proficiency (LEP) – refers to a person who is not fluent in the English language. The Lake~Sumter MPO has a LEP plan to ensure individuals with limited English skills can participate in the planning process.

Long Range Transportation Plan (LRTP) – a 20-year forecast plan required of state planning agencies and Metropolitan Planning Organizations to consider a range of factors in determining regional goals and how transportation can best meet these goals.

Title VI of the Civil Rights Act of 1964 – prohibits discrimination on the basis of race, color or national origin in programs or activities receiving federal financial assistance.

For more terms often used in the transportation planning process, see the Appendix C of this PPP.

In the event of a statewide emergency and as a result of the COVID-19 pandemic, LSMPO has developed interim guidance on virtual public meetings. This guidance is incorporated throughout this Plan and Federal guidance is provided in Appendix F.

ADVISORY COMMITTEES

Advisory committees have been formed to advise the LSMPO Governing Board and staff in the preparation and review of public participation plans, transportation plans, programs, and other related matters. Each of the advisory committees provides unique contributions to the development of LSMPO's transportation plans, programs, and projects.

Technical Advisory Committee

The Technical Advisory Committee (TAC) is comprised of planners and engineers from the various local governments which make up the LSMPO partnership. The input provided by the TAC is of a very technical nature and may include ensuring local planning consistency, making design recommendations and verifying that all documents conform to the appropriate state and federal standards.

TAC MEETING DETAILS

The TAC typically meets on the second Wednesday of the month (unless otherwise advertised). Meetings begin at 1:30pm and takes place at the location below:

Lake~Sumter MPO Board Room
1300 Citizens Blvd, Leesburg, FL 34748

All meetings are open to the public and your participation is encouraged. Agendas are posted in advance of the meetings and are available online at www.LakeSumterMPO.com.

Note: The committee may not meet every month. Dates and times may change due to holidays or other conflicts. In the event of a statewide emergency, the TAC meeting may be held virtually, and specific meeting information will be posted at www.LakeSumterMPO.com.

Community Advisory Committee

The Community Advisory Committee (CAC) is comprised of interested community members representing the various local governments, local civic and services organizations, advocacy groups, multimodal representatives and special interest representatives as required by federal and state guidelines. This committee has a special advisory role to the LSMPO because it provides a necessary communication link between the MPO and the community it serves. The committee also solicits input and recommendations from other citizen groups and interested stakeholders when reviewing transportation plans and programs.

CAC MEETING DETAILS

The Community Advisory Committee typically meets on the second Wednesday of the month (unless otherwise advertised). Meetings begin at 3:00pm and takes place at the location below:

Lake~Sumter MPO Board Room
1300 Citizens Blvd, Leesburg, FL 34748

All meetings are open to the public and your participation is encouraged. Agendas are posted in advance of the meetings and are available online at www.LakeSumterMPO.com.

Note: The committee may not meet every month. Dates and times may change due to holidays or other conflicts. In the event of a statewide emergency, the CAC meeting may be held virtually, and specific meeting information will be posted at www.LakeSumterMPO.com.

Are you interested in Serving on the CAC?	Contact the Lake~Sumter Executive Director at MWoods@lakesumtermpo.com

Transportation Disadvantaged Coordinating Board

The Transportation Disadvantaged Coordinating Board (TDCB) is an advisory group to an MPO on para-transit issues. LSMPO has two (2) 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.

TDCB MEETING DETAILS - SUMTER COUNTY

The Sumter County TDCB typically meets quarterly on Monday afternoons (unless otherwise advertised) and takes place at the location below. Please note – the meeting location varies, check website to confirm location in advance of meeting date.

The Villages Sumter County Service Center *
7375 Powell Road, Room 102, Wildwood, FL 34785
* Location varies. Confirm on website in advance.

LAKE COUNTY

The Lake County TDCB meets quarterly on Monday and takes place at the location below:

Lake~Sumter MPO
1300 Citizens Blvd, Leesburg, FL 34748

All meetings are open to the public and your participation is encouraged. Agendas are posted in advance of the meetings and are available online at www.LakeSumterMPO.com.

Note: The committee meets quarterly. Dates and times may change due to holidays or other conflicts. In the event of a statewide emergency, the TDCB meetings may be held virtually and specific meeting information will be posted at www.LakeSumterMPO.com.

Get the Most Current Information:	The most up-to-date information about our meetings is on the Lake~Sumter Metropolitan Planning Organization's website calendar. You can access it through the following link: http://www.lakesumtermpo.com/calendar/

PUBLIC INVOLVEMENT & TRANSPORTATION PLANNING

LSMPO facilitates public involvement throughout the course of the transportation planning process. To administer this effectively, it is necessary to have a clear framework for planning partners and the public to follow. This framework is detailed in the following section including objectives and involvement steps in the planning process.

Public Participation Plan Goal

The overall goal of the LSMPO PPP is **to establish an on-going process through which citizen input is regularly identified and considered in the development of MPO plans, projects, and policies.**

This goal is pursued through five (5) central objectives, including:

1. Advisory Committee Involvement
2. Information Accessibility
3. Feedback in the Process
4. Outreach Tools and Techniques
5. Public Input on Public Transit

Purpose

LSMPO is a transportation policy-making board comprised of representatives from local government and transportation authorities. LSMPO is responsible for establishing, according to federal and state laws, a continuing, cooperative, and comprehensive transportation planning process for the areas within Lake and Sumter counties; this work includes the prioritization of federal and state funded transportation projects.

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

- Providing adequate notice of public participation activities;
- Providing timely notice and reasonable access to information about transportation issues and processes;
- Using visualization techniques;
- Making public information available on www.LakeSumterMPO.com;
- Holding public meetings at convenient and accessible locations and times, which in the event of a statewide emergency, includes the ability for LSMPO to hold virtual meetings;
- Demonstrating explicit consideration and response to public input received;
- Seeking out and considering the needs of those traditionally underserved by the existing transportation systems, such as low-income and minority individuals;
- Providing an additional opportunity for public comment, if the final plan differs significantly from the version previously made available for public comment;

- Coordinating with the statewide transportation planning public involvement and consultation processes; and
- Periodically reviewing the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process.

Public participation means participation in the planning process by people (public) outside the LSMPO staff, committees, and Board members. Therefore, public refers to general citizens of the LSMPO 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 LSMPO meetings will be held is distributed between the established planning Task Force areas. See **Appendix B** for maps of the MPO planning area and task force area locations.

LSMPO focuses much of its efforts to secure participation from 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. LSMPO 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 being incorporated into planning products.

Public Participation and Notice for Transportation Core Products

Metropolitan planning organizations, such as the LSMPO, are charged under federal law with developing five core products:

- Long Range Transportation Plan (LRTP)
- Transportation Improvement Program (TIP)
- Unified Planning Work Program (UPWP)
- Public Participation Plan (PPP)
- List of Priority Projects (LOPP)

Public involvement assists with the facilitation of each of the federally mandated transportation planning documents. How the public is incorporated into advancement of these plans is detailed in the next section including checklists showcasing the ways LSMPO provides notice and involves the public.

Federal Legislation Guiding Public Involvement

FAST Act: Participation By Interested Parties

Each MPO shall provide citizens, affected public agencies, representatives of public transportation employees, public ports, freight shippers, providers of freight transportation services, private providers of transportation (including intercity bus operators, employer-based commuting programs, such as a carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the transportation plan (23 USC 134).

LONG RANGE TRANSPORTATION PLAN (LRTP)

The LRTP identifies transportation improvements necessary to maintain adequate mobility and to accommodate growth forecasted over the next twenty (20) years. The current LRTP (Transportation 2040) includes projects through the year 2040. The process includes innovative technical modeling and collaborative public engagement. Public involvement during development of the LRTP is guided by an independent and focused PPP, though strategies and tactics are coordinated with this document to ensure overall continuity.

As required by federal law, a formal public comment period is held prior to Board adoption, providing a structured avenue for public input. The official twenty-one (21) day public comment period for the LRTP follows the same timeline as the advisory committee review. The deadline to submit a comment is included in and notifications associated with the public comment period. This deadline is generally seven (7) days prior to the date Board action is scheduled.

Public notification for the public comment period takes many forms as described in the **Public Involvement Strategies** section. Public comment period notices are also sent to LSMPO's community database. Additionally, draft plan documents are available on LSMPO website and by request at least seven (7) days prior to the start of the public hearing.

Citizens unable to attend a Committee meeting or the Governing Board meeting may submit written public comments to LSMPO during the official public comment period in three (3) additional ways: 1) via postal service, 2) via the Voice your Ideas form on the website www.lakesumtermpo.com/engage/questions-comments-email-sign-up/ or 3) by emailing: MWoods@LakeSumterMPO.com.

TABLE 1. *Long Range Transportation Plan Checklist*

Outreach Step	Timeframe
Board approval of an independent LRTP PPP before outreach efforts commence	Forty-five (45) day public comment period before adoption
Execution of process laid out in the LRTP PPP, including feedback from residents conveyed to LSMPO Board & committees from outreach events & other sources	Time varies to coincide with technical work of the plan
Official public comment period, with draft plan documents available on www.LakeSumterMPO.com	At least twenty-one (21) days prior to Board action
Draft plan documents reviewed by MPO advisory committees, with opportunity for public comment at committee meetings	During the meeting cycle prior to Board action
Draft plan documents available in print, by request	At least seven (7) days before the advertised LRTP public hearing
Public hearing notices sent via e-mail to LSMPO's community database and other notifications made, per Sunshine Law	At least seven (7) days before the LRTP public hearing
A formal public hearing for citizen information and input	Prior to Board adoption
Process for submitting written public comments via postal service, website contact form at www.LakeSumterMPO.com	In place and publicized as soon as documents are available and posted
Board vote (action item) on LRTP adoption with public comment period in advance of Board action at the meeting	First Board meeting following LRTP public hearing
Publication of adopted LRTP on www.LakeSumterMPO.com	As soon as final copies of all documents can be uploaded to website

'Not Substantial' Amendments to the LRTP

Amendments are considered as "not substantial" if they only include minor changes to project phase costs, minor changes to funding sources of previously included projects or 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 LSMPO'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.

TABLE 2. *LRTP Non-Substantial Amendments Checklist*

Outreach Step	Timeframe
Proposed amendment published electronically on www.LakeSumterMPO.com	At least seven (7) days before committee review
Review by LSMPO advisory committees for input and recommendations, including public comment period at committee meetings	During the meeting cycle prior to the Board action
Board vote on approval, following public comment period at the meeting	First Board meeting following advisory committee review and recommendation
Citizens unable to attend committee or Board meetings are encouraged to submit written comments via postal service, LakeSumterMPO.org contact form, or e-mail	Throughout official public comment period
Approved amendment published on LakeSumterMPO.org	As soon as final copies of document can be uploaded to the website

'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 FDOT. (See Appendix D for "FDOT LRTP Amendment Thresholds"); and
- 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 LRTP deemed 'substantial,' Lake~Sumter MPO follows a similar public involvement process to the original adoption of the plan, including a formal twenty-one (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.

TABLE 3. *LRTP Substantial Amendments Checklist*

Outreach Step	Timeframe
Proposed amendment published electronically on www.LakeSumterMPO.com and notification of public hearing on the amendment is made as outlined above	At least seven (7) days prior to the public hearing
Review by LSMPO advisory committees for input and recommendations, including public comment period at committee meetings	During the meeting cycle prior to the Board action
Public hearing after any required technical analysis	Prior to Board adoption
Board vote on approval	First Board meeting after public hearing
Citizens unable to attend committee or Board meetings are encouraged to submit written comments via postal service, LakeSumterMPO.org contact form, or e-mail	Throughout official public comment period
Approved amendment published on www.LakeSumterMPO.com	As soon as final copies of document can be uploaded to the website

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The TIP is a five (5) year plan that assigns available funding to specific projects in the near future. LSMPO develops this plan each year in cooperation with the FDOT, which includes a period of review by LSMPO advisory committees.

As required by federal law, a formal public comment period is held prior to Board adoption, providing a structured process for public input. The official public comment period for TIP follows the same timeline as the advisory committee review, with a draft document available at least twenty-one (21) days prior to Board action. The deadline to submit a comment is included in the notification associated with the public comment period. This deadline is generally seven (7) days prior to the date Board action is scheduled.

Public notification for the public comment period takes many forms (see **Outreach Approach** section). Public comment period notices are also sent to LSMPO's community database. Additionally, draft plan documents are available on LSMPO's website and in print at locations throughout the region and by request at least seven (7) days prior to the public hearing.

Citizens unable to respond during the public comment period or attend Board meeting may submit written public comments to LSMPO during the official public comment period in three (3) additional ways: 1) via postal service, 2) via the website engagement page at http://www.lakesumtermpo.com/engage/questions-comments-email-sign-up/or 3) by emailing: MWoods@LakeSumterMPO.com.

Once adopted, the TIP is made available as a web-based interactive tool located on the LSMPO website: http://www.lakesumtermpo.com/planning-documents/maps/.

TABLE 4. *Transportation Improvement Program Checklist*

Outreach Step	Timeframe
Draft TIP project information published on www.LakeSumterMPO.org	Seven (7) days before committee review, opening public comment period
Draft TIP presented at LSMPO advisory committee meetings, with chance for public comment at the meeting	During the meeting cycle prior to Board approval
Public meeting to present draft TIP, maps, other information, with opportunity for public comment	Prior to Board approval
Board vote on approval after public comment period	Typically the first Board meeting following advisory committee review
Citizens unable to attend committee or Board meetings are encouraged to submit written comments via postal service, www.LakeSumterMPO.com/voice.aspx contact form, or e-mail	Throughout official public comment period
Plan is published on www.LakeSumterMPO.com	As soon as final copies of document can be uploaded to the website

TIP Amendments:

Amendments to the TIP are reviewed by LSMPO'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.

Public input considered in the development and maintenance of the TIP includes the comments and recommendations of LSMPO committees and the public at large as well as input received during the public comment periods. LSMPO 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.

Emergency TIP Amendments

Most amendments to the TIP receive a review (as outlined in Table 5) before entering the program. Exceptions are made when an emergency amendment must be approved prior to the next Board meeting for the amended project to receive funding. In these cases, the LSMPO Executive Director is authorized to approve the amendment and sign a corresponding resolution on behalf of the board without having to call an emergency meeting of the Board. The Executive Director's approval of the amendment then must be provided to advisory committees as an information item and ratified at the next regularly scheduled board meeting.

INTERAGENCY COOPERATION AND SUPPORT

LSMPO actively assists local governments and transportation agencies in the development and implementation of public participation techniques for transportation planning and other related studies. For example, during the LRTP and TIP development processes, LSMPO will assist Lake County Public Transportation (Lake Xpress) 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."

TABLE 5. *Public Participation Checklist for TIP Amendments*

Outreach Step	Timeframe
Proposed amendment published on www.LakeSumterMPO.com	Seven (7) days prior to committee review, opening public comment period
Amendment reviewed by LSMPO advisory committees for input, with public comment periods offered at committee meetings	During the meeting cycle prior to Board approval
Board votes on approval, following public comment period	First Board meeting after committee review
Citizens unable to attend committee or Board meetings are encouraged to submit written comments via postal service, www.LakeSumterMPO.com contact form, or e-mail	Throughout official public comment period
Amendment is published on Lake SumterMPO.com	As soon as final copies of document can be uploaded to the website

TABLE 6. *Public Participation Checklist for Emergency TIP Amendments*

Outreach Step	Timeframe
Lake Sumter MPO Board chairman contacted about need for emergency amendment to secure funding	As soon as situation is identified by staff
Lake-Sumter MPO Executive Director signs corresponding resolution on behalf of the Board without calling emergency session	As soon as Executive Director's schedule permits
Board ratifies approval of the emergency amendment	At next regularly scheduled Board meeting
Amendment is published on www.LakeSumterMPO.com	As soon as final copies of document can be uploaded to the website

UNIFIED PLANNING WORK PROGRAM (UPWP)

The UPWP documents the transportation planning activities and associated budget for the LSMPO planning area. Though the document covers a two (2) year period, the UPWP is reviewed annually 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 twenty-one (21) day public review period. A draft is also presented to the LSMPO 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 or Board meetings may submit written public comments to LSMPO during the official public comment period: 1) via postal service, 2) via the Voice your Ideas form on the website www.lakesumtermpo.com/engage/questions-comments-email-sign-up/ or, 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.

TABLE 7. *Unified Planning Work Program Checklist*

Outreach Step	Timeframe
Draft plan is published on www.LakeSumterMPO.com	Seven (7) days prior to committee review, opening public comment period
Draft is presented to MPO advisory committees for input, with public comment periods offered at committee meetings	During the committee meeting cycle prior to Board approval
Board votes on approval, following public comment period at Board meeting	First Board meeting after committee review and recommendation
Citizens unable to attend committee or Board meetings are encouraged to submit written comments via postal service, www.LakeSumterMPO.com contact form, or e-mail	Throughout official public comment period
Plan is published on www.LakeSumterMPO.com	As soon as final copies of documents can be uploaded to the website

UPWP REVISIONS

Modifications

UPWP modifications do not change the FHWA approved planning budget or the scope of the FHWA funded work task. There is no formal public comment period for UPWP modifications. Modifying the UPWP does not require FHWA approval; however, LSMPO will notify the FDOT District Liaison when changes are made. The FDOT Liaison will then notify FHWA and 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. LSMPO staff will submit all proposed draft UPWP amendments received or initiated by it through the TAC, CAC, advisory committees and for final LSMPO 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 **Outreach Approach** section.

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

LIST OF PRIORITIZED PROJECTS (LOPP)

LSMPO also has a formal process for prioritizing projects adopted in the LRTP. The end result is a document called the List of Prioritized Projects (LOPP). This document is reviewed annually and adopted by the Board. Prior to Board adoption, the public will be provided with the opportunity to review and comment on the draft LOPP during a twenty-one (21) day public review period. The draft LOPP is presented to LSMPO'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, public comment periods are a standard part of each 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 or Governing Board meetings may submit written public comments to LSMPO during the official public comment period: 1) via postal service, 2) via the Voice your Ideas form on the website www.lakesumtermpo.com/engage/questions-comments-email-sign-up/ or, 3) by emailing MWoods@LakeSumterMPO.com.

LOPP Amendments:

Amendments to the plan are reviewed by LSMPO'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.

TABLE 8. *List of Prioritized Projects Checklist*

Outreach Step	Timeframe
Draft LOPP published electronically on www.LakeSumterMPO.com	Twenty-one (21) days prior to Board approval, opening public comment period
Draft LOPP presented at LSMPO advisory committee meetings, with public comment during meeting	During the meeting cycle prior to Board approval
Board vote on approval, after public comment period at the meeting and consideration of committee input	First Board meeting after committee review
Citizens unable to attend committee or Board meetings are encouraged to submit written comments via postal service, www.LakeSumterMPO.com contact form, or e-mail	Throughout official public comment period
Approved Prioritized Project List published on www.LakeSumterMPO.com	As soon as final documents can be uploaded to the website

PUBLIC PARTICIPATION PLAN (PPP)

The PPP 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 MPO. As required by federal law, a formal forty-five (45) day public comment period is held prior to Board adoption of the PPP to offer another avenue of public input. Once adopted, the plan is available on www.LakeSumterMPO.com.

PPP Amendments

The PPP can be amended at any time by providing a forty-five (45) day public comment period and the opportunity for public comment on the proposed change in the regular Board and advisory committee meeting cycle. The opportunity to comment on the proposed change will be provided at regularly scheduled and

advertised meetings of the TAC, CAC, and Governing Board. Notice of the proposed change will also be posted on the LSMPO website.

OUTREACH APPROACH

Offering a participation plan reflecting community values and benefiting all populations of the community is central to LSMPO's planning process. The following section details LSMPO's outline for **an informative and inclusive outreach approach.**

Public Participation Process

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

- Forty-five (45) day comment period on adoption or revision of the PPP;
- Twenty-one (21) day comment period on adoption of the LRTP, UPWP, LOPP and TIP;
- Public meetings on specific transportation projects conducted by LSMPO;
- LSMPO website: www.LakeSumterMPO.com;
- LSMPO social media page and feeds;
- MPO Board and committee meetings (TAC, CAC);
- Transportation Disadvantaged Coordinating Boards (Lake & Sumter counties);
- Task Force meetings (North Lake, East Lake, South Lake, & Public Transportation);
- Efficient Transportation Decision Making (ETDM) Process;
- Presentations to other governmental bodies (counties and municipalities); and
- Presentations to civic and community groups and organizations.

DID YOU KNOW?

The Lake-Sumter MPO is an agency created under federal law to direct urban transportation planning and the allocation of federal and state funds.

It is one of over 300 MPOs nationwide and its existence guarantees state and federal transportation funding for Lake and Sumter counties.

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 LSMPO. LSMPO's public participation process and development of the TIP satisfies the federal public participation requirements for developing Federal Transit Authority, Program of Projects.

Notification & Tools

The LSMPO employs a variety of outreach tools and techniques to reach targeted populations. These tools, combined with other activities within the context of the PPP, help make the Plan effective. The following are examples of activities that the LSMPO staff may utilize to educate the citizens of the LSMPO area:

- Project and Plan brochures for distribution at public offices, agencies, libraries, and to post on the LSMPO website: www.LakeSumterMPO.com;
- Presentations as requested by citizen groups, public agencies, or local governmental bodies;
- Public meetings sponsored by LSMPO member jurisdictions;
- Special efforts for underserved/underrepresented such as geographically disperse project/program meeting locations, meeting locations that are readily accessible by transit and other multimodal options for those with limited auto access, and multi-language notifications in high LEP areas.
- Efficient Transportation Decision Making Process;
- LSMPO social media page and feeds; and
- In the event of a statewide emergency, the ability to continue holding board, committee, and public meetings using a virtual meeting format.

Notification of meetings (whether in-person or virtual), comment periods or other significant events will be provided in the following manner:

- The website posting notifying the public of the opportunity to review documents and provide input will be at least ten (10) days prior to the start of 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 seven (7) days prior to Committee meetings and twenty-one (21) days prior to the LSMPO Board meeting. For all LRTP, UPWP, LOPP, and TIP adoption a twenty-one (21) day public review period will be advertised on the website prior to the Board meeting and seven (7) days prior to a Committee meeting. For PPP adoption or revisions, a forty-five (45) day public review period will be advertised;
- All public notices will be posted on the LSMPO website prior to a meeting of the LSMPO Board or Committee at: www.LakeSumterMPO.com and may also be posted on the Lake County and Sumter County websites: www.lakecountyfl.gov and www.sumtercountyfl.gov; and
- Public notices may also be posted on the LSMPO Facebook page.

LSMPO may 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 LSMPO website: www.LakeSumterMPO.com;
- Social media will focus primarily on the real-time dissemination of information relevant to the transportation planning process;
- E-mail lists to direct mail information to individuals who sign up for this service;
- Public service announcements;

- Press releases for the newspaper or other widely circulated publications;
- Use of the CAC and TDCB for citizen outreach and community involvement;
- Informal presentations 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;
- Efficient Transportation Decision Making Process; and
- Public inspection of all major documents available at the LSMPO office located at 1300 Citizens Blvd, Leesburg, FL 34748.

EMERGENCY OR SPECIAL MEETINGS

The Chair may call for an emergency meeting for the purpose of acting upon emergency matters affecting the public health, safety, and welfare. In the event of a statewide emergency, an emergency meeting or special meeting can be held using digital means and will be recorded in its entirety. Such meeting agenda shall be prepared by the Chair. The agenda and supporting documents shall be made available to the members at least one (1) day prior to the meeting. Meeting agenda shall be posted at the site of the meeting and on the LSMPO website at least twenty-four (24) hours prior to the meeting and emailed to all members. Minutes of the emergency meeting will be posted to the LSMPO website within twenty-four (24) hours of the meeting and a full review of approved items will be discussed at the next regularly scheduled Board meeting.

Public Participations Plan Strategy & Measurement

In order to carry out an effective PPP, it is necessary to follow focused engagement methods throughout the transportation planning process. These methods are more clearly defined through a goal, strategy, and performance measurement framework which is presented in this section of the document.

Regarding performance measurement, federal regulation requires that LSMPO evaluate the effectiveness of its PPP on a regular basis. In evaluating its plan, LSMPO may determine to stop using 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. Performance measures are linked with each of the strategies in this section and provide the guidelines for evaluating public involvement techniques identified in the PPP. Additional methods and media outreach to Limited English Proficiency (LEP) non-English speaking populations will be developed as part of the LSMPO's LEP Program.

The following pages describe the current objectives, strategies, and measures utilized by LSMPO to solicit and encourage public involvement in the transportation planning process.

OBJECTIVE #1: ADVISORY COMMITTEE INVOLVEMENT

To hold regular public meetings with its standing advisory committees and obtain their input on all documents, projects, and funding determinations prior to consideration by the LSMPO Board.

Strategies

The following strategies and performance measures listed in **Table 9** describe the efforts pursued to support advisory committee participation and involvement:

- **Strategy 1.1:** Ensure advisory committee positions are filled.
- **Strategy 1.2:** Engage members of traditionally underserved communities to participate on the Citizens Advisory Committee (CAC).
- **Strategy 1.3:** Post meeting notices and deliver information to advisory committee at least seven (7) days prior to meetings.
- **Strategy 1.4:** Present advisory committee recommendations / actions to LSMPO Board.
- **Strategy 1.5:** Strive to continuously improve the PPP and ensure that public feedback is considered in the transportation decision making process.

TABLE 9. *Table 9 | PPP Objective #1 Measures*

Strategy	Measures
1.1	▪ Maintain 80% of all committee positions filled during the course of the year.
1.2	▪ By 2021, fill 20% of CAC positions with representatives that are from traditionally underserved or underrepresented populations.
1.3	▪ Ensure 80% of advisory committee meeting notices and information are sent at least seven (7) days prior to the meeting. ▪ LSMPO staff members meet regularly with the Central Florida Metropolitan Planning Organization Alliance staff members to discuss regional issues and provide that input to the advisory committees.
1.4	▪ 100% of advisory committee recommendations or actions are logged and subsequently presented to LSMPO Board.
1.5	▪ LSMPO shall evaluate public participation activities and techniques in the PPP and prepare an annual report to the LSMPO Board in order to evaluate the effectiveness of the PPP. ▪ The PPP shall be reviewed and adopted, with revisions if necessary, every three (3) years.

OBJECTIVE #2: INFORMATION ACCESSIBILITY

To provide equitable public access to information regarding transportation decision making.

Strategies

The following strategies and measures listed in **Table 10** strive to inform the public on the transportation planning process and offer opportunities for public comment:

- **Strategy 2.1:** Schedule meetings and events at convenient times and locations, including virtual meetings in times of crisis.
- **Strategy 2.2:** Provide access for persons with disabilities to obtain information and participate in MPO events and meetings, including virtual participation as available.
- **Strategy 2.3:** Plan public involvement activities and events to be geographically dispersed throughout the LSMPO area.
- **Strategy 2.4:** Focus public involvement activities and events to target a diverse group of participants.
- **Strategy 2.5:** Produce public information in a format that is engaging and easily accessible for traditionally underserved populations.

TABLE 10. *PPP Objective #2 Measures*

Strategy	Measures
2.1	▪ At least 75% of participants and invitees stated the meeting or event was held at a convenient time and location. This feedback can be obtained formally or informally. ▪ Attend or sponsor at least two (2) transportation-related public events per year in the evening or on a weekend. These could be general events or events specific to publicizing a LSMPO plan or document. ▪ Plan specific public meetings to be held in neighborhood facilities located within the study area for specific transportation projects or LSMPO planning document updates. ▪ Meetings are held virtually in times of crisis as needed.
2.2	▪ 100% of disabled persons who requested accommodations are provided accommodation to meet their needs. This could include access via a virtual meeting. ▪ 100% of meetings, events and project-related information sources are accessible to persons with disabilities as requested.
2.3	▪ Meetings for the LRTP, special regional public meetings and/or regional workshops are provided in at least three (3) separate areas of the LSMPO region. ▪ At least one (1) meeting or opportunity is located in each affected area in the LSMPO region (pertains to corridor or area-specific actions).
2.4	▪ Public meetings specifically designed and held for targeted and underserved groups, e.g. elderly, disabled, low-income, and other minorities are held at least once per year. ▪ At least 75% of those informally surveyed at the neighborhood/homeowner's meetings agree that the presentation was effective in providing information and gathering input. ▪ Target audiences will be identified for each planning study conducted by the MPO, ▪ including residents, business and property owners, and people who are traditionally underserved and underrepresented, including people with low-income, people with Limited English Proficiency (LEP), people who are transit dependent, people of color, older adults, and people with disabilities, within the study area.
2.5	▪ In areas with Limited English Proficiency, materials are produced in the predominant non-English language. ▪ Translators or local community representatives are available at public meetings, outreach activities in areas where a high proportion of the population is non-English speaking to help facilitate the discussions. ▪ Provide a mechanism by which disabled citizens/groups are able to request accessible materials that are specific to their needs. For example, audio information for the visually impaired may desire audio information, or the hearing impaired may desire written information for the hearing impaired. ▪ Ensure that newly created plans and documents are posted on the website in an ADA accessible format.

OBJECTIVE #3: FEEDBACK IN THE PROCESS

To engage the public early, often, and with clarity so that opportunities exist for public feedback in the transportation decision making process.

Strategies

The LSMPO recognizes the importance of obtaining feedback from members of the community and will pursue the following strategies and measures listed in **Table 11** to encourage and obtain feedback:

- **Strategy 3.1:** Respond to public inquiries within seven (7) working days of the date of receipt.
- **Strategy 3.2:** Make meeting notices and information available at least five (5) days prior to meetings.
- **Strategy 3.3:** Provide follow-up information to individuals or groups.
- **Strategy 3.4:** Promote public participation opportunities at key decision-making points.
- **Strategy 3.5:** Incorporate public feedback into transportation decision making.

TABLE 11. *PPP Objective #3 Measures*

Strategy	Measures
3.1	▪ 75% of all responses to public inquiries are made within seven (7) working days of receipt date. ▪ 75% of all responses to media inquiries are made within one (1) working day of receipt date.
3.2	▪ 80% of public meeting notices are sent at least five (5) days prior to the meeting. ▪ 80% of public meeting information is made available at least five (5) days prior to the meeting.
3.3	▪ For corridor/site specific projects, the Public Involvement Summary will include a narrative describing how public comment shaped the selected alternative/decision. ▪ LSMPO staff will provide written responses to questions or comments from public meetings within 7 working days.
3.4	▪ Visualization tools and easy to understand graphics will be used to illustrate plans and concepts. ▪ LSMPO staff will be available at public meetings for transportation projects led by LSMPO, and as requested for Lake and Sumter County, to provide project related information. ▪ 100% of public meeting comments are logged, summarized, analyzed and distributed to applicable staff, Board and committees.
3.5	▪ A record of public comments and how they were integrated into the transportation planning process is maintained by LSMPO staff. ▪ LSMPO staff will conduct project-specific surveys to evaluate public needs and obtain input into the project recommendations.

OBJECTIVE #4: OUTREACH TOOLS AND TECHNIQUES

To use a variety of methods to involve and engage the public.

Strategies

The LSMPO public involvement process seeks to regularly engage the community. The following strategies and measures listed in Table 12 seek to facilitate this process:

- **Strategy 4.1:** Utilize various public involvement techniques including virtual meetings.
- **Strategy 4.2:** Enable public information accessibility in languages other than English,as appropriate, or in other means to address disabilities.
- **Strategy 4.3:** Employ various website tools to provide information and gather input.
- **Strategy 4.4:** Utilize the website to track public interest in activities.
- **Strategy 4.5:** MPO will maintain a reasonably current and up-to-date database of contacts.

TABLE 12. *PPP Objective #4 Measures*

Strategy	Measure
4.1	▪ At least three (3) separate techniques are used to involve/engage the public in decision making (e.g. ads, website, meetings). ▪ All LSMPO announcements and meeting materials are posted to the LSMPO website at least five (5) days prior to meetings and events. ▪ The LSMPO participates in at least two (2) community events per year.
4.2	▪ When requested, and with seventy-two (72) hour notice, the LSMPO will provide meeting notices in other languages. ▪ When requested, and with seventy-two (72) hour notice, the LSMPO will provide meeting notices in a format to accommodate visual disabilities. ▪ In specific geographic areas for specific community meetings, 100% of presentation materials are produced in a language other than English (as needed). ▪ LSMPO staff utilize maps and other visual techniques to convey information.
4.3	▪ At least three (3) separate website tools are used to involve/engage the public in decision making, for example, online surveys, online comment form, interactive calendar, online idea submissions and discussions, electronic documents available, etc. ▪ LSMPO will use social media to provide information, capture input, and provide responses to public comment.
4.4	▪ LSMPO will use Google Translate, or other readily available translation tool/app, to ensure all pages of the LSMPO website can be accessed in languages other than English. ▪ Project specific web pages are developed and tracked as a method to gather public feedback.
4.5	▪ LSMPO maintains and continuously updates a database of contacts including a minimum of the following individuals and agencies to provide that all interested parties have reasonable opportunities to comment on the transportation planning process and products: ▪ Local Government Staff ▪ Transportation Agencies (port, airports, transit, etc.) » *Local Media* » *Homeowners' Associations* » *Civic Groups* » *Special Interest Groups*

	▪ Additional interested parties, including as those below, are identified and added to the outreach database annually: » *Federal, state and local agencies responsible for land use management, natural* » *resources, environmental protection, conservation and historic preservation and* » *other environmental issues* » *Private Freight Shippers* » *Representatives of Public Transportation Employees* » *Providers of Freight Transportation Services* » *Private Providers of Transportation* » *Representatives of Users of Public Transportation* » *Pedestrian Representatives* » *Representatives of Bicyclists* » *Representatives of people with all abilities*

OBJECTIVE #5: PUBLIC INPUT ON PUBLIC TRANSIT

To provide opportunities for the public to provide input on the Lake County Section 5307 Program of Projects (POP).

Strategies

Public transportation is important for residents within Lake County and Sumter County and LSMPO facilitates ways to obtain input on this service. The following strategies and measures listed in **Table 13** seek to enable this feedback:

- **Strategy 5.1:** Request the Lake County Section 5307 POP.
- **Strategy 5.2:** Include POP with the LSMPO LOPP and present at the CAC, TAC, and LSMPO Policy Board meetings in September. The public will have the opportunity to:
  - » Provide input on the POP.
  - » Be involved in prioritizing of the POP for funding.
- **Strategy 5.3:** Increase input opportunities for the Transportation Disadvantaged Coordinating Board (TDCB) on LSMPO programs and plans.

TABLE 13. *PPP Objective #5 Measures*

Strategy	Measure
5.1	▪ Request annually (by June 1) Lake County Section 5307 POP for the following fiscal year. ▪ Request annually (by August 15) a copy of the Section 5307 POP advertisement in the local newspaper.
5.2	▪ Request (by August 15) a representative from Lake County Public Transit attend the September CAC, TAC, and LSMPO Policy Board meetings when the LOPP and POP are discussed. ▪ Request (at least fourteen days prior) a representative from Lake County Public Transit attends the CAC, TAC, and LSMPO Policy Board meetings when a TIP Amendment for public transit funding is considered.
5.3	▪ Review the Lake County Section 5307 POP and LOPP with the TDCB. ▪ Present information on other transit-related projects underway to the TDCB during the quarterly meetings and obtain feedback. ▪ On an annual basis, review any transit service grievances that may have been filed and incorporate improvement strategies into transit planning projects or programs as appropriate.

The PPP reflects the LSMPO's commitment to honesty, integrity, and transparency throughout the planning process and active community participation. The LSMPO looks forward to sharing plan information with the public and interested stakeholders, and creating a dynamic forum for public participation, planning, and interagency collaboration

OUTREACH POLICIES

The outreach employed by LSMPO is guided by specific principles and standards. These components assist with providing a consistent experience for the public. The following section details the main policies guiding the LSMPO outreach process.

Access to Information

The LSMPO 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 LSMPO website www.LakeSumterMPO.com and at the LSMPO office located at 1300 Citizens Boulevard, Leesburg, FL 34748 during normal business hours.

Public Meetings

Public information meetings will be held at various locations in the LSMPO area to inform the public of the planning process and to solicit ideas, input, and feedback. In the event of a statewide emergency (such as the COVID-19 pandemic), public meetings may be held using a digital platform for LSMPO to present information and request public feedback. The intent of holding public informational meetings at diverse locations is to solicit broad public comments. General meeting locations will be at the LSMPO 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 the **Outreach Approach** section. A reasonable attempt will be made to notify organizations representing minority and disabled communities. Public meetings will be held at locations accessible to and at times convenient to minority and disabled residents, including using a digital platform.

Special arrangements will be made to accommodate persons with disabilities, those with limited access to transportation, and people with limited English proficiency (LEP). For meetings involving individuals without transportation and the disabled, the LSMPO 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 LSMPO will ensure that all segments of the population including LEP persons have the opportunity to be involved in the transportation planning process. Interpreters will be provided when requested with advanced notice to accommodate non-English speaking individuals. The LSMPO LEP Plan may be reviewed at the following link: www.LakeSumterMPO.com.

Public Record of Meetings

The Sunshine Law stipulates that minutes must be taken at all public meetings. LSMPO takes minutes of meetings, distributes them to Board and committee members, posts them promptly on www.LakeSumterMPO.com, after approval, and provides written copies upon request. If a public meeting is held

using a digital platform, the entirety of the meeting will be virtually recorded, and digital copies will be provided upon request.

Public Hearings

Public hearings are a formal process to solicit public comment on specific plans being considered by LSMPO. In the event of an emergency (such as the COVID-19 pandemic), public hearings may be held using a digital platform to solicit public comments and will be recorded. As a formal setting for citizen input, public hearings are recorded and summarized for the record. A summary of comments is provided to LSMPO Board members, prior to Board action. Maps and other visualization tools are displayed at public hearings to present information in a visual way.

According to the state's Sunshine Law (Section 286 of the Florida Statutes), the public must have reasonable notice of the meetings of public boards and commissions. LSMPO complies with the law's requirement that the dates and times of meetings be published at the MPO office. In addition, meetings are posted on the www.LakeSumterMPO.com electronic calendar, along with contact information and agendas when available.

Website

The LSMPO 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 LSMPO regarding their plans and programs. Archived presentations of LSMPO and other public meetings are also provided for viewing or download. The website can be accessed at www.LakeSumterMPO.com.

E-Mail List

The LSMPO staff maintains and updates an e-mail distribution list for the purpose of informing the community about various transportation planning activities undertaken by the LSMPO. The e-mail list includes civic associations, clubs, municipal governments, newspapers, concerned citizens and all attendees to any of the transportation related public meetings held in the LSMPO area. The e-mail list is used to inform the community about scheduled TAC, CAC, 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.

We Want Your Input!	**The Lake~Sumter MPO encourages public comment.** This document is available on the Lake~Sumter website at www.LakeSumterMPO.com.

Response

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 by e-mail. A summary of comments received will be made as part of the final plan or program. The rationale for policy decisions will be available to the public in writing if requested.

Title VI (Environmental Justice)

The LSMPO 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 LSMPO will utilize the FDOT ETDM Tool or other GIS-based analysis 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 the **Outreach Approach** section 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 LSMPO will hold meetings and public hearings during times when public transit and para-transit services are available for those without transportation or are disabled, and in the event of an emergency, LSMPO will hold meetings using a digital platform.

Consistent with the Executive Order 12898, special efforts are undertaken to involve population segments that are traditionally underserved and/or underrepresented in Lake and Sumter counties. These efforts may include the following:

- Identifying geographic locations with a high concentration of the traditionally underserved and underrepresented;
- Hosting traditional workshops convenient to these geographic locations and 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; and
- Meeting with and make presentations to organizations that represent this segment of the population.

The LSMPO Title VI Plan may be reviewed online at www.LakeSumterMPO.com.

Limited English Proficiency (LEP)

The LSMPO's Limited English Proficiency (LEP) Plan identifies the LEP populations impacted within the service area. Additionally, the plan sets the guidelines for LSMPO staff to follow to allow information and service accessibility for LEP persons. A copy of the LSMPO's LEP Plan can be found online at www.LakeSumterMPO.com.

Disadvantaged Business Enterprise (DBE)

As a recipient of federal aid funding, LSMPO is required under 49 CFR Part 26.23 to issue a policy statement supporting Disadvantaged Business Enterprises (DBE). LSMPO is committed to this program and implementing relevant objectives throughout the public involvement process. The full policy statement can be found online at www.LakeSumterMPO.com.

Social Media

The LSMPO is committed to engaging the public in a variety of ways and understands that no single communication tool serves all populations. The LSMPO is employing social media opportunities including the use of a Facebook page.

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

- Use as an accessible resource for the public and organizations to receive consistently updated information about LSMPO;
- 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 LSMPO'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 LSMPO's mission and allow more room for constant dialogue between the organization and the public/other organizations; and
- Allow both input and output in addition to posting items, but also respond to other organization's activities.

CONSIDERATIONS

While social media platforms are now standard in communication plans for private, non-profit, and public sector organizations, LSMPO recognizes that public record and public access (e.g. Government in the Sunshine) laws in Florida require a thoughtful approach. As additional guidance is provided at the state level, the organization will modify the application of social media tools, when necessary. LSMPO adheres to the following social media guidelines to ensure compliance with Florida's open government and public record laws.

Access

When social media applications provide mechanisms to restrict content access, LSMPO will allow all content to be freely visible and open to any user.

Content

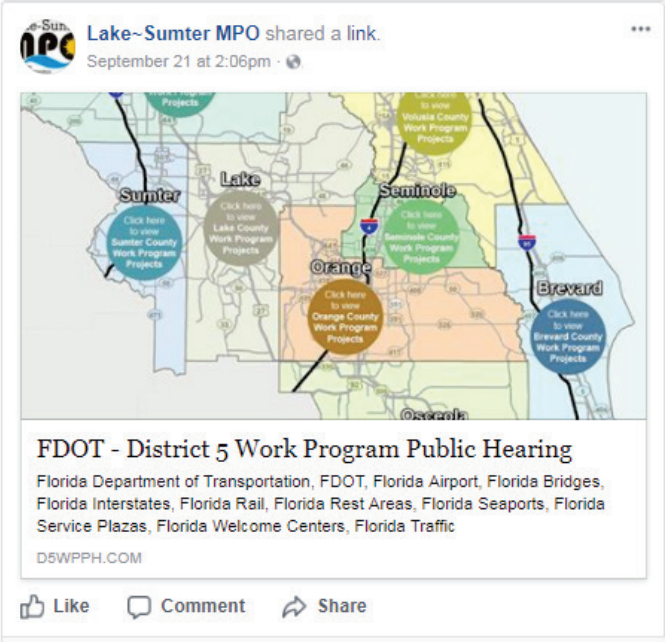
LSMPO will generate much of its own social media content, using it to highlight the organization's activities and those of its partners. Other content for social media channels will be shared or repurposed from outside sources and may link to external sites. Appearance of external links does not constitute an official endorsement on behalf of the organization.

Posting Comments

LSMPO's use of social media will primarily focus on the dissemination of information relevant to the transportation planning process, with a secondary focus on obtaining input on targeted issues of importance. The LSMPO Board and advisory committee members are prohibited from engaging in an exchange or discussion of matters via social media that will foreseeably come before the Board or committee for official action.

USER COMMENTS

The following forms of content shall not be allowed:



- Comments not topically related to the particular social medium article being commented upon;
- Comments in support of or opposition to political campaigns or ballot measures;
- Profane language or content;
- Content that promotes, fosters, or perpetuates discrimination on the basis of race, creed, color, age, religion, gender, marital status, status with regard to public assistance, national origin, physical or mental disability or sexual orientation;
- Sexual content or links to sexual content;
- Solicitations of commerce;
- Conduct or encouragement of illegal activity;
- Information that may compromise the safety or security of the public or of private entities; or
- Content that violates a legal ownership interest of any other party.

When a feature allowing users to post a comment is activated and an "approval-required" feature exists, the LSMPO will review all comments prior to publication. Also, when a feature allowing users to post a comment is activated and approval features do not exist, LSMPO will regularly monitor user comments and take appropriate action to delete inappropriate comments.

Public Records

As with electronic communication, LSMPO will post a notice on the social media site regarding Florida public records law. The LSMPO will independently track social media activity monthly. Social media records will conform with applicable public record retention schedules, as outlined in Florida Statutes. As is the case with the LSMPO website, the staff tasked with public involvement duties will be responsible for the content and upkeep of any social media sites created to promote the mission of the organization.

Please Follow Us On Our Social Media Platforms!	**Like Us on Facebook:** LakeSumter-MPO

SUMMARY

The public involvement efforts of the LSMPO provide opportunities for the community to engage in the transportation planning process. This document establishes the basic techniques for disseminating information to the public and engaging the citizens in an interactive discussion. However, this is a continuously evolving process and next steps are summarized below.

Assessment of Public Participation Techniques

LSMPO 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. **Appendix A** provides an outreach log which LSMPO will use to track involvement efforts and compare to prior years.

Ongoing Process Improvement

During staff meetings and debriefs, public involvement strategies are discussed in regard to improving progress toward established participation objectives. Evaluation and response are valuable components of any successful program, plan, or project. As such, the MPO can gauge the effectiveness of the PPP in order to highlight opportunities for improvement. LSMPO staff will track and measure the following list 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;
- E-mail list;
- Public Involvement Process Mailing List;
- Communications received from the public whether they use mail, e-mail, and comments at public information meetings or public hearings;
- Tracking of presentations given to public groups;
- Efficient Transportation Decision Making Process; and
- Documentation of all public meetings including photos, attendance sheets meeting handouts.

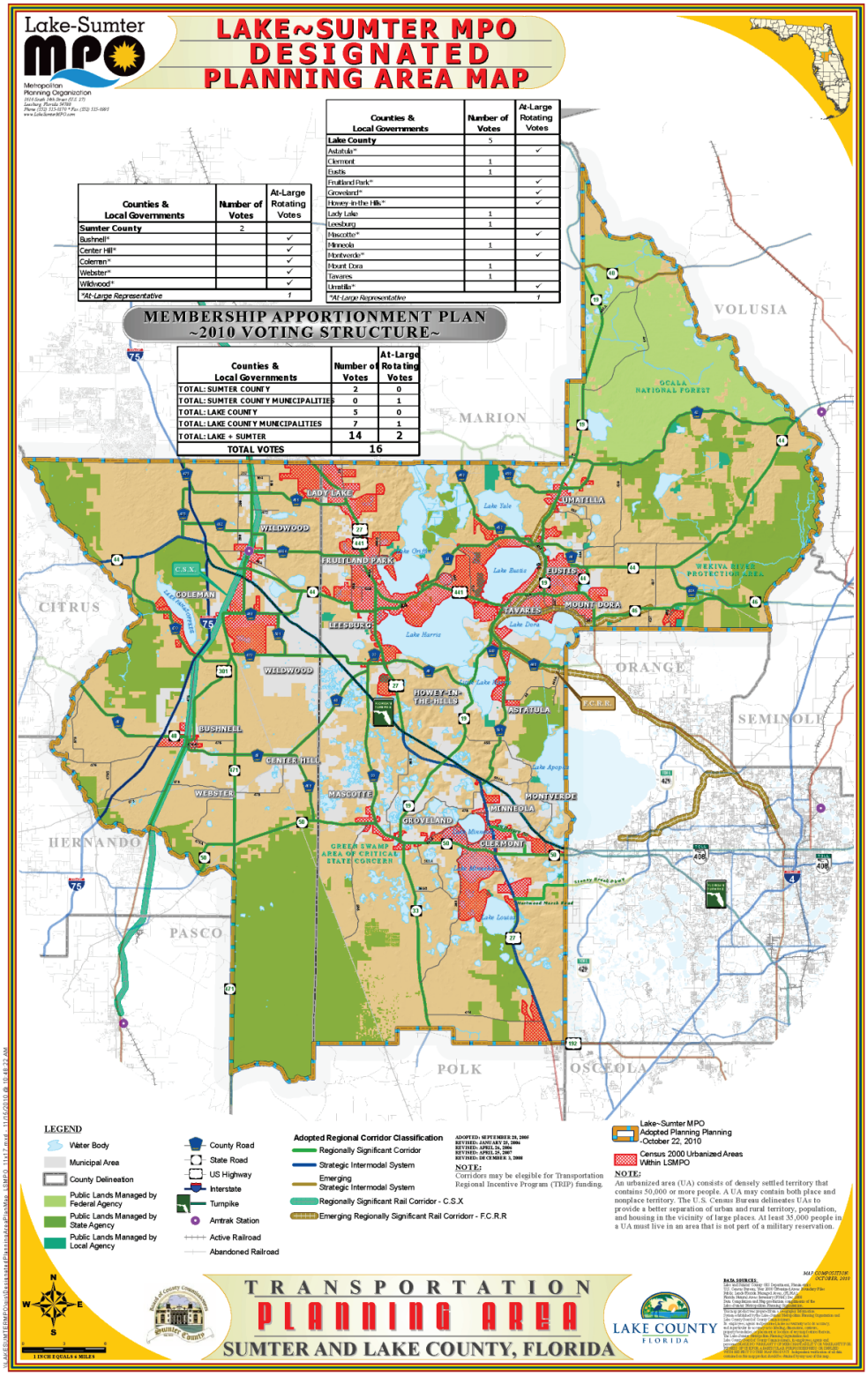
In addition to these tracking and reporting efforts, the LSMPO staff will continue to research new and innovative ways to further involve the public in the LSMPO transportation planning process.

Appendix A: PPP OUTREACH LOG

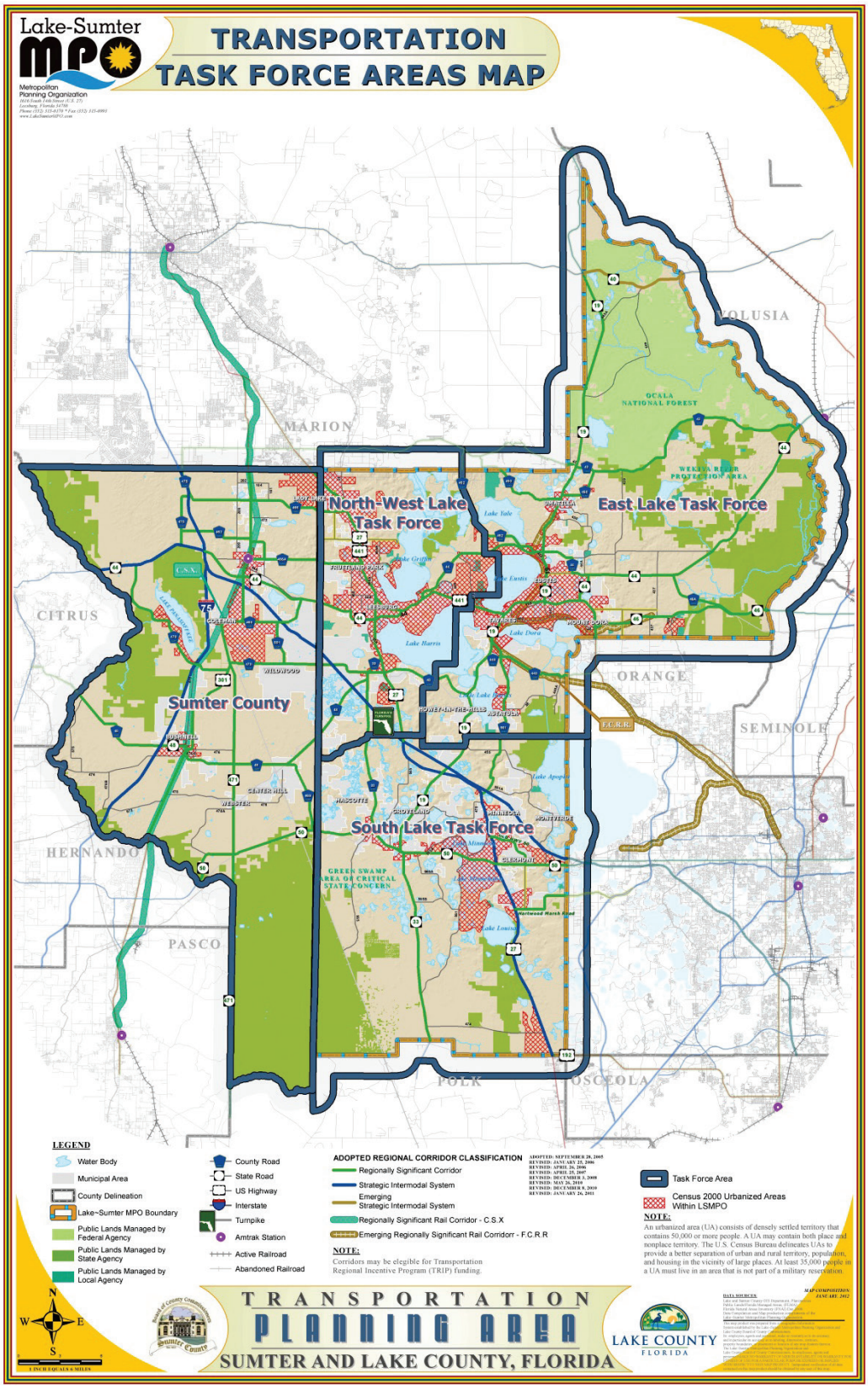
LAKE~SUMTER MPO OUTREACH LOG

DATE	REQUEST (INQUIRY/EVENT)	STAFF PERSON	PURPOSE/ACTION	NOTES

Appendix B: MPO PLANNING AREA AND TASK FORCE MAPS



Source: Lake~Sumter MPO



Source: Lake~Sumter MPO

Appendix C: TRANSPORTATION ACRONYM GUIDE

ACRONYM	NAME / TITLE
AA	Alternatives Analysis
AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AE	Annual Element
AFV	Alternative Fuel Vehicle
AIA	American Institute of Architects
AICP	American Institute of Certified Planners
AMPO	Association of Metropolitan Planning Organizations
APA	American Planning Association
APTA	American Public Transit Association
APWA	American Public Works Association
ARRA	American Recovery and Reinvestment Act
ASCE	American Society of Civil Engineers
AVO	Average Vehicle Occupancy
AVR	Average Vehicle Ridership
AWT	Average Weekday Traffic
B/C	Benefit Cost Ratio
BCC	Board of County Commissioners
BLM	Bureau of Land Management
BMS	Bridge Management System
BOA	Board of Adjustments
BOE	Basis of Estimate
BRP	Bridge Replacement Program (State)
BRRP	Bridge Repair and Rehabilitation Program (State)
BRT	Bus Rapid Transit
BTS	Bureau of Transportation Statistics
CAAA	Clean Air Act Amendments of 1990
CAC	Community Advisory Committee

CAD	Computer Aided Drafting
CADD	Computer Aided Drafting and Design
CBD	Central Business District
CCI	Construction Cost Index
CCI	Community Characteristics Inventory
CDC	Center for Disease Control
CEI	Construction Engineering Inspection
CEMO	Central Environmental Management Office (State)
CE-NEPA	Categorical Exclusion
CFMPOA	Central Florida MPO Alliance
CFR	Code of Federal Regulations
CIE	Capital Improvement Element
CIGP	County Incentive Grant Program
CIP	Capital Improvement Program
CLC	Community Liaison Coordinator
CMAQ	Congestion Management and Air Quality
CMP	Corridor (or Congestion) Management Plan
CMS	Congestion Management System
CMS	Concurrency Management System
CNG	Compressed Natural Gas
CNU	Congress of New Urbanism
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2E	Carbon Dioxide Equivalents
CTC	Community Transportation Coordinator
CTD	Commission for Transportation Disadvantage
CTST	Community Traffic Safety Team
CUTR	Center for Urban Transportation Research
dB	Decibels
DBE	Disadvantaged Business Enterprise
DDHV	Directional Design Hour Volume

DDR	District Dedicated Revenue
DEIS	Draft Environmental Impact Statement
DEO	Department of Economic Opportunity (FL)
DHV	Design Hour Volume
DIS	State funds for projects on the Strategic Intermodal System
DNR	Department of Natural Resources
DNS	Determination of Non-significance
DOT	Department of Transportation
DRI	Development of Regional Impact
DVMT	Daily Vehicle Miles Traveled
EA	Environmental Assessment
EAR	Evaluation and Appraisal Report
EB	Eastbound
ECFRPC	East Central Florida Regional Planning Council
EEO	Equal Opportunity Employer
EIS	Environmental Impact Statement
EOC	Emergency Operations Center
EPA	Environmental Protection Agency (Federal)
ESA	Endanger Species Act
ETDM	Efficient Transportation Decision Making
F.S.	Florida Statute
FAA	Federal Aviation Administration
FAPA	Florida Chapter of the American Planning Association
FARS	Fatality Analysis Reporting System
FBT	Floridians for Better Transportation
FC	Functional Classification
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEA	Final Environmental Assessment
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency

FGDL	Florida Geographical Data Library
FHWA	Federal Highway Administration
FIHS	Florida Interstate Highway System
FLUAM	Future Land Use Allocation Model
FMCSA	Federal Motor Carrier Safety Administration
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FSUTMS	Florida Standard Urban Transportation Modeling Structure
FTA	Federal Transit Administration
FTC	Florida Transportation Commission
FTE	Full Time Equivalent
FTE	Florida Turnpike Enterprise
FTP	Florida Transportation Plan
FY	Fiscal Year
4-R	Highway Reconstruction, Resurfacing, Restoration, and Rehabilitation
GHGs	Greenhouse Gases
GIS	Geographic Information Systems
GPS	Global Positioning System
GVW	Gross Vehicle Weight
HCM	Highway Capacity Manual
HOT	High Occupancy Toll Lanes
HOV	High Occupancy Vehicles
HSR	High Speed Rail
HTF	Highway Trust Fund (U.S.)
ICE	Intergovernmental Coordination Element
INFRA	Infrastructure for Rebuilding America
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Traffic Engineers
ITS	Intelligent Transportation System
JPA	Joint Participation Agreement
LAP	Local Agency Program

LEP	Limited English Proficiency
LGCP	Local Government Comprehensive Plan
LMY	Lane Mile Years
LNG	Liquefied Natural Gas
LOPP	List of Priority Projects
LOS	Level of Service
LRT	Light Rail Transit
LRTP	Long Range Transportation Plan
LSMPO	Lake~Sumter MPO
LU	Land Use
M&O	Management and Operations
MAP-21	Moving Ahead for Progress in the 21st Century
MBE	Minority Business Enterprise
MIS	Management Information Systems
MMTD	Multimodal Transportation District
MOA	Memoranda of Agreement
MOU	Memorandum of Understanding
MP	Milepost
MPO	Metropolitan Planning Organization
MPOAC	Metropolitan Planning Organization Advisory Council
MSTU	Municipal Services Tax Unit
MUTCD	Manual on Uniform Traffic Control Devices
MWBE	Minority and Women's Business Enterprise
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NEPA	National Environmental Policy Act of 1969
NGS	United States National Geodetic Survey
NHPA	National Historical Preservation Act
NHPP	National Highway Performance Program

NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanographic and Atmospheric Administration
NOX	Nitrogen Oxides
NPRM	Notice of Proposed Rule Making
NPS	National Park Service
NRHP	National Register of Historic Places
NTSB	National Transportation Safety Board
O&M	Operations and Maintenance
O-D	Origin-Destination (survey or zone)
OEO	Office of Equal Opportunity
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PCI	Pavement Condition Index
PD&E	Project Development & Environmental Study
PE	Professional Engineer
PE	Preliminary Engineering
PEA	Planning Emphasis Areas
PHF	Peak Hour Factor
PI	Public Involvement
PIO	Public Information Office (or Officer)
PL	Category of FHWA funds for MPO planning uses
PM	Project Manager
PM	Particulate Matter
PMS	Pavement Management System
PTMS	Public Transportation Facilities and Equipment Management System
PUD	Planned Unit Development
QA/QC	Quality Assurance / Quality Control
RCI	Roadway Characteristics Inventory
RFP	Request for Proposal
RFQ	Request for Qualifications

ROW	Right of Way
RPC	Regional Planning Council
RPM	Revolutions per Minute
RR	Railroad
RRR (3R)	Resurfacing, Restoration, and Rehabilitation
RTA	Regional Transit Authority
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users
SB	Southbound
SBE	Small Business Enterprise
SCE	Sociocultural Effects
SCOP	Small County Outreach Program
SD	Structurally Deficient
Section 5305(d)	Category of FTA funds for MPO planning use
SEIS	Supplemental Environmental Impact Statement
SEPA	State Environmental Policy Act
SIB	State Infrastructure Bank
SIS	Strategic Intermodal System
SOV	Single Occupancy Vehicle
SR	State Road
SRPP	Strategic Regional Policy Plan
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
TAC	Technical Advisory Committee
TCEA	Transportation Concurrency Exception Area
TCMA	Transportation Concurrency Management Area
TD	Transportation Disadvantaged
TDCB	Transportation Disadvantaged Coordinating Board
TDM	Transportation Demand Management
TDM	Travel Demand Management
TDP	Transit Development Plan

TDSP	Transportation Disadvantaged Service Plan
TE	Transportation Enhancements
TEA-21	Transportation Equity Act for the 21st Century of 1998
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMS	Transportation Management System
TOP	Transit Operations Plan
TPO	Transportation Planning Organizations (synonym to MPO)
TRB	Transportation Research Board
TRIP	Transportation Regional Incentive Program
UA	Urbanized Area
UCF	University of Central Florida
UPWP	Unified Planning Work Program
US	United States (route)
USC	United States Code
USDOE	United States Department of Energy
USDOT	United States Department of Transportation
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VHT	Vehicle Hours Traveled
VMS	Variable Message Sign
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VPH	Vehicles Per Hour
WAGES	Work and Gain Economic Self Sufficiency
WB	Westbound
WBE	Women's Business Enterprise
WPRC	Withlacoochee Regional Planning Council
YTD	Year to Date

Appendix D: FLORIDA LRTP AMENDMENT THRESHOLDS

Complete Excerpt of Florida LRTP Amendment Thresholds Issued March 15, 2014:

Section 1. Florida LRTP Amendment Thresholds

The guidance in this section sets the minimum thresholds for project changes that trigger an LRTP Amendment at the time of STIP approval, a STIP amendment or NEPA approval. 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. For determining TIP/STIP/LRTP/NEPA consistency for approval of a NEPA document, please refer to Section 2. NEPA Consistency and Approval and the 2012 LRTP Expectations Letter for additional details. This document was jointly prepared by FDOT and the FHWA Florida Division.

The following acronyms are used:

- CFP – Cost Feasible Plan
- CST – Construction Phase
- FDOT – Florida Department of Transportation
- FHWA – Federal Highway Administration
- LRTP – Long Range Transportation Plan
- MPO – Metropolitan Planning Organization
- NEPA – National Environmental Policy Act
- PD&E – Project Development and Environment Phase
- PE – Preliminary Engineering Phase
- ROW – Right of Way Phase
- SIS – Strategic Intermodal System
- STIP – State Transportation Improvement Program
- TIP – Transportation Improvement Program

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

- 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.

- Deleting a full project from the CFP.
- Adding a new project where no phases are currently listed in the CFP.
- Projects or Project Phase Initiation Date for projects in the CFP:
  - » 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).
  - » 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.
  - » For advancing phases of minor projects, please see the LRTP Modifications section.
- Projects or Project Phase Initiation Date for projects beyond the CFP:
  - » Moving a new project from a Needs or Illustrative List to the CFP where no phases are currently listed in the CFP.
  - » 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 Amendment Examples

CFP				Needs
1st 5-yr band TIP/STIP years	2nd 5-yr band	3rd 5-yr band	Last (10-yr) band	**Needs/ Illustrative List**
TO ←		FROM		
TO ←			FROM	
	TO ←		FROM	
		TO ANY BAND ←		FROM

LRTP MODIFICATIONS

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

- 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.
- 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.
- Project or Project Phase Initiation Date:
  - » 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.

» 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.

» 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.

» 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

LRTP Modification Examples				
CFP				Needs
1st 5-yr band TIP/STIP years	2nd 5-yr band	3rd 5-yr band	Last (10-yr) band	**Needs/ Illustrative List**
TO ←	FROM			
	TO ←	FROM		
		TO ←	FROM	

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:

- TIP/STIP project costs are within 50% and $50 million of projects costs shown in the LRTP.
- TIP/STIP initiation phase is within the first two 5-year bands of the LRTP.
- 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:

- NEPA discussion of the project implementation reflects the planning documents in these areas: scope, cost, general funding sources, description, and logical termini.
- An amendment to either the LRTP or STIP/TIP is NOT needed.
- 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

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

- The project must be consistent with the Florida Transportation Plan.
- 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 publicly available long range considerations may be used to show the project's planned implementation, such as local government comprehensive plans.
- 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 SIS 10 Year Plan full project cost information or other long range public planning documents.

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.

Official PDF File located Online:

https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/planning/policy/metrosupport/resources/lrtpthreshhold.pdf?sfvrsn=724f5f45_0

Appendix E: FEDERAL REQUIRMENTS FOR PUBLIC PARTICIPATION

The public involvement process requirements in 23 CFR450, Section 450.316 are described 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.

§ 450.316 Interested parties, participation, and consultation.

(a) The MPO shall develop and use a documented participation plan that defines a process for providing individuals, affected public agencies, representatives of public transportation employees, public ports, freight shippers, providers of freight transportation services, private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process.

(1) The MPO shall develop the participation plan in consultation with all interested parties and shall, at a minimum, describe explicit procedures, strategies, and desired outcomes for:

(i) Providing adequate public notice of public participation activities and time for public review and comment at key decision points, including a reasonable opportunity to comment on the proposed metropolitan transportation plan and the TIP;

(ii) Providing timely notice and reasonable access to information about transportation issues and processes;

(iii) Employing visualization techniques to describe metropolitan transportation plans and TIPs;

(iv) Making public information (technical information and meeting notices) available in electronically accessible formats and means, such as the World Wide Web;

(v) Holding any public meetings at convenient and accessible locations and times;

(vi) Demonstrating explicit consideration and response to public input received during the development of the metropolitan transportation plan and the TIP;

(vii) Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services;

(viii) Providing an additional opportunity for public comment, if the final metropolitan transportation plan or TIP differs significantly from the version that was made available for public comment by the MPO and raises new material issues that interested parties could not reasonably have foreseen from the public involvement efforts;

(ix) Coordinating with the statewide transportation planning public involvement and consultation processes under subpart B of this part; and

(x) Periodically reviewing the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process.

(2) When significant written and oral comments are received on the draft metropolitan transportation plan and TIP (including the financial plans) as a result of the participation process in this section or the interagency consultation process required under the EPA transportation conformity regulations (40 CFR part 93, subpart A), a summary, analysis, and report on the disposition of comments shall be made as part of the final metropolitan transportation plan and TIP.

(3) A minimum public comment period of 45 calendar days shall be provided before the initial or revised participation plan is adopted by the MPO. Copies of the approved participation plan shall be provided to the FHWA and the FTA for informational purposes and shall be posted on the World Wide Web, to the maximum extent practicable.

(b) In developing metropolitan transportation plans and TIPs, the MPO should consult with agencies and officials responsible for other planning activities within the MPA that are affected by transportation (including State and local planned growth, economic development, tourism, natural disaster risk reduction, environmental protection, airport operations, or freight movements) or coordinate its planning process (to the maximum extent practicable) with such planning activities. In addition, the MPO(s) shall develop the metropolitan transportation plans and TIPs with due consideration of other related planning activities within the metropolitan area, and the process shall provide for the design and delivery of transportation services within the area that are provided by:

(1) Recipients of assistance under title 49 U.S.C. Chapter 53;

(2) Governmental agencies and non-profit organizations (including representatives of the agencies and organizations) that receive Federal assistance from a source other than the U.S. Department of Transportation to provide non-emergency transportation services; and

(3) Recipients of assistance under 23 U.S.C. 201- 204.

(c) When the MPA includes Indian Tribal lands, the MPO(s) shall appropriately involve the Indian Tribal government(s) in the development of the metropolitan transportation plan and the TIP.

(d) When the MPA includes Federal public lands, the MPO(s) shall appropriately involve the Federal land management agencies in the development of the metropolitan transportation plan and the TIP.

(e) MPOs shall, to the extent practicable, develop a documented process(es) that outlines roles, responsibilities, and key decision points for consulting with other governments and agencies, as defined in paragraphs (b), (c), and (d) of this section, which may be included in the agreement(s) developed under § 450.314.

It is important to note, other components of the legislation which support 23 CFR450, Section 450.316 include:

- 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; and
- 450.324(c) - Transportation Improvement Program: General.

Appendix F: FEDERAL GUIDANCE ON VIRTUAL MEETINGS

During the COVID-19 pandemic, the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) released guidance for states and Metropolitan Planning Organizations (MPOs) on using virtual meetings in the place of in-person board and committee meetings, particularly for public hearings to satisfy public meeting provisions. This guidance is shown below as of April 20, 2020.

Q. Can States and Metropolitan Planning Organizations (MPOs) hold virtual public hearings where the applicable public participation plan provides for "in person" participation?

A. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) are aware that some States and MPOs are looking to utilize virtual public involvement technologies and techniques for public participation activities related to metropolitan and statewide transportation planning under the applicable statutes, 23 U.S.C. 134-135, as a way to satisfy the public meetings provisions. The agencies are currently evaluating the impacts of utilizing virtual public involvement in place of in-person participation where it is required under the public participation plan. As FHWA and FTA undertake the evaluation, States and MPOs may revise their public involvement plans to employ virtual public involvement techniques. In the meantime, both FHWA and FTA staff are available to answer any questions you may have.

> *This FAQ does not have the force and effect of law and is not meant to bind the public in any way. It is intended only to provide clarity to the public regarding existing requirements under the law or agency regulations. This FAQ will remain in effect while the Department of Health and Human Services (HHS) determination that a public health emergency related to COVID-19 is in effect, unless sooner updated by the Federal Highway Administration and Federal Transit Administration prior to the end of the HHS determination.*

Technical Appendix D: Lake-Sumter MPO 2045 LRTP Public Involvement/ Agency Outreach Summary

Public Involvement Activities and Agency Outreach

Introduction

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. The 2045 LRTP was developed in a manner consistent with the MPO's Public Participation Plan (PPP) and included the use of the MPO's committee/Board structure and meetings. In addition, ongoing coordination took place between the Lake~Sumter MPO and neighboring MPOs in the region. Multiple stakeholders were involved in the development of the plan including environmental and community representatives, as well as organizations that serve the traditionally transportation-disadvantaged.

COVID-19 and Impacts to Public Involvement

During the development of an LRTP, there are typically a number of in-person public meetings, forums, and/or workshops. However, In March 2020, the spread of COVID-19 (Coronavirus) in the United States prompted directives (listed below) from federal, state, and local agencies to limit in-person gatherings and interaction. Due to COVID-19, previously scheduled in-person workshops related to the LRTP were replaced with multiple virtual workshops throughout the planning process to engage the public, partner organizations, and other stakeholders.

- On March 16, 2020, President Trump issued "15 Days to Slow the Spread" guidance advising individuals to socially distance and avoid groups larger than 10 people until March 31.
- On March 29, the timeframe for this guidance was extended to April 30 and formally updated on March 31, in coordination with the White House Coronavirus Task Force, as "30 Days to Slow the Spread".
- Florida Governor DeSantis issued a "Safer At Home" order (Executive Order 20-91) effective from April 3 through April 30.

Similar executive orders and directives continued beyond these dates. Recognizing the need to change course in the approach to public involvement, the MPO proactively shifted to virtual/technology-based approaches as alternatives to the planned in-person activities. Specifically, alternative approaches were applied to workshops and other stakeholder outreach activities which otherwise would include face-to-face presentations given to, and interactions with, the public and partner organizations.

Public Involvement Activities

A number of public involvement tools were utilized to obtain public input to during the development of the Needs Assessment and the Cost Feasible Plan (CFP). Throughout the planning, interim findings and documentation were presented to the MPO's Governing Board, Technical Advisory Committee (TAC), and Citizens Advisory Committee (CAC). Technical memoranda were provided in advance of the MPO meetings and the typical format of the meetings included a presentation followed by an opportunity to provide feedback and ask questions. The MPO meetings were publicly advertised, thus providing opportunities for the public to provide input. The following is a summary of public involvement activities related to the 2045 LRTP.

Public Involvement Activities and Agency Outreach

Virtual Workshops

Two virtual public workshops related to the LRTP were held to present the draft Cost Feasible Plan and solicit input and comments from the public and community stakeholders. The input received from these workshops was used to refine the Cost Feasible Plan. The presentation given for the November 16, 2020 Virtual Workshops is included in **Attachment A** at the end of this section. Attendee reports are also included which feature the list of participants and any questions posed using the webinar's 'Question & Answer' tool.

Survey

An online survey was also developed by the MPO to provide additional opportunities for the public and stakeholders to provide input on the plan. Please see **Attachment C** for a copy of the survey questions and results, which were a helpful tool in gauging the public's opinions about critical issues to support plan development and implementation.

MPO Website

The MPO's website (www.lakesumtermpo.com) also served as the major information portal for the development of the plan. All of the plan information including workshop presentations and technical documents were made available to the public via the website. Advertisements for public meetings and workshops were posted online and placed in local newspapers. The MPO also utilized its social media accounts to share timely and relevant content and to complement other public involvement efforts by alerting participants to opportunities for providing input.

MPO Governing Board and Committee Coordination

The LRTP process included significant review as part of the regular meetings of the MPO Governing Board and standing committees. These groups include citizen representatives, elected officials, local government staff and special interest advocates representing the diversity of the planning area. Advance public notice was provided for each board/committee meeting in accordance with Florida Statutes and the adopted bylaws of the MPO.

In addition to the MPO Board, input and guidance on the development of the LRTP was provided by the Technical Advisory Committee (TAC), Citizens Advisory Committee (CAC), and Transportation Disadvantaged Coordinating Boards (TDCB). It is important to note that advisory input and the perspectives of non-transportation professionals was also provided throughout the process by citizen representatives on the CAC.

Freight Coordination

As discussed in Chapter 4, part of the planning process involved coordinating freight transportation needs. The MPO engaged the freight community including, the FDOT District Five Freight Coordinator as the key agency planning for regional and statewide freight transportation. Additional outreach also included economic development and chamber organizations that represent private freight industry interests.

Public Involvement Activities and Agency Outreach

Environmental Justice

Environmental Justice (EJ) is the fair treatment of all groups within the community. Per Presidential Executive Order 12898, efforts must be made throughout the development of plans and projects to avoid disproportionate adverse effects on minority and low-income populations. This attention to protecting all communities is critical, and this plan included efforts to evaluate sociocultural effects and EJ.

The two driving characteristics of EJ areas in the MPO planning area are percentage of households at or below poverty level and percentage of minority population. Percentages of population meeting the criteria were compared to the statewide average. Those Census Tracts that were estimated to have levels of EJ populations that were equal to or exceeded the statewide average were highlighted and considered to be potential areas for Environmental Justice considerations throughout the planning process.

An Environmental Justice Workshop was conducted virtually with both the Lake County and Sumter County Transportation Disadvantaged Coordinating Boards. The workshop shared information about the establishment and importance of environmental justice and provided opportunity for the discussion of potential impacts of transportation improvements on elderly, minority, disabled, and low-income populations throughout the planning area. This type of input was important to help guide and prioritize needs and future projects in the LRTP, with the goal of minimizing negative impacts to those areas identified as having a higher proportion of populations included in environmental justice considerations. Please see **Attachment B** for a copy of the presentation given during the Environmental Justice workshop.

Agency Outreach and Environmental Consultation

The development of the LRTP included coordination with local agencies, adjacent MPO/TPOs, and FDOT. Also, in order to understand the environmental mitigation opportunities and issues within the planning area, the MPO also conducted direct outreach to appropriate federal, state and local land management, resource, environmental, and historic preservation agencies, including:

- Lake County
- Sumter County
- US Fish and Wildlife Service
- Florida Department of Environmental Protection
- St. Johns River Water Management District (SJRWMD)
- Florida Fish and Wildlife Conservation Commission
- Florida Forest Service
- USDA Forest Service
- Florida Department of Historical Resources

Public Involvement Activities and Agency Outreach

Communication

The MPO reached out directly to these agencies through e-mail communication that included the following background and request, as well as copy of the draft LRTP and an offer to provide any relevant GIS data:

> The Lake-Sumter MPO is in the process of developing its 2045 Long Range Transportation Plan (LRTP). The LRTP establishes policy-direction and transportation project priorities that best reflect the community and region's future needs, including Lake and Sumter counties. As part of the process for developing the plan, it is critical to evaluate potential environmental resource impacts of planning decisions and mitigation activities [CFR 450.324(f) and (g)].
>
> We are reaching out to your agency for consultation regarding this plan. The Lake-Sumter MPO is at a strategic point in developing the plan, and your input will provide valuable feedback to help shape the plan.
>
> Any comments from your agency's perspective regarding the following are appreciated:
>
> - Potential environmental impacts from the draft plan of projects
> - Potential historical, cultural, and archaeological resource impacts from the draft plan of projects
> - Environmental factors to consider as part of this plan
> - Considerations from applicable conservation plans
> - Potential environmental mitigation activities and areas to carry out these activities, including those with the most significant potential to restore and maintain environmental functions

Consultative Comments

The responses from this outreach were considered in the development of this plan. The following is a summary of the comments from responding agencies:

Florida Fish and Wildlife Conservation Commission

> The Florida Fish and Wildlife Conservation Commission (FWC) stated that staff had no comments that inhibit the 2045 LRTP. FWC provided no specific comments but suggested that prioritization of projects should consider avoidance and minimization of potential impacts to listed species and their habitats and consider opportunities for potential mitigation and enhancement during the project planning process.
>
> FWC offered to provide technical assistance to assist with future project planning in accordance with FWC's authorities under Chapter 379, F.S. They also offered for the MPO to reach out to FWC staff for assistance during the Efficient Transportation Decision Making (ETDM) and permitting processes as projects move toward implementation.

Public Involvement Activities and Agency Outreach

Florida Division of Historical Resources

The Florida Division of Historical Resources (DHR) recommended including a statement of need for cultural resources coordination early in the planning process for project. DHR also recommend including a brief description of Section 106 of the National Historic Preservation Act of 1966 (for federal funds and permitting) and Chapter 267, F.S., (for state funds and permitting) to provide background on the consultation process. As broadly defined in Part 2, Chapter 8, Archaeological and Historical Resources, FDOT PD&E Manual:

> **Section 106** (NHPA) requires federal agencies to consider the effects of all federal undertakings and programs on historic properties in the planning and delivery of the proposed action or program. As a part of this effort, federal agencies must provide the ACHP (Advisory Council on Historic Preservation) a reasonable opportunity to comment on the undertakings.
>
> **Chapter 267, F.S.** (FHRA) is the principal state law regarding the protection of archaeological and historical resources. It contains requirements similar to those of the federal NHPA. FHRA declares the state policy that the historic properties in this state represent "an important legacy to be valued and conserved for present and future generations." It requires that each state agency consider the effects of an undertaking on any historic property that is eligible for inclusion in the NRHP and to consult with FDHR to ensure that effects on historic properties are considered prior to the expenditure of state funds on the project.

DHR also noted that a review of the potential to affect cultural resources will need to be done for each project individually, including coordination with the State Historic Preservation Office. Cultural resource surveys will be necessary for a number of these projects so it will be helpful to work with a Cultural Resources Manager (CRM) as these projects advance into implementation.

Florida Forest Service

> The Lake-Sumter 2045 Long Range Transportation Plan may impact some of the area's state forests. These include:
>
> - Withlacoochee State Forest (Sumter and Lake Counties)
> - Seminole State Forest (Lake County)
>
> This is based upon the proximity of those forests to the proposed transportation improvements. Transportation enhancement activities are projected to pass through Withlacoochee SF (SR 50).Elements of the 2045 plan could also generate impacts to Lake George State Forest in Volusia County, given the close proximity of the forest to the proposed Sun Trail.
>
> Potential impacts to state forests from transportation enhancement activities include:
>
> Increased potential for colonization of non-native plant species due to soil disturbance. Clean construction equipment of vegetation, where feasible and monitor disturbed areas to ensure early detection of any invasive species.

Reduction in water quality, or hydrological/wetland impairment; wetlands are located on Withlacoochee SF. Use silt fences during construction, and employ other best management practices to safeguard hydrology and water quality.

Loss or disturbance to sensitive species; rare, threatened or endangered species documented on Withlacoochee SF include the following:

Common Name	**Scientific Name**
Brittle Maidenhair Fern	Adiantum tenerum
Incised Groove-bur	Agrimonia incisa
Auricled Spleenwort	Asplenium erosum
Wagner's Spleenwort	Asplenium heteroresiliens
Modest Spleenwort	Asplenium verecundum
Curtiss' Spleenwort	Asplenium x curtissii
Sand Butterfly Pea	Centrosema arenicola
Cooley's Water-willow	Justicia cooleyi
Pygmy Pipes	Monotropsis reynoldsiae
Britton's Beargrass	Nolina brittoniana
Widespread Polypody	Pecluma dispersa
Plume Polypody	Pecluma plumula
Swamp Plume Polypody	Pecluma ptilodon
Terrestrial Peperomia	Peperomia humilis
Giant Orchid	Pteroglossaspis ecristata
Green Ladies'-tresses	Spiranthes polyantha
Scrub Stylisma	Stylisma abdita
Peters' Bristle Fern	Trichomanes petersii
Florida Bristle Fern	Trichomanes punctatum ssp. floridanum
Craighead's Nodding-caps	Triphora craigheadii
Rickett's Nodding-caps	Triphora rickettii

Common Name	Scientific Name
American Alligator	Alligator mississippiensis
Eastern Diamondback Rattlesnake	Crotalus adamanteus
Eastern Indigo Snake	Drymarchon couperi
Gopher Tortoise	Gopherus polyphemus
Southern Hognose Snake	Heterodon simus
Short-tailed Snake	Lampropeltis extenuata
Florida Pine Snake	Pituophis melanoleucus mugitus

Common Name	Scientific Name
Limpkin	Aramus guarauna
Great Egret	Ardea alba
Florida Burrowing Owl	Athene cunicularia floridana
Little Blue Heron	Egretta caerulea
Snowy Egret	Egretta thula
Swallow-tailed Kite	Elanoides forficatus
White Ibis	Eudocimus albus
Southeastern American Kestrel	Falco sparverius paulus
Florida Sandhill Crane	Grus canadensis pratensis
Bald Eagle	Haliaeetus leucocephalus
Wood Stork	Mycteria americana
Yellow-crowned Night-heron	Nyctanassa violacea
Florida Scrub-Jay	Aphelocoma coerulescens
Bachman's Sparrow	Peucaea aestivalis

Red-cockaded Woodpecker	Picoides borealis
Hairy Woodpecker	Picoides villosus

Common Name	**Scientific Name**
Southeastern Bat	Myotis austroriparius
Florida Mouse	Podomys floridanus
Sherman's Fox Squirrel	Sciurus niger shermani
Florida Black Bear	Ursus americanus floridanus

Common Name	**Scientific Name**
Sand Pine Scrub Ataenius Beetle	Haroldiataenius saramari
Withlacoochee Melanoplus Grasshopper	Melanoplus withlacoocheensis
Elizoria June Beetle	Phyllophaga elizoria
Yellow-banded Typocerus Long-horned Beetle	Typocerus fulvocinctus

Rare, threatened or endangered species documented on Seminole SF include the following:

Common Name	**Scientific Name**
American Alligator	Alligator mississippiensis
American Swallow-tailed Kite	Elanoides forficatus
SE American Kestrel	Falco sparverius paulus
Bachman's Sparrow	Aimophila aestivalis
Bald Eagle	Haliaeetus leucocephalus
Berner's microcaddisfly	Hydroptila berneri

Common Name	Scientific Name
Bluenose shiner	Pteronotropis welaka
Brittons's beargrass	Nolina brittoniana
Chapman's sedge	Carex chapmanii
Clasping warea	Warea amplexifolia
Diurnal scrub june beetle	Phyllophaga okeechobea
Drysand pinweed	Lechea divaricata
Eastern indigo snake	Drymarchon corais couperi
Florida black bear	Ursus americanus
Florida bonamia	Bonamia grandiflora
Florida cebrionid beetle	Selonodon floridensis
Florida hasteola	Hasteola robertiorum
Florida Hypotrichia scarab beetle	Hypotrichia spissipes
Florida mouse	Podomys floridanus
Florida pine snake	Pituophis melanoleucus mugitus
Florida sandhill crane	Grus canadensis pratensis
Florida scrub lizard	Sceloporus woodi
Florida scrub-Jay	Aphelocoma coerulescens
Florida three-awned grass	Aristida rhizomophora
Florida willow	Salix floridana
Giant orchid	Pteroglossaspis ecristata
Glossy Ibis	Plegadis falcinellus
Gopher frog	Rana capito
Gopher tortoise	Gopherus polyphemus
Laced-winged roadside skipper	Amblyscirtes aesculapius

Common Name	Scientific Name
Lewton's polygala	Polygala lewtonii
Little blue heron	Egretta caerulea
Little-entrance oxyethiran microcaddisfly	Oxyethira janella
Nodding pinweed	Lechea cernua
Paper-like nailwort	Paronychia chartacea
Papery whitlow-wort	Paronychia chartacea
Pescador's bottle-cased caddisfly	Oxyethira pescadori
Piedmont joint grass	Coelorachis tuberculosa
Pigeon-wing	Clitoria fragrans
Pinesap	Monotropa hypopithys
Round-necked romulus longhorned beetle	Romulus globosus
Sand butterfly pea	Centrosema arenicola
Sand skink	Neoseps reynoldsi
Scrub bay	Persea humilus
Scrub buckwheat	Eriogonum longifolium var. gnaphalifolium
Scrub holly	Ilex opaca var. arenicola
Scrub palmetto flower scarab beetle	Trigonopeltastes floridana
Scrub plum	Prunus geniculata
Scrub schizachyrium	Schizachyrium niveum
Scrub stylisma	Stylisma abdita
Sherman's fox squirrel	Sciurus niger shermani

Public Involvement Activities and Agency Outreach

Common Name	Scientific Name
Silk bay	Persea humulis
Striped Newt	Notophthalmus perstriatus
Three spotted pleasing fungus beetle	Ischyrus dunedinensis
Wakulla Springs vari-colored microcaddisfly	Hydroptila wakulla
Wood stork	Mycteria americana
Yellow-crowned Night Heron	Nyctanassa violacea
Zabulon skipper	Poanes zabulon

Wildlife and plant surveys should be conducted by knowledgeable personnel prior to construction activities. Take steps to minimize impacts to sensitive species where possible by adjusting routes; acquire mitigation land if necessary.

Habitat loss, or loss of connectivity to other conservation lands associated with road widening. Take steps to minimize habitat loss where possible by adjusting routes; acquire mitigation land if necessary.

Increased traffic-related mortality (particularly reptiles, amphibians, mammals, and lepidoptera) and long-term disturbance to wildlife associated with traffic noise. Increased traffic noise levels may also impact outdoor recreation activities. *Investigate need or feasibility of wildlife crossings and noise reduction barriers.*

Smoke mitigation during prescribed fires may become more problematic for the agency and other land managers, given the increased volume of traffic present. *Work with land managers to facilitate prescribed burn operations.*

For more information, 10-year Land Management Plans for the above-referenced state forests may be found here:

https://www.fdacs.gov/content/download/59644/file/WSF_2015_RMP_10_Year.pdf

https://www.fdacs.gov/content/download/78098/file/Seminole_FINAL_2011_Plan.pdf

The points above are especially critical with the rapid and extensive industrial and residential growth we are experiencing.

Public Involvement Activities and Agency Outreach

Ocala Marion TPO

The Ocala Marion TPO was supported of the plan and expressed interest in coordinating on shared priorities.

Sumter County Economic Development

Sumter County Economic Development expressed that the following were priorities:

- Realignment of CR 470 through Sumter County at the jog down US 301
- Improving traffic flow through Coleman on US 301
- Improving traffic flow south from Wildwood on US 301 especially at the Turnpike
- Importance Emergency Preparedness, Regional Disaster Resilience

Public Involvement Activities and Agency Outreach

Attachment A

Virtual Workshop Presentation and Attendee Reports

Lake-Sumter MPO

Metropolitan Planning Organization

2045 Long Range Transportation Plan
Public Workshops

November 16, 2020 – 4:00 PM
November 16, 2020 – 6:00 PM

Workshop Team

Lake-Sumter MPO

Michael Woods
MPO Executive Director

Kimley-Horn

William Roll
Consultant Project Manager

Welcome!

Purpose of Today's Workshop

- Overview of the LRTP
- Receive input on our community's transportation plan

Workshop Format

- Introduction and presentation
- Respond to your comments/questions
- Close workshop

How to Provide Comments

During this Workshop

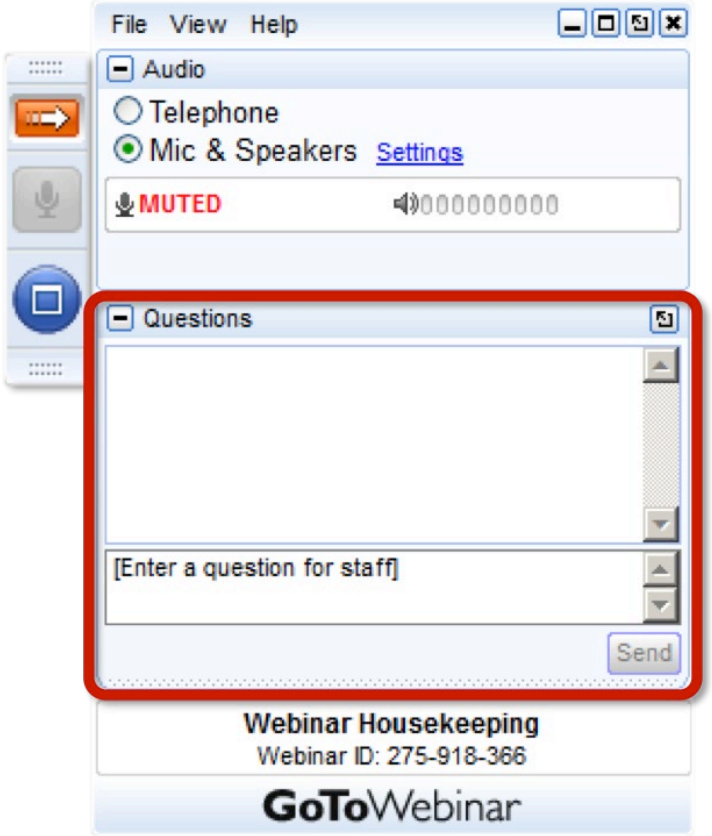
- Provide your comments through the Questions dropdown on the control panel

Online Survey

- www.surveymonkey.com/r/LSMPO2045LRTP

Anytime (even during the workshop)

- Email comments to mwoods@lakesumtermpo.com



What is the LRTP?

- Federally-required short- and long-term plan addressing multimodal transportation needs within Lake and Sumter counties
- Updated every five years covering at least 20 years into the future
- Identifies future needs and improvements for pedestrian, bicycle, transit, highway, and freight mobility.
- Results in a fiscally-constrained list of projects

2045 LRTP Goals

Goal 1 – Support Economic Success and Community Values

Goal 2 – Promote Safety and Security

Goal 3 – Improve Transportation Operations

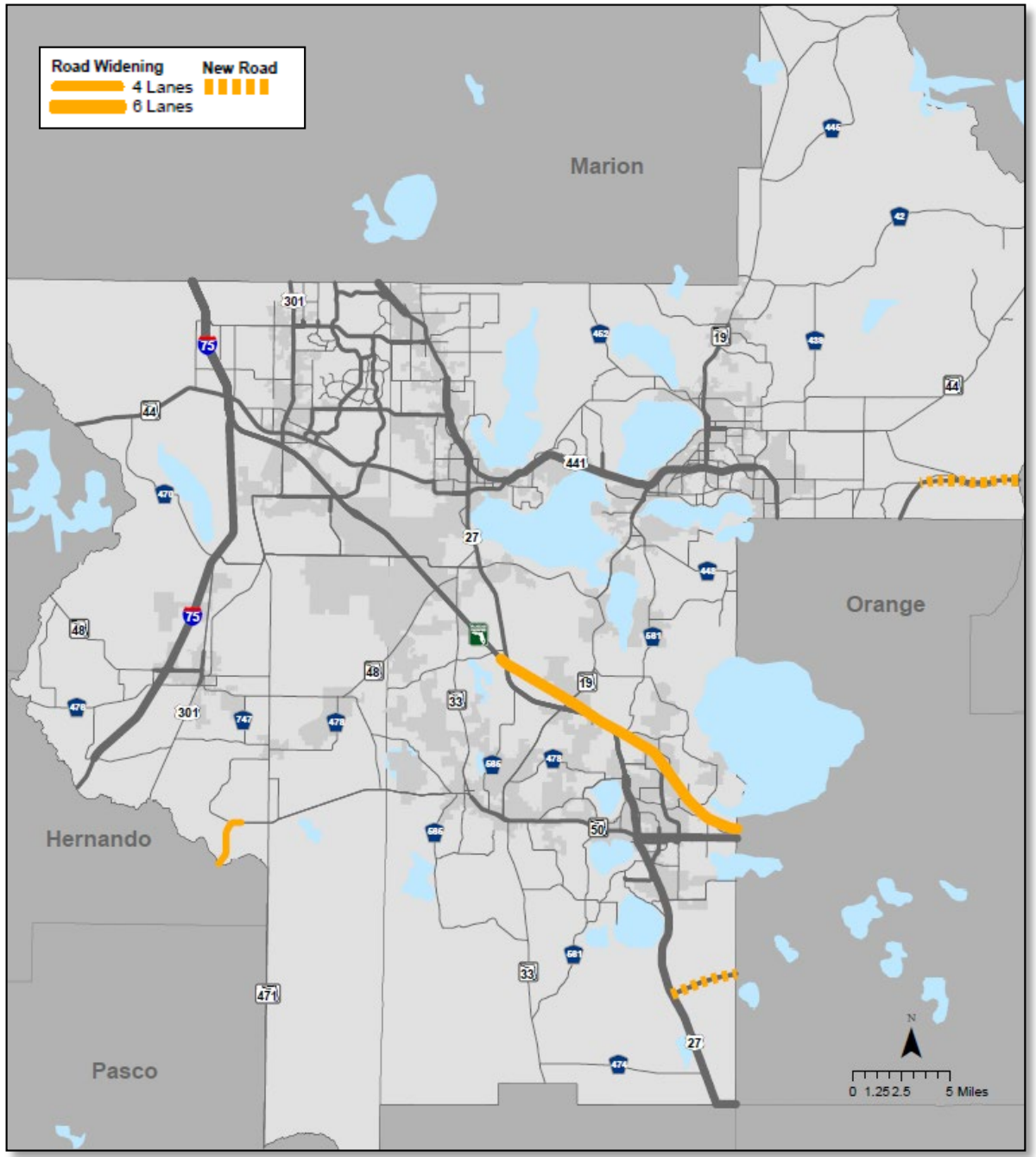
Goal 4 – Improve Mobility

Goal 5 – System Preservation

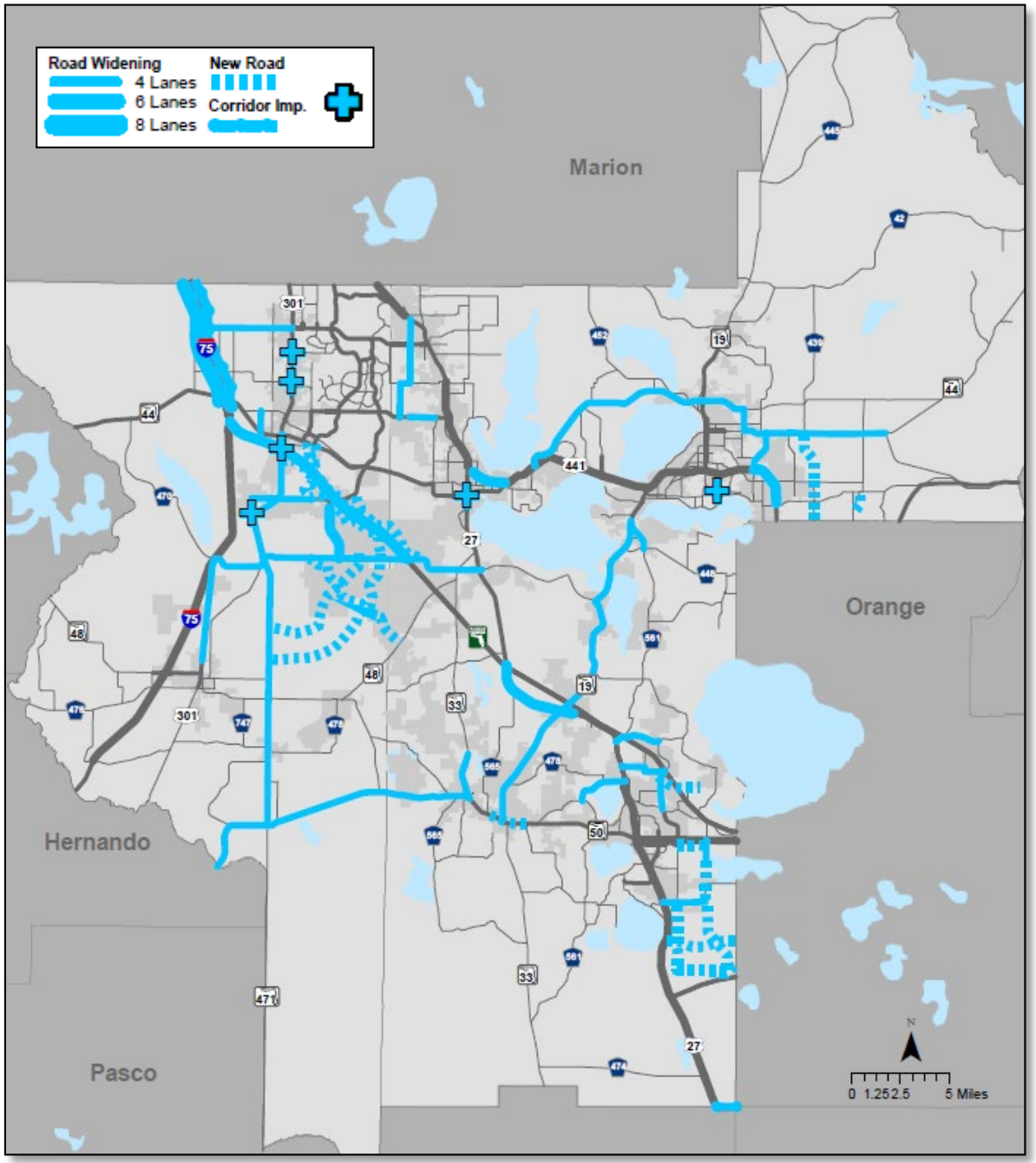
LRTP Update Process

1. Preliminary Planning
   - Financial Resources
   - Forecasted Population and Employment
2. Needs Assessment
3. Cost Feasible Plan Development
4. Other Planning Elements
5. Plan Documentation
6. Plan Adoption / Finalize Plan Documentation

5-Year Committed



Needs Assessment



Financial Resources

Summary of Lake-Sumter MPO Revenues (2025-2045) (Year of Expenditure)

Category	Total Projected Revenues 2025-2045
Projected State and Federal Revenues	
Other Roads Construction & ROW	$780,180,000
Other Roads – Product Support	$171,640,000
TALU	$2,220,000
TALL	$1,916,000
Strategic Intermodal System Projects	
SIS Revenues	$608,228,000
Projected Local Revenues	
Lake County Revenues	$664,539,000
Sumter County Revenues	$493,445,000
Projected Transit Revenues (Federal, State, and local)	
Lake County Transit Revenues	$281,898,000
Sumter County Transit Revenues	$42,474,000
Total	***$3,046,540,000***

**Illustrative funds (TALT and TRIP) are excluded from the table*

Process Overview

1. Needs Assessment
2. 2020 List of Priority Projects (LOPP)
3. SIS Cost Feasible Projects
4. 2040 LRTP Cost Feasible Plan
5. Other Input

Cost Feasible Plan

SIS (Fully Funded Projects)

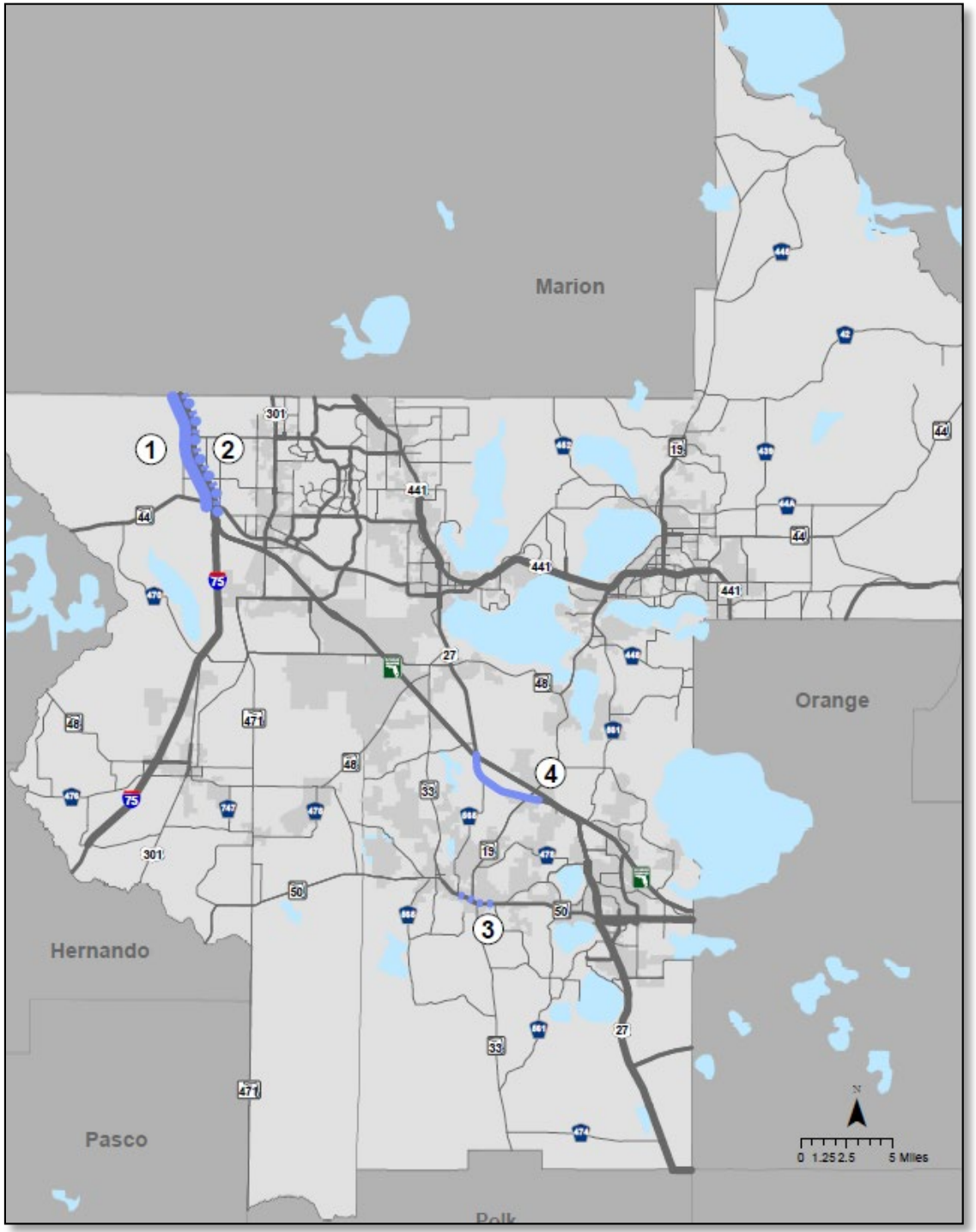
Strategic Intermodal System	
Map ID	**Roadway Name**
1	I-75 from SR-44 to Sumter/Marion County Line
2	I-75 from Florida's Turnpike to Sumter/Marion County Line
3	SR-50 from CR-565 (Villa City) to CR-565A (Montevista)
4	US-27 Florida's Turnpike Ramps to South of SR 19

Increase to 6 Lanes

Increase to 8 Lanes

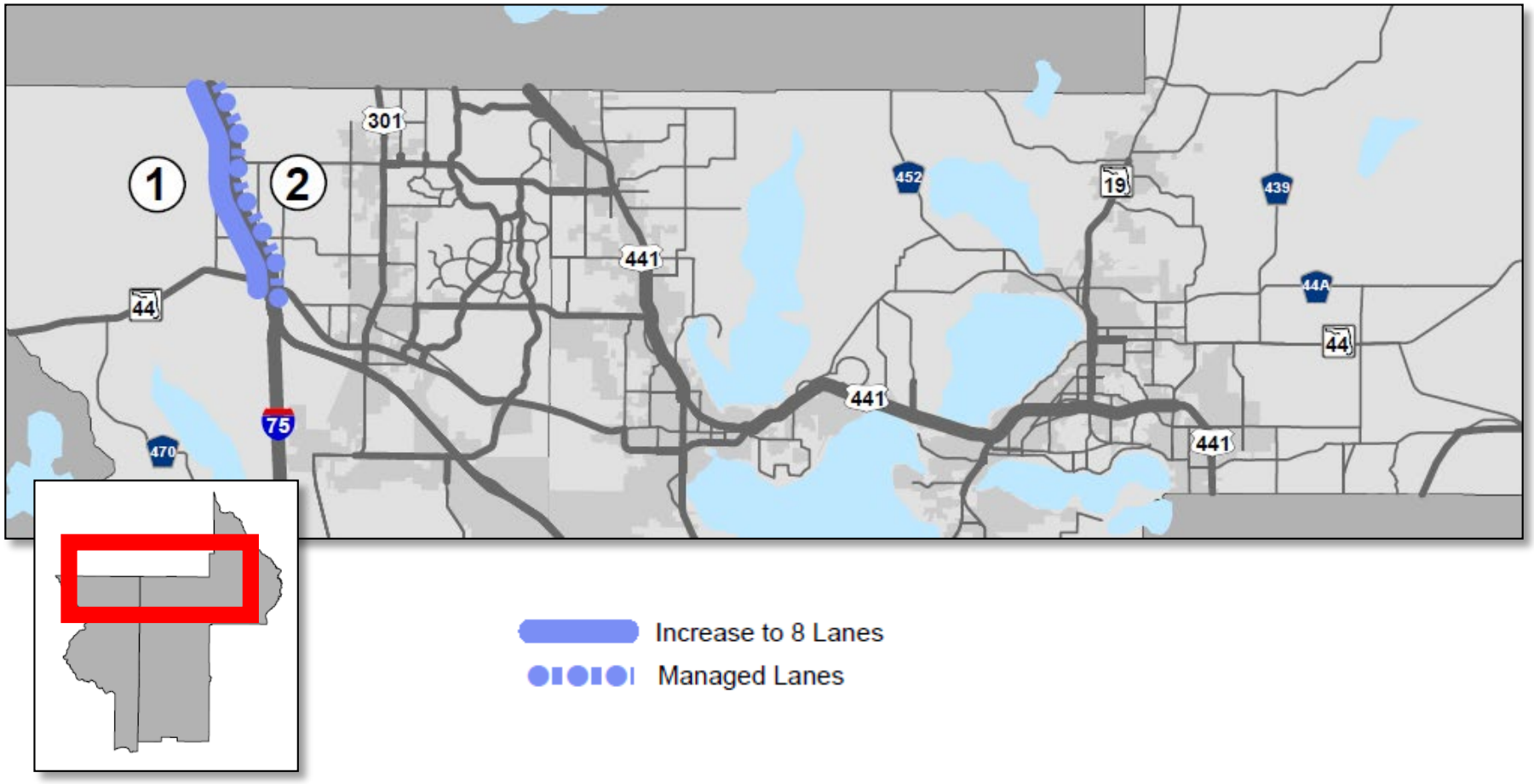
New Road

Managed Lanes



Cost Feasible Plan

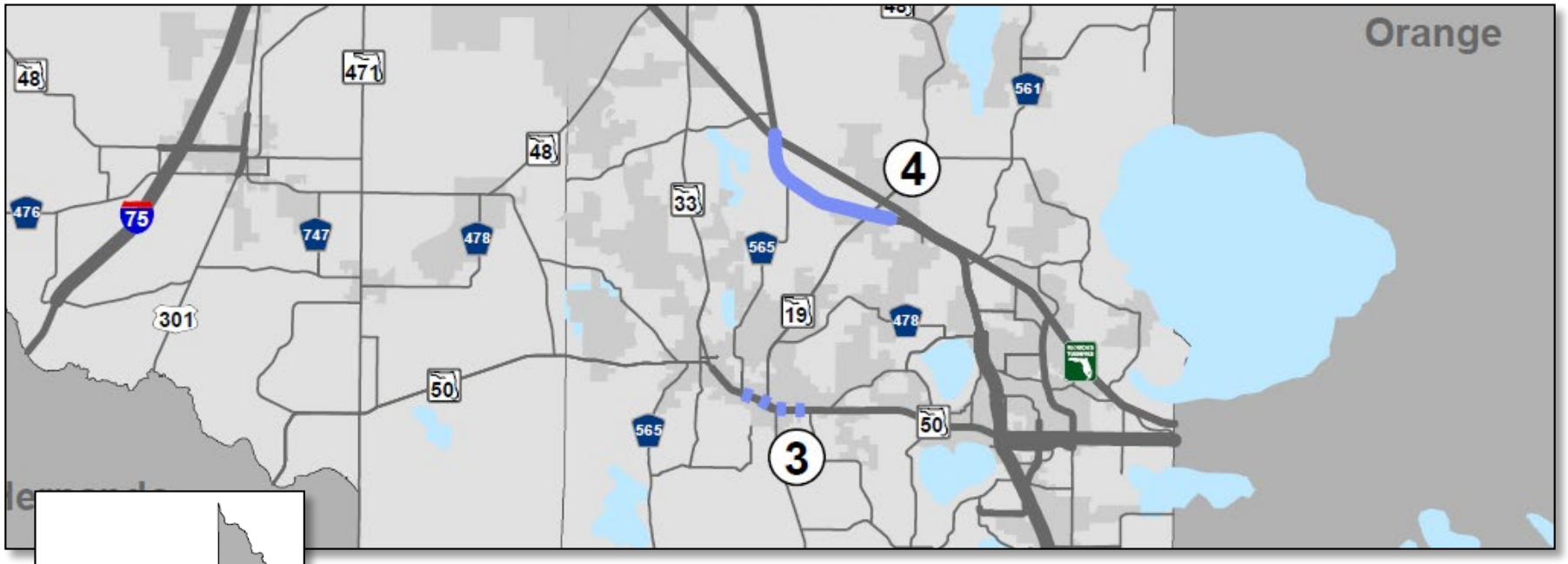
SIS (Fully Funded Projects)



Strategic Intermodal System	
Map ID	**Roadway Name**
1	**I-75 from SR-44 to Sumter/Marion County Line**
2	**I-75 from Florida's Turnpike to Sumter/Marion County Line**

Cost Feasible Plan

SIS (Fully Funded Projects)



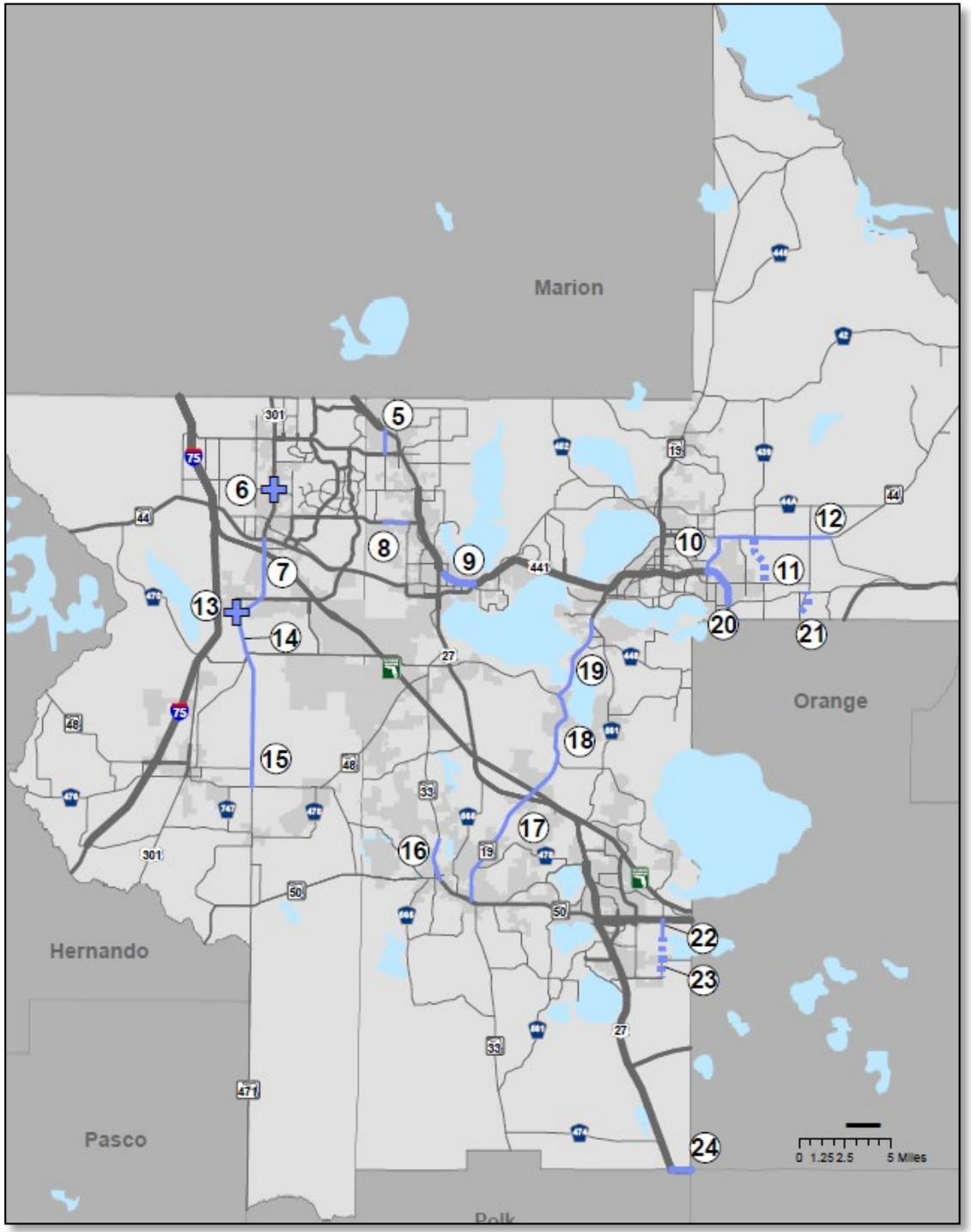
Strategic Intermodal System	
Map ID	**Roadway Name**
3	**SR-50 from CR-565 (Villa City) to CR-565A (Montevista)**
4	**US-27 Florida's Turnpike Ramps to South of SR 19**

Cost Feasible Plan

Other State

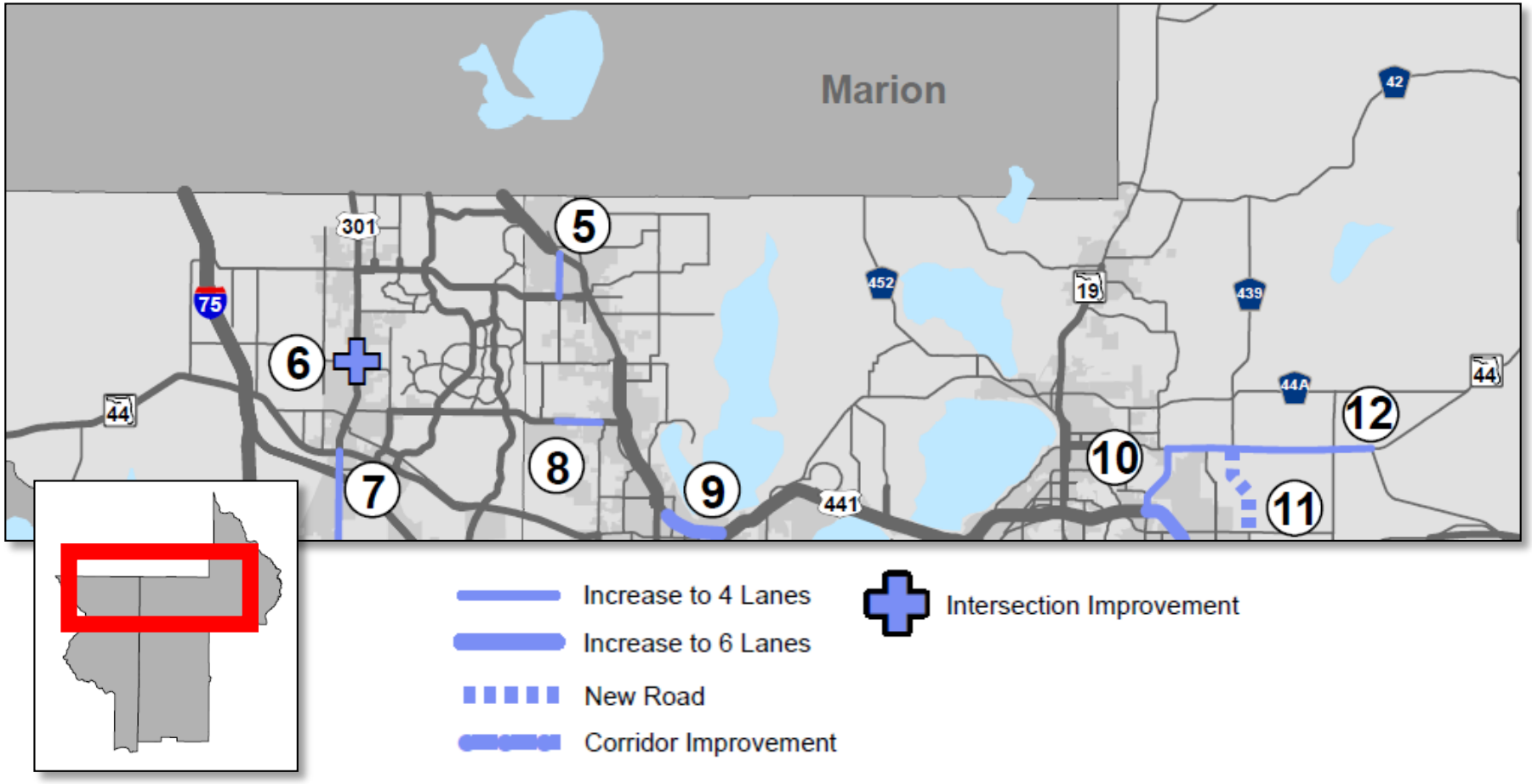
(Fully and Partially-Funded Projects)

Other State	
Map ID	**Roadway Name**
5	Rolling Acres Rd from Co Rd 466 to Griffin Ave
6	US-301 @ E CR-462
7	US-301 from CR-525E to SR-44
8	CR-466A from E of Timbertop Ln to Poinsettia Ave
9	US-441 (SR-500) from Perkins Street to SR-44
10	SR-44 from US-441 to E Orange Ave
11	Round Lake Rd Ext. (A) from Wolf Branch Rd. to SR-44
12	SR-44 from SR-44 & Orange Ave to CR-46A
13	US-301 @ CR-525E
14	US-301 from CR-470 to CR-525E
15	SR-471 from SR-48 to US 301
16	CR-33 from SR-50 to Simon Brown Rd (partially funded)
17	SR-19 from SR-50 to CR-455
18	SR-19 from CR-455 to CR-48 (partially funded)
19	SR-19 from CR-48 to CR-561 (partially funded)
20	US-441 (SR-500) from SR-44 to N of SR-46
21	CR-437 Realignment from Oak Tree Dr to SR-46
22	CR-455/Hartle Rd from Lost Lake Rd to Good Hearth Blvd
23	CR-455/Hartle Rd from Hartwood Marsh to Lost Lake
24	US-192 from US-27 to Orange/Lake County Line



Cost Feasible Plan

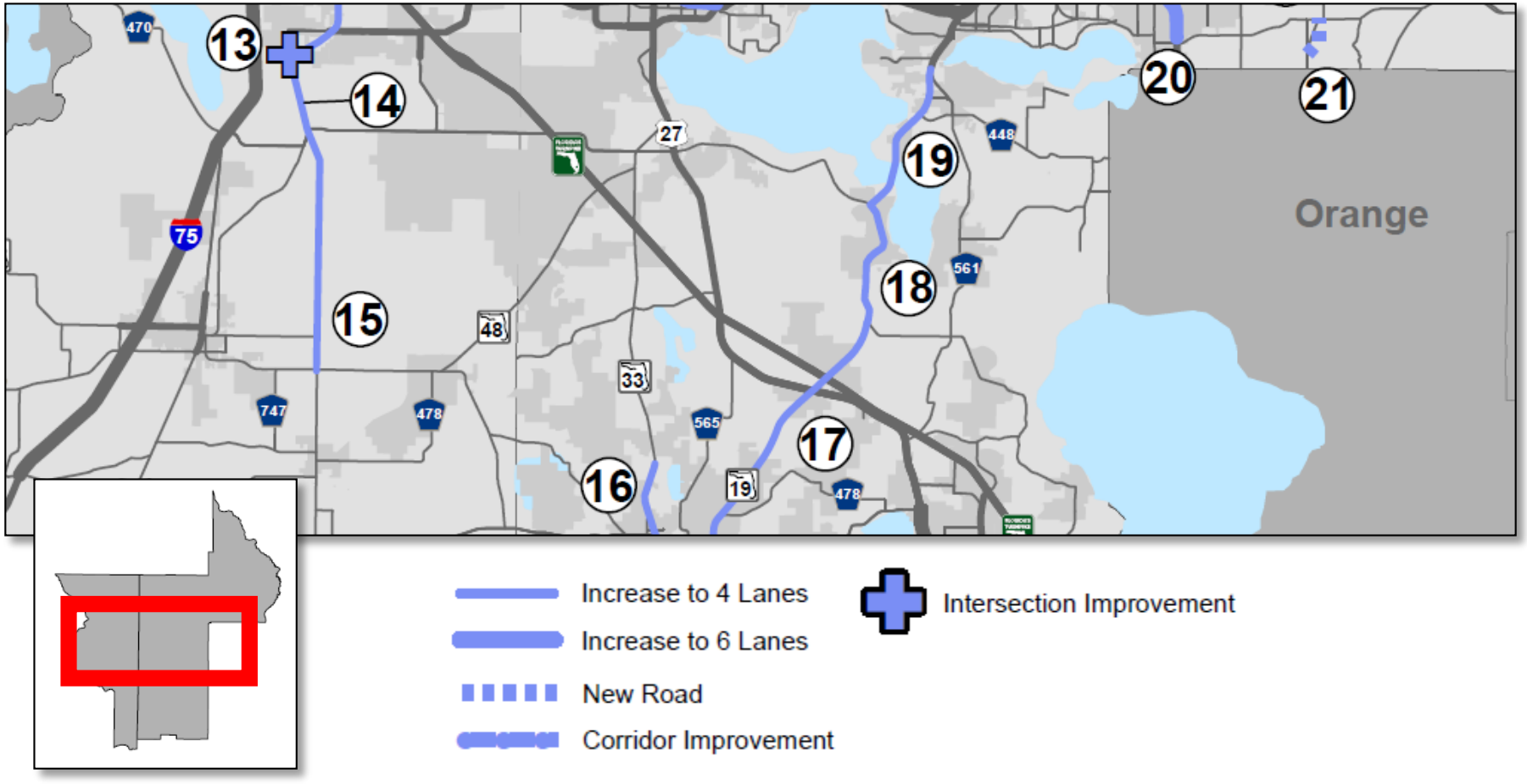
Other State (Fully and Partially-Funded Projects)



Other Arterial	
Map ID	**Roadway Name**
5	Rolling Acres Rd from Co Rd 466 to Griffin Ave
6	US-301 @ E CR-462
7	US-301 from CR-525E to SR-44
8	CR-466A from E of Timbertop Ln to Poinsettia Ave
9	US-441 (SR-500) from Perkins Street to SR-44
10	SR-44 from US-441 to E Orange Ave
11	Round Lake Rd Ext. (A) from Wolf Branch Rd. to SR-44
12	SR-44 from SR-44 & Orange Ave to CR-46A

Cost Feasible Plan

Other State (Fully and Partially-Funded Projects)

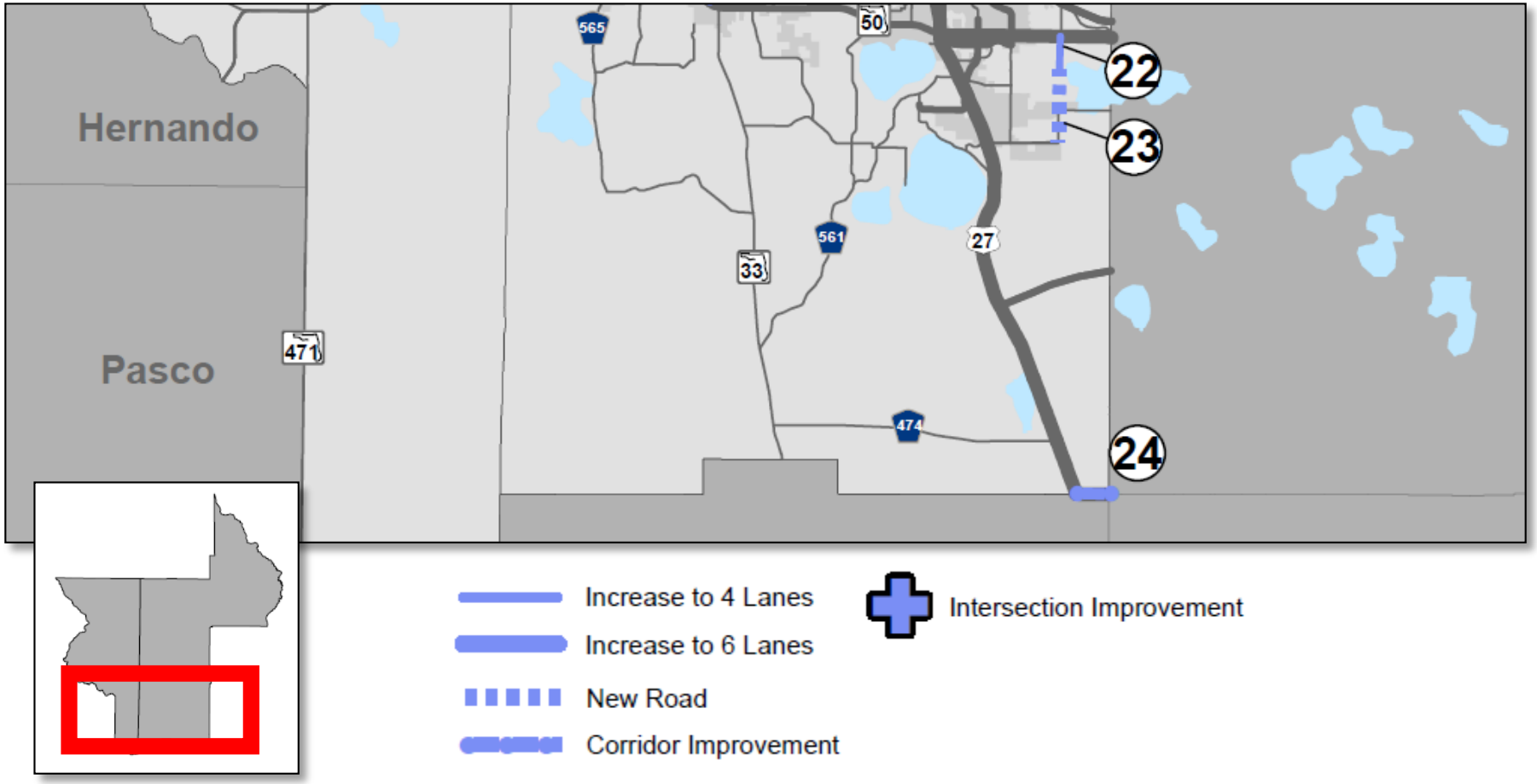


Other Arterial	
Map ID	**Roadway Name**
13	US-301 @ CR-525E
14	US-301 from CR-470 to CR-525E
15	SR-471 from SR-48 to US 301
16*	CR-33 from SR-50 to Simon Brown Rd
17	SR-19 from SR-50 to CR-455
18*	SR-19 from CR-455 to CR-48
19*	SR-19 from CR-48 to CR-561
20	US-441 (SR-500) from SR-44 to N of SR-46
21	CR-437 Realignment from Oak Tree Dr to SR-46

*Partially funded projects

Cost Feasible Plan

Other State (Fully and Partially-Funded Projects)

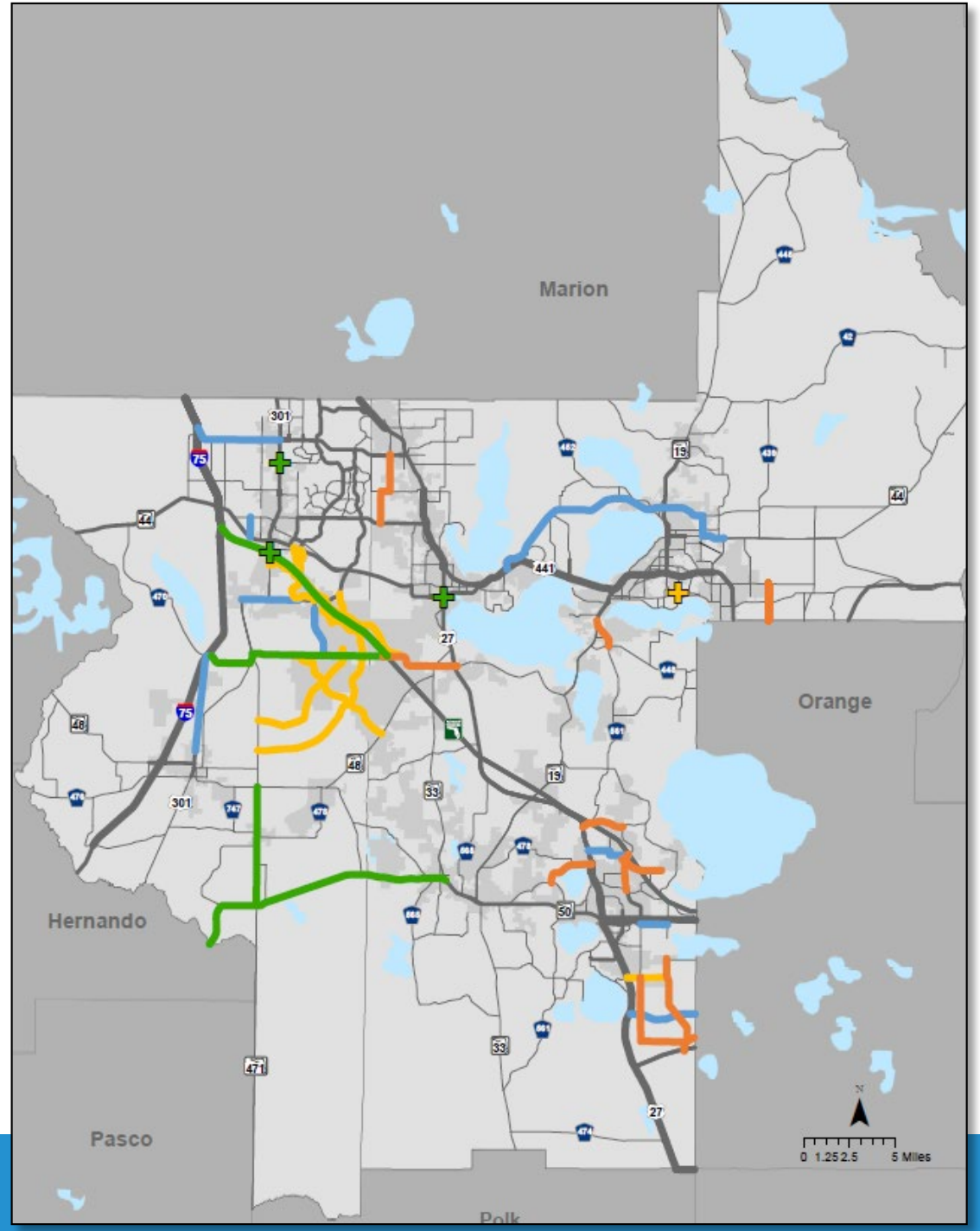


Other Arterial	
Map ID	**Roadway Name**
22	**CR-455/Hartle Rd from Lost Lake Rd to Good Hearth Blvd**
23	**CR-455/Hartle Rd from Hartwood Marsh to Lost Lake**
24	**US-192 from US-27 to Orange/Lake County Line**

Cost Feasible Plan

Local Projects

- Unfunded projects organized into tiers:
  - **Tier 1:** Highest Priority Projects
  - **Tier 2** and **Tier 3** projects will be considered as funding becomes available



Bicycle/Pedestrian/ Trails

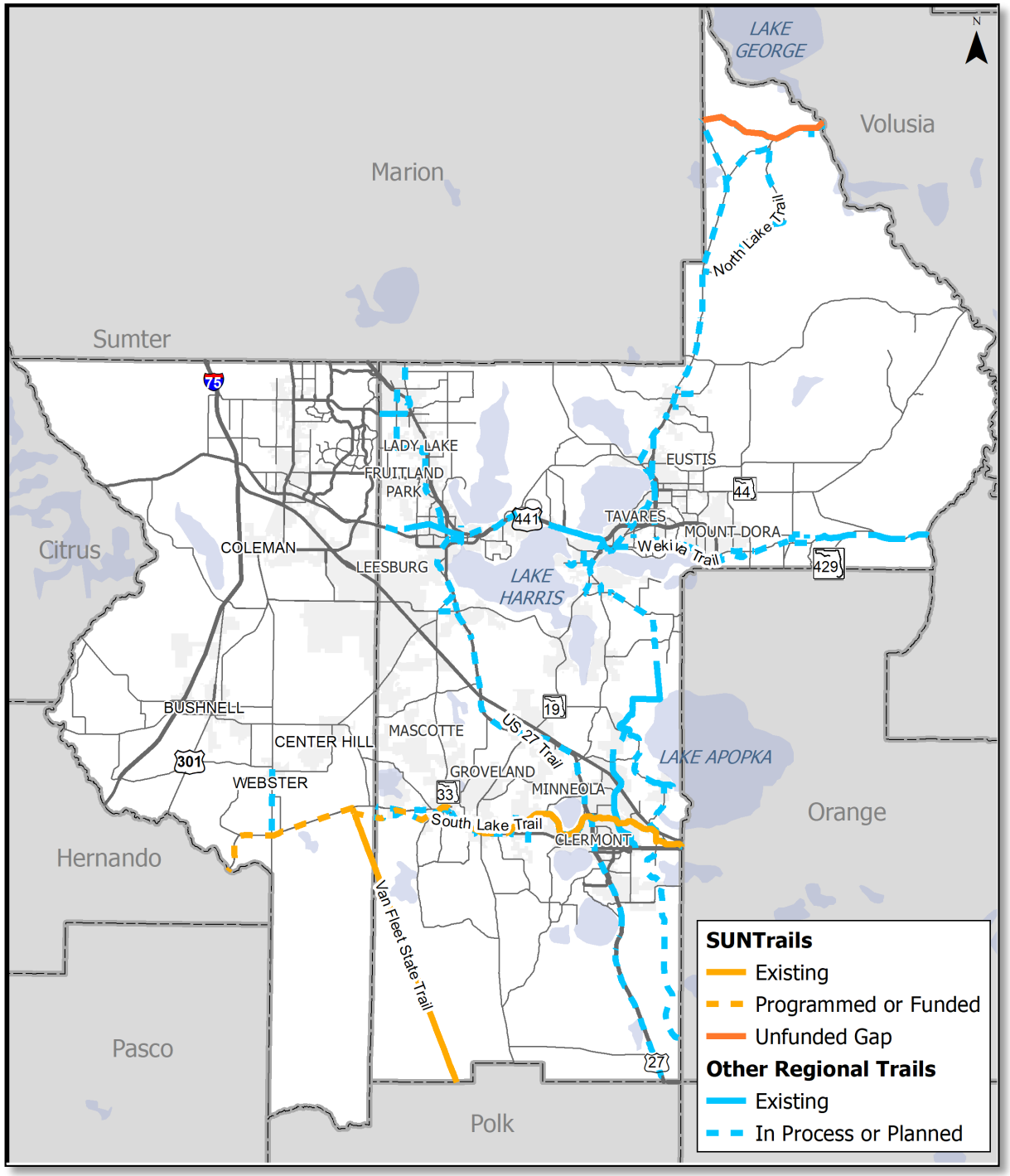
- MPO actively engaged in identifying needs and opportunities for supporting the development of bicycle, pedestrian, and regional trail projects
- Projects prioritized on annual basis
- MPO continues to plan for a series of paved multi-use trails that connect to other regional trails

Regional Trails
- Existing
- In Process or Planned
- Conceptual

Sun Trail
- Existing
- Programmed or Funded
- Unfunded Gap

Lake County Trails
- Existing
- In Process or Planned
- Conceptual

Sumter County Trails
- In Process or Planned

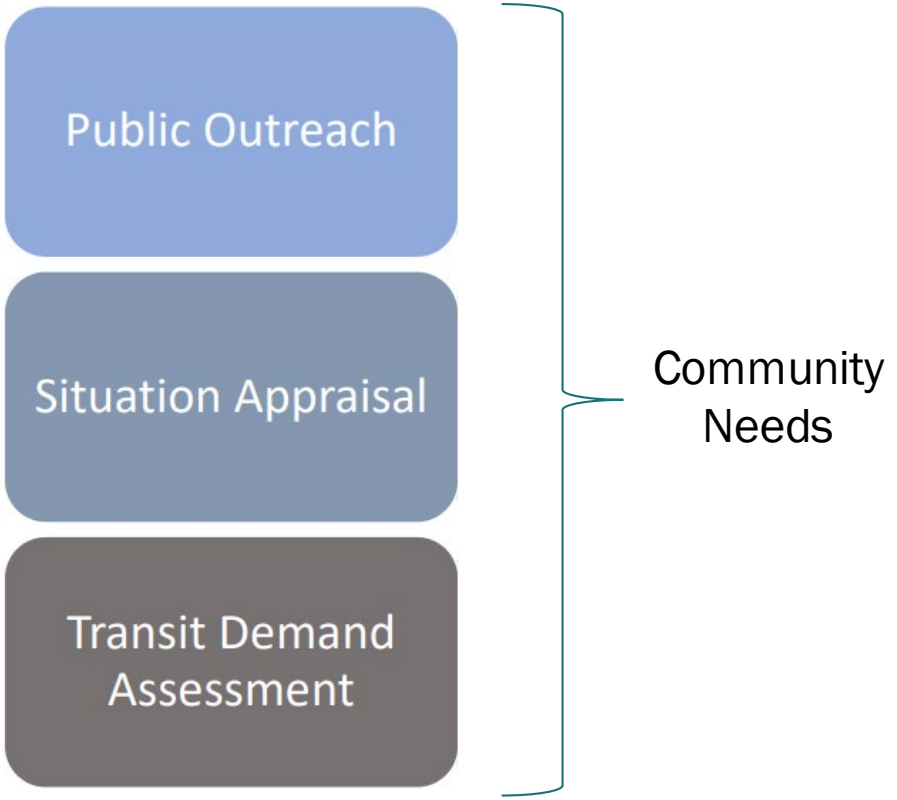


Complete Streets

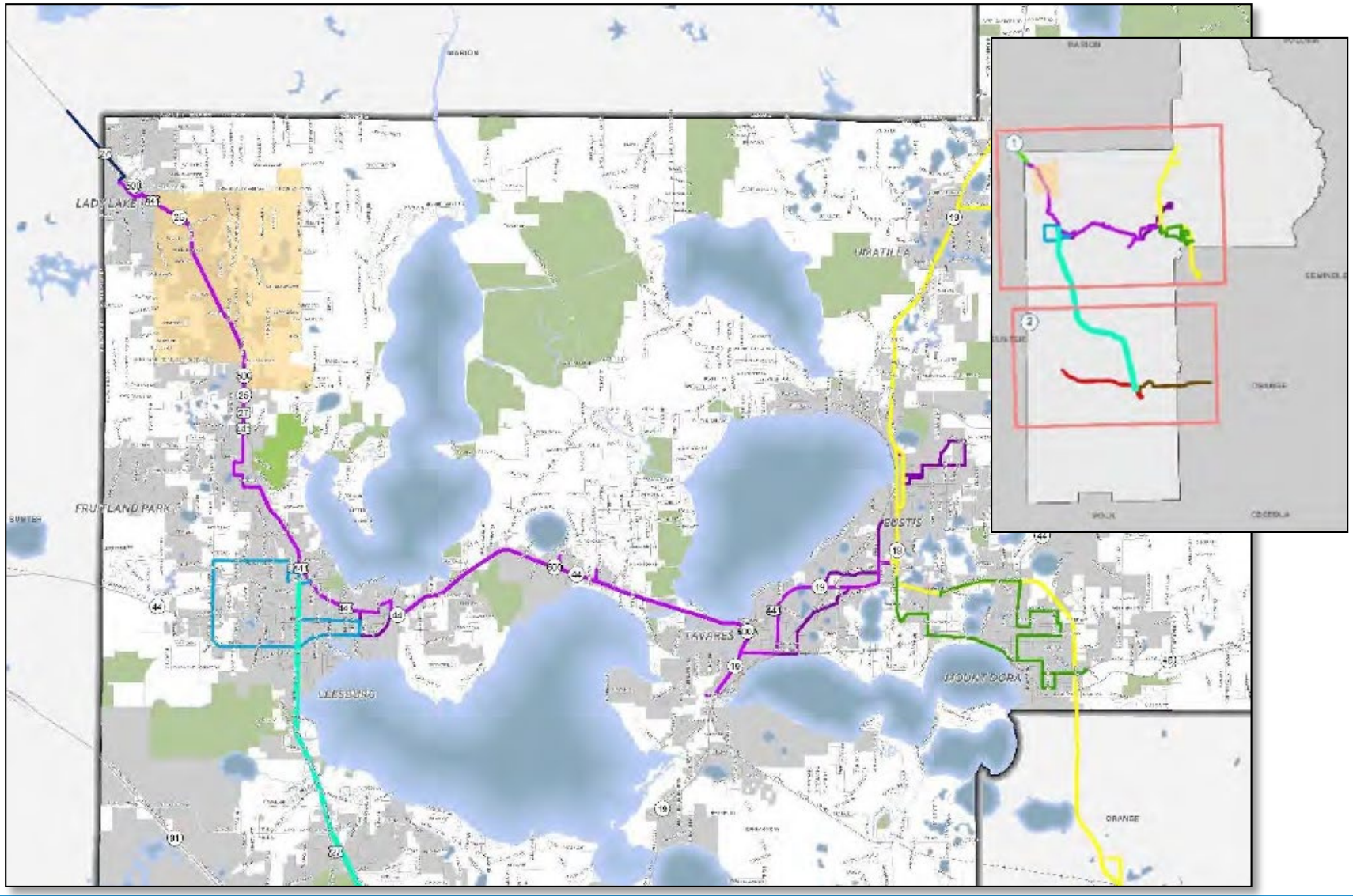
- Designed to accommodate all users
- Complete Streets studies recently completed or underway include:
  - US 27 Complete Streets Study (Leesburg)
  - US 301 Complete Streets Study (Wildwood)
  - Central Avenue (SR 19) Corridor Planning Study
  - East Avenue Complete Streets Study (Clermont)
  - SR 50 Corridor Planning Study (Clermont)

Transit: LakeXpress

- LakeXpress 2019-2028 TDP 10-year Needs Plan (Unfunded beyond Baseline)
  - Expansion of Existing Services
    - 30-minute service on Routes 1, 1A, 2, & 3
    - 60-minute service on Route 4
    - Late evening service on 1, 1A, 2, & 3
    - Saturday service on 1, 1A, 2, 3 (60-minute service; 9 AM to 5 PM)
  - Potential New Services
    - Route 1A Marion County Extension
    - US 27 Express (Leesburg to Clermont)
    - US 27/441 FLEX Service



Transit: LakeXpress



Existing Service

- Route 1
- Route 1A
- Route 2
- Route 3
- Route 4
- Route 50 E
- Route 50 W

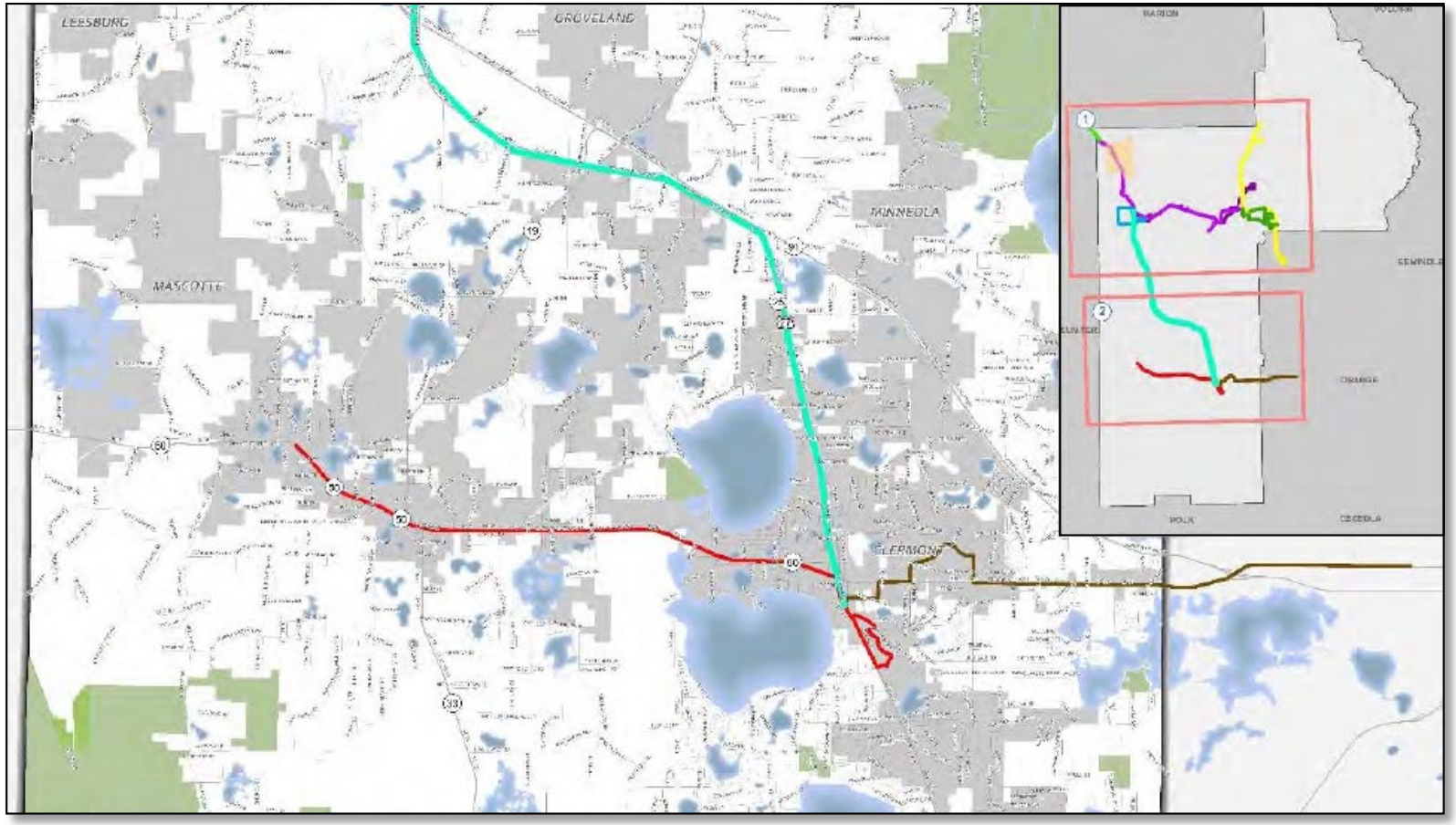
New Services

- Route 1A Marion County Extension
- US 27 Express (Leesburg to Clermont)
- US 27/441 FLEX Service

Expand Existing Services

- 30-minute service on Routes 1, 1A, 2, & 3
- 60-minute service on Route 4
- Later evening service on 1, 1A, 2, & 3 (until 9 PM)
- Saturday service on 1, 1A, 2, 3 (60-minute service; 9 AM to 5 PM)

Transit: LakeXpress



Existing Service

- Route 1
- Route 1A
- Route 2
- Route 3
- Route 4
- Route 50 E
- Route 50 W

New Services

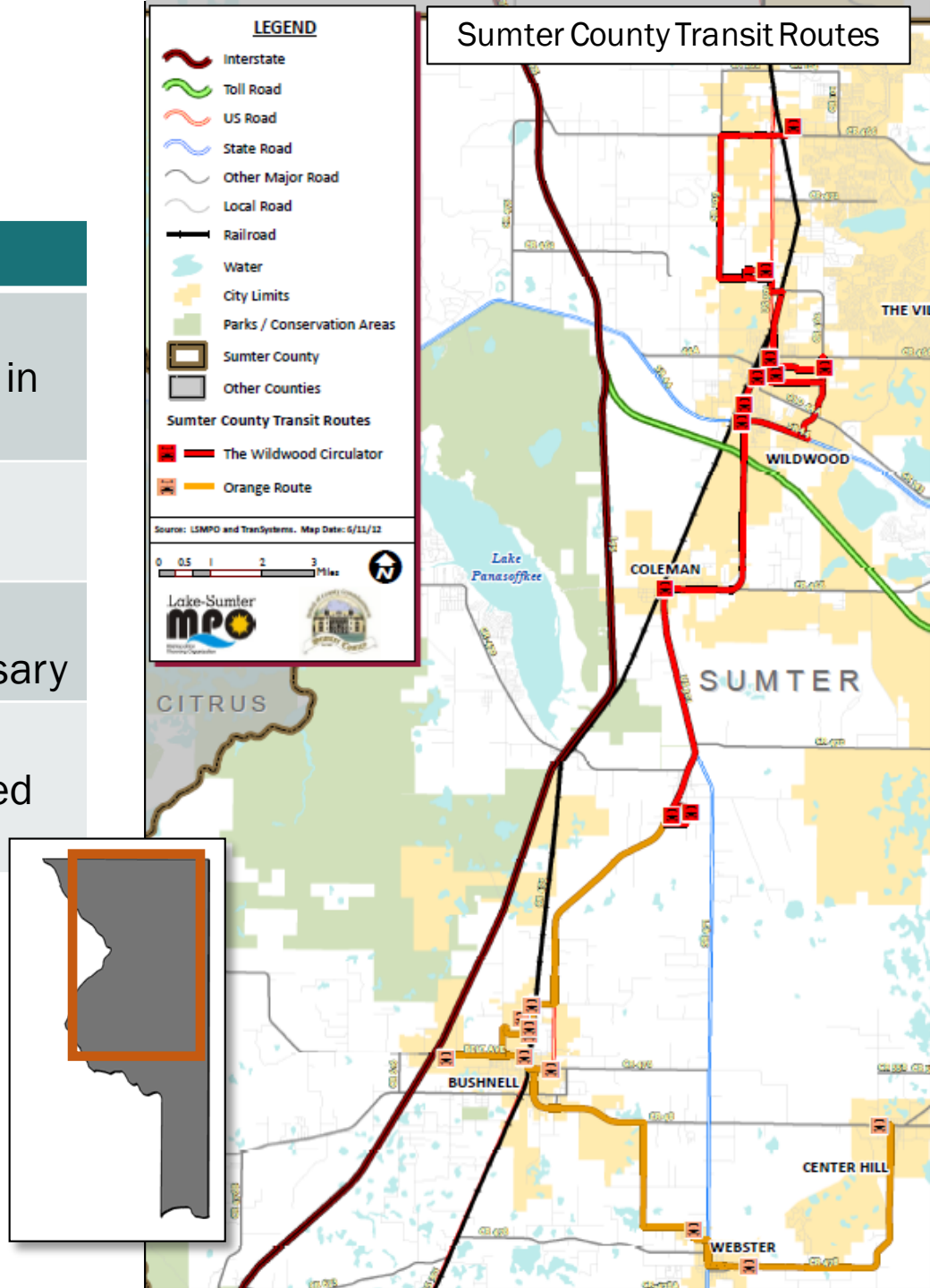
- Route 1A Marion County Extension
- US 27 Express (Leesburg to Clermont)
- US 27/441 FLEX Service

Expand Existing Services

- 30-minute service on Routes 1, 1A, 2, & 3
- 60-minute service on Route 4
- Later evening service on 1, 1A, 2, & 3 (until 9 PM)
- Saturday service on 1, 1A, 2, 3 (60-minute service; 9 AM to 5 PM)

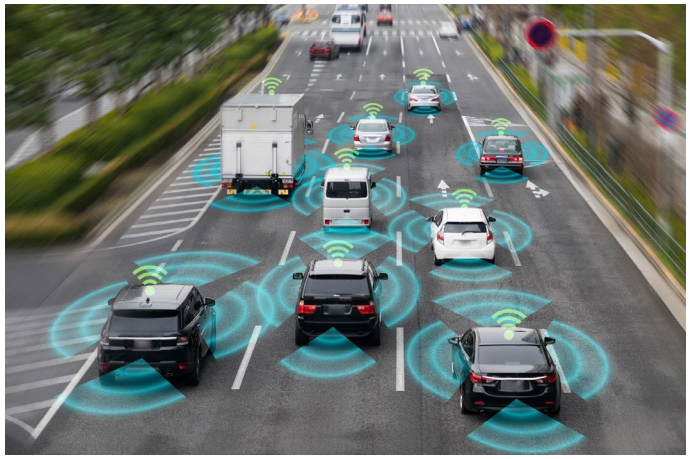
Transit: Sumter County Transit

Sumter County Transportation Disadvantaged Service Goals
#1. Provide an efficient, effective, and fully coordinated transportation system to meet the mobility needs of the transportation disadvantaged in Sumter County.
#2. Provide for the most cost-effective provision of transportation disadvantaged services.
#3. For all transportation services that are provided, ensure that a high level of service quality is provided, maintained, and improved as necessary
#4. Encourage land use patterns that support and promote transit patronage through the clustering of mixed uses and other transitoriented designs in medium and large scale planned developments.



ACES / Technology

- ACES stands for Automated, Connected, Electric and Shared Mobility:
  - **Automated** – vehicles that drive without direct driver input
  - **Connected** – vehicles that communicate data to other vehicles and infrastructure
  - **Electric** – vehicles that use electric motor(s) instead of a gas-powered engine
  - **Shared Mobility** – shared use of a vehicle or other transportation mode, often in lieu of owning or using a personal vehicle



ACES / Technology

- ACES as adaptive technology:
  - In the US, approximately one in every five persons (more than 57 million people) has a disability
  - Many have difficulty getting the transportation they need
  - ACES could provide:
    - Increased opportunities for employment
    - Access to social networks and activities (better quality of life)
    - Health benefits related to reduced isolation and less missed medical appts.
    - Increased civic participation, such as voting

Next Steps

- **October to December**
  Public Comment Period Through November 30th
- **Online Survey**

www.surveymonkey.com/r/LSMPO2045LRTP

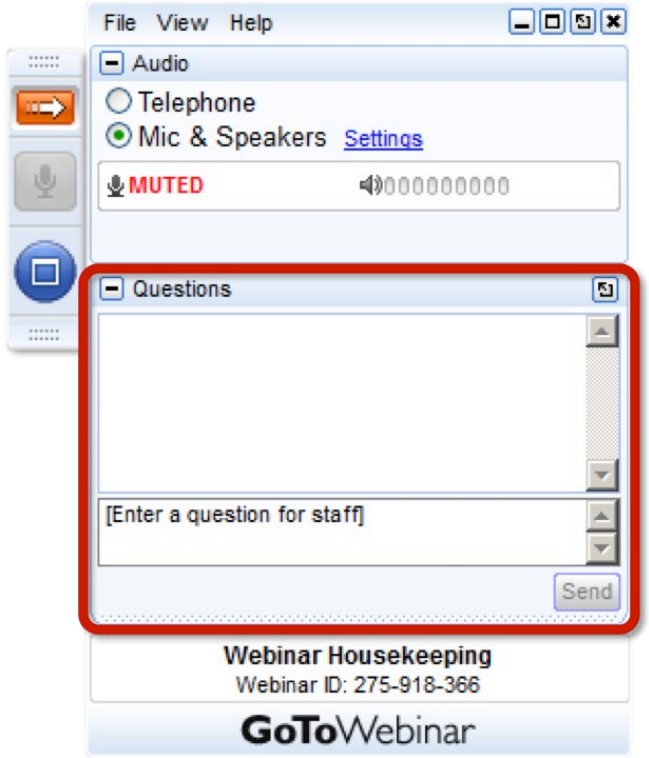
- **Virtual Public Workshops**
  November 16th
- **Plan Adoption**
  December 9th

Thank you!

Lake-Sumter MPO
Metropolitan Planning Organization

Join the conversation...

...we want to hear from you!



Attendee Report: Lake-Sumter MPO - 2045 Long Range Transportation Plan Virtual Workshop - 4:00 PM

Report Generated:

11/16/2020 09:59 PM EST

Webinar ID	Actual Start Date/Time	Duration	# Registered	# Attended	Clicked Registration Link
261-557-747	11/16/2020 03:44 PM EST	1 hour 18 minutes	36	23	63

Attendee Details

Attended	Interest Rating	Last Name	First Name	Email Address	Registration Date/Time
Yes	38	Abel	Kevin	kabel@moffattnichol.com	11/16/2020 08:45 AM EST
Yes	96	Arnold	Bradley	bradley.arnold@sumtercountyfl.gov	11/16/2020 02:53 PM EST
Yes	68	Bridges	Timothy	Timb@lakecaa.org	11/10/2020 04:22 PM EST
Yes	87	CONROY	EDWARD	econroy1@outlook.com	11/12/2020 02:20 PM EST
Yes	82	Chase	Thomas	tchase@telmedical.com	11/16/2020 04:02 PM EST
Yes	58	Coulson	Esther	ecoulson@fruitlandpark.org	11/12/2020 09:01 AM EST
Yes	86	Earhart	Jeff	jearhart@lakecountyfl.gov	11/10/2020 04:33 PM EST
Yes	93	Fine	SIaosi	siaosi.fine@dot.state.fl.us	11/10/2020 04:13 PM EST
Yes	84	Gadiel	George	ggadiel@lakecountyfl.gov	11/10/2020 04:24 PM EST
Yes	38	Gartner	Amber	amber.gartner@kimley-horn.com	11/11/2020 03:48 PM EST
Yes	60	Kelsey	Clifford	cliff.kelsey@leesburgflorida.gov	11/12/2020 01:55 PM EST
Yes	37	Kruse	John	jekruse@clermontfl.org	11/16/2020 09:53 AM EST
Yes	44	LaVenia	Gary	glavenia@fruitlandpark.org	11/10/2020 04:57 PM EST
Yes	45	Lewis	Greg	greg.lewis@unitedsouthernbank.com	11/16/2020 10:02 AM EST
Yes	56	Memering	Alex	alex.memering@kimley-horn.com	11/16/2020 09:56 AM EST
Yes	95	Miller	Fred	fmiller@minneola.us	11/16/2020 02:31 PM EST
Yes	42	Santiago	Demily	demily.santiago@kimley-horn.com	11/16/2020 03:37 PM EST
Yes	97	Snyder	Deborah	deborah.snyder@sumtercountyfl.gov	11/13/2020 11:37 AM EST
Yes	73	Stephens	Michael	mike.stephens@unitedsouthernbank.com	11/10/2020 05:01 PM EST
Yes	45	Then	Wendy	WThen@ladylake.org	11/10/2020 04:16 PM EST
Yes	91	Woodard	Sandra	swoodard@elc-naturecoast.org	11/10/2020 04:13 PM EST
Yes	94	heffington	joyce	jheffington@minneola.us	11/10/2020 04:36 PM EST
Yes	55	stevenson	keith	keith.stevenson@sumtercountyfl.gov	11/16/2020 04:03 PM EST
No	0	ADAMS	Kaye	kla1950uma@embarqmail.com	11/10/2020 08:11 PM EST
No	0	Bailey	Timothy	1timothyjbailey@gmail.com	11/11/2020 12:58 PM EST
No	0	CROSS	STEPHEN	CROSS1956@YAHOO.COM	11/10/2020 05:07 PM EST
No	0	Cowie	Bonnie	cowiebonnie@yahoo.com	11/16/2020 01:26 PM EST
No	0	FISH	T. J.	tjfish.fish@gmail.com	11/11/2020 09:58 AM EST
No	0	Hemes	Nick	nicolashemes@icloud.com	11/10/2020 08:25 PM EST
No	0	Hinson	Rakinya	Rakinya.Hinson@dot.state.fl.us	11/16/2020 12:11 PM EST
No	0	Johnson	Mark	mjohnson@minneola.us	11/16/2020 02:28 PM EST
No	0	Kendall	Michelle	michelle.kendall@wsp.com	11/11/2020 09:27 AM EST
No	0	Lewis	Greg	greg.lewis@unitedsouthernbannk.com	11/10/2020 04:32 PM EST
No	0	Razaire	Shay	shayannerazaire@gmail.com	11/10/2020 11:49 PM EST
No	0	Schneider	Fred	Fschneider@lakecountyfl.gov	11/12/2020 08:48 AM EST
No	0	Vaudo	Michael	mike.vaudo@kimley-horn.com	10/27/2020 01:09 PM EDT

Opened Invitation
0

Join Time - Leave Time (Time in Session)	Time in Session	Unsubscribed	Webinar Question 1	Webinar Response 1	Webinar Question 2	Webinar Response 2
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No	What revenue loss did you anticipate due to more fuel efficient vehicles and electric vehicles in the cost feasible plan or was that accounted for?			
11/16/2020 04:07 PM EST - 11/16/2020 04:39 PM EST (33 minutes)	33 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No	Mike, is the population growth projections available. Howey projects 1000 new hmes in the next1-7 years? Of course this will impact 48 and 19		OK	
11/16/2020 04:02 PM EST - 11/16/2020 04:51 PM EST (49 minutes)	49 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:48 PM EST (49 minutes)	49 minutes	No				
11/16/2020 04:01 PM EST - 11/16/2020 04:20 PM EST (20 minutes),11/16/2020 04:20 PM EST - 11/16/2020 04:51 PM EST (32 minutes)	51 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No				
11/16/2020 04:00 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No				
11/16/2020 04:03 PM EST - 11/16/2020 04:51 PM EST (49 minutes)	49 minutes	No				
11/16/2020 04:09 PM EST - 11/16/2020 04:51 PM EST (42 minutes)	42 minutes	No				
11/16/2020 04:03 PM EST - 11/16/2020 04:40 PM EST (38 minutes)	38 minutes	No				
11/16/2020 04:01 PM EST - 11/16/2020 04:51 PM EST (51 minutes)	51 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No				
11/16/2020 04:00 PM EST - 11/16/2020 04:51 PM EST (51 minutes)	51 minutes	No				
11/16/2020 04:04 PM EST - 11/16/2020 04:51 PM EST (48 minutes)	48 minutes	No				
11/16/2020 04:00 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (53 minutes)	53 minutes	No				
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No	How much of the plan is available for multi-modal? Trails? How much more will become available after the Census is finalized?			
11/16/2020 03:59 PM EST - 11/16/2020 04:51 PM EST (52 minutes)	52 minutes	No	Is Lighting a criteria taken into accounty when budgeting and incorporating plans?		yes, street lighting	
11/16/2020 04:02 PM EST - 11/16/2020 04:48 PM EST (47 minutes)	47 minutes	No				
11/16/2020 04:01 PM EST - 11/16/2020 04:51 PM EST (50 minutes)	50 minutes	No	Why was Citrus Grove Rd Phase 2 not in the plan to complete Citrus Grove Rd?			
11/16/2020 04:03 PM EST - 11/16/2020 04:51 PM EST (48 minutes)	48 minutes	No				
--	--	No				
--	--	No				
--	--	No				
--	--	No				
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--	--	No				
--	--	No				
--	--	No				
--	--	No				
--	--	No				
--	--	No				
--	--	No				

Webinar Question 3	Webinar Response 3
Thank you for the great presentation	

Attendee Report: Lake-Sumter MPO - 2045 Long Range Transportation Plan Virtual Workshop - 6:00 PM

Report Generated:

11/16/2020 10:02 PM EST

Webinar ID	Actual Start Date/Time	Duration	# Registered	# Attended	Clicked Registration Link
107-348-131	11/16/2020 05:45 PM EST	1 hour 4 minutes	8	4	15

Attendee Details

Attended	Interest Rating	Last Name	First Name	Email Address	Registration Date/Time
Yes	90	Gallelli	Marie	mvgallelli@howey.org	11/12/2020 07:05 PM EST
Yes	96	Prince	Jerry	jpmarshal47@gmail.com	11/16/2020 05:58 PM EST
Yes	71	Rayman	Sally	sarfl352@gmail.com	11/16/2020 06:19 PM EST
Yes	96	Rose	Annely	arose@newvisionfl.org	11/11/2020 09:32 AM EST
No	0	Campano	Alex	alexanderdcampano@gmail.com	11/16/2020 05:53 PM EST
No	0	Estep	Craig	craigestep@yahoo.com	11/12/2020 07:10 PM EST
No	0	Johnson	Mark	mjohnson@minneola.us	11/16/2020 02:29 PM EST
No	0	Maravola	Jayne	jmaravola@newvisionfl.org	11/16/2020 05:40 PM EST

Opened Invitation
0

Join Time - Leave Time (Time in Session)	Time in Session	Unsubscribed	Webinar Question 1	Webinar Response 1
11/16/2020 06:21 PM EST - 11/16/2020 06:41 PM EST (21 minutes)	21 minutes	No	how do you plan to coordinate multiple people using one vehicle for transportation	
11/16/2020 06:01 PM EST - 11/16/2020 06:36 PM EST (36 minutes)	36 minutes	No	Is this brief on website?	
11/16/2020 06:20 PM EST - 11/16/2020 06:41 PM EST (21 minutes)	21 minutes	No		
11/16/2020 06:01 PM EST - 11/16/2020 06:41 PM EST (41 minutes)	41 minutes	No	Thank you very much.	
--	--	No		
--	--	No		
--	--	No		
--	--	No		

Webinar Question 2	Webinar Response 2	Webinar Question 3	Webinar Response 3
yes it is		what is a target time to start	
Are there any plans to connect Clermont area with Leesburg with a fixed route bus system?			

Attachment B

Environmental Justice Workshop Presentation

Lake-Sumter MPO
Metropolitan Planning Organization

2045 Long Range Transportation Plan

TDCB Meetings
November 9, 2020

Today's Objective

- Overview of the LRTP
- Environmental Justice Discussion
- Receive Input

What is the LRTP?

- Federally-required short- and long-term plan addressing multimodal transportation needs within Lake and Sumter counties
- Updated every five years covering at least 20 years into the future
- Identifies future needs and improvements for pedestrian, bicycle, transit, highway, and freight mobility.
- Results in a fiscally-constrained list of projects

Principles of Environmental Justice

- Avoid, minimize, or mitigate **disproportionately high or adverse impacts** on minority and low-income populations
- Ensure **full and fair participation** from all potentially-affected communities throughout the decision-making process.
- Prevent the denial of, reduction in, or significant delay in the **receipt of benefits** by minority and low-income populations.

Presidential Executive Order 12898 (1994)
Title VI of the Civil Rights Act of 1964

2045 LRTP Goals

Goal 1 – Support Economic Success and Community Values

Goal 2 – Promote Safety and Security

Goal 3 – Improve Transportation Operations

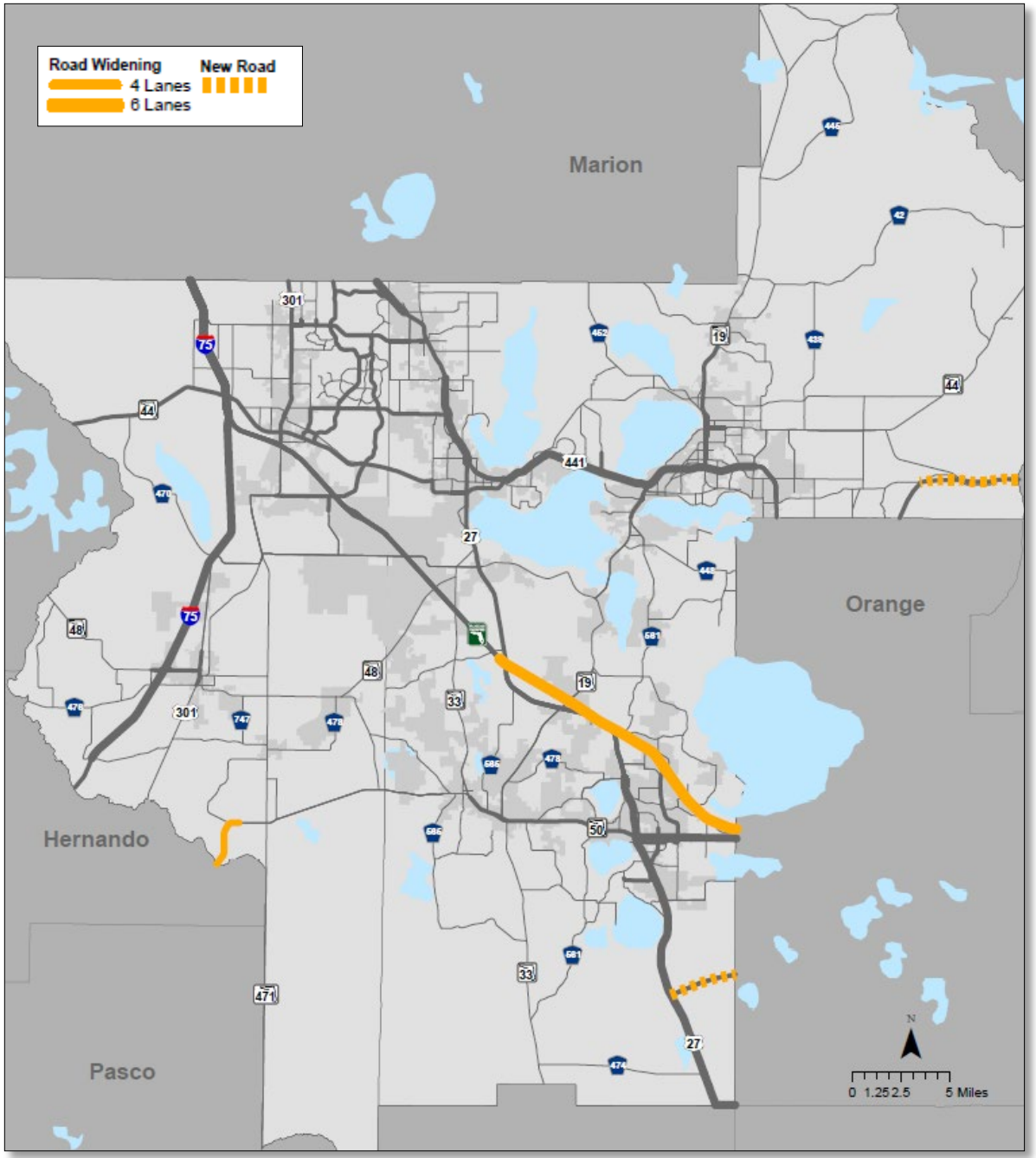
Goal 4 – Improve Mobility

Goal 5 – System Preservation

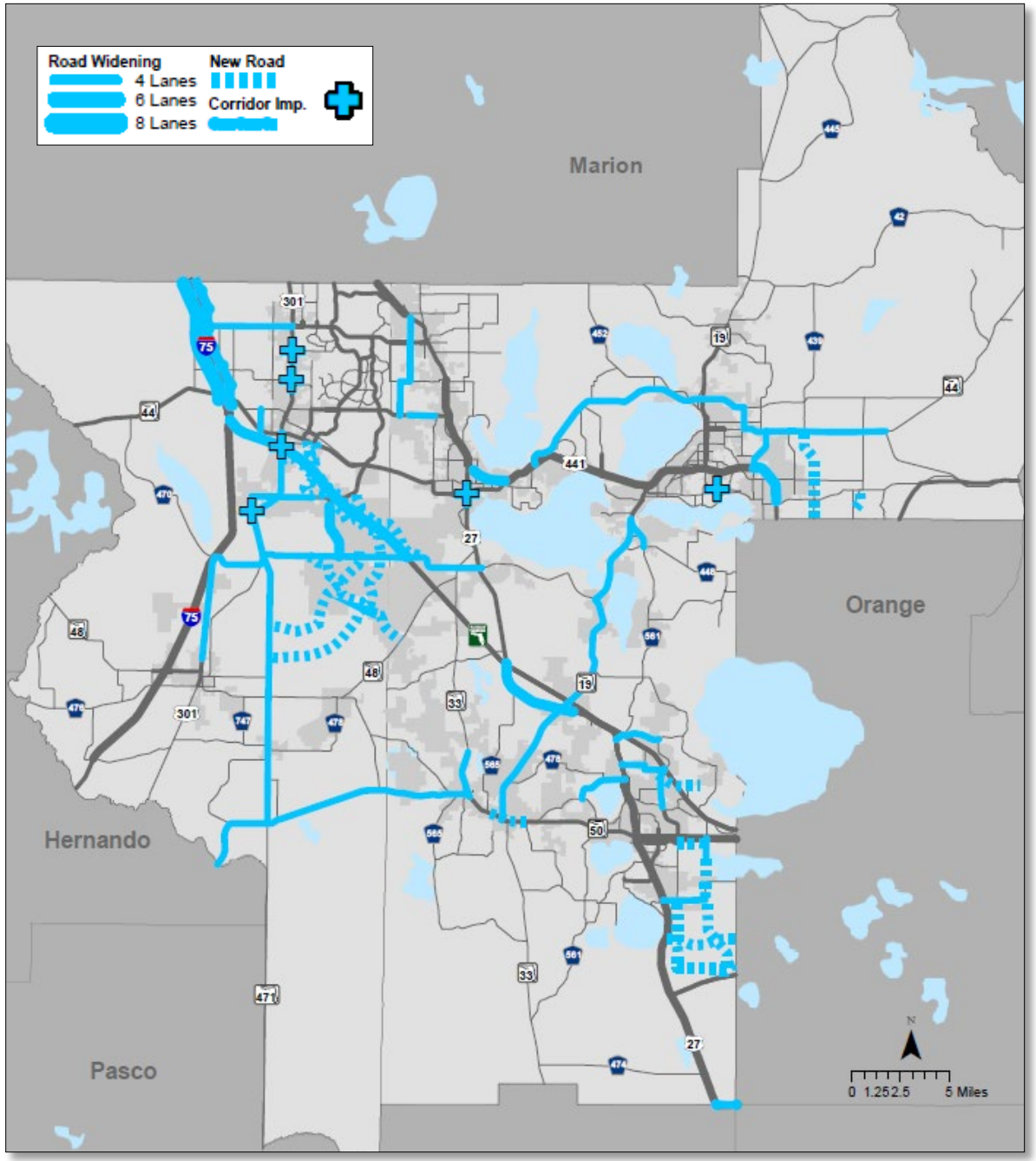
LRTP Update Process

1. Preliminary Planning
   - Financial Resources
   - Forecasted Population and Employment
2. Needs Assessment
3. Cost Feasible Plan Development
4. Other Planning Elements
5. Plan Documentation
6. Plan Adoption / Finalize Plan Documentation

5-Year Committed



Needs Assessment



Financial Resources

Summary of Lake-Sumter MPO Revenues (2025-2045) (Year of Expenditure)

Category	Total Projected Revenues 2025-2045
Projected State and Federal Revenues	
Other Roads Construction & ROW	$780,180,000
Other Roads – Product Support	$171,640,000
TALU	$2,220,000
TALL	$1,916,000
Strategic Intermodal System Projects	
SIS Revenues	$608,228,000
Projected Local Revenues	
Lake County Revenues	$664,539,000
Sumter County Revenues	$493,445,000
Projected Transit Revenues (Federal, State, and local)	
Lake County Transit Revenues	$281,898,000
Sumter County Transit Revenues	$42,474,000
Total	***$3,046,540,000***

**Illustrative funds (TALT and TRIP) are excluded from the table*

Process Overview

1. Needs Assessment
2. 2020 List of Priority Projects (LOPP)
3. SIS Cost Feasible Projects
4. 2040 LRTP Cost Feasible Plan
5. Other Input

Cost Feasible Plan

SIS (Fully Funded Projects)

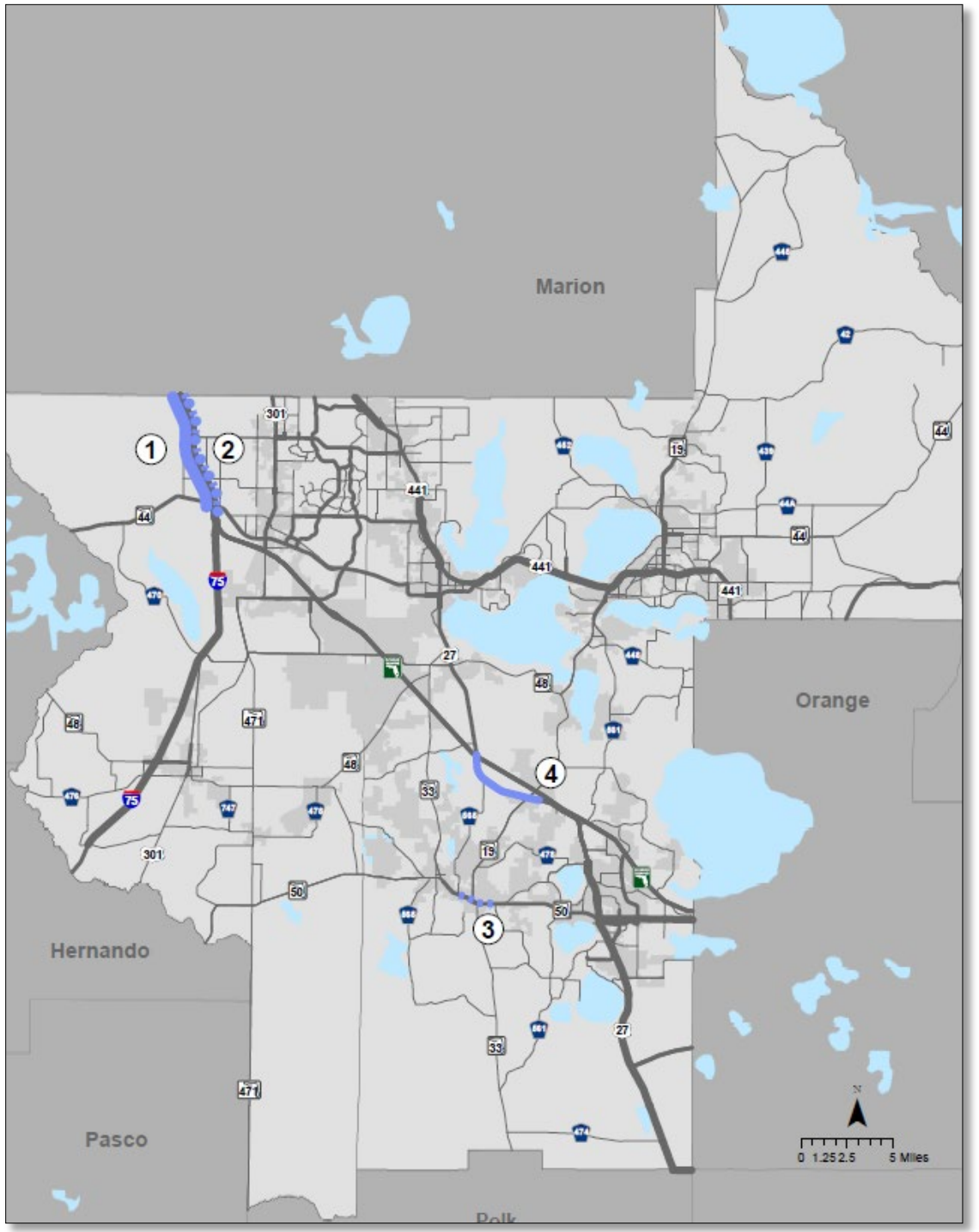
Strategic Intermodal System	
Map ID	**Roadway Name**
1	I-75 from SR-44 to Sumter/Marion County Line
2	I-75 from Florida's Turnpike to Sumter/Marion County Line
3	SR-50 from CR-565 (Villa City) to CR-565A (Montevista)
4	US-27 Florida's Turnpike Ramps to South of SR 19

Increase to 6 Lanes

Increase to 8 Lanes

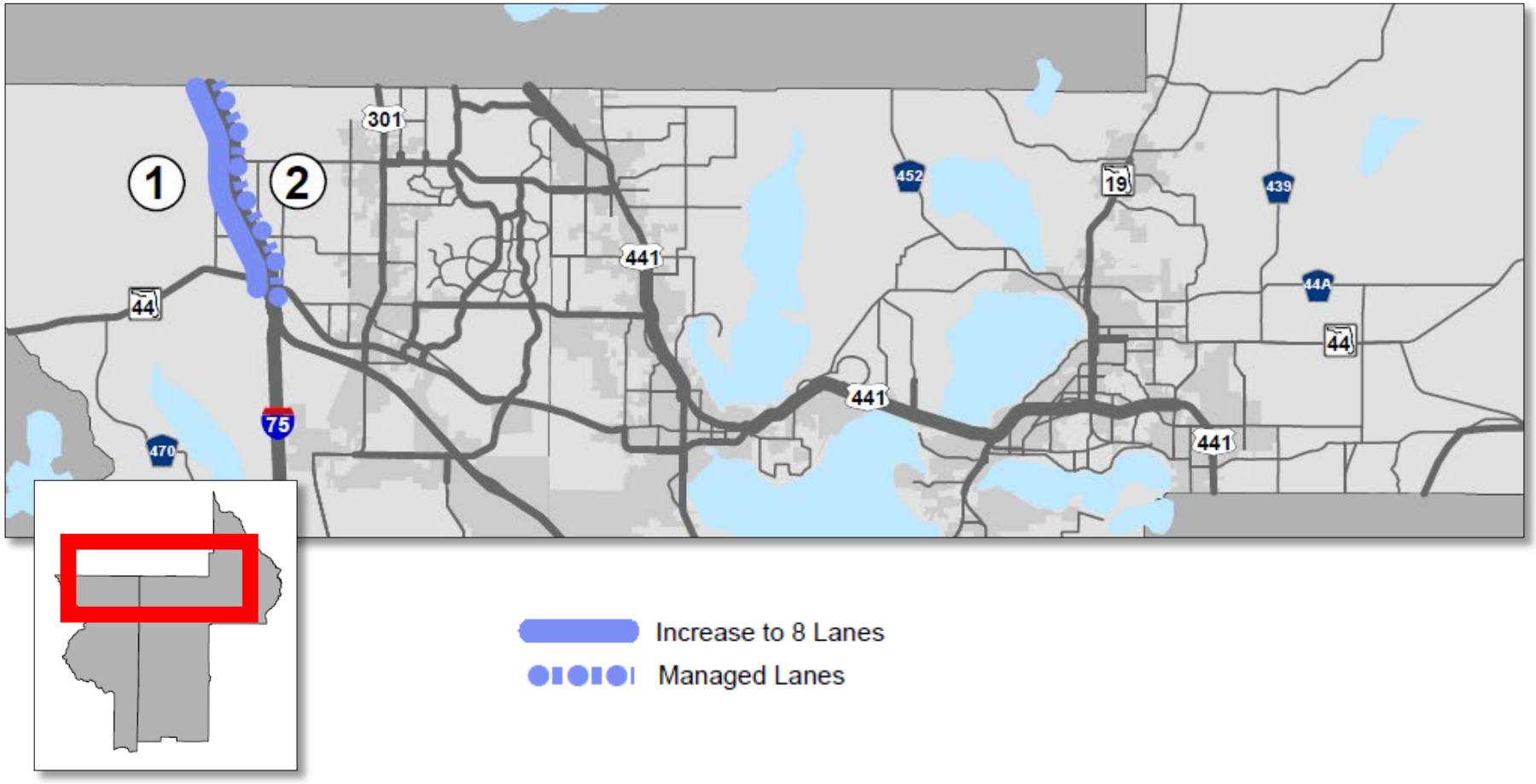
New Road

Managed Lanes



Cost Feasible Plan

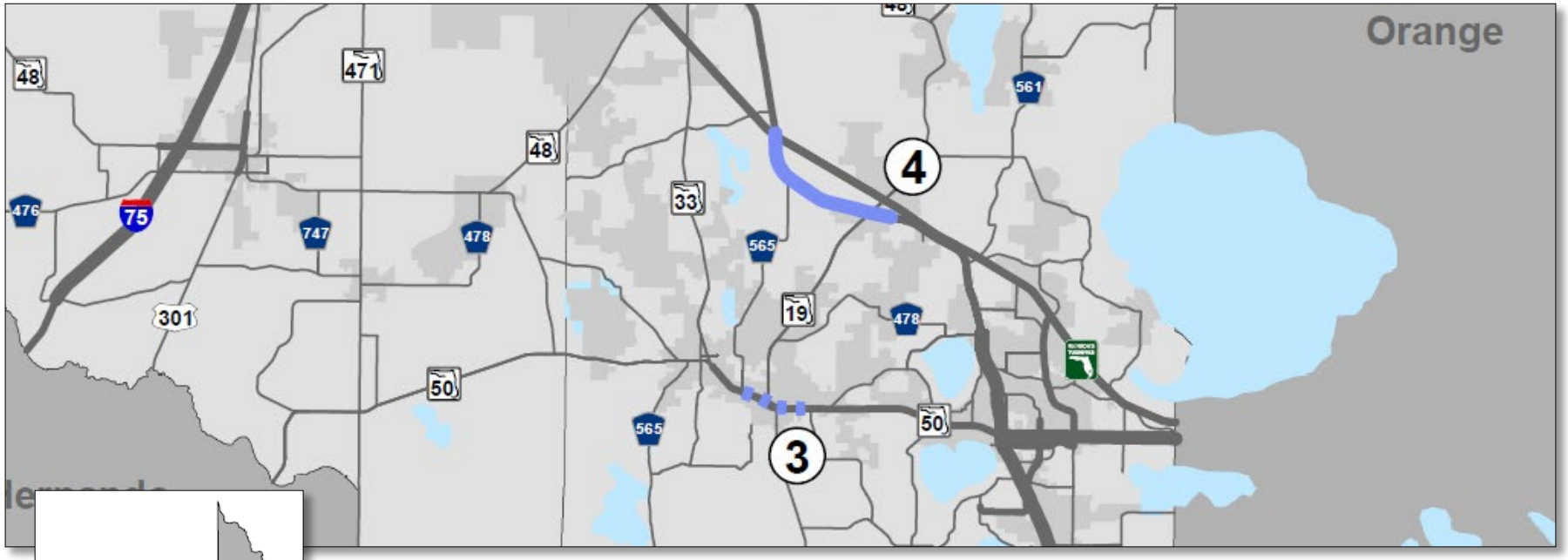
SIS (Fully Funded Projects)



Strategic Intermodal System	
Map ID	**Roadway Name**
1	**I-75 from SR-44 to Sumter/Marion County Line**
2	**I-75 from Florida's Turnpike to Sumter/Marion County Line**

Cost Feasible Plan

SIS (Fully Funded Projects)



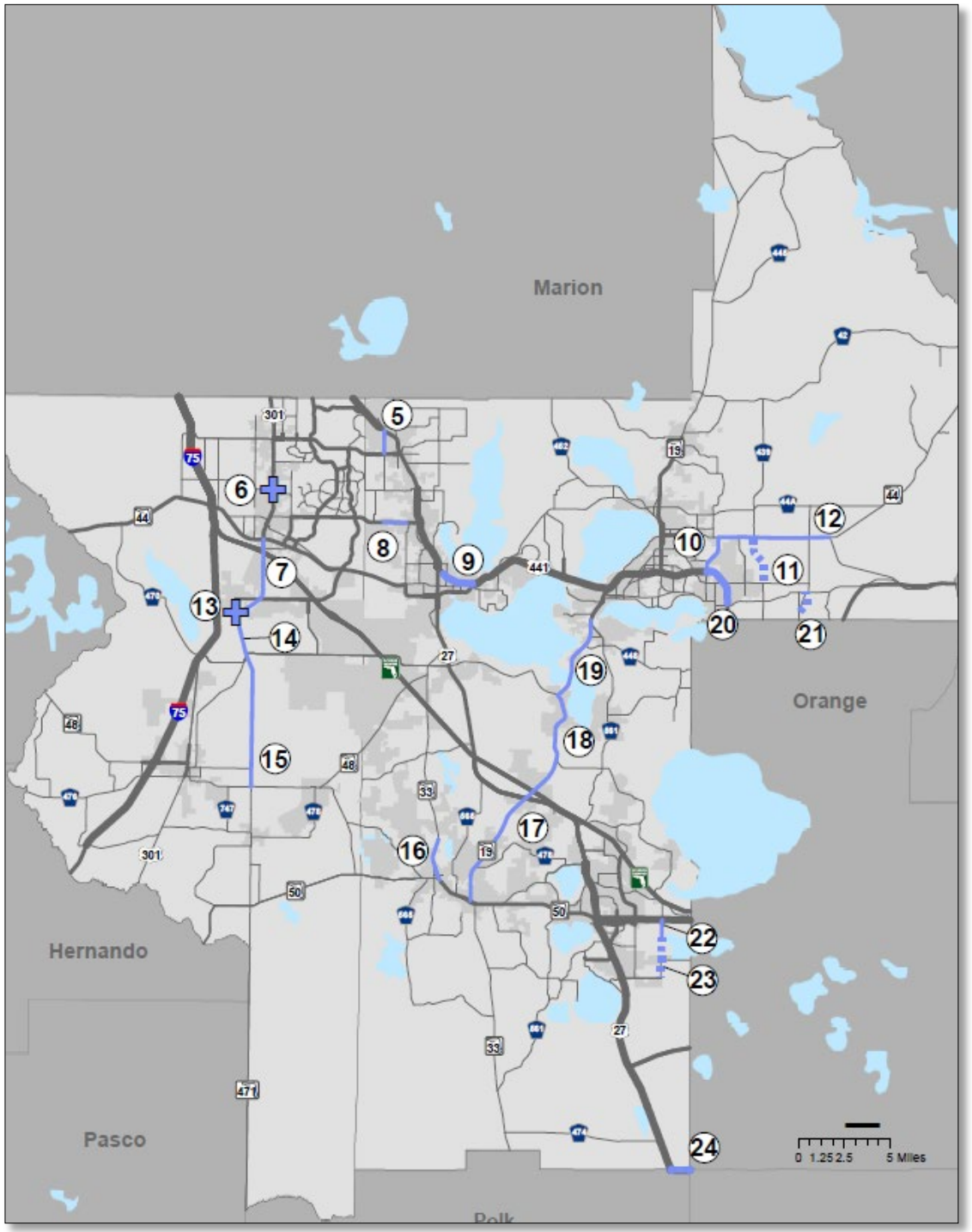
Strategic Intermodal System	
Map ID	**Roadway Name**
3	**SR-50 from CR-565 (Villa City) to CR-565A (Montevista)**
4	**US-27 Florida's Turnpike Ramps to South of SR 19**

Cost Feasible Plan

Other State

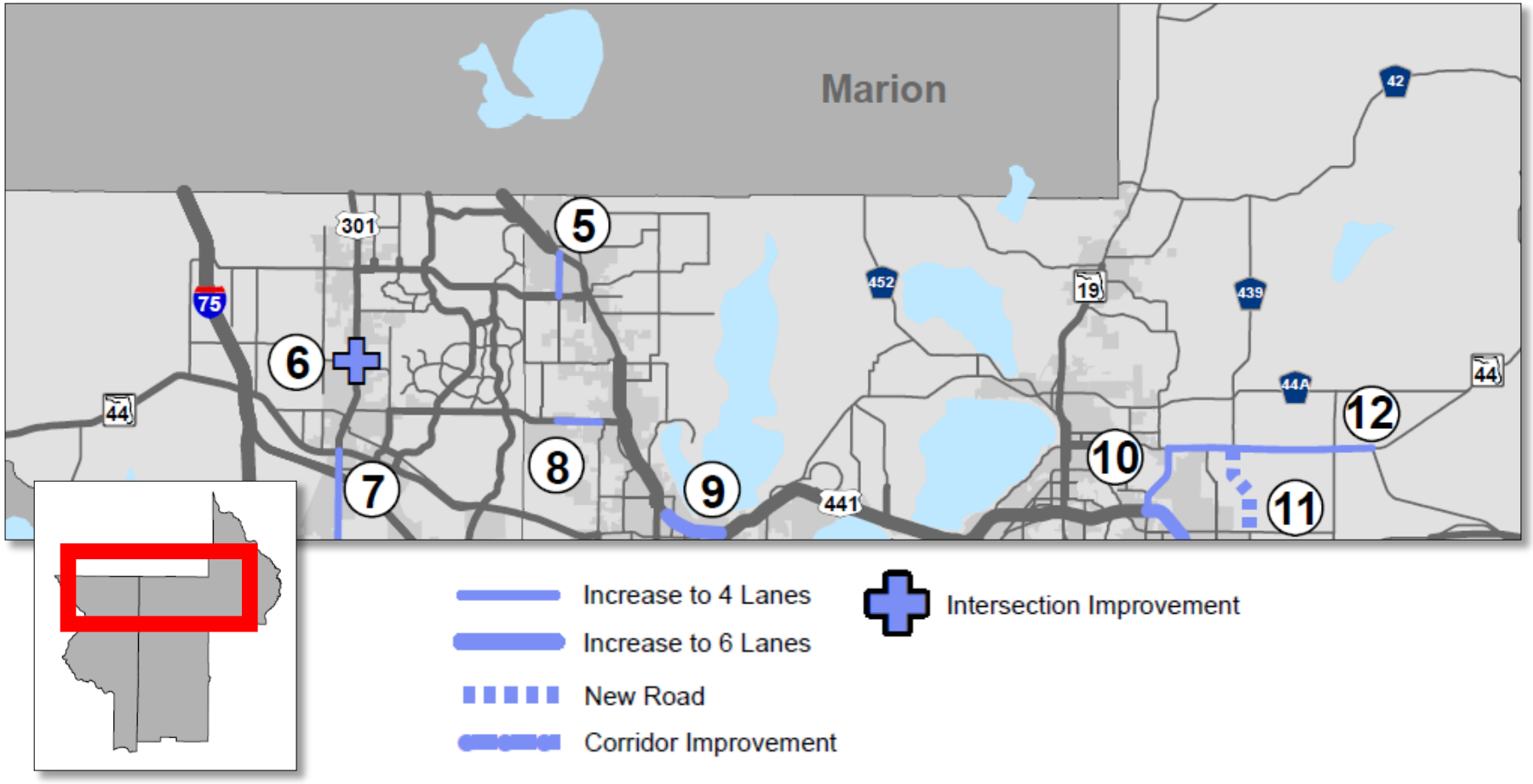
(Fully and Partially-Funded Projects)

Other State	
Map ID	**Roadway Name**
5	Rolling Acres Rd from Co Rd 466 to Griffin Ave
6	US-301 @ E CR-462
7	US-301 from CR-525E to SR-44
8	CR-466A from E of Timbertop Ln to Poinsettia Ave
9	US-441 (SR-500) from Perkins Street to SR-44
10	SR-44 from US-441 to E Orange Ave
11	Round Lake Rd Ext. (A) from Wolf Branch Rd. to SR-44
12	SR-44 from SR-44 & Orange Ave to CR-46A
13	US-301 @ CR-525E
14	US-301 from CR-470 to CR-525E
15	SR-471 from SR-48 to US 301
16	CR-33 from SR-50 to Simon Brown Rd (partially funded)
17	SR-19 from SR-50 to CR-455
18	SR-19 from CR-455 to CR-48 (partially funded)
19	SR-19 from CR-48 to CR-561 (partially funded)
20	US-441 (SR-500) from SR-44 to N of SR-46
21	CR-437 Realignment from Oak Tree Dr to SR-46
22	CR-455/Hartle Rd from Lost Lake Rd to Good Hearth Blvd
23	CR-455/Hartle Rd from Hartwood Marsh to Lost Lake
24	US-192 from US-27 to Orange/Lake County Line



Cost Feasible Plan

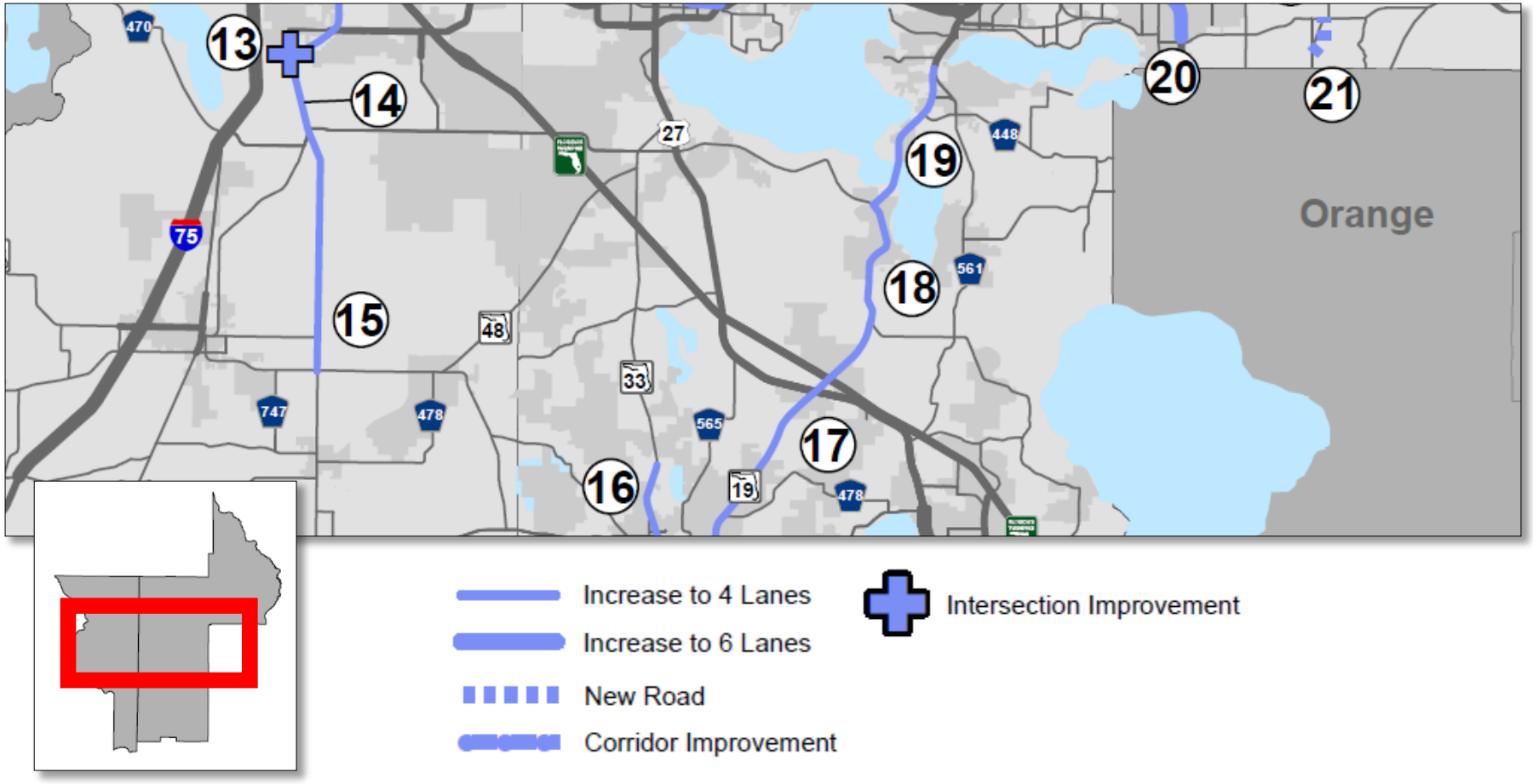
Other State (Fully and Partially-Funded Projects)



Other Arterial	
Map ID	**Roadway Name**
5	Rolling Acres Rd from Co Rd 466 to Griffin Ave
6	US-301 @ E CR-462
7	US-301 from CR-525E to SR-44
8	CR-466A from E of Timbertop Ln to Poinsettia Ave
9	US-441 (SR-500) from Perkins Street to SR-44
10	SR-44 from US-441 to E Orange Ave
11	Round Lake Rd Ext. (A) from Wolf Branch Rd. to SR-44
12	SR-44 from SR-44 & Orange Ave to CR-46A

Cost Feasible Plan

Other State (Fully and Partially-Funded Projects)

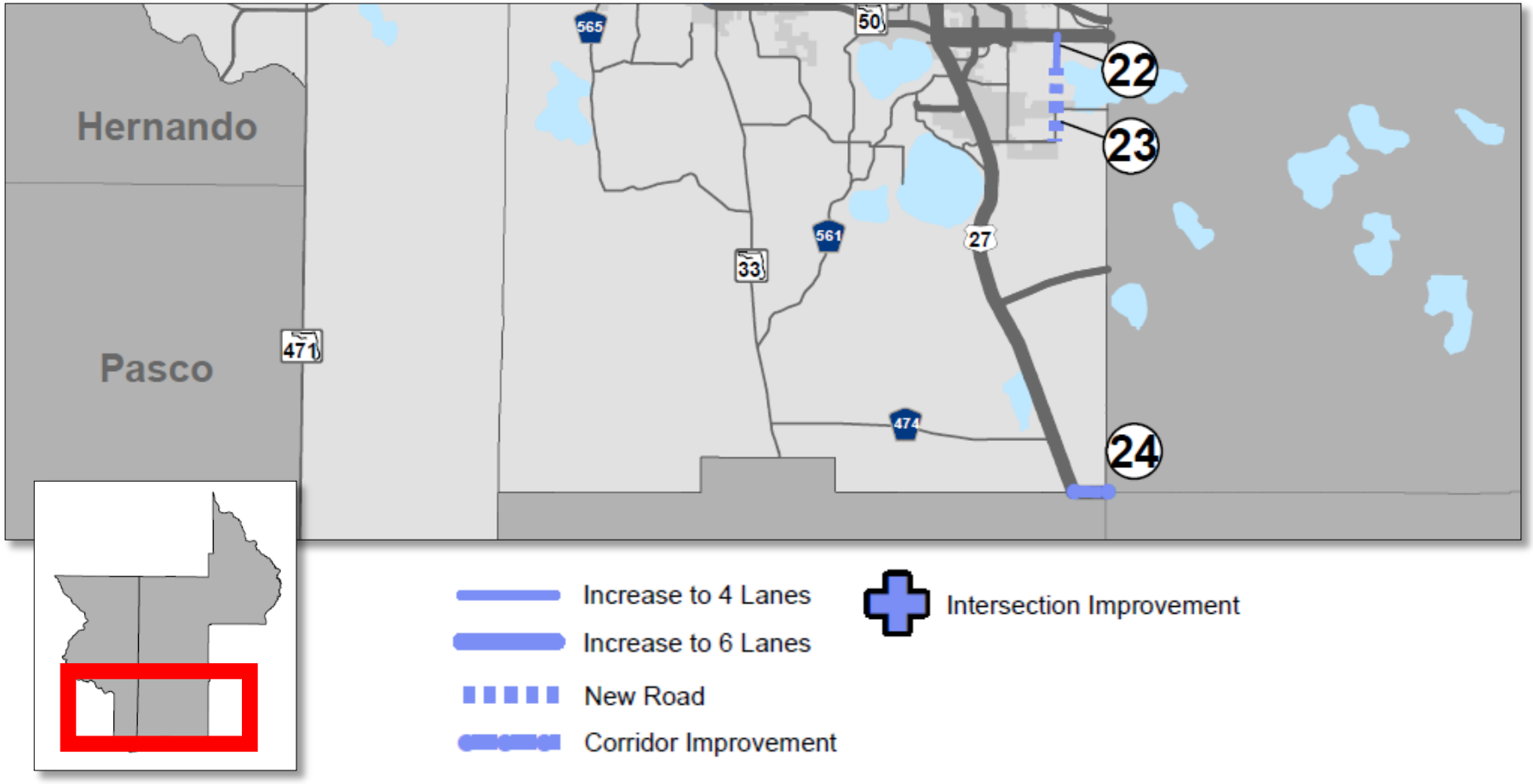


Other Arterial	
Map ID	**Roadway Name**
13	US-301 @ CR-525E
14	US-301 from CR-470 to CR-525E
15	SR-471 from SR-48 to US 301
16*	CR-33 from SR-50 to Simon Brown Rd
17	SR-19 from SR-50 to CR-455
18*	SR-19 from CR-455 to CR-48
19*	SR-19 from CR-48 to CR-561
20	US-441 (SR-500) from SR-44 to N of SR-46
21	CR-437 Realignment from Oak Tree Dr to SR-46

*Partially funded projects

Cost Feasible Plan

Other State (Fully and Partially-Funded Projects)

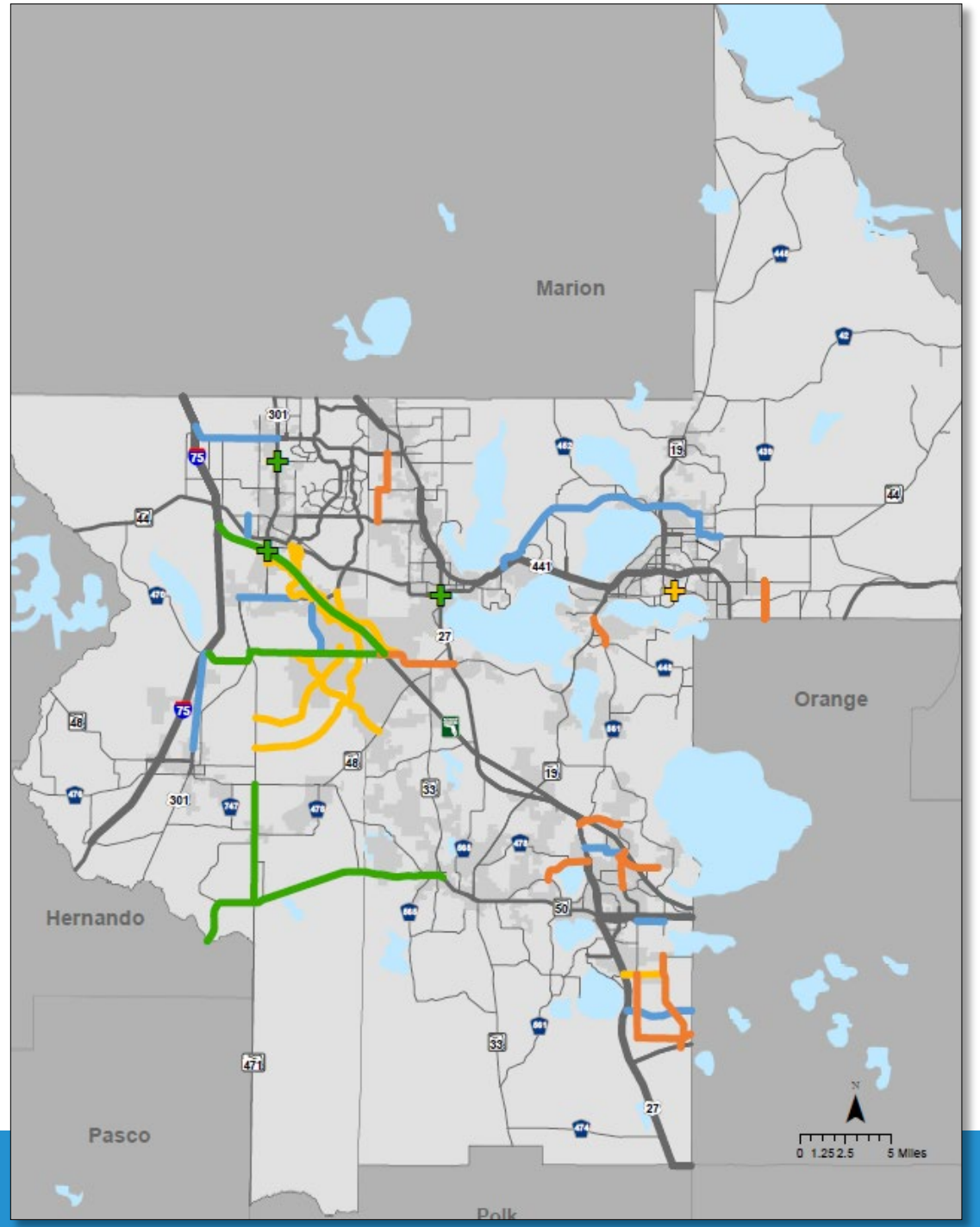


Other Arterial	
Map ID	**Roadway Name**
22	**CR-455/Hartle Rd from Lost Lake Rd to Good Hearth Blvd**
23	**CR-455/Hartle Rd from Hartwood Marsh to Lost Lake**
24	**US-192 from US-27 to Orange/Lake County Line**

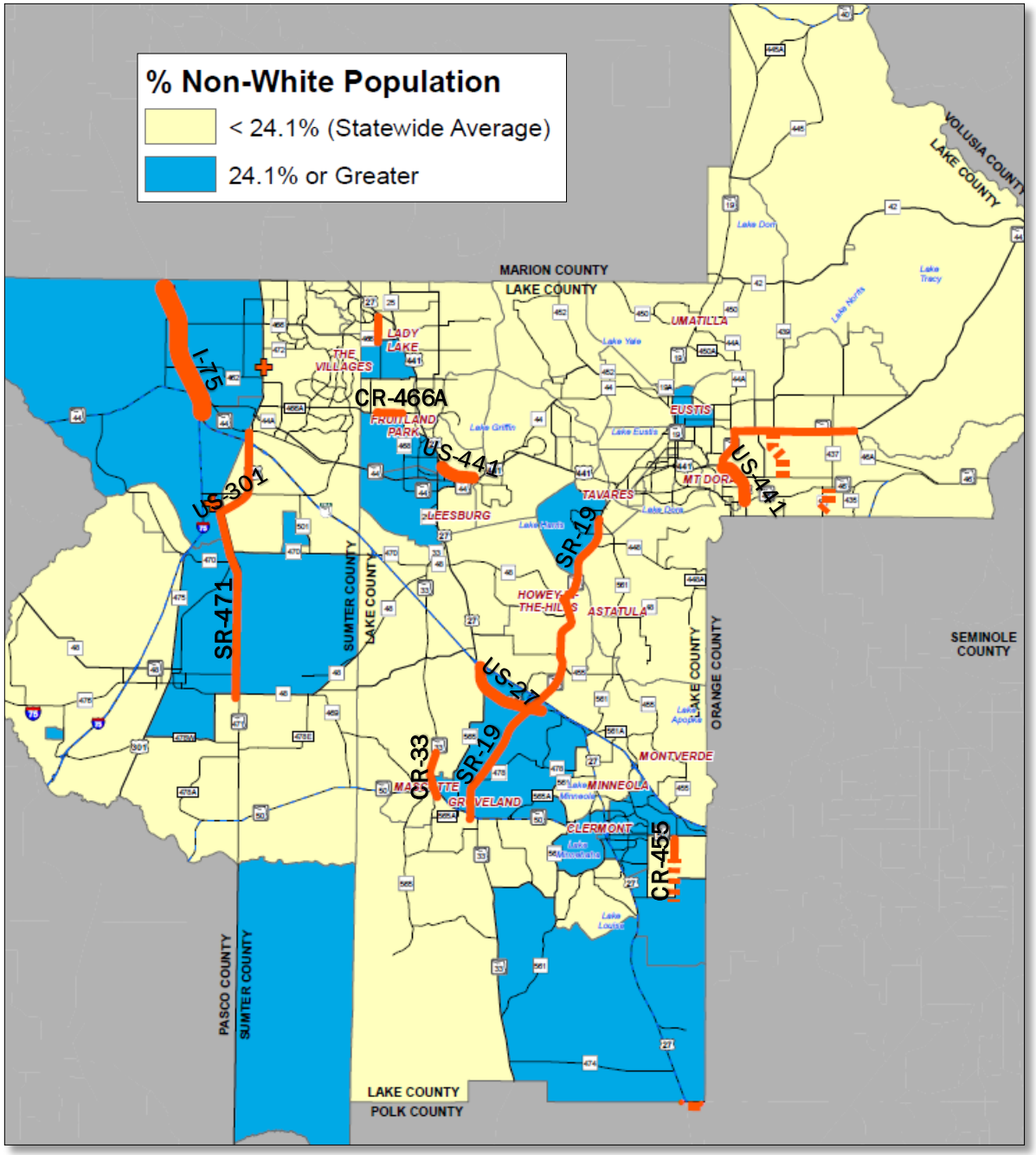
Cost Feasible Plan

Local Projects

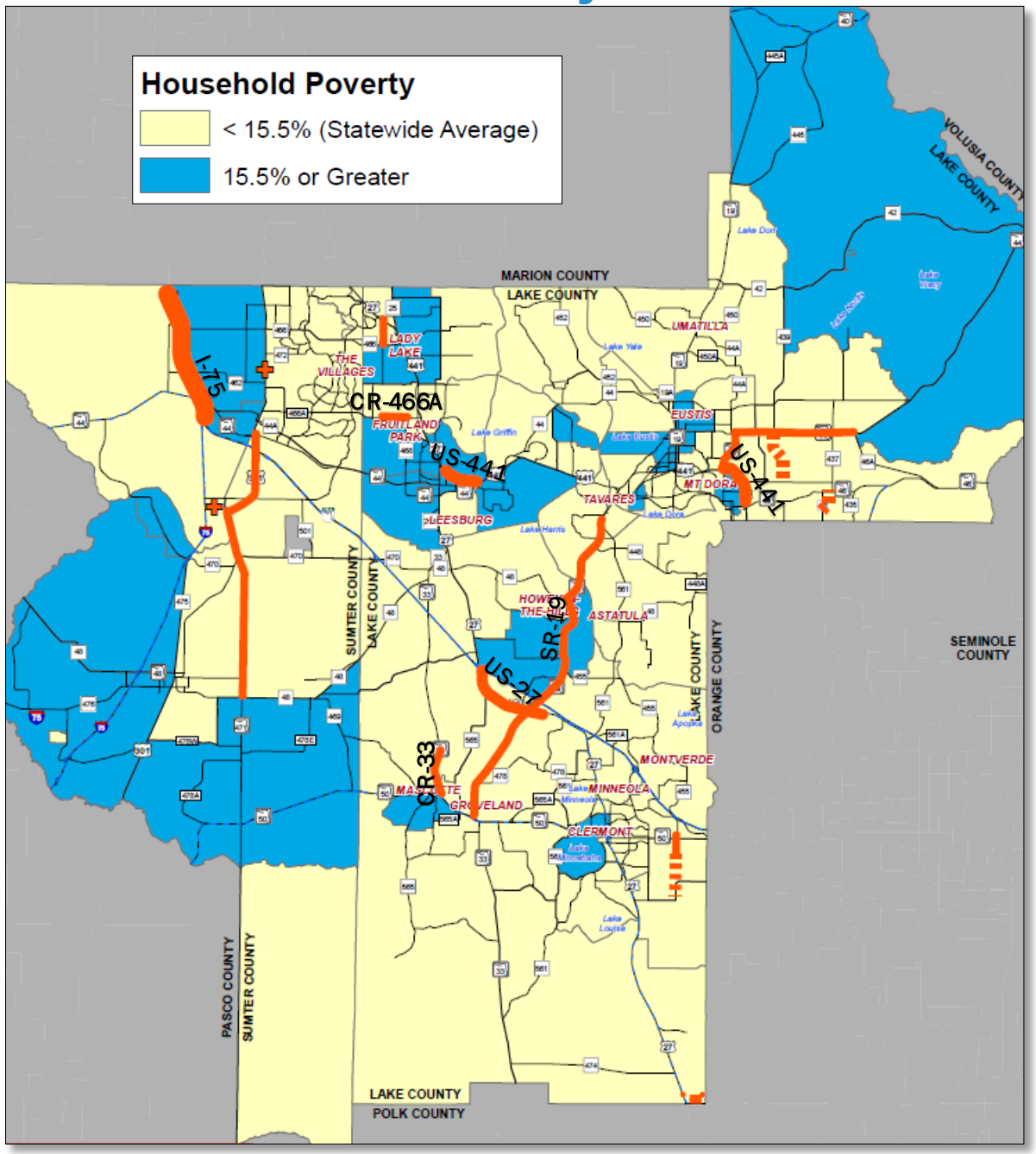
- Unfunded projects organized into tiers:
  - **Tier 1:** Highest Priority Projects
  - **Tier 2** and **Tier 3** projects will be considered as funding becomes available



Race



Poverty



Environmental Justice

- Potential Positive Impacts on EJ Communities
  - Improved level of service → shorter travel times, decreased fuel consumption and reduced vehicle emissions
  - Increased safety through improved facilities and traffic operations
  - Better access to jobs, schools, stores, recreation and other services and amenities
  - Increased land values
- Potential Negative Impacts on EJ Communities
  - Disrupted travel/detours during project construction
  - Dust, noise, and heavy equipment traffic due to construction activities
  - Temporary changes in emergency service response times
  - Temporary changes in customer access to businesses

Bicycle/ Pedestrian/ Trails

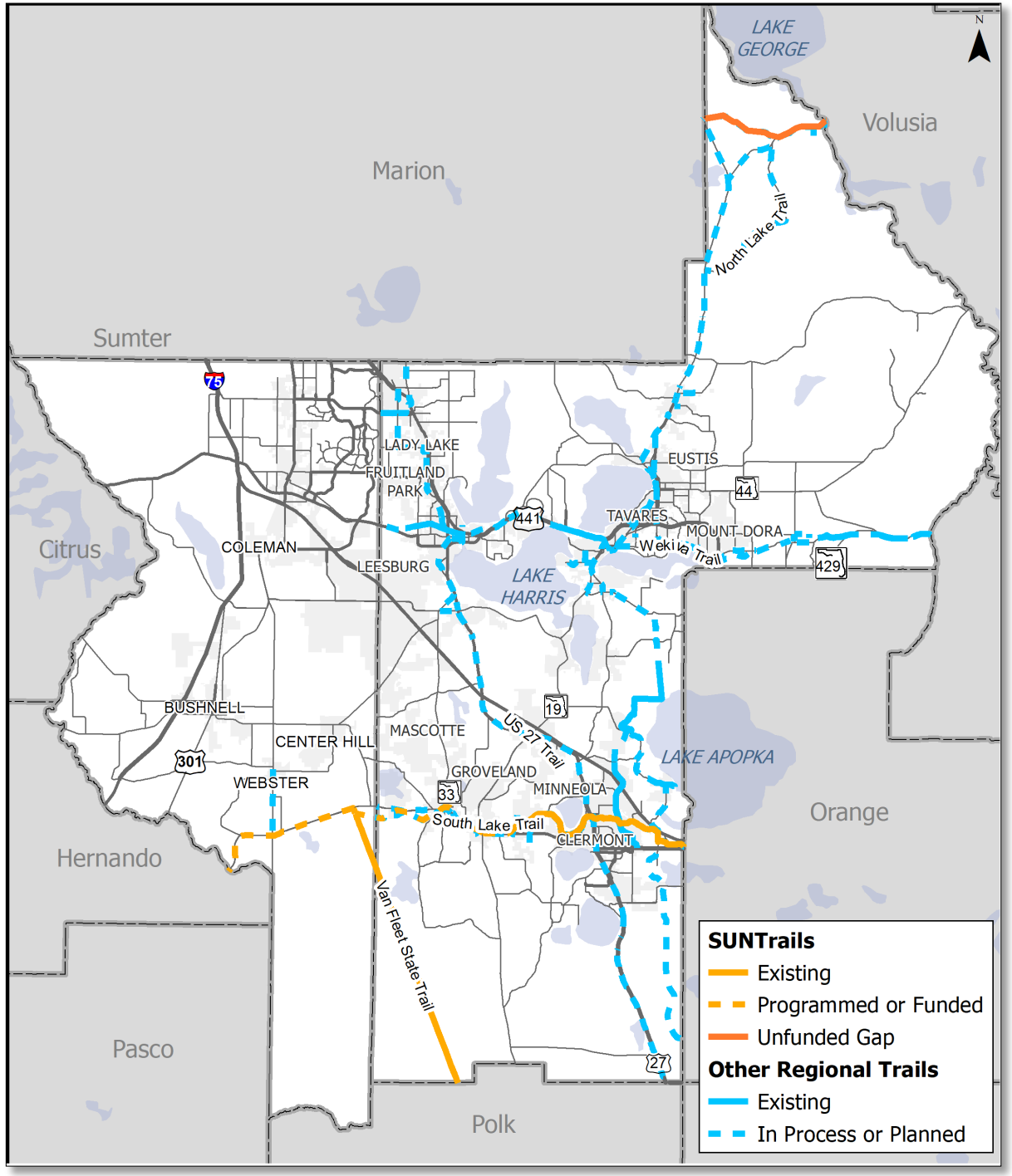
- MPO actively engaged in identifying needs and opportunities for supporting the development of bicycle, pedestrian, and regional trail projects
- Projects prioritized on annual basis
- MPO continues to plan for a series of paved multi-use trails that connect to other regional trails

Regional Trails
- Existing
- In Process or Planned
- Conceptual

Sun Trail
- Existing
- Programmed or Funded
- Unfunded Gap

Lake County Trails
- Existing
- In Process or Planned
- Conceptual

Sumter County Trails
- In Process or Planned

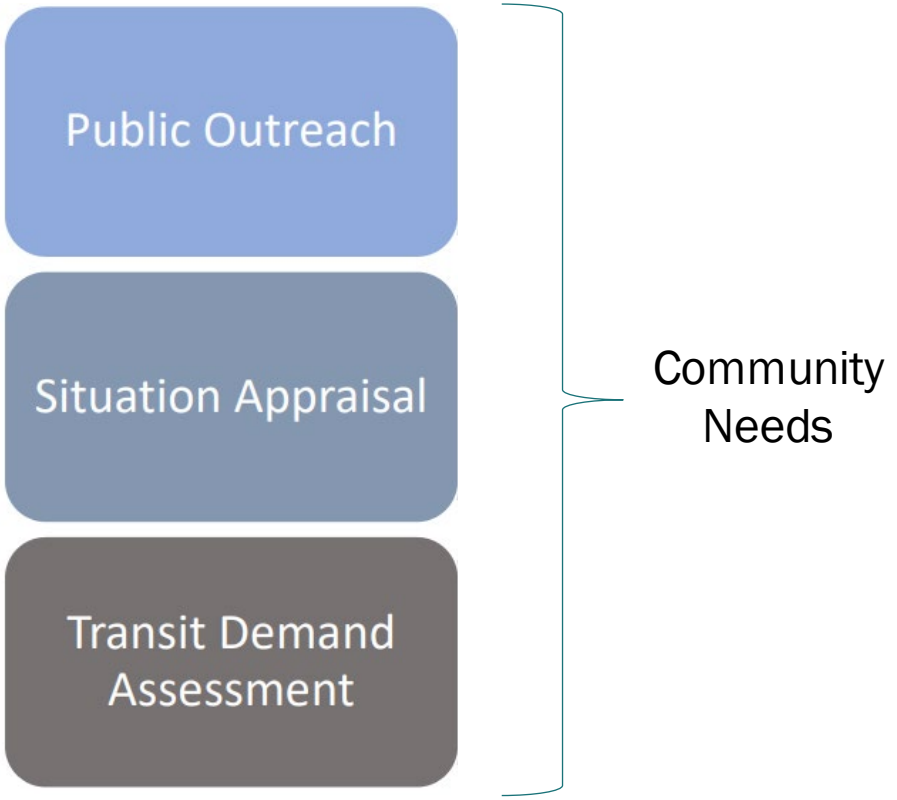


Complete Streets

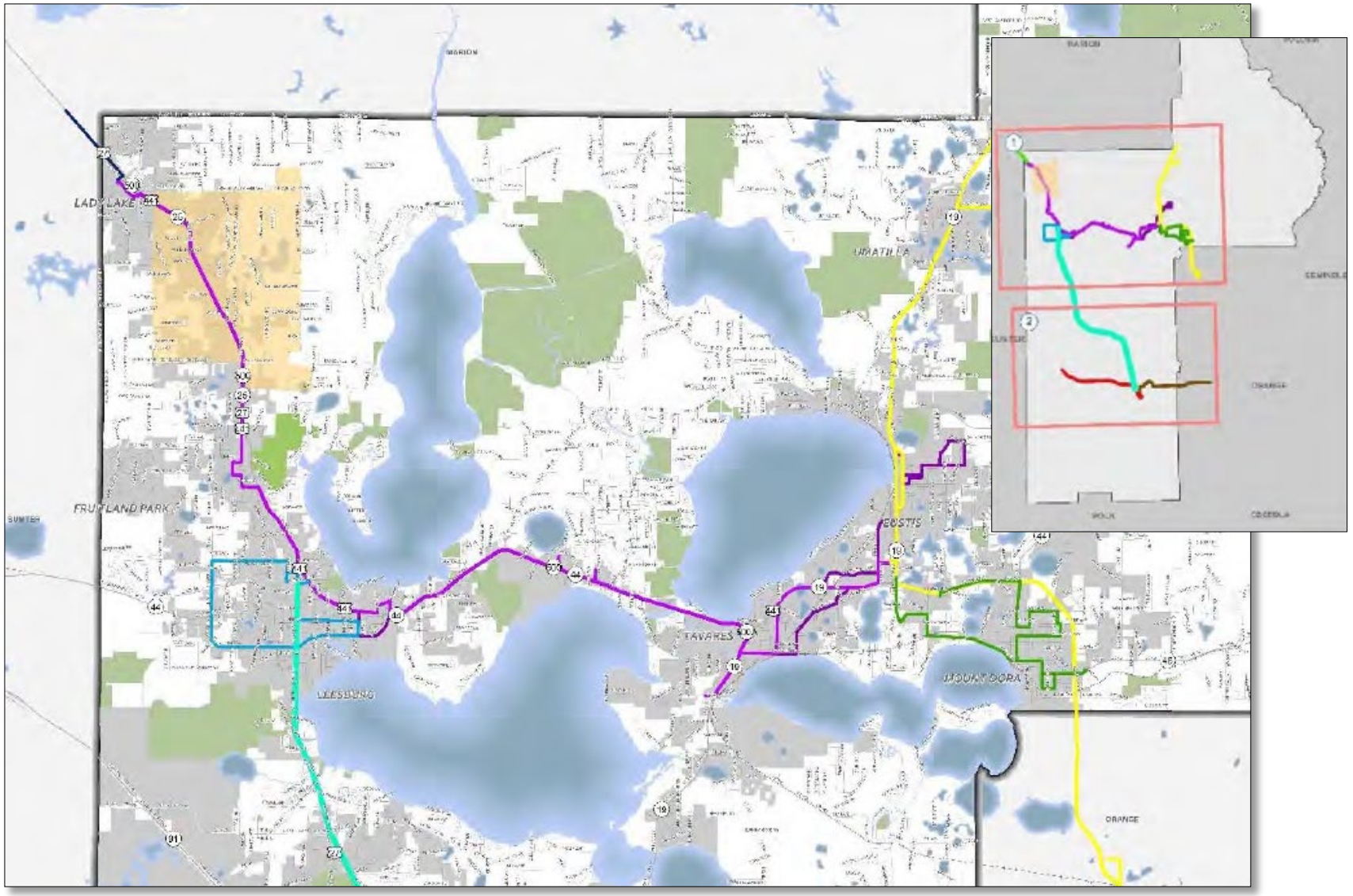
- Designed to accommodate all users
- Complete Streets studies recently completed or underway include:
  - US 27 Complete Streets Study (Leesburg)
  - US 301 Complete Streets Study (Wildwood)
  - Central Avenue (SR 19) Corridor Planning Study
  - East Avenue Complete Streets Study (Clermont)
  - SR 50 Corridor Planning Study (Clermont)

Transit: LakeXpress

- LakeXpress 2019-2028 TDP 10-year Needs Plan (Unfunded beyond Baseline)
  - Expansion of Existing Services
    - 30-minute service on Routes 1, 1A, 2, & 3
    - 60-minute service on Route 4
    - Late evening service on 1, 1A, 2, & 3
    - Saturday service on 1, 1A, 2, 3 (60-minute service; 9 AM to 5 PM)
  - Potential New Services
    - Route 1A Marion County Extension
    - US 27 Express (Leesburg to Clermont)
    - US 27/441 FLEX Service



Transit: LakeXpress



Existing Service

- Route 1
- Route 1A
- Route 2
- Route 3
- Route 4
- Route 50 E
- Route 50 W

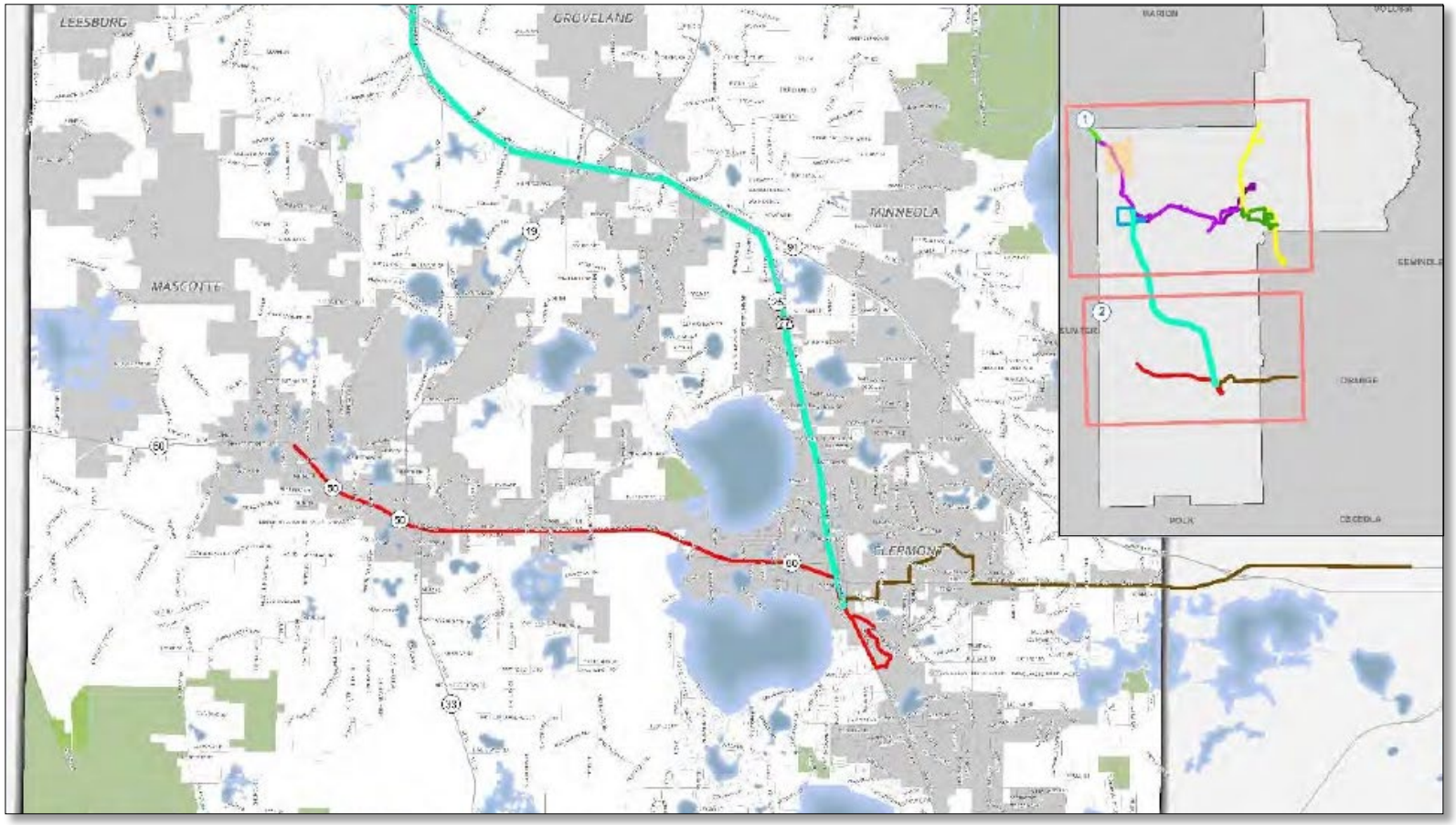
New Services

- Route 1A Marion County Extension
- US 27 Express (Leesburg to Clermont)
- US 27/441 FLEX Service

Expand Existing Services

- 30-minute service on Routes 1, 1A, 2, & 3
- 60-minute service on Route 4
- Later evening service on 1, 1A, 2, & 3 (until 9 PM)
- Saturday service on 1, 1A, 2, 3 (60-minute service; 9 AM to 5 PM)

Transit: LakeXpress



Existing Service

- Route 1
- Route 1A
- Route 2
- Route 3
- Route 4
- Route 50 E
- Route 50 W

New Services

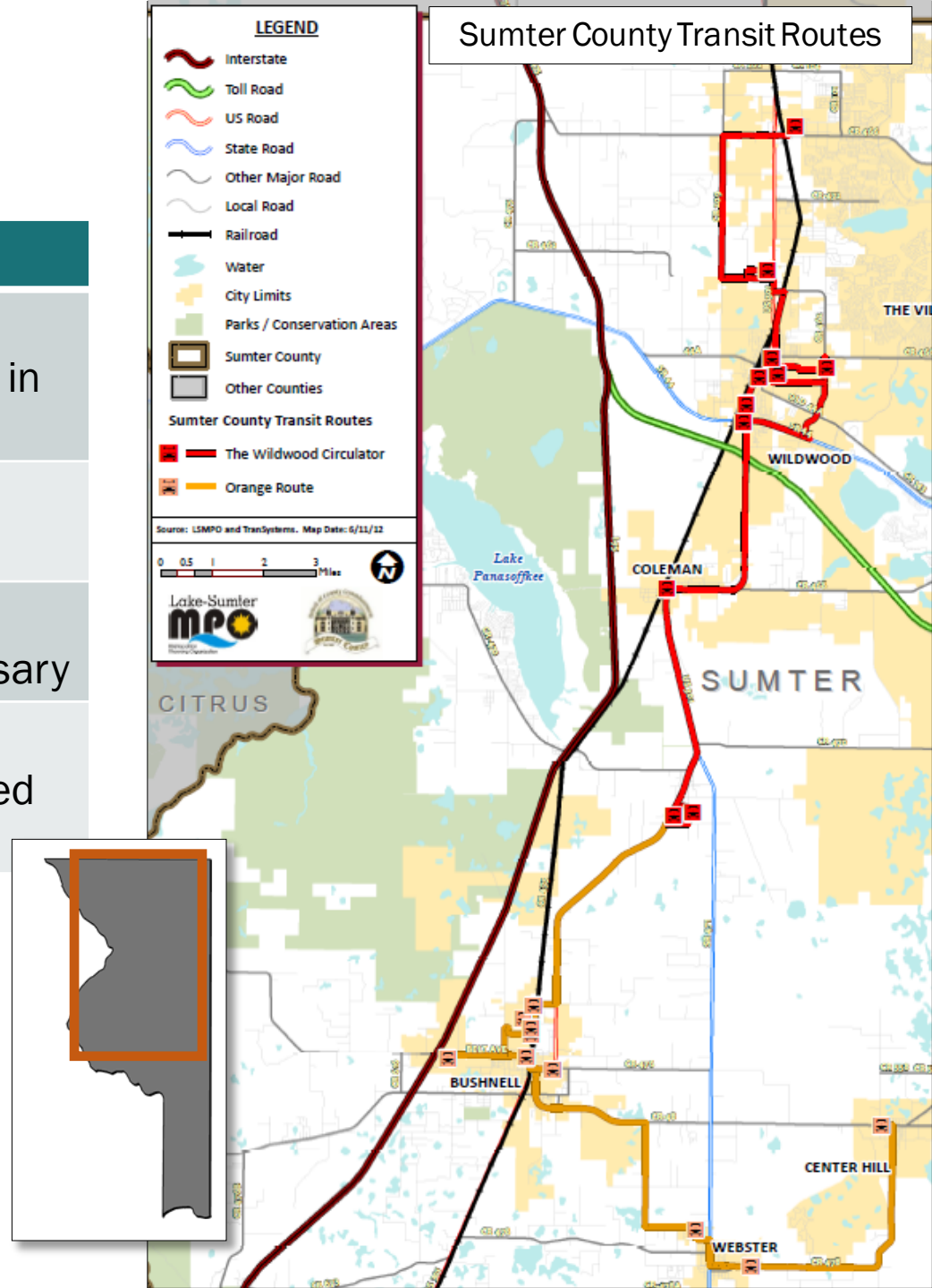
- Route 1A Marion County Extension
- US 27 Express (Leesburg to Clermont)
- US 27/441 FLEX Service

Expand Existing Services

- 30-minute service on Routes 1, 1A, 2, & 3
- 60-minute service on Route 4
- Later evening service on 1, 1A, 2, & 3 (until 9 PM)
- Saturday service on 1, 1A, 2, 3 (60-minute service; 9 AM to 5 PM)

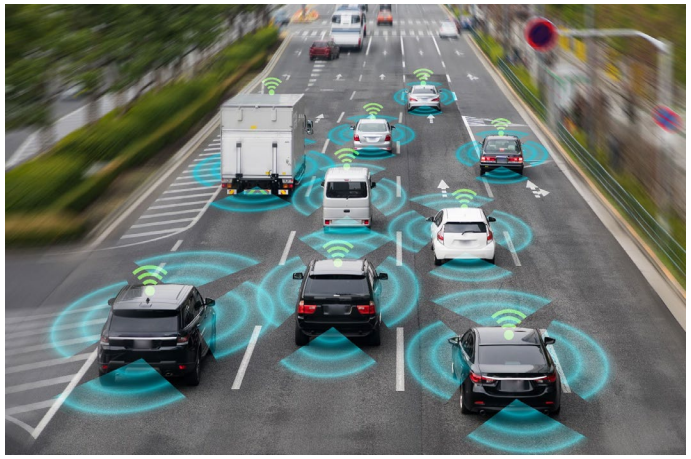
Transit: Sumter County Transit

Sumter County Transportation Disadvantaged Service Goals
#1. Provide an efficient, effective, and fully coordinated transportation system to meet the mobility needs of the transportation disadvantaged in Sumter County.
#2. Provide for the most cost-effective provision of transportation disadvantaged services.
#3. For all transportation services that are provided, ensure that a high level of service quality is provided, maintained, and improved as necessary
#4. Encourage land use patterns that support and promote transit patronage through the clustering of mixed uses and other transitoriented designs in medium and large scale planned developments.



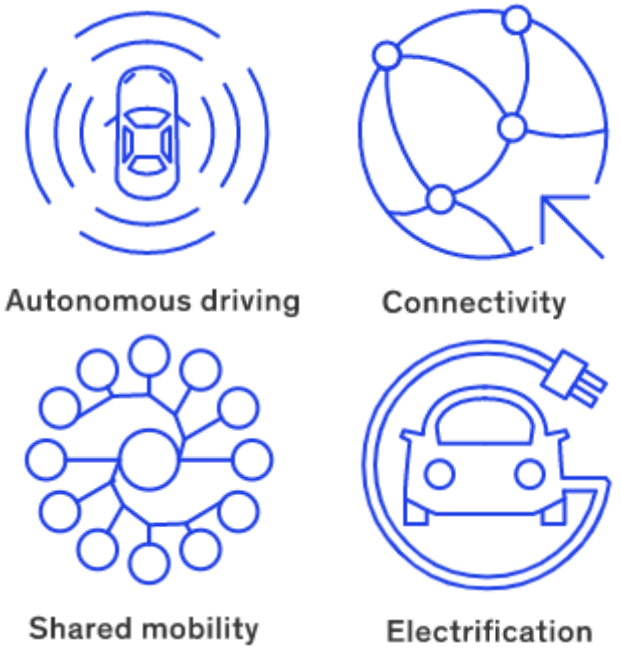
ACES / Technology

- ACES stands for Automated, Connected, Electric and Shared Mobility:
  - **Automated** – vehicles that drive without direct driver input
  - **Connected** – vehicles that communicate data to other vehicles and infrastructure
  - **Electric** – vehicles that use electric motor(s) instead of a gas-powered engine
  - **Shared Mobility** – shared use of a vehicle or other transportation mode, often in lieu of owning or using a personal vehicle



ACES / Technology

- Addresses the major challenges of driving:
  - Maintenance (repairs, cleaning, checkups, etc.)
  - Legal duties (insurance, registration, etc.)
  - Refueling cost and effort
  - Parking
- Provides system-wide benefits
  - Reduced congestion through smart routing
  - Lower emissions in urban areas
  - Fewer crashes and increased pedestrian safety



ACES / Technology

- ACES as adaptive technology:
  - In the US, approximately one in every five persons (more than 57 million people) has a disability
  - Many have difficulty getting the transportation they need
  - ACES could provide:
    - Increased opportunities for employment
    - Access to social networks and activities (better quality of life)
    - Health benefits related to reduced isolation and less missed medical appts.
    - Increased civic participation, such as voting

Questions

1. What improvements would you consider to have **positive impacts**? Are any projects especially positive?
2. What improvements would you consider to have **negative impacts**?

   Are any projects **especially negative**?
3. What improvements are needed that are **not currently included** in the plan? Are there any improvements that are not included that would have a **significant positive impact**?
4. Who else should we reach out to for identifying EJ issues?

Next Steps

- **October to December**
  Public Comment Period Through November 30th
- **Online Survey**

www.surveymonkey.com/r/LSMPO2045LRTP

- **Virtual Workshops**
  November 16th
- **Plan Adoption**
  December 9th

Attachment C

2045 LRTP Survey and Results

2045 Long Range Transportation Plan

Welcome!

The Lake-Sumter Metropolitan Planning Organization (MPO) is the designated regional planning agency for Lake and Sumter Counties. All federal transportation funding for the area is administered by the MPO. A Long Range Transportation Plan (LRTP) is a federally-required document that is updated every five years. The 2045 LRTP determines where transportation investments will occur in Lake and Sumter Counties through the year 2045. It identifies needs, determines how much funding is available, and decides which projects should be constructed. The 2045 LRTP considers all modes of transportation, including vehicles, transit, bicycles, pedestrians, and freight. It also considers issues such as transportation operations, technology, maintenance, and policies. The LRTP is a required document before federal dollars can be spent in the region.

We want your input on the draft LRTP! The survey should only take a few minutes to complete. Let's get started!

Next

Lake-Sumter MPO
Metropolitan Planning Organization

2045 Long Range Transportation Plan

2045 LRTP Goals

The 2045 LRTP goals and objectives guide transportation decisions for Lake and Sumter Counties. With the understanding that each goal is important and will be reflected in the plan, we want to know which ones you think are most important.

Please rank the goals from 1 to 5, which 1 being the most important goal to you.

- **Economy & Community |** Support economic success and community values through thoughtful transportation decisions.
- **Operations & Technology |** Improve transportation operations with a focus on Intelligent Transportation Systems (ITS), emerging technologies, and congestion management solutions.
- **Safety & Security |** Promote safety and security by prioritizing investments that reduce crashes and improve evacuation routes.
- **System Preservation |** Promote the maintenance and preservation of existing transportation infrastructure.
- **Travel Options & Mobility |** Improve transportation options through investments in bicycle and pedestrian infrastructure and transit service.

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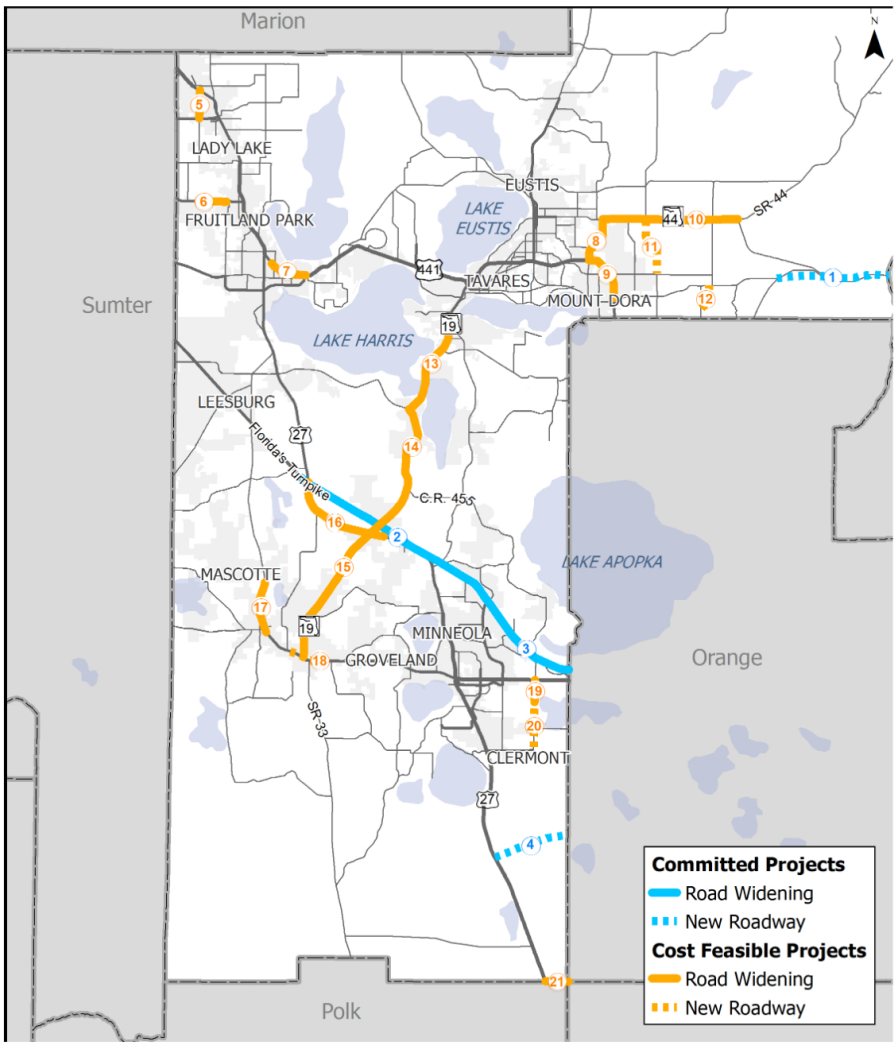
2045 Long Range Transportation Plan

Lake County | FEDERAL AND STATE COST FEASIBLE PROJECTS

This map shows funded highway projects organized into the following categories:

- Committed Projects have been funded and will be constructed.
- Cost Feasible Projects are shown to be feasible using state and federal funds. The recommended projects are based on a review of needs, financial resources, and the LRTP goals and objectives.

See below for a description of the recommendations.



Committed Projects

1) SR-429 (Wekiva Pkwy) from SR-429 to County Line *(construct new 6-lane road)*
2) Florida's Turnpike from US27 to Minneola Interchange *(widen to 6 lanes)*
3) Florida's Turnpike from Minneola Interchange to County Line *(widen to 6 lanes)*
4) CFX Connector from US-27 to SR-429 *(construct new 4-lane road)*

Cost Feasible Projects

5) Rolling Acres Rd from Co Rd 466 to Griffin Ave *(widen to 4 lanes)*
6) CR-466A from E of Timbertop Ln to Poinsettia Ave *(widen to 4 lanes)*
7) US-441 (SR-500) from Perkins Street to SR-44 *(widen to 6 lanes)*
8) SR-44 from US-441 to E Orange Ave *(widen to 4 lanes)*
9) US-441 (SR-500) from SR-44 to N of SR-46 *(widen to 6 lanes)*
10) SR-44 from SR-44 & Orange Ave to CR-46A *(widen to 4 lanes)*
11) Round Lake Rd Extension (A) from Wolf Branch Rd. to SR-44 *(construct new 4-lane road)*
12) CR-437 Realignment from Oak Tree Dr to SR-46 *(construct new 2-lane road)*
13) SR-19 from CR-48 to CR-561 *(strategic improvement)*

14) SR-19 from CR-455 to CR-48 *(strategic improvement)*
15) SR-19 from SR-50 to CR-455 *(widen to 4 lanes)*
16) US-27 from Florida's Turnpike NB Ramps to South of SR 19 *(widen to 6 lanes)*
17) CR-33 from SR-50 to Simon Brown Rd *(strategic improvement)*
18) SR-50 from CR-565 (Villa City) to CR-565A (Monte Vista) *(realignment)*
19) CR-455/Hartle Rd from Lost Lake Rd to Good Hearth Blvd *(widen to 4 lanes)*
20) CR-455/Hartle Rd from Hartwood Marsh to Lost Lake *(construct new 4-lane road)*
21) US-192 from US-27 to County Line *(corridor improvement)*

How much do you agree with the following statement:
The funded highway projects address Lake County's critical roadway needs.

- ◯ Strongly agree
- ◯ Agree
- ◯ Disagree
- ◯ Strongly disagree
- ◯ No Opinion / Do Not Know

Comments (optional)

Prev Next

2045 Long Range Transportation Plan

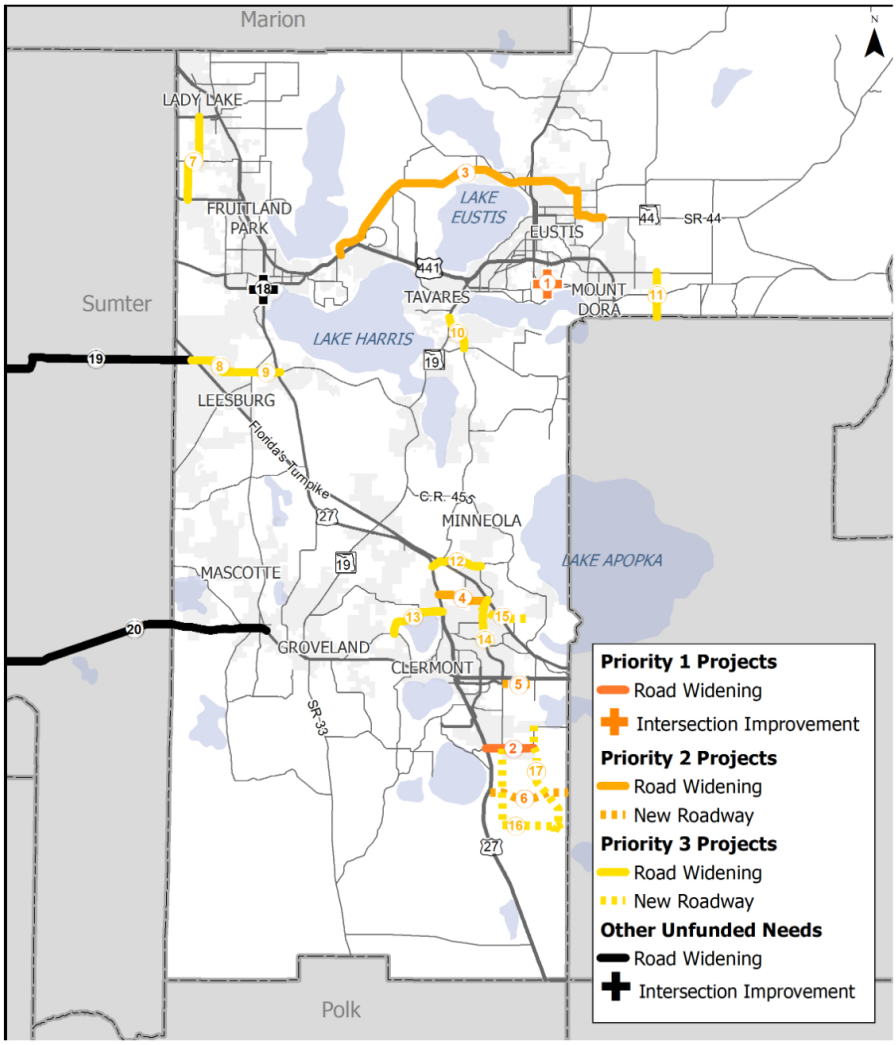
Lake County | UNFUNDED PROJECTS

This map shows unfunded road projects.

Priority 1, 2, and 3 Projects are local projects that have been organized into tiers based on the County's investment priorities for local capital funds. These projects are prioritized to receive funding from local sources, rather than state or federal funds.

Unfunded state and multi-jurisdictional projects are also shown. These projects have not been assigned specific priority at this time.

See below for a description of the recommendations.



Priority 1 (Local Projects)
1) Old 441/CR-19A at Eudora Rd Intersection *(modify intersection)*
2) Hartwood Marsh Rd from US-27 to CR-455 *(widen to 4 lanes)*

Priority 2 (Local Projects)
3) CR-44 from SR-44 to US-441 *(widen to 4 lanes)*
4) Citrus Grove Rd from US-27 to N Hancock Rd *(widen to 4 lanes)*
5) Hooks St Ext from Hancock Rd to CR-455/Hartle Rd *(construct new 2-lane road)*
6) Wellness Way from US-27 to SR-429 *(construct new 4-lane road)*

Priority 3 (Local Projects)
7) Micro Racetrack Rd & Rolling Acres Rd - CR-466A to US 27/US441 *(widen to 4 lanes)*

8) CR-470 from TPKE West Ramps to SR-33/CR-33 *(widen to 4 lanes)*
9) CR-48 from SR-33/CR-33 to E of US-27 Bridge *(widen to 4 lanes)*
10) CR-561 from CR-448 to SR-19 *(widen to 4 lanes)*
11) Round Lake Rd Ext (B) from County Line to Wolf Branch Rd *(widen to 4 lanes)*
12) CR-561/561A from US-27 to N Hancock Rd *(widen to 4 lanes)*
13) CR-561A from CR-565A to US-27 *(widen to 4 lanes)*
14) N Hancock Rd from Old Hwy 50 W to Turkey Farm Rd *(widen to 4 lanes)*
15) Citrus Grove Rd from N Hancock Rd to Blackstill Lake Rd *(construct new 2- or 4-lane road)*
16) Schofield Rd from US-27 to SR-429 *(construct new 4-lane road)*
17) CR-455 Extension from CFX Connector to Hartwood/Marsh Rd *(construct new 4-lane road)*

Other Unfunded Needs (State and Multi-jurisdictional Projects)
18) SR-44 at US 27 (modify Intersection)
19) CR-470 from SR-471 (CR-527) to Florida's Turnpike (widen to 4 lanes)
20) SR-50 from Hernando/Sumter Co Line to SR-33/CR-33 (widen to 4 lanes)

How much do you agree with the following statement:
These projects address the roadway needs that are not addressed by the funded highway projects in Lake County.

- ○ Strongly agree
- ○ Agree
- ○ Disagree
- ○ Strongly disagree
- ○ No Opinion / Do Not Know

Comments (optional)

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2045 Long Range Transportation Plan

Sumter County | FEDERAL AND STATE COST FEASIBLE PROJECTS

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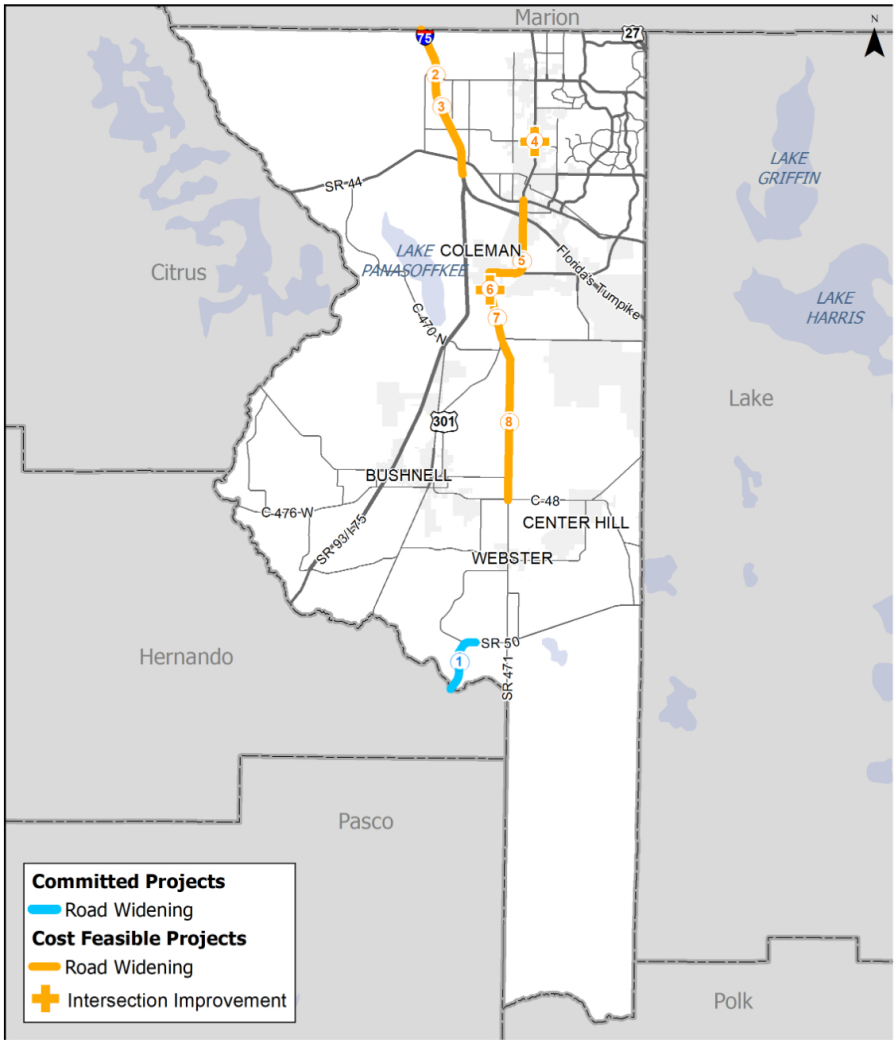


Committed Projects
1) SR-50 - County Line to E of CR-478A *(widen to 4 lanes)*

Cost Feasible Projects
2) I-75 - SR-44 to County Line *(widen to 8 lanes)*
3) I-75 - Florida's Turnpike to County Line *(managed lanes)*
4) US-301 & E CR-462 Intersection *(modify intersection)*
5) US-301 - CR-525E to SR-44 *(widen to 4 lanes)*
6) US-301 at CR-525E *(modify intersection)*
7) US-301 - CR-470 to CR-525E *(widen to 4 lanes)*
8) SR-471 - SR-48 to US 301 *(widen to 4 lanes)*

How much do you agree with the following statement:
The funded highway projects address Sumter County's critical roadway needs.

- ◯ Strongly agree
- ◯ Agree
- ◯ Disagree
- ◯ Strongly disagree
- ◯ No Opinion / Do Not Know

Comments (optional)

Prev Next

2045 Long Range Transportation Plan

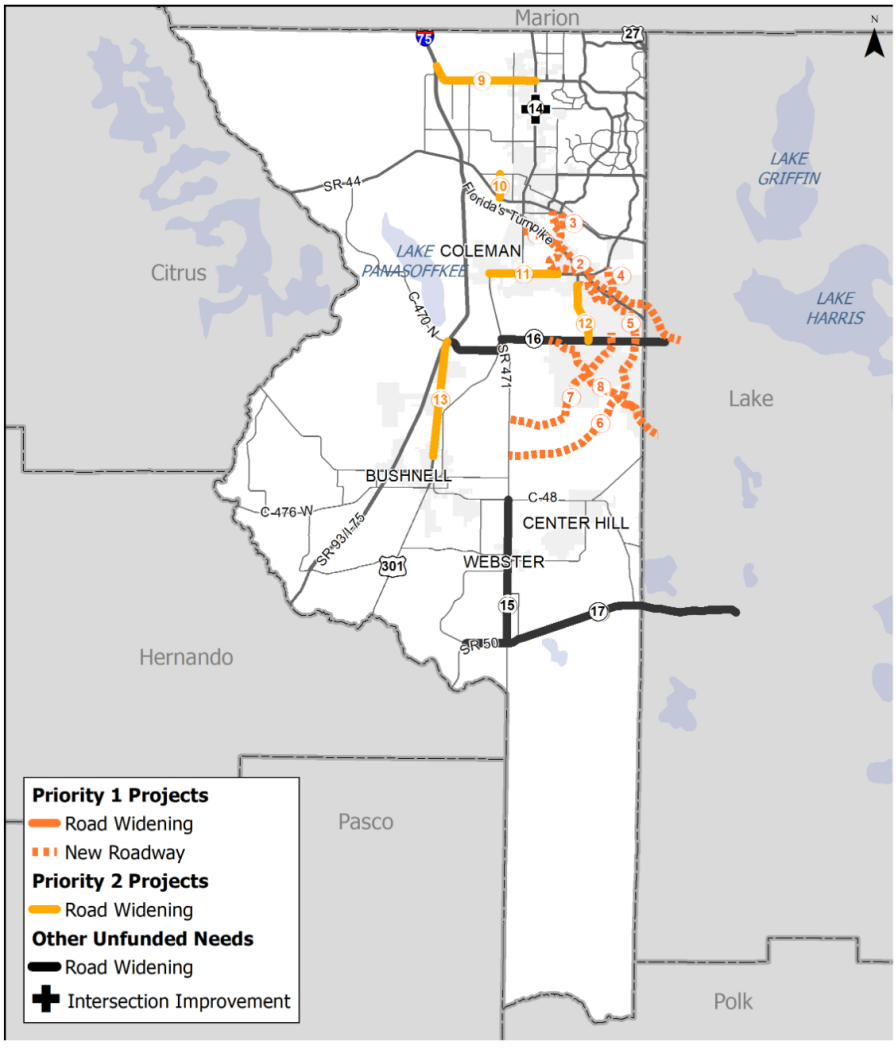
Sumter County | UNFUNDED PROJECTS

This map shows unfunded road projects.

Priority 1 and 2 Projects are local projects that have been organized into tiers based on the County's investment priorities for local capital funds. These projects are prioritized to receive funding from local sources, rather than state or federal funds.

Unfunded state and multi-jurisdictional projects are also shown. These projects have not been assigned specific priority at this time.

See below for a description of the recommendations.



Priority 1 Projects

1) Marsh Bend Trail (new road) - US-301 to Warm Springs Ave *(construct new 2-lane road)*
2) Meggison Rd (new road) - SR-44 to E C-470 *(construct new 2-lane road)*
3) Buena Vista Blvd Ext - Meggison Rd to SR-44 *(construct new 4-lane road)*
4) Morse Blvd Ext. (new road) - Meggison Rd to CR-468 *(construct new 2-lane road)*
5) Corbin Trail (new road) - Warm Springs Ave to E C-470 *(construct new 2-lane road)*
6) Road C (new road) - SR-471 to E C-470 *(construct new 2-lane road)*
7) Road B (new road) - SR-471 to E C-470 *(construct new 2-lane road)*
8) Road A (new road) - E C-470 to CR-48 *(construct new 2-lane road)*

Priority 2 Projects

9) East of CR-466 - I-75 to US-301 *(widen to 4 lanes)*

10) CR-219 - SR-44 to CR-44A *(widen to 4 lanes)*
11) CR-468/US-301 - Commercial St to CR-507 *(widen to 4 lanes)*
12) Marsh Bend Trail - C470 to Corbin Trail *(widen to 6 lanes)*
13) CR-475 - Old Airport Rd to CR-470 *(widen to 4 lanes)*

Other Unfunded Needs (State and Multi-jurisdictional Projects)
14) US-301 at C-472 (modify intersection)
15) SR-471 - SR-50 to SR-48 (widen to 4 lanes) **state project**
16) CR-470 from SR-471 (CR-527) to Florida's Turnpike (widen to 4 lanes)
17) SR-50 from CR-478A to SR-33/CR-33 (widen to 4 lanes) **state project**

How much do you agree with the following statement:
These projects address the roadway needs that are not addressed by the funded highway projects in Sumter County.

- ○ Strongly agree
- ○ Agree
- ○ Disagree
- ○ Strongly disagree
- ○ No Opinion / Do Not Know

Comments (optional)

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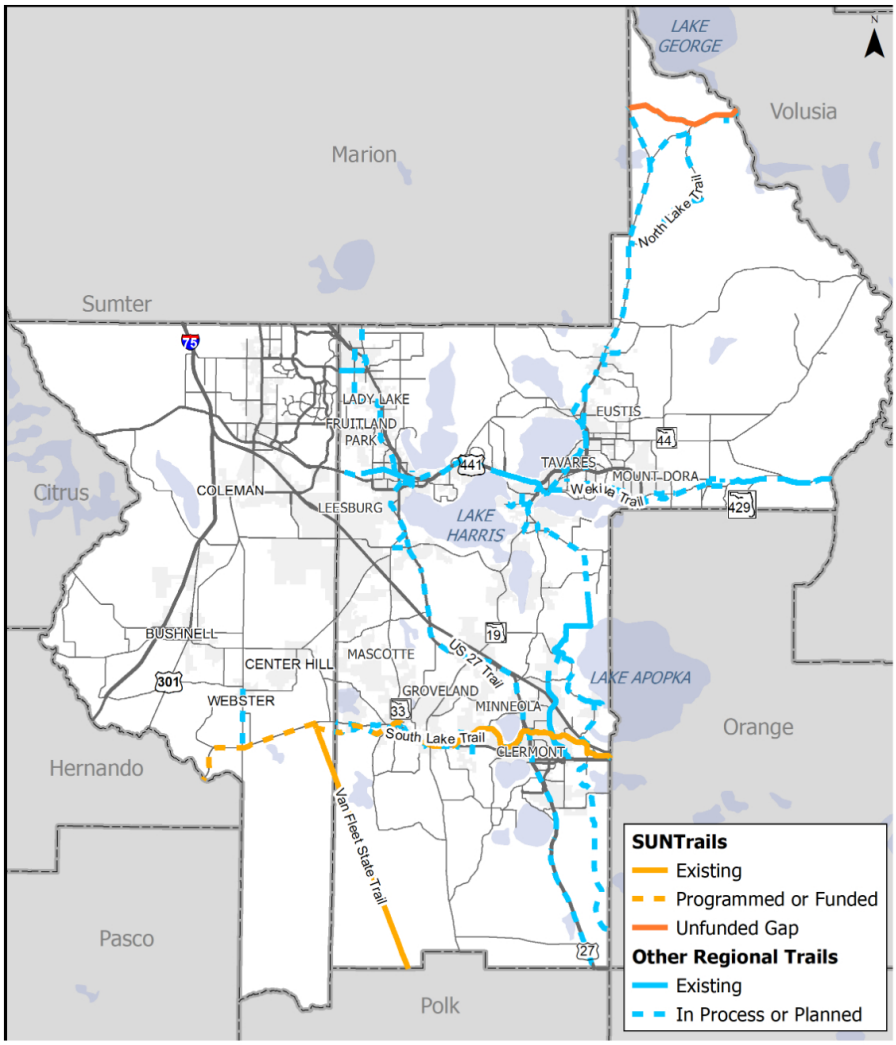
2045 Long Range Transportation Plan

Multi-Use Trails

This map shows a network of paved multi-use trails that connect to other regional trails in Florida, including the Coast-to-Coast Trail, the Heart of Florida Loop, and the Wekiva Trail. The Lake-Sumter MPO 2045 LRTP also recommends trails in conjunction with road improvement projects, where applicable.



How much do you agree with the following statement:
The recommended network addresses the region's vision and need for multimodal trails.

- ○ Strongly agree
- ○ Agree
- ○ Disagree
- ○ Strongly disagree
- ○ No Opinion / Do Not Know

Comments (optional)

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Lake-Sumter MPO
Metropolitan Planning Organization

2045 Long Range Transportation Plan

Transit Recommendations

Two transit providers operate in the Lake-Sumter MPO planning area: LakeXpress and Sumter County Transit. **LakeXpress** is a fixed route system that provides transit service throughout Lake County on a regular schedule at designated bus stops. **Sumter County Transit** operates as a by-request door-to-door transportation service, available to all qualified transportation disadvantaged residents. Funding in the 2045 LRTP will maintain existing services.

In general, how important are the following public transportation needs in Lake and Sumter Counties?

	The top priority	Important but not a priority	Not important	No opinion
Add more bus routes	○	○	○	○
Have existing bus run more often	○	○	○	○
Operate longer hours on weekdays	○	○	○	○
Add weekend service	○	○	○	○

The LakeXpress 2018 Transit Development Plan (TDP) includes the following recommendations:

Potential New Service

- Route 1A Connection to Marion County
- Express Service on US 27 ~US 441 Flex Service

Improvements to Existing Routes

- Increasing frequency on Routes 1, 1A, 2, 3 and 4
- Extending weekday services on select routes until 9:00 PM
- Adding Saturday service on select routes

While not funded as part of the 2045 LRTP, how would you rate the LakeXpress 2018 TDP recommendations?

Poor — Neutral — Excellent

Comments (optional)

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2045 Long Range Transportation Plan

Final Questions

How well would the 2045 LRTP address your needs?

- ◯ Definitely would
- ◯ Probably would
- ◯ Probably would not
- ◯ Definitely would not

What is your home ZIP/Postal Code?

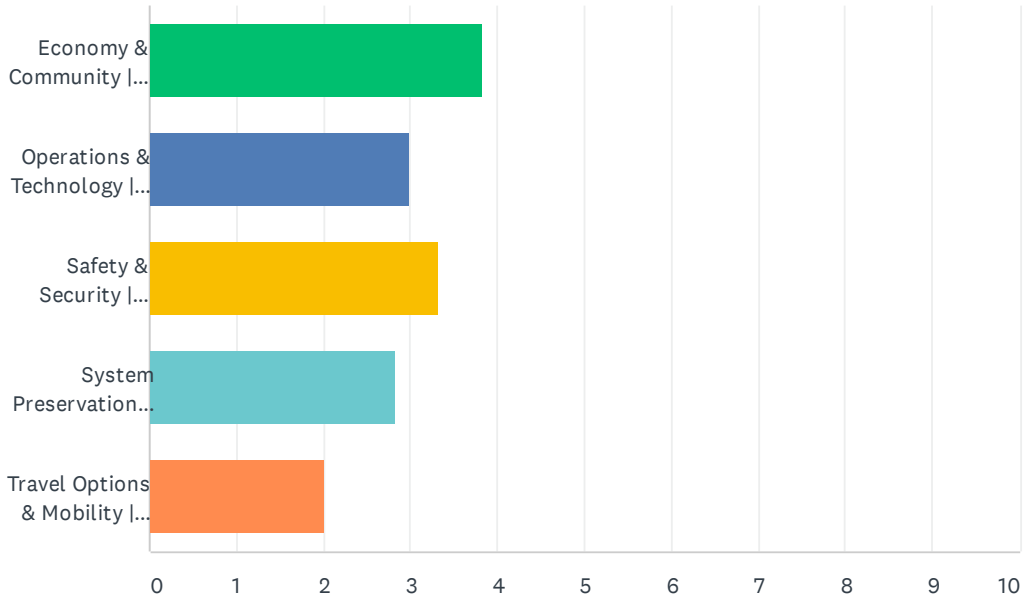
ZIP/Postal Code

Do you have any other comments, questions, or concerns?

Prev Done

Q1 Please rank the goals from 1 to 5, which 1 being the most important goal to you.

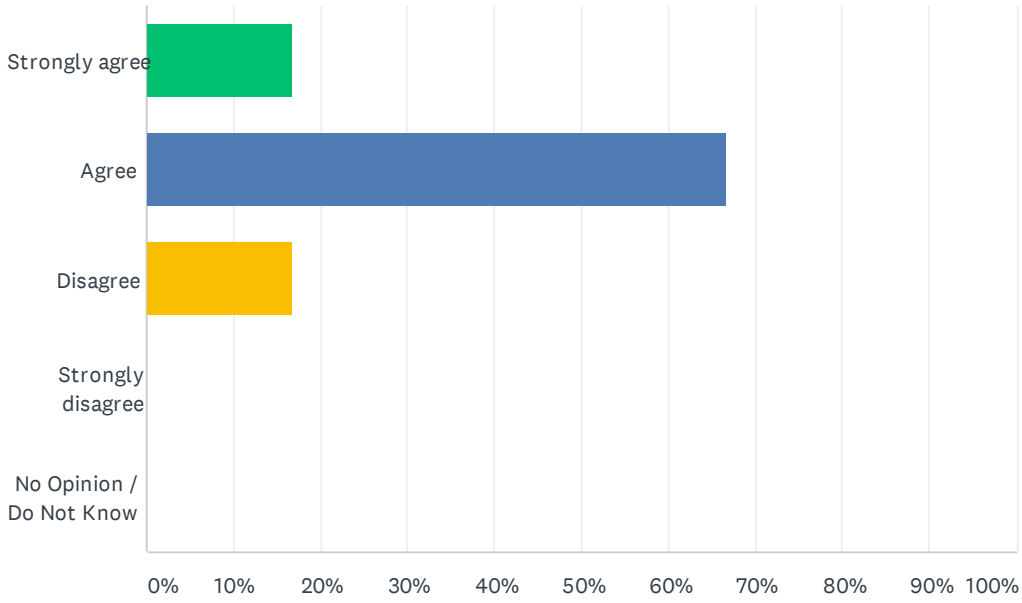
Answered: 6 Skipped: 1



	1	2	3	4	5	TOTAL	SCORE
Economy & Community | Support economic success and community values through thoughtful transportation decisions.	50.00% 3	0.00% 0	33.33% 2	16.67% 1	0.00% 0	6	3.83
Operations & Technology | Improve transportation operations with a focus on Intelligent Transportation Systems (ITS), emerging technologies, and congestion management solutions.	16.67% 1	16.67% 1	33.33% 2	16.67% 1	16.67% 1	6	3.00
Safety & Security | Promote safety and security by prioritizing investments that reduce crashes and improve evacuation routes.	16.67% 1	33.33% 2	16.67% 1	33.33% 2	0.00% 0	6	3.33
System Preservation | Promote the maintenance and preservation of existing transportation infrastructure.	0.00% 0	50.00% 3	0.00% 0	33.33% 2	16.67% 1	6	2.83
Travel Options & Mobility | Improve transportation options through investments in bicycle and pedestrian infrastructure and transit service.	16.67% 1	0.00% 0	16.67% 1	0.00% 0	66.67% 4	6	2.00

Q2 How much do you agree with the following statement: The funded highway projects address Lake County's critical roadway needs.

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Strongly agree	16.67%	1
Agree	66.67%	4
Disagree	16.67%	1
Strongly disagree	0.00%	0
No Opinion / Do Not Know	0.00%	0
TOTAL		6

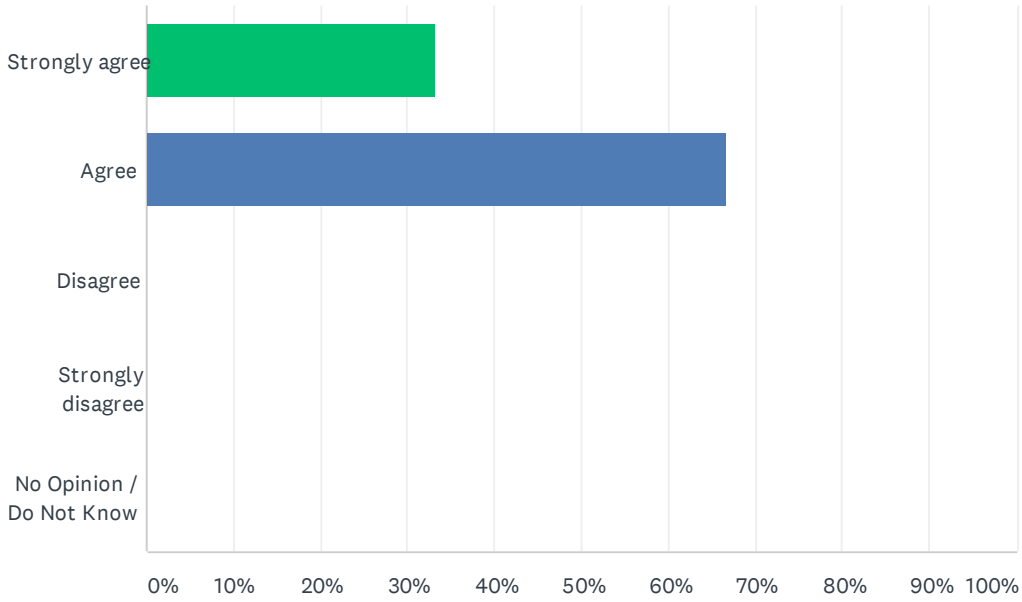
Q3 Comments (optional)

Answered: 2 Skipped: 5

#	RESPONSES	DATE
1	I am not certain about the meaning of the question "The funded highway projects address Lake County's critical roadway needs." Is the question asking if the listed projects are all critical or that the listed projects meet all of the critical needs? I strongly agree they are all critical. I strongly disagree they address all of the critical needs.	11/18/2020 9:31 AM
2	Traffic Light at Donnelly Street and Limit Avenue	11/16/2020 10:30 AM

Q4 How much do you agree with the following statement: These projects address the roadway needs that are not addressed by the funded highway projects in Lake County.

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Strongly agree	33.33%	2
Agree	66.67%	4
Disagree	0.00%	0
Strongly disagree	0.00%	0
No Opinion / Do Not Know	0.00%	0
TOTAL		6

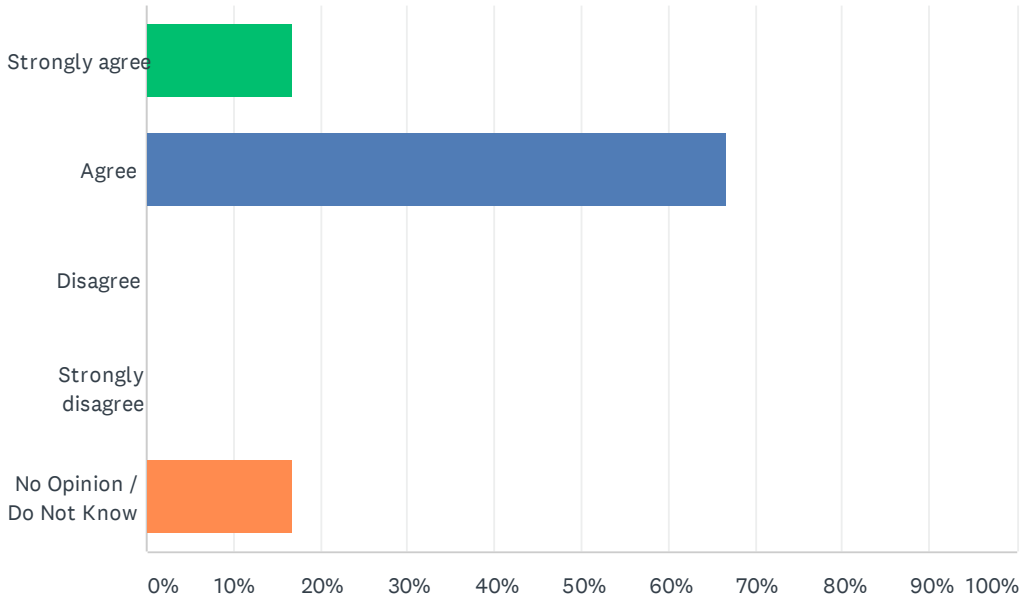
Q5 Comments (optional)

Answered: 1 Skipped: 6

#	RESPONSES	DATE
1	Again, I am not certain about the meaning of the question. The projects are needed. The project list is not comprehensive so it does not address all of the needs.	11/18/2020 9:37 AM

Q6 How much do you agree with the following statement: The funded highway projects address Sumter County's critical roadway needs.

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Strongly agree	16.67%	1
Agree	66.67%	4
Disagree	0.00%	0
Strongly disagree	0.00%	0
No Opinion / Do Not Know	16.67%	1
TOTAL		6

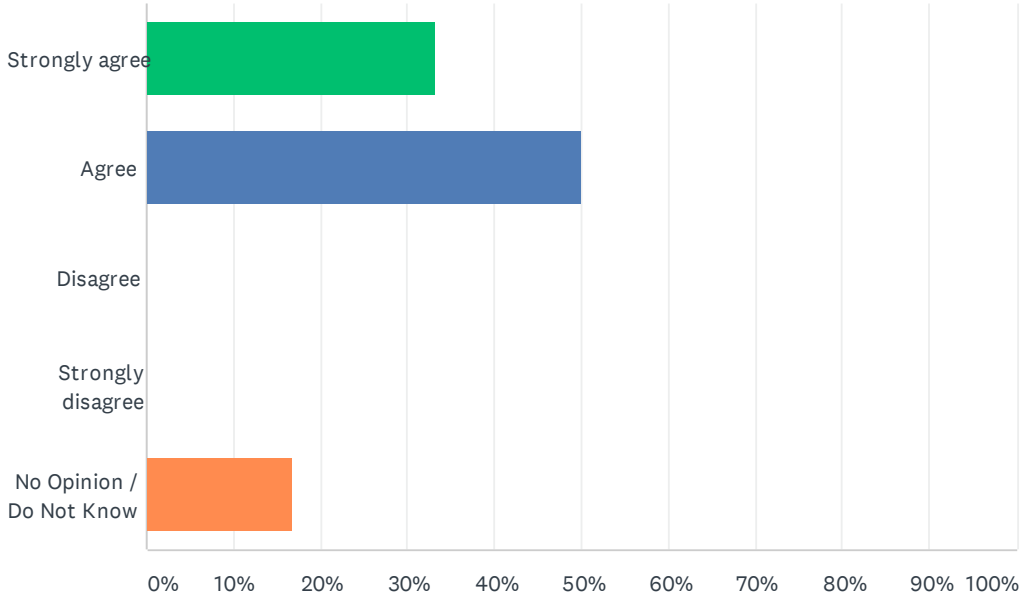
Q7 Comments (optional)

Answered: 0 Skipped: 7

#	RESPONSES	DATE
	There are no responses.	

Q8 How much do you agree with the following statement: These projects address the roadway needs that are not addressed by the funded highway projects in Sumter County.

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Strongly agree	33.33%	2
Agree	50.00%	3
Disagree	0.00%	0
Strongly disagree	0.00%	0
No Opinion / Do Not Know	16.67%	1
TOTAL		6

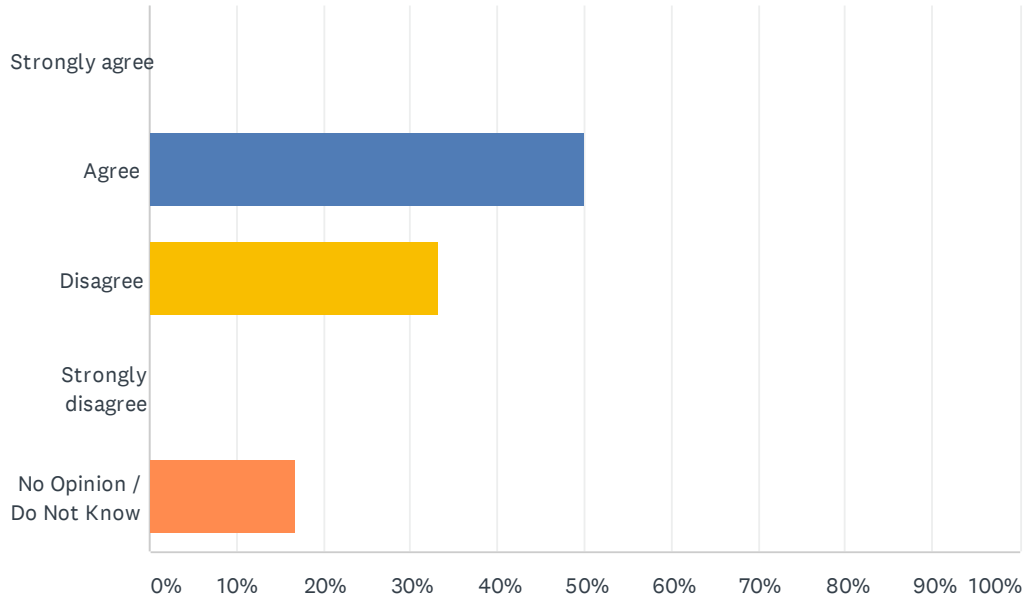
Q9 Comments (optional)

Answered: 1 Skipped: 6

#	RESPONSES	DATE
1	I WOULD REORDER THE PRIORITIES TO MOVE UP THE E/W IMPROVEMENTS ... CR 470 SHOULD BE A PRIORITY BEFORE #'S 4,5,6,7,8, &12	11/18/2020 9:46 AM

Q10 How much do you agree with the following statement: The recommended network addresses the region's vision and need for multimodal trails.

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Strongly agree	0.00%	0
Agree	50.00%	3
Disagree	33.33%	2
Strongly disagree	0.00%	0
No Opinion / Do Not Know	16.67%	1
TOTAL		6

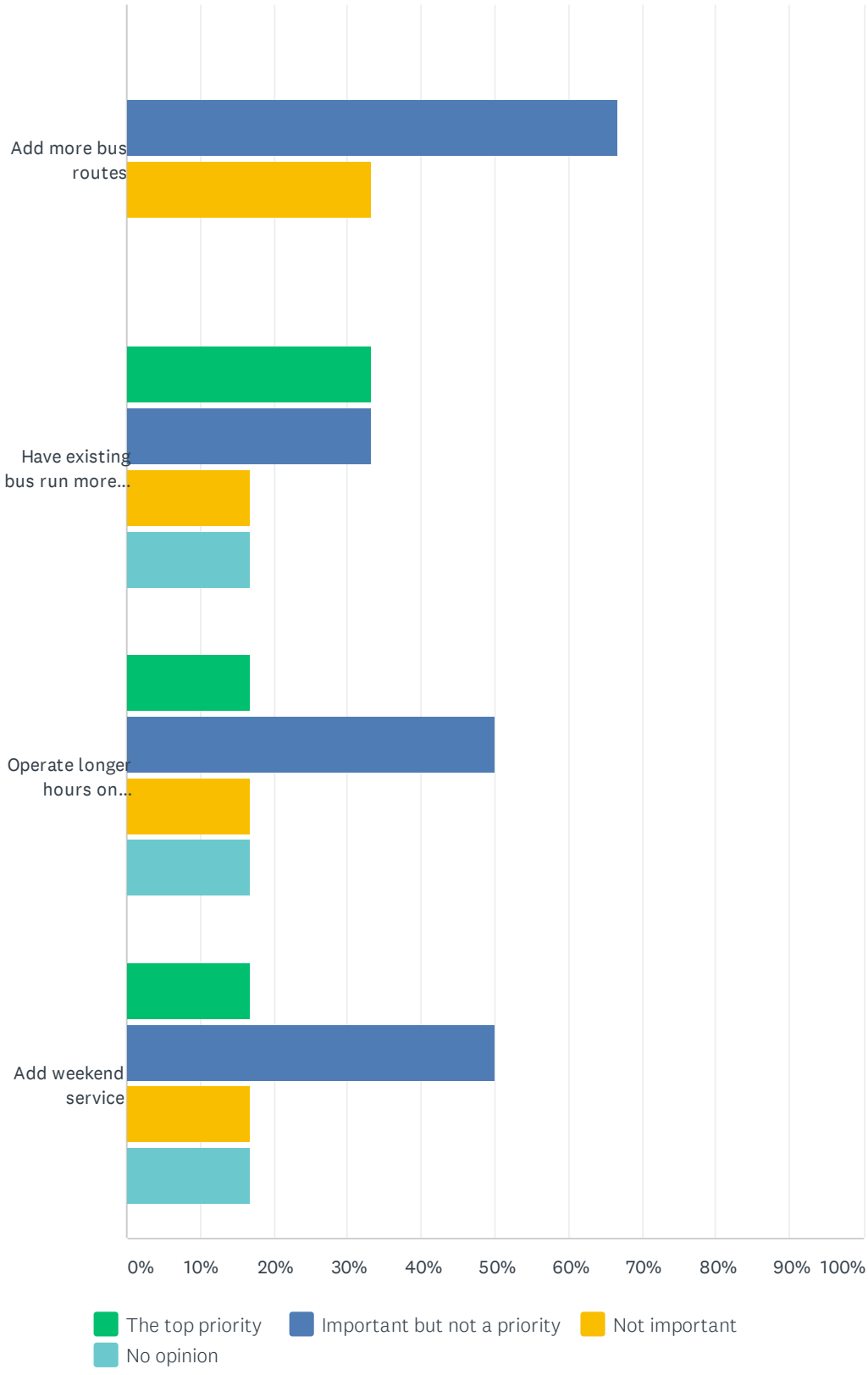
Q11 Comments (optional)

Answered: 1 Skipped: 6

#	RESPONSES	DATE
1	19 Central lake trail has many bikes on it now and should be done before 27	11/19/2020 9:26 AM

Q12 In general, how important are the following public transportation needs in Lake and Sumter Counties?

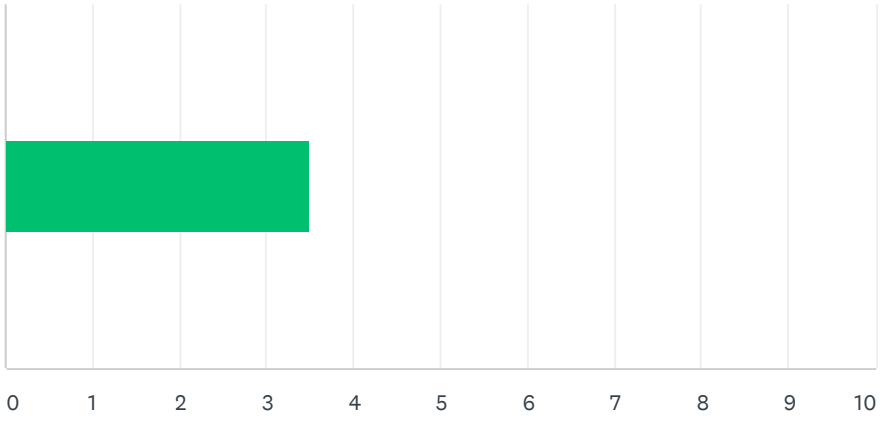
Answered: 6 Skipped: 1



	THE TOP PRIORITY	IMPORTANT BUT NOT A PRIORITY	NOT IMPORTANT	NO OPINION	TOTAL	WEIGHTED AVERAGE
Add more bus routes	0.00% 0	66.67% 4	33.33% 2	0.00% 0	6	2.33
Have existing bus run more often	33.33% 2	33.33% 2	16.67% 1	16.67% 1	6	1.50
Operate longer hours on weekdays	16.67% 1	50.00% 3	16.67% 1	16.67% 1	6	1.67
Add weekend service	16.67% 1	50.00% 3	16.67% 1	16.67% 1	6	1.67

Q13 The LakeXpress 2018 Transit Development Plan (TDP) includes the following recommendations: Potential New Service Route 1A Connection to Marion County Express Service on US 27 ~US 441 Flex Service Improvements to Existing Routes Increasing frequency on Routes 1, 1A, 2, 3 and 4 Extending weekday services on select routes until 9:00 PM Adding Saturday service on select routes While not funded as part of the 2045 LRTP, how would you rate the LakeXpress 2018 TDP recommendations?

Answered: 2 Skipped: 5



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	4	7	2
Total Respondents: 2			

#		DATE
1	4	11/19/2020 9:27 AM
2	3	11/18/2020 9:48 AM

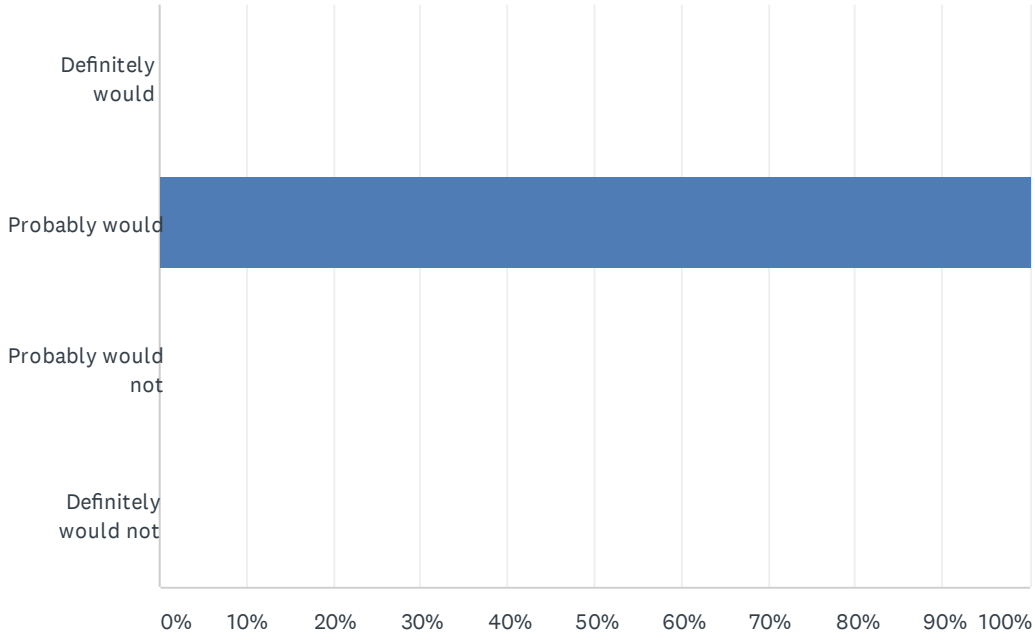
Q14 Comments (optional)

Answered: 1 Skipped: 6

#	RESPONSES	DATE
1	A map of the routes should be included with this question to ensure respondents are basing their answers on accurate information.	11/18/2020 9:41 AM

Q15 How well would the 2045 LRTP address your needs?

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Definitely would	0.00%	0
Probably would	100.00%	6
Probably would not	0.00%	0
Definitely would not	0.00%	0
TOTAL		6

Q16 What is your home ZIP/Postal Code?

Answered: 5 Skipped: 2

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	100.00%	5
Country	0.00%	0
Email Address	0.00%	0
Phone Number	0.00%	0

#	NAME	DATE
	There are no responses.	

#	COMPANY	DATE
	There are no responses.	

#	ADDRESS	DATE
	There are no responses.	

#	ADDRESS 2	DATE
	There are no responses.	

#	CITY/TOWN	DATE
	There are no responses.	

#	STATE/PROVINCE	DATE
	There are no responses.	

#	ZIP/POSTAL CODE	DATE
1	34737	11/19/2020 9:27 AM
2	33585	11/18/2020 9:48 AM
3	34715	11/18/2020 9:41 AM
4	32776	11/18/2020 8:33 AM
5	34471	11/16/2020 4:43 PM

#	COUNTRY	DATE
	There are no responses.	

#	EMAIL ADDRESS	DATE
	There are no responses.	

#	PHONE NUMBER	DATE
	There are no responses.	

Q17 Do you have any other comments, questions, or concerns?

Answered: 0 Skipped: 7

#	RESPONSES	DATE
	There are no responses.	

Technical Appendix E: 2045 Lake-Sumter MPO Revenue Forecast

2045 REVENUE FORECAST
LAKE-SUMTER MPO

WITH STATEWIDE, DISTRICTWIDE
AND COUNTY-SPECIFIC PROJECTIONS
2045 Forecast of State and Federal Revenues for Statewide and Metropolitan Plans

Overview

This report documents the Florida Department of Transportation (FDOT) revenue forecast through 2045. Estimates for major state programs for this metropolitan area, for FDOT Districts, and for Florida as whole are included. This includes state and federal funds that "flow through" the FDOT work program. This information is used for updates of Metropolitan Planning Organization (MPO[1]) Long Range Transportation Plans (LRTPs) and related documents.

Background

In accordance with federal statute, longstanding FDOT policy and leadership by the Metropolitan Planning Organization Advisory Council (MPOAC), the Office of Policy Planning (OPP) provides projections of future available funding to Florida's 27 MPOs. This data is known as the Revenue Forecast. Consistent data is being applied to the development of the FDOT Strategic Intermodal System (SIS) Highway Cost Feasible Plan.

The department developed a long-range revenue forecast through 2045. The forecast is largely based upon recent federal legislation (e.g., the FAST Act[2]) and changes in multiple factors affecting state revenue sources and current policies. This 2045 forecast incorporates (1) amounts contained in the department's work program for FYs 2018 through 2022, (2) the impact of the department's objectives and investment policies, and (3) the Statutory Formula (equal parts of population and motor fuel tax collections) for distribution of certain program funds. All estimates are expressed in nominal dollars, also known as year of expenditure (YOE) dollars.

Purpose

This version of the forecast (in word processing or portable document format) provides one specific MPO, and all interested parties, with dollar figures that will be necessary and useful as it prepares its 2045 LRTP. If more detail or particular additional numbers are needed, these may subsequently be delivered in spreadsheet format. This document does not forecast funds that do not "flow through" the state work program. Further information concerning local sources of revenue is available from State of Florida sources, particularly *Florida's Transportation Tax Sources: A Primer,* and the *Local Government Financial Information Handbook.*[3]

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[1] In this document, the general term MPO is used to refer to organizations whose names take different forms, including TPO, TPA and MTPO.

[2] Fixing America's Surface Transportation (FAST) Act, Public Law 114-94, December 4, 2015.

[3] FDOT's tax source primer is available at http://www.fdot.gov/comptroller/pdf/GAO/RevManagement/Tax%20Primer.pdf. The financial information handbook is prepared by the Office of Economic and Demographic Research, part of the Florida Legislature; it is available at http://edr.state.fl.us/Content/local-government/reports/lgfih17.pdf.

This forecast features county level estimates for major FDOT capacity programs, specifically Other Roads and Transit. If an MPO includes more than one county, the county level estimates are totaled to produce an overall MPO estimate. If an MPO's boundary doesn't match county boundaries, the FDOT District will determine appropriate funding totals for that MPO. OPP is available for consultation and support, and Districts are asked to share their method and results with our office. However, final responsibility rests with the appropriate District.

There is a long-term goal to focus planning on metropolitan areas which do not correspond to county or city boundaries. In some cases, analyses and plans are based on census designated urbanized areas (UZAs). But for most sources of funding, it is more practical to define geographic areas by county boundaries.

This forecast does not break down SIS Highway expenditures to the county or District level. SIS Highway expenditures are addressed in the SIS Cost Feasible Plan (CFP), which is under preparation by the FDOT Systems Implementation Office.[4] Districts always inform MPOs of projects that are proposed to be included in the CFP, and, conversely, CFP projects need to be included in the appropriate MPO LRTP(s) to receive federal funding.

This Forecast lists funding for FDOT programs designed to support, operate, and maintain the state transportation system. The FDOT has set aside sufficient funds in the 2045 Revenue Forecast for these programs, referred to as "non-capacity programs" here, to meet statewide objectives and program needs in all metropolitan and non-metropolitan areas. Specific District level amounts are provided for existing facilities expenditures. Funding for these programs is not included in the county level estimates.

2045 Revenue Forecast (State and Federal Funds)

The 2045 Revenue Forecast is the result of a three-step process:

1. State and federal revenues from current sources were estimated.
2. Those revenues were distributed among appropriate statewide capacity and non-capacity programs consistent with statewide priorities.
3. County level estimates for the Other Roads and Transit programs were developed, along with County, District or Statewide estimates for other funding categories that are of particular interest to the 27 Florida MPOs.

Forecast of State and Federal Revenues

The 2045 Revenue Forecast includes program estimates for the expenditure of state and federal funds expected from current revenue sources (i.e., new revenue sources were not added). The forecast estimates revenues from federal, state, and Turnpike sources included in the Department's 5-Year Work Program.

The forecast does not estimate revenue from other sources (i.e., local government/authority taxes, fees, and bond proceeds; private sector participation; and innovative finance sources). Estimates of state revenue sources were based on estimates prepared by the State Revenue Estimating Conference (REC) in September 2017 for state fiscal years (FYs) 2019 through 2028. Estimates of federal revenue sources were based on the Department's Federal Aid Forecast for FYs 2018 through 2027. In this forecast, Surplus Toll Revenue is only projected for Miami-

[4] Formerly known as the Systems Planning Office.

Dade County, but that category may apply to more counties in future Revenue Forecasts. Assumptions about revenue growth are shown in Table 1:

Table 1
Revenue Sources and Assumptions

Revenue Sources	Years	Assumptions*
State Taxes (includes fuel taxes, tourism-driven sources, vehicle-related taxes and documentary stamp taxes)	2019-2028	Florida REC Estimates; these average in the range from 2.5% to 3.0% per year
	2029-2045	Annual 1.93% increase in 2029, gradually decreasing to -0.44% in 2045
Federal Distributions (Total Obligating Authority)	2018-2027	FDOT Federal Aid Forecast
	2028-2045	Annual 0.0% increase through 2045
Turnpike	2018-2028	Turnpike Revenue Forecast
	2029-2045	Annual 1.93% increase in 2029, gradually decreasing to -0.44% in 2045

* Note all growth rates show nominal, or year of expenditure, dollar figures. Consistent with REC assumptions, a constant annual inflation rate of 2.60% is projected forward indefinitely. Therefore, *an assumption of nominal growth of 1.93% signifies a real decline of about 0.65% per year.*

A summary of the forecast of state, federal and Turnpike revenues is shown in Table 2. The *2045 Revenue Forecast Guidebook* contains inflation factors that can be used to adjust project costs expressed in "present day cost" to "year of expenditure" dollars.

Table 2
Forecast of Revenues
2045 Revenue Forecast (Millions of Dollars)

(Percentages reflect percentage of total period funding produced by that source. For example, Federal funding is projected to provide 24% of all funding for the period of 2021 through 2025)

Major Revenue Sources	Time Periods (Fiscal Years) 2020[1]	2021-2025[1]	2026-2030	2031-2035	2036-2045	26-Year Total[2] 2020-2045
Federal	2,353 28%	10,884 24%	11,878 23%	12,108 21%	24,217 20%	61,440 22%
State	5,270 62%	27,366 61%	34,128 65%	38,264 66%	80,719 66%	185,748 65%
Turnpike	814 10%	6,572 15%	6,688 13%	7,861 14%	16,518 14%	38,453 13%
Total[2]	**8,437**	**44,823**	**52,694**	**58,233**	**121,454**	**285,641**

[1] Based on the FDOT Adopted Work Program for 2018 through 2022.
[2] Columns and rows sometimes do not equal the totals due to rounding.

Estimates for State Programs

Long range revenue forecasts assist in determining financial feasibility of needed transportation improvements, and in identifying funding priorities. FDOT policy places primary emphasis on safety and preservation. Remaining funding is planned for capacity programs and other priorities.

The 2045 Revenue Forecast includes the program funding levels contained in the July 1, 2017 Adopted Work Program for 2018 through 2022. The forecast of funding levels for FDOT programs for 2020-2045 was developed based on the corresponding Program and Resource Plan (PRP), which includes the Adopted Work Program and planned funding for fiscal years 2023-2026. This Revenue Forecast provides information for Capacity and Non-Capacity state programs. The information is consistent with "Financial Guidelines for MPO Long Range Plans" moved forward by the Metropolitan Planning Organization Advisory Council Policy and Technical Committee on July 13, 2017.

The Revenue Forecast entails long-term financial projections for support of long-term planning. The forecast is delivered well in advance of the 5-year LRTP adoption schedule, roughly 18 months in advance of the first required adoption. This forecast is considered satisfactory for the remainder of the 5-year cycle; in other words, it is useful for MPOs whose adoptions come at the end of the cycle, about 3½ years after the first MPOs. However, FDOT reserves the right to consider adjustments to the Revenue Forecast during the LRTP adoption cycle, if warranted.

Capacity Programs

Capacity programs include each major FDOT program that expands the capacity of existing transportation systems (such as highways and transit). Table 3 includes a brief description of each major capacity program and the linkage to the program categories used in the PRP.

Statewide Forecast for Capacity Programs

Table 4 identifies the statewide estimates for capacity programs in the 2045 Revenue Forecast. $285 billion is forecast for the entire state transportation program from 2020 through 2045; about $149 billion (52%) is forecast for capacity programs.

Metropolitan Forecast for Capacity Programs

Pursuant to federal law, transportation management area (TMA) funds and certain Transportation Alternatives (TALU) funds are projected based on current population estimates. These 2 categories only apply to federally designated TMAs; 15 of the State's 27 MPOs qualify for these funds. District estimates for certain Transportation Alternatives (TA) funds and the Other Roads program were developed using the current statutory formula.[5] For planning purposes, transit program funds were divided between Districts and counties according to population.

[5] The statutory formula is 50% population and 50% motor fuel tax collections.

TABLE 3
Major Capacity Programs Included in the 2045 Revenue Forecast and Corresponding Program Categories in the Program and Resource Plan (PRP)

2045 Revenue Forecast Programs	PRP Program Categories
SIS Highways Construction & ROW - Construction, improvements, and associated right of way on SIS highways (i.e., Interstate, the Turnpike, other toll roads, and other facilities designed to serve interstate and regional commerce including SIS Connectors).	Interstate Construction Turnpike Construction Other SIS Highway Construction SIS Highway Traffic Operations SIS Highway Right of Way (ROW) SIS Advance Corridor Acquisition
Other Arterial Construction/ROW - Construction, improvements, and associated right of way on State Highway System roadways not designated as part of the SIS. Also includes funding for local assistance programs such as the Transportation Regional Incentive Program (TRIP), and the County Incentive Grant Program (CIGP).	Arterial Traffic Operations Construction County Transportation Programs Economic Development Other Arterial & Bridge Right of Way Other Arterial Advance Corridor Acquisition
Aviation - Financial and technical assistance to Florida's airports in the areas of safety, security, capacity enhancement, land acquisition, planning, economic development, and preservation.	Airport Improvement Land Acquisition Planning Discretionary Capacity Improvements
Transit - Technical and operating/capital assistance to transit, paratransit, and ridesharing systems.	Transit Systems Transportation Disadvantaged – Department Transportation Disadvantaged – Commission Other; Block Grants; New Starts Transit
Rail - Rail safety inspections, rail-highway grade crossing safety, acquisition of rail corridors, assistance in developing intercity and commuter rail service, and rehabilitation of rail facilities.	Rail/Highway Crossings Rail Capacity Improvement/Rehabilitation High Speed Rail Passenger Service
Intermodal Access - Improving access to intermodal facilities, airports and seaports; associated rights of way acquisition.	Intermodal Access
Seaport Development - Funding for development of public deep-water ports projects, such as security infrastructure and law enforcement measures, land acquisition, dredging, construction of storage facilities and terminals, and acquisition of container cranes and other equipment used in moving cargo and passengers.	Seaport Development
SUN Trail – FDOT is directed to make use of its expertise in efficiently providing transportation projects to develop a statewide system of paved non-motorized trails as a component of the Florida Greenways and Trails System (FGTS), which is planned by the Florida Department of Environmental Protection (FDEP).	Other State Highway Construction Other State Highway ROW Other Roads Construction Other Roads ROW Other SIS Highway Construction SIS Highway ROW

Table 4
Statewide Capacity Program Estimates
State and Federal Funds from the 2045 Revenue Forecast (Millions of Dollars)

Major Programs	Time Periods (Fiscal Years)					26-Year Total[2]
	2020[1]	2021-25[1]	2026-30	2031-35	2036-45	2020-2045
SIS Highways Construction & ROW	2,199	12,940	12,490	13,933	28,971	70,534
Other Roads Construction & ROW	892	6,538	8,006	8,650	18,103	42,188
Aviation	211	1,143	1,433	1,596	3,354	7,738
Transit	417	2,306	2,881	3,154	6,580	15,339
Rail	178	850	1,255	1,425	2,985	6,692
Intermodal Access	40	262	345	379	791	1,816
Seaports	114	622	837	938	1,970	4,481
SUN Trail	25	125	125	125	250	650
Total Capacity Programs	**4,075**	**24,786**	**27,372**	**30,200**	**63,004**	**149,438**
Statewide Total Forecast	**8,437**	**44,823**	**52,694**	**58,233**	**121,454**	**285,641**

[1] Based on the FDOT Tentative Work Program for FYs 2018 through 2022.
[2] Columns and rows sometimes do not equal the totals due to rounding.

Estimates for the Other Roads and Transit program categories for this metropolitan area are included in Table 5.

Table 5
County Level Capacity Program Estimates
State and Federal Funds from the 2045 Revenue Forecast (Millions of Dollars)
Estimates for the Lake-Sumter Metropolitan Planning Organization

	Time Periods (Fiscal Years)					26-Year Total
Capacity Programs*	2020	2021-25	2026-30	2031-35	2036-45	2020-2045
Other Roads Construction & ROW	19.51	143.10	173.82	187.53	390.21	914.17
Transit	8.64	47.99	60.51	66.27	138.05	321.45
Total - Main Programs	28.14	191.09	234.33	253.80	528.27	1,235.62

* Estimates for 2018 through 2022 are contained in the FDOT Adopted Work Program.
# Other Roads estimates do not include projected funding for the TRIP program of the Federal TMA program (SU Fund Code).
^ Transit estimates do not include projected funding for the Florida New Starts program.

A few programs fund capacity projects throughout the state on a competitive basis. The two most prominent programs for MPOs are the Transportation Regional Incentive Program (TRIP) and the Florida New Starts Transit Program. Formerly, TRIP was referred to as a Documentary Stamp Tax program, but there are currently multiple sources of funding. With the economic recovery, the forecast funding for TRIP is now over five times the level of 5 years ago. Also, amounts for the federally funded TMA program (Fund Code SU) are provided in Table 6, and not included in Table 5. Neither TRIP, Florida New Starts or TMA funds are included above.

Table 6
Transportation Management Area (TMA) Funds Estimates
(Known as SU Funds in FDOT Work Program)
Federal Funds from the 2045 Revenue Forecast (Millions of Dollars)

Lake Sumter Metropolitan Area (Defined as Lake and Sumter Counties)	Time Periods (Fiscal Years)					26-Year Total
	2020	2021-25	2026-30	2031-35	2036-45	2020-2045
TMA/SU Funds	N/A	N/A	N/A	N/A	N/A	N/A

Projects which would be partially or entirely funded by TRIP or FL New Starts cannot be counted as "funded" in LRTPs. This is because there is no guarantee of any specific project receiving TRIP or FL New Starts funding in the future. Both programs are competitive, and only a small percentage of potentially eligible projects receive funding. However, these projects can be included in LRTPs as "illustrative" projects.[6] If MPOs have specific questions, they should consult with their District liaison and planning staff; District staff will contact the OPP, Work Program, or other Central Office staff as needed. Conditional estimates of TRIP funds by District are in Table 7. Statewide estimates of FL New Starts funds are in Table 8.

The FAST Act continued funding for Transportation Alternatives projects. Categories impacting MPOs include funds for (1) Transportation Management Areas (TALU funds); (2) areas with populations greater than 5,000 up to 200,000 (TALL funds), and (3) any area of the state (TALT funds). Estimates of Transportation Alternatives Funds are shown further below in Table 9.

Table 7
Districtwide Transportation Regional Incentive Program Estimates
State Funds from the 2045 Revenue Forecast (Millions of Dollars)

FDOT District	5-Year Period (Fiscal Years)					26-Year Total[2]
	2020[1]	2021-25	2026-30	2031-35	2036-2045	2020-2045
District 1	3.1	21.9	32.7	36.4	74.6	**168.8**
District 2	2.5	17.6	26.3	29.2	59.9	**135.5**
District 3	1.6	11.6	17.3	19.2	39.3	**89.0**
District 4	4.1	28.9	43.1	47.9	98.2	**222.3**
District 5	4.7	32.8	49.0	54.4	111.7	**252.6**
District 6	2.8	19.7	29.4	32.7	67.0	**151.6**
District 7	3.3	23.2	34.6	38.4	78.8	**178.2**
Statewide Total Forecast	**22.2**	**155.8**	**232.3**	**258.2**	**529.5**	**1,197.9**

[1] Estimates for 2018 through 2022 are contained in the FDOT Adopted Work Program.
[2] Columns and rows sometimes do not equal the totals due to rounding.

[6] Other projects for which funding is uncertain may also be included as illustrative projects.

Table 8
Transit - Florida New Starts Program Estimates
State Funds from the 2045 Revenue Forecast (Millions of Dollars)

Statewide Program	Time Periods (Fiscal Years)					26-Year Total
	2020	2021-25	2026-30	2031-35	2036-45	2020-2045
Statewide Total Forecast	41.8	226.3	259.2	282.4	593.4	1,403.1

Table 9
Transportation Alternatives Funds Estimates
Federal Funds from the 2045 Revenue Forecast (Millions of Dollars)

Lake Sumter Metropolitan Area (Defined as Lake and Sumter Counties)	Time Periods (Fiscal Years)					26 Year Total [1]
	2020 [1]	2021-25	2026-30	2031-35	2036-45	2020-2045
TALU (Urban); Funds for TMA	0.11	0.53	0.53	0.53	1.06	2.75
TALL (<200,000 population); Entire FDOT District	0.82	4.10	4.10	4.10	8.19	21.29
TALT (Any Area); Entire FDOT District	5.18	25.90	25.90	25.90	51.79	134.65

[1] Rows sometimes do not equal the totals due to rounding.

Other projects for which funding is uncertain may also be included in LRTPs as "illustrative" projects.

Non-Capacity Programs

Non-capacity programs refer to FDOT programs designed to support, operate and maintain the state highway system: safety, resurfacing, bridge, product support, operations and maintenance, and administration. Table 10 includes a description of each non-capacity program and the linkage to the program categories used in the Program and Resource Plan.

County level estimates are not needed for these programs. Instead, FDOT has included sufficient funding in the 2045 Revenue Forecast to meet the following statewide objectives and policies:

- **Resurfacing program:** Ensure that 80% of state highway system pavement meets Department standards;
- **Bridge program:** Ensure that 90% of FDOT-maintained bridges meet Department standards while keeping all FDOT-maintained bridges open to the public safe;
- **Operations and maintenance program:** Achieve 100% of acceptable maintenance condition standard on the state highway system;
- **Product Support:** Reserve funds for Product Support required to construct improvements (funded with the forecast's capacity funds) in each District and metropolitan area; and
- **Administration:** Administer the state transportation program.

The Department has reserved funds in the 2045 Revenue Forecast to carry out its responsibilities and achieve its objectives for the non-capacity programs on the state highway system.

TABLE 10
Major Non-Capacity Programs Included in the 2045 Revenue Forecast and Corresponding Program Categories in the Program and Resource Plan (PRP)

2045 Revenue Forecast Programs	PRP Program Categories
Safety - Includes the Highway Safety Improvement Program, the Highway Safety Grant Program, Bicycle/Pedestrian Safety activities, the Industrial Safety Program, and general safety issues on a Department-wide basis.	Highway Safety Grants
Resurfacing - Resurfacing of pavements on the State Highway System and local roads as provided by state law.	Interstate Arterial and Freeway Off-System Turnpike
Bridge - Repair and replace deficient bridges on the state highway system. In addition, not less than 15% of the amount of 2009 federal bridge funds must be expended off the federal highway system (e.g., on local bridges not on the State Highway System).	Repair - On System Replace - On System Local Bridge Replacement Turnpike
Product Support - Planning and engineering required to "produce" FDOT products and services (i.e., each capacity program; Safety, Resurfacing, and Bridge Programs).	Preliminary Engineering Construction Engineering Inspection Right of Way Support Environmental Mitigation Materials & Research Planning & Environment Public Transportation Operations
Operations & Maintenance - Activities to support and maintain transportation infrastructure once it is constructed and in place.	Operations & Maintenance Traffic Engineering & Operations Toll Operations Motor Carrier Compliance
Administration and Other - Resources required to perform the fiscal, budget, personnel, executive direction, document reproduction, and contract functions. Also includes the Fixed Capital Outlay Program, which provides for the purchase, construction, and improvement of non-highway fixed assets (e.g., offices, maintenance yards). The "Other" category consists primarily of debt service.	Administration Fixed Capital Outlay Office Information Systems Debt Service

District and metropolitan area. Table 11 identifies the statewide estimates for non-capacity programs. About $136 billion (48% of total revenues) is forecast for non-capacity programs.

Table 11
Statewide Non-Capacity Expenditure Estimates
State and Federal Funds from the 2045 Revenue Forecast (Millions of Dollars)

Major Categories	Time Periods (Fiscal Years)					26-Year Total[1]
	2020	2021-25	2026-30	2031-35	2036-45	2020-2045
Safety	141	820	826	825	1,659	**4,271**
Resurfacing	633	4,354	4,150	4,241	8,756	**22,135**
Bridge	1,035	1,051	2,403	2,946	6,122	**13,556**
Product Support	1,302	6,576	6,709	7,096	14,614	**36,299**
Operations and Maintenance	1,384	7,442	8,596	9,162	18,939	**45,523**
Administration and Other	429	2,770	2,891	2,819	5,559	**14,468**
Statewide Total Forecast	**4,923**	**23,013**	**25,576**	**27,089**	**55,650**	**136,251**

[1] Columns and rows sometimes do not equal the totals due to rounding.

Table 12 contains District-wide estimates for State Highway System (SHS) existing facilities expenditures for information purposes. Existing facilities expenditures include all expenditures for the program categories Resurfacing, Bridge, and Operations and Maintenance (O&M). In the previous Revenue Forecast, these expenditures were described as SHS O&M, but the expenditures on the Resurfacing and Bridge categories, in combination, are about as much as those for O&M. These existing facilities estimates are provided pursuant to an agreement between FDOT and the Federal Highway Administration (FHWA) Division Office.

Table 12
State Highway System Existing Facilities Estimates by District
State and Federal Funds from the 2045 Revenue Forecast (Millions of Dollars)

Major Programs	Time Periods (Fiscal Years)					26-Year Total[1]
	2020	2021-25	2026-30	2031-35	2036-45	2020-2045
District 1	457	1,922	2,267	2,446	5,060	**12,151**
District 2	606	2,551	3,009	3,247	6,716	**16,129**
District 3	495	2,084	2,458	2,652	5,487	**13,176**
District 4	410	1,728	2,038	2,199	4,549	**10,924**
District 5	561	2,362	2,785	3,006	6,217	**14,931**
District 6	203	854	1,007	1,087	2,248	**5,399**
District 7	319	1,345	1,586	1,712	3,541	**8,503**
Statewide Total Forecast	**3,051**	**12,847**	**15,150**	**16,348**	**33,817**	**81,214**

Note: Includes Resurfacing, Bridge, and Operations & Maintenance Programs.
[1] Columns and rows sometimes do not equal the totals due to rounding.

Advisory Concerning Florida's Turnpike Enterprise

Within the framework of FDOT, Florida's Turnpike Enterprise (Turnpike) is given authority, autonomy and flexibility to conduct its operations and plans in accordance with Florida Statute and its Bond Covenants. The Turnpike's traffic engineering consultant projects Toll Revenues and Gross Concession Revenues for the current year and the subsequent 10-year period, currently FYs 2018-2028. The consultant's official projections are available at http://www.floridasturnpike.com/documents/reports/Traffic%20Engineers%20Annual%20Report/1_Executive%20Summary.pdf.

Projections of Turnpike revenues within the State of Florida Revenue Forecast beyond FY2028 are for planning purposes, and no undue reliance should be placed on these projections. Such amounts are generated and shared by the FDOT Office of Policy Planning (OPP) for purposes of accountability and transparency. They are part of the Revenue Forecast process, which serves the needs of MPOs generating required Long Range Transportation Plans (LRTPs).

MPOs do not program capital projects or make decisions concerning Turnpike spending. OPP projections are not part of the Turnpike's formal revenue estimating process and are not utilized for any purpose other than to assist MPOs and perform related functions. Such amounts do not reflect the Turnpike's requirement to cover operating and maintenance costs, payments to bondholders for principal and interest, long-term preservation costs, and other outstanding Turnpike obligations and commitments.

Technical Appendix F: 2019 FDOT Revenue Forecasting Guidebook

Florida Department of Transportation

Revenue Forecasting Guidebook

January 2, 2019

Note

This document is designed to be viewed in an electronic format.

This is a living, working document. Please report errors, omissions, or corrections to Martin Markovich, Office of Policy Planning (OPP), Florida Department of Transportation. martin.markovich@dot.state.fl.us. or 850-414-4918. The main OPP number is (850) 414-4800.

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Introduction

The premise of the long-range revenue forecast is rooted in federal regulation originally required by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). All transportation acts since have continued the requirement for a financial plan. Currently, Title 23 of the United States Code (U.S.C.) Section 134 requires a Metropolitan Planning Organization (MPO) Long-Range Transportation Plan (LRTP) to contain a financial plan that demonstrates how the adopted LRTP can be implemented.

The financial plan should indicate resources from public and private sources that are reasonably expected to be made available to carry out the plan and recommend any additional financing strategies for needed projects and programs. The financial plan should demonstrate fiscal constraint and ensure that the LRTP reflects realistic assumptions about future revenues. Additionally, Title 23 U.S.C. Section 134 indicates that the MPO, applicable transit operator, and State should cooperatively develop estimates of funds that will be available to support plan implementation.

Since 1994, the Florida Department of Transportation (FDOT) has worked with the Metropolitan Planning Organization Advisory Council (MPOAC) to develop long range revenue forecasts to assist Metropolitan Planning Organizations (MPOs[1]). The Revenue Forecast helps them to comply with federal requirements for developing cost feasible transportation plans and to demonstrate coordinated planning for transportation facilities and services in Florida. The revenue forecast is used by FDOT for the Strategic Intermodal System (SIS) Cost Feasible Plan (CFP) which is FDOT's plan for identifying projects on the SIS that are considered financially feasible over a period of 11 or more years out from the CFP release date.

During the development of the revenue forecast, FDOT meets with and regularly updates the MPOAC on various milestones throughout the process. These updates encourage meaningful conversation about any issues or concerns involving the revenue forecast and allows FDOT to understand and address the concerns of the MPOAC. This regular communication has fostered a cooperative and collaborative environment, assisting the FDOT and MPOs in reconciling their long-range plans; demonstrating coordinated planning for transportation facilities and services in Florida and better documenting long range needs in the state.

[1] For the purposes of this document, the acronym refers to all forms of a MPO including Transportation Planning Organization (TPO), Transportation Planning Agency (TPA), and Metropolitan Transportation Planning Organization (MTPO).

Purpose

This Guidebook is intended to provide FDOT and MPO staff and consultants with key documentation of the process for preparing the long-range transportation revenue forecast. It also provides principles by which the process will be guided and measures used to evaluate the process. Florida's MPOs are advised to use the revenue estimates provided by FDOT and this guidebook to assist in the update of their LRTPs.

If an independent forecast is used, it is in the best interests of all to develop it in a cooperative process with the District and the Office of Policy Planning (OPP).

If a MPO does not use the FDOT revenue forecast, they are required to develop their own independent forecast. FDOT recommends (based on 23 CFR 450.324(f)(11)(ii)) that the FDOT Revenue Forecast be included in an Appendix to the LRTP. This recommendation would still apply even if an MPO develops an independent forecast.

Several fundamental points drive the development of the statewide long-range revenue forecast:

- The forecast is based on current federal and state laws, funding sources, and FDOT policies. It is also based on assumptions concerning factors affecting state revenue sources (e.g., population growth rates, motor fuel consumption and tax rates).

- The FDOT's Program and Resource Plan (PRP) is used as the basis for the forecast. It is the financial planning document used by the Department for the 10-year period that includes the Five-Year Work Program. Annual estimates of funding levels for each subprogram and fund source in the PRP are prepared through the horizon year to ensure that the forecast is compatible with the PRP format and structure; however, they are consolidated for analysis and reporting purposes as described later in this document.

- The forecast is centered only on state and federal funds that "pass through" the FDOT Five Year Work Program. It does not include estimates for local government, local/regional authority, private sector, federal funds that go directly to transit operators, or other funding sources except as noted. While these other fund sources are not part of the statewide forecast, they should be considered as part of the overall MPO forecast based on their information source.

- The forecast consolidates the numerous fund codes used by the FDOT into three major fund categories: 1) Federal, 2) State, and 3) Turnpike. Federal funds include all federal aid that pass through the department's budget. Turnpike funds include proceeds from Turnpike tolls, bonds sold for Turnpike activities, and concession revenues. State funds include the remaining state revenues, such as motor fuel taxes, motor vehicle fees, right of way bonds, and toll revenues from facilities not part of Turnpike.

- The Department's major programs are divided into two categories: capacity programs and non-capacity programs. Capacity programs are major FDOT programs that expand the capacity of the state's transportation systems. Non-capacity programs are needed to support, operate, and maintain the state transportation system. Table 1 includes a brief

description of each major program. Appendix A contains a more detailed discussion of the programs and the types of activities eligible for funding in each.

- Revenue forecasts estimate the value of money at the time it will be collected and reflects future revenue. Future revenue is often referred to as *year of expenditure* (YOE) dollars. In recent statewide revenue forecasts, federal funding has been projected to be constant in year of expenditure dollars. This means it is projected to slowly decline in purchasing power. Typically, state funding has been projected to increase for much of the forecasting period, but it is important to bear in mind the 2.6% general inflation rate assumed by the Florida Revenue Estimating Conference and carried over for purposes of the FDOT Revenue Forecast. All amounts in the forecast are expressed in YOE dollars.

- A statewide revenue forecast developed cooperatively, can provide consistency in the assumptions and approaches used when estimating future state and federal funding.

- Using the statewide revenue forecast, FDOT has identified planned projects and programs funded with allocations for the SIS Highways Construction & ROW, program as part of development of the SIS Cost Feasible Plan. The MPOs are identifying planned projects and programs funded by Non-SIS Highways and Transit programs.

Table 1 provides a description of the eight major capacity programs and six major non-capacity programs included in the revenue forecast.

Advisory Concerning Florida's Turnpike Enterprise

Within the framework of the Florida Department of Transportation (FDOT), Florida's Turnpike Enterprise (Turnpike) is given authority,to conduct its operations and plans in accordance with Florida Statute and its Bond Covenants. The Turnpike's consultant projects Toll Revenues and Gross Concession Revenues for the current year and the subsequent 10-year period, FYs 2018-2028. The consultant's projections are available at http://www.floridasturnpike.com/documents/reports/Traffic%20Engineers%20Annual%20Report/1_Executive%20Summary.pdf.

Projections of Turnpike revenues within the State of Florida Revenue Forecast beyond FY2028 are for planning purposes, and no undue reliance should be placed on the estimates. Such amounts are generated and shared by the FDOT Office of Policy Planning (OPP) for purposes of accountability and transparency in development of this document. Such projections are part of the Revenue Forecast process, which serves the needs of MPOs generating required Long-Range Transportation Plans (LRTPs). MPOs do not program capital projects or make decisions concerning Turnpike spending. OPP projections are not part of the Turnpike's formal revenue estimating process and are not utilized for any purpose other than to provide MPOs with an approximation of potential future revenues. Such amounts do not reflect the Turnpike's requirement to cover operating and maintenance costs, payments to bondholders for principal and interest, long-term preservation costs, and other outstanding Turnpike obligations and commitments."

Table 1 Description of the Major Programs Included in the Revenue Forecast

Capacity Programs	Non-Capacity Programs
SIS Highway Construction & ROW – Construction, improvements, and associated right of way on SIS highways (i.e., Interstate, the Turnpike, other toll roads, and other facilities designed to serve interstate and interregional commerce including SIS connectors).	Safety – Includes the Highway Safety Improvement Program, the Highway Safety Grant Program, bicycle and pedestrian safety activities, the Industrial Safety Program, and general safety issues on a Department-wide bases.
Aviation – Financial and technical assistance to Florida's airports in the areas of safety, security, capacity enhancement, land acquisition, planning, economic development, and preservation.	Resurfacing – Resurfacing of pavements on the State Highway System and local roads as provided by state law.
Rail – Rail safety inspections, rail-highway grade crossing safety, acquisition of rail corridors, assistance in developing intercity and commuter rail service, and rehabilitation of rail facilities.	Bridge – Repair and replace deficient bridges on the State Highway System. Includes federal bridge funds which must be expended off the federal highway system (e.g., local bridges not on the State Highway System).
Intermodal Access – improving access to intermodal facilities, airports and seaports, and acquisition of associated rights of way. Funding for this category is being phased out, and funds in the future will be listed under the appropriate mode (highway, seaport, rail, etc.)	Product Support – Planning and engineering required to "produce" FDOT products and services (i.e., each capacity program of safety resurfacing, and bridge programs).
Seaport Development – Funding for development of public deep-water port projects, such as security infrastructure and law enforcement measures, land acquisition, dredging, construction of storage facilities and terminals, and acquisition of container cranes and other equipment used in moving cargo and passengers	Operations & Maintenance (O&M) – Activities to support and maintain transportation infrastructure once it is constructed and in place. The Revenue Forecast includes projections of future FDOT expenditures for O&M on the State Highway System on the District level. Projections are not made on the MPO level because they would not serve any purpose.
Non-SIS Highways Construction & ROW – Construction, improvements, and associated right of way on State Highway System roadways not designated as part of the SIS. Also includes funding for local assistance programs, such as the County Incentive Grant Program, the Small County Road Assistance Program, and the Small County Outreach Program.	Administration and Other – Resources required to perform the fiscal, budget, personnel, executive direction, document reproduction, and contract functions. Also includes the Fixed Capital Outlay Program, which provides for the purchase, construction, and improvement of non-highway fixed assets (e.g., offices, maintenance yards).

Table 1, continued

Transit – Technical, operating, and capital assistance to transit, paratransit, and ridesharing systems.	
SUN Trail – FDOT is directed to make use of its expertise in efficiently providing transportation projects to develop a statewide system of paved non-motorized trails as a component of the Florida Greenways and Trails System (FGTS), which is planned by the Florida Department of Environmental Protection (FDEP).	

Guiding Principles

Guiding principles establish the foundation by which an organization or process will function. The principles listed below will be used to prepare the statewide revenue forecast. They set the standard of practice for how FDOT will identify and forecast financial resources that are reasonably expected to be available to plan and develop the transportation system.

Financial Integrity

Guiding Principle: FDOT Central Office will demonstrate financial integrity by exhibiting fiscal responsibility when estimating future revenues.

Financial integrity involves responsibly evaluating the probability of risks. As stewards of public money, it is prudent for both FDOT and the MPOs to balance both risk and reward when estimating future revenues. A complete financial plan should consider all potential resources realistically expected to be available under reasonable assumptions at the time of the estimate. Having a financially sound approach can help guard against future unknowns to the greatest extent possible.

Collaboration

Guiding Principle: FDOT Central Office will collaborate with the FDOT District MPO Liaisons and the MPOAC regarding the statewide revenue forecast.

Collaboration is a process where multiple individuals or groups work together to achieve a shared goal. FDOT works with the state Revenue Estimating Conference (REC) in estimating future state revenues from the gas tax and other sources. Similarly, several FDOT offices contribute to the development of the Revenue Forecast. These include the Work Program, Systems Implementation and District offices. Acknowledging the complex process of developing the statewide revenue forecast, FDOT works with the MPOAC and the MPOs to draft, discuss,

and agree upon financial guidelines to ensure consistency in the preparation and use of the forecast. Input and acceptance by all parties (internal and external to FDOT) is important for success and acceptance. Therefore, agreement on the financial guidelines early in the process helps to minimize the potential for misunderstanding or disagreement as the forecast is prepared.

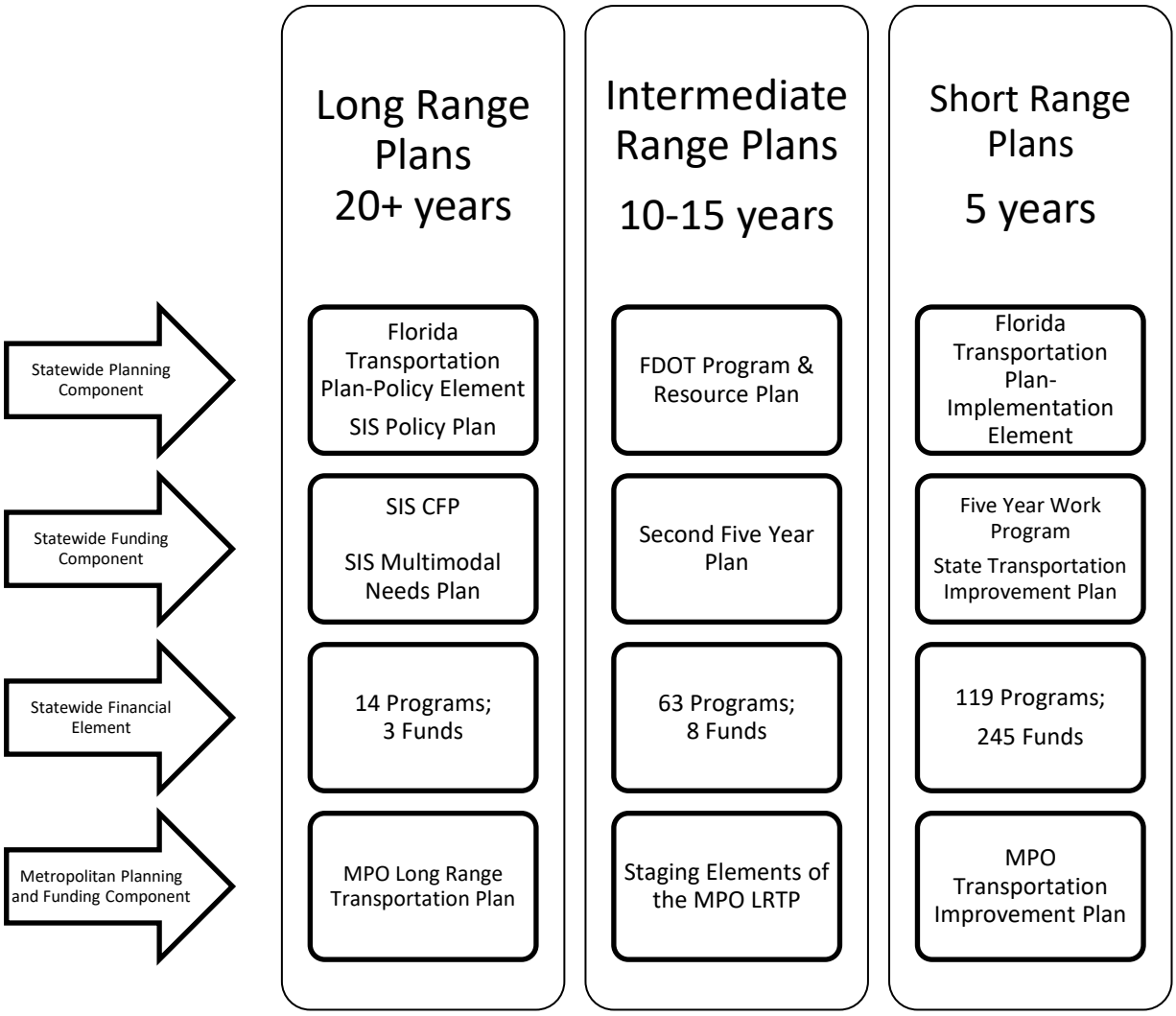
Communication and Transparency

Guiding Principle: FDOT Central Office will communicate with the FDOT District MPO Liaisons and the MPOAC regarding the statewide revenue forecast.

Communication is the transfer of ideas and information among all parties. Communication is the key to FDOT, the MPOAC, and the MPOs making sound decisions to document assumptions on future revenue through the statewide revenue forecast. Throughout the process, it is the intent of FDOT to conduct frequent and thorough updates to encourage open and transparent dialog. Financial Planning for Transportation

Financial planning for statewide and other transportation plans is typically required for three periods: long range (20 or more years), intermediate range (10-15 years), and short range (5 years). Figure 1 summarizes the three periods and the types of plans prepared at each stage. The specificity of these plans, including financial elements, varies in detail and implied accuracy. Assumptions, and the level of detail of underlying data, used in development of these three types of plans vary. These assumptions move from general (long range) to specific (short range) as information becomes available as shown in the figure below.

Figure 1 Summary of Planning Periods



The following describes the purpose and characteristics for long-, intermediate-, and short-range plans.

Long Range Plans

The purpose of long range plans is to set policy including vision, goals, objectives, and strategies. In some cases, it also identifies needed major improvements while preserving and maintaining prior investments. When improvements are identified, a determination should be made as to those that are "cost feasible". Long range plans are updated every three to five years and are more general than intermediate and short-range plans. They are based upon general assumptions and estimates, and can be affected as conditions change (e.g., changes in policy, technology, growth). Characteristics of long range plans typically include:

- Horizons of 20+ years where project plans are sometimes organized in stages (e.g., first five years, second five years);
- Planned public transportation improvements may not specify technologies or detailed access requirements and have general alignments, routes or coverage areas;
- Traffic operations improvements, including the use of Intelligent Transportation System (ITS) techniques, may be included as area-wide programs or multi-corridor programs; and
- System preservation activities such as roadway resurfacing, bridge rehabilitation and maintenance, if included, are treated as programs rather than site- or corridor-specific projects.

In the development of a long-range plan, revenue and program forecasts are general in nature to encourage a variety of approaches and technologies to meet stated goals. Program forecasts differentiate only between major types of activities (e.g., capacity improvements for eligible modal programs, preservation programs, and support activities) that are sufficient to develop estimates. Revenue and program forecasts cover 20 or more years and can fluctuate from year to year. Estimates for one year or a few years are not produced because they can be misleading in such a short time frame.

Long range plans are broad guides to the makeup and management of the future transportation system. They do not offer the detail of the FDOT Five Year Work Program or the MPO's Transportation Improvement Program (TIP). Planned improvements and programs may have to be modified as more detailed information becomes available or as conditions change. Project cost estimates and descriptions — including the primary mode in a corridor or system — will change during project development activities. In addition, subsequent changes in revenue estimates, costs, program levels and laws and policies are likely to happen and may affect future 10-year plans such as the Program and Resource Plan (PRP) and shorter-term plans such as the Work Program and TIPs. Ideally, these changes are monitored for improving the long-range planning process.

Long range planning happens at the state and regional/local level. The state carries out long range planning through regular updates of the Florida Transportation Plan (FTP), the Strategic Intermodal System (SIS) Policy Plan, statewide modal plans, the SIS Cost Feasible Plan (CFP), and the Multimodal Unfunded Needs Plan. MPOs document their long-range planning efforts with the Long Range Transportation Plan (LRTP).

Types of Plans – State Level
Florida Transportation Plan (FTP). The FTP is the single overarching statewide plan guiding Florida's transportation future. It is a plan for all of Florida created by, and providing direction to the FDOT and all organizations that are involved in planning and managing Florida's transportation system, including the MPOs. The FTP provides the policy framework for the department's intermediate and short-range plans including the Program and Resource Plan (PRP), legislative budget requests, and the Work Program.
SIS Policy Plan. The SIS Policy Plan is a primary emphasis of FTP implementation and aligns with the current FTP. The SIS Policy Plan establishes the policy framework for planning and

managing Florida's Strategic Intermodal System, the high priority network of transportation facilities important to the state's economic competitiveness. The SIS Policy Plan details policy that focuses on capacity improvements and building a system. It provides guidance for decisions about which facilities are designated as part of the SIS, where future SIS investments should occur, and how to set priorities among these investments given limited funding.
SIS Cost Feasible Plan. The Cost Feasible Plan identifies projects on the SIS that are considered financially feasible during the period until the LRTP horizon year. Projects in this plan could move forward into the Second Five (Years 6 through 10) as funds become available or backwards into the Unfunded Needs Plan if revenues fall short of projections.
Multimodal Needs Plan. The Unfunded Needs Plan identifies transportation projects on the SIS that help meet mobility needs, but where funding is not expected to be available during the time of the SIS Cost Feasible Plan. Projects in the unfunded needs plan could move forward into the SIS Funding Strategy as funds become available.
Type of Plans – Regional/Local Level
Long Range Transportation Plan (LRTP). The MPO is responsible for developing a LRTP that addresses no less than a 20-year planning horizon. LRTPs currently being generated have a horizon year of 2045. The LRTP encourages and promotes the safe and efficient management, operation, and development of a cost feasible intermodal transportation system. That system will serve the mobility needs of people and freight within and through urbanized areas of this state, while minimizing transportation-related fuel consumption and air pollution. The LRTP must include long-range and short-range strategies consistent with state and local goals and objectives.

Intermediate Range Plans

The purpose of the intermediate range plans is to bridge the gap between long and short range plans given the timing of those two plans. They should show how progress will be made in attaining goals and objectives of the long range plan (e.g., resurfacing objectives). Characteristics include:

- Generally, a 10 to 15 year time period
- Increased levels of specificity and detail (but less detail than a Work Program or TIP)
- May be updated each year

Intermediate range planning happens at the state and regional/local level. Intermediate range planning at the state level include production of the Program and Resource Plan (PRP) and the Second Five Year Plan. MPOs accomplish intermediate range planning by updating the staging elements (e.g., highest priority projects for the first 10 or 15 years) of their long-range plans.

Types of Plans – State Level
Program and Resource Plan (PRP). The PRP addresses a ten-year period. It includes estimates of funding and program accomplishments for over 60 categories of activities (programs or subprograms). Revenue forecasts for these years are developed for four categories of federal funds and four categories of state funds, but specific projects are not identified. Planned program and subprogram levels may have to be modified over time as more detailed information becomes available or as conditions change, including the results of analyses of performance from carrying out previous work programs. FDOT assesses these changes during the annual update and extension of the PRP.
Second (2nd) Five Year Plan. The 2nd Five Year Plan illustrates SIS projects that are scheduled to be funded in the five years following the Tentative Work Program (Years 6 through 10). This plan is developed during the FDOT work program development cycle in the same manner as the Tentative Work Program. Upon annual commencement of the FDOT work program development cycle, the first year of the previous 2nd Five-Year Plan becomes the new fifth year of the Tentative Work Program and the 2nd Five-Year Plan is shifted accordingly. An Approved plan is published for public consumption typically in the fall following the publication of the Adopted Five-Year Work Program.
Types of Plans – Regional/Local Level
Staging elements of the LRTP. As part of drafting the LRTP, the MPO develops its own Cost Feasible Plan (CFP) to identify projects for funding by establishing need, defining funding limits, and identifying projects in the Needs Assessment. Projects are evaluated based on project selection criteria that scores a project's benefits and impacts. Within the MPO's CFP, it stages projects to be funded based on evaluation criteria and the revenues generally expected to be available during the planning period. The staging of projects should account for limitations in the use of various revenue sources as well as prior investment and commitments to be consistent with the streams of funding from various programs.

Transit Development Plans. TDPs are required for grant program recipients of the Public Transit Block Grant Program, Section 341.052, F.S. A TDP shall be the provider's planning, development, and operational guidance document, based on a ten-year planning horizon and covers the year for which funding is sought and the nine subsequent years. A TDP or an annual update is used in developing the Department's five-year Work Program, the Transportation Improvement Program, and the Department's Program and Resource Plan. It is formally adopted by a provider's governing body, and requires a major update every five years. Technical assistance in preparing TDPs is available from the Department. Specific requirements can be found in Rule 14-73, Florida Administrative Code.

Short Range Plans

The purpose of short range plans – usually called programs – is to identify specific types of work (e.g., planning, engineering, construction) and specific funding (e.g., FDOT fund codes) for projects and programs. They should contain activities that will make progress in attaining goals and objectives of the FTP. Characteristics include:

- Time period of 3-5 years
- Most exact of the three types of planning
- Based on specific assumptions and detailed estimates
- May not be dramatically affected by changed conditions (e.g., adopted projects and programs are intended to be commitments, but may change in extraordinary circumstances).

Short range planning also happens at both the state and regional/local level. The state performs short range planning through production of the Work Program and the State Transportation Improvement Program (STIP). MPOs accomplish short range planning through production of their Transportation Improvement Program (TIP).

Types of Programs – State Level
Adopted Five Year Work Program. The Department's Five-Year Work Program addresses project and program funding for the next five fiscal years. It includes detailed information for almost 120 programs and numerous job types, systems, phases, and more than 245 fund categories ("fund codes"). They all have strict eligibility criteria. Changes to the adopted Five-Year Work Program are discouraged, but may be required because of revisions to revenue estimates, cost estimates or schedules, or changes in FDOT and MPO priorities. The Work Program is updated and extended each year as part of the Work Program development process.
State Transportation Improvement Program (STIP). The STIP is a federally mandated document including a list of projects planned with federal participation in the next four fiscal years. Although the STIP is approved annually by FHWA at the beginning of each federal fiscal year (October 1st), FHWA allows FDOT to report these four years on a state fiscal year basis (July 1 thru June 30). This is because the report is based upon the same projects that are listed

in the first four years of FDOT's Adopted Five Year Work Program. The STIP and the MPO TIPs must be consistent.
Types of Programs – Regional/Local Level
Transportation Improvement Program (TIP). The TIP is required by state and federal law. It is a prioritized listing/program of transportation projects, covering a period of five years. The TIP is developed and formally adopted by a MPO as part of the MPO transportation planning process, consistent with the long-range transportation plan. It is developed in cooperation with the Department and public transit operators.

Evaluating the Process of Revenue Forecasting

The measures shown below are quantifiable indicators used to assess progress toward a desired objective. FDOT desires to assess timeliness, level of customer service, frequency, and productivity regarding the production, distribution, and usage of the statewide revenue forecast. This evaluation of the management and planning process demonstrates transparency and accountability both internally among FDOT offices and externally among the MPOAC and the MPOs.

Timeliness: Adherence to schedule

Objective: Produce a timely and accurate forecast to assist the MPO partners in preparation of their long-range plans. Timely data is beneficial to producing useful and reliable documents.

Measure: Provide MPO level revenue forecast to the MPOs in advance of the next LRTP update cycle.

Target: Within 17 months of first LRTP due in 2019.

Customer Service: Outreach to MPOs

Objective: Ensure the information contained in the revenue forecast is explained and understood based on agreed upon parameters for production. This understanding comes through outreach to partners and assurance that all partners are invited and accommodations are made for participation. This approach to customer service and communication promotes transparency and accountability in the process.

Measure: The number of MPO representatives at the statewide teleconference.

Target: At least one from each MPO.

Measure: Conduct follow up calls to districts and MPOs as requested to obtain feedback on information and explanation provided at the statewide teleconference.

Target: Complete all that are requested.

Measure: Conduct information sessions to MPOs as requested to provide assistance and resources as needed.

Target: Complete all that are requested.

Frequency: Review of financial information

Objective: Provide current financial information as available. FDOT will monitor changes in economic conditions as well as remain closely aligned to the financial information reported by the Revenue Estimating Conference (REC). FDOT will meet with the MPOs as needed to understand the feedback they receive on draft LRTPs concerning the revenue forecast and its relevance to the current economic conditions. FDOT will consider adjustments to the statewide revenue forecast on a periodic basis, if warranted, to determine if a revised revenue forecast is needed for MPOs over the staggered adoption schedule. The current adoption schedule is provided in Table 2.

Measure: Review the statewide revenue forecast to evaluate potential impacts of any change in the financial outlook and update, if needed and when feasible, to ensure relevant and current financial information is being reported.

Target: Evaluate annually

Productivity: Usefulness of document

Objective: Provide financial information that is useful in preparation of long range plan documentation. This is fostered through continuous conversations with the MPOAC and the individual MPOs so that all parties feel ownership in the process.

Measure: The number of MPOs using the statewide revenue forecast as part of the LRTP update process.

Target: 27

Measure: The number of MPOs responding positively concerning the usefulness of the revenue forecast information.

Target: 27

Table 2 LRTP Adoption Schedule

MPO	LRTP Adoption Date Within Current Update Cycle	LRTP Adoption Date Within Next Update Cycle
Palm Beach MPO	10/16/2014	10/16/2019
Miami-Dade Urbanized MPO	10/23/2014	10/23/2019
Hillsborough County MPO	11/12/2014	11/12/2019
North Florida TPO	11/13/2014	11/13/2019
Hernando-Citrus MPO	12/9/2014	12/9/2019
Pinellas County MPO	12/10/2014	12/10/2019
Broward MPO	12/11/2014	12/11/2019
Pasco County MPO	12/11/2014	12/11/2019
River to Sea TPO	9/23/2015	9/23/2020
Gainesville MTPO	10/5/2015	10/5/2020
Charlotte-Punta Gorda MPO	10/5/2015	10/5/2020
Space Coast TPO	10/8/2015	10/8/2020
Florida Alabama TPO	11/3/2015	11/3/2020
Capital Region TPA	11/16/2015	11/16/2020
Ocala-Marion County TPO	11/24/2015	11/24/2020
St. Lucie TPO	12/2/2015	2/3/2021
METROPLAN	12/9/2015	12/9/2020
Lake Sumter MPO	12/9/2015	12/9/2020
Indian River County MPO	12/9/2015	12/9/2020
Polk TPO	12/10/2015	12/10/2020
Collier MPO	12/11/2015	12/11/2020
Martin MPO	12/14/2015	12/14/2020
Sarasota-Manatee MPO	12/14/2015	12/14/2020
Lee MPO	12/18/2015	12/18/2020
Heartland Regional TPO	3/16/2016	3/16/2021
Bay County TPO	7/27/2016	6/22/2021
Okaloosa Walton TPO	3/15/2017	2/16/2022

Timeline for Planning and Conducting the Revenue Forecast

The steps below outline the general timeline for planning and conducting the revenue forecast.

Process Step	M/W/Ds from Workshop*	Estimated Dates	Responsible Party	Date Completed
2016				
Kickoff revenue forecast process with FDOT Central Office	27.5 M	Mid Feb	Martin Markovich	Mid Feb
Begin drafting *Revenue Forecast Guidebook*	27.5 M	Mid Feb	Regina Colson	Mid Feb
Identify changes in process as a result of FAST Act	26.5 M	Mid Mar	Martin Markovich	Mid Mar
Finalize Revenue Forecast Guidebook	22 M	End Jul	OPP	Jan 2018
Begin developing *Financial Guidelines for MPO Long Range Plans*	21.5 M	Mid Aug	MPOAC	Mid Aug
Initiate discussion with MPOAC Policy and Technical Committee on financial guidelines at scheduled meeting	17.5 M	Mid Dec	Regina Colson Martin Markovich	Mid Dec
2017				
MPOAC Board meeting in Sunrise Florida; present outcomes from discussion with MPOAC Policy & Technical Committee on financial guidelines	16.5 M	Jan 26th	Carmen Monroy	Jan 26th
Meeting of Revenue Subcommittee	15.5 M	Feb 10	Regina Colson Martin Markovich	Feb 10
Finalize discussions with SPO regarding SIS Cost Feasible Plan	14 M	End Mar	Martin Markovich	End Mar
Review draft *Financial Guidelines for MPO Long Range Plans* at scheduled meeting	13 M	End Apr	MPOAC	End Apr
Draft revenue forecast information and training materials for MPOs	13 M	End Apr	Martin Markovich	End Apr
Update list of FDOT District MPO Liaison contacts for revenue forecast purposes	1 Y	End May	Alex Gramovot	End May
Establish and document policies for revenues from Managed Lane networks and other P3s	10.5 M	Early Jul	Leon Corbett	Early Jul
Finalize financial guidelines methodology	10.5 M	Mid Jul	MPOAC	Deferred
Receive LRTP Revenue Forecast PRP from OWPB	10.5 M	Mid Jul	Tammy Rackley	Mid Jul
Review LRTP Revenue Forecast PRP; establish program to finalize revenue estimates	9.5 M	Mid Aug	Martin Markovich	Mid Aug
Secure final MPOAC approval of *Financial Guidelines for MPO Long Range Plans* at scheduled meeting	7.5 M	Mid Nov	MPOAC	Deferred
Finalize forecast methodology	7 M	End Oct	Martin Markovich	End Oct

Process Step	M/W/Ds from Workshop*	Estimated Dates	Responsible Party	Date Completed
Receive and review most current REC results	5.5 M	Mid Dec	Martin Markovich	Mid Dec
Perform data reduction to consolidate, collapse, and organize the revenue forecast	5.5 M	Mid Dec	Martin Markovich	Mid Dec
2018				
Policy Planning staff finalizes the Statewide revenue forecast	5 M	Early Jan	Martin Markovich	Nov 2017
Transmit highway revenue forecast information to SPO	4.5 M	Mid Jan	Martin Markovich	Dec 2017
Provide training to districts on how to prepare forecast information for MPO	3 M	End Feb	Martin Markovich	May
Receive and review CFP from SPO	2.5 M	Mid Mar	Martin Markovich	June
Transmit CFP to districts for distribution to MPOs	2.5 M	Mid Mar	SIS Section	June
Transmit MPO estimates to districts for review and comment	2.5 M	Mid Mar	Martin Markovich	May
Transmit final revenue forecast information to districts including spreadsheets, final guidebook, and PPT	2 M	End Mar	Martin Markovich	July
Initial Revenue Forecast Presentation to MPOAC	7 W	Early Apr	Martin Markovich	April
Transmit custom spreadsheets, guidebook and PPT to MPOs	1 W	May 16	Districts	August#
Final Revenue Forecast Presentation to MPOAC	**0**	**May 23**	**Martin Markovich**	**July**
Follow up meetings with FDOT District MPO Liaisons and MPO staff to provide clarification, as needed	+1 M	End June	Martin Markovich	Sept
Feedback sessions with FDOT District MPO Liaisons, as needed	+3-6 M	Sep-Dec	Martin Markovich	Oct

* Approximate months, weeks, or days from Revenue Forecast Workshop (May 2018); "+" means after Workshop

Districts were not required to report exact dates of transmission to MPOs, but no complaints were received from individual MPOs or from MPOAC.

Revenue Forecast Process

The forecast horizon for the Revenue Forecast is agreed upon by FDOT and the MPOAC, currently it is 2045. The forecast reflects changes in state revenue since the previous forecast approximately five years prior. The revenue forecast includes estimates through the agreed upon horizon year to provide all MPOs projections concerning state and federal funds that are expected to be included in the FDOT Work Program. The statewide forecast provides consistency and a basis for financial planning across all 27 MPOs. This section provides an overview of roles and responsibilities and details the methodology for producing the revenue forecast.

Overview of Roles and Responsibilities

Production of the statewide revenue forecast involves multiple offices within FDOT and a variety of responsibilities within each office. It also involves communication and collaboration with the MPOAC and the 27 MPOs who represent a diverse arrangement of local and regional entities. The flow of information from each office and entity, as shown in Figure 2, is key to producing an accurate and timely revenue forecast.

The roles and responsibilities for each office and entity, as it relates to the statewide revenue forecasting process, are summarized in Table 3.

Preparation of the revenue forecast involves multiple offices and occurs over a period of 1-2 years. The offices involved are listed below:

The following steps take place to prepare the revenue forecast:

Phase 1 – Office of Policy Planning

- The Office of Policy Planning discusses the update of the *Financial Guidelines for MPO Long Range Plans* with the MPOAC Executive Director and MPOs approximately 17-18 months before the revenue forecast is due. This document outlines the agreed upon guidance for defining and report needs, financial reporting for cost feasible long range plans, revenue estimates, and developing project costs. It also identifies the agreed upon horizon year and planning time periods.

- The Office of Policy Planning Economist meets with the Systems Implementation Office (SPO) to discuss timing of the revenue forecast for use in the SIS Cost Feasible Plan.

- The Office of Policy Planning, in consultation with the MPOAC and MPOs, finalizes the *Financial Guidelines for MPO Long Range Plans*.

Figure 2 Flow of Information for the Revenue Forecast

Financial Data Analysis & Review

- Produce Federal Aid Forecast
- Produce PRP for LRTP Revenue Forecast
- Produce extension of Federal and State Forecast
- Review Revenue Forecast

Financial Guidelines

- Jointly develop financial guidelines for production of revenue forecast
- Promote/obtain consensus from MPO/TPOs on financial guidelines

Revenue Forecast

- Prepare revenue forecast based on financial guidelines
- Review revenue forecast with OWPB
- SPO prepares SIS Cost Feasible Plan based on revenue forecast

Distribution

- Transmit SIS CFP for distribution to MPOs
- Transmit revenue forecast for district review/ comment
- Transmit final revenue forecast to district
- District transmits custom revenue spread-sheets to MPOs

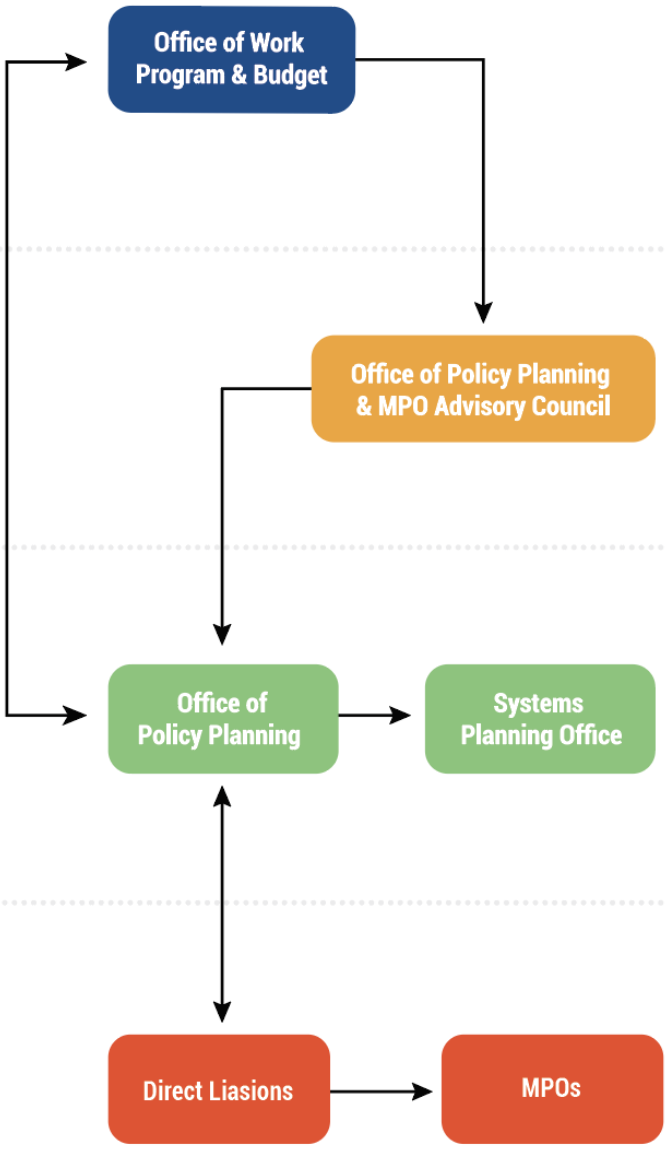


Table 3 Overview of Roles and Responsibilities for the Revenue Forecast Process

Key Roles	Responsibilities
Intermodal System Development, Office of Policy Planning	
• Director • Economist • Demographics Coordinator • Public Transportation Manager	This office develops, documents, and monitors the statewide and MPO planning processes including production of a statewide revenue forecast for statewide and MPO long range planning.
Office of Work Program and Budget (OWPB)	
• Program and Resource Allocation Supervisor • Program Plan Supervisor • Finance, Program, and Resource Allocation Manager • Transportation Revenue Coordinator	This office allocates and manages the resources available to the Department for transportation programs in a manner which is consistent with the Florida Transportation Plan, Florida Statutes, and the mission and vision of the Department. The Transportation Revenue Coordinator represents the Department at Revenue Estimating Conferences.
Office of Comptroller-General Accounting Office (OOC-GAO)	
• Project Finance Manager	The Project Finance Manager projects surplus toll revenue and transit funding for Managed Lane facilities that have been in service for 5 years or more.
Intermodal System Development, Systems Implementation Office (SPO)	
• SIS Implementation Manager • SIS Statewide Coordinator	This office implements the Strategic Intermodal System (SIS) through the development of the SIS Needs Plan, Cost Feasible Plan, Second Five Year Plan, and the Work Program.
FDOT District MPO Liaisons	
• FDOT District MPO Liaisons	The District offices work with the MPOs in their respective districts to coordinate through the cooperative planning efforts of the MPOs and the FDOT District offices.

Table 3, continued

Metropolitan Planning Organization Advisory Council (MPOAC)	
• Executive Director	This council provides statewide transportation planning and policy support to augment the role of individual MPOs in the cooperative transportation planning process. The MPOAC assists MPOs in carrying out the urbanized area transportation planning process by serving as the principal forum for collective policy discussion.
MPOAC - Policy and Technical Subcommittee	
• Chair • Subcommittee members	This subcommittee annually prepares legislative policy positions and develops initiatives to be advanced during Florida's legislative session.
Metropolitan Planning Organizations (MPO)	
• Staff Director • MPO Staff	These organizations are made up of local elected and appointed officials responsible for developing, in cooperation with the state and public transportation operators, transportation plans and programs including the long range transportation plan (LRTP). The staff of these organizations are users of the SIS Cost Feasible Plan and the MPO estimates.

Phase 2 – Offices of Finance and Administration

- Using the financial information provided to the states through the current federal authorization act (currently the FAST Act), the Office of Work Program and Budget (OWPB), Program and Resource Allocation Supervisor develops the FDOT Federal Aid Forecast. This forecast uses budget increases provided in the current federal authorization act through the life of the act (currently through FY 2020). OWPB calculates a projection of federal funding for Florida for several years beyond the end of the current federal authorization. The timeframe for the FDOT Federal Aid Forecast is comparable to that of the Program and Resource Plan, about 10 years.

- Because the REC forecasts typically only go out 10-11 years, the OWPB Transportation Revenue Coordinator creates the State Transportation Trust Fund forecast. OWPB extrapolates the federal and state 10-year forecasts out to the current LRTP horizon year, then shares them with OPP.

- The Project Finance Manager, part of the Comptroller's office, plays an important role in projecting surplus toll revenue on Manage Lane facilities. The Project Finance Manager, after consulting with OPP, projects surplus toll revenue and transit funding for such facilities that have been in service for 5 years or more.

- The OWPB, Program Plan Supervisor produces a draft extended PRP for the use of OPP in developing the Revenue Forecast. This extended draft is not officially released or posted.

Phase 3 – Office of Policy Planning

- The extended PRP is sent to the Office of Policy Planning Economist for review to ensure the document follows current policy, is mathematically correct, and is financially reasonable. The Office of Policy Planning Economist discusses and resolves any issues with OWPB staff.

- The Office of Policy Planning Economist reviews the extended PRP for anomalies in the extended years. The Office of Policy Planning Economist researches the anomalies that exist and smooths the data. This technical function ensures data outliers do not skew the overall results.

Note: To ensure accuracy of the formulas and the worksheet mechanics used to calculate the forecast, a test run was performed in the year prior to when the official revenue forecast is due. The test run was based on the Tentative Work Program released some months before the Adopted Work Program.

- With the smoothed data from the PRP, the Office of Policy Planning Economist performs a data reduction process to:

Policy Planning performs data reduction process

  - Consolidate the numerous fund codes used by the FDOT into three major fund categories: Federal, State, and Turnpike

    - Federal funds include all federal aid that passes through the Work Program

    - Turnpike funds include planning projections of proceeds from Turnpike tolls, bonds sold for Turnpike activities, and concession revenues

    - State funds include the remaining state revenues, such as motor fuel taxes, motor vehicle fees, right-of-way bonds, and toll revenues from non-Turnpike facilities

  - Collapse the FDOT's major programs into two categories: capacity and non-capacity.

    - Capacity programs are major FDOT programs that expand the capacity of Florida's transportation systems.

        - Non-capacity programs are remaining FDOT programs that are designed to support, operate, and maintain the state transportation system.

        - All capacity programs are included in the Work Program Product category. The Product category also includes 3 major non-capacity programs, Safety, Resurfacing and Bridge.

    - Break down highway capacity program funds geographically by county based on statutory formula.

        - Statutory formula gives a 50 percent weight to the county's population as enumerated by the most recent census and a 50 percent weight to the county's recent annual gas tax receipts. If desirable, this can be modified to give 50 percent weight to projected population for the next census.

- The Office of Policy Planning Economist, in consultation with Office of Policy Planning Director and other Office of Policy Planning staff, reviews and edits the revenue forecast as necessary to ensure reasonableness and the application of professional standards.

- The Office of Policy Planning Economist finalizes the revenue forecast and prepares the worksheets for each county's share of the statewide estimate.

- The Office of Policy Planning Economist provides the Systems Implementation Office the revenue forecast for highways to be used in the SIS Cost Feasible Plan. The Office of Policy Planning and SPO meet as needed to discuss the revenue forecast results for highways.

- The Office of Policy Planning Economist transmits the MPO estimates from the revenue forecast to the FDOT District MPO Liaisons for review and comment. Based on comment from FDOT District MPO Liaisons, the Office of Policy Planning Economist will adjust if necessary in consultation with the appropriate managers and offices.

Phase 4 – FDOT Districts and Office of Policy Planning

- Office of Policy Planning staff provides training to FDOT District MPO Liaisons on the revenue forecast. The training will explain how the District staff should package the MPO estimates for their MPOs.

- The FDOT District MPO Liaisons transmit the final Revenue Forecast reports and appropriate documentation to all MPOs.

FDOT transmits final estimates to MPOs.

- Shortly after transmission of the MPO estimates, the Office of Policy Planning staff in conjunction with the FDOT District MPO Liaisons and the MPOAC, present the Revenue Forecast at a meeting of the MPOAC.

- The Office of Policy Planning staff follows up with FDOT Districts and MPOs to offer meetings as needed to discuss specific details of individual MPO estimates.

Present to MPOAC

Revenue Forecast Handbook for MPOs

The estimates and the guidance in this section were prepared by FDOT, based on a statewide estimate of revenues that fund the state transportation program, and are based on previously distributed documents:

- "Financial Guidelines for MPO 2040 Long Range Plans" adopted by the Metropolitan Planning Organization Advisory Council (MPOAC) in 2012. Since the MPOAC Board has not adopted Financial Guidelines for the current LRTP cycle, FDOT is working with the previous adopted guidelines, which, with minor adjustments to time bands, are quite applicable to the current processing.

- "Federal Strategies for Implementing Requirements for LRTP Update for the Florida MPOs", adopted *Month Year*, prepared by the U. S. Department of Transportation, Federal Highway Administration in cooperation with the Federal Transit Administration.

This section documents how the Revenue Forecast is developed and provides guidance for using the forecast information in updating MPO plans. FDOT develops MPO estimates from the Revenue Forecast for certain capacity programs for each MPO.

To be perfectly clear, it has never been FDOT policy to forecast estimates for specific fund codes in the Revenue Forecast, and it is not current FDOT policy. The MPO estimates are included in a separate report prepared for each MPO.

General Guidance on Using the Revenue Forecast Report

The MPO estimates are typically summarized into five fiscal year periods and a final 10-year period. For planning purposes, some flexibility should be allowed for estimates for these time periods (e.g., within 10 percent of the funds estimated for that period). However, for the LRTP to be fiscally constrained, it is required the total cost of all phases of planned projects for the entire forecast period not exceed the revenue estimates for each element or component of the plan.

When developing long range plans, MPOs are not legally required to use the same terminology used in the Department's Revenue Forecast such as *Other Roads Construction & ROW*. However, MPOs should identify the MPO estimates from the forecast, the source of the revenues, and how these revenues are used in documentation of their plan updates.

MPOs are encouraged to document project costs and revenue estimates for their long range transportation plans for fiscal years 2020-2045. This will provide a common basis for analyses of finance issues (e.g., unmet transportation needs). Appendix C includes inflation factors and guidance for converting project costs estimates to *year of expenditure* dollars.

Key Projections

This section describes the revenue forecast information included in the reports and the guidance for using this information. The projected dollar values are for planning purposes only and do not represent a state commitment for funding, either in total or in any 5-year time period.

In the Revenue Forecast Reports (not this document) Tables 5, and 6 and 9 where applicable, reflect the share of each state capacity program planned for each area.[1] The estimates can be used to fund planned capacity improvements to major elements of the transportation system (most notably highways and transit). The reports include statewide funding estimates and objectives for non-capacity programs.

Statewide estimates for major state programs are based on current laws and policies. The major program categories used in the forecast are listed below.

Major Program Categories

The forecast of funding levels for the Department's programs are developed based on the Program and Resource Plan. Annual estimates of funding levels through 2045 are based on federal and state laws and regulations and Department policies at the time the forecast is prepared. For example, statewide funding levels are established to accomplish the program objectives for resurfacing, routine maintenance, and bridge repair and replacement. These estimates are summarized to reflect the major program categories used in the 2045 Revenue Forecast.

Capacity Programs	**Non-Capacity Programs**
Statewide	Safety
SIS Highways Construction & ROW	Resurfacing
Aviation	Bridge
Rail	Product Support
Intermodal Access	Operations & Maintenance
Seaport Development	Administration and Other
Non-SIS Highways Construction & ROW	
Transit	
Sun Trail	

[1] Note that 5 MPOs boundaries do not exactly match County boundaries. For these MPOs, it is the District's responsibility to adjust projected county-level values to values for that specific MPO.

Capacity Program Estimates

The FDOT Central Office prepares district and county estimates from the statewide forecast based on methods developed in consultation with MPOs, FDOT program managers, and district staff as shown in Table 4, next page. Using this information prepared by the Central Office, District staff develops MPO estimates consistent with district and county shares of the statewide forecast. These estimates are adjusted as needed to account for issues such as differences between metropolitan area boundaries, county boundaries or Transportation Management Area boundaries.

Statewide Capacity Programs

FDOT is taking the lead in identifying planned projects and programs funded by the following major programs: SIS Highways Construction & ROW, Aviation, Rail, Seaport Development and Intermodal Access. SIS Highways Construction & ROW projects and revenues are identified in the SIS Cost Feasible Plan and are provided to MPOs with the other elements of the revenue forecast. The SIS Cost Feasible Plan includes all roads on the Strategic Intermodal System including connectors between SIS corridors and SIS hubs. These estimates are for planning purposes and do not represent a commitment of FDOT funding. It should be noted that FDOT continues to work with modal partners to identify aviation, rail, seaport, and intermodal access projects beyond the years in the work program. However, FDOT and its partners have not been able to identify cost feasible projects beyond the work program sufficiently to include them in the SIS Cost Feasible Plan and therefore, in MPO cost feasible plans.

Other Capacity Programs

The Department requests that MPOs lead in the identification of planned projects and programs funded by the non-SIS Construction & ROW (Other Roads) and Transit programs. MPOs may use the total funds estimated for these two programs to plan for the mix of public transportation and highway improvements that best meets the needs of their metropolitan areas.

Table 4 Methodology for Determining District and MPO Estimates from the 2045 Revenue Forecast

Major Capacity Program Category	Methodology
SIS Highways Construction & ROW	Based on the 2045 SIS Highways Cost Feasible Planprepared by the SIS Section. Specific projects to be provided to MPOs by the SIS Section.
Non-SIS Highways Construction & ROW (also referred to as Other Roads)	Generally, distribute funding estimates by statutory formula. Also develop estimates for TMA (SU) and Transportation Alternatives funds in TMAs; those funds taken "off the top" before distributing remaining funds. Apprise MPOs that at least some portion of these funds can be planned for Transit. Develop "off system" estimates. SCOP and CIGP are also included here.
Transit	Use population-based formula to distribute funds to Districts and counties.
Aviation	Because the primary use of Aviation funds is for airside improvements not a part of MPO planning, develop only statewide estimates.
Rail	Because of uncertainties with long range passenger rail and absence of commitments to specific rail corridors, develop only statewide estimates.
Intermodal Access	This program is being phased out, but small amounts remain in the PRP. As a result, develop only statewide estimates
Seaport Development	Statewide estimates only, the Florida Seaport Transportation Economic Development (FSTED) Council identifies projects eligible for funding.
SUN Trail	Statewide there is a $25 million annual allocation from the redistribution of new vehicle tag revenues. FDOT is developing a statewide system of nonmotorized, paved trails for bicyclists and pedestrians as a component of the Florida Greenways and Trails System (FGTS).
Operations and Maintenance Estimates	Develop district-wide estimates of funding for Resurfacing, Bridge and Operations & Maintenance programs and provide to MPOs, per agreement between FDOT and FHWA Division Office related to reporting Operations and Maintenance estimates for the State Highway System in MPO LRTPs.

Transportation Management Area (TMA/SU) Funds

FDOT provides estimates of funds allocated for Transportation Management Areas, as defined by the U. S. Department of Transportation. They are the same as "SU" funds in the Five Year Work Program. MPOs should perform a thorough analysis of how these funds are to be reflected in their long range plan. The following is guidance for that analysis.

Planning for the Use of TMA Funds

MPOs eligible for TMA Funds are provided estimates of total TMA Funds. MPOs are encouraged to work with FDOT district programming and planning staff to determine how to reflect TMA Funds in the long range plan. Consideration should be given to:

- Programmed use of TMA Funds among the various categories in the FDOT revenue forecast. These include Non-SIS Highways Construction & ROW, Product Support (e.g., Planning, PD&E studies, Engineering Design, Construction Inspection, etc.), SIS Highways Construction & ROW, Transit.
- Planned use of TMA Funds based on policies regarding the planned use of funds through the long range plan horizon year.
- Clear articulation in the long range plan documentation of the policies regarding the use of TMA funds, and estimates of TMA funds planned for each major program and time period.

Transportation Alternatives (TA) Funds

FDOT provides estimates of funds for Transportation Alternatives, as defined by the FAST Act, to assist MPOs in developing their plans. Estimates of Transportation Alternatives funds allocated for TMAs (i.e., "TALU" funds) are provided to each TMA.

Estimates of funds for areas with populations under 200,000 (i.e., TALL funds) and for any area of the state (i.e., TALT funds) are also provided to MPOs. MPOs may desire to include projects funded with TALL or TALT funds in the long range transportation plan. If so, the MPO should identify such projects as "illustrative projects" in its plan.

Funds for Off-System Roads

The Department estimates the amount of funds that may be used off-system which are funds that could be used for planned programs or projects on roads that are not on the State Highway System (i.e., roads owned by counties and municipalities). "Off-System" funds are included in the non-SIS Construction & ROW program estimates, which are comprised of federal and state funds. **By law, state funds cannot be used for highway improvements not on the State Highway System, except to match federal aid or for SIS connectors owned by local governments or for other approved programs which could include projects not on the SHS such as SCOP and CIGP.** Considerable Federal funds included in the Non-SIS Highways program estimates may be used anywhere except for roads that are functionally classified as local or rural minor collectors, unless such roads were on the federal-aid system as of January 1, 1991.

All estimates of TMA funds (see above) may be used on off-system roads. The following is guidance for estimating other federal and state funds that can be used for off-system roads:

- MPOs in TMAs can assume all estimated TMA funds and 10% of the FDOT estimates of Non-SIS Highways Construction & ROW funds can be used for "Off-System" roads.

- MPOs that are not in TMAs can assume that 15% of Construction & ROW funds provided by FDOT can be used for "Off-System" roads.

Preliminary Engineering Estimates

MPOs are encouraged to include estimates for key pre-construction phases in the LRTP, namely for Project Development and Environmental (PD&E) studies and Engineering Design (PE).

FDOT has included sufficient funding for these and other Product Support activities to produce the construction levels in the 2045 Revenue Forecast. Costs for these phases for SIS highways will be provided to MPOs in the 2045 SIS Highways Cost Feasible Plan. For projects funded with the revenue estimates for Non-SIS Highways Construction & ROW Funds provided by FDOT, MPOs can assume that the equivalent of 22 percent of those estimated funds will be available from the statewide Product Support estimates for PD&E and Engineering Design (PE). Note: these funds are in addition to the estimates for Non-SIS Highways Construction & ROW funds provided to MPOs. MPOs should document these assumptions.

For example, if the estimate for Construction & ROW in a 5-year period is $10 million, the MPO can assume that an additional $2.2 million will be available for PD&E and Design (PE) in the 5-year period from FDOT Product Support estimates.[1] If planned PD&E and Design phases use TMA funds, the amounts should be part of (i.e., not in addition to) estimates of TMA funds provided to MPOs.

The Department encourages MPOs to combine PD&E and Design phases into Preliminary Engineering in LRTP documentation. Boxed funds can be used to finance Preliminary Engineering; however, the specific projects using the boxed funds should be listed, or described in bulk in the LRTP (i.e., Preliminary Engineering for projects in Fiscal Years 2027-2045).

Additional State Revenues

State of Florida gas tax revenues and fees provide most of the funding for the State Transportation Trust Fund (STTF).

Doc stamp taxes also contribute to the STTF. They have fluctuated because of volatility in the Florida real estate market and complex provisions in the law governing this source of Florida revenues. Recent years have been characterized by recovery in the real estate market, and the projections of the transportation Revenue Estimating Conference (REC) indicate continued growth in this source of funding. However, state law provides for a cap of $541.75 million per year on doc stamp taxes that can be allocated to the STTF. If growth continues as projected, this cap will be reached sometime in the next 10-15 years.

[1] However, surplus funds, which may not be needed for PD&E and PE, cannot be transferred to other projects.

The following are several key programs, including the SIS, that are funded from state revenues.. None of these funds are specifically allocated on the County or MPO levels in the Revenue Forecast. Therefore, most categories of funding should not be used for funding constrained projects within LRTPs.[1]

Small County Outreach Program (SCOP)

Annually, 10% of the doc stamp transportation proceeds is allocated to this program for transportation projects in small counties and small cities. These allocations are made based on population as prescribed in law. Other funding sources may include local option gas tax. *Additionally,* 5% of initial Motor Vehicle License fees is allocated to the SCOP.

New Starts Transit Program

Annually, 10% of FDOT doc stamp funds are applied to the Florida New Starts Program. State eligibility requires that:

- Project must be a fixed-guideway rail transit system or extension, or bus rapid transit system operating primarily on a dedicated transit right of way;
- Project must support local plans to direct growth where desired;
- State funding is limited to up to 50% of non-federal share;
- Local funding is required to at least match state contribution and be dedicated to the project; and

MPOs may desire to include projects partially funded with statewide New Starts funds in the long range transportation plan. Any commitment of these funds by FDOT should be documented in the LRTP. Otherwise, the MPO should identify such projects as "illustrative projects" in its plan along with, at a minimum, the following information:

- Description of the project and estimated costs;
- Assumptions related to the amount of statewide New Starts funding for the project; and
- Assumptions related to the share and amount of non-State matching funds for the project (federal and local).

MPOs should work with their district office in developing and documenting this information.

Strategic Intermodal System

After allocations to the Small County Outreach Program and the New Starts Transit Program, 75% of the remaining Documentary Stamp tax funds are allocated annually for the SIS. Additionally, at least 20.6% of initial Motor Vehicle License fees is allocated to the SIS. Section

[1] Funds allocated to the SIS are a somewhat different case. SIS projects are identified by FDOT and listed in the CFP., These projects must be included in the LRTP to advance toward construction.

339.61(1) requires $60 million to the SIS. FDOT will plan for these funds in the SIS Cost Feasible Plan, which provides funding and project information to MPOs.

Transportation Regional Incentive Program (TRIP)

After allocations to the Small County Outreach Program and the New Starts Transit Program, 25% of the remaining documentary stamp tax funds are allocated annually to TRIP. Additionally, 6.9% of initial Motor Vehicle License fees is allocated to TRIP. Of the doc stamp funds allocated to TRIP, the first $60 million are apportioned annually to the Florida Rail Enterprise.

The purpose of TRIP is to encourage regional planning by providing state matching funds for improvements to regionally significant transportation facilities identified and prioritized by regional partners. TRIP funds are distributed to the FDOT Districts based on a statutory formula of equal parts population and fuel tax collections. Table 5 outlines TRIP requirements in Florida law. MPOs are provided estimates of TRIP funds. TRIP will fund up to 50 percent of eligible project costs.

MPOs should work with their district office in developing and documenting this information.

Table 5 TRIP Requirements in Florida Law (s. 339.155(4) and s. 339.2819, Florida Statutes)

Projects to be funded with TRIP funds shall, at a minimum: 1. Serve national, statewide, or regional functions and function as an integrated regional transportation system; 2. Be identified in the capital improvements element of a comprehensive plan that has been determined to be in compliance with Part II of Chapter 163, F. S. after July 1, 2005, and be in compliance with local government comprehensive plan policies relative to corridor management; 3. Be consistent with the Strategic Intermodal System Plan; and 4. Have a commitment for local, regional, or private financial matching funds as a percentage of the overall project cost.
In allocating TRIP funds, priority will be given to projects that: 1. Provide connectivity to the Strategic Intermodal System; 2. Support economic development and the movement of goods in rural areas of critical economic concern; 3. Are subject to a local ordinance that establishes corridor management techniques, including access management strategies, right-of-way acquisition and protection measures, appropriate land use strategies, zoning, and setback requirements for adjacent land uses; and 4. Improve connectivity between military installations and the Strategic Highway Network or the Strategic Rail Corridor Network.

MPOs may desire to include projects partially funded with TRIP funds in the long range transportation plan. If so, the MPO should identify such projects as "illustrative projects" in its plan along with, at a minimum, the following information:

- Status of regional transportation planning in the affected MPO area, including eligibility for TRIP funding;

- Description of the project and estimated costs;

- Assumptions related to the share and amount of district TRIP funding for the project; and
- Assumptions related to the share and amount of non-State matching funds for the project (federal and/or local).

MPOs should work with their District office in developing and documenting this information.

SUN Trail

State law now provides that $25 million of the annual initial Motor Vehicle License fees are allocated to the Florida Shared-Use Nonmotorized Trail Network (SUN Trail). This statewide network is being constructed by FDOT, and our Department bears the primary responsibility for planning it. SUN Trail projects from the FDOT Work Program need to be included in MPO's TIPs to advance. As such, these TIP projects would also need to be in the LRTP. MPOs may wish to include proposed, but not programmed, SUN Trail projects among the illustrative projects included in their LRTPs. Finally, MPOs may wish to highlight planned connections with SUN Trail stemming from other Bike/Ped projects, or from projects of any mode.

Non-Capacity Programs

Non-Capacity Programs refer to the FDOT programs designed to support and maintain the state transportation system including safety; resurfacing; bridge; product support; operations and maintenance; and administration. Consistent with the MPOAC Guidelines, FDOT and FHWA agreed the LRTP will meet FHWA expectations if it contains planned FDOT expenditures to operate and maintain the State Highway System by FDOT district. FDOT provides these estimates in the Revenue Forecast Report. FDOT also includes statewide funding for these programs in the forecast in line with the traditional top-down approach.

The Revenue Forecast Report provides statewide estimates for non-capacity programs, which are sufficient for meeting statewide objectives and program needs in all metropolitan and non-metropolitan areas. This accomplishes the goal of ensuring that sufficient funding will be available to operate and maintain the state transportation system.

Other Funds

Certain expenditures are not included in major programs discussed above. These include debt service, reimbursements to local governments and a few other minor categories.. The current Revenue Forecast Reports include statewide totals for these categories under "Administration and Other" in Table 11.

Other Transportation Revenue

Local government revenues such as taxes and fees; federal funds distributed directly to local governments; local or regional tolls play a critical role in providing transportation services and facilities. The Department does not have access to detailed information on local and regional revenue sources and forecasts of revenues expected from them. Information on many of those sources can be found in *Florida's Transportation Tax Sources: A Primer*[1] and the *Local Government*

[1] *Florida's Transportation Tax Sources, A Primer*, is published annually by FDOT at:

Financial Information Handbook.[1] The following is guidance to MPOs in the identification and forecasting of current revenue sources, potential new sources and the development of long range estimates.

Current Revenue Sources

Initially, MPOs would do well to identify sources of local and regional revenues that have funded transportation improvements and services in recent years and are expected to continue. The following is a summary of sources potentially available.

Local Government Taxes and Fees

Local government sources include those that are dedicated for transportation purposes. In many areas these are supplemented by general revenues allocated to specific transportation programs (e.g., transit operating assistance may be provided from the general fund). Other sources are available for transportation if enacted by one or more local governments in the metropolitan area. Local government financial staff will have information on recent revenue levels, uses of funds, and trends.

State Imposed Motor Fuel Taxes

Florida law imposes per-gallon taxes on motor fuels and distributes the proceeds to local governments as follows: Constitutional Fuel Tax (2 cents); County Fuel Tax (1 cent); and Municipal Fuel Tax (1 cent). Constitutional Fuel Tax proceeds are first used to meet the debt service requirements on local bond issues backed by tax proceeds. The remainder is credited to the counties' transportation trust funds. County Fuel Tax receipts are distributed directly to counties. Municipal Fuel Tax proceeds are transferred to the Revenue Sharing Trust Fund for Municipalities, combined with other non-transportation revenues, and distributed to municipalities by statutory criteria.

The Constitutional Fuel Tax may be used for the acquisition, construction, and maintenance of roads. The County Fuel Tax and Municipal Fuel Tax may be used for any legitimate transportation purpose. Estimated distributions of these sources can be found in the *Local Government Financial Information Handbook*.

Local Option Motor Fuel Taxes

Local governments may levy up to 12 cents of local option fuel taxes pursuant to three types of levies. Recent proceeds from these optional motor fuel taxes for each county are contained in the *Local Government Financial Information Handbook*.

First, a tax of 1 to 6 cents on every gallon of motor and diesel fuel may be imposed by an ordinance adopted by the majority vote of the county commission or by countywide referendum for up to 30 years. However, this tax is imposed on diesel fuel in every county at the rate of 6 cents per gallon. These funds may be used for any legitimate county or municipal transportation purpose (e.g., public transportation operations and maintenance, road construction or reconstruction). In

http://www.dot.state.fl.us/officeofcomptroller/pdf/GAO/RevManagement/Tax%20Primer.pdf

[1] *Local Government Financial Information Handbook*, is an annual publication of the Florida Legislature's Office of Economic and Demographic Research at http://edr.state.fl.us/Content/local-government/reports/lgfih12.pdf.

addition, small counties (i.e., less than 50,000 as of April 1, 1992) may use these funds for other infrastructure needs.

Second, a tax of 1 to 5 cents on every gallon of motor fuel sold may be imposed by a majority plus one vote of the county commission or by countywide referendum. These funds may be used for transportation purposes to meet the requirements of the capital improvement element of an adopted comprehensive plan. This includes roadway construction, reconstruction, or resurfacing, but excludes routine maintenance.

Third, a tax of 1 cent (often referred to as the Ninth-Cent Fuel Tax) on every gallon of motor and diesel fuel sold may be imposed. A county can impose the tax on motor fuel by an extraordinary vote of its board of commissioners or by referendum. These funds may be used for any legitimate county or municipal transportation purpose (e.g., public transportation operations and maintenance, construction or reconstruction of roads).

Other Transportation-Related Sources

Examples of these sources include public transportation fares and other charges, toll revenues from local or regional expressway and/or bridge authorities, transportation impact fees, and other exactions. The use of, and levels of proceeds from, these sources varies significantly among MPO areas.

Property Taxes and Other General Revenue Sources

Most local governments finance some transportation facilities and/or services from their general fund. These revenue sources include property taxes, franchise or business taxes, and local government fees. Sources, funding process, and eligible services vary widely among local governments. Local government financial staff have information on recent revenue levels, uses of funds, trends, and other information needed by MPOs.

Discretionary Sales Surtaxes

A Charter County and Regional Transportation System Surtax of up to 1% may be levied by charter counties, counties that are consolidated with one or more municipalities, and counties within or under an interlocal agreement with a regional transportation or transit authority created under Chapter 343 or Chapter 349, subject to a referendum. These funds may be used for fixed guideway rapid transit systems, including the cost of a countywide bus system that services the fixed guideway system. Proceeds may also be transferred to an expressway or transportation authority to operate and maintain a bus system, or construct and maintain roads or service the debt on bonds issued for that purpose.

A Local Government Infrastructure Surtax of either 0.5% or 1% may be levied for transportation and other purposes. The governing authority in each county may levy the tax by ordinance, subject to a successful referendum. In lieu of county action, municipalities representing the majority of the county population may adopt resolutions calling for countywide referendum on the issue and it will take effect if the referendum passes. The total levy for the Local Government Infrastructure Surtax and other discretionary surtaxes authorized by state law (for school construction, hospitals and other public purposes) cannot exceed 1%. See section 212.055, Florida Statutes, for more information on these discretionary sales surtaxes.

Federal Revenues

These are revenues from federal sources that are not included in the 2045 Revenue Forecast. Examples include federal assistance for aviation improvements and capital and operation assistance for transit systems. Potential sources distributed directly to local governments or authorities include revenue from the Federal Airport and Airway Trust Fund, the Federal Highway Trust Fund (Mass Transit Account), and the Federal General Fund.

Bond Proceeds

Local governments may choose to finance transportation and other infrastructure improvements with revenue or general obligation bonds. These types of local government bonds are often areawide and/or designed to fund programs (e.g., transportation, stormwater) and/or specific projects. Primarily for this reason, analyses of the potential use of this source should be undertaken separately from analyses of the use of bonds for toll facilities.

Other Current Sources

Other possible sources include private sector contributions or payments, such as proportionate share contributions. Often, these will be sources for specific projects or programs.

New Revenue Sources

Revenues from current sources have not been sufficient to meet transportation capacity, preservation, and operational needs in Florida's MPO areas. MPOs should examine the potential for new revenue sources that could be obtained to supplement current sources to meet those needs. This examination of each potential source should include analyses of:

- Authority (how sources are authorized in current state and/or local laws and ordinances);
- Estimates of proceeds through 2045;
- Reliability of the estimates (e.g., amount, consistency); and
- Likelihood that the source will become available (e.g., the probability that the proceeds will be available to fund improvements, considering issues such as previous state and/or local government legislative decisions, results of previous referenda, and commitments from decision makers).

Optional Sources Authorized by Current State Law

Communities in most MPO areas have not taken full advantage of some of the optional and discretionary transportation revenue sources authorized by current state law. These include the Ninth-Cent Fuel Tax, the full 11 cents available from the Local Option Fuel Tax, the Charter County and Regional Transportation System Surtax, and the Local Government Infrastructure Surtax. Where authorized, these sources are subject to either the approval of local governing bodies or referenda.

Innovative Financing Sources

Typically, these are other sources that are used in some local areas in Florida or other states, but are not used in a specific MPO area (e.g., toll facilities). Most require state and/or local government legislative authorization before they can be established.

In addition, state and/or federal law has authorized several transportation finance tools that can make additional funds available or accelerate the completion of needed projects. These tools are described in Appendix B of this document, *Leveraging, Cash Flow and Other Transportation Finance Tools*.

Development of Revenue Estimates

MPOs should develop estimates through 2045 for each current or new revenue source. Typically, these will be annual estimates that should be summarized for longer time periods (e.g., 5 years) for plan development purposes. MPOs should consult with financial planning staff from local governments and service providers and consider the following issues.

Historical Data

Information should be obtained related to factors that may affect the revenue estimates, such as recent annual proceeds and growth rates. MPOs should consider forecasting methodologies that include the relationships of revenue growth rates to other factors (e.g., population growth, retail sales), to assist with revenue projections, particularly if little historical data exist or annual proceeds fluctuate significantly (e.g., proceeds from impact fees).

Adjustments for Inflation

Estimates of future revenue sources usually identify the value of money at the time it will be collected, sometimes referred to as *year of expenditure* or *current* dollars, and reflect inflation. If this is not the case, see Appendix C for factors used for adjusting revenue forecasts to "year of expenditure" dollars.

Constraints on the Use of Revenues

MPOs should identify any constraints or restrictions that may apply to a revenue source for its use to fund multimodal transportation improvements. For example, federal and local transit operating assistance may be limited to transit services and cannot be used to fund highway improvements. Other constraints include any time limitations on the funding source, such as the limitations on levies of discretionary sales surtaxes.

Developing a Cost Feasible Plan

Each MPO has established a process for updating its cost feasible plan for its transportation system. These processes include public involvement programs tailored to the MPO area; identifying needs, and resources; testing of alternative system networks; and adoption. The Department, particularly through its district planning staff, is an active partner in assisting each MPO in plan development. This section, recognizing the diversity of structure in each MPO, provides general guidance and recommendations to MPOs. The guidance should be tailored to the plan development process including establishing local priorities identified in each MPO area.

Project Identification

The long range plan will define the transportation system that best meets the needs of the MPO area and furthers metropolitan and state goals. The system plan will be comprised of

transportation projects and/or programs that are expected to be implemented by 2045, consistent with the MPOAC *Financial Guidelines for MPO 2045 Long Range Plans*.

The following discusses projects or programs that should be identified for the years 2027-2045. They should be considered as candidates for inclusion in the adopted long range system plan, subject to each MPO's plan development process, including the reconciliation of all project and program costs with revenue estimates. MPOs are encouraged to clearly identify *regionally significant* projects, regardless of mode, ownership, or funding source(s).[1]

Statewide Capacity Programs

The Department is taking the lead in identifying planned projects and programs funded by these major programs: SIS Highways Construction & ROW, Aviation, Rail, and Intermodal Access. SIS Highways Construction & ROW projects planned within MPO areas were provided at the same time as the 2045 Revenue Forecast. These estimates are for planning purposes and do not represent a commitment of FDOT funding.

MPOs are encouraged to review those projects with district staff, identify any projects or areas that require further discussion, and reach agreement with district staff on how those projects will be incorporated in the update of the MPO cost feasible plan.

Issues that may require further discussion include candidate projects not included in the SIS Highways Cost Feasible Plan. These may include projects or major project phases that could not be funded by the estimates for the SIS Highways Construction & Right-of-Way program. Information to be discussed should include: project descriptions and cost estimates, funding sources (e.g., Non-SIS Highways Construction & Right-of-Way funds; local, authority or private sector sources), and relationship to other planned improvements.

Other Capacity Programs

The MPOs will lead in identifying projects or programs that could be funded, or partially funded, by the state with (1) Other Roads (Non-SIS Highways) Construction & Right-of-Way and (2) Transit programs. Estimates of those funds have been provided to MPOs in Table 5 of the Revenue Forecast Report. Each MPO should consider the mix of highway and transit projects and programs that best serves its area, and that the funding estimates for these two programs are "flexible" for the years 2027-2045. MPOs are encouraged to work with district staff as candidate projects are identified and reach agreement on how they will be incorporated in the update of the MPO cost feasible plan. The following should be considered:

- Project Descriptions and Cost Estimates - MPOs should work with district staff, local governments, authorities and service providers, and private sector interests to develop project descriptions and cost estimates in sufficient detail for their planning process. Projects may include improvements to the State Highway System, transit system improvements, and components of Transportation System Management (TSM) and Transportation Demand Management (TDM) programs such as intersection improvements, traffic signal systems, ridesharing programs, and ITS projects.

[1] See "Federal Strategies for Implementing Requirements for LRTP Update for the Florida MPOs," for a description of regionally significant projects.

- Costs of Major Phases - At a minimum, MPOs should identify construction, right-of-way, and Preliminary Engineering (PD&E and Design phases) costs separately. These estimates will be needed because (1) the Non-SIS Highways program estimates include state funding for construction plus right-of-way, and (2) sufficient funds have been estimated to provide planning and engineering (i.e., Product Support as defined in Appendix A) for all state capacity programs. Specific estimates for right-of-way costs should be used for any project where such estimates exist. For other projects, the Department please see Appendix C for more information.

- Potential Supplemental Funding - MPOs should identify potential revenue sources that could be used to supplement the estimates from the Non-SIS Highways and Transit programs to fund, or partially fund, these projects. This includes federal funds that are not part of the Department's revenue forecast, or revenues from local and private sector sources.

Other Projects and Programs

Revenue and project information provided by the Department is intended for those activities that are funded through the state transportation program. Other transportation improvement activities in MPO areas may include improvements to local government roads, certain transit programs, and projects and programs for modes that are not funded by the state program. It is recommended that the following types of information should be developed for these candidate projects and programs: (1) project descriptions and cost estimates, (2) costs of major phases, and (3) funding sources.

Development of a Cost Feasible Multimodal Plan

Development of a *cost feasible multimodal system plan* requires a balancing of high-priority improvements with estimates for expected revenue sources, subject to constraints regarding how certain funding estimates can be used. Due to program constraints included in the 2045 Revenue Forecast and other sources (e.g., federal transit operating assistance), the following discussion of major system plan elements is organized by transportation mode.

Highways

The highway element of the multimodal system plan will be comprised of current or proposed facilities that are SIS highways, the remainder of the State Highway System, and appropriate local roads. In the Revenue Forecast Report, the latter two categories are grouped together under "Other Roads. However, State funding for local roads is quite limited, as explained under "Funds For Off-System Roads" above. MPOs may choose to include "illustrative projects" for local roads in their plan. In some cases, these projects could be planned for whole or partial funded with Transportation Regional Incentive Program (TRIP) funds. See the sub-section on TRIP and Table 5 in Key Projections above. .

- SIS Highways

  The MPO should identify planned improvements and funding for corridors on the SIS, consistent with the 2045 SIS Highways Cost Feasible Plan and any adjustments agreed upon by the Department. Such adjustments could result from agreements to supplement SIS funds to either accelerate or add improvements to SIS Highways.

- Other Roads

  The MPO should identify planned improvements and funding for corridors that are not on the SIS. Potential funding sources include the "flexible" funds from the state Non-SIS Highways Construction & ROW and Transit programs, and funds from local or private sector sources that have been identified as reasonably available.

  The MPO should identify planned improvements and funding for local road facilities to be included in the long range plan. The Department has provided estimates of off-system funds in the statewide forecast. Off-system funds estimated by the Department may be used anywhere except for roads that are functionally classified as local or rural minor collectors, unless such roads were on a federal-aid system as of January 1, 1991. Other funds should include local or private sector sources that have been identified as reasonably available.

- Operational Improvements Programs

  MPOs should identify program descriptions and funding levels for transportation system management programs such as intersection improvements, traffic signal systems, and ITS projects. Transportation demand management program descriptions and funding levels can be identified in the highway element, in the transit element, or separately. Generally, such programs should be funded with revenues estimated for the State Non-SIS Highways Construction & ROW and Transit programs or local revenue sources.

Transit

MPOs should identify transit projects and programs and funding for local or regional bus systems and related public transportation programs in the transit element in cooperation with transit providers. Demand management programs, including ridesharing, bicycle and pedestrian projects can be included, or can be identified separately. Potential funding sources include the "flexible" funds from the state Non-SIS Highways Construction & ROW and Transit programs, federal and local transit operating assistance, and other funds from local or private sector sources that have been identified as reasonably available. MPOs may choose to include "illustrative projects" in their plan, partially funded with New Starts Program funds.

Balancing Planning Improvements and Revenue Estimates

It is anticipated that each MPO will test several alternative plans leading toward adoption of a cost feasible multimodal plan for the MPO transportation system. The system alternatives should examine different ways to meet state and MPO goals and objectives through priority setting, and should be analyzed within the context of the MPO area's public involvement program. They may contain alternative mixes of the candidate projects discussed above, alternative schedules for implementation, and alternative improvements for specific projects. Throughout this process, MPOs should reconcile project costs with revenue estimates, taking into consideration the revenues estimated for transportation improvements and any flexibility or constraints associated with the estimates. (see Figure 3, next page)

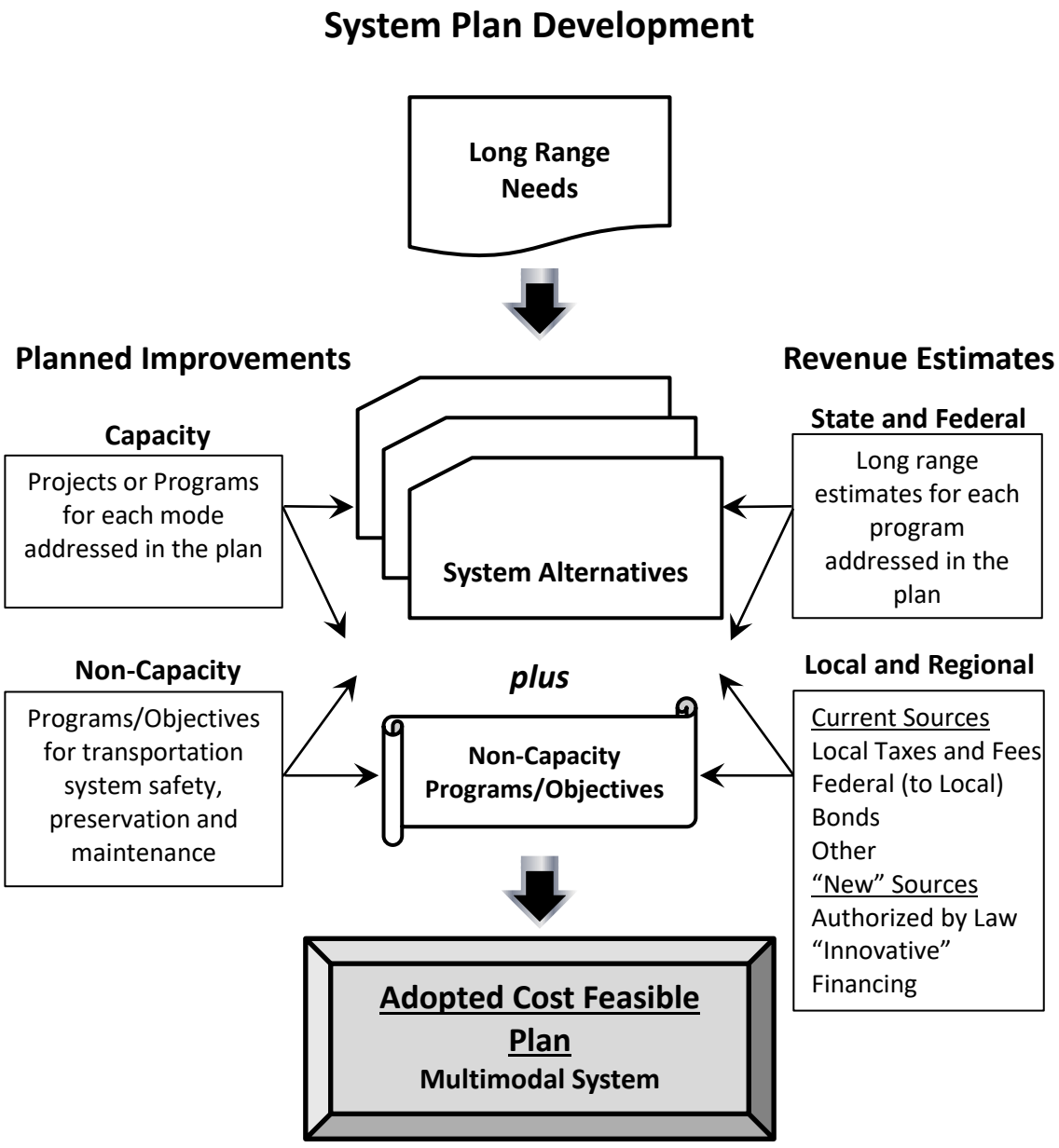
State and federal estimates for 2020-2045 are divided into sequential time bands to assist MPOs with organizing their plans. For the current Revenue Forecast, the 26-year period is divided into the following bands:

2020 (just one year)
2021-2025
2026-2030
2031-2035
2036-2045

For planning purposes, some flexibility should be allowed for estimates for these time periods. For example, the total cost of planned projects for the periods after 2025 for Non-SIS Highways (Other Roads) and Transit estimates should be within 10 percent of the funds estimated for that period. It is important that the total cost of planned projects for the entire 2026-2045 period not exceed revenue estimates for the entire period for each spending category.

As part of LRTP documentation, MPOs should identify all projects planned to be implemented with federal funds within the first 10 years of the plan.

Figure 3 Cost Feasible Plan Project and Financial Planning
MPO Long Range Transportation Plan Development



Appendix A: State Transportation Programs and Funding Eligibility

This appendix defines the major program categories used in the 2045 Revenue Forecast and provides guidelines for what types of planned projects and programs are eligible for funding with revenues estimated in the forecast. MPO plan updates that incorporate the information from this revenue forecast should be consistent with these guidelines.

State Transportation Programs

The 2045 Revenue Forecast includes all state transportation activities funded by state and federal revenues. The starting point of this forecast is the Program and Resource Plan (PRP), the Department's financial planning document for a 9 or 10-year period that includes the Work Program. The PRP addresses over 60 programs or subprograms. Other inputs include the State Transportation Trust Fund Forecast of the Florida Revenue Estimating Conference (REC), and related documents. The chart at the end of this Appendix lists programs and major subprograms and how they have been combined for the revenue forecast.

Major Program Categories

Revenue estimates for all state programs were combined into the categories shown in Table 6. The funding eligibility information is organized according to these categories and the responsibilities for project identification for each program. Each of the major programs falls under one of the following PRP program groups:

- Product – Activities which build the transportation infrastructure.
- Product Support – Planning and engineering required to produce the products.
- Operations & Maintenance – Activities which support and maintain transportation infrastructure after it is constructed and in place.
- Administration and Other – Activities required to administer and otherwise facilitate the entire state transportation program.

Please see Table 6 for a schematic showing how the major expenditure categories divide into Capacity and Non-Capacity.

Funding Eligibility for Major Programs

The SIS Cost Feasible Plan, Multimodal Unfunded Needs Plan and MPO LRTPs consider many types of transportation improvements to meet long range needs, constrained by the funding expected to be available during the planning period. The following are explanations of the types of projects, programs and activities that are eligible for state and/or federal funding in each of the major categories contained in the 2045 Revenue Forecast.

Table 6 Major Program Categories

Program and Resource Plan	Major Programs	
	Capacity	Non-capacity
Product	SIS Highways Construction & ROW Non-SIS Highways Construction & ROW (Other Roads) SUN Trail Aviation Transit Rail Intermodal Access Seaport Development	Safety Resurfacing Bridge
Product Support		Product Support Preliminary Engineering
Operations & Maintenance		Operations & Maintenance
Administration and Other		Administration and Other

Statewide Capacity Programs

The Department leads in the identification of planned projects and programs that are associated with the Strategic Intermodal System (SIS) and provides detailed information to MPOs. As a result, MPO plans and programs that include state and federal funds for these major programs should be coordinated and consistent with state long range plans and programs. Each is discussed below.

SIS Highways Construction & Right-of-Way

The Strategic Intermodal System (SIS), including Strategic Growth facilities, includes over 4,300 miles of Interstate, Turnpike, other expressways and major arterial highways and connectors between those highways and SIS hubs (airports, seaports, etc.). The SIS is the state's highest priority for transportation capacity investments.

MPO plans and programs for SIS Highways should be consistent with the 2045 SIS Highway Cost Feasible Plan, as provided to each MPO. Projects associated with aviation, rail, seaport development and intermodal access may be funded under this program, if they are included in the SIS Highway Cost Feasible Plan. Capacity improvement projects eligible for funding in the current plan include:

- Construction of additional lanes;
- The capacity improvement component of interchange modifications;
- New interchanges;
- Exclusive lanes for through traffic, public transportation vehicles, and other high occupancy vehicles;

- Bridge replacement with increased capacity;
- Other construction to improve traffic flow, such as intelligent transportation systems (ITS), incident management systems, and vehicle control and surveillance systems;
- The preferred alternative defined by an approved multi-modal interstate master plan;
- Weigh-in-motion stations;
- Acquisition of land which is acquired to support the SIS highway and bridge construction programs, and land acquired in advance of construction to avoid escalating land costs and prepare for long-range development; and
- New weigh stations and rest areas on the interstate.

The following activities are not eligible for funding from the SIS Highways Construction & Right-of-Way program estimates: planning and engineering in SIS corridors (see Product Support below), and support activities to acquire right-of-way (see Product Support below).

Aviation and Spaceports

The state provides financial and technical assistance to Florida's airports. The three main funding programs are the Aviation Grant Program, the Aviation Discretionary Program and the Spaceport Program. FDOT's Work Program Instructions provide information regarding additional funding eligibility and state matching funds requirements. The instructions can be found at http://www.fdot.gov/workprogram/Development/PDFInstructions/WorkProgramInstructions.pdf, Part III, Chapter 15, Section D.

Rail

The state provides funding for acquisition of rail corridors and assistance in developing intercity passenger and commuter rail service, fixed guideway system development, rehabilitation of rail facilities and high speed transportation. FDOT's Work Program Instructions provide information regarding additional funding eligibility and state matching funds requirements. Projects and programs eligible for funding include:

- Financial and technical assistance for intermodal projects;
- Rail safety inspections;
- Regulation of railroad operations and rail/highway crossings;
- Identification of abandoned rail corridors;
- Recommendations regarding acquisition and rehabilitation of rail facilities; and
- Assistance for developing intercity rail passenger service or commuter rail service.

Seaport Development

The state provides assistance with funding for the development of public deep water ports. This includes support of bonds issued by the Florida Ports Financing Commission that finances eligible capital improvements. FDOT's Work Program Instructions provide information regarding additional funding eligibility and state matching funds requirements. Projects and programs eligible for funding and state matching funds requirements vary among several programs.

Other Capacity Programs

MPOs will lead in the identification of planned projects and programs for the (1) Non-SIS Highways Construction & ROW and (2) Transit programs. For 2019-2023, MPOs should identify projects as contained in the Work Program. For all years after 2023, MPOs should plan for the mix of highway and transit programs that best meets the needs of their area. As a result, MPOs may identify either highway or transit improvement programs and projects, consistent with the total amount of the two major programs, and consistent with the following eligibility criteria.

Non-SIS Highways (Other Roads) Construction & Right of Way

The primary purpose of this program is to fund improvements on the part of the State Highway System (SHS) that is not designated as SIS. The approximately 8,000 miles of such highways represent about 64% of the centerline miles of the SHS. Projects and programs eligible for funding include:

- Construction and improvement projects on state roadways which are not on the Strategic Intermodal System (SIS), including projects that:
    - Add capacity;
    - Improve highway geometry;
    - Provide grade separations; and
    - Improve turning movements through signalization improvements and storage capacity within turn lanes.
- Acquisition of land which is acquired to support the SHS highway and bridge construction programs, and land acquired in advance of construction to avoid escalating land costs and prepare for long-range development;
- Construction and traffic operations improvements on certain local government roads that add capacity, reconstruct existing facilities, improve highway geometrics (e.g., curvature), provide grade separations, and improve turning movements through signalization improvements and adding storage capacity within turn lanes; and
- Acquisition of land necessary to support the construction program for certain local government roads, as discussed immediately above.

The Department provides separate estimates of funds from this program that may be used on local government roads that meet federal eligibility criteria (i.e., off-system). By law, state funds cannot be used on local government roads except to match federal aid, for locally owned SIS Connectors, and under certain subprograms subject to annual legislative appropriations. Long range plans should not assume that state funds will be appropriated for local government road improvements.

Use of these funds for road projects not on the SHS will effectively reduce the amount of funds planned for the SHS and public transportation in the area, the District and the state.

The following activities are not eligible for funding from the Non-SIS Highways Construction & Right-of-Way program estimates: planning and engineering in SHS corridors (see Product Support below), highway/road construction and right-of-way acquisition not listed above, support activities to acquire right-of-way (see Product Support below), land acquisition for airports (see Aviation above), and land acquisition for railroad corridors (see Rail above).

Transit

The state provides technical and operating/capital assistance to transit, paratransit, and ridesharing systems. Projects and programs eligible for funding include:

- Capital and operating assistance to public transit systems and Community Transportation Coordinators, through the Public Transit Block Grant Program
  Note: For this program, state participation is limited to 50% of the non-federal share of capital costs and up to 50% of eligible operating costs. The block grant can also be used for transit service development and corridor projects. An individual block grant recipient's allocation may be supplemented by the State if (1) requested by the MPO, (2) concurred in by the Department, and (3) funds are available. The Transportation Disadvantaged Commission is allocated 15% of Block Grant Program funds for distribution to Community Transportation Coordinators;
- Service Development projects, which are demonstration projects that can receive initial funding from the state
  Note: For these projects, Up to 50% of the net project cost can be provided by the state. Up to 100% can be provided for projects of statewide significance (requires FDOT concurrence). Costs eligible for funding include operating and maintenance costs (limited to no more than three years) and marketing and technology projects (limited to no more than two years);
- Transit corridor projects that are shown to be the most cost effective method of relieving congesting and improving congestion in the corridor;
- Commuter assistance programs that encourage transportation demand management strategies, ridesharing and public/private partnerships to provide services and systems designed to increase vehicle occupancy;
- Assistance with acquisition, construction, promotion and monitoring of park-and-ride lots; and
- Assistance to fixed-guideway rail transit systems or extensions, or bus rapid transit systems operating primarily on dedicated transit right-of-way under the New Starts Transit Program.

Non-Capacity Programs

Statewide estimates for all state non-capacity programs are an integral part of the 2045 Revenue Forecast to ensure that statewide system preservation, maintenance, and support objectives will be met through 2045. These objectives will be met in each area, so it was not necessary to develop MPO estimates for these programs. Neither the Department nor the MPOs needs to identify projects for these programs. However, pursuant to an agreement between FDOT and the Federal Highway Administration Division Office, FDOT has provided district- level estimates of existing facilities costs on the State Highway System to MPOs for inclusion in the documentation of their long range transportation plans. The existing facilities projections shown in Table 12 of the Revenue Forecast Report are the total expenditures for the State Resurfacing, Bridge, and Operations & Maintenance programs.

Safety

Safety issues touch every area of the state transportation program. Specific safety improvement projects and sub-programs in this major program address mitigation of safety hazards that are not included in other major programs. Projects and programs eligible for funding include:

- Highway safety improvements at locations that have exhibited a history of high crash frequencies or have been identified as having significant roadside hazards;
- Grants to state and local agencies for traffic safety programs with the intent of achieving lower levels and severity of traffic crashes; and
- Promotion of bicycle and pedestrian safety and vulnerable road users, including programs for public awareness, education and training.

Resurfacing

The state periodically resurfaces all pavements on the State Highway System (SHS) to preserve the public's investment in highways and to maintain smooth and safe pavement surfaces. Projects and programs eligible for funding include:

- Periodic resurfacing of the Interstate, Turnpike and other components of the SHS;
- Resurfacing or reconstructing of county roads in counties eligible to participate in the Small County Road Assistance Program; and
- Periodic resurfacing of other public roads, consistent with federal funding criteria and Department and MPO programming priorities.

Bridge

The state repairs and replaces deficient bridges on the SHS, or on other public roads as defined by state and federal criteria. Projects and programs eligible for funding include:

- Repairs of bridges and preventative maintenance activities on bridges on the SHS;
- Replacement of *structurally deficient* bridges on the SHS (Note: The state Bridge Replacement Program places primary emphasis on the replacement of structurally deficient or weight restricted bridges. Planned capacity improvements for bridges that are to be widened or replaced to address highway capacity issues must be funded from the Non-SIS Highways or SIS Highways Construction & Right-of-Way major programs);
- Replacement of bridges which require structural repair but are more cost effective to replace;
- Construction of new bridges on the SHS;
- Replacement of *structurally deficient* bridges off the SHS but on the federal-aid highway system, subject to state and federal policies and eligibility criteria; and
- Replacement of *structurally deficient* bridges off the federal-aid highway system, subject to state and federal policies and eligibility criteria.

Product Support

Planning and engineering activities are required to produce the products and services described in the major programs discussed above. These are functions performed by Department staff and professional consultants. Costs include salaries and benefits; professional fees; and

administrative costs such as utilities, telephone, travel, supplies, other capital outlay, and data processing. Functions eligible for funding include:

- Preliminary engineering (related to environmental, location, engineering and design);
- Construction engineering inspection for highway and bridge construction;
- Right of way support necessary to acquire and manage right-of-way land for the construction of transportation projects;
- Environmental mitigation of impacts of transportation projects on wetlands;
- Materials testing and research; and
- Planning and Public Transportation Operations support activities.

Operations & Maintenance

Operations and maintenance activities support and maintain the transportation infrastructure once it is constructed. Scheduled major repairs or replacements such as resurfacing, bridge replacement or traffic operations improvements are parts of the Resurfacing, Bridge, and Non-SIS Highways Highway programs, respectively. Functions eligible for funding include:

- Routine maintenance of the SHS travel lanes; roadside maintenance; inspections of state and local bridges; and operation of state moveable bridges and tunnels;
- Traffic engineering analyses, training and monitoring that focus on solutions to traffic problems that do not require major structural alterations of existing or planned roadways;
- Administration of and toll collections on bonded road projects such as toll expressways, bridges, ferries, and the Turnpike; and
- Enforcement of laws and Department rules which regulate the weight, size, safety, and registration requirements of commercial vehicles operating on the highway system.

Administration

Administration includes the staff, equipment, and materials required to perform the fiscal, budget, personnel, executive direction, document reproduction, and contract functions of carrying out the state transportation program. It also includes the purchase of and improvements to non-highway fixed assets. Eligible functions and programs are:

- Resources necessary to manage the Department in the attainment of goals and objectives;
- Acquisition of resources for production, operation and planning units including personnel resources; external production resources (consultants); financial resources; and materials, equipment, and supplies;
- Services related to eminent domain, construction letting and contracts, reprographics, and mail service;
- Costs for the Secretary, Assistant Secretaries, and immediate staffs; for the Florida Transportation Commission and staff; and for the Transportation Disadvantaged Commission; and
- Acquisition, construction and improvements of non-highway fixed assets such as offices, maintenance yards, and construction field offices.

Table 7 Program Categories for the 2045 Revenue Forecast and Program & Resource Plan

2045 REVENUE FORECAST PROGRAMS	PROGRAM & RESOURCE PLAN	
	PROGRAMS	SUBPROGRAMS
CAPACITY	**I. PRODUCT**	
SIS Highways Construction & Right-of-Way	SIS Highway Construction	1. Interstate Construction 2. Turnpike Construction 3. Other SIS Construction 4. SIS Traffic Operations
	SIS Right of Way	1. SIS Advance Corridor Acquisition
Other Roads Construction & Right-of-Way	Other Roads Construction	1. Other Traffic Operations 2. Construction 3. County Transportation Programs 4. Economic Development
	Other Roads Right of Way	1. Other Roads 2. Other Roads Advance Corridor Acquisition 3. Other Advance Corridor Acquisition
Public Transportation • **Aviation** • **Transit** • **Rail** • **Intermodal Access** • **Seaport Development**	Aviation	1. Airport Improvement 2. Land Acquisition 3. Planning 4. Discretionary Capacity Improvements
	Transit	1. Transit Systems 2. Transportation Disadvantaged - Department 3. Transportation Disadvantaged - Commission 4. Other 5. Block Grants 6. New Starts Transit
	Rail	1. High Speed Rail 2. Passenger Service 3. Rail/Highway Crossings 4. Rail Capital Improvements/Rehabilitation
	Intermodal Access	None
	Seaport Development	None
	SUN Trail	None

Table 7, continued

NON-CAPACITY	PROGRAMS	SUBPROGRAMS
Safety	Safety	1. Highway Safety 2. Rail/Highway Crossings (discontinued) 3. Grants
Resurfacing	Resurfacing	1. Interstate 2. Arterial & Freeway 3. Off-System 4. Turnpike
Bridge	Bridge	1. Repair - On System 2. Replace - On System 3. Local Bridge Replacement 4. Turnpike
Product Support	**II. PRODUCT SUPPORT**	
		A. Preliminary Engineering *(all)* B. Construction Engineering Inspection *(all)* C. Right-of-Way Support *(all)* D. Environmental Mitigation E. Materials & Research *(all)* F. Planning & Environment *(all)* G. Public Transportation Operations
Operations & Maintenance	**III. OPERATIONS & MAINTENANCE**	
		A. Operations & Maintenance *(all)* B. Traffic Engineering & Operations *(all)* C. Toll Operations *(all)* D. Motor Carrier Compliance
Administration	**IV. ADMINISTRATION**	
		A. Administration *(all)* B. Fixed Capital Outlay *(all)* C. Office Information Systems

Notes:

- *(all)* refers to all levels of subprogram detail below the one shown in this table.
- Program and Resource Plan category "V. OTHER" is related to the "TOTAL BUDGET" and was included in the 2040 Revenue Forecast as "Other" (i.e., not as a "Program").

Appendix B: Leveraging, Cash Flow, and Other Transportation Finance Tools

MPOs are encouraged to consider innovative or non-traditional sources of funding and financing techniques in their long range plans. These may include optional revenue sources such as local option motor fuel taxes or local option sales taxes that are not currently in place, toll facilities, public/private partnerships, and debt financing. It should be noted that debt financing, borrowing implementation funds to be paid back from future revenues, should be analyzed carefully before deciding to use it to fund projects. There are tradeoffs between building a project earlier than would otherwise be the case and increased costs from interest and other expenses required to finance projects this way.

Several such sources or techniques are available because of state and federal laws. Concurrence of the Department, and in some cases the federal government, is required before projects or programs can be funded through these sources. As a result, each MPO should coordinate with the Department before including these sources and techniques in its long range plan.

The following is general guidance for specific sources. More detailed guidance can be obtained from FDOT staff. Guidance on planning for future toll facility projects concludes this appendix.

Federal/State Transportation Finance Tools

Federal law allows several methods of transportation finance that provide opportunities to leverage federal transportation funds. Most of the tools can be applied in more than one state program. The tools are not identified separately in the Program and Resource Plan, but the Department has established processes and criteria for their use. MPOs should work closely with FDOT before including these and other federal financing tools as part of their long range financial planning.

State Infrastructure Bank (SIB)

The SIB was originally established by the National Highway System Act of 1995 to encourage state and local governments to identify and develop innovative financing mechanisms that will more effectively use federal financial resources.

Florida has two separate SIB accounts: the federal-funded SIB account (capitalized by federal money and matched with appropriate state funds as required by law); and the state-funded SIB (capitalized with state funds and bond proceeds). The SIB can provide loans and other assistance to public and private entities carrying out or proposing to carry out projects eligible for assistance under state and federal law. Highway and transit projects are eligible for SIB participation. See FDOT Work Program Instructions for more details.

SIB applications are accepted during the published advertisement period via the FDOT online application process (See http://www.dot.state.fl.us/officeofcomptroller/PFO/sib.shtm).

Advance Construction (AC)

States can initially use state funds to construct projects that may eventually be reimbursed with federal funds. These are state funds used to finance projects in anticipation of future federal apportionments. Subsequently, authorized by Title 23 U.S.C. 120(j)(1), the state can obligate federal-aid funds to reimburse the federal share of those projects (i.e., the share that was initially funded with state dollars). This is a way to construct federal-aid projects sooner than if Florida had to wait for future federal funding obligations before construction could begin. Florida has used this financing tool for many years to advance the construction of needed projects. AC has a greater impact on the timing of project construction than on the amount of federal funds.

Flexible Match

Federal law allows private funds, materials or assets (e.g., right of way) donated to a specific federal-aid project to be applied to the state's matching share. The donated or acquired item must qualify as a participating cost item meeting eligibility standards and be within the project's scope. Such private donations will effectively replace state funds that would have been used to match the federal aid, freeing up the state funds for use on other projects.

Toll Credits (Soft Match)

Federal law permits the use of certain toll revenue expenditures as a credit toward the non-federal share of transportation projects, as authorized by Title 23 U.S.C. 120. For example, the Turnpike is paid for with tolls, but it is eligible for federal aid. A toll credit is a credit from the federal government for the unused federal matching funds that could have been requested for Turnpike construction. This credit can be used instead of state or local funds to meet federal match requirements for other transportation projects, including transit.

Such credits free up state or local funds for other uses, that otherwise would have been used to match federal aid. Toll credits can only be used for transportation capital investments (e.g., highway construction, buses).

Transportation Infrastructure Finance and Innovation Act (TIFIA)

Federal law authorizes the United States Department of Transportation (USDOT) to provide three forms of credit assistance for surface transportation projects of national or regional significance: secured (direct) loans, loan guarantees, and standby lines of credit. USDOT awards assistance on a competitive basis to project sponsors (e.g., state department of transportation, transit operators, special authorities, local governments, private consortia). Various highway, transit, rail, and intermodal projects may receive credit assistance under TIFIA.

State Transportation Finance Tools

Florida law establishes several programs that allow the state, local governments and transportation authorities to cooperatively fund transportation projects sooner than would be the case under traditional state programs. In addition, state funds can be used to assist local

governments and transportation authorities with pre-construction activities on potential toll facilities, and to assist with state economic development.

Local Fund Reimbursement

Local Fund Reimbursement (LFR) are local funds used to advance a project in the adopted work program. Local entities provide the funding for specific projects in advance and will be reimbursed in the future. The reimbursement will come in the year the project was initially funded in the adopted Work Program. Local governments can contribute cash, goods and/or services to the Department to initiate projects sooner than scheduled in the Work Program.

Section 339.12, F.S., authorizes the local government reimbursement program. It allows projects in the adopted Five Year Work Program to be advanced, subject to a statewide $250 million cap on commitments. There are statutory exceptions to the $250 million cap as described in the above referenced statute.

Future Toll Facility Projects in MPO Long Range Transportation Plans

FDOT and local expressway authorities are currently engaged in studies of the feasibility of new toll facilities or extensions of existing facilities. If a MPO desires to include future toll facility projects in its long range plan beyond those currently included in the FDOT SIS Cost Feasible Plan (CFP), the MPO should coordinate with Disrict and, as appropriate, local authority staff to determine if these facilities should be included in the plan (possibly as *illustrative* projects). Issues to be considered include:

- Local/regional support of elected officials and the public for the project;
- Environmental, socio-economic and related impacts of the project;
- Consistency with affected local comprehensive plans; and
- Economic feasibility of the project (costs, revenues, debt service coverage, value for money analysis which compares public and privately financed alternatives side-by-side before a financing option is selected. This analysis is a strong tool for informing the public and ensuring that the public good has been protected, etc.)

FDOT's experience with analyses of economic feasibility for such projects suggests that it is extremely difficult to meet debt service requirements for a new toll facility or extension solely with toll revenues generated by the project, particularly in early years of operation. Often, the difficulty varies depending upon the location of the facility (e.g., urban, rural). However, each project is different based upon the location, competing roadways, and other factors. When little project information is available, FDOT offers the following additional considerations to MPOs that are interested in including future toll facility projects in their cost feasible long range plans:

- For projects in suburban or emerging suburban areas, estimated toll revenues likely will cover only a portion of the total project cost;
- For projects in urban areas, estimated toll revenues may cover a somewhat higher portion of the cost of the project. However, project costs usually are higher in urban areas;

- For projects in rural areas, possibly associated with proposed new land development which will take time to materialize, estimated toll revenues in the early years likely will be substantially lower than necessary to eventually cover total project cost.

For the purposes of the MPO long range plan, MPOs should document the amount and availability of revenues from other sources expected to be available to finance the project cost. Other sources may potentially include local revenue sources, Non-SIS Highways Construction & ROW funds from the 2045 Revenue Forecast, and private sector contributions. FDOT encourages MPOs to consult with their District and, as appropriate, local authority for technical assistance on preparing early analyses for possible toll facilities in the cost feasible long range plan.

Appendix C: Cost Calculations

Inflation Factors

Consistent with federal planning regulations [23 CFR 450.324(f)(11)] and *Financial Guidelines for MPO 2045 Long Range Plans* to be adopted by the Metropolitan Planning Organization Advisory Council (MPOAC) in early 2017, the 2045 Revenue Forecast is expressed in Year of Expenditure (YOE) dollars. MPOs will need to use inflation factors to adjust project costs from "Present Day Cost" dollars (typically 2015, 2016 or 2017 dollars for recent cost estimates) to future YOE dollars. MPOs also may have to adjust estimates of local revenues not included in the Department's forecast to YOE dollars, depending on how those revenue estimates were developed. YOE dollars are also referred to as Nominal dollars in Federal or academic literature.

Adjusting Project Costs

To balance project costs against the revenue estimates from the 2045 Revenue Forecast, costs and revenues need to be expressed using the same base year. Project cost estimates are typically expressed in "present day costs" (i.e., year that the project costs were developed, such as 2016), which are based on the value of money in the recent year and not adjusted for inflation.

Table 8 will assist MPOs in converting project costs to YOE dollars. For example, if the cost estimate for a specific project is expressed in fiscal year 2015 dollars and the project is planned to be implemented in the 2026 to 2030 time period, the MPO should multiply the cost estimate by 1.43 to convert the cost estimate to YOE dollars. The inflation multipliers included in Table 8 are based on the Department's inflation factors associated with the FY 2018-2022 Work Program and previous work programs. Factors for project cost estimates developed in fiscal years 2015, 2016, 2017 and 2018 are shown in Table 8 because needed project cost estimates are likely to be denominated in dollars of one of those years. If subsequent project cost estimates are developed denominated in fiscal years 2019, 2020 or 2021, the table can be updated.

As a detailed example, consider a desired project for which a cost estimate was generated by local government in FY 2015. The annual inflation rates in the lower part of Table 8 can be used to convert local cost estimates prepared in "today's" dollars to YOE dollars. When the cost estimate is expressed in 2015 dollars, the MPO can estimate the amount in 2021 dollars as follows:

2021 dollars = (2015 dollars) * (1.030) * (1.027) * (1.025) * (1.027) * (1.028) * (1.026)
(for 2016) (for 2017) (for 2018) (for 2019) (for 2020) (for 2021)

To put it another way, a project cost estimated in 2015 dollars should be multiplied by 1.174 to generate the most plausible estimate of construction costs in the year 2021.

For consistency with other estimates, FDOT recommends summarizing estimated local funds for each year by the 5-year periods.

Table 8a Inflation Factors to Convert Project Cost Estimates to Year of Expenditure Dollars by Time Bands

Time Period for Planned Project or Project Phase Implementation	Multipliers to Convert Project Cost Estimates to Year of Expenditure Dollars			
	Project Cost in 2015 PDC $*	Project Cost in 2016 PDC $*	Project Cost in 2017 PDC $*	Project Cost in 2018 PDC $*
2024-2025 (2 Year Period)	1.29	1.25	1.22	1.19
2026-2030	1.43	1.39	1.35	1.32
2031-2035	1.69	1.64	1.59	1.55
2036-2045	2.22	2.16	2.10	2.05

Table 8b Inflation Factors to Convert Project Cost Estimates to Year of Expenditure Dollars for Each Individual Year

	Multipliers are based on the following annual inflation estimates:			
	From	To	Annual Rate	
	2015 Dollars	2016 Dollars	3.0%	
	2016 Dollars	2017 Dollars	2.7%	
	2017 Dollars	2018 Dollars	2.5%	
	2018 Dollars	2019 Dollars	2.7%	
	2019 Dollars	2020 Dollars	2.8%	
	2020 Dollars	2021 Dollars	2.6%	
	2021 Dollars	2022 Dollars	2.5%	
	2022 Dollars	2023 Dollars	2.7%	
	2023 Dollars	2024 Dollars	2.8%	
	2024 Dollars	2025 Dollar	2.9%	
	2025 Dollars	2026 Dollars	3.0%	
	2026 Dollars	2027 Dollars	3.1%	
	2027 Dollars	2028 Dollars	3.2%	
	2028 Dollars	2029 Dollars	3.3%	
	2029 Dollars	2030 Dollars and beyond	3.3 % each year	

* "PDC $" means "Present Day Cost"

Relationship of Construction and ROW Costs

The Department experiences extreme variation in the costs of right-of-way for improvement projects. Since fiscal year 1991-92, district right-of-way programs have ranged from as low as 4% of construction costs to more than 30% and, in rare instances, have exceeded construction costs. MPOs should work with their district office for more information on right of way costs.

The 2045 Revenue Forecast contains estimates for combined construction and right of way funding. For planned construction projects, MPOs are requested to work with district staff to develop right-of-way estimates and right-of-way inflation estimates. If no project-specific estimate is available, MPOs should use the right-of-way/construction ratio recommended by the District to estimate right-of-way costs. For example, if the estimated construction cost of a project is $40 million and the district has established a right-of-way/construction ratio of 25%, then the total cost for construction and right-of-way is $50 million ($40 + $10).

Appendix D: Glossary

Capacity Programs: Major FDOT programs that expand the capacity of existing transportation systems including the following statewide programs: SIS Highways Construction and Right-of-Way and Public Transportation programs. This category also includes Non-SIS Highways (Other Roads) Construction and Right-of-Way.

Charter County and Regional Transportation Surtax: A local discretionary sales tax that allows each charter county with an adopted charter, each county the government of which is consolidated with that of one or more municipalities, and each county that is within or under an interlocal agreement with a regional transportation or transit authority created under Ch. 343 or 349, F.S., to levy at a rate of up to 1 percent. Generally, the tax proceeds are for the development, construction, operation, and maintenance of fixed guideway rapid transit systems, bus systems, on-demand transportation services, and roads and bridges.

Concession Revenues: Non-toll revenues generated from concession contracts entered into by the Turnpike, such as the Service Plaza concession contract.

Constitutional Fuel Tax: A state tax of two cents per gallon of motor fuel. The first call on the proceeds is to meet the debt service requirements, if any, on local bond issues backed by the tax proceeds. The balance, called the 20 percent surplus and the 80 percent surplus, is credited to the counties' transportation trust funds.

Cost Feasible Plan (CFP): A phased plan of transportation improvements that is based on (and constrained by) estimates of future revenues.

County Fuel Tax: A county tax of 1 cent per gallon. The proceeds are to be used by counties for transportation-related expenses, including the reduction of bonded indebtedness incurred for transportation purposes.

Discretionary Sales Surtaxes: These taxes include eight separate surtaxes, also known as local option sales taxes, are currently authorized in law and represent potential revenue sources for county governments generally. These surtaxes apply to all transactions subject to the state tax imposed on sales, use, services, rentals, admissions, and other transactions authorized pursuant to Ch. 212, F.S., and communications services as defined for purposes of Ch. 202, F.S. The total potential surtax rate varies from county to county depending on the surtaxes that are levied in that jurisdiction.

Documentary Stamps Tax: This tax is levied on documents, as provided under Chapter 201, Florida Statutes. It is thought of as primarily a tax on real estate transactions, but applicable documents also include: stocks and bonds, notes and written obligations to pay money, liens, and other evidences of indebtedness.

Fixing America's Surface Transportation Act (FAST): Authorization of the federal surface transportation programs for the five-year period 2016-2020.

Florida's Turnpike Enterprise (FTE): Florida's Turnpike Enterprise, part of the Florida Department of Transportation, oversees a 483-mile system of limited-access toll highways.

General Obligation Bonds: A municipal bond backed by the credit and taxing power of the issuing jurisdiction rather than the revenue from a given project.

Intelligent Transportation System (ITS): A wide range of advanced technologies and ideas, which, in combination, can improve mobility and transportation productivity, enhance safety, maximize the use of existing transportation facilities, conserve energy resources and reduce adverse environmental effects. ITS include connected and autonomous vehicles.

Local Option Fuel Taxes: County governments are authorized to levy up to 12 cents of local option fuel taxes in the form of three separate levies. The first is a tax of 1 cent on every net gallon of motor and diesel fuel sold within a county known as the Ninth-Cent Fuel Tax. The second is a tax of 1 to 6 cents on every net gallon of motor and diesel fuel sold within a county. The third tax is a 1 to 5 cents levy upon every net gallon of motor fuel sold within a county, and diesel fuel is not subject to this tax. A local government may pledge any of its revenues from the tax to repay state bonds issued on its behalf and, in addition, may use such revenues to match state funds in the ratio 50%/50% for projects on the State Highway System, or for other road projects which would alleviate congestion on the State Highway System.

Long-Range Transportation Plan (LRTP): MPOs' long range strategy and capital improvement program developed to guide the effective investment of public funds in transportation facilities. The plan is updated every five years and may be amended because of changes in projected federal, state and local funding, major improvement studies, congestion management system plans, interstate interchange justification studies and environmental impact studies.

Metropolitan Planning Organization (MPO): An organization made up of local elected and appointed officials responsible for developing, in cooperation with the state, transportation plans and programs in metropolitan areas containing 50,000 or more residents. MPOs are responsible for planning transportation facilities that will function as an intermodal transportation system.

Metropolitan Planning Organization Advisory Council (MPOAC): A statewide organization created by the Florida Legislature to augment the role of the individual Metropolitan Planning Organizations in the cooperative transportation planning process. The MPOAC assists the MPOs in carrying out the urbanized area transportation planning process by serving as the principal forum for collective policy decisions.

Municipal Fuel Tax: This state imposed one-cent fuel tax is one of the revenue sources that fund the Municipal Revenue Sharing Program. Municipalities must use the funds derived from this tax for transportation-related expenditures.

New Starts Transit Program: Established by the 2005 Florida Legislature to assist local governments in developing and constructing fixed-guideway and bus rapid transit projects to accommodate and manage urban growth and development.

Ninth-cent Fuel Tax: A tax of 1 cent on every net gallon of motor and diesel fuel sold within a county. The proceeds are used to fund specified transportation expenditures.

Non-capacity programs: FDOT programs designed to support, operate, and maintain the state transportation system including safety; resurfacing; bridge; product support; operations and maintenance; and administration.

Off-System Funds: Funds used for a highway project that is not on the State Highway System (SHS).

Performance Measures: A metric directly tied to achieving a goal or objective or used in a decision making process; or an indicator or context measure which is used to identify relevant background conditions and trends. In the FAST Act, FHWA is required to advance the national highway performance measures program.

Program and Resource Plan (PRP): A 10-year FDOT plan that provides planned commitment levels for each of the department's programs. It guides program funding decisions to carry out the goals and objectives of the Florida Transportation Plan

Revenue: Income received.

Revenue Forecast: A forecast of State and Federal funds projected to be available for the FDOT Work Program for the long range (at least 20 years). In Florida, FDOT traditionally prepares a statewide Revenue Forecast to serve as a resource for all the state's MPOs. The Revenue Forecast is usually prepared once every 5 years to help define funding available for the Systems Implementation Office Cost Feasible Plan (CFP) and to assist MPOs in fulfilling Federal requirements for their Long Range Transportation Plans (LRTPs).

Small County Outreach Program (SCOP): A program that allows municipalities and communities in Rural Areas of Opportunity designated under Section 288.0656(7)(a), Florida Statutes to request funding for qualifying projects under a special appropriation of $9 million.

State Imposed Motor Fuel Taxes: Florida law imposes per-gallon taxes on motor fuels and distributes the proceeds to local governments as follows: Constitutional Fuel Tax (2 cents); the County Fuel Tax (1 cent); and the Municipal Fuel Tax (1 cent).

Statutory Formula: Formula made up of equal parts population and motor fuel tax collections. It is found in F.S. 339.135(4)(a)1 (in the second sentence of the paragraph).

Strategic Intermodal System (SIS): Florida's transportation system composed of facilities and services of statewide and interregional significance, including appropriate components of multiple modes.

Surface Transportation Program (STP): Federal-aid highway funding program that funds a broad range of surface transportation capital needs, including many roads, transit, sea and airport access, vanpool, bike, and pedestrian facilities.

TALL funds: Funding code used by FDOT for a Transportation Alternatives Program project in areas of the State other than urban areas with a population greater than 5,000 but no more than 200,000.

TALN funds: Funding code used by FDOT for a Transportation Alternatives Program project in areas of the State other than urban areas with a population of 5,000 or less.

TALT funds: Funding code used by FDOT for a Transportation Alternatives Program project in any area of the State, not based on population.

TALU funds: Funding code used by FDOT for a Transportation Alternatives Program project in urbanized areas of the State with an urbanized area population greater than 200,000.

Transportation Alternatives Funds: Funds from the Transportation Alternatives Program (TAP). TALL, TALN, TALT and TALU funds are all part of the TAP.

Transportation Alternatives Program (TAP): Federally-funded community-based projects that expand travel choices and improve the transportation experience by improving the cultural, historic, and environmental aspects of transportation infrastructure. Focuses on improvements that create alternatives to transportation for the non-motorized user and enhancements to the transportation system for all users.

Transportation Demand Management (TDM): Programs designed to reduce demand for transportation through various means, such as the use of transit and of alternative work hours.

Transportation Improvement Program (TIP): Short-term (three to five years) plan of approved policies developed by an MPO for a jurisdiction that is fiscally constrained.

Transportation Management Area (TMA): Urbanized areas with a population over 200,000 are designated as Transportation Management Areas (TMAs). These areas are subject to special planning and programming requirements.

Transportation Regional Incentive Program (TRIP): 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 on roads of local jurisdiction that benefit regional travel and commerce.

Transportation System Management and Operations (TSM&O): 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. See also Intelligent Transportation System (ITS).

Work Program (Adopted): The five-year listing of all transportation projects planned for each fiscal year by the Florida Department of Transportation, as adjusted for the legislatively approved budget for the first year of the program.

Work Program (Tentative): The 5-year listing of all transportation projects planned for each fiscal year which is developed by the central FDOT office based on the district work programs.

Year of Expenditure (YOE) Dollars: Dollars that are adjusted for inflation from the present time to the expected year of construction.

Technical Appendix G: LakeXpress Transit Development Plan 2019-2028

LakeXpress Transit Development Plan

2019-2028 Major Update

FINAL

August 2018

Prepared for

Prepared by

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SECTION 1 INTRODUCTION

The Lake County Board of County Commissioners (BCC) provides a public transportation program through the Lake County Transit Division (LakeXpress) that includes seven fixed bus routes and an advanced-reservation paratransit service (Lake County Connection) to unincorporated Lake County and the county's 10 incorporated cities.

This study was initiated by LakeXpress to update the LakeXpress Transit Development Plan (TDP) for the 10-year period from 2019 through 2028. The TDP represents the transit agency's vision for public transportation in its service area during this time period and, at the same time, functions as the strategic guide for public transportation in the community.

The LakeXpress initial TDP was completed in 2005, with transit service initiated in 2007. Subsequent TDP major updates were completed in 2008 and in 2013.

Objectives of the Plan

The main purpose of this study is to update the TDP for LakeXpress services in Lake County, as currently required by State law. Upon completion, this TDP will result in a 10-year plan for transit and mobility needs, cost and revenue projections, and community transit goals, objectives, and policies.

TDP Requirements

Current TDP requirements were formally adopted by the Florida Department of Transportation (FDOT) on February 20, 2007. Major requirements of the rule include the following:

- Major updates must be completed every 5 years, covering a 10-year planning horizon.
- A Public Involvement Plan must be developed and approved by FDOT or consistent with the approved MPO Public Involvement Plan.
- FDOT, the Regional Workforce Development Board, and the MPO must be advised of all public meetings at which the TDP is presented and discussed, and these entities must be given the opportunity to review and comment on the TDP during the development of the mission, goals, objectives, alternatives, and 10-year implementation program.
- Estimation of the community's demand for transit service (10-year annual projections) must use the planning tools provided by FDOT or a demand estimation technique approved by FDOT.

TDP Checklist

This 10-year plan meets the requirements for a TDP major update in accordance with Rule Chapter 14-73, F.A.C. Table 1-1 is a list of TDP requirements from Rule 14-73.001 and indicates whether or not the item was accomplished as part of this TDP, as well as its location within the 10-year plan.

Table 1-1: TDP Checklist

Public Involvement Process		TDP Section
√	Public Involvement Plan (PIP) drafted	Section 3
√	PIP approved by FDOT	
√	TDP includes description of Public Involvement Process	
√	Provide notification to FDOT	
√	Provide notification to Regional Workforce Board	
Situation Appraisal		
√	Land use	Section 6
√	State and local transportation plans	Section 6
√	Other governmental actions and policies	Section 6
√	Socioeconomic trends	Section 6
√	Organizational issues	Section 6
√	Technology	Section 6
√	10-year annual projections of transit ridership using approved model TBEST	Section 6
√	Assessment of whether land uses and urban design patterns support/hinder transit service provision	Section 6
√	Calculate farebox recovery	Section 4
Mission and Goals		
√	Provider's vision	Section 7
√	Provider's mission	Section 7
√	Provider's goals	Section 7
√	Provider's objectives	Section 7
Alternative Courses of Action		
√	Develop and evaluate alternative strategies and actions	Section 9
√	Benefits and costs of each alternative	Section 9
√	Financial alternatives examined	Section 9, Section 10
Implementation Program		
√	Ten-year implementation program	Section 10
√	Maps indicating areas to be served	Section 9
√	Maps indicating types and levels of service	Section 9
√	Monitoring program to track performance measures	Section 10
√	Ten-year financial plan listing operating and capital expenses	Section 10
√	Capital acquisition or construction schedule	Section 10
√	Anticipated revenues by source	Section 10
Relationship to Other Plans		
√	Consistent with Florida Transportation Plan	Section 6
√	Consistent with local government comprehensive plan	Section 6
√	Consistent with Lake-Sumter MPO long-range transportation plan	Section 6
√	Consistent with regional transportation goals and objectives	Section 6
Submission		
	Adopted by Lake County Board of County Commissioners	August 21, 2018
	Submitted to FDOT	TBD

Organization of Report

Section 2 summarizes the **Baseline Conditions** for Lake County and includes a review of baseline conditions, including a physical description of the study area, a population profile, and demographic and socioeconomic profiles. The information compiled and presented in this section provides a basis for more-detailed analysis in subsequent tasks of the TDP

Section 3 summarizes the **Public Involvement** activities undertaken for the TDP, including a review of all outreach efforts completed to date and an update of ongoing efforts including stakeholder interviews, discussion group workshops, an onboard survey, and an online public survey.

Section 4 provides an **Inventory of Transportation Services** for Lake County. This includes a review of LakeXpress' fixed-route and paratransit services and facilities used by LakeXpress, Lake County Connection, and riders including transfer areas, administrative and maintenance buildings, and park-and-ride facilities. Additionally, a review of other transportation providers in Lake County is provided. Other providers may include service providers with which LakeXpress coordinates, private operators (e.g., taxi companies), and social service transportation providers.

Section 5 summarizes the **Existing Services Evaluation** for LakeXpress system. The analysis documents fixed-route services using National Transit Database (NTD) information and related sources to create a profile of transit services in Lake County. In addition, a Trend Analysis presents a detailed examination of operating performance for fixed-route services, and a Peer Review provides an opportunity for Lake County to compare its systemwide effectiveness and efficiency indicators with those of peer transit systems to determine how well transit service in Lake County is performing compared to similar transit agencies.

Section 6 presents the **Situation Appraisal**, which reviews the current overall planning and policy environment within the county to better understand transit needs. First, a review of local plans and documents is presented. Assessment of these plans will help to identify and assess applicable Federal and State policies as well as local community goals and objectives relating to transit and mobility. Then, the appraisal examines the strengths and weaknesses of the system as well as any existing threats to the provision of service in the county and key opportunities for addressing those threats and/or enhancing the transit-friendliness of the operating environment. Included in this section are reviews of existing socioeconomic trends, travel behavior, land use, public involvement, land use, organizational attributes, and technology.

Section 7 drafts **Goals and Objectives** to serve as a policy guide for implementation of the TDP. A review and update to the existing goals and objectives for the public transit services was completed to match the goals of the local community with respect to transportation and land use.

Section 8 presents the results of a **Transit Demand Assessment**, summarizing the various demand and mobility needs assessments conducted as part of the TDP. The assessment techniques for forecasting ridership using an FDOT-approved method are summarized, followed by the results of each analysis. Also included is a market assessment that includes an examination of potential service gaps and latent demand using the GIS-based Transit Orientation Index (TOI) and Density Threshold Assessment (DTA) analyses. These assessment techniques are summarized, followed by the results of each analysis used to assess demand for transit services in Lake County.

Section 9, **Alternatives Development**, presents the development of potential transit improvements for the 10-year transit plan for Lake County. The proposed improvements for fixed-route service represent the transit needs for the next 10 years and were developed without consideration of funding constraints. Once the improvements are prioritized using the evaluation process in the full Draft TDP, they will be used to develop the 10-year implementation and financial plans, which will be presented in the full Draft TDP report.

Section 10 summarizes the **Plan**, a 10-year transit plan developed for LakeXpress' bus service. The Plan identifies the funded service and capital improvements, as well as the unfunded needs and includes a discussion of the revenue assumptions and capital and operating costs used. Additionally presented is the **Implementation Plan** developed to support the Plan. A set of two phases during which the service, capital/technology, and policy improvements are programed is identified. Finally, a summary of key strategies to ensure the successful implementation of the 10-year TDP is provided.

ADOPTION

The LakeXpress 2019-2028 TDP was adopted by the Lake County BCC on August 21, 2018. The TDP was also presented at the Lake-Sumter MPO board meeting on August 22, 2018.

SECTION 2 BASELINE CONDITIONS

This section reviews the baseline conditions of the study area and provides context for the LakeXpress 2019 TDP through the following components:

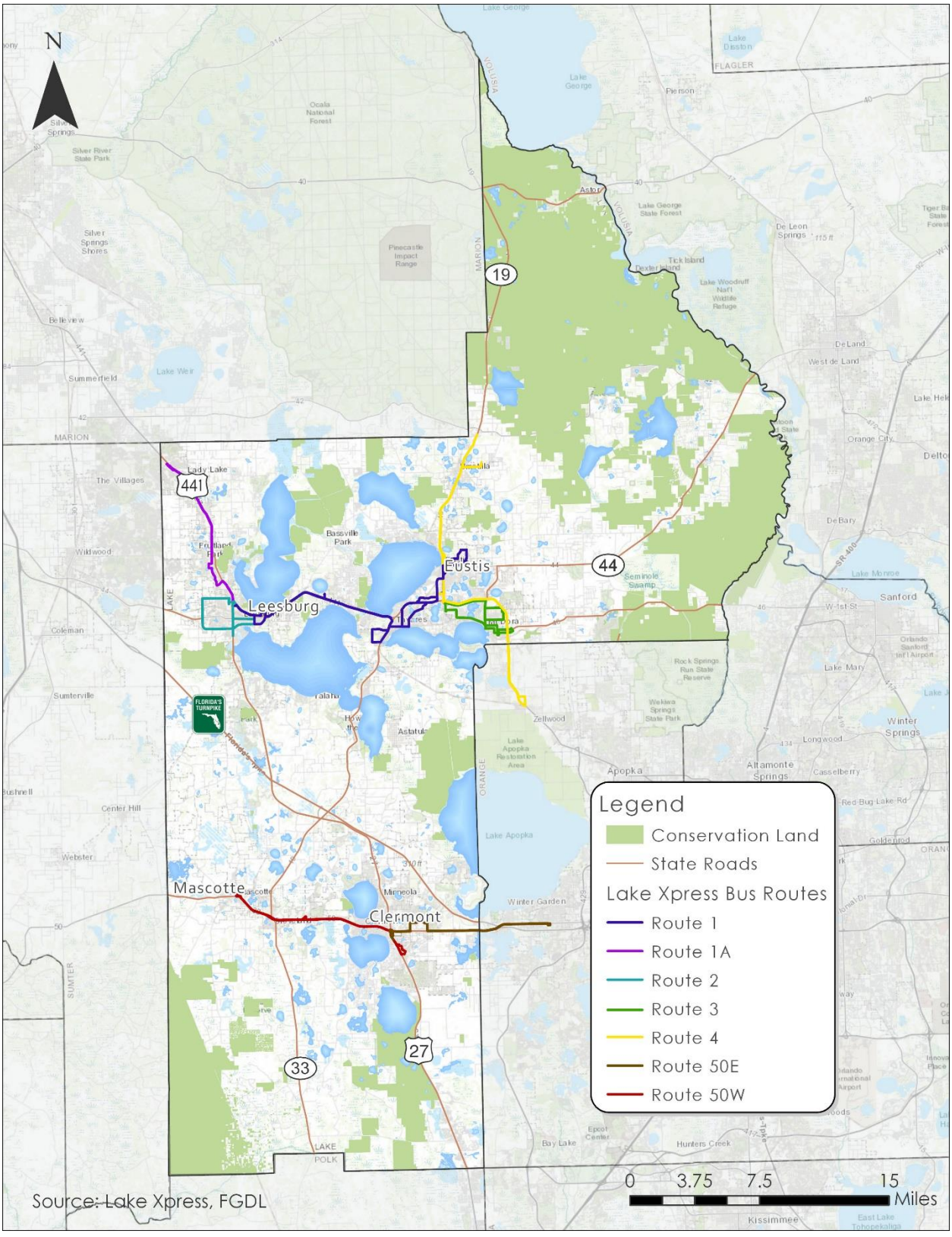
- Service area description
- General population characteristics and trends, including:
  - Growth
  - Population density
  - Minority populations
  - Age
  - Income
- Transportation disadvantaged population
- Housing density
- Employment characteristics, including:
  - Employment density
  - Labor force
- Journey-to-work characteristics
- Major activity centers and tourism
- Current and future land use
- Roadway and traffic conditions

Discussion of these elements is supported by maps and graphics throughout this section. Primary data sources in the U.S. Census Bureau's American Community Survey (ACS), the University of Florida's Bureau of Economic and Business Research (BEBR), and socio-economic data from the Lake-Sumter Planning Model. These data sources are supplemented by other local and regional sources as needed.

Study Area Description

Lake County is located in the approximate center of the state of Florida and is surrounded by Marion County to the north, Sumter County to the west, Polk County to the south, and Volusia, Seminole, and Orange counties to the east. According to the 2010 U.S. Census, the Lake County is 1,157 square miles in total, with approximately 938 square miles of land and 219 square miles of water. Map 2-1 illustrates the study area for the LakeXpress TDP and the existing bus routes.

Map 2-1: LakeXpress TDP Study Area



Population Profile

Growth

Information from the 2010 U.S. Census and the ACS was used to develop a population profile for the TDP study area. Lake County is the 18th most populous county in Florida and has 1.6 percent of the state's population. As shown in Table 2-1, the population increased 50.9 percent from 2000 to 2016, from 210,528 to 317,586, with an average annual growth rate of 2.6 percent.

Table 2-1: Lake County Population Profile, 2000–2016

Characteristic	2000	2010	2016*	% Change 2000-2016
Persons	210,528	297,052	317,586	50.9%
Households	88,413	116,238	122,036	38.0%
Number of Workers	81,463	119,819	125,218	53.7%
Land Area (sq mi)	953.15	938.36	938.36	-1.6%
Water Area (sq mi)	203.25	218.58	218.58	7.5%
Average Household Size	2.38	2.56	2.60	9.2%
Workers per Household	0.9	1.0	1.0	11.1%
Persons per Square Mile of Land Area	220.9	316.6	338.4	53.2%
Workers per Square Mile of Land Area	85.5	127.7	133.4	56.0%

*Land/water area not available for 2016. 2010 data was used as a proxy.

Source: U.S. Census (2000), ACS 5-Yr Estimates 2006–2010 (2010), ACS 5-Yr Estimates 2012–2016 (2016).

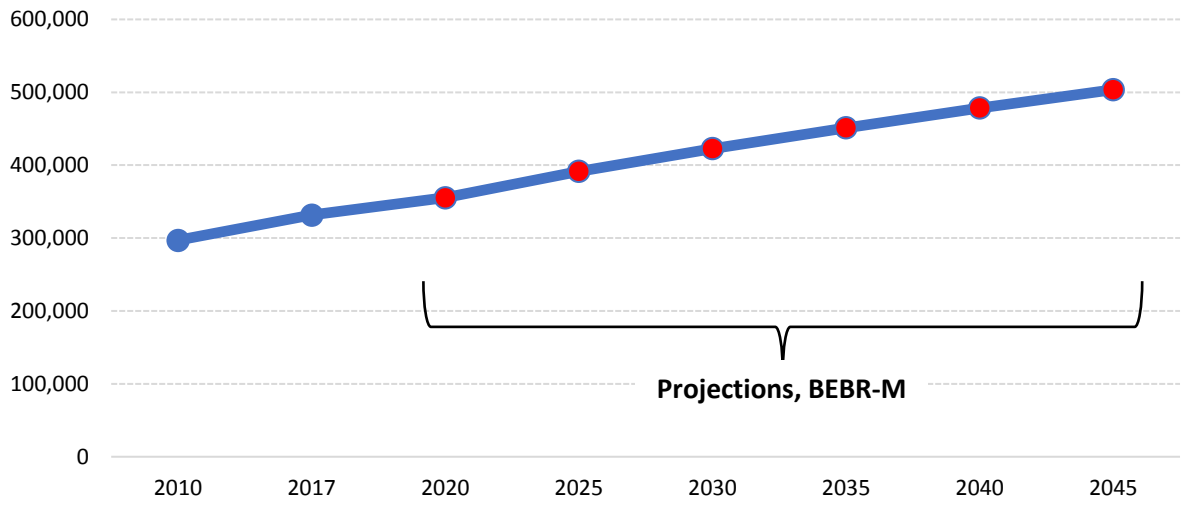
As shown in Table 2-2 and Figure 2-1, the medium population projections prepared by BEBR estimate that the population of Lake County will grow to approximately 422,775 people by 2030 (average annual growth of 1.88%) and to 503,552 people by 2045 (average annual growth of 1.50%).

Table 2-2: Lake County Population Projections, 2010–2045

Census	Estimate	Projections					
2010	*2017*	*2020*	*2025*	*2030*	*2035*	*2040*	*2045*
297,052	331,724	355,318	391,608	422,775	451,255	478,423	503,552

Source: U.S. Census (2000) and BEBR-Medium Level Projections

Figure 2-1: Lake County Population and Projections, 2010–2045



Source: BEBR Medium-Level Projections

A review of the population trends for 14 municipalities in Lake County also was conducted. Table 2-3 provides population trends for these cities for 2000, 2010, and 2017. As of 2016, Clermont was the largest city in the county and also was among the fastest-growing areas. The smaller cities of Fruitland Park and Groveland experienced a higher rate of growth between 2010 and 2017, but lower absolute growth.

Table 2-3: Lake County Population Trends, Cities, 2000–2017

Municipality	2000	2010	2017	% Change 2000-2010	% Change 2000-2017	% Change 2010-2017
Astatula	1,298	1,810	1,881	39.4%	44.9%	3.9%
Clermont	9,333	28,742	35,807	208.0%	283.7%	24.6%
Eustis	15,106	18,558	20,880	22.9%	38.2%	12.5%
Fruitland Park	3,186	4,078	7,291	28.0%	128.8%	78.8%
Groveland	2,360	8,729	15,205	269.9%	544.3%	74.2%
Howey-in-the-Hills	956	1,098	1,355	14.9%	41.7%	23.4%
Lady Lake	11,828	13,926	14,821	17.7%	25.3%	6.4%
Leesburg	15,956	20,117	21,913	26.1%	37.3%	8.9%
Mascotte	2,687	5,101	5,623	89.8%	109.3%	10.2%
Minneola	5,435	9,403	11,675	73.0%	114.8%	24.2%
Montverde	882	1,463	1,775	65.9%	101.2%	21.3%
Mount Dora	9,418	12,370	14,283	31.3%	51.7%	15.5%
Tavares	9,700	13,951	16,317	43.8%	68.2%	17.0%
Umatilla	2,214	3,456	4,021	56.1%	81.6%	16.3%

Source: U.S. Census (2000), BEBR Population Database

Table 2-4 lists some demographical characteristics of Lake County for 2000, 2010, and 2016. The percent male and female ratio in 2016 was identical to the ratio from 2000. Although Lake County has a relatively small proportion of minority population, over time the county has become slightly more ethnically diverse. In 2000, 87.5 percent of the population was white, and other races represented 12.5 percent of the

population. Currently, the white population represents 83.5 percent. The Black/African American population grew from 8.3 percent to 9.9 percent, and the population of Hispanic or Latino origin more than doubled, from 5.6 percent to 13.8 percent. This represents a potentially growing key market of traditionally transit-dependent populations.

Table 2-4: Lake County Demographic Characteristics, 2000–2016

Characteristic	2000	2010	2016
Gender			
Male	48.4%	48.6%	48.4%
Female	51.6%	51.4%	51.6%
Ethnic Origin			
White	87.5%	83.3%	83.5%
Black/African American	8.3%	9.3%	9.9%
Other	3.0%	5.7%	4.3%
Two or More Races	1.2%	1.7%	2.2%
Hispanic Origin			
Not of Hispanic/Latino Origin	94.4%	88.6%	86.2%
Hispanic or Latino Origin	5.6%	11.4%	13.8%
Educational Level			
<12th Grade	20.2%	13.1%	12.2%
High School Graduate	34.3%	34.3%	33.5%
Some College	23.0%	32.3%	32.6%
College Graduate	22.5%	20.3%	21.7%
Poverty Status			
Below Poverty Level	9.6%	11.0%	13.5%
Vehicle Available in Household			
None	5.4%	1.1%	2.0%
One	44.4%	21.1%	21.9%
Two	37.3%	48.4%	46.2%
Three or More	12.9%	29.4%	29.9%

Source: U.S. Census (2000), ACS 5-Yr Estimates 2006–2010 (2010), ACS 5-Yr Estimates 2012–2016 (2016)

With respect to education level, the percent of college graduates decreased from 22.5 percent in 2000 to an estimated 21.7 percent in 2016. At the same time, those who had attained less than 12th-grade level decreased from 20.2 percent in 2000 to 12.2 percent in 2016. Education levels typically are related to income levels within a community, with higher percentages of persons graduating from college often earning higher incomes.

Ethnic diversity in Lake County has gradually increased, and household vehicle ownership also has seen changes. Households with limited access to personal vehicles is a potential transit-dependent population. The percentage of zero-vehicle households decreased by 3.4 percent since 2000; within Lake County, 2.0 percent of households did not own a vehicle in 2016. The majority of households within the county have two cars, accounting for 46.2 percent of the population.

Age Distribution

Current and future age distribution of the population in Lake County are major factors when considering demand for public transportation. Compared to Florida as a whole, Lake County has a smaller proportion of persons ages 15–64 and a higher proportion of persons age 56 and older. The population distribution within Lake County has remained relatively unchanged since 2000.

Table 2-5: Lake County vs. Florida Age Distribution Trends, 2000–2016

Age	2000	2010	2016
Lake County			
14 and under	16.9%	17.2%	16.5%
15 to 64	56.6%	58.6%	57.6%
65 and over	26.5%	24.2%	25.9%
Florida			
14 and under	19.0%	17.4%	16.9%
15 to 64	63.4%	65.2%	64.0%
65 and over	17.6%	17.4%	19.1%

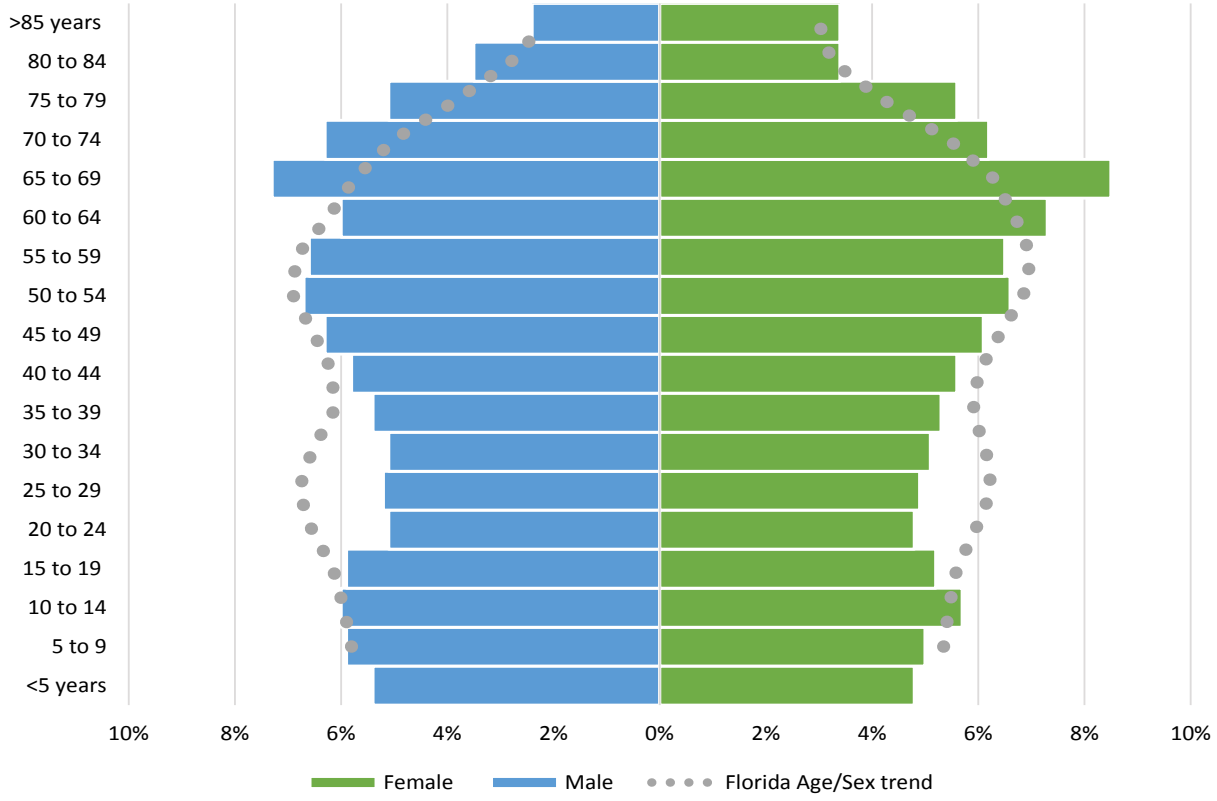
Source: U.S. Census (2000), ACS 5-Yr Estimates 2006–2010 (2010), ACS 5-Yr Estimates 2012–2016 (2016)

Figure 2-2 provides a detailed breakdown of the age distribution for Lake County by gender and a comparison to the statewide age distribution breakdown.

Persons age 15 and younger are not legally allowed to operate a motor vehicle, and teenagers who are unable to afford or have access to their own vehicle may have a higher propensity for using transit or finding a ride (carpool). As seen in Table 2-6, in Lake County, the percentage of those ages 5–17 are projected to decrease from 14.2 percent to 13.8 percent between 2020 and 2045 and those ages 18–24 are projected to decrease from 6.9 percent to 6.3 percent between 2020 and 2045.

Older adults also may be more likely to use public transportation, as the aging process may place limitations on their ability to drive. Table 2-7 shows the projected population of persons age 65 and older for Lake County and Florida based on data from BEBR's Florida Population Studies Population Projections. Between 2020 and 2045, this population group is projected to increase from 26.1 percent to 30.6 percent of the county's total population. Lake County has a larger percentage of persons age 65 and older compared to the statewide average. A growing need for public transit within Lake County can be assumed to accommodate this growing age group.

Figure 2-2: Lake County vs. Florida 2016 Age Distribution



Source: ACS 5-Yr Estimates 2012–2016 (2016)

Table 2-6: Lake County Projected Population Growth by Age Group, 2020–2045

Age Group	Projection Year					
	2020	2025	2030	2035	2040	2045
0 to 4	5.2%	5.3%	5.2%	5.2%	5.0%	4.9%
5 to 17	14.2%	13.8%	13.7%	13.8%	13.8%	13.7%
18 to 24	6.9%	6.6%	6.4%	6.2%	6.3%	6.4%
25 to 54	32.5%	31.9%	31.7%	32.1%	32.1%	32.4%
55 to 64	15.1%	14.5%	13.0%	11.8%	11.6%	12.0%
65 to 79	19.4%	20.4%	21.7%	22.2%	21.3%	19.6%
80 and over	6.8%	7.5%	8.1%	8.7%	9.8%	11.0%

Source: BEBR Medium-Level Projections

Table 2-7: Lake County Projected Population Growth for Older Adults (Age 65+), 2020–2045

Geography	Projection Year					
	2020	2025	2030	2035	2040	2045
Lake County	26.1%	27.8%	29.9%	30.9%	31.2%	30.6%
Florida	20.5%	22.5%	24.4%	25.2%	25.5%	25.3%

Source: BEBR Medium-Level Projections

Table 2-8 shows the means of transportation by age group in Lake County. The 2012–2016 ACS estimates reveal that the majority of transit riders were adults ages 25–44, totaling 49.3 percent of riders. The second largest group of transit riders were young adults ages 20–24.

Table 2-8: Lake County Means of Transportation by Age Group, 2000–2016

Age	Drove Alone	Carpooled	Public Transit	Total
Workers 16 and over				
16 to 19	2.4%	4.8%	2.7%	2.6%
20 to 24	8.4%	11.4%	19.5%	8.7%
25 to 44	40.6%	43.2%	49.3%	40.3%
45 to 54	24.0%	23.5%	16.8%	24.3%
55 to 59	10.7%	7.6%	7.3%	10.4%
60 and over	13.9%	9.5%	4.3%	13.8%

Source: ACS 5-Yr Estimates 2012–2016 (2016)

Income

Income is the leading influencer in travel decisions. Due to less available disposable income, low-income households are less likely to have one vehicle per licensed driver and, therefore, may be more dependent on public transit to make essential or recreational trips. Based on 2016 household income levels, the majority of Lake County households had an income of more than $50,000. Between 2000 and 2016, the county saw household incomes trending higher, with a 14 percent increase in the number of households with an annual income of $50,000 or more. Despite the overall increase in household income, the poverty status for individuals gradually increased since 2000.

Census block groups with lower per-capita income are more likely to rely on transit for their transportation needs. According to the 2010 Census, the number of individuals living below the poverty line in Lake County was 11.0 percent, which was lower than the state average of 13.8 percent. Both the County and state experienced an increase in persons below the poverty line between 2010 and 2016.

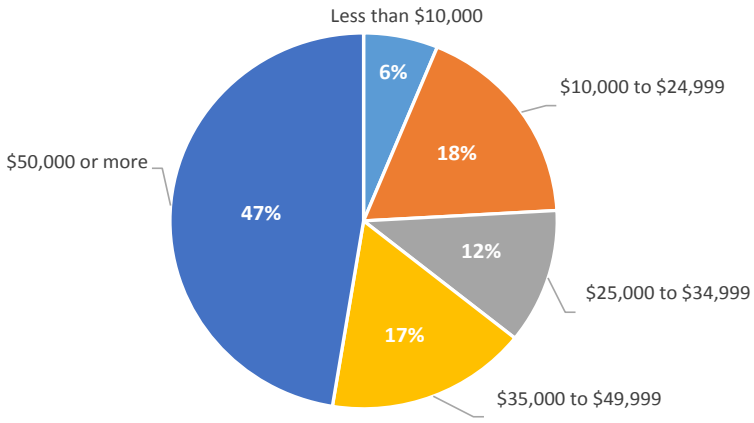
Table 2-9: Lake County Household Income, 2000–2016

Characteristic	2000	2010	2016	% Change 2000-2016
Household Income (Lake County)				
Under $10,000	8.4%	5.3%	6.2%	-26.0%
$10,000 to $49,999	58.2%	47.8%	46.4%	-20.3%
$50,000 or more	33.4%	46.8%	47.4%	41.8%
Poverty Status				
Below poverty level (Lake)	9.6%	11.0%	13.5%	40.6%
Below poverty level (Florida)	12.5%	13.8%	16.1%	28.8%

Source: U.S. Census (2000), ACS 5-Yr Estimates 2006–2010 (2010), ACS 5-Yr Estimates 2012–2016 (2016)

Figure 2-3 shows the distribution of income for residents in Lake County. The median income for 2016 was $47,141. The largest income bracket includes households with annual income of greater than$50,000, representing 47 percent of the population. In 2016, 36 percent of households made less than $35,000 annually, a rough representation of low-income households.

Figure 2-3: Lake County Annual Household Income Distribution, 2012–2016



Source: ACS 5-Yr Estimates 2012-2016 (2016)

Data from the 2012–2016 ACS confirm that low-income workers represented the largest group of workers who use public transit for transportation. As shown in Table 2-10, the majority of transit riders in Lake County were from low-income households, with 41 percent of transit riders earning less than $10,000.

Table 2-10: Means of Transportation According to Income, 2012–2016

Earnings	Drove Alone	Carpooled	Public Transit	Total
Workers 16 and over with earnings				
$1 to $9,999 or loss	12.6%	19.2%	41.2%	14.0%
$10,000 to $14,999	9.0%	12.7%	5.1%	9.5%
$15,000 to $24,999	18.9%	24.1%	26.8%	19.1%
$25,000 to $34,999	16.2%	15.2%	8.7%	15.6%
$35,000 to $49,999	19.1%	11.1%	7.9%	17.8%
$50,000 to $64,999	10.4%	5.6%	0.0%	9.6%
$65,000 to $74,999	3.5%	3.8%	10.3%	3.6%
$75,000 or more	10.2%	8.3%	0.0%	10.8%

Source: ACS 5-Yr Estimates 2012–2016 (2016)

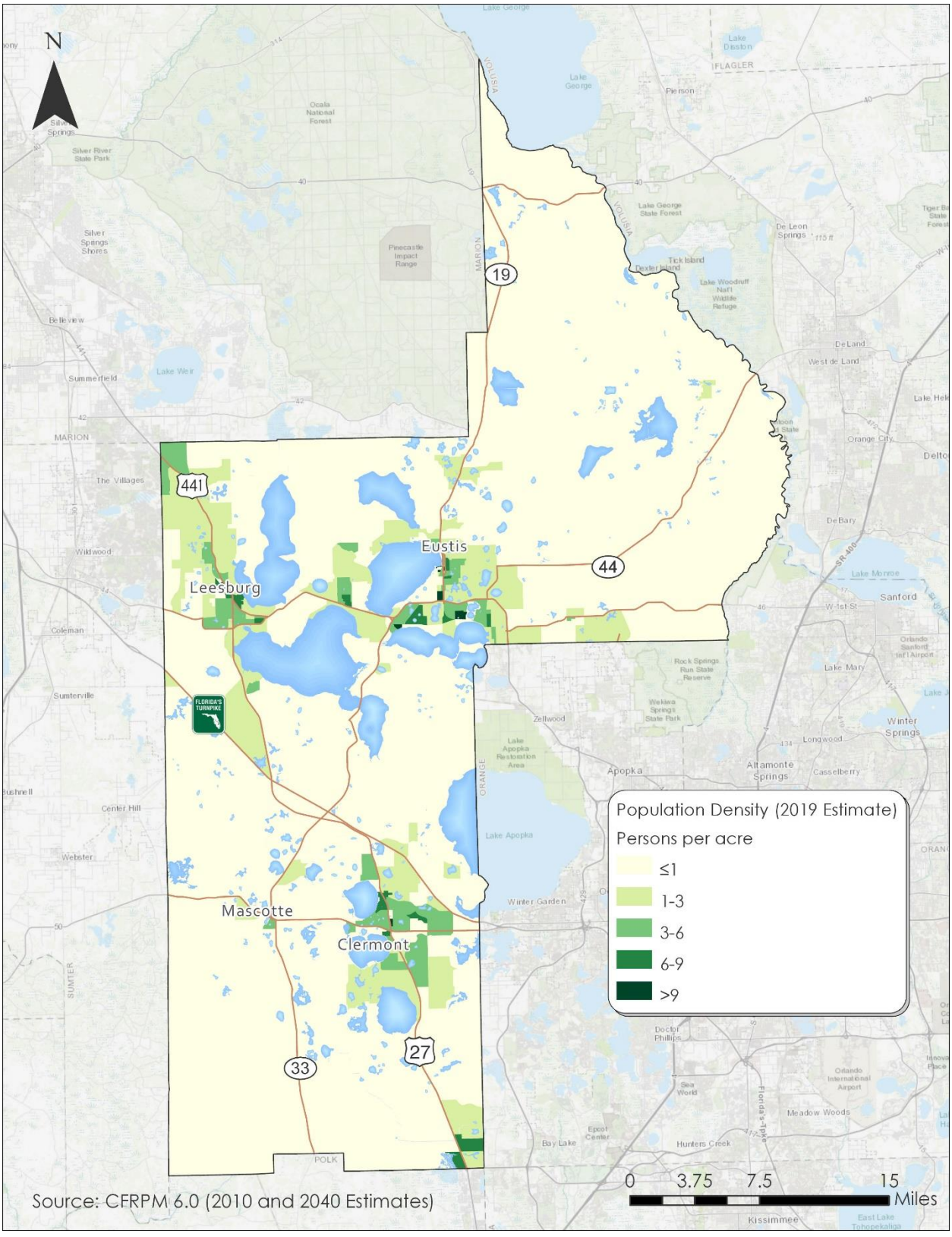
Population and Housing Densities

Population and dwelling unit densities (measured per square mile) are key factors when assessing potential transit needs, as they reveal the potential in the number of transit riders within a concentrated area. Maps 2-2 through 2-5 provide the density characteristics for Lake County that are particularly relevant to the TDP effort. Maps 2-2 and 2-3 show population densities by traffic analysis zone (TAZ) for 2019 and 2028, and Maps 2-4 and 2-5 show the dwelling unit density by TAZ for 2019 and 2028.

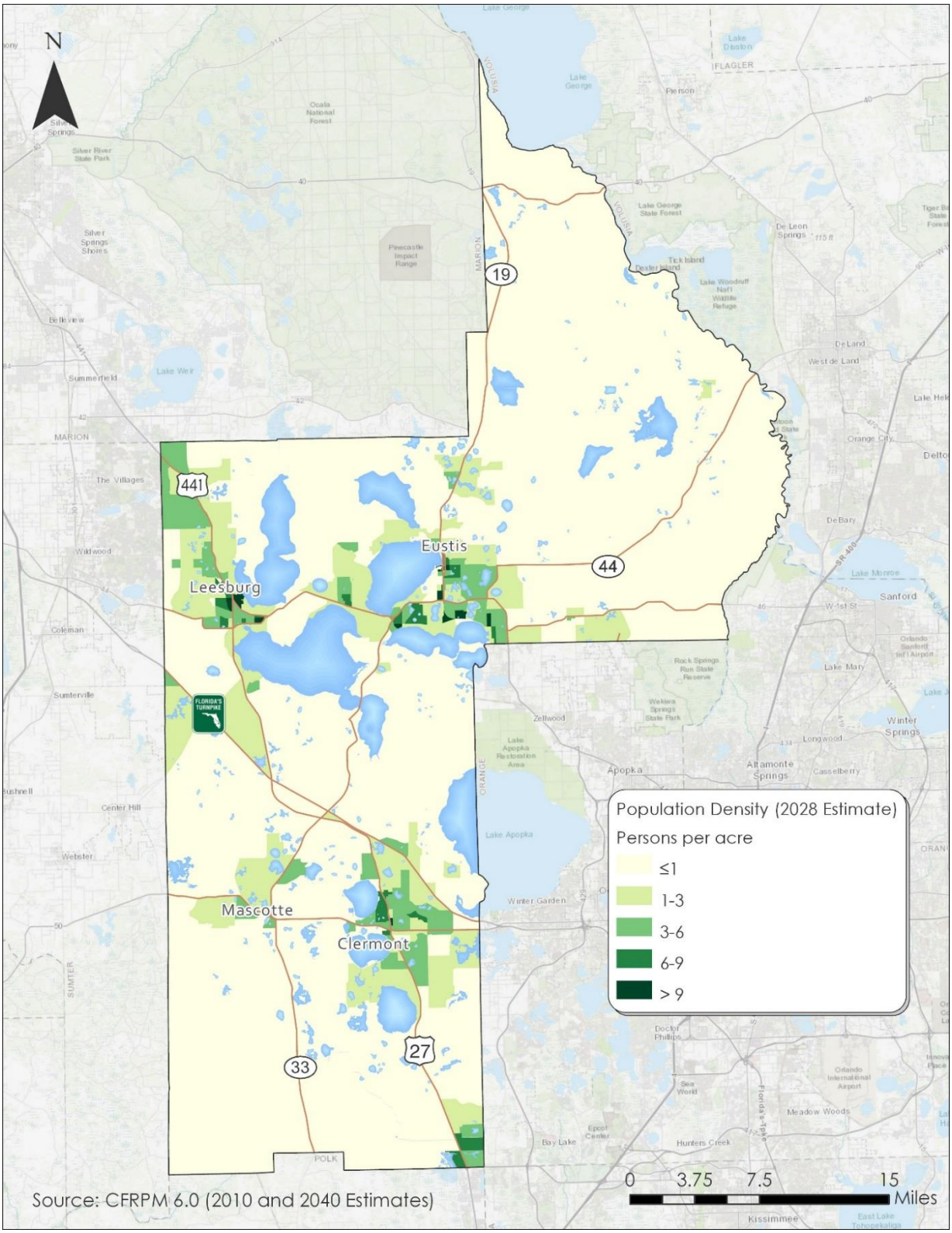
As shown, most areas within Lake County have low population densities. The average household size for Lake County grew from 2.44 persons in 2010 to 2.49 persons in 2016, and the majority of households in Lake County (53.5%) comprise families rather than single-person households, according to the 2010 Census. The areas exhibiting the highest levels of population density include the municipalities of Eustis, Clermont, and Leesburg and their nearby suburbs. These same areas are estimated to experience the greatest increases in population density by 2028. To a lesser extent, Mascotte, Lady Lake, Umatilla, Mount Dora, and Minneola, and the southeast corner of the county that borders Orange County also are expected to see moderate increases in population density by 2028.

The areas of highest dwelling unit densities mirror the areas in which the highest population densities are found. Much of the growth in dwelling units between now and 2028 is projected to occur in the suburbs of Lake County's municipalities.

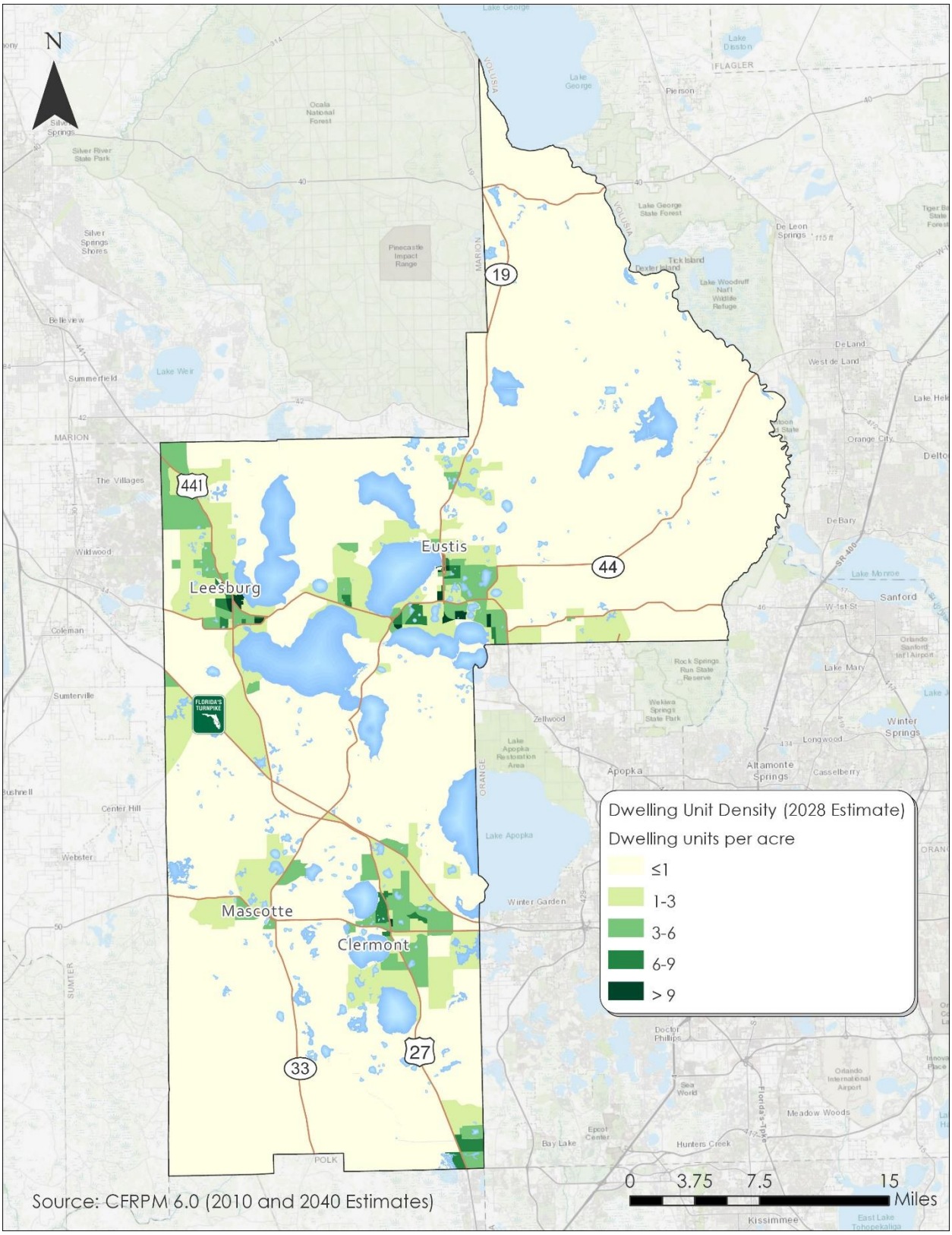
Map 2-2: Population Density (2019) – Lake County



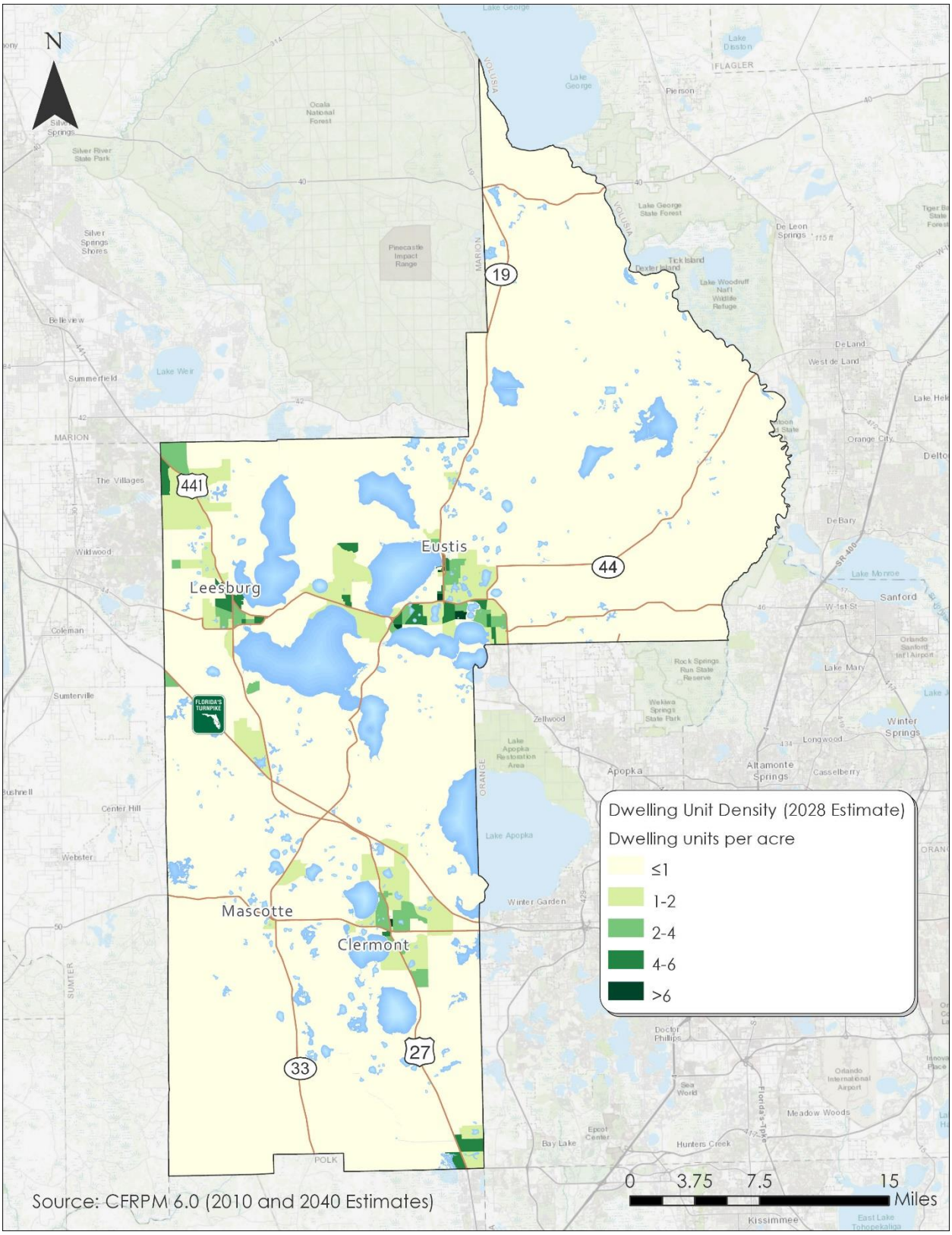
Map 2-3: Population Density (2028) – Lake County



Map 2-4: Dwelling Unit Density (2019) – Lake County



Map 2-5: Dwelling Unit Density (2028) – Lake County



Transportation Disadvantaged Population

In addition to fixed-route bus services, Lake County provides transportation service to the transportation disadvantaged (TD) populations living in the county. LakeXpress serves as the Community Transportation Coordinator (CTC) for Lake County, coordinating medical and non-medical transportation services for the TD population. Priority for service is given to those who do not own or drive their own vehicle and do not have family or friends to assist them in traveling to and from destinations. TD service also is provided based on needs; medical needs and life-sustaining activities are given higher priority than business or recreation trips.

Table 2-11 shows trends in potential TD population compared to TD passengers served between 2012 and 2016 in Lake County. During this period, the TD population increased 10.4 percent, from 125,619 to 138,665 persons. The number of TD passengers served fluctuated greatly and ranged from 2.05 percent to 15.12 percent.

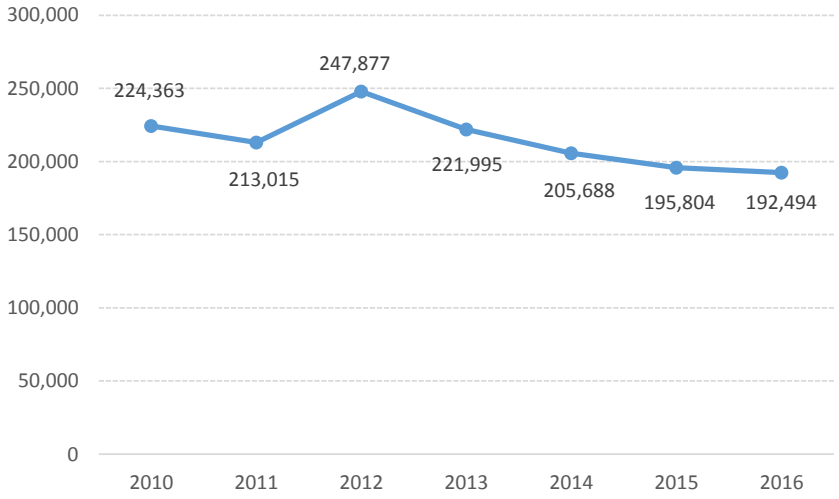
Table 2-11: Lake County TD Population and Passenger Trends, 2012–2016

Item	2012	2013	2014	2015	2016	% Change 2012-2016
Potential TD Population	125,619	125,619	128,755	135,276	138,665	10.4%
TD Passengers Served	15,024	18,993	2,643	4,804	7,850	-47.8%
% of Potential TD Population Served	**11.96%**	**15.12%**	**2.05%**	**3.55%**	**5.66%**	**-52.7%**

Source: Florida Commission for the Transportation Disadvantaged (CTD)

TD passenger trips in Lake County decreased from 2010 to 2016 by 14.2 percent, primarily due to the Medicaid funding cuts experienced throughout Florida. Figure 2-4 shows the number of TD trips served during this period. As shown in Table 2-12, the majority of TD trips in FY 2016 were for older adults (60,854), followed by persons of low-income/disabilities (58,846).

Figure 2-4: Florida Transportation Disadvantaged Trips, 2012–2016



Source: Florida CTD Annual Operation Reports (AOR)

Table 2-12: Lake County TD Trips by Passenger Type, 2012–2016

Passenger Type	2012	2013	2014	2015	2016	% Change 2012-2016
Elderly	73,536	64,839	60,821	58,461	60,854	-17.2%
Children	40,724	35,931	32,877	32,706	29,108	-28.5%
Low Income	33,708	29,713	27,196	25,472	21,855	-35.2%
Persons with Disabilities	20,936	18,454	16,885	15,820	13,571	-35.2%
Low Income/Person with Disabilities	66,195	61,801	57,590	53,480	58,846	-11.1%
Other	12,778	11,257	10,319	9,865	8,260	-35.4%
Total	**247,877**	**221,995**	**205,688**	**195,804**	**192,494**	**-22.3%**

Source: Florida CTD AORs

Employment Characteristics

Employment and labor characteristics help to explain land use and travel patterns that affect transit service. In 2015, there were more than 6,800 employer establishments. As shown in Table 2-13, more than 50 percent of persons age 16 and older were in the civilian workforce.

Table 2-13: Lake County Labor Characteristics

Labor Characteristic	Figure
Total Employer Establishments, 2015	6,877
Total Employment, 2015	77,497
Percent of Population in Civilian Force, 2012-2016	52.2%

Source: U.S. Census Quick Facts for Lake County (2016)

The largest employers in Lake County are largely private sector entities, with the exception of Lake County Schools, which employs 5,600 individuals. The three largest private sector employers are hospitals and medical centers, and the three next largest employers also are in the healthcare industry, but include entities that provide a range of specialized health-related services.

Table 2-15 lists employment by industry in Lake County. Education and health services, retail trade, and leisure and hospitality employment constitute the largest sources of employment.

Maps 2-6 and 2-7 illustrate the employment density in Lake County by TAZ for 2019 and 2028. These employment data are based on socioeconomic data from the Lake-Sumter Planning Model. The areas exhibiting the highest levels of employment density include the municipalities of Leesburg, Eustis, and Clermont and their nearby suburbs. However, whereas Leesburg is expected to experience a significant increase in employment by 2028, Clermont, Minneola, and the area near the junction of US-27 and Florida's Turnpike also are expected to experience notable increases in employment during the same period.

Table 2-14: Top Private Employers in Lake County

Major Employers		100-250 Employees
1,000+ Employees		Automated Document Solutions
Florida Hospital Waterman		Burke Industries
Leesburg Regional Medical Center		Cherry Lake Tree Farms
South Lake Hospital		Domino's Pizza Distribution
500-1,000 Employees		Dunkin' Donuts Distribution
Cornerstone Hospice		Exploria Resort
Lake Port Square		Fishel Co.
Lifestream Behavioral Center		Florida's Natural
250-500 Employees		JA Croson
Bridgewater Assisted Living		Lake Mechanical Contractors
Cutrale Citrus Juices USA		Maritec Industries, Inc.
Dura-Stress Inc.		Mission Inn Resort
Hewitt Contracting Company, Inc.		Quiteflex Manufacturing
Interim Healthcare		Senninger Irrigation, Inc.
Lady Lake Specialty Care		Silver Springs Citrus
Lake-Sumter State College		Sunstate Carriers
Village Media Group		United Southern Bank
Wateman Village		Westminster Care of Clermont

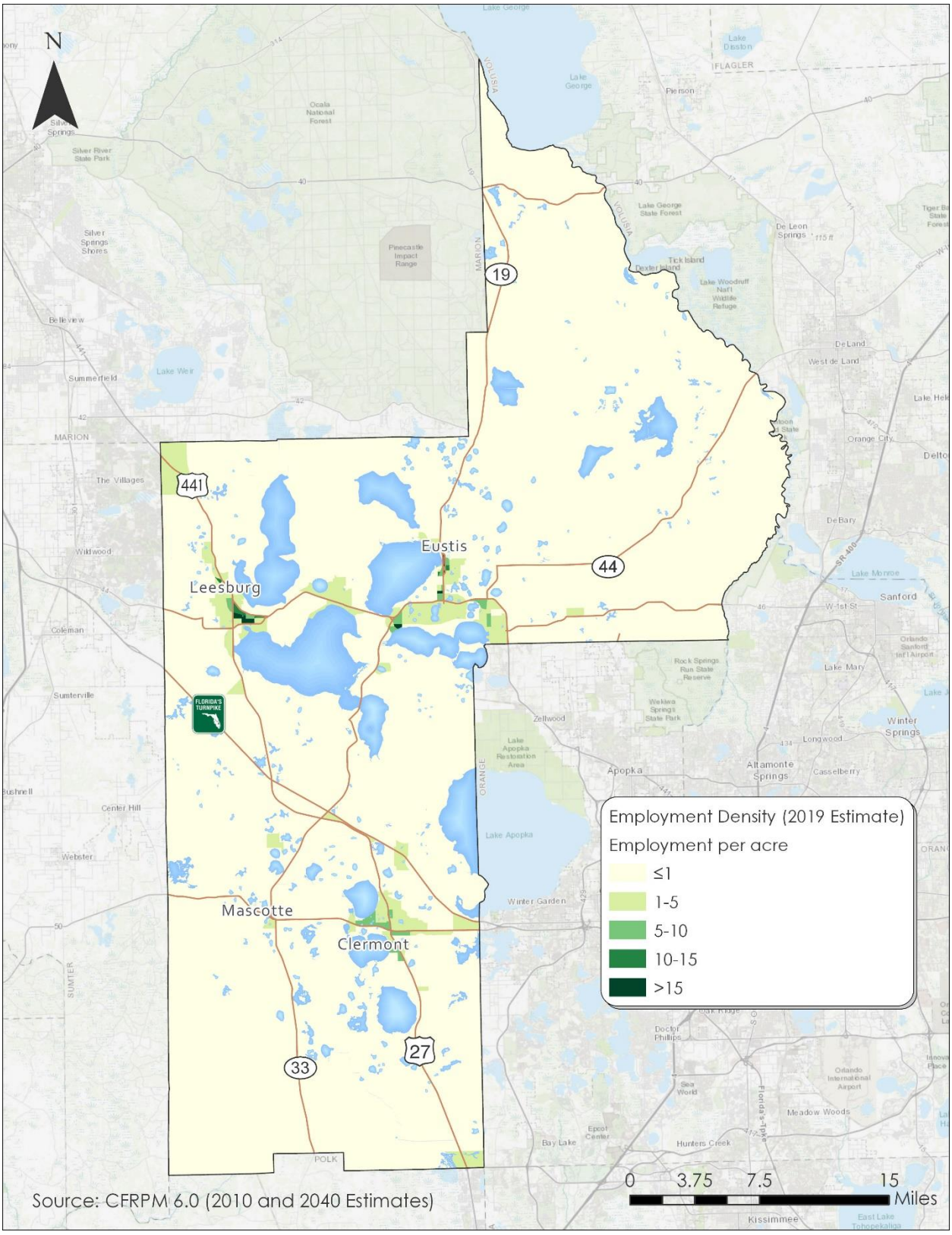
Source: Lake County Economic Development Department

Table 2-15: Employment by Industry in Lake County

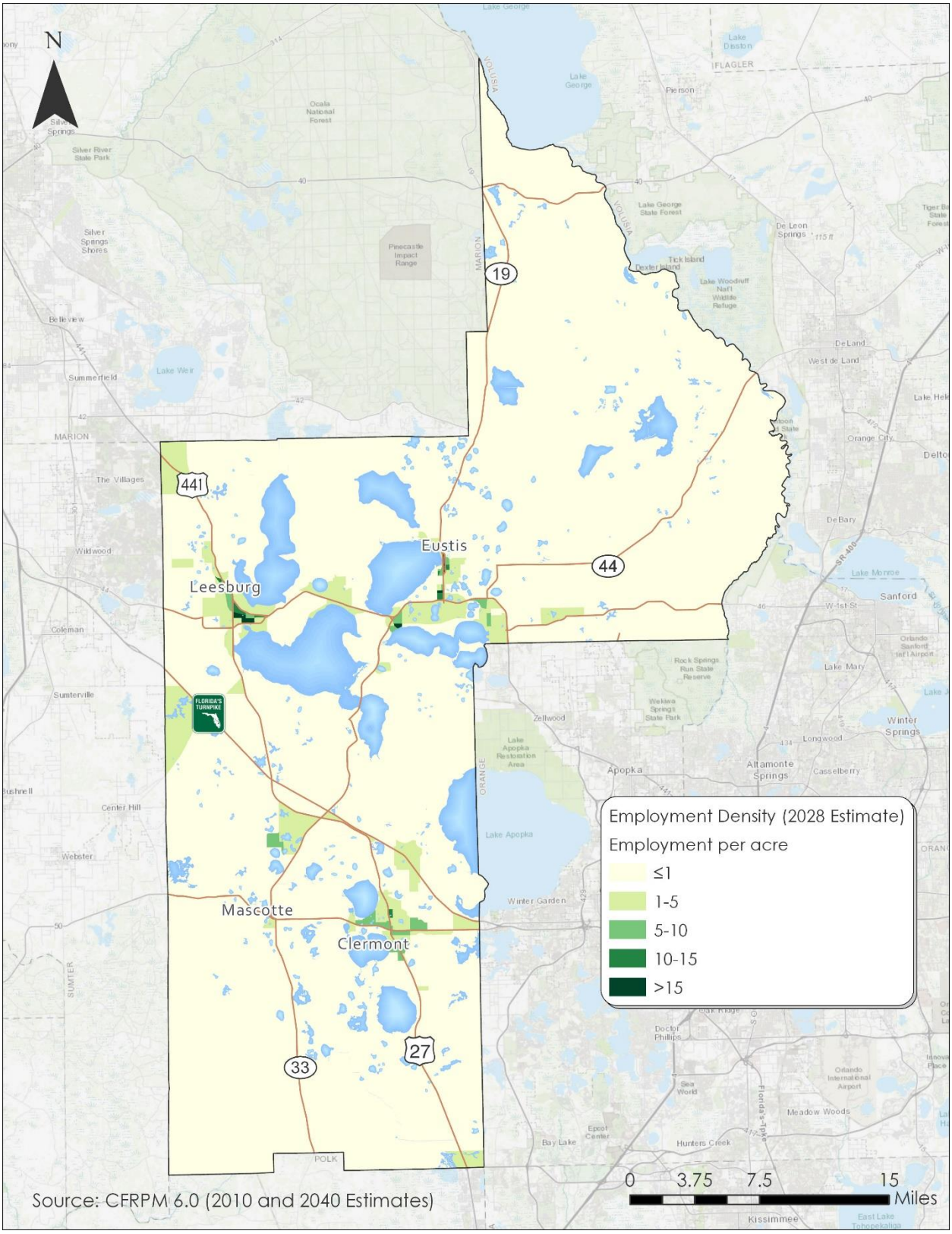
Industry	2016
Agriculture, Forestry, Fishing, Hunting, and Mining	1.5%
Construction	8.3%
Manufacturing	5.2%
Wholesale Trade	1.9%
Retail Trade	13.3%
Transportation and Warehousing, and Utilities	4.1%
Information	2.5%
Finance and Insurance, Real Estate, Rental/Leasing	5.8%
Professional and Business Services	9.6%
Education and Health Services	21.5%
Leisure and Hospitality	16.5%
Other Services	5.2%
Public Administration	4.5%

Source: U.S. Census Quick Facts for Lake County

Map 2-6: Employment Density (2019) – Lake County



Map 2-7: Employment Density (2028) – Lake County



Journey-to-Work Characteristics

Journey-to-work characteristics for Lake County were compiled from the ACS and are shown in Table 2-16. The characteristics analyzed in these tables are presumed to be typically conducive to transit use and include mode of transportation to work, travel time to work, departure time for work, mode of transportation by occupation type, and destination of work trip.

As is typical in most Florida communities, the primary mode of commuting to work is by driving alone. Currently, only 0.3 percent of commuters in the county travel to work using public transportation; this is an important consideration when determining the potential market of choice riders for transit. Approximately 37 percent of commutes are less than 20 minutes, with most commute times 10–19 minutes, indicating that commuters must travel a moderate distance outside of the typical walking distance) between work and home. The mean travel time for Lake County residents is 28.2 minutes, and the majority of commuters leave for work during the traditional peak hours of travel of 6:00-8:00 AM, which is consistent with typical commuting patterns throughout the state.

Table 2-16: Lake County Commuting Characteristics, 2016

Characteristic	2016
Mode to Work	
Drove Alone	81.1%
Carpooled	10.8%
2-person carpool	8.6%
3-person carpool	1.1%
4+-person carpool	1.1%
Workers per car, truck, or van	1.07
Public transit	0.3%
Walked	0.9%
Worked at home	5.5%
Bicycle	0.3%
Taxicab, motorcycle, or other	1.1%
Travel Time to Work	
<10 minutes	11.2%
10 to 19 minutes	25.8%
20 to 29 minutes	20.1%
30 to 44 minutes	21.8%
45+ minutes	21.1%
Departure Time to Work	
Before 6 AM	13.3%
6:00 to 6:59 AM	18.7%
7:00 to 7:59 AM	27.8%
8:00 to 8:59 AM	15.8%
9:00 AM to 12:00 PM	24.3%

Source: ACS 5-Yr Estimates 2012-2016 (2016)

With respect to occupation, transit riders who work in sales and offices make up the majority of transit riders, consisting of about 52.3 percent of riders, as shown in Table 2-17.

Table 2-17: Lake County Commuter Characteristics by Occupation

Occupation	Drove Alone	Carpooled	Public Transit	Walked	Taxi, Bike, Motorcycle, etc.	Worked at Home	Total
Management, business, science, and arts	31.2%	22.3%	16.8%	25.1%	13.1%	49.2%	37,959
Service	22.0%	22.6%	15.7%	31.4%	23.9%	11.5%	26,474
Sales and office	27.4%	23.4%	52.3%	28.5%	32.7%	30.2%	33,533
Natural resources, construction, and maintenance	9.7%	19.1%	14.1%	13.6%	12.4%	5.4%	12,950
Production, transportation, and material moving	9.6%	12.2%	1.1%	1.4%	17.9%	3.6%	11,741
Military-specific	0.0%	0.3%	0.0%	0.0%	0.0%	0.1%	78
Total	**99,595**	**13,258**	**369**	**1,071**	**1,663**	**6,779**	**122,735**

Source: ACS 5-Yr Estimates 2012–2016 (2016)

Table 2-18 summarizes the employment locations of Lake County residents. Based on 2016 ACS data, 122,735 were employed, of which 55.7 percent lived and worked within the county. In addition, 43.2 percent commuted to other counties, indicating a high demand for regional employment-based trips.

Table 2-18: Lake County Employment by Location

Place of Work	2016
Total	122,735
Worked in State of Residence	98.9%
Worked in County of Residence	55.7%
Worked Outside County of Residence	43.2%
Worked Outside State of Residence	1.1%

Source: ACS 5-Yr Estimates 2012–2016 (2016)

Economic Conditions

Major Activity Centers

Major trip attractors are places that have the highest need for residents, such as medical services, educational facilities, shopping establishments, and government services. In Lake County Major, these trip attractors include Lake Sumter College, Leesburg Regional Medical Center, and the Spanish Springs Town Square.

Table 2-19: Top Trip Attractors in Lake County

Attraction	Details
Lake Sumter-College	Enrollment: 4,929
Lake Technical College	Enrollment: 595
Leesburg Regional Medical Center	Employs: 1,793
South Lake Hospital	Employs: 1,100
Waterman Hospital	Employs: 1,000
Spanish Springs Town Square	57 shops
Southside Shopping Center	5 shops
Lake Square Mall	33 shops
Alexander Springs	1,500 visitors/year
Mount Dora Museum of History	Opened in 1923
President's Hall of Fame	Opened in 1960

Table 2-20: Lake County Educational Institutions

Institution	Enrollment
Lake Sumter-College	n/a
Lake Technical College	7,500
Beacon College	n/a
Lake County School Board	40,000

Figures are approximate.
Source: Lake County Economic Development Department

Strategic Corridors

Historically, Lake County has served as a "bedroom community" for Orlando, but moving forward, the County aims to expand business and industry opportunities within its borders. The Lake County Economic Development Department has identified four key strategic corridors for economic development:

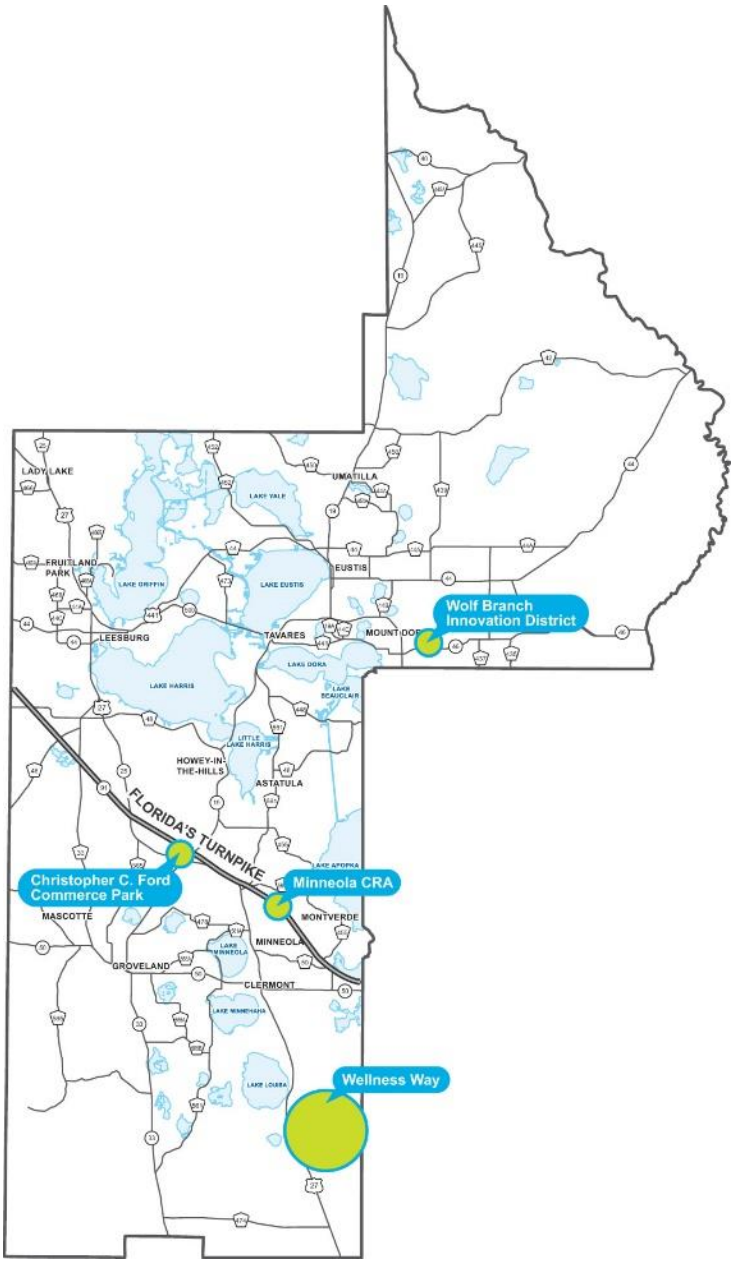
- Wellness Way
- Wolf Branch Innovation District
- Minneola CRA
- Christopher C. Ford Commerce Park

Wellness Way is the county's largest strategic corridor in the southeast part of the county, at 15,500 acres. The Wellness Way Area Plan will leverage south Lake County's existing health and life sciences cluster through the creation of diverse and comprehensive mixed-use master planned developments. The intent is to promote significant economic development while encouraging fiscally-efficient and well-balanced development patterns that minimize environmental impacts and leverage existing resources. The anticipated build-out of 16,531 units should generate approximately 26,839 jobs for the area.

The Wolf Branch Innovation District is located near Mount Dora. Lake County and the City of Mount Dora are working together to develop a significant employment center situated on 1,300 acres at the terminus of the Wekiva Parkway Extension. It is anticipated that this district will focus primarily on professional office, medical, and light industrial uses.

The Minneola Community Redevelopment Area (CRA) is located in Minneola near Florida's Turnpike. Approximately 4,000 acres are available at the new Minneola interchange, with the capacity to accommodate more than 3 million square feet of non-residential space.

Christopher C. Ford Commerce Park is located on US-27 at the crossroads of SR-19 and Florida's Turnpike. It is Lake County's largest industrial park and is home to more than a dozen manufacturing and distribution business.



Commerce & Industrial Parks

In addition to the Christopher C. Ford Commerce Park, Lake County has several other commerce and industrial parks with room to grow.

- Clermont Commons – located on Mohawk Road north of SR 50; zoned M-1 with utilities installed and existing buildings from 1,000–60,000 sq. ft. of available space.
- Eustis Commerce Park – a hub for industries specializing in allied and complementary services such as processing, researching and packaging food products; located near the Harris Chain of Lakes and resembles a wildlife preserve with a setting that is more park than commerce.
- Hunt Industrial Park – South Lake County's largest secure flex space facility; spans more than 24 acres, encompasses of 200,000 sq. ft. of space for commercial, industrial, retail, office, warehousing, and manufacturing; located less than a mile west of downtown Clermont and three miles north of Highway 50.
- Jim Rogers Industrial Park – located on SR-33 near Okahumpka; zoned for heavy industrial and within three miles of US-27 and Florida's Turnpike.

- Lake Town Center – upscale commercial center centrally located on CR-19A, close to County Courthouse, Waterman Hospital, Downtown Mount Dora, and Eustis; will include 75,600 sq. ft. of commercial office space; first building already complete and available for lease/purchase.
- Leesburg Commerce Park – 265,000 sq. ft. mixed commercial development located on 28 acres at intersection of SR-44 (West Main St) and CR-468 in Leesburg; located within two miles of soon-to-be-constructed south entrance to The Villages, along with new turnpike entrance.
- Mount Dora Commerce Park – located in heart of Mount Dora's business district, includes 128,000 sq. ft. of industrial and office space; completely sold out.
- Oldham Industrial Park – located at 31548 Progress Rd in Leesburg; recently completed three 10,000 sq. ft. buildings zoned for heavy industrial; located off CR-44, approximately 8 miles from I-75, allowing for convenient trucking route access.
- South Pointe Commerce Park – located on SR-19 corridor, close to Waterman Hospital and less than one mile from intersection of SR-19 and US-441; includes office and retail space, immediately available.
- Southridge Industrial Park – located on CR-561 at intersection of CR-448, just south of Tavares; contains 21 lots ranging in size from 3–6 acres; zoned for heavy industrial, manufacturing, or light industrial, is within minutes of all major highways and interstates, has rail access with Florida Central Railroad.

Tourism

Tourism is a vital component of the Lake County economy. The county is located in the center of Florida, only 30 minutes from Orlando and its theme parks, and only one hour from either coastline. In 2016, Central Florida had 68 million visitors, with a 75.5 percent hotel occupancy rate and $236 million in tourist development tax collections. Orlando ranked #1 in the U.S. for "staycations" and destination weddings.

Lake County seeks to become a major tourist destination by creating awareness of its convenient location and ecotourism offerings. The County recently adopted a branding message of "Real Florida, Real Close," hoping to highlight the county's small-town charm and natural resources in contrast to the nearby urban destinations in Orlando and along either coastline.

For tourism marketing, the county is divided into four areas:

- Forest Gateway
- Northwest Lake
- Golden Triangle
- South Lake

The Forest Gateway area is the main destination for camping and kayaking, consisting of small towns surrounding the nearby Ocala National Forest. The St. Johns River and Lake George border this area and

are known for some of the best freshwater fishing in the state. The annual Florida Wildlife Conservation Festival takes place in the Forest Gateway area, promoting the safe coexistence of humans and wildlife.

Northwest Lake hosts the world's largest three-day motorcycle and music event, Leesburg Bikefest, but it is also know for a number of historical parks and museums, including the Palatlakaha Environmental and Agricultural Reserve (PEAR) Park, Lake Griffin State Park, and the Grand Oaks Resort and Carriage Museum. This area is also home to The Villages retirement community, widely known as "Golf Cart City," the largest retirement community in the world.

The Golden Triangle is home to Mount Dora and its bed-and-breakfast destinations, as well as scenic Lake Dora. Visitors can take seaplane rides in Tavares or play golf at the nearby Mission Inn Resort & Club.

The South Lake area has quickly become the "World Triathlon Destination" thanks to the state-of-the-art National Training Center in Clermont, which attracts athletes and Olympians from all over the U.S. to train. South Lake also has hosted several state and national sports championships in recent years. Lake Louisa State Park offers equestrian, camping, canoeing, and kayaking to visitors.

Roadway Conditions

Existing Roadway Conditions

Lake County is designated as a rural transit service provider, but is in the process of transitioning to a small urban designation. The County recently implemented a new transit route along SR-50 in the South Lake region to accommodate the newly-designated urbanized area (UA) that is part of the Orlando UA expansion into Lake County.

Freight and goods movement is a top priority within Lake County. The County has expressed the need to prioritize improvements along the CR-470 corridor to accommodate Leesburg's new commerce park near Florida's Turnpike and CR-470. Additionally, construction continues on the Wekiva Parkway project, which will complete a beltway around the Orlando metropolitan area and connect with the Mount Dora Wolf Branch Innovation District. Finally, a new turnpike interchange in Minneola will help connect employees to the planned employment center in the area.

Future Roadway Conditions

The Lake County Department of Public Works identified and programmed several roadway improvement projects into the County's 2018–2022 five-year plan to address existing deficiencies and construct needed roadways. Ongoing and planned capacity improvements include:

- CR 455 from Hartwood Marsh Rd to Lost Lake Rd – construct new two-lane road
- CR 455 from Lost Lake Rd to Hartle Rd – construct final two lanes of road
- CR 455 from Wellness Way to Schofield Rd – construct new four-lane road
- CR 561 Intersection with C-561A – intersection realignment and roundabout

- Citrus Grove Rd Ph. I from Grassy Lake Rd to N Hancock Rd – add lanes and reconstruct
- Citrus Grove Rd Ph. III from US-27 to Founder's Ridge – add lanes and reconstruct
- Citrus Grove Rd Ph. IV from N Hancock Rd to Blackstill Lake Rd – construct new two-lane road
- Fosgate Rd Ext. from US-27 to Grassy Lake Rd – construct new two-lane road
- Hancock Rd North from Turnpike Interchange to CR-561A – construct final two lanes of road
- Hooks St Ext. from Hancock Rd to CR-455 – construct new four-lane road
- CR 466A Ph. IIIA from Poinsettia Ave to Sunny Ct – widen to four lanes
- CR 466A Ph. IIIB from Timbertop Ln to Poinsettia Ave – widen to four lanes
- Rolling Acres Rd from CR-466 to Griffin Ave – widen to four lanes
- CR 437 from Harbeck Ln to SR-46 Intersection – construct new two-lane road
- Round Lake Rd from SR-46 to SR-44 – construct new four-lane road

Land Use

Future Land Use

Future land use for Lake County is shown in Maps 2-8 through 2-11.

Lake County

- The majority of development activity in Lake County is concentrated in and around Leesburg and Clermont, with most of the county zoned as Rural and a maximum of one dwelling unit per five acres (light green shaded area). The northeast portion of the county is dedicated to conservation efforts (teal), as shown in Map 2-8.
- There are three major commercial corridors. Two large commercial corridors, SR-441 and SR-44, are served by Lake Xpress Routes 1, 1a, 3, and 4 and are located in the northwest corner of the county; the other major commercial corridor, the Ronald Reagan Turnpike, is located in the southern region of Lake County. These major corridors are not only adjacent to other municipalities in Lake County, such as Leesburg, Mount Dora, and Clermont, but connect to other key regional centers such as Orlando, Winter Park, Celebration, and Deltona.

Eustis

- The majority of development activity is in the municipality of Eustis, which is suburban residential in nature (bright orange in Map 2-9), ranging from 1–5 dwelling units per acre. The suburban residential (bright orange) land use encompasses the municipality.
- In the center of the municipality is residential/office transitional mixed-use space (light green) with a central business district (CBD) (red) on the edge of Lake Eustis.

Clermont

- The majority of development activity in Clermont is categorized as master planned development (purple), as shown in Map 2-10. This land use constitutes the majority of the land uses along US-27

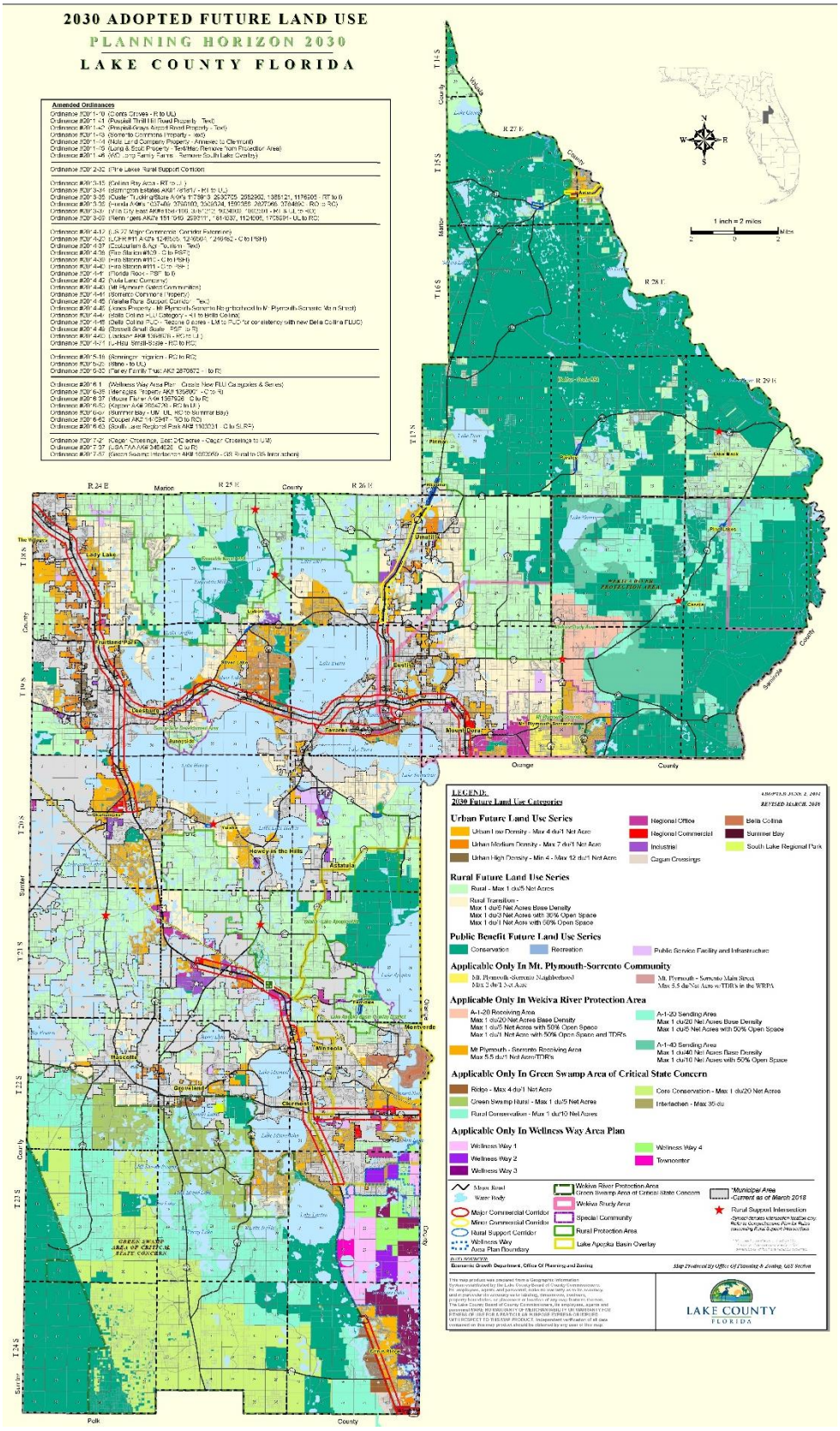
in the southern half of Clermont as well as the northeastern most portion of the city. The master planned development land use includes businesses that provide health services and other key industries, which also will promote economic development and well-being for residents. Bordering the Master Planned Development is Low Density Residential zoning (yellow).

- In the center of Clermont is a concentration of commercial zoning land uses, with the downtown mixed use district (light tan) in the northeast corner bordering Lake Minneola. This business district is surrounded by medium density residential housing (dusty rose).

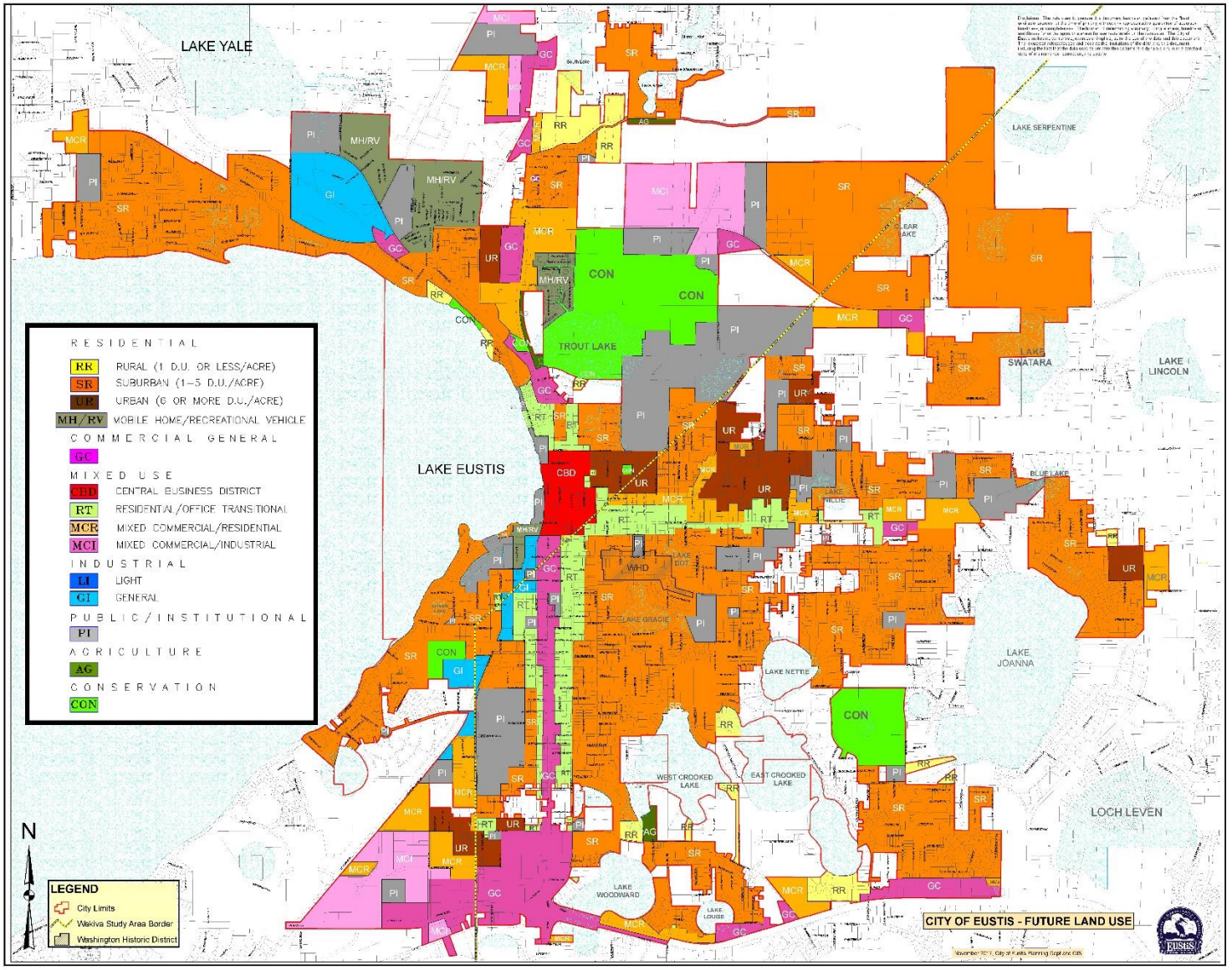
Leesburg

- In the heart of the Leesburg is a downtown mixed use district (purple), as shown in Map 2-11. This district is surrounded by low-density (light yellow) and general commercial land uses (red). The municipality is bordered to the north by Lake Griffin and to the south by Lake Harris.
- In southeastern Leesburg and south of the Ronald Reagan Turnpike is a mix of conservation (dark teal) and mixed low density residential (chartreuse) zone. To the north of the Ronald Reagan Turnpike are institutional (blue) and conservation (dark teal) land uses.

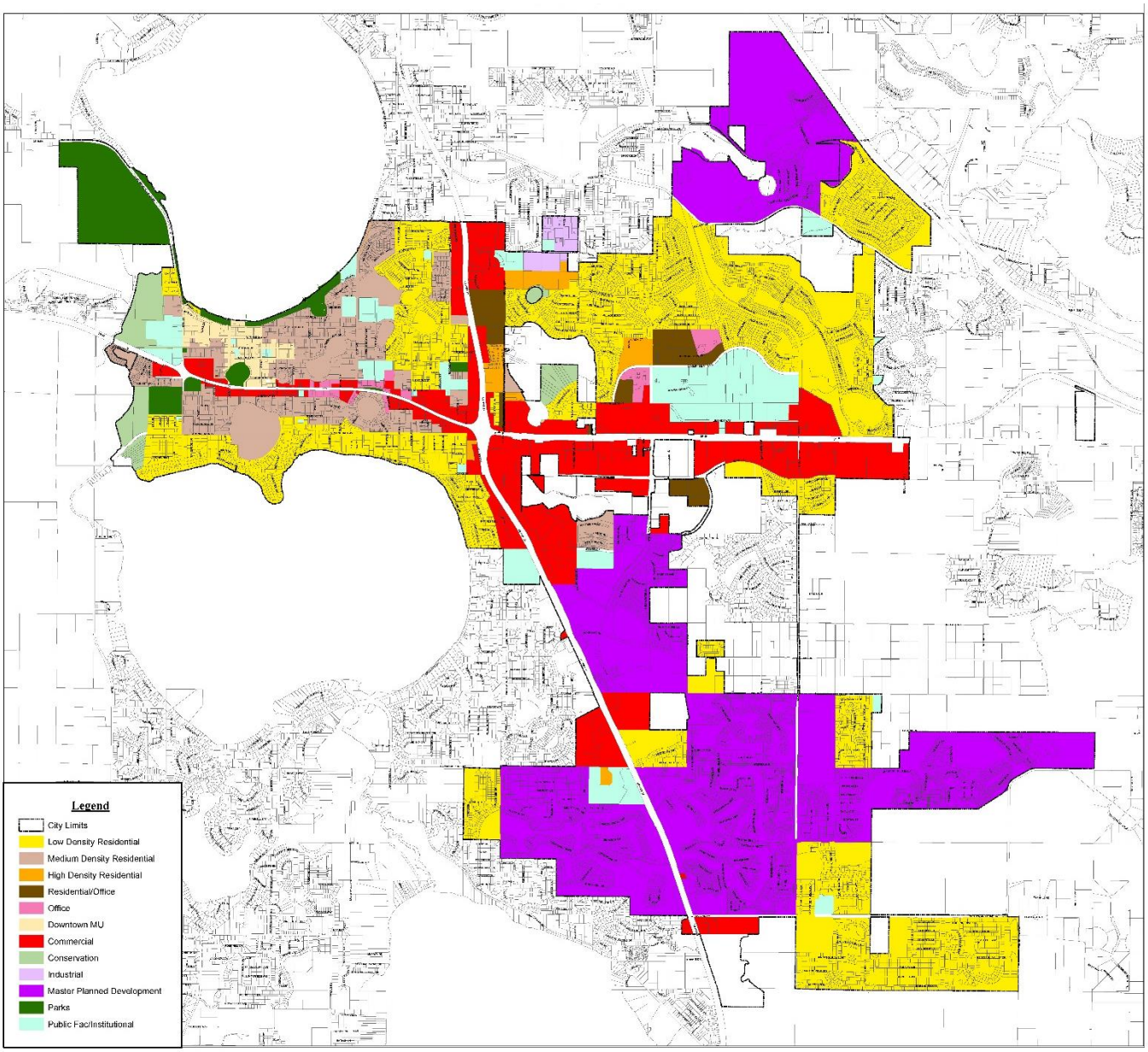
Map 2-8: Future Land Use – Lake County



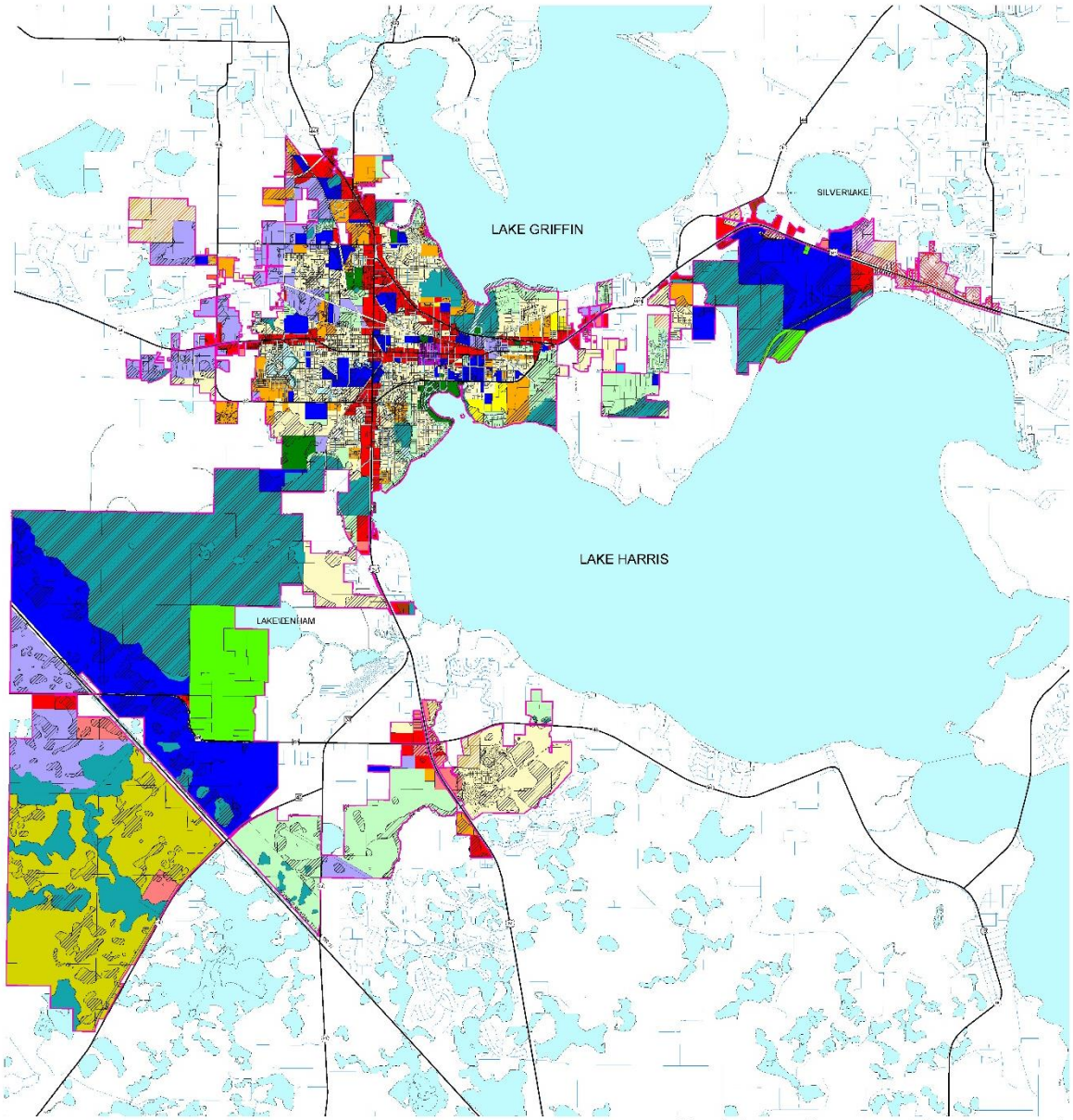
Map 2-9: Future Land Use – Eustis



Map 2-10: Future Land Use – Clermont



Map 2-11: Future Land Use – Leesburg



Map is for graphic representation purposes only; actual data must be verified by City staff.

Map I-1. Future Land Use

FUTURE LAND USE:

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Miles

DISCLAIMER: The data displayed on this map are from a variety of sources. This map is not a survey and should only be used for planning purposes. The information on this map is provided in an "as is" condition. For further information, contact the City of Leesburg, Planning Division at (352) 728-9760.

City of Leesburg
GIS Division
Compiled by: J. Meier
Date: June 1, 2004
Revised: Nov. 18, 2005
Sheet: 1 of 1
File: FLU.mxd

LEESBURG
The Lakefront City

SECTION 3 PUBLIC INVOLVEMENT

Public involvement is an ongoing process that includes continuously receiving and analyzing feedback about LakeXpress. One of the first activities in this process was to prepare a Public Involvement Plan (PIP) describing all public outreach activities to be undertaken during the development of the TDP. This PIP can be found in Appendix A. Activities included in the PIP provide numerous opportunities for involvement by the general public and representatives of local agencies and organizations.

This section outlines all public involvement activities planned for the 2019–2028 TDP and summarizes the input received to date. All public outreach will be used to develop the 10-year strategic transit plan included in the final TDP.

Summary of Public Involvement Activities

LakeXpress used the following public involvement activities to gauge public perception of and expansion ideas for transit services in Lake County:

- Stakeholder interviews
- Discussion group workshops
- On-board survey
- Online public input survey
- Operator interviews

Public events were advertised through flyers and email blasts. Surveys were collected, aggregated, and analyzed to develop a comprehensive understanding of answers to questions and recommended improvements from LakeXpress users, non-users, bus operators, and stakeholders.

Table 3-1 summarizes the public involvement activities that have taken place as part of the TDP.

Table 3-1: TDP Public Involvement Activities Summary

Outreach Activity	Date	Status	Attendance/ Outreach
Stakeholder interviews	April/May 2018	Completed	12
Discussion group workshops	May 2018	Completed	10
On-board survey	June 2018	Completed	278
Online public survey	April–June 2018	Completed	249
Operator interviews	June 2018	Completed	7
Public workshops	July 2018	Upcoming	12
		Total Participants	**568**

Stakeholder Interviews

Interviews were conducted by phone in April and May 2018 with 12 stakeholders, including City Managers and Lake County staff. The stakeholders were asked about their general perceptions of transit in the community, their vision for the future of LakeXpress, and possible funding options for public transportation. Their responses are summarized below.

General Perceptions of Transit

- Transit is a valuable component; however, it is not cost-effective due to urban sprawl.
- Most riders are low-income or older adults who do not have other transportation options.
- Transit is a good alternative for workers in the community.
- Buses seem to generally run on time.
- People in the community feel neutral towards transit—they are not necessarily against it, but they rarely think of it if they are not using it.
- LakeXpress has developed good routes with the funding they have available.
- There needs to be more effort to make the public aware of the transit system to attract new riders.

Vision

- Need more north/south connections in the county.
- Weekend service and better frequency would attract new riders; many people work on the weekends.
- Need more service to major employment centers, e.g., Ford and Hunt industrial parks.
- Need more circulators to capture potential riders in neighborhoods off the main roads, as there are many low-income neighborhoods off the main highway.
- Need to be more sheltered bus stops; sun and rain are harsh in the summer.
- The major downtown areas (Mount Dora, Eustis, Leesburg, Tavares) should be connected with express service.

Funding

- No willingness in the community to consider allocating local funds for transit until the County has done everything it can to maximize transportation dollars.
- Every funding avenue needs to be explored before raising taxes.
- The transit-dependent population is invisible to many policymakers, which makes it difficult to get support for using local funds for public transportation.
- Most policymakers are reluctant to use local funds for public transportation unless it can produce a reward.

Discussion Group Workshops

A discussion group workshop was held on May 24, 2018, from 12:30–2:30 PM at the Lake-Sumter MPO to gauge existing and future public transportation needs in Lake County. Attendees from the MPO, Lake County, and educational establishments participated in a discussion so LakeXpress could learn more about public transportation needs and issues of the people and organizations they represent. There were 10 attendees at this workshop, and each was provided with meeting materials and received a brief project overview. Input received and needs identified from the workshop attendees included the following.

Discussion

- Students at Lake-Sumter State College (LSSC) have a hard time getting to campus from Umatilla due to the limited bus schedule.
- Students find it difficult to read and interpret route schedules.
- Some employers have a difficult time getting employees to different work sites every day; it would be helpful to have on-demand service or a deviated route option.
- Beacon College provides transportation to students who call and request a ride; however, LakeXpress is needed to supplement this service, as it does not have a wide service area.

Needs

- Express routes to LSSC need to coincide with class times.
- LSSC needs a LakeXpress representative to provide travel training to students.
- College students need weekend service primarily to run errands; however, some students work on weekends.
- Weekend service could attract new riders if it is marketed as a way to travel to special events.
- Need for more marketing—people in the community need to know LakeXpress exists for everyone and that it is not difficult to use.

Bus On-Board Survey

An on-board bus survey was conducted in June 2018 to collect information on bus rider socio-demographics, travel behavior, and service needs. The method used for surveying bus riders was an in-person, 21-question, tablet-based survey instrument administered to passengers aboard LakeXpress bus routes. The survey app was programmed with directed branching to account for prior responses, so questions were geared to patrons and follow-up explanations could be collected for questions that required clarification. A Spanish version of the survey was provided in a paper format for riders with limited English proficiency. Paper surveys also were made available in English for passengers who preferred to not use the tablet-based survey. A copy of the survey instrument is provided in Appendix B. The on-board survey was distributed by a team of trained survey personnel who completed an

orientation session prior to the survey to instruct them on their duties and responsibilities and to discuss possible issues or concerns that might occur while conducting the survey.

In total, 278 valid responses were received through the on-board survey process, with approximately 20 completed using the Spanish version of the survey instrument.

The survey administered to respondents did not vary in length, and all participants had the opportunity to provide travel characteristics for their current trip and general behaviors to questions, including:

- Most common and most important reason for riding the bus
- Most common method for reaching the bus
- Whether current trip includes a transfer
- Number of one-way bus trips per week
- Availability of other mobility options
- History of LakeXpress use
- Duration of residence in Lake County

Socio-demographic information was identified by questions that included:

- Possession of cellphone
- Age
- Gender
- Race/ethnic origin
- Household income

Customer service information was identified by questions that included:

- Mode of receiving information about LakeXpress services
- Most common fare type
- Recommendations for service and technology improvements
- Satisfaction with overall LakeXpress bus service
- Satisfaction with various facets of LakeXpress bus service

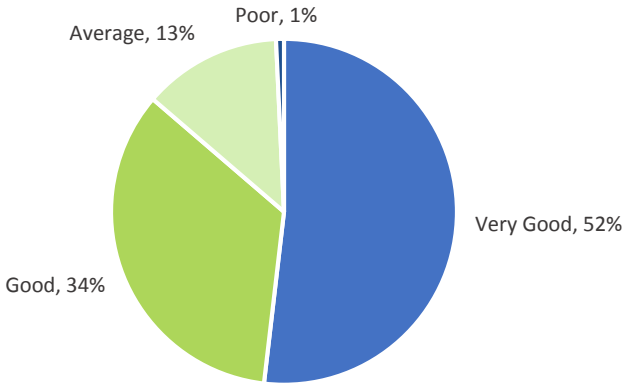
Table 3-1 represents the response rate by question.

Table 3-2: Rate of Survey Responses Received by Question

Question #	Description	Responses Received	
1	Overall satisfaction with LakeXpress	271	97.5%
2	Most common reason for riding	271	97.5%
3	Most common method of ingress	269	96.8%
4	Order of routes on current trip	260	93.5%
5	One-way trips per week	257	92.4%
6	Most important reason for riding	262	94.2%
7	Alternative mobility options	267	96.0%
8	Vehicle availability	262	64.2%
9	History of using LakeXpress	266	95.7%
10	Most common fare type	263	94.6%
11	Means of receiving bus information	260	93.5%
12	Cellphone ownership	257	92.4%
13	Top service improvements	259	93.2%
14	Top technology improvements	230	82.7%
15	Lake County residency status	246	88.5%
16	Respondent age	238	85.6%
17	Respondent income range	169	60.8%
18	Respondent gender	248	89.2%
19	Respondent Hispanic ethnicity	231	83.1%
20	Respondent race	226	81.3%
21	Satisfaction with transit characteristics	243	87.4%

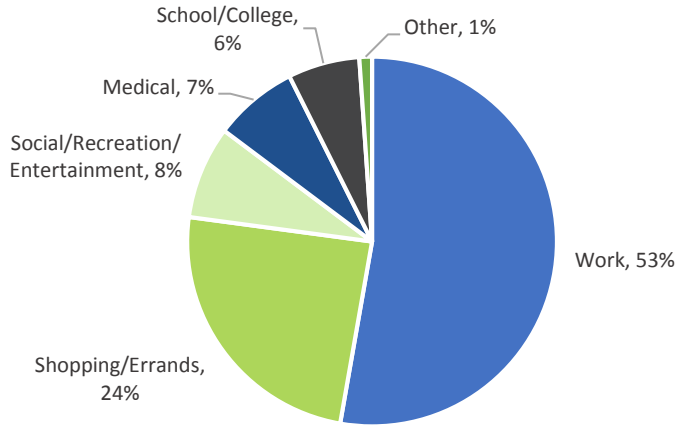
Passengers were asked about their overall experience with LakeXpress bus services during the past year (Figure 3-1). Responses indicated that most passengers rate their experience as very good (52%) or good (34%). The remainder of responses rated their experience as average (13%) or poor (1%).

Figure 3-1: Overall Satisfaction with LakeXpress



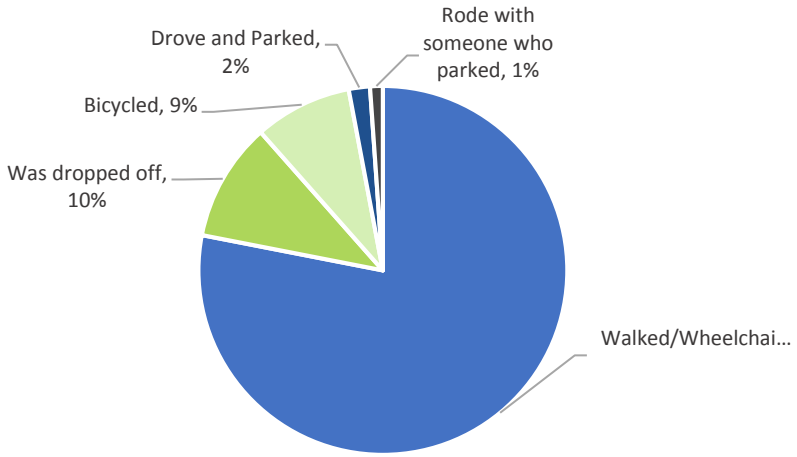
Regarding service consumption, passengers were asked about the most common reason they used LakeXpress services; the majority indicated that they used the bus for work (53%) and shopping/running errands (24%). The third most common trip purpose was social, recreational, and entertainment in nature (8%), and the fourth was medical (7%), as shown in Figure 3-2.

Figure 3-2: Most Common Trip Purpose



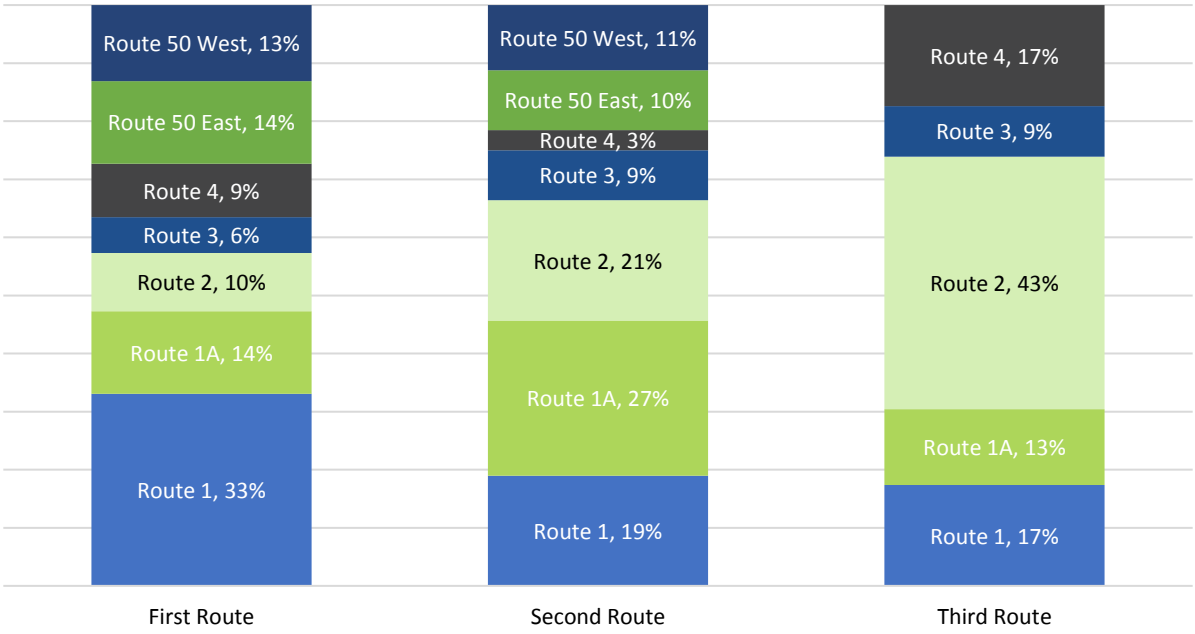
Regarding how passengers typically access LakeXpress services, responses indicated that the majority (78%) of respondents either walked or used a wheelchair to access the bus. As shown in Figure 3-3, another 10 percent accessed the bus after being dropped off, and 9 percent used a bicycle.

Figure 3-3: Most Common Means of Accessing Bus



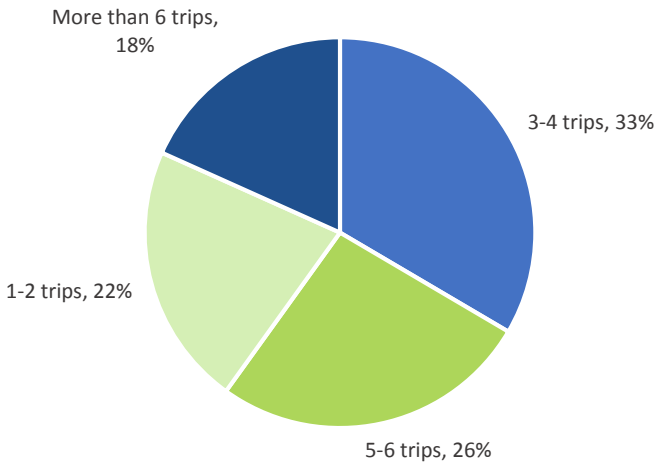
Passengers also indicated the order of bus routes they were taking as part of their current one-way trip. Route 1 was the most commonly taken as the first route as part of their current trip, followed by Route 1A, Route 50 East, and Route 50 West, as shown in Figure 3-4. Routes 1A and 2 were commonly taken as second in the order of routes, suggesting that they are key connector routes, further supported by the approximately 43 percent of passengers who indicated they would take Route 2 as the third route for their current trip.

Figure 3-4: Order of Routes Taken on Current One-Way Trip



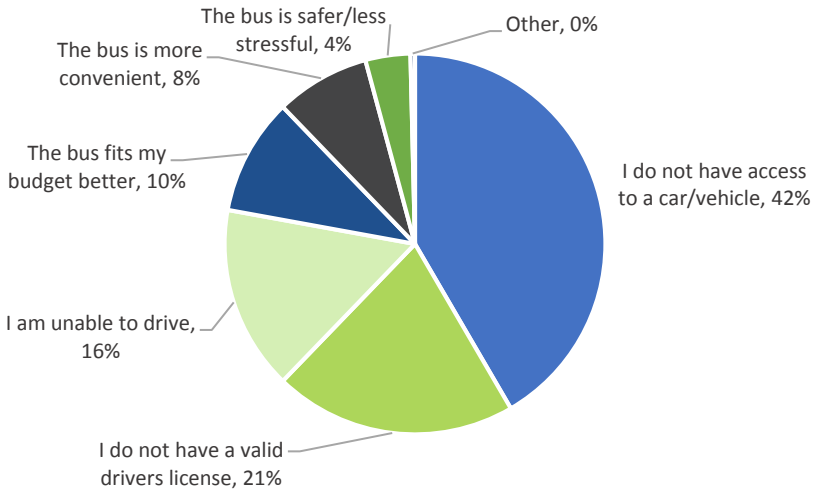
Passengers were asked how many one-way trips per week they made using LakeXpress bus services (Figure 3-5). The majority of passengers indicated that they took 3–4 trips per week (33%), closely followed by 5–6 trips per week (26%) and 1–2 trips per week (22%).

Figure 3-5: How Many One-Way Trips Do You Make per Week?



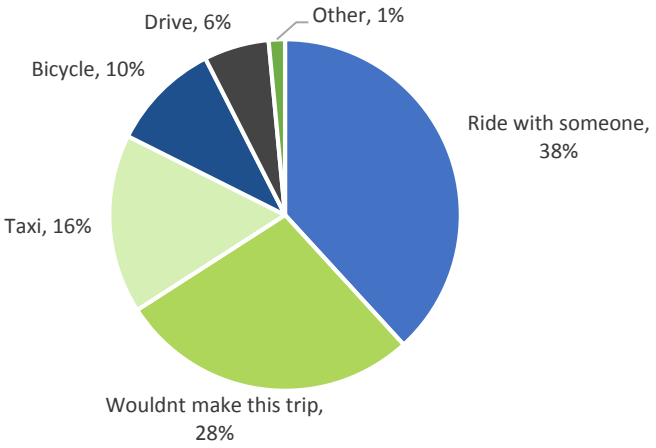
Regarding the reason for riding LakeXpress, the majority of passengers indicated that they did not have access to a car/vehicle (42%), as shown in Figure 3-6. Secondary reasons for using LakeXpress included not possessing a valid driver's license (21%), unable to drive (16%), and the bus was more affordable (10%).

Figure 3-6: Most Important Reason for Riding Bus



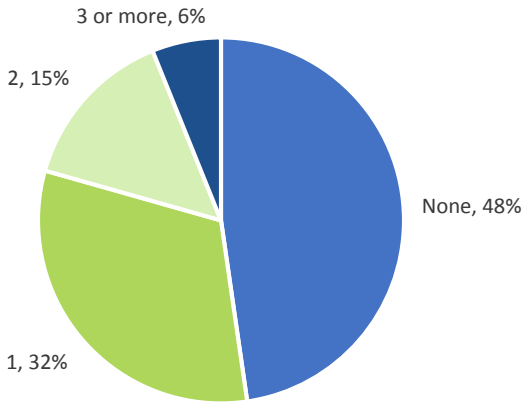
If LakeXpress was not available to passengers for their current trip, as an alternative, the majority indicated that they would find a ride with someone else (38%), followed by not making the trip (28%), taking a taxi (16%), and driving themselves (6%), as shown in Figure 3-7.

Figure 3-7: Alternative Means of Transportation



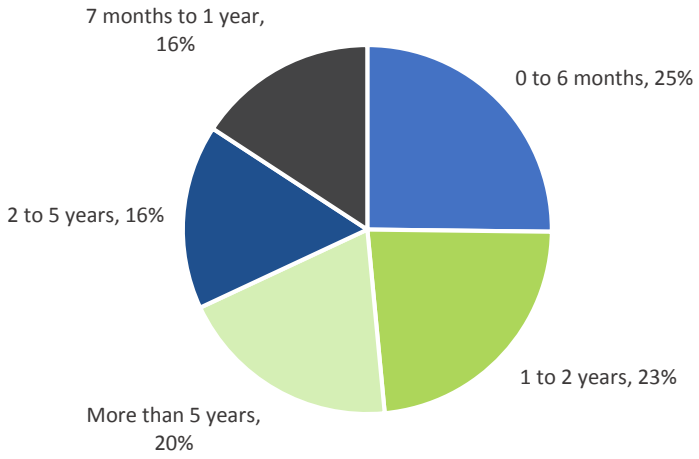
Consistent with the responses from the previous two questions, respondents indicated that they did not have access to a vehicle at home (48%), as shown in Figure 3-8. A combined almost 80 percent of passengers reported to having access to only one vehicle or less at home.

Figure 3-8: Number of Vehicles Available at Home



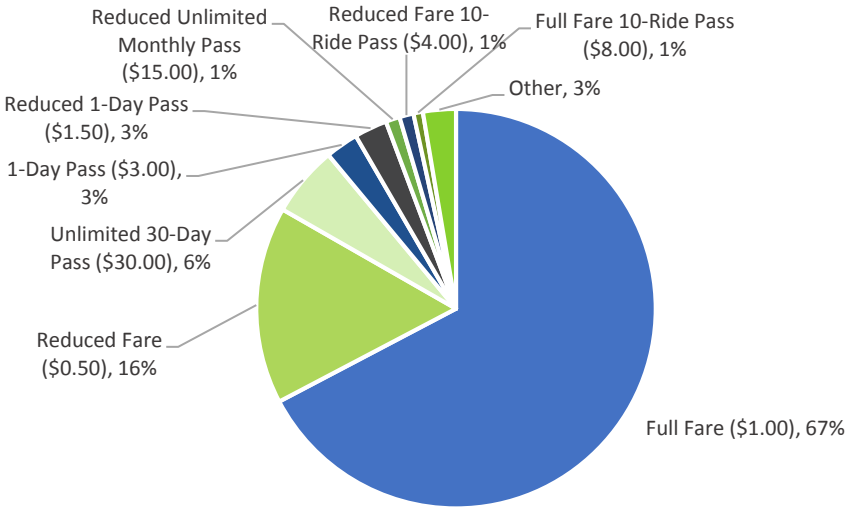
When asked how long they had been using LakeXpress services, most passengers noted that they were generally newer users (Figure 3-9)—approximately 25 percent reported using the service for less than 6 months and 23 percent reported 1–2 years; however, almost 20 percent reported more than 5 years.

Figure 3-9: Length of Time Using LakeXpress Bus Service



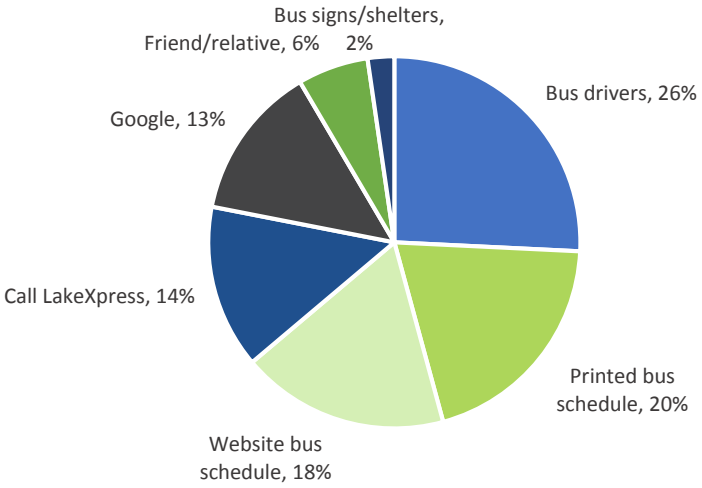
The most commonly-used fare type was the regular full fare (67%), followed by the reduced version of this fare (16%), as shown in Figure 3-10. The remaining 17 percent of riders indicated that they most commonly use a variety of passes.

Figure 3-10: Most Common Fare Types



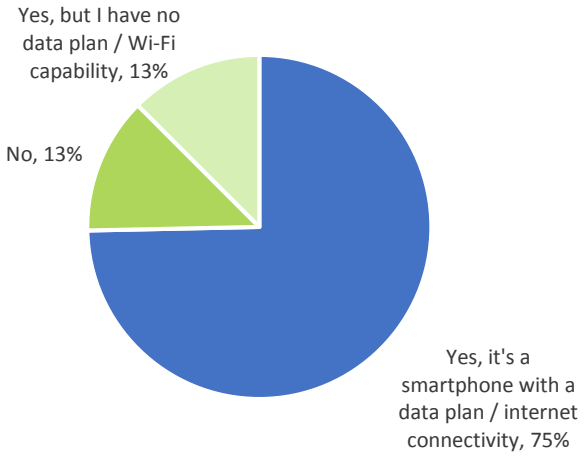
A majority of respondents indicated that they acquired their route schedule information from transit bus drivers (26%) or printed schedules (20%), as noted in Figure 3-11. However, many said they received information primarily from calling LakeXpress (14%), Google (13%), or friends/relatives (6%).

Figure 3-11: Means of Receiving Bus Information



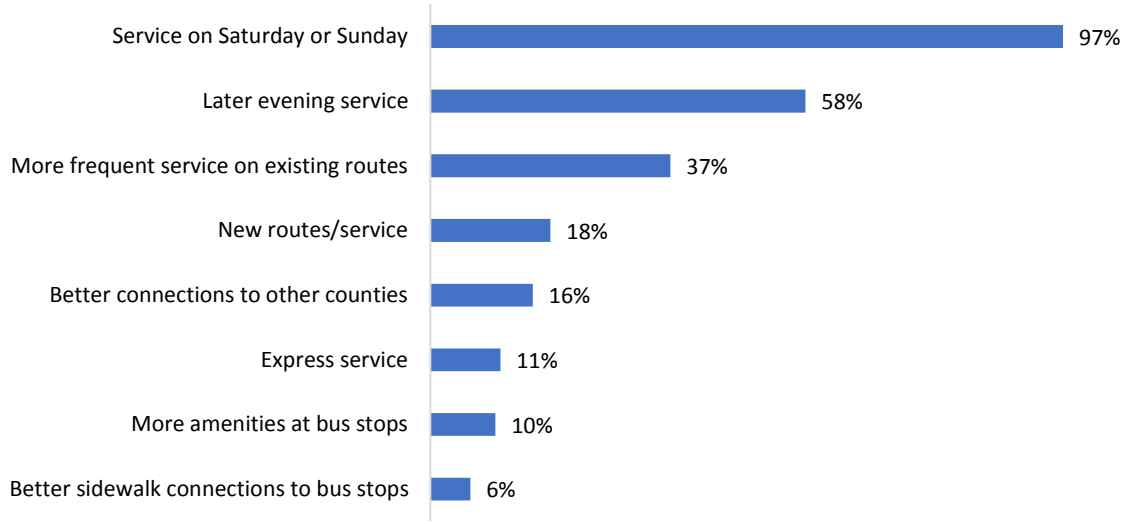
A majority of passengers indicated that they either owned or used a cell phone (smartphone) with a data plan or the ability to use Wi-Fi services (75%). As summarized in Figure 3-12, the remainder of respondents indicated that they either did not own a cellphone or did but did have a data plan or have the ability to use Wi-Fi services (13% each).

Figure 3-12: Cellphone Ownership



Provided with a list of eight potential service improvements on which LakeXpress might focus its efforts, an overwhelming majority of passengers (97%) indicated that Saturday or Sunday service should be a top priority, as shown in Figure 3-13. The second most cited service improvement was later evening service (58%), followed by more frequent service on existing routes (37%).

Figure 3-13: Most Cited Service Improvements



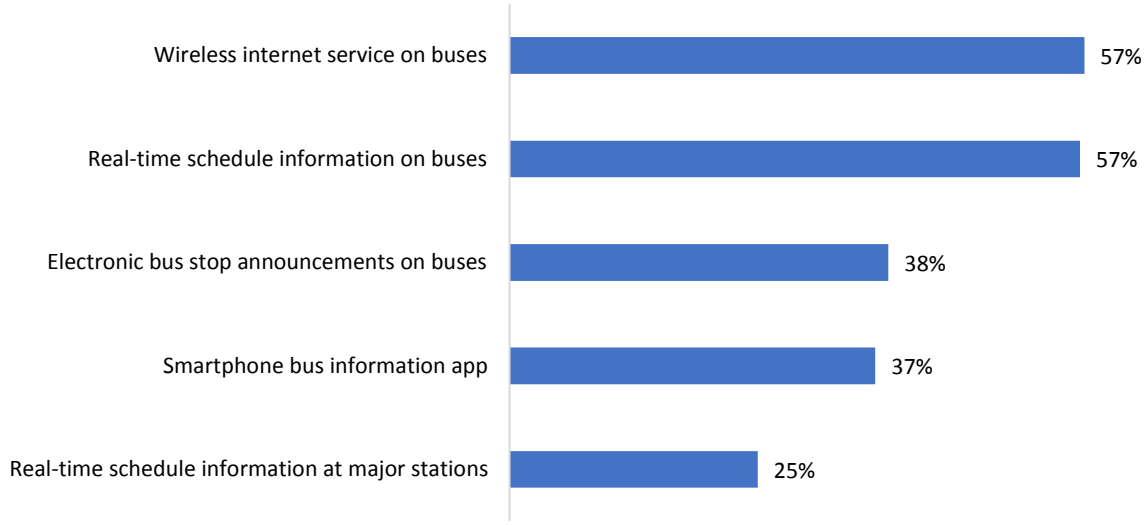
For the remaining service improvement categories that allowed respondents to write in additional information, the key themes that emerged for each improvement, listed in order of frequency, are summarized in Table 3-2.

Table 3-3: Key Themes for Service Improvements

Service Improvement	Requested Service Change
New routes/service	Leesburg to Clermont
	Leesburg from Route 50W
	Along US-27
	Walmarts
Express service	Oakland
	Clermont
	Orlando
Better connections to other counties	Orlando/Orange County
	Ocala/Marion County
	Leesburg & Clermont (as transfer hubs)
More amenities at bus stops	Shade and benches at all stops
	Lady Lake
	Leesburg
	Mount Dora

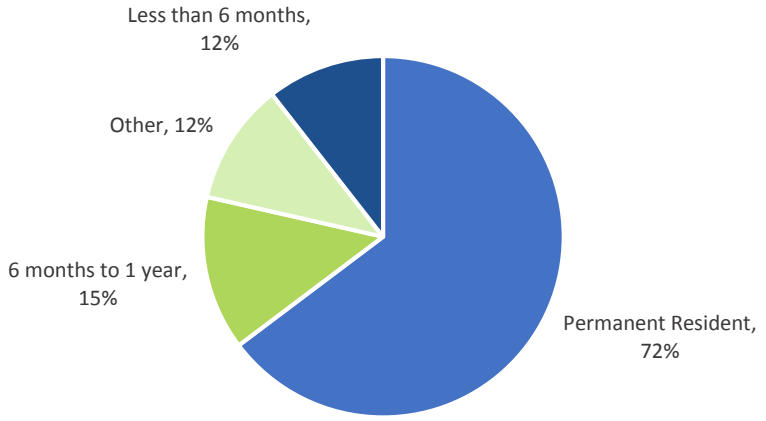
The most cited technology improvements for LakeXpress include wireless internet service on buses (57%), followed closely by real-time schedule information on buses (57%), as shown in Figure 3-14.

Figure 3-14: Most Cited Technology Improvements



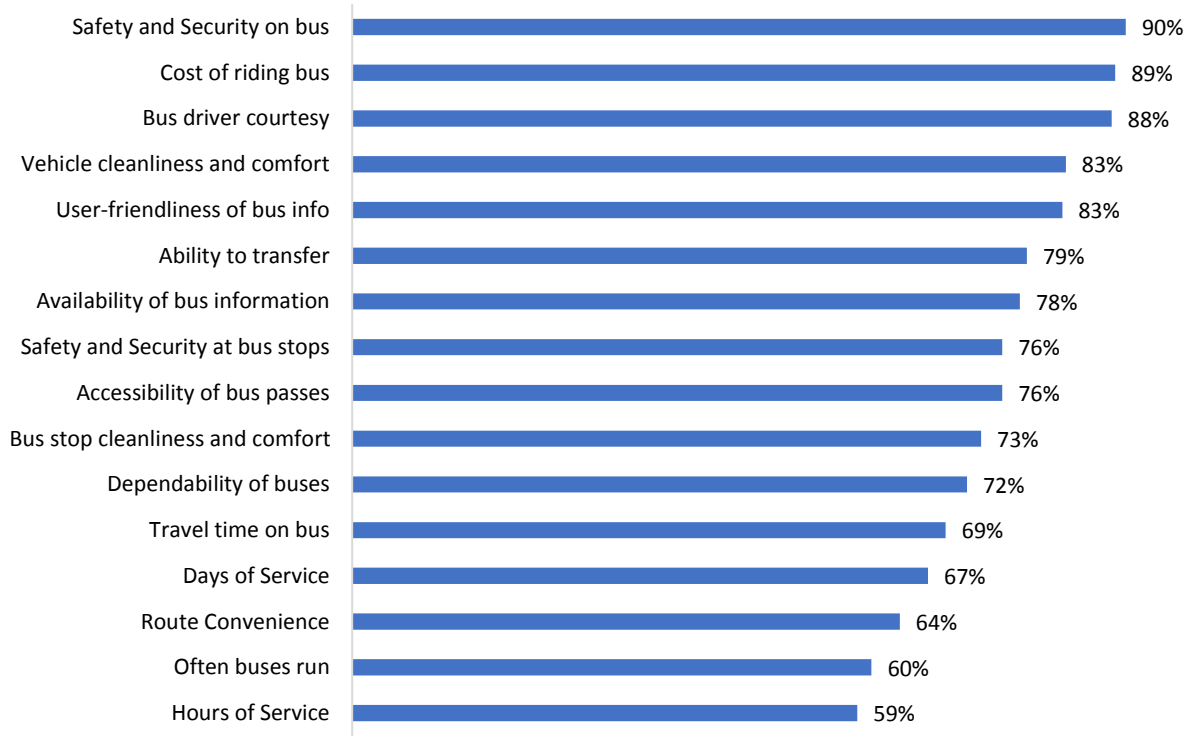
As shown in Figure 3-15, the majority of passengers indicated that they were permanent residents of Lake County (72 %); the rest were new arrivals to the area.

Figure 3-15: Lake County Residency Status



When provided with the opportunity to rank their satisfaction with a number of characteristics related to LakeXpress service, the highest satisfaction scores were safety and security on the bus (90%), cost of riding the bus (89%), and bus driver courtesy (88%). Hours of service (59%), bus frequency (61%), and convenience of routes (64%) received the lowest satisfaction scores.

Figure 3-16: Satisfaction with Various Transit Characteristics



Figures 3-17 through 3-21 summarize the demographic profiles of survey respondents. The typical respondent was a female age 41–60 who earned under $10,000 per year and self-described as Black/African-American, not of Hispanic origin.

Figure 3-17: Respondent Age

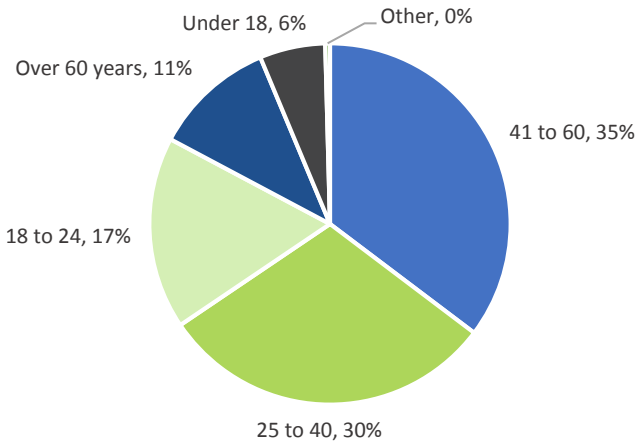


Figure 3-18: Respondent Income Range

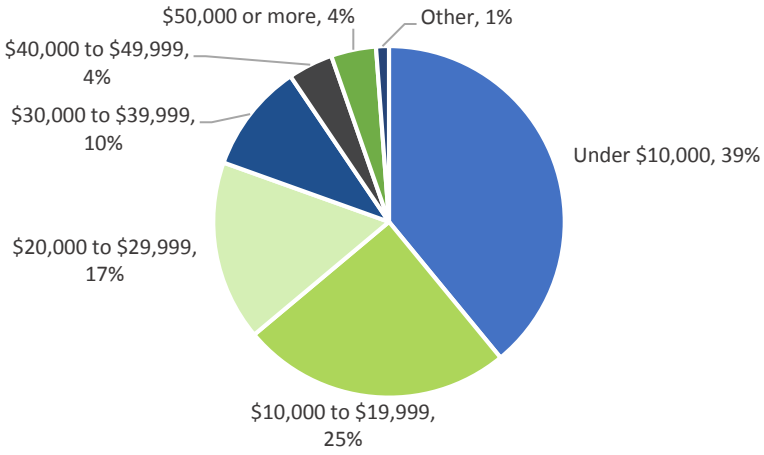


Figure 3-19: Respondent Gender

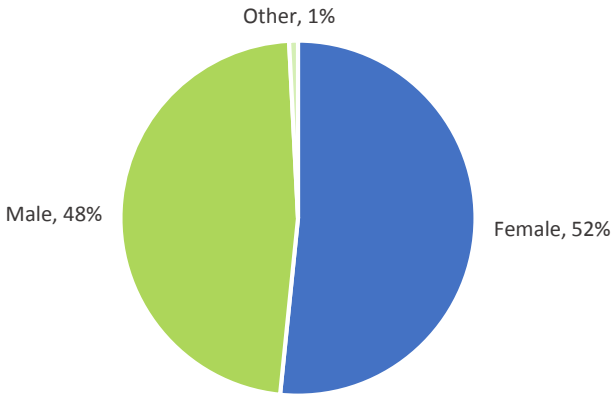


Figure 3-20: Respondent Hispanic Origin

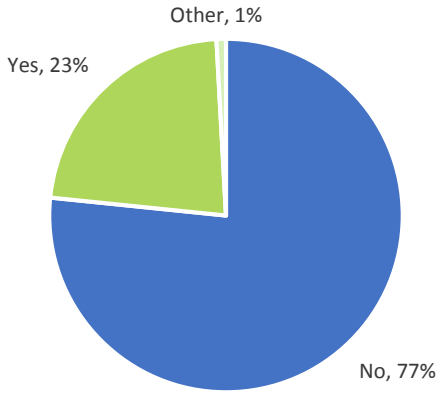
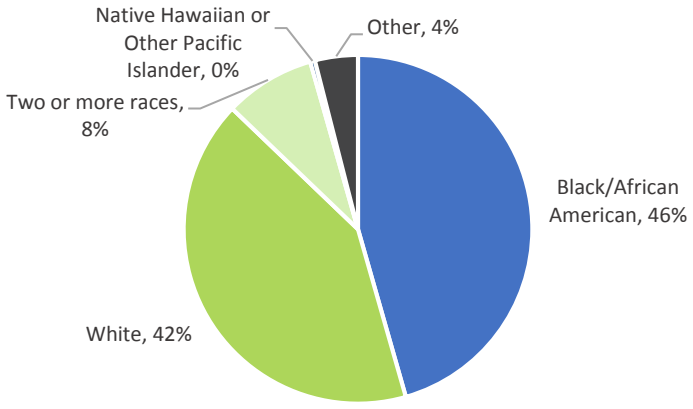


Figure 3-21: Respondent Race



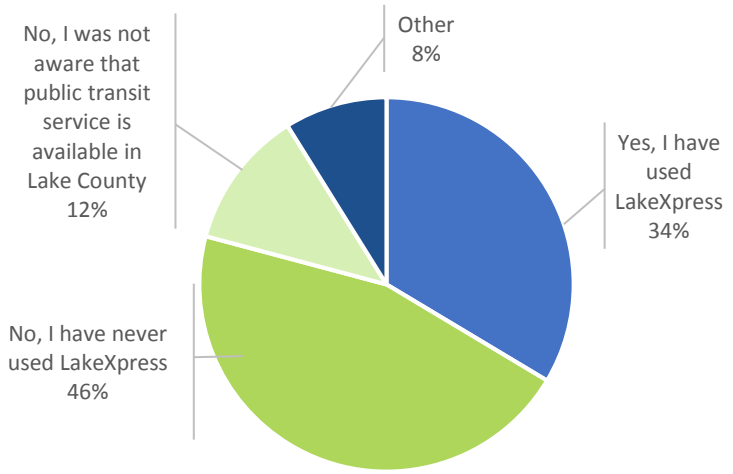
Public Input Survey

An online public survey was initiated in April 2018 via email blasts and the LakeXpress website. In total, 21 questions were asked to determine willingness to use public transit and the community's transit needs, gauge public awareness of transit issues in Lake County, and gather socio-demographic information of survey respondents. In total, 249 surveys were completed.

Summary of Public Input Survey Results

In total, 35 percent of respondents or members of their households had used LakeXpress transit services; almost half (47%) of respondents or members of their households had never used LakeXpress, and 12 percent said they were not aware that there was public transit service available in Lake County.

Figure 3-22: Public Transit Usage



Most respondents (62%) indicated that they never used LakeXpress, 9 percent indicated that they used it rarely, and 9 percent indicated using it a few times a month. An equal number of respondents (10%) indicated that they used LakeXpress a few times a week or five days per week.

Although 62 percent of respondents reported that they never rode LakeXpress, the majority (44 %) had used public transit outside of Lake County when they lived in another city. Another 37 percent reported using public transit while visiting another city, and approximately 15 percent had never used public transit in or outside of Lake County.

Figure 3-23: Frequency of Public Transit Usage

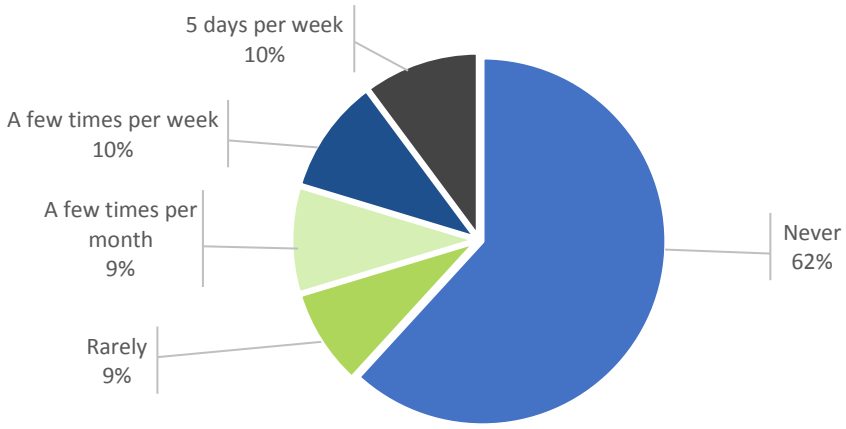
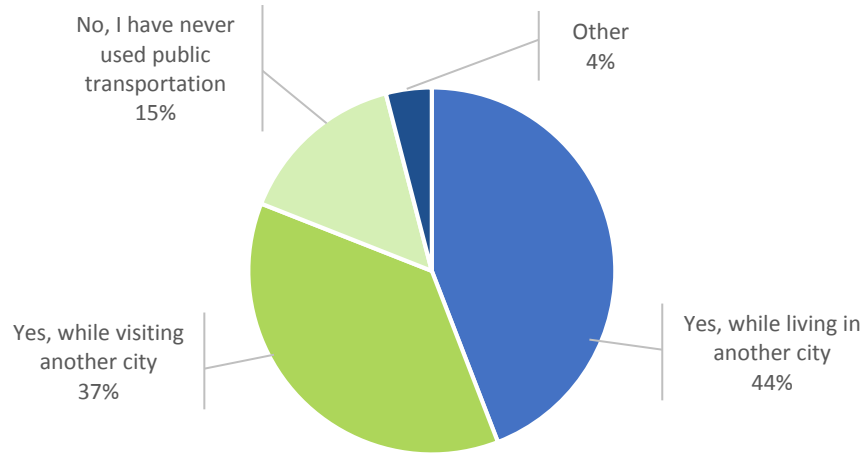
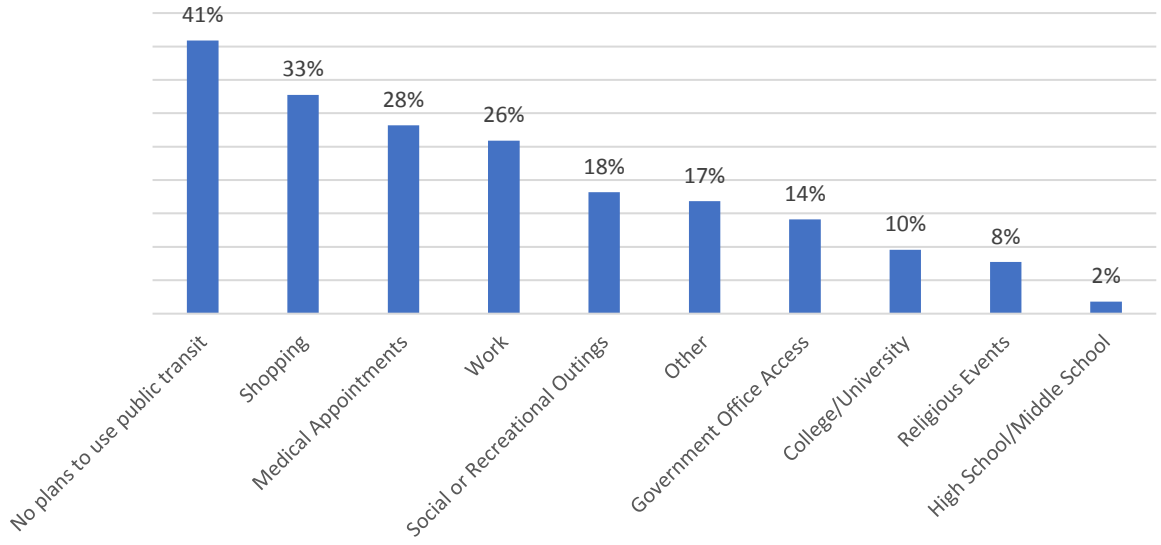


Figure 3-24: Other Usage of Public Transit



Although most respondents (41%) reported that they had no current plans to use public transit, a variety of uses was reported by those who do use it, including for shopping (33%), the most frequent response. The second most frequent reason was to get to and from medical appointments (28%).

Figure 3-25: Trip Destination



Respondents were asked to indicate their level of agreement with a variety of statements regarding transit service. A majority (68%) strongly disagreed that public transit is an unnecessary service; in combination with 27 percent who agreed that it promotes a healthy lifestyle and 38 percent who agreed that public transit is an environmentally-friendly means of transit, respondents indicated positive value to the community. More than 34 percent strongly agreed that public transit saves money, and 38 percent claimed to be neutral when it comes to whether or not public transit saves them time or not.

In total, 36 percent strongly agreed that public transit is a convenient option, and 35 percent indicated a neutral level of agreement regarding whether public transit takes them to where they need to go. When asked if public transit allows respondents to use their time wisely and do other things while traveling, 32 percent agreed that it did, and 30 percent of respondents disagreed, stating that public transit was a good idea for others, but not for them.

Respondents were asked to indicate their level of agreement with a variety of statements regarding public transit service priorities for the next 10 years. Approximately 35 percent indicated that LakeXpress should provide service earlier during weekdays, and 43 percent indicated that later weekday service hours should to be implemented. When asked about weekend service hours, 47 percent strongly agreed that weekend service should be added, and 39 percent strongly agreed with the improvement of providing enhanced frequencies on existing routes. A majority (55%) strongly agreed that LakeXpress needed to expand to serve areas that are not currently served by public transit, and 37% agreed that there should be direct routes implemented, making them straighter or simpler overall.

Figure 3-26: Public Transit Value

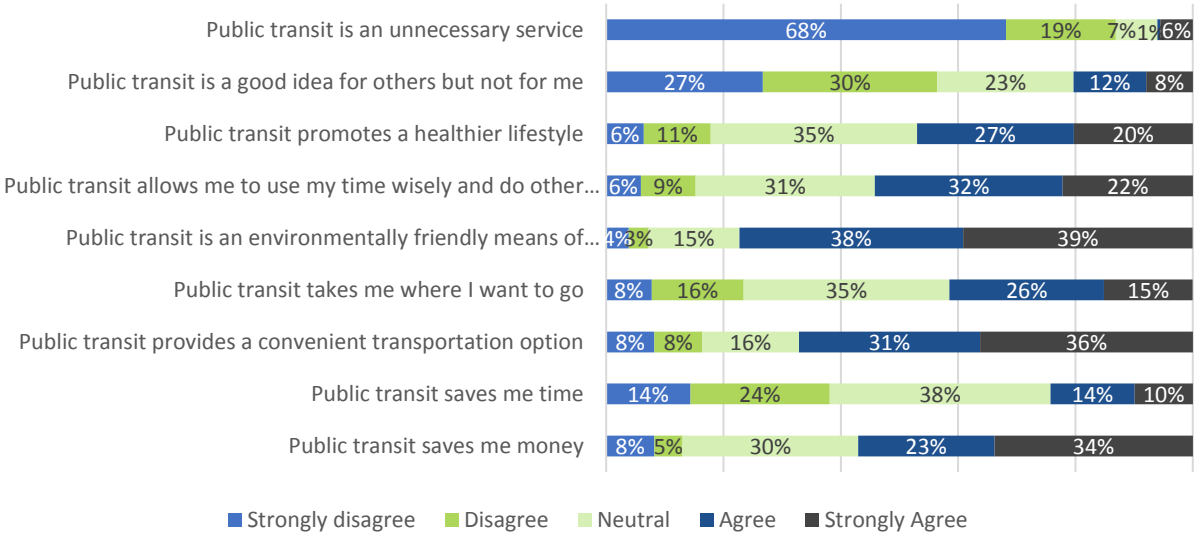
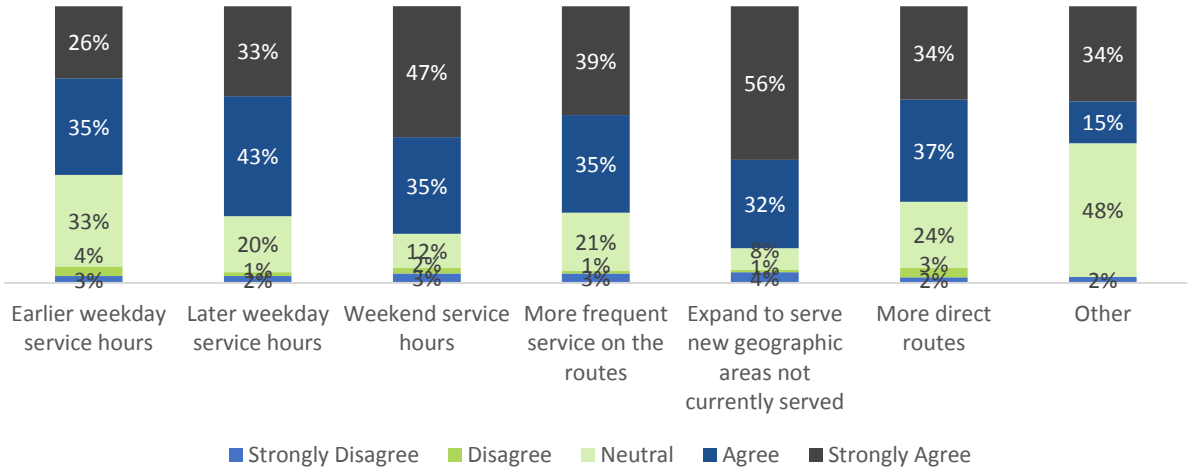
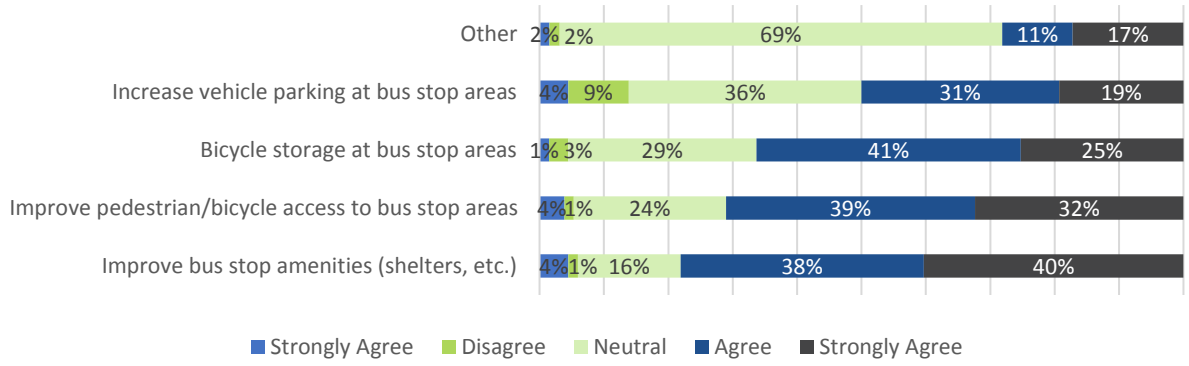


Figure 3-27: Public Transit Service Priorities in Next 10 Years



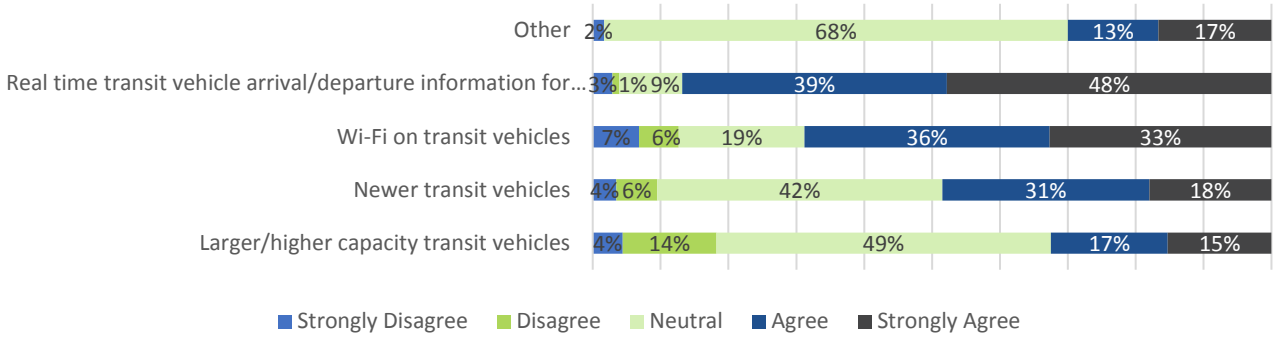
Respondents were also asked about LakeXpress priorities for bus stops and parking needs. A majority (41%) agreed that there needed to be bicycle storage at bus stop areas, and 40 percent strongly agreed that there needed to be improvements to bus stop amenities, including shelters to improve the comfort for passengers waiting for the bus. Additionally, 39 percent agreed that there needed to be improvements to pedestrian and bicycle access facilities at bus stops. Most respondents (36%) were neutral to the idea that there needed to be an increase in vehicle parking at bus stop areas.

Figure 3-28: Public Transit Bus Stop/Parking Priorities in Next 10 Years



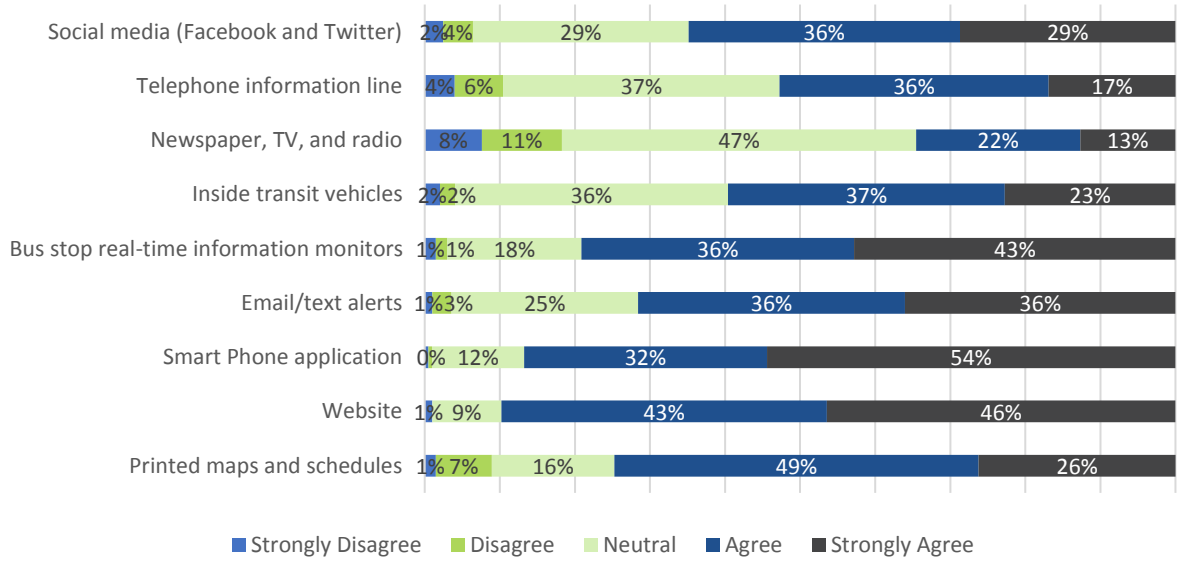
Regarding vehicle priorities in the next 10 years, almost half (49%) of respondents were neutral to having larger or higher-capacity public transit vehicles, which corresponds with 42 percent saying that they were neutral about having newer transit vehicles. Although most were neutral about vehicle size, 36 percent agreed that there should be Wi-Fi available on LakeXpress buses. Almost half strongly agreed that there should be real-time transit vehicle arrival and departure information available for mobile phone users.

Figure 3-29: Public Transit Vehicle Priorities in Next 10 Years



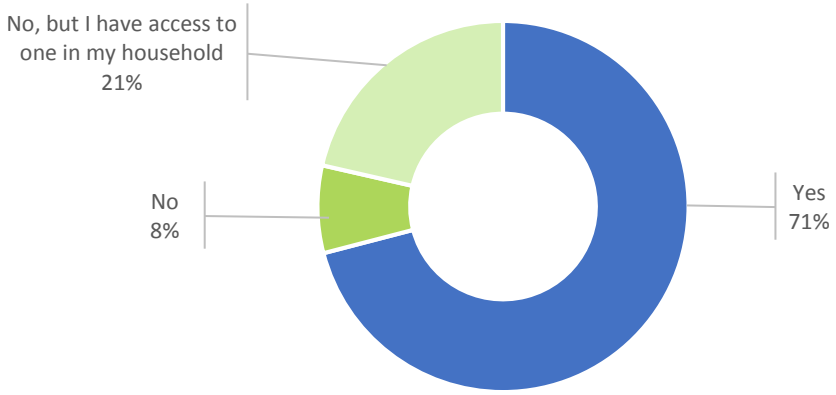
Respondents were asked to indicate their level of agreement regarding access to public transit information. The majority (54%) said they would like to get information via a mobile phone application, almost half (49%) said they would like to receive a printed map and schedule, 46 percent said they would like to get information from a website, 36 percent said they would like to receive email/text alerts, 43 percent said they would like to get information at the bus stop from real-time information monitors, and 37 percent said they would like get information from inside the bus.

Figure 3-30: Access to Public Transit Information



When asked about their access to a personal vehicle, 71 percent of respondents said that they had access to a personal vehicle, 21 percent said they did not, and 8 percent said they did not have a personal vehicle but had access to one in their household.

Figure 3-31: Access to a Vehicle



For socio-demographic characteristics of those taking the survey, 57 percent said they were female and 43 percent said male; 74 percent identified as White/Caucasian, 9 percent were Black/African American, 1 percent were Asian, 1 percent were American Indian/Alaska Native, 4 percent identified as other, and 11 percent did not respond; 81 percent did not identify as Hispanic/Latino, 8 percent did, and 11 percent did not respond. In total, 25 percent of respondents said they were age 46–55 and 0.5 percent were under age 16.

Figure 3-32: Respondent Gender

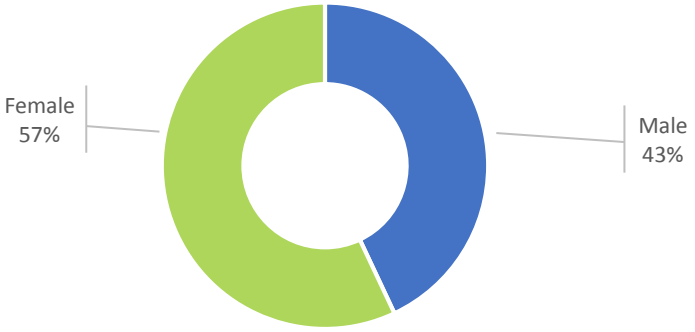


Figure 3-33: Respondent Race

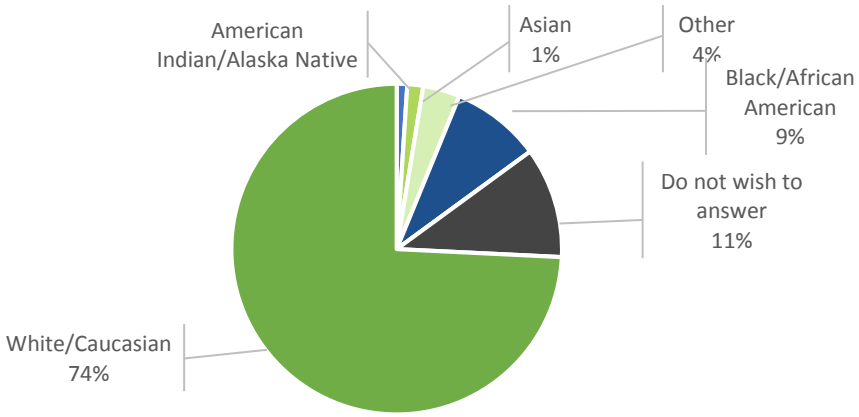


Figure 3-34: Respondent Identification as Hispanic/Latino

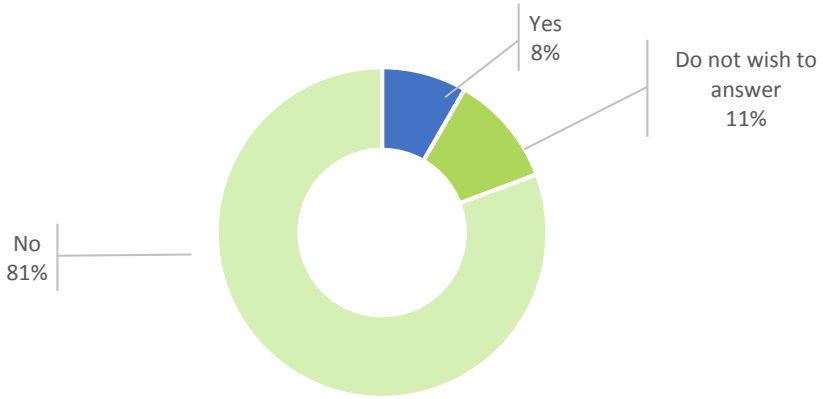
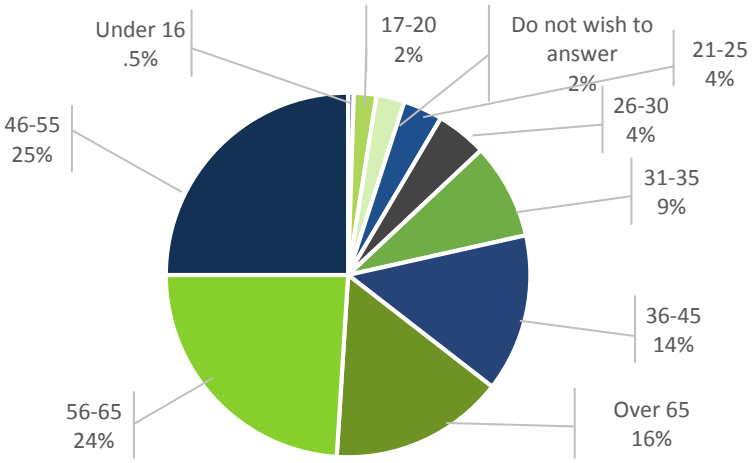


Figure 3-35: Respondent Age



Regarding respondent occupations, 29 percent reported working in a professional or office setting, 26 percent said they were retired, 6 percent were unemployed, and 4 percent were students. Regarding income, 16 percent reported having an income of $75,000 or more, and 10 percent reported an income of less than $10,000 per year.

Figure 3-36: Respondent Occupation

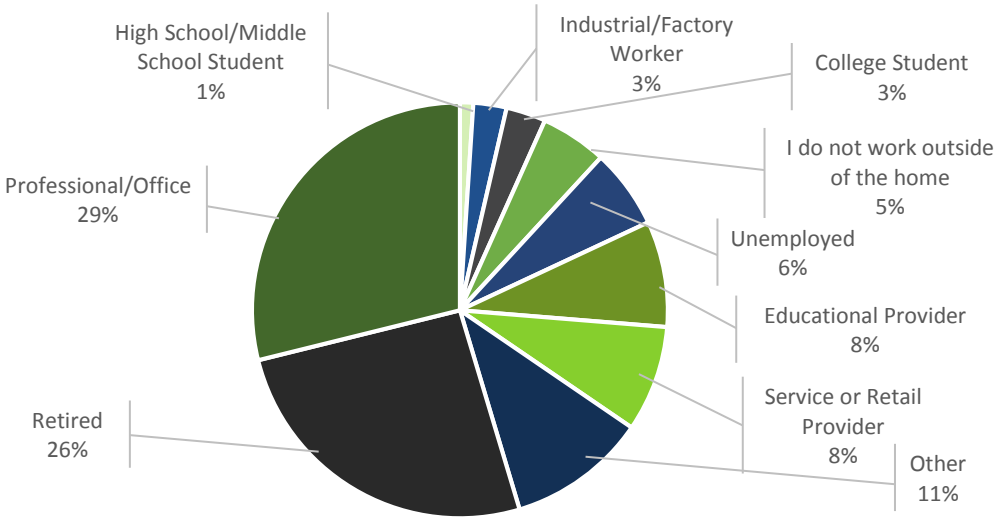
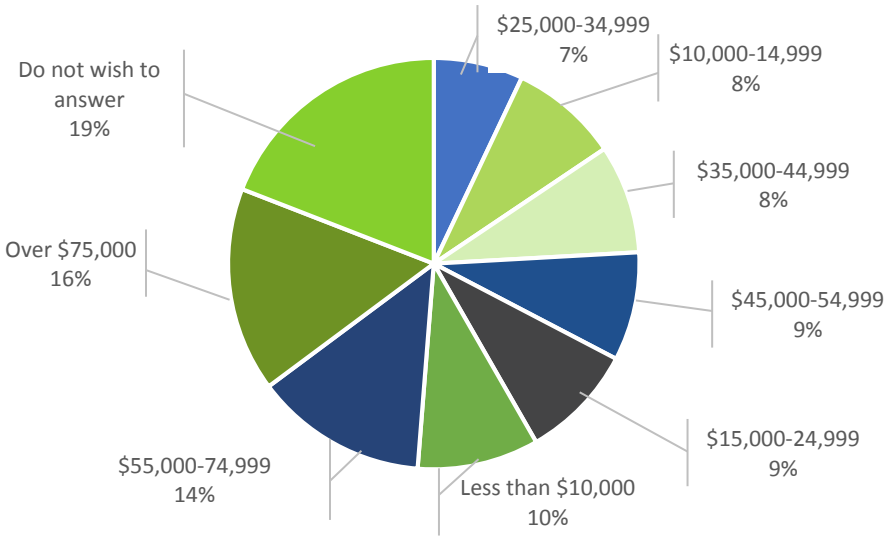


Figure 3-37: Respondent Personal Income



When asked about household size, an average of 2.5 people per household was reported. When asked about their home ZIP code, 18 percent lived in 32102, 10 percent in 32159, and the remainder in miscellaneous ZIP codes. When asked about their work ZIP code, 13 percent reported32159, 9 percent in 32702, and the rest miscellaneous ZIP codes.

Figure 3-38: Respondent Household Size

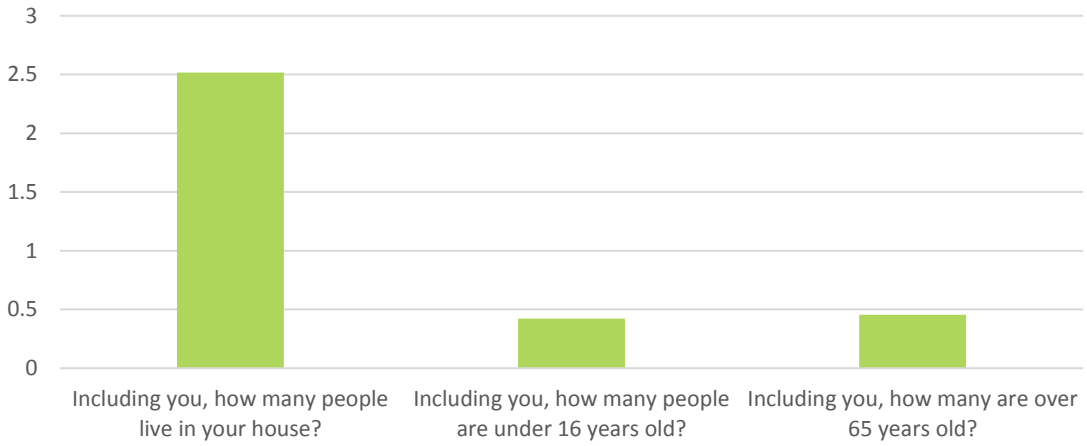


Figure 3-39: Respondent Home ZIP Code

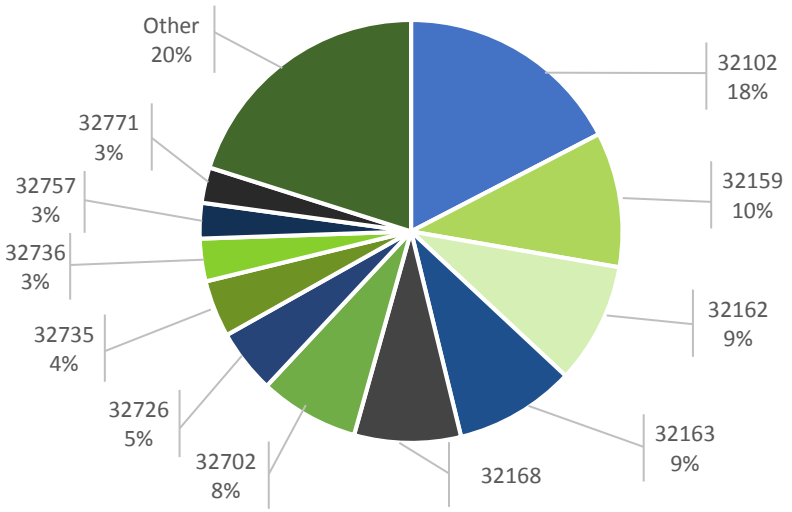
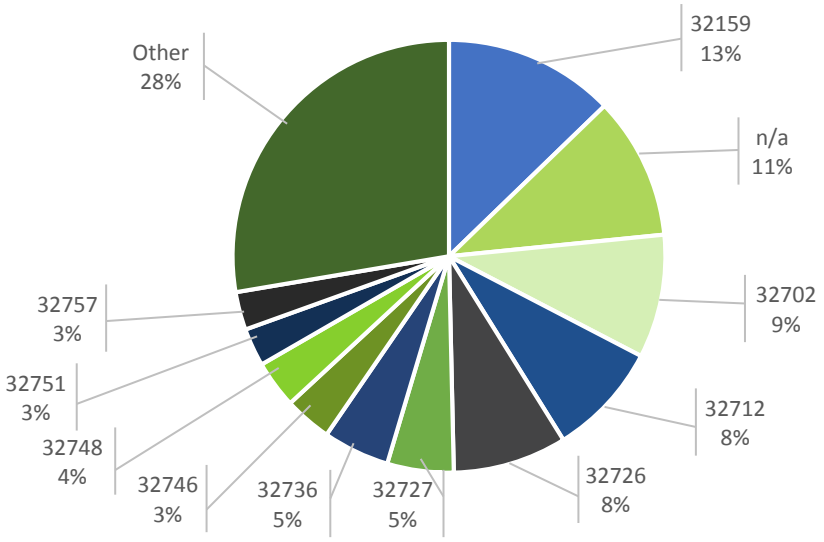


Figure 3-40: Respondent Work ZIP Code



Survey Demographic Summary

Table 3-4 compares the demographic information of respondents collected from both surveys to the demographic make-up of Lake County. The distribution of Male to Female respondents from both surveys is on par with the County distribution. For other characteristics, the majority of on-board survey respondents were Black/African American (46%), have a household income between $10,000 and $49,999 (56%), and do not have access to a vehicle (48%). The demographic distribution of online survey respondents is more in line with the county-wide demographics, with the majority of respondents being White (74%), have a household income of $50,000 or more, and only 8 percent do not have access to a vehicle.

Table 3-4: Summary of Survey Demographics

Characteristic	Lake County (2016)	On-board Survey	Online Public Survey
Gender			
Male	48%	48%	43%
Female	52%	52%	57%
Ethnic Origin			
White	84%	42%	74%
Black/African American	10%	46%	9%
Other	6%	4%	17%
Household Income			
Under $10,000	6%	39%	10%
$10,000 to $49,999	46%	56%	32%
$50,000 or more	47%	5%	39%
Vehicle Available in Household			
None	2%	48%	8%

Bus Operator Interviews/Surveys

Perspective of Passengers

Operators were asked to identify the most commonly-heard passenger complaints/needs and compliments. Weekend service, more shelters at bus stops, and express service from Leesburg to Clermont were mentioned frequently. Additional comments included connections to Marion County and buses not going where passengers wanted to go. Overall, operators believed that these complaints/needs are valid.

The most frequent compliments heard by drivers were that LakeXpress had nice/helpful drivers, the fare was very affordable, and overall thankfulness for the bus service.

Needed Improvements

From the perspective of operators, several potential improvements to the overall service were offered:

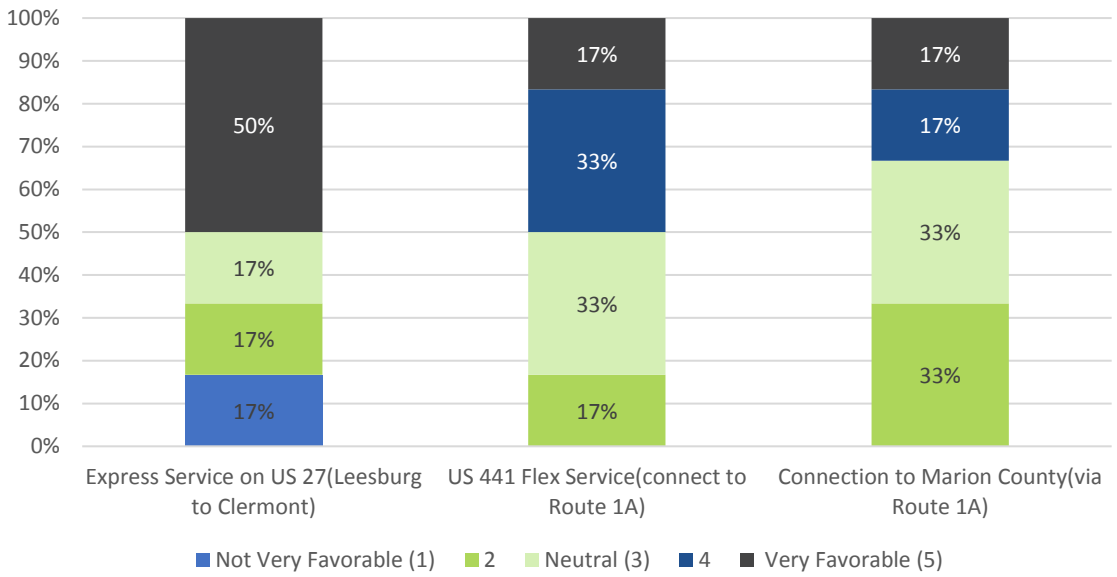
- Cut bus stops with low ridership
- Split up Route 4 so that one bus goes to Altoona and one goes to Zellwood so people do not have to wait for 2 hours
- Need better connection to Route 50 E/W
- Add more shelters and bus amenities (e.g., trash cans) to bus stops
- Add a bus stop to Kurt St and US-441
- Post bus rules so passengers are familiar with safety protocols
- Maintain bushes around bus stops so stops are more visible

Public Workshops

Two workshops were held on July 17, 2018 to gather input on potential alternative improvements and the implementation plan, one at the Leesburg Public Library and another at the Cooper Memorial Library in Clermont. Both locations are accessible by a LakeXpress route. A brief presentation was given to attendees about the TDP, and then they were asked to complete a survey to rank the proposed alternatives. Results from the surveys are summarized below.

Figure 3-41 shows that respondents favored Express Service on US 27 (Leesburg to Clermont) out of the three potential service expansions.

Figure 3-41: Potential New Transit Services



Between Real-time Bus Location Information and Wi-Fi on vehicles, respondents overwhelmingly preferred the former.

Figure 3-42: Technology Improvements

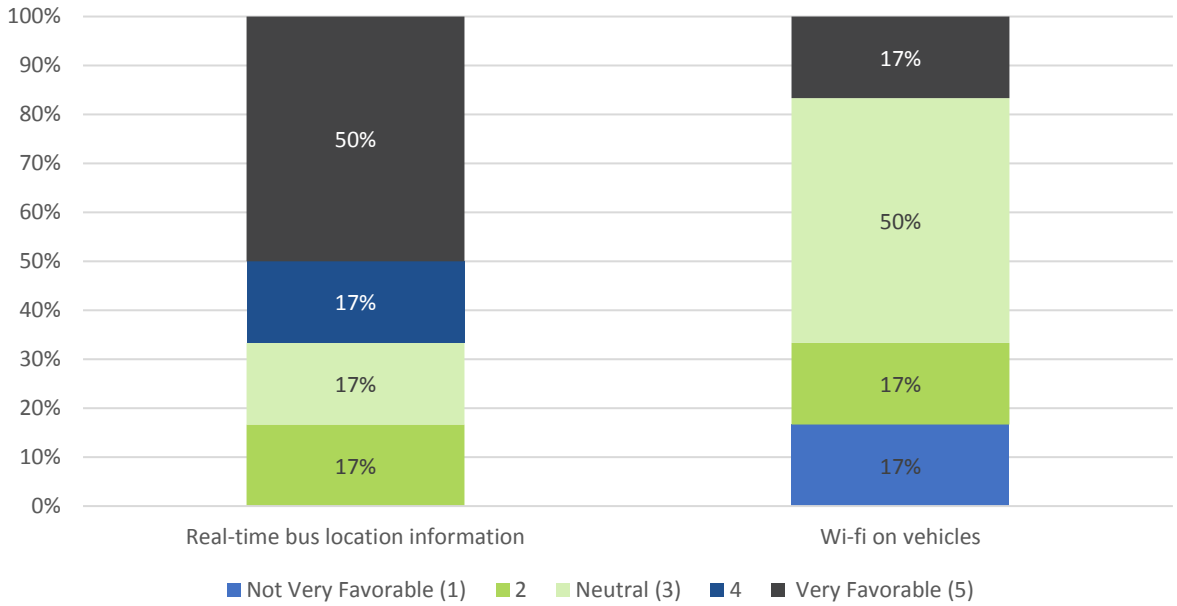
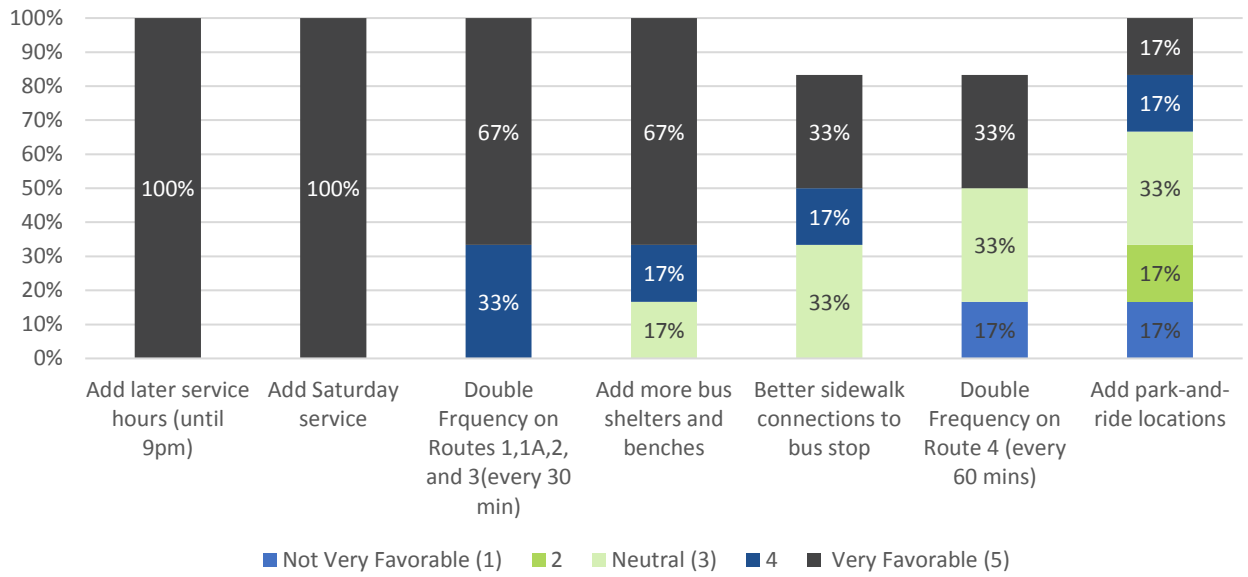


Figure 3-43 shows that the top three improvements to existing service are Adding Later Service Hours, Adding Saturday Service, and Doubling Frequency on Routes.

Figure 3-43: Improvements for Existing Service



SECTION 4 INVENTORY OF TRANSPORTATION SERVICES

Existing public transportation services in Lake County include both fixed-route and paratransit services contracted by the Lake County Board of County Commissioners, as well as several routes operated by adjacent-area providers LYNX and Sumter County Transit. This section includes an overview of public transportation services and facilities provided by LakeXpress, information on paratransit services provided by LakeXpress as the Community Transportation Coordinator (CTC) for Lake County, as well as other pertinent transportation services within Lake County. LakeXpress is the fixed-route bus system that is contracted to and provided by a private entity, and Lake County Connection is the paratransit service that is provided by RATP DEV. Both of these services are housed as part of the Lake County Transit Division.

Existing Transit Services

Fixed-Route Services

LakeXpress operates a total of 7 bus routes as part of its fixed-route network, some of which cross county lines in order to connect with transit systems of adjacent areas and others that connect with these transit systems within the borders of Lake County. LakeXpress' fixed-routes primarily serve the central areas of Lake County (i.e., bounded by Leesburg, Lady Lake, Umatilla, and Mount Dora) and two routes that provide east-west service along SR 50. Most routes operate between 6:00 AM and approximately 8:00 PM on weekdays. Headways run between 60 and 120 minutes on weekdays. Table 2-1, provided in a later subsection, shows characteristics of routes currently operated by LakeXpress.

Paratransit Services

Lake County Connection (LCC) is Lake County's complementary ADA, as well as its Transportation Disadvantaged (TD) public transportation service for qualified individuals. Door-to-door advance reservation service is provided by LCC throughout Lake County to persons who are unable to access fixed-route transit service because of a verifiable disability, age, income, environmental barrier, or distance from a route. As the provider for the county's TD Program, which primarily serves senior citizens and at-risk children who are mobility and developmentally impaired, service is also provided to those who do not receive services from a sponsoring agency (e.g. an agency that pays for transportation services for their clients, such as Medicaid).

Prior to utilizing the service, passengers must meet certain eligibility requirements as outlined in an application process that can be completed online, by phone, by mail, or in person, as well as have the application certified by a health care professional. Reservations for trips must be made at least 48 hours, or up to 14 days, in advance between 8:00 AM and 5:00 PM Monday through Friday for the service which

operates from 6:00 AM to 7:00 PM Monday through Friday; however, service is available 24/7 if prior arrangements are made, and Saturday trips can be accommodate for certain trip purposes.

LakeXpress Fixed-Route Service Profile

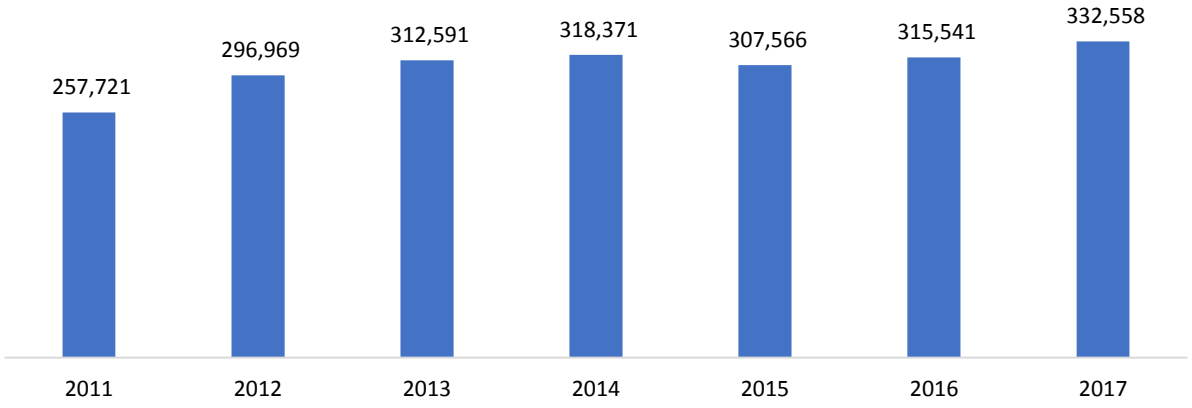
Table 4-1 summarizes the operating characteristics of LakeXpress' current fixed-route bus services. As shown below, the majority of routes operate at 60 minute frequencies and between the hours of 6:00 AM and approximately 8:00 PM. The daily totals of revenue hours and annual total of passenger trips (FY 2017) are also summarized. The performance of LakeXpress' fixed-route services is dominated by 3 routes that accounted for approximately 67 percent of the total fixed-route ridership in FY 2017, including Routes 1, 1A, and Route 2.

Table 4-1: LakeXpress Service Profile

Route #	Route Name	Service Frequency	Monday-Friday Service period	Weekday Revenue Hours	Passenger Trips 2017
1	Leesburg to Eustis	60 min	6:18 AM–7:50 PM	13.53	92,741
1A	The Villages to Leesburg	60 min	6:00 AM–7:45 PM	13.75	66,507
2	City of Leesburg	60 min	6:00 AM–6:50 PM	12.83	56,952
3	City of Mount Dora	60 min	6:38 AM–7:31 PM	12.88	31,505
4	Altoona to Zellwood	120 min	7:11 AM–7:11 PM	12.00	23,630
50 East	Clermont to Winter Garden	60 min	5:35 AM–8:35 PM	15.00	21,637
50 West	Mascotte to Clermont	60 min	5:00 AM–8:00 PM	15.00	30,329

A summary of the levels of ridership for LakeXpress' fixed-route services is provided in Figure 4-1. The most recent trend has been an increase in ridership after experiencing a slight decline in FY 2015. Since 2011, ridership has increased by approximately 29 percent.

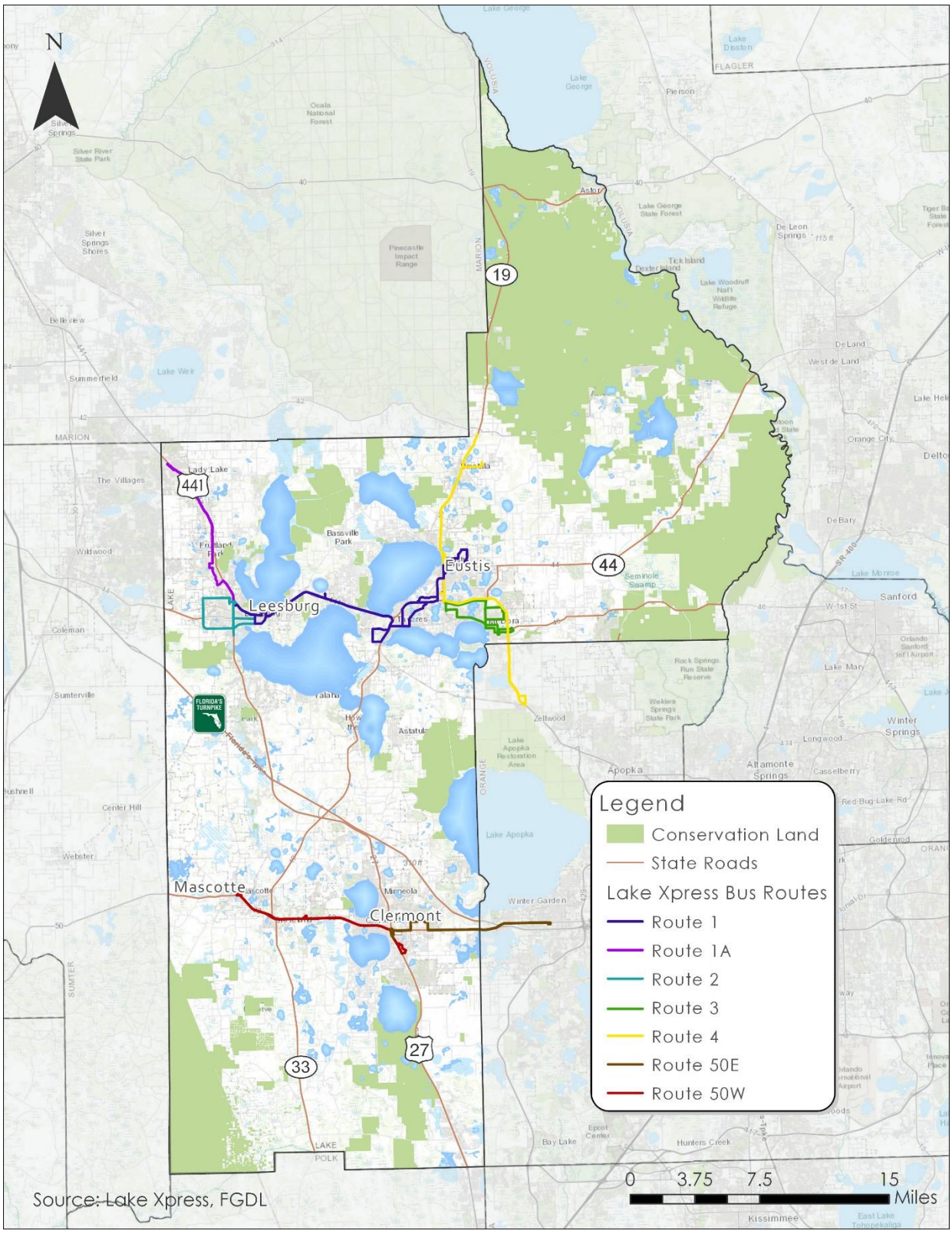
Figure 4-1: LakeXpress Fixed-Route Ridership, 2011-2017



System Map

The bus routes operated by LakeXpress are illustrated in Map 4-1.

Map 4-1: Existing LakeXpress Services – Lake County



Fares

The regular one-way cash fare on the LakeXpress System is $1.00, including one free transfer on a one-way trip, and 1-day, 10-ride, and 30-day passes are available, as shown in Table 4-2. Reduced fares are available at half-price for the following qualifying groups, all of which must present valid identification: seniors ages 60 and older, Medicare cardholders, recipients of Supplemental Security Income (SSI) or Social Security Disability (SSD) benefits, veterans with a valid DD214 card, and individuals with a disability. Finally, students with a valid school ID card or proof of enrollment and children under the age of 5 (when accompanies by a fare-paying chaperone) ride for free.

Table 4-2: Table 4-2: LakeXpress and Lake County Connection Fares

Fare Category	Regular	Reduced
One-Way Cash[1]	$1.00	$0.50
1-Day Pass	$3.00	$1.50
30-Day Pass	$30.00	$15.00
10-Ride Pass	$8.00	$4.00
Transfer Pass[2]	$0.00	$0.00
LCC: One-Way Paratransit–Lake County	$2.00	
LCC: One-Way Paratransit–Orlando[3]	$5.00	
LCC: One-Way Paratransit–Gainesville[4]	$10.00	

1- Students with a valid school ID card or proof of enrollment and children under the age of 5 (when accompanies by a fare-paying chaperone) ride for free.

2-One free transfer included per one-way trip.

3- Orlando service is provided for medical appointments only on Tuesday and Thursday. Arrives in Orlando at 10 a.m. and departs from Orlando at 2 p.m.

4- Gainesville service is provided for medical appointments only on Monday, Wednesday and Friday. Arrives in Gainesville at 10 a.m. and departs from Gainesville at 2 p.m.

Transit Facilities

LakeXpress maintains a number of facilities to accommodate the provision of its fixed-route and paratransit services in Lake County, as detailed below.

Administration and Maintenance Facility

RATP DEV, Lake County's third party operations and maintenance provider, leases a facility in Tavares, where all vehicles are stored and maintained. The maintenance and operations facility is located at 560 East Burleigh Boulevard.

Lake County Transit Division also has an administration office located at 2440 U.S. Highway 441 in Fruitland Park.

Transfer Areas

There are five designated transfer areas within the LakeXpress system that provide connections between its fixed-route services and those of neighboring area transit agency LYNX, which can be summarized as follows:

- Lake Technical College on Kurt Street in Eustis
  - Routes 1, 3, & 4
- US-27 and Citizens Boulevard in Leesburg
  - Routes 1, 1A, and 2
- Anthony House on Holly Street in Zellwood
  - Route 4 and LYNX Link 44
- Park-and-Ride on US-27 in Clermont
  - Routes 50 East and 50 West
- Winter Garden Regional Shopping Center on SR 50 in Winter Garden
  - Route 50 East and LYNX Link 105

Park-and-Rides

Two FDOT-owned and one shared-use park-and-ride lots are located within Lake County. The Clermont park-and-ride, located along US-27, approximately ½-mile south of SR 50, is currently served by LakeXpress Routes 50 East and 50 West, and has a capacity of 153 vehicles (6 handicapped spaces). The Minneola park-and-ride, also located along US-27, approximately 2 miles north of SR 50, is not currently served by any public transit routes, and has a capacity of 101 vehicles (8 handicapped spaces). The Mascotte park-and-ride is a shared-use lot, located at the Mascotte Civic Center on North Sunset Avenue, is currently served by LakeXpress Route 50 West, and has a capacity of 10 vehicles

Transit Vehicle Inventory

A summary of LakeXpress' transit vehicle inventory is provided in Appendix C.

Other Transportation Providers

Besides public transportation services, there are 17 privately-operated transportation providers, of which 12 are considered to be a contracted service provider, and a couple dozen of providers serving the general public.

Table 4-3 is a list of other transportation providers that serve the general public. All private transportation providers were contacted for general information, and social service providers were contacted for specific information about the services offered. Table 4-4 shows the table of social service providers.

Table 4-3: Privately-Operated/Contracted Service Providers, Lake County

Organizations	Type of Service	Address	Phone	CTC Contracted Operator?
Beacon College, Inc.	Campus/Airport	105 East Main Street, Leesburg	855-220-5374	Yes
Bridgeway Services	n/a	n/a	n/a	Yes
Brower, Joan	n/a	n/a	n/a	Yes
Building Blocks Ministries	Adult Disability Transportation	548 South US-27, Suites B & C, Minneola	352-536-9264	Yes
Central Florida Group Homes, LLC	Adult Disability Transportation	1890 State Road 436 #201 Winter Park	407-384-7424	Yes
Community Supports, Inc. dba Lakeview Terrace	Transportation for Residents	331 Raintree Drive, Altoona	800-343-1588	Yes
Gifts of Love	n/a	n/a	n/a	Yes
Great Expectations of Lake County Corporation	Elder Medical Transportation	36409 Via Marcia, Fruitland Park	352-314-0202	Yes
Kinsman Transportation, Inc.	Adult Disability Transportation	3718A Silver Star Road Orlando	407-296-5083	Yes
Life Care Services	n/a	n/a	n/a	Yes
Love Thy Neighbor	Elder Medical Transportation	2106 Butler St Leesburg	352-787-4997	Yes
Sunrise Arc, Inc.	Disability Transportation	35201 Radio Rd, Leesburg	352-787-3079	Yes
American Logistics	National Coordinated Transportation Service Provider	901 Calle Amanecer, Suite 260 San Clemente, CA	877-225-5672	
Godoy Transportation	n/a	n/a	n/a	
GT Transportation	n/a	n/a	n/a	
Palmetto Transport & Logistic	n/a	n/a	n/a	
Sunshine Shuttle & Charter Inc.	Airport Shuttle and Limo Service	323 Lynn Drive, Santa Rosa Beach	850-650-6333	

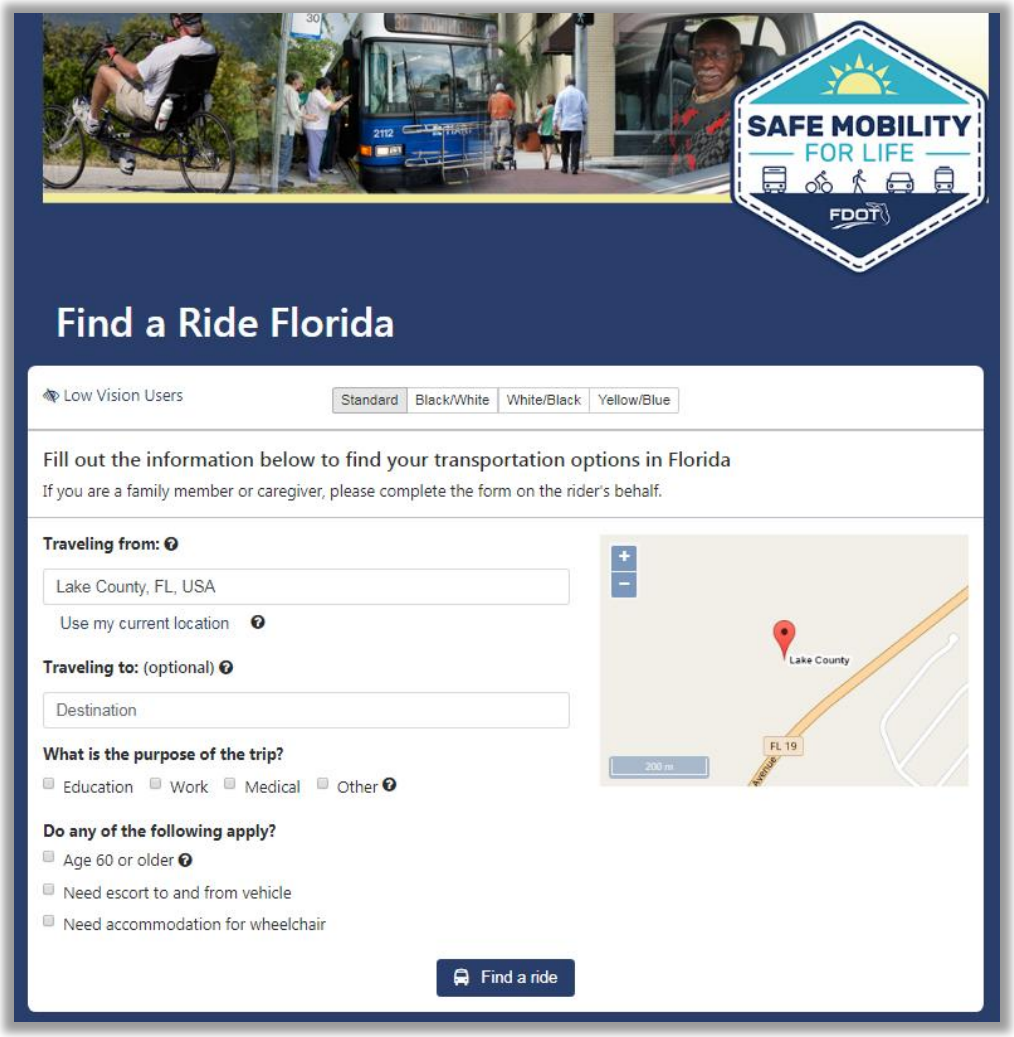
Table 4-4: General Public Transportation Providers, Lake County

Organizations	Phone	Type	Service Area	Service Availability	Fares	Fleet Size	Vehicle Types	Wheelchair Equipped?
Central Taxi	352-720-2255	Taxi Service	Mount Dora and Nearby	M–Su 5:00 AM–2:00 AM	$3.00 + $1.50/ mile	n/a	Sedans & Minivans	No
A-1 Taxi	352-728-8294	Taxi Service	Lake County	Su-Th 5:00 AM–10:00 PM, Fr-Sa 5:00 AM–2:00 AM	$2.00 + $2.00/ mile	n/a	Sedans & Minivans	No
Triangle Cab	352-589-4222	Taxi Service	Lake, Orange, and Seminole Counties	24/7	$3.00 + $1.50/ mile	n/a	Sedans	No
Eustis Taxi	352-669-6020	Taxi Service	Eustis and Nearby	n/a	$ n/a	n/a	Sedans	No
Eustis Taxi	352-357-3671	Taxi Service, Airport Shuttle, Medical Transportation	Eustis and Nearby	n/a	$3.00 + $1.50/ mile	n/a	Sedans & Minivans	No
Mr. Taxi	352-504-4053	Taxi Service, Airport Shuttle, Town Car Service, Medical Transportation	Lake County	M-Sa 5:00 AM–10:00 PM	n/a	n/a	Sedans & Vans	No
Charlie Wilson Taxi	352-308-4043	Taxi Service	Tavares and Nearby	24/7	n/a	n/a	Sedans	No
The Villages Transportation	352-847-0108	Taxi Service, Airport Shuttle, Group Bus Rentals	The Villages and Nearby Counties	M–Su 8:00 AM–5:00 PM	n/a	n/a	Buses	No
Clermont Yellow Cab	352-577-8294	Taxi Service, Airport Shuttle	Lake and Orange counties	M–Su 5:00 AM–11:45 PM	$2.50 + $2.50/ mile	n/a	Sedans & Vans	Yes
Mark's Taxi & Town Car Service	352-396-7337	Taxi Service, Airport Shuttle, Town Car Service	Lake County	M-Sa 8:00 AM–8:00 PM	n/a	n/a	Sedans	No

Online Resources

An additional resource to help improve the ease by which travelers can get around within Lake County and statewide, the State of Florida has recently launched a transportation provider clearinghouse that is searchable based on the location and nature of the traveler's trip. The website for this database is findarideflorida.org, and depicted in Figure 4-2.

Figure 4-2: Transportation Clearinghouse for the State of Florida



Ridehailing Services

Ridehailing services are growing their footprint in Lake County. Although neither the municipalities within Lake County nor the county itself are listed as official locations in which providers operate for the two most common providers (Uber and Lyft), there are drivers working throughout the county and in nearby cities and counties that serve passengers traveling to/from and within Lake County. Depending

on the service area fixed-route and other demand-response transit services, ridehailing services are, in some instances, direct competitors or substitutes for existing services such as those provided or coordinated by LakeXpress and LCC; however, there are other instances when ridehailing services are complements to existing services, filling spatial and temporal gaps as demand necessitates.

Adjacent County Transportation Services

LYNX Transit

Connections between LakeXpress' fixed-route services and neighboring area provider LYNX in Orange County exist at two locations. The first connection is between the LakeXpress Route 50 East and LYNX Link 105 at the Winter Garden Shopping Center on SR 50 in Winter Garden. LYNX Link 105 operates at 30-minute frequencies during weekdays. The other connection is between the LakeXpress Route 4 and LYNX Link 44 at the Anthony House on Holly Street in Zellwood. LYNX Link 44 operates at 60-minute frequencies during weekdays. Transferring to and from LakeXpress Route 4 to LYNX Link 44 and LakeXpress Route 50 East to LYNX Link 105, is free with a valid transfer pass.

Sumter County Transit

Sumter County Transit (SCT) provides paratransit service throughout Sumter County and also offers the option to schedule door-to-door trips outside of Sumter County to Leesburg and Gainesville. SCT's two shuttle routes do not currently serve any parts of Lake County because it is not within a ¾-mile of the shuttle routes. Additionally, SCT's door-to-door paratransit also serves The Villages area which includes parts of Sumter, Lake and Marion counties. Since there are parts of Sumter County that are included in the Lady Lake-The Villages urbanized area, SCT, LakeXpress, and SunTran in Marion County are all technically eligible to receive FTA Section 5307 funding to provide service in the urbanized area.

SECTION 5 EXISTING SERVICES EVALUATION

To assess how efficiently LakeXpress supplies fixed-route transit service and how effectively those services meet the needs of the area, a trend and peer analysis of critical performance indicators also is conducted and summarized to provide a starting point for understanding the existing system's level of performance. A trend analysis for the Lake County Connection paratransit service managed by LakeXpress also is provided. Together, these assessments provide a full picture of recent performance trends as well as insights into how LakeXpress performs when compared to peer systems.

LakeXpress Fixed-Route Trend Analysis

To assess how efficiently LakeXpress supplies fixed-route transit service and how effectively those services meet the needs of the area, a trend analysis of critical performance indicators and measures was conducted to examine the performance of its fixed-route services over a five-year period.

To complete this trend analysis, data from the Florida Transit Information System (FTIS) were used, which includes validated NTD data for 2013 through 2017 for transit agencies in Florida. Using the same measures, a peer system review analysis also was conducted and is summarized to compare various LakeXpress fixed-route performance characteristics to a group of transit peers using the most recent national transit data at the time of the analysis (2016 NTD data).

Analysis Indicators and Measures

Various performance measures were used to present the data that relate to overall system performance. Three categories of indicators and performance measures were analyzed for the trend and peer analysis of the existing transit service:

- **System Performance Indicators** – quantity of service supply, passenger and fare revenue generation, and resource input
- **Effectiveness Measures** – extent to which the service is effectively provided
- **Efficiency Measures** – extent to which cost efficiency is achieved

The trend analysis is organized by the type of measure or indicator and includes statistics, figures, and tables to illustrate LakeXpress' performance over the past five years. The analysis includes statistics that summarize selected system performance indicators, effectiveness, and efficiency measures for the five-year period. The findings of the trend analysis are presented by indicator in Table 5-1, and a summary of the results is provided at the conclusion of this section. Detailed figures for both the trend analysis and peer review analysis can be found in Appendix D.

Table 5-1: LakeXpress Fixed-Route Trend Analysis, 2013–2017

Indicator/Measure	2013	2014	2015	2016	2017	% Change (2013–2017)	Status[1]	Desired Trend[2]
General Indicators								
Passenger Trips	312,591	318,371	307,566	315,541	332,558	36.4%	▲	▲
Passenger Miles	2,095,697	2,139,453	2,078,485	2,094,737	2,162,788	3.2%	▲	▲
Vehicle Miles	437,361	439,148	439,591	587,672	639,297	46.2%	▲	▲
Revenue Miles	406,322	408,106	408,433	538,386	586,083	44.2%	▲	▲
Vehicle Hours	24,388	24,372	24,454	32,050	36,535	49.8%	▲	▲
Revenue Hours	23,210	23,195	23,272	30,345	33,843	45.8%	▲	▲
Route Miles	146	146	146	174	174	18.8%	▲	▲
Total Operating Expense	$2,188,413	$2,114,801	$2,390,543	$2,658,170	$2,875,132	31.4%	▲	▲
Vehicles Available for Maximum Service	14	n/a	n/a	15	15	-7.1%	▲	▲
Total Gallons Consumed	213,358	93,127	88,154	93,769	91,390	-57.2%	▼	▲
Effectiveness Measures								
Vehicle Miles per Capita	4.49	4.50	4.51	6.03	6.56	46.2%	▲	▲
Passenger Trips per Capita	3.21	3.27	3.15	3.24	3.41	6.4%	▲	▲
Passenger Trips per Revenue Mile	0.77	0.78	0.75	0.59	0.57	-26.2%	▼	▲
Passenger Trips per Vehicle Hour	12.82	13.06	12.58	9.85	9.10	-29.0%	▼	▲
Revenue Miles Between Failures	893.02	1,000.26	3,461.30	3,873.28	6,736.59	654.4%	▲	▲

Table 5-1: LakeXpress Fixed-Route Trend Analysis, 2013-2017 (*continued*)

Indicator/Measure	2013	2014	2015	2016	2017	% Change (2013–2017)	Status[1]	Desired Trend[2]
Efficiency Measures								
Operating Expense per Capita	$22.45	$21.69	$24.52	$27.26	$29.49	31.4%	▲	▼
Operating Expense per Passenger Trip	$7.00	$6.64	$7.77	$8.42	$8.65	23.5%	▲	▼
Operating Expense per Passenger Mile	$1.04	$0.99	$1.15	$1.27	$1.33	27.3%	▲	▼
Operating Expense per Revenue Mile	$5.39	$5.18	$5.85	$4.94	$4.91	-8.9%	▼	▼
Farebox Recovery (%)	6.97	6.75	6.20	5.79	5.45	-21.80%	▼	▲
Revenue Miles per Vehicle Mile	0.93	0.93	0.93	0.92	0.92	-1.3%	▼	▲
Revenue Miles per Total Vehicles	29,023.00	n/a	n/a	35,892.40	39,072.20	134.62%	▲	▲
Vehicle Miles Per Gallon	2.05	4.72	4.99	6.27	7.00	30.2%	-	▲
Average Fare	$0.49	$0.45	$0.48	$0.49	n/a	n/a	n/a	▲

Source: NTD FTIS & LakeXpress

[1] Status assigned only if trend is outside one standard deviation of trend average.

[2] Desired Trend for General Indicators based on expanding transit system.

Trend Analysis Summary

- **Service Supply** – Vehicle miles per capita (service supply) increased by approximately 46 percent since 2013, indicating that LakeXpress' services increased during the 5-year analysis period. This corresponded with mixed trends in levels of service consumption. Some of this decline in service productivity can be traced to the introduction of two new routes between FYs 2016 – 2017 (Routes 50 East and 50 West) because routes typically require some time to become established and productive alongside the rest of the system.
- **Service Consumption** – Passenger trips per capita increased approximately 6 percent over the 5-year period. However, passenger trips computed per revenue mile declined by approximately 26 percent, whereas passenger trips per vehicle hour declined by approximately 29 percent; indicating that LakeXpress is supplying more service but may have room for improved efficiency.
- **Quality of Service** – Not only did the number of vehicle system failures decline over the 5-year period, the revenue miles between failures increased by approximately 654 percent. This indicates that the system's service quality experienced a significant improvement during this period.
- **Cost Efficiency** – The majority of cost-related metrics increased for LakeXpress over the 5-year period, with one exception: the decline in operating expense per revenue mile (-8.9%). Additionally, declining vehicle miles per gallon and revenue miles per total vehicles are other metrics which LakeXpress improved performance in.

LakeXpress Fixed-Route Peer Review Analysis

In addition to the trend analysis presented previously, a peer system review was conducted to assess how LakeXpress compares to similar/peer transit agencies. The peer review analysis, when combined with the trend analysis of an overall transit performance evaluation, provides an excellent starting point for understanding the efficiency and effectiveness of a transit system.

The selection process for the peer system review is described first, followed by a presentation of highlights from the peer review analyses involving the same key performance indicators as used in the above trend analysis. Summary results are provided at the conclusion of this section.

Peer System Selection Methodology

A fixed-route peer system selection was conducted using 2016 NTD data available in the FTIS database. The 2016 data for all systems reported in NTD were then compared with 2016 data for LakeXpress. The pool of possible peers was assessed and subsequently scored through an objective assessment of nine standard variables, including the following:

- Geography (southeastern U.S.)
- Average speed (revenue miles/revenue hours)
- Passenger trips

- Revenue miles
- Service area population
- Service area population density
- Total operating expense
- Vehicles operated in maximum service
- Revenue hours

The peers were first selected based on geographic location (southeastern states), including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia. Fixed-route systems operating in these states were added to the pool of possible peers and were analyzed based on the eight remaining criteria. A potential peer received 1.0 points when one of the eight criteria was within 1 standard deviation of LakeXpress performance value. A peer received 0.5 points for each criterion that fell within 2 standard deviations of LakeXpress value. The initial set of peers selected using this methodology was presented to LakeXpress staff for review and revisions. Table 5-2 shows the final set of selected peer systems for the peer system review analysis.

Table 5-2: **Selected Peer Systems for LakeXpress Peer Review Analysis**

Agency Name	Abbreviation	Location
Wichita Falls Transit System	Falls Ride	Wichita Falls, TX
Albany Transit System	Albany	Albany, GA
Ocala/Marion County	SunTran	Ocala, FL
Bay County TPO	Bay	Pensacola, FL
St. Johns County BOCC	Sunshine	St. Augustine, FL

Peer Analysis

The results of the peer review analysis of LakeXpress' fixed-route bus service from 2012 through 2016 is provided in Table 5-3. It shows the findings by key indicators/measures in terms of their deviation above or below the peer group mean and a general assessment of the result. A summary of the overall results also is provided.

Table 5-3: LakeXpress Peer Review Analysis, 2016

Indicator/Measure	LakeXpress % from Mean	Assessment
General Indicators		
Passenger Trips	-33.14%	Can improve
Passenger Miles	-13.13%	Can improve
Vehicle Miles	4.24%	Good
Revenue Miles	-1.82%	Good
Vehicle Hours	-9.37%	Can improve
Revenue Hours	-9.38%	Can improve
Route Miles	18.11%	Good
Total Operating Expense	0.73%	Good
Vehicles Available for Maximum Service	20.00%	Good
Total Gallons Consumed	-26.43%	Good
Effectiveness Measures		
Vehicle Miles per Capita	-11.29%	Can improve
Passenger Trips per Capita	-37.11%	Can improve
Passenger Trips per Revenue Mile	-31.67%	Can improve
Passenger Trips per Vehicle Hour	-30.69%	Can improve
Revenue Miles Between Failures	-73.51%	Good
Efficiency Measures		
Operating Expense per Capita	-13.14%	Good
Operating Expense per Passenger Trip	48.90%	Can improve
Operating Expense per Passenger Mile	14.44%	Can improve
Operating Expense per Revenue Mile	-0.01%	Good
Farebox Recovery (%)	-60.64%	Can improve
Revenue Miles per Vehicle Mile	-3.75%	Good
Revenue Miles per Total Vehicles	-18.61%	Can improve
Vehicle Miles Per Gallon	36.92%	Good
Average Fare	-24.50%	Can improve

Source: NTD FTIS

Peer Analysis Summary

- **General Performance Indicators** – LakeXpress placed on both sides of the peer mean for the general performance measures, though on average about 8 percent lower. LakeXpress placed below the peer mean in terms of passenger trips, passenger miles, revenue miles, vehicle hours, revenue hours, and total gallons consumed, which indicate that the system generally serves fewer passengers, provides fewer hours of service, and a lower proportion of vehicle miles that are operated during revenue service hours. LakeXpress placed above the peer mean in terms of vehicle miles, route miles, total operating expense, and vehicles available for maximum service, which indicate that the system generally serves a larger service area.
- **Effectiveness Measures** – LakeXpress placed consistently below the peer mean for most effectiveness measures. The lower level of vehicle miles per capita, despite having a higher

number of vehicle miles and route miles, indicates that the supply of service is less than typically experienced in other similarly populated areas. The three service consumption measures were all between 30 and 38 percent below the peer mean, indicating that LakeXpress serves a less transit-dependent area, as well as fewer passengers onboard at a given time, suggesting there is room for improvement for ridership levels. However, LakeXpress places below the peer mean in a key quality of service measure, revenue miles between failures, indicating that it provides a reliable service.

- **Efficiency Measures** – The cost efficiency measures provide varying indications of areas of comparative strength and others needing improvement. For the operating expense per passenger trip and passenger mile, LakeXpress placed higher than the peer means by as little as 14 percent (per passenger mile) and as much as 49 percent (per passenger trip). However, while only 13 percent below the peer mean in terms of operating expenses per capita, LakeXpress' farebox recovery is approximately 61 percent below the peer mean, indicating that fares cover a comparably lower portion of operating expenses than the peer systems. This may be partially due to lower average fares, which are 25 percent lower in LakeXpress' system than the peer mean.

Lake County Connection

In addition to evaluating LakeXpress' fixed-route services, this TDP also includes evaluating the ADA and TD paratransit services provided by LakeXpress at this time, known as Lake County Connection (LCC). In addition to providing the complementary ADA paratransit services to eligible riders within its service area as required by a FTA grant recipient, LakeXpress also provides planning and coordination for the TD program in Lake County as the CTC. Therefore, the service provided as part of these programs was evaluated using the some of the same indicators and measures as used for the fixed-route service evaluation.

ADA Paratransit Service Trends

This section includes a review of selected indicators used to evaluate the LCC service from a system-level perspective that covers the last five years. Similar to the fixed-route trend analysis, data from the FTIS were used to complement information provided by the agency itself, and this evaluation also includes validated NTD data for 2013 through 2017.

Table 5-4 lists the measures used in the performance trend analysis conducted for LCC paratransit service, as well as the trend statistics for system-level performance. General indicators, effectiveness, and efficiency measures were included for the noted time period, and percent changes were calculated based on the change between FY 2013 and FY 2017. Figures depicting the five-year trend for each indicator/measure can be found in Appendix B.

Table 5-4: LCC Paratransit Performance Indicators/Measures

Indicator/Measure	2013	2014	2015	2016	2017	% Change (2013–2017)
Passenger Trips	153,540	142,635	130,373	103,422	192,736	-39.60%
Vehicle Miles	1,615,936	1,699,361	1,484,154	1,232,051	1,163,890	-27.97%
Revenue Miles	1,311,328	1,352,734	1,192,376	999,951	923,518	-29.57%
Vehicle Hours	99,859	99,750	85,881	70679	68,711	-31.19%
Revenue Hours	85,508	85,294	73,299	60515	57,255	-33.04%
Total Operating Expense ($)	3,812,475	3,768,080	3,411,404	2940838	3,589,450	-5.85%
Vehicles Available for Maximum Service	77	77	89	38	38	-50.65%
Vehicle Miles per Capita	16.57	17.43	15.22	12.64	11.94	-27.97%
Passenger Trips per Revenue Mile	0.12	0.11	0.11	0.10	0.10	3-14.24%
Passenger Trips per Vehicle Hour	1.54	1.43	1.52	1.46	1.35	5-12.22%
Passenger Trips per Revenue Hour	1.80	1.67	1.78	1.71	1.62	-9.80%
Operating Expense per Passenger Trip ($)	24.83	26.41	26.17	28.44	338.71	255.88%
Operating Expense per Passenger Mile ($)	2.91	2.79	2.86	2.94	32.91	387.05%
Operating Expense per Revenue Hour ($)	44.59	44.18	46.54	48.60	62.69	40.61%

Source: NTD FTIS & LakeXpress

Summary Results of Lake County Connection Trend Analysis

- According to NTD data, the number of passenger trips for the LCC service have decreased steadily since 2013 by approximately 40 percent.
- Additionally, the level of vehicle miles/hours and revenue miles/hours have also decreased over the same period; moreover, all four indicators have decreased by about a third of 2012 service levels. However, approximately a six percent decline was observed in total operating expense, suggesting that the declines in service provision have not been met with operating cost savings.
- Despite the noteworthy declines in service provision, service consumption, as measured by passenger trips per revenue mile, vehicle hour, or revenue hour have all decreased at lower rates,

between nine and fourteen percent over the five-year period. LCC has provided a smaller yet more efficient service in terms of delivery.

- However, despite declines in service provision and consumption, the minor declines in total operating cost have left LCC with significant increases in operating expense per passenger trip, passenger mile and revenue hour, suggesting that more efficient service delivery has not yielded commensurate cost savings.

SECTION 6 SITUATION APPRAISAL

The LakeXpress TDP is a strategic planning document that includes an appraisal of factors within and outside LakeXpress' service area that affect the provision of transit service. Florida Rule 14-73.001 notes that, at a minimum, the situation appraisal shall include: the effects of land use, state and local transportation plans, other governmental actions and policies, socioeconomic trends, organizational issues, and technology on the transit system. The following sections synthesize the previous efforts in the TDP and the plans review to develop an assessment of the full operating environment for LakeXpress. This assessment serves as the basis for the formulation of LakeXpress' service needs and future goals and objectives.

Review of Plans and Studies

A supportive component of the TDP Update is a review of recent transit policies and programs. Ranging from the local to federal level, there are various organizations that conduct studies to yield useful plans to address local and regional transit concerns that have an impact on LakeXpress. This section reviews transit policies at the federal level and relevant statewide and local planning activities conducted by FDOT, Lake County, local municipalities, and the Lake Sumter MPO. Various transportation planning and programming documents are summarized, with an emphasis on projects and issues that may have implications for public transportation in Lake County.

The following local and regional plans were reviewed to understand current transit policies and plans with potential implications for LakeXpress' services and to help the TDP become a plan that will guide local transportation decision-making:

Local Plans and Programs

- Lake County Comprehensive Plan
- City of Eustis 2035 Comprehensive Plan
- Eustis Downtown Master Plan
- Clermont Comprehensive Plan
- City of Clermont Downtown & Waterfront Master Plan "Enhance, Connect, Grow"
- Leesburg Growth Management Plan
- Groveland 2025 Comprehensive Plan
- Mount Dora 2032 Comprehensive Plan
- Tavares Comprehensive Plan
- Downtown Tavares Redevelopment Master Plan
- Umatilla Comprehensive Plan
- 2017 LakeXpress TDP Annual Progress Report
- 2013 LakeXpress TDP Major Update
- Lake County Transportation Disadvantaged Service Plan (TDSP)
- Lake County ADA Transition Plan

Regional Plans and Programs

- 2040 Lake-Sumter LRTP
- MetroPlan Orlando LRTP
- East Central Florida 2060 Strategic Policy Plan
- 2017 SunTran TDP Major Update
- Transportation Improvement Program (TIP)
- Unified Planning and Work Program
- List of Unfunded Priority Projects

Federal and State Plans and Programs

- Fixing America's Surface Transportation (FAST) ACT
- Florida Transportation Plan: Horizon 2060 (FTP)
- State of Florida Transportation Disadvantaged 5-Year/20-Year Plan

Table 6-1: Legend

ADA	American Disabilities Act
CP	Comprehensive Plan
FCTD	Florida Commission for the Transportation Disadvantaged
FDOT	Florida Department of Transportation
FTP	Florida Transportation Plan
LRTP	Long Range Transportation Plan
MPO	Metropolitan Planning Organization
TDSP	Transportation Disadvantaged Service Plan
USDOT	United States Department of Transportation

Table 6-2: Local Plans & Programs

Plan/Program/ Study Reviewed	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
Lake County Comprehensive Plan	Lake County	2011	CP	Lake County	The comprehensive plan addresses land use, housing, transportation, economic growth, conservation, parks and recreation, capital improvements, public facilities, storm water management, schools, and intergovernmental coordination, among others for the county.	• The plan expresses the intent to create transit-supportive zones, and corridors, explicitly to support fixed-route services as identified in LakeXpress' TDPs. • Additionally, the plan promotes establishing employer-subsidized travel demand management (TDM) programs, marketing transit to reduce emissions, enabling transit to connect neighborhoods, and constructing park-and-rides, shelters, and bus turn-outs on current transit corridors and future transit-supportive zones. • The goals of encouraging regional transit connections, locating future services near large parking areas, improving connectivity with other travel modes, as well as prioritizing transit solutions to constrained corridors over road-widening capacity projects also are established. • Transit service is recommended for future land use (FLU) designations of urban low-density through urban high-density, regional office, and regional commercial uses. Additionally, the plan identifies a goal for the County to develop a set of transit-oriented design (TOD) guidelines to ensure land use and roadway compatibility is achieved in these FLU designations, as well as other Planned Unit Developments. • The 2017 Evaluation and Appraisal Report removes the requirement to use only professionally accepted techniques for measuring level of service (LOS) for transit service, as well as removes the concurrency provisions that previously applied to transit in urban infill and redevelopment areas.
City of Eustis 2035 Comprehensive Plan	City of Eustis	2015	CP	City of Eustis	The comprehensive plan addresses land use, capital improvements, conservation, economic development, housing, infrastructure, intergovernmental coordination, public schools, recreation, and transportation, among others for the city.	• The plan encourages development patterns that are supportive of transit and pedestrians via a grid network in urban areas that facilitate linkages to civic buildings, squares, parks and other neighborhood uses. Furthermore, the plan establishes that minimum residential and non-residential (e.g., employment) densities in any urban area should be set at levels supportive of transit. Together, land use patterns that are supportive of transit, and the establishment of mixed-use districts and parking reduction programs should help support the construction of a reliable grid network in urban areas that incorporate transit. • The plan describes the City's intent to implement new policies within the land development regulations (LDR) that are in line with the aims of Complete Streets, in order to include travelers of all modes. • It is identified that the City will work with the MPO and LakeXpress to implement the regional transit improvements identified in the 2035 LRTP, as well as to continue to provide demand-response transit for transportation disadvantaged (TD) populations. • Newly developed neighborhoods should be connected via transit to avoid dependence on principal arterial systems. The City intends to work with LakeXpress to identify locations for bus stops, as well as infrastructure and facility design standards for incorporating transit operations. • TDM programs including transit are supported as a means toward reducing vehicle miles travelled (VMT) and congestion. The City intends to work with LakeXpress to improve service frequency and span as a TDM strategy. • The City intends to promote multimodalism and future planning efforts that aim to increase the connectivity of alternative travel mode facilities. Additionally, the City intends to develop measures to monitor the LOS for each multimodal mode.

Eustis Downtown Master Plan	City of Eustis	2008	Downtown Plan	City of Eustis	The citizen-driven master plan attempt to rebuild the pre-existing community leveraging new market opportunities, natural amenities, good urban transportation, and appropriate land use and urban design principles.	• The plan identifies the following areas in need of improved mobility for pedestrian, bicycle, vehicular and transit circulation within the downtown area:
						  ◦ Bates Avenue connection between Grove Street and Prescott Street
						  ◦ McDonald Avenue connection between Grove Street and Eustis Street
						  ◦ Two-way conversion of Magnolia Avenue and Eustis Street
						  ◦ Pedestrian streetscape improvements for Magnolia Avenue and Eustis Street
						  ◦ Traffic calming on Bay Street and Grove Street to provide safe pedestrian and bicycle accommodations
						  ◦ Downtown way finding system for pedestrian and vehicular circulation
						  ◦ The re-imagining of the waterfront area along the Lake Walk includes plans for converting the Eustis Main Street Building to a future transit station.

Table 6-2: Local Plans & Programs (continued)

Plan/Program/ Study Reviewed	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
Clermont Comprehensive Plan	City of Clermont	2009	CP	City of Clermont	The comprehensive plan addresses land use, housing, transportation, sewer and sanitation, storm water, potable water, aquifer recharge, conservation, recreation and open space, capital improvements, schools, and intergovernmental coordination, among others for the city.	• The City notes that new LDRs have been updated that require new and infill development to prioritize connections with transit facilities. • Additionally, the City expresses interest in coordinating with LakeXpress to provide a circulator service within the City that connects to existing transit services. Park-and-rides and shelters also are being considered to improve the transit-supportive nature of the community.
City of Clermont Downtown & Waterfront Master Plan "Enhance, Connect, Grow"	City of Clermont	2015	Downtown Plan	City of Clermont	A master plan that is intended to serve as a blueprint for the City's future during the next five, ten, and twenty year horizons. As a result of community visioning sessions and working with city planning staff, a plan to guide the central downtown and waterfront district is provided.	• Focused the western part of the City of Clermont, the plan identifies key downtown and waterfront areas south of Lake Minneola to be prime locations for recreational and commercial improvements, as well as reinvestment which largely coincide with the Clermont CRA boundaries.
City of Leesburg Comprehensive Plan	City of Leesburg	2003	CP	City of Leesburg	The growth management plan is designed to serve as the City's comprehensive plan with the goal of furthering coordination between Federal, State, and local governments by establishing policies and procedures for cooperation among these agencies for both plan preparation and implementation.	• The plan identifies the goal for the City to coordinate with governmental agencies and jurisdictions to aid in meeting the goals, objectives, and policies of the City and those of other entities regarding transportation planning.
Groveland 2025 Comprehensive Plan	City of Groveland	2010	CP	City of Groveland	The comprehensive plan addresses land use, transportation, housing, public facilities, conservation, recreation and open space, intergovernmental coordination, capital improvements, public schools, public participation, and concurrency management, among others for the city.	• The plan acknowledges that the City is looking to establish a public transit system to improve mobility for commuters, low income and elderly populations, and the transportation disadvantaged. A new fixed-route transit service could provide residents and visitors with a connection to the major urban areas in Lake and Orange counties. • The City supports the MPO's idea of extending transit service from Clermont to Groveland via a circulator service. • In anticipation of a future transit service, the City outlines requirements for future development projects to consider potential transit connections with other neighborhoods and with other non-automobile travel modes.
Mount Dora 2032 Comprehensive Plan	City of Mount Dora	2013	CP	City of Mount Dora	The comprehensive plan addresses land use, housing, transportation, infrastructure, conservation, recreation and open space, intergovernmental coordination, and capital improvements, among others for the city.	• The City notes that employment centers should be located on collector and arterial roadways that have convenient access to existing and potential future LakeXpress transit services. • The plan also reserves the possibility of using the old rail/Old US 441 corridor for future regional or local rail transit along with a well-designed shared-use path that would link Downtown with other areas of the region.
Tavares Comprehensive Plan	City of Tavares	2001	CP	City of Tavares	The comprehensive plan addresses land use, housing, transportation, public facilities, conservation, intergovernmental coordination, capital improvements, and concurrency management, among others for the city.	• The City intends to encourage new commercial developments, which are expected to contribute significantly to peak traffic volumes, and therefore has indicated support for existing and future transit service alternatives. • In the effort to reduce emissions from automobile travel, the City seeks to support the provision of transit service along major arterials.
Downtown Tavares Redevelopment Master Plan	City of Tavares	2017	Downtown Plan	City of Tavares	The Downtown Master plan centers on the CRA in Tavares and examines how the lakefront and adjacent historical areas can be revitalized into a regional leisure destination, as well as a regional multimodal hub.	• The plan identifies the improvement of transit service frequencies as a key first step in facilitating more compact development patterns in the downtown and waterfront areas. • The plan also outlines the need to conduct a study to determine where a transit/commuter rail station (i.e., Central Florida Commuter Rail Transit) could be located within Tavares to establish the City into a regional multimodal center. • TOD is promoted along the waterfront, along with generally increased land use densities, and amid the historic districts of the City. • Main Street, Alfred Street, and Ruby Street are identified as key corridors for streetscape improvements and to receive transit service.

Table 6-2: Local Plans & Programs (continued)

Plan/Program/ Study Reviewed	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
Umatilla Comprehensive Plan	City of Umatilla	2014	CP	City of Umatilla	The comprehensive plan addresses land use, housing, transportation, public facilities, conservation, recreation and open space, capital improvements, airports, concurrency management, and intergovernmental coordination, among others for the city.	• The City is committed to maintaining a high level of service for transit that operates within the City so that its land use and other quality of life goals can be achieved. • The SR 19 corridor was previously designated as a Multimodal Corridor by the MPO and the City supports this designation including that it may be willing to prioritize transit projects if they arise. Additionally, language in the LDRs has been added to ensure the accessibility of these corridors and new developments to transit services along SR 19 or nearby. • Finally, the City intends to coordinate future transit improvements with the Umatilla Municipal Airport and local railroad to increase connectivity of travel modes.
2017 LakeXpress TDP Annual Progress Report	Lake County	2017	TDP Annual Update	LakeXpress	Annual progress update for policies, objectives, projects outlined in 2013 TDP.	• Includes analysis of accomplishments for period and update to financial plan. • Major accomplishments include the restructuring of Routes 1 and 3 by adding Route 1A and restructuring Routes 2 and 3, and adding service along SR 50 with the new Route 50.
2013 LakeXpress TDP Major Update	Lake County	2013	TDP	LakeXpress	Strategic assessment and planning document for LakeXpress transit service.	• Outlines status and performance of system and needs as of 2013. • Operational priorities include restructuring routes, adding service along key corridors (SR 50), adding weekend service on all routes, adding evening service on all routes, adding a circulator service between Clermont and Minneola, and improving frequency on all existing and new routes.
Lake County TDSP	Lake County	2017	TDSP	Lake-Sumter MPO, Lake County CTC	The TDSP is an annually updated plan that addresses the provision and development of paratransit services in the county, revisits the cost/revenue allocation and rate structure, as well as the quality assurance component for riders.	• Progress is reported on a number of goals and objectives established in the previous major update, the rate structure is updated based on costs from the prior year, as well as highlights from the quarterly evaluation of the Community Transportation Coordinator (CTC).
Lake County ADA Transition Plan	Lake County	2012	ADA	Lake-Sumter MPO	The purpose of this effort is to perform the evaluation of the existing bus stop sites to ensure that they meet ADA guidelines and also will appropriately support the operational efficiency and safety of the system and its use by patrons. The intent of the assessment field work for the bus stops is to identify any design and/or accessibility issues, especially as it relates to the ADA, which must be addressed at each bus stop.	• The plan summarizes an evaluation of bus stop infrastructure as it relates to boarding and alighting areas, connecting walkways, curb ramps, slopes and surface conditions, accessible clearances, protruding objects, shelters and other amenities at bus stops, as well as bus stop signage, and subsequently provides recommendations for the remediation of any ADA deficiencies discovered. • A variety of areas of improvement are identified to make bus stops more accessible and compliant including the need to move bus stops to the front of buildings from the sides, ensure the proximity of crossing areas, as well as avoid conflicts with driveways near boarding areas.

Table 6-3: Regional Plans & Programs

Plan/Program/ Study Reviewed	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
2040 Lake-Sumter LRTP	Lake and Sumter Counties	2015	LRTP	Lake-Sumter MPO	A major update to the LRTP that includes the county's 20-year vision of transportation projects for the community.	• The plan emphasizes a multimodal outcome that includes roadways, transit, non-motorized transportation, and connections between these modes, as well as management and operation and preservation of the existing system. As part of this, the MPO expresses the intent to continue promoting the goal of migrating away from roadway capacity improvements and to promote the migration toward transit improvements along arterial corridors. • As part of this, the MPO supports LakeXpress' vision of maturing from a local to a small urban area transit provider and states that it will facilitate regional coordination where helpful, as requested in the prior TDP. • Specifically, the MPO highlights and integrates the following priorities from the prior TDP: adding weekend service, expanding service span, increasing frequency, expanding service along SR 50 into Orange County, and connecting transit service with other multimodal networks.
MetroPlan Orlando LRTP	Orange County	2014	LRTP	MetroPlan Orlando	A major update to the LRTP that includes the county's 20-year vision of transportation projects for the community.	• Among the 22 corridors examined in the transit element as part of determining where transit improvements and additions can be made, the US-192 corridor from Lake County to St. Cloud was included. Specifically, the corridor was divided into four segments and evaluated for either BRT or local bus service and the corridors segments along US-192 include: Lake County to World Drive, World Drive to Osceola Square Mall, Osceola Square Mall to Orange Blossom Trail, and Orange Blossom Trail to Florida Avenue. The segments were analyzed on their dwelling unit and employee densities, current transit ridership, adjacent land uses, and activity centers. • Additionally, the US-441 corridor was examined more closely following a prior study to review how to improve transit options from Eustis, Mount Dora, and Tavares to Downtown Orlando (of which the final recommendation was Enhanced Express Bus from Apopka to Downtown Orlando).
East Central Florida 2060 Strategic Policy Plan	Brevard, Lake, Orange, Osceola, Seminole, Sumter, and Volusia Counties	2014	Regional CP	East Central Florida Regional Planning Council	The plan identifies a set of goals, objectives, and policies based on the trends and aspirations of the region. The plan cites a variety of case studies from communities around the country as examples for best practices in achieving the established goals.	• The priority of supporting TOD areas in order to reduce roadway congestion and delays was noted as a priority to improve the region's economic competitiveness. • Additionally, the need to concentrate transit service near major activity centers and locations where there is a high number of affordable housing units, as well as identify and designate priority transit corridors are outlined in the community design element of the policy plan. • The transportation element identifies transit as playing a key role in reducing VMT, and encourages minimum development densities along with the identification of transit corridors, in a map, to help organize planning efforts considering future transit service. • In the public engagement activities conducted for the plan, participants more often identified corridors that should receive more transit service and not new or expanded roadways. By 2050, residents expressed that there is interest in pursuing rail transit (i.e., commuter rail, light rail, and streetcar).
SunTran TDP Major Update	Marion County	2017	TDP	SunTran	A major update to the TDP that serves as the guide for the bus network centered about the City of Ocala. The plan explores expanding the services provided within the county to include Flex-style services, downtown circulators, as well as regional express services, the latter of which recommends coordination occur with LakeXpress to determine potential service connections and alignments.	• The TDP recommended a new express service (2-hour headways from 8:00 AM to 8:00 PM, Monday through Friday) be implemented to connect The Villages, Lake County, as well as Belleview, with Downtown Ocala via US 441. • The TDP notes that current and future land use densities are increasing in the southern part of the county adjacent to Lake County where The Villages community is located. Additionally the TDP recognizes that Lake County is the second most travelled to county outside of Marion County for commuters, after Orange County. However, a smaller proportion of Lake County's population commutes to Marion County. • Public input surveys did not prioritize Lake County as currently in need of transit service, except for residents of The Villages, already close to the county border.
TIP	Lake and Sumter Counties	2017	TIP	Lake-Sumter MPO	An annual update to the county's Transportation Improvement Program that identifies funding allocations for various transportation, transit, pedestrian, and bicycle projects in the MPO area that are in various phases of completion.	• With regard to transit, there are funding allocations for continued support of fixed-route and paratransit operating costs, as well as capital purchases for buses as part of the scheduled bus replacement program. • While there are no transit-specific facilities or road construction projects, many of the roadways that are soon reaching the construction phases or are still in the PD&E phase are corridors currently used by fixed-route transit services and it is therefore worth revisiting this list once potential service alternatives have been identified as part of the TDP in order to determine where possible opportunities to better accommodate transit exist.

Table 6-3: Regional Plans & Programs (continued)

Plan/Program/ Study Reviewed	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
Unified Planning and Work Program	Lake and Sumter Counties	2017	UPWP	Lake-Sumter MPO	The plan has been prepared to define the tasks and anticipated funding requirements as part of the two-year work program for the MPO. This document serves to define activities for all public officials and agencies that contribute resources to the transportation planning process. The plan also provides a description of planning tasks and an estimated budget for each.	• The plan outlines the overarching goal of needing to consider transit-oriented development, exclusive bus lanes, bus rapid transit, transit expansion, new starts alternatives and other transit options when planning for transportation system enhancements as part of the work program. • Additionally, the plan outlines the need to consults FDOT's new complete streets policies to aid in the growth of transit and other multimodal networks.
List of Unfunded Priority Projects	Lake and Sumter Counties	2017	Priority Projects	Lake-Sumter MPO	The LOPP represents those projects that have not yet been programmed, but are considered high priorities by the MPO.	• The list of priorities includes various lane widening projects, and other sidewalk, shoulder, resurfacing projects in the construction phase. • Additionally some mixed-use and multi-use trails are included (Wekiva, North Lake, and South Lake trails) in the ROW phase, along with studies for potential Complete Streets design and planning studies along US-27, old US-441, SR 19 in Umatilla and Eustis, East Avenue, US-301, SR 471, and SR 50.

Table 6-4: Federal and State Plans & Programs

Plan/Program/ Study Reviewed	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
Fixing America's Surface Transportation (FAST) Act	USA	2015	Federal Act	USDOT	Enacts five years of funding for nation's surface transportation infrastructure, including transit systems and rail transportation network. Provides long-term certainty and more flexibility for states and local governments, streamlines project approval processes, and maintains strong commitment to safety.	• Increases dedicated bus funding by 89% over the life of bill. • Provides stable formula funding and competitive grant program to address bus and bus facility needs. • Reforms public transportation procurement to make federal investment more cost effective and competitive. • Consolidates and refocuses transit research activities to increase efficiency and accountability. • Establishes pilot program for communities to expand transit through use of public-private partnerships. • Provides flexibility for recipients to use federal funds to meet their state of good repair needs. • Provides for coordination of public transportation services with other federally-assisted transportation services to aid in mobility of older adults and individuals with disabilities.
FTP: Horizon 2060	Florida	2015	State	FDOT	Requires, as part of Florida Statutes, pursuit to make Florida's economy more competitive, communities more livable. Looks at 50-year transportation planning horizon, calls for fundamental change in how and where state investments in transportation made.	• Supports development of state, regional, and local transit services through series of related goals and objectives, emphasizing new and innovative approaches by all modes to meet needs today and in future.
State of Florida Transportation Disadvantaged 5-Year/20-Year Plan	Florida	2007	State	FCTD	Accomplish cost-effective, efficient, unduplicated, and cohesive TD services within its respective service area.	• Develop and field-test model community transportation system for TD persons; create strategy for Florida CTD to support development of universal transportation system.

Situation Appraisal

A primary part of a TDP major update is an appraisal of the operating environment so the transit agency can develop an understanding of the transit context for Lake County. This context includes several specific elements through which LakeXpress will be assessed. This assessment will leverage input gathered from a review of relevant plans, studies, and programs; the results of technical evaluations of LakeXpress service; as well as the elements in the following sections.

Socioeconomic Trends

To better assess the impact of the growth in population on public transportation needs, it is important to understand the trends and markets that could be impacted by or may benefit from public transportation services. Key findings from an assessment of socioeconomic and development trends are summarized as follows:

- Lake County has experienced significant population and employment growth since 2000 and is projected to experience continued population growth at a rate of more than 27 percent by 2025, and of more than 51 percent by 2045.
- Compared to Florida as a whole, Lake County has a smaller proportion of persons ages 15–64 and a higher proportion of persons age 56 and older. The population distribution within Lake County has remained relatively unchanged since 2000.
- The fastest growing municipalities in terms of percent change since 2010 in Lake County include Fruitland Park (78.8%), Groveland (74.2%), and Clermont (24.6%).
- While the proportion of the population identifying as Black/African American, Other, or Two or More Races, according to the 2016 American Community Survey (ACS), increased substantially since the 2000 U.S. Census (19.3%, 43.3%, and 83.3%, respectively), the proportion identifying as of Hispanic or Latino origin increased by 146 percent, from 5.6 percent to 13.8 percent, during the same period.
- The areas exhibiting the highest levels of population density include the municipalities of Eustis, Clermont, and Leesburg and their nearby suburbs. These same areas are estimated to experience the greatest increases in population density by 2028. To a lesser extent, Mascotte, Lady Lake, Umatilla, Mount Dora, and Minneola, and the southeast corner of the county that borders Orange County also are expected to see more moderate increases in population density by 2028.

Lake County continues to experience population and employment growth in all of its municipalities and unincorporated parts of the county. Meanwhile, the population is diversifying, steadily aging, and population and dwelling unit growth is concentrating in the suburbs of established municipalities.

- The areas of highest dwelling unit densities mirror the areas in which the highest population densities are found. Much of the growth in dwelling units between now and 2028 is projected to occur in the suburbs of Lake County's municipalities.
- Even though the proportions of households earning less than $10,000 per year or between $10,000 and $49,999 per year have decreased since 2000, and the proportion earning $50,000 or greater has increased, the proportion of households below the poverty level in Lake County grew by more than 40 percent (from 9.6% to 13.5%); moreover, at a higher rate than Florida as a whole.

Implications

Continued suburban growth will lead to inefficiencies in providing traditional bus service; therefore, service delivery innovations may be required. In addition to improving the efficiency of service delivery and attracting new riders, maintaining mobility and freedom for the aging adult population is a key consideration for future transit service. Demographic trends indicate that the traditional rider markets of older adults and/or lower-income households are growing, which is a positive trend for LakeXpress; however, increases in the Hispanic/Latino population suggest that the agency will need to tailor its services to potential riders of multiple languages. The provision of more frequent transit services and weekend service will support the needs of both current and potential riders. LakeXpress' continued success depends on its ability to tailor services that will expand its rider base and capture new transit markets and riders.

Travel Behavior and Trends

To better assess the impact of travel behaviors and the state of the local economy on public transportation needs, it is important to understand existing and projected behaviors and conditions to determine possible impacts or benefits affecting public transportation services. Key findings are as follows:

- In 2016, approximately 81 percent of commuters drove alone, followed by carpool (10.8%). The typical commute in the county is less than 20 minutes (37%), and more than 57 percent of commutes are less than 30 minutes. In 2016, only 0.3 percent of commuters traveled to work using public transportation in Lake County. Using 2015 Longitudinal Employer-Household Dynamics (LEHD) and Longitudinal Origin-Destination Employment Statistics (LODES) data ("OnTheMap," U.S. Census Bureau), 87,362 persons were employed in Lake County. Approximately 36 percent lived and worked within the county, and

Single-occupant vehicles remain the primary means of transportation, and a majority of Lake County's residents work in another county which will continue to burden key regional connections in Lake County, particularly those connecting with Orange County.

the remaining 64 percent lived within Lake County and worked in another county, indicating a high demand for employment-based trips to adjacent counties. Commuting flows for workers who cross county lines are summarized in Tables 6-5, 6-6, and Figure 6-1. Overall, a net outflow of 30,358 persons is observed for Lake County when considering the number of commuters who leave Lake County is greater than those entering the county for work.

- Major employers in Lake County include Florida Hospital Waterman, Leesburg Regional Medical Center, South Lake Hospital, and Cornerstone Hospice.
- According to the employment data in the Lake-Sumter Planning Model, the areas currently exhibiting the highest levels of employment density include the municipalities of Leesburg, Eustis, and Clermont and their nearby suburbs. Furthermore, Leesburg, Clermont, Minneola, and the area near the junction of US-27 and Florida's Turnpike are expected to experience notable increases in employment density by 2028.
- Lake County has expressed its commitment to improving and widening roadways to ensure timely movement of goods and travelers. Notable projects include along the CR-470 corridor to accommodate Leesburg's new commerce park near Florida's Turnpike, the Wekiva Parkway project to complete a beltway around the Orlando metropolitan area, a new Florida Turnpike interchange in Minneola to connect employees to the planned employment center in the area.

Table 6-5: Commuter Outflows, Lake County, 2015

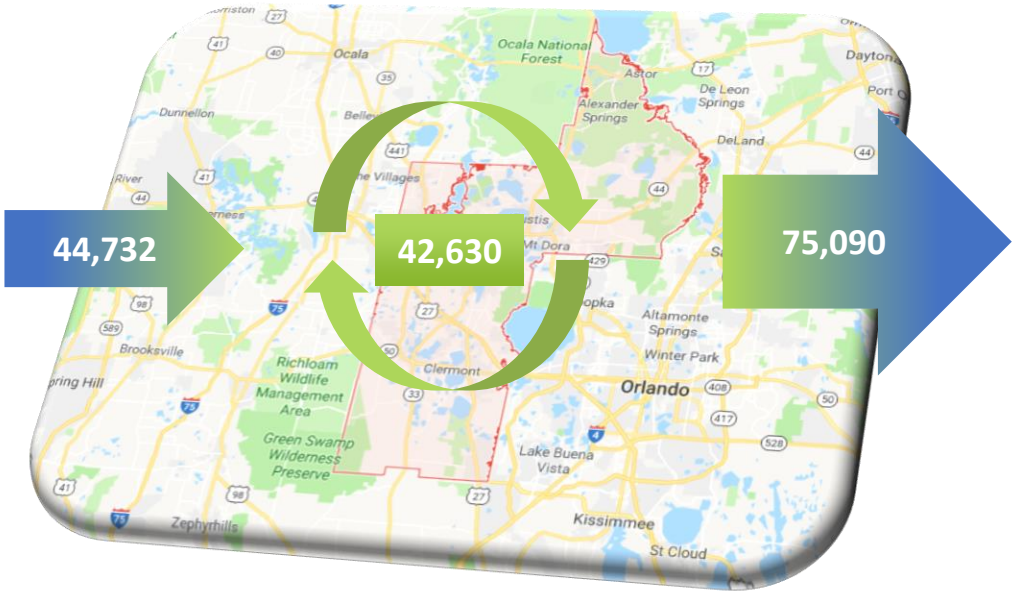
County	Number of Workers	Percent
Orange	**31,863**	**27.1%**
Seminole	**6,579**	**5.6%**
Sumter	**4,182**	**3.6%**
Hillsborough	3,880	3.3%
Volusia	3,230	2.7%
Polk	3,033	2.6%
Osceola	2,896	2.5%
Marion	2,644	2.2%
Duval	1,967	1.7%
All Other Locations	14,816	12.6%

Source: 2015 LEHD

Table 6-6: Commuter Inflows, Lake County, 2015

County	Number of Workers	Percent
Orange	**8,942**	**10.2%**
Marion	**5,536**	**6.3%**
Sumter	**3,902**	**4.5%**
Volusia	3,337	3.8%
Polk	2,963	3.4%
Seminole	2,455	2.8%
Hillsborough	1,976	2.3%
Osceola	1,751	2.0%
Citrus	1,341	1.5%
All Other Locations	12,529	14.3%

Figure 6-1: Regional Commuting Flows



Source: 2015 LEHD

Implications

LakeXpress should continue to pursue improvements that make its services more competitive with the single-occupant automobile and attract a higher share of travel, particularly among regional commuters. The geographic sprawl of the municipalities and travel distance associated with regional commutes will make providing efficient commuter services challenging for LakeXpress. Such an operating environment makes it difficult to continue to provide efficient services locally and expand services regionally to those depending on public transportation to access work, shopping, and educational services.

Reinforced by public outreach, the provision of weekend, later evening, and more frequent bus service were indicated as the preferred means of improving services locally before focusing on regional connections. When emphasizing regional connections, the public indicated that the areas needing express service include Oakland, Orlando, and Clermont, while Leesburg to Clermont and along US-27 were indicated to be key corridors in need of new/expanded express services. The provision of express services to meet regional travel demand is an increasingly attractive option for growing ridership.

For LakeXpress to increase ridership levels significantly, however, an overall increase in transit frequencies to key employment centers, as well as the provision of later evening and weekend service will be needed. With increased attention regionally and locally on transit, a more well-connected and frequent transit service that operates on more days and for a longer daily span can only help establish transit as an integral part of travel behavior in Lake County.

Public Involvement

Many public involvement activities were conducted to gather feedback from area residents and transit users. These events included stakeholder interviews, discussion group workshops, operator interviews, an online general public survey, and an on-board survey of LakeXpress riders. These events generated and evaluated a wide range of ideas for the existing service and for future transit enhancements.

Several key themes emerged from the TDP public outreach, including the following:

- ***Service on Saturday or Sunday*** – Public feedback emphasized the need for weekend service as a high priority. Implementing weekend service was indicated a priority by users and stakeholders alike. Generally, there was interest in attending special events, running errands, and travelling to work on the weekends, so LakeXpress may need to prioritize which routes best serve these trip purposes.

- ***Later Evening Service*** – Respondents emphasized the desire for LakeXpress to implement service during later evening hours to meet the needs of workers and attract new ridership. Without later evening service, many riders are unable to travel home from work or run important errands.

- ***Enhanced Frequencies on Existing Routes*** – Particularly in the key downtown areas and employment centers, respondents emphasized that more frequent services, even if only during select times of the day, would improve the attractiveness of the service and enable travelers to reach their destinations on time. Some key areas named include the downtown areas of Mount Dora, Eustis, Leesburg, Tavares, as well as the local colleges/universities.

- ***New Routes/Service to New Areas*** – Connections within Lake County and to adjacent areas also was indicated to be a top priority across public outreach events. North-south connections with other counties and urban areas such as Ocala in Marion County and Orlando in Orange County were frequently cited. However, within Lake County, connections to major employment centers, industrial parks, along US-27, and between Leesburg and Clermont were frequently mentioned.

- ***Real-time Bus Information and Wi-Fi on Buses*** – Stakeholders and riders emphasized that real-time bus location information would save travel time for current users, as well as attract new riders. On-board Wi-Fi service also was indicated to be a top priority that could make riding the bus more enjoyable and attractive.

Adding new days for service, extending service hours, improving frequencies, and enhancing north-south connections both within and outside of Lake County were top priorities voiced by riders and stakeholders alike.

- ***Infrastructure*** – Respondents emphasized the need for LakeXpress to improve the comfort and accessibility of bus stops throughout the county. As part of efforts toward improving accessibility, riders noted that more sidewalk connections to bus stops and with other multimodal networks should be provided.

- ***Enhanced Marketing and Awareness*** – Stakeholders were keen to emphasize that LakeXpress should do more to market their current services and ensure that adequate awareness and understanding of how to use the service exists, especially prior to expanding into new services.

Implications

Weekend service may attract riders who travel for different purposes, or convince riders currently unable to make trips to use LakeXpress services, even if only a limited version of the schedule is provided on weekends. Extended service hours may help to attract riders currently unable to get to/from work or improve the flexibility for riders who run errands later in the day. Additionally, frequency improvements will help to attract choice ridership to LakeXpress services and aid current riders to arrive at their destinations on time. Additionally, technology improvements such as real-time bus location information and on-board Wi-Fi can improve the attractiveness of the service to existing and potential rider markets.

The importance of providing expanded north-south connections (within and to outside of Lake County) is evidenced by the regularity with which these new areas for service were mentioned by respondents in the on-board survey, stakeholder interviews, and discussion groups. Furthermore, pairing these potential north-south connections to serve key employment centers and industrial areas, as well as complement regional services provided by neighboring transit agencies (e.g., SunTran and LYNX) can be a means of addressing a variety of mobility needs all at once.

Enhanced marketing efforts can empower LakeXpress to capitalize on the services in currently provides in the effort to grow ridership and revenues. Interest among stakeholders in travel training efforts and the general impression that not many residents are fully aware of LakeXpress' services indicated that enhanced awareness and education efforts regarding the system could be beneficial.

Land Use

To better assess the impact of local land use conditions and policies on public transportation needs, it is important to identify the current and future areas of the county that may benefit the most from the provision of public transportation services. Key findings from a review of current and future land use conditions are summarized as follows:

- The land use pattern in Lake County is predominantly rural in nature, with pockets of higher density in the municipal areas and along the major corridors.

- Regarding residential uses, as reviewed in the Socioeconomic Trends section, and later in the Traditional Rider Markets section, a number of residential pockets exhibit high levels of transit orientation including the southwestern part of Eustis, Downtown Leesburg (from North Boulevard south to Lake Harris), the northwestern part of Leesburg near Montclair Road, and the communities southwest of Mascotte along S Bay Lake Road are among the areas with the highest transit orientation.

- Regarding commercial uses, many low-density uses exist along the major corridors within the County. Employment areas are concentrated around the municipalities of Leesburg, Eustis, and Clermont and their nearby suburbs. Furthermore, Leesburg, Clermont, Minneola, and the area near the junction of US-27 and Florida's Turnpike are expected to experience the greatest growth in employment density by 2028.

Existing land use patterns and trends toward increasing densities indicate that LakeXpress should continue to enhance its core network while also considering new transit modes that can efficiently serve growing, higher-density areas.

- In the center of Leesburg consists of a downtown mixed use district, and this district is surrounded by low-density and general commercial land uses. The municipality is bordered to the north by Lake Griffin and to the south by Lake Harris.

- While much of Eustis by area consists of suburban residential uses, it surrounds residential/office transitional mixed-use areas and a central business district (CBD) along the edge of Lake Eustis

- Similarly in Clermont, Planned Unit Developments and low-density residential uses make up the majority of the city by area; however, US-27 and SR-50 are surrounded by a variety of commercial and medium-density residential uses. Additionally, west of US-27 the downtown mixed-use district affront Lake Minneola.

- Two large commercial corridors, SR-441 and SR-44, are served by Lake Xpress Routes 1, 1A, 3, and 4 and are located in the northwest corner of the county. These major corridors are not only adjacent to growing municipalities in Lake County, such as Leesburg, Mount Dora, and Clermont, but connect to other key regional activity centers such as Orlando, Winter Park, Celebration, and Deltona.

Implications

LakeXpress should continue to focus on providing improvements to its presently productive routes that operate along key travel corridors, but also consider how it can improve the connectivity between key trip generators and downtown areas. As indicated by some comments during public outreach, new circulator-style services within the downtown areas may complement the existing network without

stretching it into inefficient operations. Since many of the downtown areas coincide with mixed-use, commercial, and higher-density residential areas, providing transit services may ensure that these areas thrive economically. Improvements to existing services (i.e., weekend service, late hours, and improved frequencies), as well as complementary services that serve as feeders to the core network can make LakeXpress service more attractive and productive.

In the pursuit of improving existing services and considering potential local feeder service options, LakeXpress should coordinate with the County on efforts to support economic development within growing downtown areas and along key corridors. If LakeXpress coordinates service improvements and expansions in these areas, it can bolster any existing economic development, considering that transit is a powerful engine of economic development and impetus for real estate investment, and also provide benefits for developers such as reduced parking needs, a multimodal environment, and support for a greater mix of uses.

Additionally, LakeXpress should continue to support changes to Lake County's comprehensive plan that would result in additional density and/or transit-supportive development that is adjacent to established higher-density/intensity areas or in developing nodes. The existing low-density commercial and residential pattern of development is a challenging environment in which to provide productive transit services in terms of passengers per revenue mile.

Organizational Attributes

The Lake County Board of County Commissioners currently contracts with a private, for-profit corporation, to provide both its public and TD transportation services. Day-to-day oversight of the contracted operator is the responsibility of the Lake County Public Transit Division (LCTD).

Implications

LakeXpress should continue to assess the transit system to increase service and management efficiencies. Periodic efforts conducted as part of a Comprehensive Operational Analysis (COA) (or an internal assessment more limited in scale) will identify operational or management efficiencies that can be achieved and will enable the County to make policy decisions and proceed with a clear vision for the future of LakeXpress. LakeXpress also should continue its close coordination with the MPO and local municipalities to ensure cooperation on regional planning efforts and decisions.

Technology

LakeXpress is in the process of implementing a handful of new technology projects to enhance the overall transit experience for its patrons. The implementation of electronic stop announcements is currently partially completed and requires some final modifications so that the existing RouteMatch system can fully integrate with the installed equipment and provide accurate on-board announcements.

LakeXpress needs to ensure it adequately markets and communicates the arrival of new technologies when available so current and potential riders are aware of their existence and LakeXpress' efforts to improve the rider experience.

Additionally, LakeXpress indicates that a mobile app and website, using RouteShout, a web-based interface, will soon be available for riders to check route arrival and departure information thereby enabling updates of when routes may be running behind schedule.

Implications

LakeXpress should continue to monitor developments in technology that could improve transit service. Technology improvements can enhance the rider experience and improve the efficiency of service delivery, but they are not always adequately communicated to riders and may be underused or go unnoticed by riders. Technology investments electronic announcements on buses and real-time bus tracking apps may attract additional discretionary riders to LakeXpress when property advertised. In the age of rapidly changing technology, riders are quickly coming to expect and demand real-time bus information as part of a standard level of transit service so they can better plan their schedules.

SECTION 7 GOALS & OBJECTIVES

Goals and objectives are an integral part of LakeXpress' TDP, as they provide policy direction to achieve the community's vision while helping guide the agency as the county evolves. LakeXpress' long-term vision is to efficiently meet the breadth of existing mobility needs in the county while simultaneously planning for meeting the future needs of the area.

This section presents the goals and objectives to support the community's vision for transit services over the next 10 years. These TDP goals and objectives were updated based on the review and assessment of existing conditions, feedback received during the public involvement process, and the applicable policy directions from local plans and policies.

Goals/Objectives Update Guidance

The following sources were used to guide the update of the adopted TDP goals and objectives for the next 10 years:

- Goals and objectives from the last TDP and progress on 2013 TDP Implementation Goals.
- Findings from the Situation Appraisal that identified key issues affecting LakeXpress today and in the future.
- Input received from the public and stakeholders on the needs and direction of transit in Lake County and the immediate region.
- Findings from plan and policy reviews based on recommendations, goals, and objectives included in other agency plans.

Updated LakeXpress Goals and Objectives

Goal 1: Provide local and regional transit accessibility and mobility for the greatest number of County residents and businesses

Objective 1.1: Increase neighborhood and activity center connectivity

Policy 1.1.1	Transit travel time between major neighborhood and regional activity centers no more than an hour between headways.
Policy 1.1.2 (NEW)	Consider operational strategies and infrastructure/facility modifications to improve on-time performance and reduce impacts on general traffic flow.

Objective 1.2: Improve access to local and regional centers

Policy 1.2.1	How well existing and proposed routes serve activity, population and employment, and activity centers.
Policy 1.2.2 (NEW)	Provide transit service across county lines.
Policy 1.2.3 (NEW)	Continue providing fixed-route transit service in partnership with LYNX.
Policy 1.2.4 (NEW)	Continue partnership with LYNX to provide enhanced transit service in the Lake County portion of the Orlando Urbanized Area.
Policy 1.2.5 (NEW)	Build on partnerships with the Lake-Sumter Metropolitan Planning Organization (MPO), the East Central Florida Regional Planning Council (ECFRPC) and the Florida Department of Transportation (FDOT) to expand regional transit options.

Objective 1.3 Provide accessible facilities to support mobility options for all

Policy 1.3.1	Accessibility: ADA accessible facilities including bus stops, sidewalks, etc. within ¼-mile of transit stop and activity centers.
Policy 1.3.2 (NEW)	Top 50 percent of popular bus stops have shelters and top 75 percent have benches.
Policy 1.3.3 (NEW)	Ensure that all transit vehicles and transit facilities meet the requirements of the Americans with Disabilities Act (ADA).
Policy 1.3.4 (NEW)	Require contracted operators to use accessible vehicles.
Policy 1.3.5 (NEW)	Address ADA compliance of existing facilities in accordance with the 2012 ADA Transition Plan.
Policy 1.3.6 (NEW)	Implement new facilities that are ADA-compliant.

Goal 2: Encourage regional and local community and economic development goals that support transit

Objective 2.1: Support community and economic development initiatives such as Main Streets, Safe Routes to School and others to integrate transit into cities and neighborhoods

Policy 2.1.1	Number of regional, County, and local initiatives served/leveraged within ½-mile of transit corridor, or 1-mile of a transit center/transfer location.

Objective 2.2: Promote Transit-Supportive Land Use, Zoning, and Development

Policy 2.2.1	The number of miles of accessible sidewalks and bicycle infrastructure adjacent to transit stops and/or centers and major activity centers.
Policy 2.2.2	The number of TDM strategies and requirements incorporated into approved commercial and residential developments approved by the County and municipalities. ~~All LakeXpress buses to be equipped with bike racks.~~ *(already accomplished)*

Objective 2.3: Achieve regional, local, and community support of transit initiatives

Policy 2.3.1	Community Support: The level of support, interest, and opposition to proposed transit service changes by area residents and businesses.
Policy 2.3.2 (NEW)	Explore partnering with local/private businesses to name individual buses.
Policy 2.3.3 (NEW)	Explore partnering with local/private businesses to name individual infrastructures.
Policy 2.3.4 (NEW)	Conduct a proactive and ongoing public outreach program to educate citizens and visitors about the availability, characteristics, and benefits of existing and future transit services.
Policy 2.3.5(NEW)	Market transit as an attractive and cost-effective travel option/increase public awareness of the benefits of regional transit service.
Policy 2.3.6 (NEW)	Improve the visibility of LakeXpress signage and facilities.
Policy 2.3.7 (NEW)	Explore option to rename existing routes to increase community involvement and promotion.
Policy 2.3.8 (NEW)	Consider re-naming the routes or selling the naming rights to local businesses.
Policy 2.3.9 (NEW)	Consider promoting local transit with a cost-benefit analysis of those who use personal vehicles and those who utilize public transit for day to day activities.
Policy 2.3.10 (NEW)	Explore the option of reaching out to employers who have the ability to buy bus fare in bulk to add to their benefits to employees.

Goal 3: Enhanced System Performance for Fixed-Route and Paratransit Services

Objective 3.1: Improve service reliability, on-time performance, and customer service

Policy 3.1.1	Evaluate the effect of current and proposed service improvements on travel time between select origin and destination (O/D) pairs.
Policy 3.1.2	Miles Between Road Calls: No less than 10,000 miles between road calls for all services.
Policy 3.1.3	Maintain 6-year average age of all rolling stock.
Policy 3.1.4	Number of customer complaints per 1,000 boardings as a measure of customer service and satisfaction.

Objective 3.2: Increase Ridership

Policy 3.2.1	Evaluate the effect of proposed transit service on the number of people who can be moved through the corridor with transit versus single-occupancy vehicles.

Objective 3.3 Maintain Cost Efficiencies and Financial Stability

Policy 3.3.1	Evaluate the savings accrued as a result of investing in transit service in coordination with other infrastructure projects.
Policy 3.3.2	Evaluate the percentage of farebox revenue recovered (derived by dividing the fare revenue by operating expenses) as a percentage of the operating costs. Lake County's goal is to achieve 10% farebox recovery ratio by 2019.
Policy 3.3.3	Reduce the operating expense per trip annually by 1% for the next five years.
Policy 3.3.4	Creation of TAM Plan by FY 2018 to outline vehicle fleet needs to support TIP and TDP.
Policy 3.3.5 (NEW)	The County shall update its disaster preparedness plan by addressing evacuation procedures with bus vehicle coordination, the need signage, and the availability of emergency shelters.

Goal 4: Promote environmental quality and safety for all stakeholders

Objective 4.1: Promote safe operation of all transit vehicles

Policy 4.1.1	Reduce the number of preventable crashes per 100,000 miles by 5% while keeping statistics on crashes annually.

Objective 4.2: Decrease the number of driver assaults for all services

Policy 4.2.1	No more than one incident per 100,000 miles for all services.

Objective 4.3: Increase the number of ADA-accessible transit stops

Policy 4.3.1	Install and/or retrofit at least 20% of all non-compliant bus stops on each route annually.

Objective 4.4: Reduce Environmental Impacts

Policy 4.4.1	Number and impact to natural, social, and historic resources- Reduce the number of environmental impacts of proposed services on transit corridors.
Policy 4.4.2	Number of new alternative energy sources- Utilize new alternatives, where applicable for vehicles, transit amenities (i.e. fare vending kiosks, solar lights, etc.) to support transit.
Policy 4.4.3(NEW)	The County shall develop strategies through transit decisions and planning to address the reduction of greenhouse gas emissions, energy conservation, and energy- efficient design.
Policy 4.4.4 (NEW)	The County shall coordinate with LYNX to promote carpooling opportunities for commuters with the same destination, bus stop, or park and ride facility.
Policy 4.4.5 (NEW)	The County shall establish policies, standards, and regulations that encourage the use of energy efficient vehicles and enable the development of infrastructure systems to support their use by establishing sites for alternative energy fueling stations. Where appropriate, the County shall acquire energy-efficient vehicles as part of its vehicle fleet for police, fire, and maintenance needs.
Policy 4.4.6 (NEW)	To encourage the use of other transportation modes, reduce overall traffic demand, and encourage “Park-once” environment, the County shall adopt and enforce policies, standards and regulation that encourage shared parking across development parcels with Urban Centers and Urban Corridors. The County shall, from time to time, evaluate and, as deemed necessary, modify its land use policies, standards and regulations to reduce parking minimum standards.
Policy 4.4.7 (NEW)	Reduce negative environmental impacts associated with transit investments.
Policy 4.4.8 (NEW)	Evaluate budget to encourage buying electric vehicles when fleet ages or is retired.

SECTION 8 DEMAND ASSESSMENT

This section summarizes the demand and mobility needs assessment conducted as part of the Lake County TDP development process. The assessment techniques are summarized, followed by the results of each analysis used to assess the demand for transit services in Lake County.

Transit demand and mobility needs were assessed using the following assessment techniques:

- ***Market Assessment*** – Two market assessment tools were used to assess demand for transit services for the next 10 years. The tools assessed traditional and discretionary transit user markets in Lake County for various time periods.
- ***Forecast Ridership Analysis*** – Projected ridership demand for existing fixed-route transit services over the next 10 years was analyzed assuming the maintenance of existing transit service levels and facilities. The projections were prepared using T-BEST (Transit Boardings Estimation and Simulation Tool) Version 4.4, a Florida Department of Transportation (FDOT)-approved ridership estimation software.

These assessment techniques are summarized next, followed by the results of each technical analysis used to assess the demand for transit services in Lake County.

Market Assessment

The TDP market assessment includes an evaluation from the perspectives of the discretionary rider market and the traditional rider market, the two predominant ridership markets for bus transit service.

Analytical tools for conducting each market analysis include a Density Threshold Assessment (DTA) for the discretionary market and a Transit Orientation Index (TOI) for the traditional market. These tools can be used to determine whether existing transit routes are serving areas of the county considered to be transit supportive for the corresponding transit market. The transit markets and the corresponding market assessment tool used to measure each are described next.

Discretionary Rider Markets

Three density thresholds, developed based on industry standards/research, were used to indicate whether an area contains sufficient density to sustain some level of fixed-route transit operations:

- ***Minimum Investment*** – Reflects minimum dwelling unit or employment densities to consider basic fixed-route transit services (i.e., local fixed-route bus service).
- ***High Investment*** – Reflects increased dwelling unit or employment densities that may be able to support higher levels of transit investment (i.e., increased frequencies, express bus) than areas meeting only the minimum density threshold.

- ***Very High Investment*** – reflects very high dwelling unit or employment densities that may be able to support more significant levels of transit investment (i.e., very high frequency services, premium transit services, etc.) than areas meeting the minimum or high density thresholds.

Table 8-1 presents the dwelling unit and employment density thresholds (in terms of TAZ) associated with each threshold of transit investment.

Table 8-1: Transit Service Density Thresholds

Level of Transit Investment	Dwelling Unit Density Threshold[1]	Employment Density Threshold[2]
Minimum Investment	4.5–5 dwelling units/acre	4 employees/acre
High Investment	6–7 dwelling units/acre	5–6 employees/acre
Very High Investment	≥8 dwelling units/acre	≥7 employees/acre

[1] TRB, National Research Council, TCRP Report 16, Volume 1 (1996), *Transit and Land Use Form,* November 2002, MTC Resolution 3434 TOD Policy for Regional Transit Expansion Projects.

[2] Based on review of research on the relationship between transit technology and employment densities.

Maps 8-1 and 8-2 illustrate the results of 2018 and 2028 DTA analyses conducted for Lake County, identifying areas that support different levels of transit investment based on existing and projected dwelling unit and employment densities. These maps also illustrate the existing LakeXpress transit route network to gauge how well the current transit network covers the areas of Lake County that are considered supportive of at least a minimum level of transit investment.

The 2018 DTA analysis indicates that the discretionary transit markets are derived mainly from population densities than from employment and can be summarized as follows:

- Within Lake County, according to the 2019 DTA (Map 8-1), the areas that meet the employment threshold for "Very High" transit investment are located in Leesburg, Clermont, and in greater Eustis.

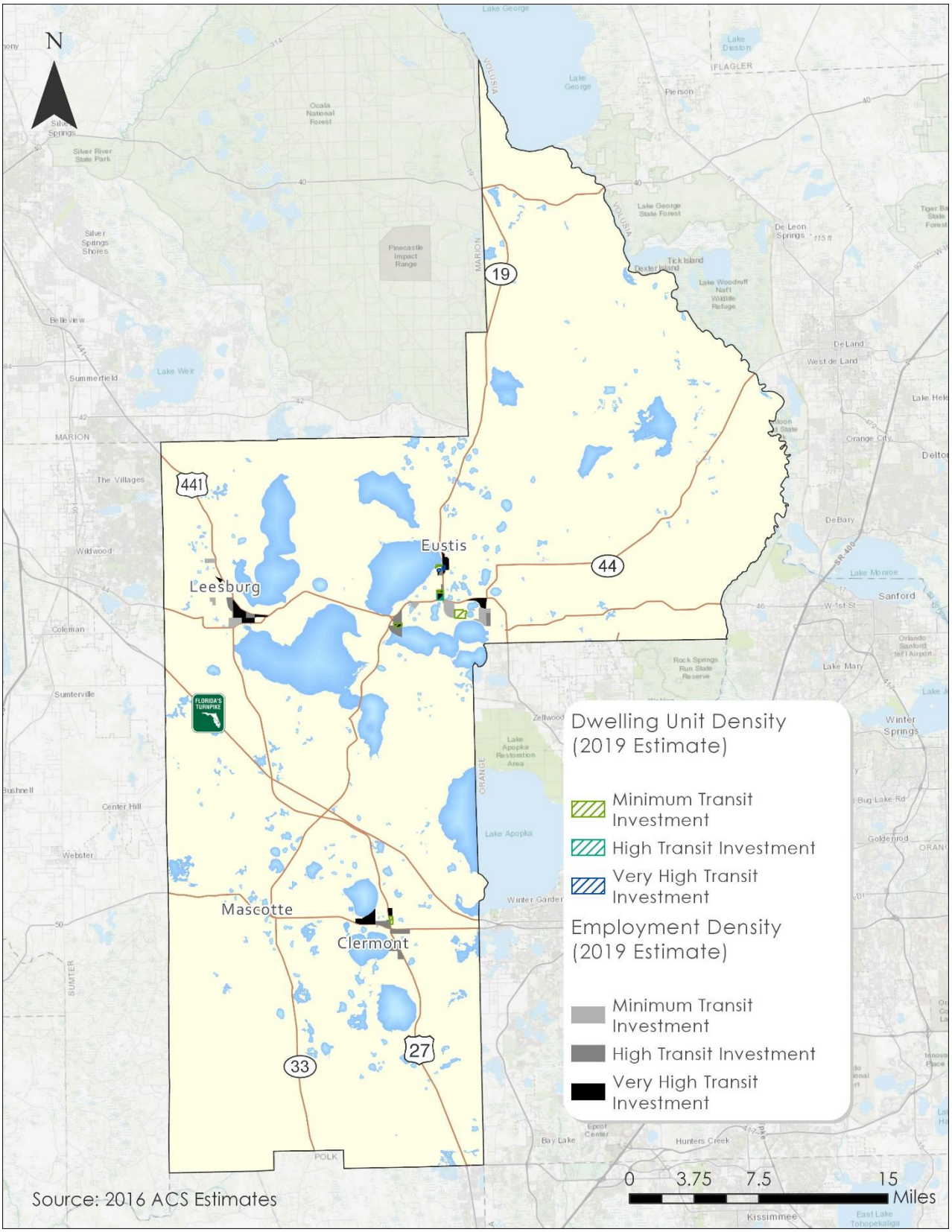
- In Leesburg the areas are all east of N 14th Street, south of North Boulevard E, and north of W Dixie Avenue. In Clermont the areas are directly south of Lake Minneola and east of US 27 in Downtown Minneola. In the greater Eustis area, the "Very High" areas are a little more spread out in Downtown Tavares, Downtown Eustis, and in the southwest quadrant of US 441 and N Donnelly Street.

- Areas that meet the 2019 DTA employment threshold for "High" transit investment also are located in or near the same three municipalities. In Leesburg, they are adjacent to US 27, US 441, and North Boulevard E. In Clermont, they are adjacent to US 27 and SR 50. And in Eustis, the areas are all south of US 441, and mostly in Tavares and Mount Dora.

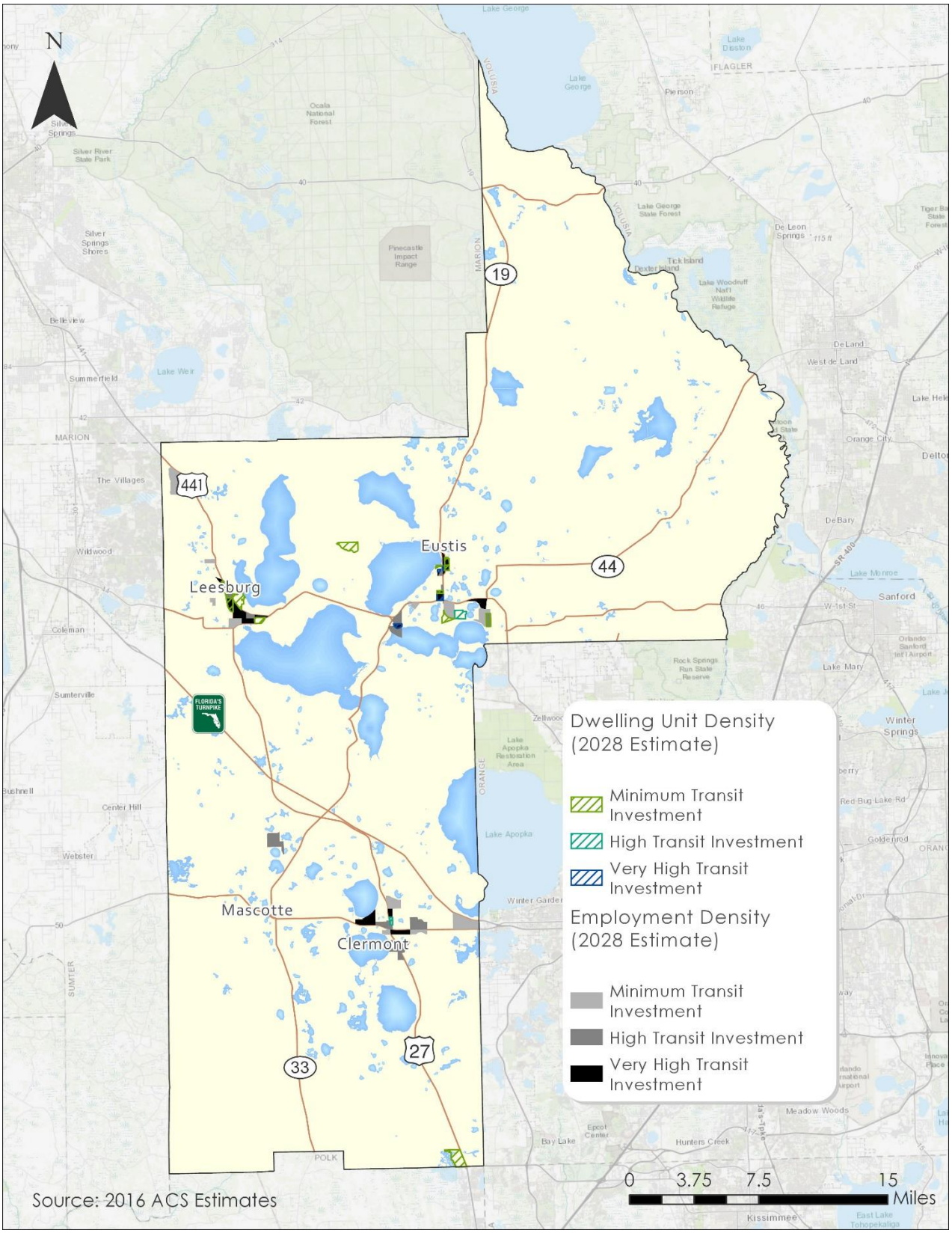
- Looking forward to 2028 (Map 8-2), a number of new areas graduate from the "Minimum" to the "High" threshold, and these are primarily located in Clermont and further east along SR 50 toward Orange County.

- Turning to the 2019 DTA dwelling unit densities (Map 8-1), the areas that meet the thresholds of "Very High" or "High" transit investment are all located in Eustis (Downtown Eustis, and the northwest quadrant of US 441 and SR 19). There are a handful of areas that meet the "Minimum" transit investment threshold including Downtown Tavares, in Clermont east of US 27 just north of SR 50, between Lake Saunders and Lake Gertrude (south of Eustis), and areas adjacent to Downtown Eustis.
- Looking forward to 2028 (Map 8-2), the areas that meet the dwelling unit thresholds of "Very High" or "High" transit investment are located in Downtown Eustis, in the northwest quadrant of US 441 and SR 19, Downtown Tavares, between Lake Saunders and Lake Gertrude (south of Eustis), and in Clermont east of US 27 just north of SR 50.
- Also by 2028, a number of other areas are projected to meet the "Minimum" dwelling unit thresholds for transit investment including Downtown Mount Dora, east of Downtown Eustis, along Old US Highway 441 and Bay Road (south of Eustis), and a number of areas in Leesburg along US 27 and North Boulevard E.
- Areas that simultaneously meet the "Very High" or "High" transit investment for both employment and dwelling unit thresholds in 2019 include Downtown Eustis, and the northwest quadrant of US 441 and SR 19 south of Eustis.
- Areas that simultaneously meet the "Very High" or "High" transit investment for both employment and dwelling unit thresholds in 2028 include Downtown Eustis, the northwest quadrant of US 441 and SR 19 south of Eustis, and Downtown Tavares.

Map 8-1: 2018 DTA



Map 8-2: 2028 DTA



Traditional Rider Markets

A traditional rider market refers to population segments that historically have had a higher propensity to use transit or are dependent on public transit for their transportation needs. Traditional transit users include older adults, youth, and households that are low-income and/or have no vehicles. For some individuals, the ability to drive is greatly diminished with age, and they must rely on others for their transportation needs. Likewise, younger persons not yet of driving age but who need to travel to school, employment, or for leisure may rely more on public transportation until they reach driving age. For lower- income households, transportation costs are particularly burdensome, as a greater proportion of income is used for transportation-related expenses than it is for higher-income households. Households with restricted income, particularly those with no private vehicle, are more likely to rely on public transportation for travel.

A Transit Orientation Index (TOI) was developed to assist in identifying areas of the county where these traditional rider markets exist. To create the TOI for this analysis, demographic data from the ACS 5-Year Estimates (2012–2016) were analyzed at the block group level for the following demographic and economic variables:

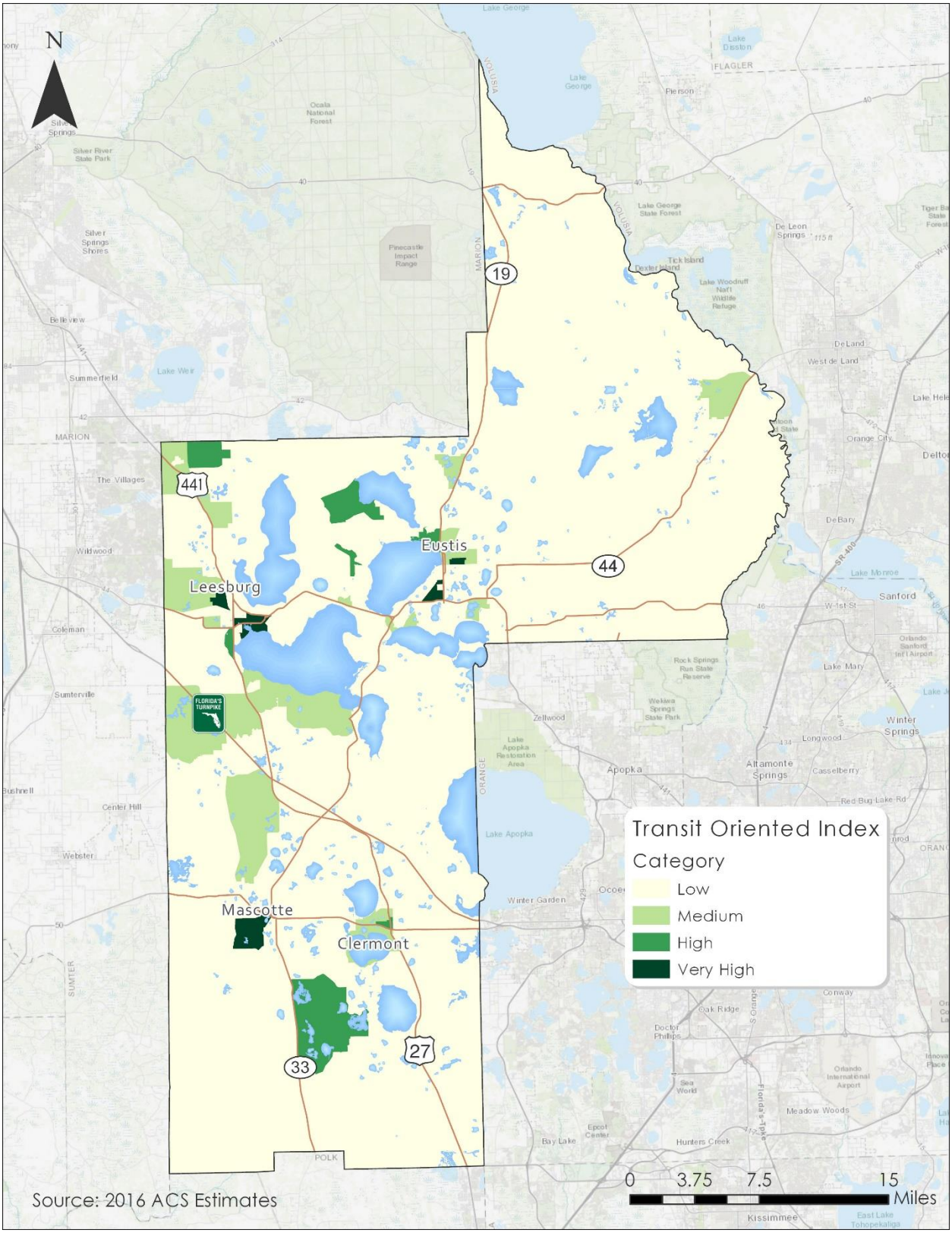
Table 8-2: TOI Variables and Weightings

TOI Variable	Units
Population Density	Persons per acre
Population Living Below the Poverty Level	$25,000 or less annual income for 4-person household
Households with No Vehicles	Zero-vehicle households
Population Age 65 and Over	Older adults

Based on this analysis, the following conditions were observed:

- The southwestern part of Eustis, Downtown Leesburg (from North Boulevard south to Lake Harris), the northwestern part of Leesburg near Montclair Road, and the communities southwest of Mascotte along S Bay Lake Road are among the areas with the highest transit orientation (depicted in dark green). These areas are characterized as having a high index of households exceeding the average levels for the four characteristics explained previously.
- Additional areas with “High” transit orientations (depicted in green) include a large developing area southwest of Clermont (east of SR 33 to CR 561 and roughly bounded by CR 561 on the south and Pine Island Road on the north); the area in the southwest quadrant of SR 44 and S 14th Street to Singletary Park in Leesburg; the area east of CR 25 and between Griffin Avenue and the Lake-Marion county line; along the western edge of Lake Yale; along the northern edge of Lake Eustis, and in the northwest quadrant of SR 50 and US 27 in Clermont.

Map 8-3: 2016 TOI



There are a number of sizeable areas that exhibit "Medium" transit orientations (depicted in light green); however, the areas that coincide with other areas of higher transit orientations include most of Clermont between Lake Minneola and Lake Minnehaha, the areas southeast of Marion County's The Villages, and east of Lake Eustis.

Forecast Ridership Analysis

T-BEST is a comprehensive transit analysis and ridership-forecasting model that can simulate travel demand at the individual route level. The software was designed to provide near- and mid-term forecasts of transit ridership consistent with the needs of transit operational planning and TDP development. In producing model outputs, T-BEST also considers the following:

- ***Transit Network Connectivity*** – The level of connectivity between routes within a bus network—the greater the connectivity between bus routes, the more efficient the bus service becomes.
- ***Spatial and Temporal Accessibility*** – Service frequency and distance between stops—the larger the physical distance between potential bus riders and bus stops, the lower the level of service utilization. Similarly, less frequent service is perceived as less reliable and, in turn, utilization decreases.
- ***Time-of-Day Variations*** – Peak-period travel patterns are accommodated by rewarding peak service periods with greater service utilization forecasts.
- ***Route Competition and Route Complementarities*** – Competition between routes is considered. Routes connecting to the same destinations or anchor points or that travel on common corridors experience decreases in service utilization. Conversely, routes that are synchronized and support each other in terms of service to major destinations or transfer locations and schedule benefit from that complementary relationship.

The following section outlines the model input and assumptions, describes the T-BEST scenario performed using the model, and summarizes the ridership forecasts produced by T-BEST.

Model Inputs / Assumptions and Limitations

T-BEST uses various demographic and transit network data as model inputs. The inputs and the assumptions made in modeling the LakeXpress system in T-BEST are presented below. The LakeXpress model used the recently-released T-BEST Land Use Model structure (TBEST Land Use Model 2016), which is supported by parcel-level data developed from the Florida Department of Revenue (DOR) statewide tax database. The DOR parcel data contains land use designations and supporting attributes that allow the application of Institute of Transportation Engineers (ITE)-based trip generation rates at the parcel level as an indicator of travel activity.

It should be noted, however, that the model is not interactive with roadway network conditions. Therefore, ridership forecasts will not show direct sensitivity to changes in roadway traffic conditions, speeds, or roadway connectivity.

Transit Network

The transit route network for all existing LakeXpress routes was created to reflect 2017 conditions, the validation year for the model. General Transit Feed Specification (GTFS) data for LakeXpress as of December 4, 2017, were obtained from the Florida Transit Data Exchange (FTDE) as the base transit system. Data includes:

- Route alignments
- Route patterns
- Bus stop locations
- Service spans
- Existing headways during peak and off-peak periods (frequency at which a bus arrives at a stop— e.g., one bus every 60 minutes)

The GTFS data were verified to ensure the most recent bus service spans and headways; edits were made as needed. Interlined routes and transfer locations were manually coded in the network properties.

Socioeconomic Data

The socioeconomic data used as the base input for the T-BEST model were derived from American Community Survey (ACS) Five-Year Estimates (2012–2016), Bureau of Labor Statistics, Bureau of Economic Analysis, 2015 InfoUSA employment data, and 2015 parcel-level land use data from the Florida DOR. Using the data inputs listed above, the model captures market demand (population, demographics, employment, and land use characteristics) within ¼-mile of each stop.

T-BEST uses a socioeconomic data growth function to project population and employment data. Using the Central Florida Regional Planning Model socioeconomic data forecasts developed for the latest 2040 LRTP, population and employment growth rates were calculated. Population and employment data are hard-coded into the model and cannot be modified by end-users. As applied, the growth rates do not reflect fluctuating economic conditions as experienced in real time.

Special Generators

Special generators were identified and coded into T-BEST to evaluate the opportunity for generating high ridership. Lake County special generators include the following:

- Leesburg Regional Medical Center (hospital)
- Lake Sumter State College (university)
- Lake Square Mall (shopping mall)
- Waterman Hospital (hospital)
- Citizens Blvd. and Highway 27 (transfer hub)
- Walmart Supercenter Leesburg (shopping mall)
- Lake Tech (university, transfer hub)
- Southside Shopping Center (shopping mall)
- Anthony House at Holly Street(transfer hub)
- Clermont FDOT Park-N-Ride (park and ride)
- South Lake Hospital (hospital)

T-BEST Model Limitations

It has long been a desire of FDOT to have a standard modeling tool for transit demand that could be standardized across the state, similar to the Florida Standard Urban Transportation Model Structure (FSUTMS) model used by metropolitan planning organizations in developing long range transportation plans (LRTPs). However, whereas T-BEST is an important tool for evaluating improvements to existing and future transit services, model outputs do not account for latent demand for transit that could yield significantly higher ridership, In addition, T-BEST cannot display sensitivities to external factors such as an improved marketing and advertising program, changes in fare service for customers, fuel prices, parking supply, walkability and other local conditions and, correspondingly, model outputs may over-estimate demand in isolated cases.

Although T-BEST provides ridership projections at the route and bus stop levels, its strength lies more in its ability to facilitate relative comparisons of ridership productivity. As a result, model outputs are not absolute ridership projections, but rather are comparative for evaluation in actual service implementation decisions. T-BEST has generated interest from departments of transportation in other states and continues to be a work in progress that will become more useful as its capabilities are enhanced in future updates to the model. Consequently, it is important for LakeXpress to integrate sound planning judgment and experience when interpreting T-BEST results.

Ridership Forecast

Using these inputs, assumptions, and 2018 route level ridership data obtained from Lake County, the T-BEST model was validated. Using the validation model as the base model, T-BEST ridership forecasts for this TDP major update planning starting year (2019) and horizon year (2028) were developed. The generated annual ridership forecasts reflect the estimated level of service utilization if no changes were to be made to any of the fixed-route services.

Table 8-3 shows the projected number of annual riders by route in 2019 and 2028, as well as average annual ridership growth rates from 2019 to 2028 derived from T-BEST.

Table 8-3: LakeXpress Rider Annualized Ridership and Growth with No Improvements, 2019–2028*

Route	Average Annual Ridership, 2019	Average Annual Ridership, 2028	Absolute Change, 2019–2028	Average 10-Year Growth Rate, 2019–2028
1	102,250	120,865	18,787	17.8%
1A	75,712	91,419	15,712	20.7%
2	69,133	86,816	17,859	25.3%
3	35,065	40,658	5,725	15%
4	25,949	31,272	5,413	19.9%
50E	24,530	30,882	6,361	25.8%
50W	34,894	43,539	8,659	24.7%
Total	**367,533**	**445,451**	**78,516**	**20.8%**

* Based on T-BEST model

Forecast Ridership Analysis

Based on the T-BEST model results shown in Table 8-3, maintaining the status quo will result in a moderate to high increase in LakeXpress transit ridership for all routes over time. According to the projections, overall average annual ridership is expected to increase by 20.8% percent by 2028, an annual growth rate of about 2.0 percent. The model results show that the most significant ridership growth in the existing LakeXpress network will occur on the following routes within the next 10 years:

- Route 1A
- Route 2
- Route 50W
- Route 50E

For LakeXpress to increase its market share for transit, service expansion will need to strategically occur in growing areas. The service improvements identified in this plan, in other transit planning efforts, and from the public feedback received combined will provide better transit services for the service area.

SECTION 9 TRANSIT NEEDS

This section identifies potential transit improvements for the LakeXpress TDP. The proposed improvements, referred to as alternatives, represent the transit needs for the next 10 years and were developed without consideration of funding constraints. The identified alternatives are prioritized using an evaluation process and the results will be used to develop the 10-year implementation and financial plans.

Development of Alternatives

The LakeXpress 2019–2028 TDP transit alternatives consist of improvements that enhance existing LakeXpress services and expand transit service to new areas. The alternatives reflect the transit needs of the community and have been developed based on information gathered through the following methods:

Public Outreach

Multiple techniques were used to obtain substantive public input on transit needs throughout the LakeXpress TDP planning process. An on-board bus rider survey, stakeholder interviews, discussion groups, and a general public survey were conducted to gather input from the public regarding what alternatives should be considered in the next 10 years.

Situation Appraisal

LakeXpress' 10-year TDP is required by state law to include an appraisal of the environment in which the transit agency operates. This helps to develop an understanding of LakeXpress' operating environment in the context of key elements as specified in the TDP Rule. The implications from the situation appraisal findings shape the identification of transit alternatives.

Transit Demand Assessment

An assessment of transit demand and needs, which included the use of various GIS-based analysis tools, also was conducted for Lake County. These analyses, combined with the baseline conditions and performance reviews previously conducted, were used to help identify areas with transit-supportive characteristics while developing the list of transit alternatives.

Based on these methods, alternatives were identified and grouped into four categories:

- Service
- Technology
- Capital/Infrastructure
- Policy/Other

Specific improvements identified within each category are summarized next and depicted in Map 5-1.

Service

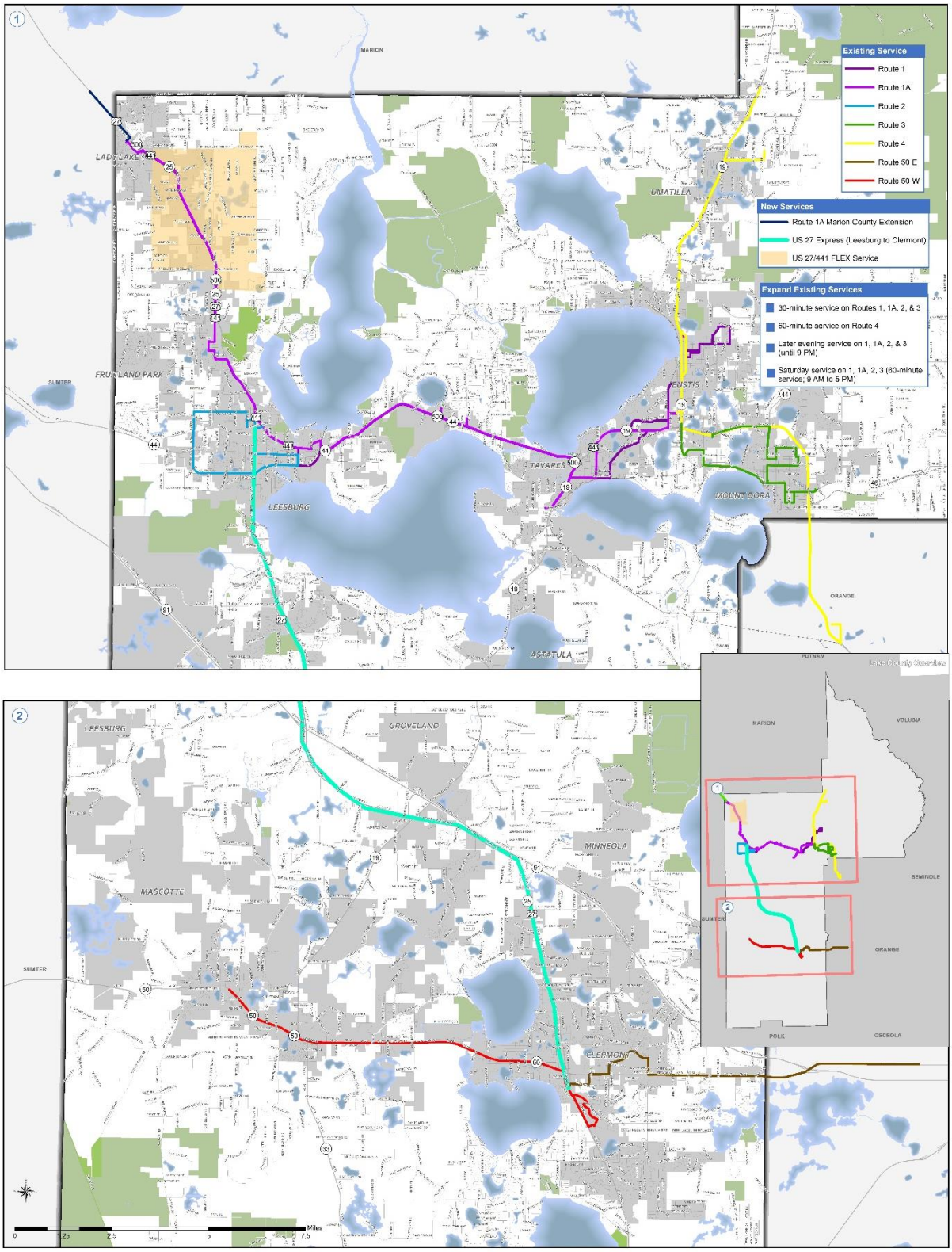
Service improvements include enhancements to existing routes related to frequency, extended service hours, and/or additional days of service. This category also includes service expansion, including new routes/modes for operating in areas not currently served by LakeXpress.

Improvements to Existing Routes

Increasing frequencies, expanding hours, and adding new days of existing bus routes are significant needs as identified through the alternatives development process. These potential improvements to the existing fixed-route network include:

- ***Enhance Frequency on Selected Routes*** – Input received from various public outreach activities has indicated improved bus frequencies as a key priority. However, due to the additional operating and capital resource needs associated, frequency improvements can quickly become too costly if they are not prioritized. Therefore, it is recommended that enhanced frequencies are applied only to routes with the highest ridership and/or serve as key connectors, including the following:
    - *Double frequency on Routes 1, 1A, 2, and 3* – These routes currently operate at 60-minute headways and were the four most heavily utilized routes in FY 2017 for LakeXpress. Due to proven demand for these routes and to the population and employment growth anticipated along these corridors in the next 10 years, this TDP recommends improving the frequency to 30 minutes all day on weekdays.
    - *Double frequency on Route 4* – The Route 4 currently operates at 120-minute headways and is a key connection with neighboring Orange County. The TDP recommends that this is improved to 60 minutes all day on weekdays to facilitate regional connections with the fast-growing Orlando metropolitan area.
- ***Extend Weekday Service on Selected Routes until 9:00 PM*** – A need for adding later service to accommodate workers with later schedules also was identified during the public outreach process. Most routes currently end service between 7:00 PM and 8:00 PM on weekdays, with the exception of Route 50 East, which operates until 8:35 PM. To address the need for later service and also to enable connections to and from Route 50 East and neighboring transit agencies later than 8 pm, weekday service on Routes 1, 1A, 2, and 3 should be extended until 9:00 PM.
- ***Implement Saturday Service on Selected Routes*** – Bus service on Saturdays, currently not provided by LakeXpress, was also indicated as a need in the next 10 years. To address this need for all weekend service, Saturday service should be implemented at least on the high-performing routes/key corridors including Routes 1, 1A, 2, and 3, running every 60 minutes from 9:00 AM to 5:00 PM.

Map 9-1: Proposed Improvements



New Transit Services/Expansions

- ***Express Service on US 27*** – To provide a cross-county connection via public transportation, the TDP recommends an express service operating along US 27 to connect Leesburg with Clermont. The proposed service is recommended to operate on weekdays, making two trips during the morning and afternoon peak hours.

- ***Connection to Marion County*** – The need for transit service connecting Lake and Marion counties was identified. The proposed service is recommended to consist of an extension of the Route 1A, which currently operates at 60-minute headways on weekdays.

- ***US 441 Flex Service*** – Continued growth along US 441 between Fruitland Park and Lady Lake, and further northwest towards Marion County, has identified the need to provide transit service in the form of a flex area. Therefore, confirmed by public input, the TDP recommends providing a flex service along US 441 that would connect the growing residential areas with Route 1A. The proposed service is recommended to operate weekdays and Saturdays every 90 minutes.

Technology

- ***Real-time Bus Location Information*** – With the proliferation of smartphones and expected implementation of on-board electronic stop announcements and the RouteMatch system by LakeXpress, the ability to offer real-time bus tracking information, to complement the planned launch of RouteShout, will soon become possible through a number of communication modes including smartphone mobile apps and in-station sign displays, both of which are attractive to the public because they improve the riding experience and aid in attracting new ridership.

- ***Wi-Fi on Buses*** – To complement the recommended implementation of real-time bus location information and the launching of the RouteShout interface, the provision of Wi-Fi on LakeXpress buses can improve the ease through which schedule information is shared with riders, as well as alerts about delays, detours, and other service updates. Furthermore, access to Wi-Fi is a convenience that was frequently cited by the public as a critical need and also can help attract new ridership to LakeXpress service going forward.

Capital/Infrastructure

- ***Improve Bus Stop Comfort*** – Public outreach indicated a significant need to ensure bus stop comfort through the provision of benches and shelters. Riders and bus operators alike noted concerns related to bus stop comfort, as well as emphasized that benches and shelters should be provided at the busiest bus stops to ensure a safe, comfortable waiting area. These investments would enhance the rider experience and also may attract new riders.

- ***Improve More Sidewalk Connections*** – Riders expressed the need for improvements to sidewalk infrastructure connections to bus stops. Public input revealed that many of LakeXpress' services operate in areas where sidewalks are not yet installed, particularly areas that are primarily residential in nature.

- ***Add Park-and-Ride Facilities*** – Park-and-ride lots extend the range of an agency's effective service area, enabling riders living outside of the service area to drive to a park-and-ride and leave their cars during the day at nor or minimal additional charge. Park-and-ride facilities also provide collection points for travelers to transfer from auto to transit or between autos (from a single-occupant vehicle to a carpool or vanpool). When conveniently located, park-and-ride facilities can be integrated into the overall transportation network and encourage a shift from single-occupant vehicles to transit or other alternative modes. This TDP recommends that shared park-and-ride facilities be explored at the periphery of LakeXpress' current service area.

Policy/Other

- It is recommended that Lake County conduct a Comprehensive Operational Analysis (COA) of the LakeXpress bus system. All transit systems make periodic adjustments to the routes and services in response to citizen demands, roadway changes, and to improve services. Over time, these modifications build and may create inefficiencies in the way the service is performing and foster passengers to adjust travel patterns. The COA is an operational check to determine if the services can be provided in a more efficient manner and/or if there would be ways to improve the rider use of the services by reduced transfers or wait times.

Alternatives Evaluation

A hybrid qualitative/quantitative methodology was developed to evaluate and prioritize the needs presented previously in this section. To prioritize and program these service improvements for potential implementation, it is important to weigh the benefits of each service improvement against the others. By conducting an alternatives evaluation, LakeXpress can better prioritize projects and allocate funding using an objective service implementation process.

The remainder of this section identifies and defines the evaluation criteria to be used in prioritizing the service improvements developed for the TDP and the methodology by which those criteria should be applied.

Evaluation Criteria

Table 9-1 lists the evaluation categories and their corresponding descriptions, the associated measure, and the assigned weighting for each category. A description of the elements in the table follows. Using these criteria, each of the alternatives were then assigned a qualitative measure of Very High, High, Medium, or Low in order to determine their overall priority, as presented later in this section.

Table 9-1: Alternative Evaluation Criteria and Weights

Criteria	Measure	Description	Weight
Community Support	Public Input	Level of interest in specific alternatives during public outreach.	35%
	Stakeholder Input	Level of support from community leaders.	25%
Ridership Potential	Traditional Market	General overlap in "High" or "Very High" Transit Orientation Index (TOI), Density Threshold Assessment (DTA)	20%
	Discretionary Market	General overlap in areas that meet the "Minimum" Density Threshold Assessment (DTA) tier for employment or dwelling unit density	
Regional Connectivity	Connections to Regional Hubs	Connections to regional transit networks/hubs in adjacent counties	20%

Community Support

An extensive public outreach process was conducted for the LakeXpress TDP 10-year planning effort and resulted in numerous opinions and suggestions on transit services from the public, including transit users, non-users, stakeholders, and community leaders. Based on a review of input from the overall public outreach effort, interest in a particular type of service was identified as ranging from "Very High" to "Low" for the alternatives evaluation process, from both the public and community leaders.

Ridership Potential

For the evaluation of alternatives, results from the assessments of transit demand that were conducted and summarized previously, including the traditional and discretionary markets, also were used. Based on the review of these transit markets, the alternatives were assigned a ranking of "Very High" to "Low" for the transit market criterion. The following summarizes each transit market type and the subsequent findings.

- **Discretionary Markets** - The assessment of the discretionary transit user market (e.g., people who own an automobile but may decide to take transit) was reviewed based on results from the DTA. The potential new services identified in the development of transit needs were overlaid onto a map that also included the results of the DTA analysis and a determination of how well the service improvements aligned with discretionary transit markets was made. The greater the number of pockets of "Minimum," "Low," and "Medium" transit investment that connected to a potential improvement, the higher the score assigned to an improvement.
- **Traditional Markets** - The assessment of transit demand in the traditional transit users market (e.g., transit-dependent riders such as low-income and zero-vehicle households, older adults, and youth) was also reviewed based on results from the TOI. A similar process of overlaying the transit

needs map with the results of the TOI analysis map enabled the assessment of ridership potential for the traditional transit markets. The potential service improvements that connect to a significant number of pockets meeting ”High” and “Very High” transit orientation were given a higher score.

Regional Connectivity

Improvements were considered to be regional connections if they consisted of either improvements to existing services or entirely new services that crossed county lines. Regional connections are a key means of facilitating the mobility of transit riders, and improving connections with the transit systems of adjacent areas helps strengthen mobility on a broader scale. In order to determine the degree of regional connectivity afforded by each potential improvement, the highest scores were given to improvements that crossed county boundaries and had significant service area in other counties. Mid-level scores were assigned to improvements that, at a minimum, crossed county boundaries and connected to regional trip generators of varying size and significance.

Alternatives Evaluation Results Summary

Each alternative was evaluated using the criteria and process summarized previously, and the detailed results of the evaluation are presented in Table 8-2. As shown, the nine improvements were given a ranking of “Very High,” “High,” “Medium,” or “Low” based on the qualitative/quantitative evaluation process discussed previously. Next, an overall ranking was calculated by assigning a score to each of the ratings, where “Very High” received the highest score (7) and “Low” received the lowest score (1), and then deriving a weighted score based on the weight of each category/criteria for each improvement. For example, “Extend service to 10 PM on All Routes” was ranked as “Very High (7),” “Medium (3),” “Medium (3),” and “Low (1)” for the respective criteria and, once these rankings were combined into a single score (3.9 out of 7), it came in between the thresholds of “Medium (3)” and “High (5).”

Consistent with the community’s vision for LakeXpress services, adding Saturday Service was ranked as the top priority for LakeXpress, followed doubling frequency on Routes 1, 1A, 2, and 3, and adding express service along US 27 from Leesburg to Clermont. In developing the TDP and the corresponding implementation plan, these priorities will be balanced with the funding realities to determine to what degree that the community’s vision can be realized over the next decade.

Table 9-2: Alternatives Evaluation Matrix

Improvement	Criteria			Weighted Score	Priority Rank
	Community Support	Ridership Potential	Regional Connectivity		
Add Saturday Service to Routes 1, 1A, 2, & 3	Very High	High	Very High	5.6	1
Enhance Frequency on Routes 1, 1A, 2, & 3	High	High	Very High	5.4	2
Express Service on US 27 from Leesburg to Clermont	Medium	Medium	Very High	4.3	3
US 27/441 Flex Service	Medium	Low	Very High	4.1	4
Extend Route 1A to Marion County	Medium	Low	Very High	3.1	5
Later Evening Service	Low	High	Very High	3.0	6
Enhance Frequency on Route 4	Medium	High	Low	2.5	7

Very High High Medium Low

SECTION 10 10-YEAR TRANSIT PLAN

This section presents the 10-year financial and implementation plans for LakeXpress service covering FYs 2019-2028. A summary of the assumptions for capital and operating costs and revenues are presented, followed by the 10-year Cost Feasible Plan to maintain existing services and fund specific capital improvements required to support the current system.

The 10-year Needs Plan is presented in Appendix E, which estimates costs for unfunded alternatives to increase service hours and frequencies on specific routes, implement Saturday service, and provide new services as previously described in Section 9. Based on the current funding constraints, these service improvements and associated capital needs will not be implemented without securing additional revenue.

Cost and Revenue Assumptions

Numerous assumptions were made to project transit costs and revenues over the 10-year period for this TDP that are based on a variety of factors. These factors include historical data and trends, current budgets, and discussions with Lake County staff. The assumptions included in the 10-Year plans are described further in this section.

Operating Cost Assumptions

Existing Services

The annual operating costs for LakeXpress services assumed in the TDP are based on the County's proposed FY 2019 operating budget. This includes $3.2 million to operate fixed-route service, $3.6 million to operate paratransit service, and program administration costs of $0.52 million. To project future operating costs, an annual inflation rate of 3 percent is applied to the FY 2019 costs to project future operating costs over the 10-year TDP planning period. This is consistent with the assumed inflation for operating revenues budgeted by Lake County.

Service Modifications

- **Fixed-Route Service**—The annual operating costs for each fixed-route service improvement is calculated by multiplying the additional revenue hours for the improvement by the fixed-route operating cost per revenue hour. The 2019 operating cost per revenue hour is calculated by inflating the operating cost per revenue hour from the 2017 NTD by 3 percent annually, the assumed operating cost annual inflation rate.
- **ADA Service**—Lake County is required to provide complementary ADA service for extended fixed-route service hours or within ¾-mile of new fixed-route service with the exception of flex or express routes. Of the fixed-route service improvements identified, extending weekday service until 9 pm and implementing Saturday service on select route requires additional ADA service. There are a number of factors that influence the actual cost of providing ADA service, including the size and density of the service area and need for door-to door service by persons living within the service area. To estimate the ADA service costs associated with each fixed-route

improvement, the fixed-route cost is multiplied by the ratio of annual paratransit operating cost to fixed-route operating cost (113%) for FY 2019.

Table 10-1 summarizes the FY 2019 fixed-route and applicable paratransit costs estimated for each proposed service improvement.

Table 10-1: Estimated Annual Cost of Proposed Service Improvements (FY 2019)

Improvement	Fixed-Route Annual Cost	Paratransit Annual Cost	Total Annual Cost
Double Frequency on Routes 1, 1A, 2, 3	$2.19 million	N/A	$2.19 million
Double Frequency on Route 4	$287,000	N/A	$287,000
Extend Weekday Service to 9 PM on Routes 1, 1A, 2, 3	$248,000	$281,000	$529,000
Implement Saturday Service on Routes 1, 1A, 2, 3	$262,500	$297,500	$560,000
Express Service on US 27	$201,000	N/A	$201,000
Connection to Marion County (Route 1A Extension)*	$43,700	N/A*	$44,000
US 441 Flex Service	$351,500	N/A	$351,500
Total	**$3.6 million**	**$579,000**	**$4.2 million**

**Reflects the cost for weekday service only. Cost for Saturday service is included under the total cost of adding Saturday service for Routes 1, 1A, 2 and 3. The cost of providing ADA service for the portion of Route 1A extended into Marion County is estimated to be negligible.*

Capital Cost Assumptions

Capital costs for vehicles and infrastructure improvements are based on recent purchases provided by Lake County staff or discussions of future cost estimates to be included in the 10-year plan. Capital costs in the 10-year plan are escalated at 3% consistent with operating costs.

Vehicle Replacement

Vehicle replacement and acquisition are important components of transit capital and can affect system effectiveness and quality of service. The number of replacement buses needed to maintain existing services is determined based on available funding and the useful life of the vehicles. Costs for fixed-route, paratransit, and staff/support vehicles are based on recent or planned purchases by Lake County and are in-line with current costs experienced by other Florida transit agencies for similar vehicles. This 10-year plan assumes a base year unit cost of $485,000 for fixed-route buses and $92,500 for paratransit vehicles unless otherwise dictated by grant funds for specific vehicles.

ADA Bus Stop/Safety Improvements

Providing and improving infrastructure at bus stops, including benches, shelters, bicycle storage facilities, and other infrastructure not only enhances the existing rider's experience waiting for and boarding the bus, but can also attract potential riders. Improvements can also be made that improve safety and ADA accessibility and increase connectivity to the pedestrian network, enhancing the rider's access to the bus stop and overall use of the system. The 10-Year Cost Feasible Plan assumes annual funding for ADA accessibility and safety improvements identified from a previously-conducted ADA accessibility study.

Planning Studies

The 10-year Cost Feasible Plan includes budget for Lake County to perform a COA (estimated to be funded in FY 2019) and a subsequent TDP major update when due to FDOT on or before September 1, 2023. The cost of the TDP is based on the cost of the current TDP update of inflated to FY 2023 dollars.

Revenue Assumptions

Federal, state, and local operating and capital revenues identified in the proposed FY 2019 Lake County budget for LakeXpress services and supplemental FY 2019 grant information have been included in the 10-Year Cost Feasible Plan as follows:

Operating

- Federal revenue: Section 5307 and 5311 funds totaling $48.6 million over the 10-year period.
- State revenue: State Block Grant funds and Florida CTD TD funds totaling $17.3 million over the 10-year period.
- Local funds: Lake County general funds, fare revenue, County motor fuel tax reimbursement, and other miscellaneous revenue totaling $18.3 million over the 10-year period.

Capital revenues

- Federal revenue: Section 5339 and Section 5310 funds totaling $7.2 million assumed to replace fixed-route and paratransit vehicles that provide existing services and that will reach or exceed their useful life during the 10-year TDP timeframe.
- State revenue: FY 2019 CTD funds totaling $150,000 for new paratransit vehiclesand toll revenue credits of $1.7 million to provide soft match funds for the Section 5339 revenues noted above.
- Lake County general funds for bus stop/ADA improvements and replacement service vehicles totaling nearly $3.2 over the 10-year period.

The above revenues are inflated at 3 percent annually based on discussions with Lake County staff.

10-Year Cost Feasible Plan

The 10-year Cost Feasible Plan presented in Table 10-2 assumes that the operating cost for existing services, totaling $84.2 million over the 10-year period, will be maintained and the $12.2 million in identified capital revenue will balance the estimated costs for planned vehicle replacements, bus stop/ADA improvements, and planning studies. The 10-Year Cost Affordable plan assumes that, on average, local revenue will fund 23 percent of the total costs over the 10 years.

Table 10-2: 10-Year Cost Feasible Plan

Source	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	10-Year Total
OPERATING AND CAPITAL COSTS											
Operating Costs											
Maintain Existing Service - Fixed Route	$3,197,114	$3,293,027	$3,391,818	$3,493,573	$3,598,380	$3,706,331	$3,817,521	$3,932,047	$4,050,008	$4,171,508	$36,651,327
Maintain Existing Service - Administration	$519,912	$535,510	$551,575	$568,122	$585,166	$602,721	$620,803	$639,427	$658,609	$678,368	$5,960,212
Maintain Existing Service - ADA	$3,627,254	$3,736,071	$3,848,153	$3,963,598	$4,082,506	$4,204,981	$4,331,131	$4,461,064	$4,594,896	$4,732,743	$41,582,398
Service Modification - Fixed Route	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Service Modification - ADA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Service - Fixed Route	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Service - ADA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Costs	***$7,344,280***	***$7,564,608***	***$7,791,546***	***$8,025,293***	***$8,266,052***	***$8,514,033***	***$8,769,454***	***$9,032,538***	***$9,303,514***	***$9,582,619***	***$84,193,938***
Capital Costs											
Replacement Vehicles	$587,280	$190,550	$196,267	$4,089,531	$0	$214,466	$220,900	$3,523,589	$234,352	$1,507,013	$10,763,947
Other Transit Capital	$215,000	$103,000	$106,090	$109,273	$270,122	$115,927	$119,405	$122,987	$126,677	$130,477	$1,418,959
Total Capital Costs	***$802,280***	***$293,550***	***$302,357***	***$4,198,803***	***$270,122***	***$330,393***	***$340,305***	***$3,646,576***	***$361,029***	***$1,637,490***	***$12,182,906***
Total Costs	**$8,146,560**	**$7,858,158**	**$8,093,903**	**$12,224,096**	**$8,536,174**	**$8,844,426**	**$9,109,759**	**$12,679,114**	**$9,664,543**	**$11,220,110**	**$96,376,843**
OPERATING AND CAPITAL REVENUE											
OPERATING REVENUES											
Federal	$4,235,790	$4,362,864	$4,493,750	$4,628,562	$4,767,419	$4,910,442	$5,057,755	$5,209,487	$5,365,772	$5,526,745	$48,558,585
State	$1,511,307	$1,556,646	$1,603,346	$1,651,446	$1,700,989	$1,752,019	$1,804,580	$1,858,717	$1,914,478	$1,971,913	$17,325,441
Local	$1,597,183	$1,645,098	$1,694,451	$1,745,285	$1,797,644	$1,851,573	$1,907,120	$1,964,334	$2,023,264	$2,083,962	$18,309,913
Total Operating Revenue	**$7,344,280**	**$7,564,608**	**$7,791,546**	**$8,025,293**	**$8,266,052**	**$8,514,033**	**$8,769,454**	**$9,032,538**	**$9,303,514**	**$9,582,619**	**$84,193,937**
Total Operating Cost	**$7,344,280**	**$7,564,608**	**$7,791,546**	**$8,025,293**	**$8,266,052**	**$8,514,033**	**$8,769,454**	**$9,032,538**	**$9,303,514**	**$9,582,619**	**$84,193,937**
Net Operating (Contingency/Need)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
OPERATING AND CAPITAL REVENUE (CONT'D)											
CAPITAL REVENUES											
Federal	$437,280	$0	$0	$3,109,901	$0	$0	$0	$2,636,850	$0	$1,012,504	$7,196,535
State	$150,000	$0	$0	$777,475	$0	$0	$0	$659,212	$0	$253,126	$1,839,814
Local	$215,000	$293,550	$302,357	$311,427	$270,122	$330,393	$340,305	$350,514	$361,029	$371,860	$3,146,558
Total Capital Revenue	**$802,280**	**$293,550**	**$302,357**	**$4,198,803**	**$270,122**	**$330,393**	**$340,305**	**$3,646,576**	**$361,029**	**$1,637,490**	**$12,182,906**
Total Capital Cost	**$802,280**	**$293,550**	**$302,357**	**$4,198,803**	**$270,122**	**$330,393**	**$340,305**	**$3,646,576**	**$361,029**	**$1,637,490**	**$12,182,906**
Net Capital (Contingency/Need)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
TOTAL COSTS VS. REVENUES											
Total Revenue	**$8,146,560**	**$7,858,158**	**$8,093,903**	**$12,224,096**	**$8,536,174**	**$8,844,426**	**$9,109,759**	**$12,679,114**	**$9,664,543**	**$11,220,109**	**$96,376,843**
Total Cost	**$8,146,560**	**$7,858,158**	**$8,093,903**	**$12,224,096**	**$8,536,174**	**$8,844,426**	**$9,109,759**	**$12,679,114**	**$9,664,543**	**$11,220,109**	**$96,376,843**
Net Total (Contingency/Need)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
% Local Government Share of Total Revenue	**22%**	**25%**	**25%**	**17%**	**24%**	**25%**	**25%**	**18%**	**25%**	**22%**	**22%**

APPENDIX A: PUBLIC INVOLVEMENT PLAN

LAKEXPRESS TRANSIT DEVELOPMENT PLAN MAJOR UPDATE

Public Involvement Plan

DRAFT

April 2018

Prepared for

Prepared by

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INTRODUCTION

LakeXpress, the transit agency serving Lake County, is preparing its 10-year Transit Development Plan (TDP), which will provide a guide for development of the transit system over the next 10 years. As required by the State statute, this is a major update to its TDP, which is required every five years. The update covers FY 2019 through 2028.

This Public Involvement Plan (PIP) summarizes the project and public involvement background, goals, and outreach activities for the LakeXpress TDP.

The primary goal of the PIP is to engage key stakeholders and a broad spectrum of the public to gather valuable public feedback on the transit needs, priorities, and strategies in place to enhance public transportation in Lake County and the region. The PIP will enlist strategies that encourage a high level of community input, buy-in, and will provide ample opportunity for State and local agencies, elected officials, the general public, transit-users, and other interested stakeholders to understand the nature of the TDP and its benefits by providing open, two-way communication.

As an integral part of the MPO planning process, public involvement is given a major priority during all phases of transportation planning, but is particularly essential during major updates to the TDP. To ensure that public transportation dollars are programmed in a manner which fully integrates public participation and reflects the diverse values and needs of the communities it is intended to benefit, the TDP's Public Involvement Plan (PIP) is provided below and includes legal requirements, process, objectives, activities and schedules.

TDP PUBLIC INVOLVEMENT REQUIREMENTS

The State of Florida Public Transit Block Grant Program was enacted by the Florida Legislature to provide a stable source of funding for public transit. The Florida Department of Transportation (FDOT) requires that all transit agencies receiving State Block Grant funding prepare a major TDP update every five years, with annual minor updates and monitoring in the interim years.

The current TDP Rule emphasizes public involvement, as follows:

> *The TDP preparation process shall include opportunities for public involvement as outlined in a TDP public involvement plan, approved by the Department, or the local Metropolitan Planning Organization's (MPO) Public Involvement Plan, approved by both the Federal Transit Administration and the Federal Highway Administration.*

The rule also indicates that:

- The TDP must include a description of the public involvement process and activities.
- Comments must be solicited from the local Work Force Development agency.
- The Department, Work Force Development agency, and the MPO must be advised of all public meetings where the TDP is to be presented or discussed.
- The Department, Work Force Development agency, and the MPO must be given an opportunity to review and comment on the TDP during the development of the mission, goals, objectives, alternatives, and 10-year implementation program.

To ensure that Lake County meets these requirements, the PIP will facilitate a public involvement process for the TDP effort that will encompass a range of activities that ensures ample opportunity for participation by the required and other interested entities. The following sub-tasks highlight the specific activities that will occur to engage the public and stakeholder groups to inform the development of the TDP.

This plan has been developed in accordance with Florida Rule 14-73.001, which requires that the creation of a TDP includes public input. The formal PIP shall be submitted for review and approval by the local FDOT District ("the Department," as referenced in the rule) before the PIP can be put into effect.

TDP PUBLIC INVOLVEMENT PROCESS

The public involvement process for the development of the LakeXpress TDP seeks public transit user and non-user input on transit needs, priorities, and implementation strategies to enhance public transportation in Lake County, its municipalities, and the region. As part of this effort, the TDP process will engage in a broad outreach effort to a range of groups, including passengers, major employers, human service providers, bus operations, diverse stakeholders, and the general public to improve LakeXpress' service.

Key Objectives

To ensure that public dollars are programmed in a manner which fully considers and incorporates public participation into the transportation planning process, the objectives of the TDP PIP include the following:

- Provide stakeholders and the public with baseline information about the current state of LakeXpress' service, and keep them fully informed throughout the TDP update.
- Identify and document the concerns, issues, and needs of key stakeholders including both public transit users and non-users.
- To encourage the participation of all stakeholders and interested parties within the project area or whom may be impacted.
- To pay particular attention to underserved and Environmental Justice (EJ) communities in the public participation and programming processes.
- To provide frequent opportunities and consistent access for community input.
- To identify tools to gather information from stakeholders unable to participating in meetings and typical public involvement activities – including but not limited to email, questionnaires, telephone surveys, and social media networks.
- To identify and document the concerns, issues, and needs of key stakeholders.
- To effectively and systematically integrate the concerns, issues, and needs of key stakeholders into the transportation planning process.
- To develop a multi-faceted interdisciplinary communication model that will effectively inform and integrate all stakeholder groups about and into the TDP process.
- To respond to community questions, comments, concerns, and issues when requested.

PUBLIC INVOLVEMENT ACTIVITIES

A variety of public involvement techniques were selected for including in the PIP to ensure active participation of citizens and stakeholders in Lake County. The remainder of this section summarizes these activities in detail.

Stakeholder Interviews

Since the understanding of local conditions should include knowledge of the perceptions and attitudes of community decision-makers and leaders towards transit, 10 stakeholder interviews will be conducted as part of the public involvement process. Stakeholders will be given the option of participating via a telephone interview if this method fits better in terms of schedule.

On-Board Surveys

On-board surveys of 100% of the LakeXpress scheduled fixed-route bus trips will be conducted to obtain information related to the attitudes, preferences, and habits of current riders for market research purposes. The information gathered will enable LakeXpress to focus on relevant transit needs and issues such as modifying bus schedules, locating bus stops, modifying fare structures, planning for future services, focusing on marketing campaigns, and identifying historical trends in rider satisfaction.

The on-board survey methodology and implementation will be coordinated closely with LakeXpress staff to ensure that study objectives are met and data collection efforts are efficiently integrated with LakeXpress operations. In addition, the survey form will be developed in conjunction with the Lake County staff and will draw on the most recent survey questionnaire used by LakeXpress to promote consistency of questions and response cohorts. This will facilitate subsequent comparative analysis of results over time. The Consultant also will provide survey notices for LakeXpress to distribute to its bus operators and on board its buses to notify patrons of the upcoming event.

The Consultant will use electronic tablets to facilitate the collection of data during the survey interview process on board the vehicles. Once approved, the questionnaire will be programmed as an easy-to-use survey application and will walk the patron through the questions, with directed branching geared to account for prior responses. Collection of origin/destination (O/D) information through the electronic tablets and interview process will increase the number of valid, accurate, and geocodable responses from bus riders. The on-board survey is expected to cover a sample of all routes and for all hours of LakeXpress' service for a representative weekday of service. To the extent possible, the survey will be scheduled to capture peak season activity in the county. The survey app will consider both English and Spanish languages.

All bus riders will have an equal chance of being interviewed, as all candidates will be randomly selected if on-vehicle conditions do not allow every rider on a given trip to be interviewed before they alight.

Data analysis will be conducted to create selected cross-tabulations and statistics consistent with previous onboard data collection efforts and to reflect input from Lake County and LakeXpress staff. All findings and conclusions will be provided in a user-friendly manner with easy-to-understand charts and graphs for LakeXpress staff and the general public.

Operator Interviews

The Consultant will conduct interviews of a representative group of LakeXpress operators. As the first line of contact and interaction with system riders, bus operators tend to understand the needs and concerns of the system users and can provide input into understanding comments received on surveys and through workshops. This will be accomplished at the LakeXpress offices and will be no more than two group sessions on the same day to minimize impact to the operator schedule. Consultant staff will develop a script with 5-8 questions and submit to Lake County staff for review prior to the interviews. The Consultant will work with LakeXpress leadership to schedule and conduct the interviews.

Discussion Group Workshops

To obtain additional public input into the TDP process, the Consultant will conduct two discussion group workshops that will be held around the county to ensure representation that is geographically distributed. These workshops typically involve a smaller group of participants (8–12 persons) in an intimate meeting setting that permits more in-depth discussion about issues and needs. The two workshops will be held in different areas to coincide with LakeXpress' existing service area. To generate interest and participation, the Consultant will work with Lake County staff to identify and invite potential participants to each workshop. This coordination also will include the selection and scheduling of appropriate venues for the workshops.

Potential workshop candidates may include members from broad backgrounds including business, health, social service, and education communities, as well as local chambers of commerce, the Hotel/Motel Association, and active stakeholder groups. Since representatives from these organizations may represent "non-user" views, it will be important to notify current LakeXpress patrons and operators of all the workshops so that the "user" perspective is represented as well. Although it may be preferable to focus rider input at a single workshop, it would be beneficial to get user participation at all of the workshops to enhance the discussion.

At the workshops, a variety of techniques will be used to encourage participation and elicit perceptions, ideas, preferences, and other input that is important to inform the TDP process. For example, the Nominal Group Technique could be used to identify potential transit improvement concepts and then dot-polling and/or resource allocation exercises can be applied to the identified concepts to help set preferences on improvement priorities. The project team will summarize the findings and themes collected as part of the discussion groups.

Public Input Survey

The Consultant will conduct a survey of the general public to obtain information related to the attitudes, preferences, latent demand, general support, and goals of the community related to public transit services and to augment findings of the on-board survey. The survey will be available on-line, through social media, and in a hard copy version. Access to the on-line version will be via links on the LakeXpress and Lake Count web sites in addition to Cities and other entities as identified and available. The hard copy will be provided at workshops, listening sessions, via bus pass outlets, and through partnering agencies and facilities such as libraries and other similar venues. These will have a location and/or mail in process for collection.

The Consultant will provide the content for email-blasts, social media posts, and website links used to promote the online survey effort. In addition, stakeholders attending the discussion groups will be requested to disseminate the survey links, and project business cards will be designed and used to promote the availability of the online surveys. The project team will summarize the findings and themes collected as part of the discussion groups. All findings and conclusions will be provided in a user-friendly manner with easy-to-understand charts and graphs for LakeXpress staff and the general public.

Website, Social Media, Email Outreach

The Consultant has found value in engaging citizens via social media and websites, and will provide information and content to Lake County for their website and social media outlets, including public surveys, project information, meeting dates, and highlights about the LakeXpress system. Social media can be an effective method of engaging the public, providing education on LakeXpress' service and plans, and soliciting input on transportation decisions. Emailing news and informational blasts via email lists maintained by Lake County staff, LakeXpress, and other sources, will provide supplemental or additional information and outreach to stakeholders, citizens, and riders.

PUBLIC OUTREACH SCHEDULE

A public outreach schedule has been developed to ensure completion and approval of the TDP by the Lake County Board by August 21, 2018. Table 1 presents the tentative schedule for the public outreach activities included in the 2019-2028 LakeXpress TDP.

Table 1: Tentative Public Outreach Schedule

Activity	Mar	Apr	May	Jun	Jul	Aug
Project Kick-off Meeting						
Stakeholder Interviews						
On-Board Surveys						
Operator Interviews						
Discussion Workshops						
Online Survey						
Website, Social Media, Email Outreach						
Present Final Report to BOCC						

APPENDIX B: ON-BOARD SURVEY INSTRUMENT

Lake County Transit (LakeXpress) On-Board Survey

LakeXpress would like your input to help improve its transit service. Please help us serve you better by completing this survey. Thank you.

1. How would you rate your bus service experience over the past year? (Please ✓ only **ONE**)

1__ Very Good 2__ Good 3__ Average 4__ Poor

2. What is the **MOST COMMON** reason you use the bus? (Please ✓ only **ONE**)

1__ Work
2__ Social/Recreation/Entertainment
3__ Shopping/Errands
4__ Medical
5__ School/College
6__ Other (specify)_____

3. How do you **USUALLY** get to the bus? (Please ✓ only **ONE**)

1__ Walked/Wheelchair ➡ *# blocks?* ____
2__ Bicycled ➡ *# blocks?* ____
3__ Drove & parked ➡ *# miles?*____
4__ Was dropped off
5__ Rode with someone who parked
6__ Other (specify)_____

4. **LIST ALL** of the **BUS ROUTES** in the **EXACT ORDER** you will use to make **THIS ONE-WAY TRIP**:

FIRST Bus	➡	**SECOND** Bus	➡	**THIRD** Bus Route

5. Typically, how many **ONE-WAY** bus trips do you make **PER WEEK** using the bus?

1__ 1-2 trips 2__ 3-4 trips 3__ 5-6 trips 4__ more than 6 trips

6. What is the **MOST IMPORTANT** reason you ride the bus? (Please ✓ only **ONE**)

1__ I do not have a valid driver's license
2__ I do not have access to a car/vehicle
3__ Parking is too expensive/difficult
4__ I am unable to drive
5__ The bus is more convenient
6__ The bus fits my budget better
7__ The bus is safer/less stressful
8__ Other (specify) _____

7. If the bus **WERE NOT AVAILABLE TODAY,** how would you travel to your destination?

1__ Drive
2__ Ride with someone
3__ Bicycle
4__ Taxi
5__ Wouldn't make trip
6__ Other (specify) _____

8. How many working vehicles (cars, motorcycles, trucks, vans) are at your home? (Please ✓ only **ONE**)

1__ 1 2__ 2 3__ 3 or more 4__ None

9. How long have you been using LakeXpress bus service?

1__ 0 to 6 months
2__ 7 months to 1 year
3__ 1 to 2 years
4__ 2 to 5 years
5__ > 5 years

10. What type of fare do you **USUALLY** pay when you ride the bus? (Please ✓ only **ONE**)

1__ Full Fare ($1.00)
2__ Reduced Fare (50¢)
3__ 1-Day Pass ($3.00)
4__ Reduced 1-Day Pass ($1.50)
5__ Full Fare 10-Ride Pass ($8.00)
6__ Reduced Fare 10-Ride Pass ($4.00)
7__ Unlimited 30-Day Pass ($30.00)
8__ Reduced Unlimited Monthly Pass ($15.00)
9__ Other (specify) _____

11. How do you **USUALLY** get information on bus service? (Please ✓ only **ONE**)

1__ Printed bus schedule
2__ Website bus schedule
3__ Google
4__ Call LakeXpress
5__ Bus drivers
6__ Bus signs/shelters
8__ Friend/relative
9__ Other (specify) _____

12. Do you use or own a **CELL PHONE**? (Please ✓ only **ONE**)

1__ Yes, it's a smartphone with a data plan / internet connectivity
2__ Yes, but I have no data plan / Wi-Fi capability
3__ No

PLEASE CONTINUE ON BACK OF SURVEY ➡

13. What three **SERVICE IMPROVEMENTS** would make LakeXpress better for you to use? (Please ✓ **THREE**)

1 ___ More frequent service on existing routes
2 ___ Service on Saturday or Sunday
3 ___ Later evening service
4 ___ New routes/service. Where? _____
5 ___ Express service. Where? _____
6 ___ Better connections to other counties. Where?_____
7 ___ More amenities at bus stops. Where?_____
8 ___ Better sidewalk connections to bus stops
9 ___ Other (Specify) _____

14. Which three of the following technology improvements would make LakeXpress better for you to use? (Please ✓ **THREE**)

1 ___ Real-time schedule information on buses
2 ___ Real-time schedule information at major stations
3 ___ Wireless internet service on buses
4 ___ Electronic bus stop announcements on buses
5 ___ Smartphone bus information app
6 ___ Better connections to other counties. Where?_____

15. How many months out of the year do you reside in Lake County?

1__ Less than 6 months 2__ 6 months to 1 year 3__ Permanent resident

16. Your age is?

1__ Under 18 3__ 25 to 40 5__ Over 60 years
2__ 18 to 24 4__ 41 to 60

17. What was the range of your total household income for 2012?

1__ Under $10,000 4__ $30,000 to $39,999
2__ $10,000 to $19,999 5__ $40,000 to $49,999
3__ $20,000 to $29,999 6__ $50,000 or more

18. Are you male or female? 1__ Male 2__ Female

19. Are you of Hispanic, Latino, or Spanish origin? 1__ Yes 2__ No

20. What is your race? (Please ✓ only **ONE**)

1__ American Indian or Alaska Native
2__ Black/African American
3__ White
4__ Asian
5__ Native Hawaiian or Other Pacific Islander
6__ Two or more races
7__ Other (specify) _____

21. How satisfied are you with each of the following? Circle a score for each characteristic.

Please indicate	Very Satisfied		Neutral		Very Unsatis-fied
b. Days of service	5	4	3	2	1
c. How often the buses run (frequency)	5	4	3	2	1
d. Hours of service	5	4	3	2	1
e. Convenience of route (where the buses go)	5	4	3	2	1
f. Dependability of buses (on-time performance)	5	4	3	2	1
g. Travel time on bus	5	4	3	2	1
h. Cost of riding the bus	5	4	3	2	1
i. Accessibility of bus passes (ease of purchase)	5	4	3	2	1
j. Availability of bus information	5	4	3	2	1
k. User-friendliness of bus information	5	4	3	2	1
l. Vehicle cleanliness & comfort	5	4	3	2	1
m. Bus stop cleanliness & comfort	5	4	3	2	1
n. Bus driver courtesy	5	4	3	2	1
o. Safety/security on bus	5	4	3	2	1
p. Safety/security at bus stops	5	4	3	2	1
q. Ability to transfer	5	4	3	2	1

THANK YOU FOR COMPLETING THE SURVEY!

APPENDIX C: VEHICLE INVENTORY

Table C-1: Fixed-Route Vehicle Inventory

#	County ID	Year	Make	Model	Vehicle Type	VIN	Length	Ambulatory Capacity	Wheelchair Capacity	Standing Capacity
1	24793	2006	Bluebird	Ultra LF	Bus	1BAGEBPA96W100477	30'	29	2	14
2	24794	2006	Bluebird	Ultra LF	Bus	1BAGEBPA66W100484	30'	29	2	14
3	24797	2006	Bluebird	Ultra LF	Bus	1BAGEBPA86W100485	30'	29	2	14
4	24798	2006	Bluebird	Ultra LF	Bus	1BAGEBPA16W100487	30'	29	2	14
5	25734	2008	Eldorado	EZ Rider II	Bus	1N9MNAC688C084085	29'	33	2	16
6	25956	2009	Eldorado	EZ Rider II	Bus	1N9MNAC679C084225	30'	33	2	16
7	25957	2009	Eldorado	EZ Rider II	Bus	1N9MNAC659C084224	30'	33	2	16
8	26118	2010	Eldorado	EZ Rider II	Bus	1N9MNACL6AC084100	31'	33	2	16
9	26363	2011	Eldorado	EZ Rider II	Bus	1N9MNAC63BC084048	31'	33	2	16
10	26550	2012	Eldorado	EZ Rider II	Bus	1N9MNAC61CC084101	31'	33	2	16
11	27913	2013	Eldorado	EZ Rider II	Bus	1N9MNAC68DC084159	32'	33	2	16
12	28618	2015	Gillig	Low Floor	Bus	15GGB2718F1184635	35'	29	2	14
13	28619	2015	Gillig	Low Floor	Bus	15GGB271XF1184636	35'	29	2	14
14	28620	2015	Gillig	Low Floor	Bus	15GGB2711F1184637	35'	29	2	14
15	29615	2018	Gillig	Low Floor	Bus	15GGB2716J3189779	35'	29	2	14
16	29616	2018	Gillig	Low Floor	Bus	15GGB2712J3189780	35	29	2	14

Table C-2: Paratransit Vehicle Inventory

#	County ID	Year	Make	Model	Vehicle Type	VIN	Length	Ambulatory Capacity	Wheelchair Capacity
1	26626	2012	Ford	Champion	Challenger	1FDFE4FL4CDA82411	23'	12	2
2	26627	2012	Ford	Champion	Challenger	1FDFE4FL6CDA82412	23'	12	2
3	26628	2012	Ford	Champion	Challenger	1FDFE4FL8CDA82413	23'	14	4
4	27943	2012	VPG	MV-1	Spec. Nee	523MF1A69CM101165	17'	3	1
5	27944	2012	VPG	MV-1	Spec. Nee	523MF1A66CM101186	17'	3	1
6	27945	2012	VPG	MV-1	Spec. Nee	523MF1A64CM101574	17'	3	1
7	28127	2013	Ford	Champion	Challenger	1FDFE4FS0DDB27241	23'	12	2
8	28128	2013	Ford	Champion	Challenger	1FDFE4FS2DDB27242	23'	12	2
9	28132	2013	Ford	Champion	Challenger	1FDFE4FS4DDB27243	23'	12	2
10	28133	2013	Ford	Champion	Challenger	1FDFE4FS1DDB28852	23'	12	2
11	28238	2014	Ford	Champion	Challenger	1FDFE4FS8EDA99013	23'	12	2
12	28622	2015	Ford	Turtle Top	Odyssey	1FDFE4FS1EDA04534	23'	12	3
13	28623	2015	Ford	Turtle Top	Odyssey	1FDFE4FS2EDA04509	23'	12	3
14	28628	2015	Ford	Glaval	Universal	1FDFE4FS9FDA34978	23'	12	2
15	28629	2015	Ford	Glaval	Universal	1FDFE4FS0FDA34979	23'	12	2
16	28630	2015	Ford	Glaval	Universal	1FDFE4FS7FDA34980	23'	12	2
17	28631	2015	Ford	Glaval	Universal	1FDFE4FS9FDA34981	23'	12	2
18	28632	2015	Ford	Glaval	Universal	1FDFE4FS0FDA34982	23'	12	2
19	28633	2015	Ford	Glaval	Universal	1FDFE4FS2FDA34983	23'	12	2
20	28634	2015	Ford	Glaval	Universal	1FDFE4FS4FDA34984	23'	12	2
21	28646	2015	Ford	Glaval	Universal	1FDFE4FS8FDA34969	23'	12	4
22	28647	2015	Ford	Glaval	Universal	1FDFE4FS4FDA34970	23'	12	4
23	28648	2015	Ford	Glaval	Universal	1FDFE4FS6FDA34971	23'	12	4
24	28649	2015	Ford	Glaval	Universal	1FDFE4FS8FDA34972	23'	12	4
25	28650	2015	Ford	Glaval	Universal	1FDFE4FSXFDA34973	23'	12	4

Table C-2: Paratransit Vehicle Inventory (Cont'd)

#	County ID	Year	Make	Model	Vehicle Type	VIN	Length	Ambulatory Capacity	Wheelchair Capacity
26	28651	2015	Ford	Glaval	Universal	1FDFE4FS1FDA34974	23'	12	4
27	28652	2015	Ford	Glaval	Universal	1FDFE4FS3FDA34975	23'	12	4
28	28653	2015	Ford	Glaval	Universal	1FDFE4FS5FDA34976	23'	12	4
29	28654	2015	Ford	Glaval	Universal	1FDFE4FS7FDA34977	23'	12	4
30	29204	2017	Ford	Nations	U4X	1FDVU4XG0HKA67570	22'	8	2
31	29205	2017	Ford	Nations	U4X	1FDVU4XG4HKA67572	22'	8	2
32	29228	2017	Ford	Turtle Top	Odyssey	1FDFE4FS5GDC57116	23'	12	3
33	29467	2017	Ford	Turtle Top	Odyssey	1FDFE4FS3HDC53065	23'	12	3
34	29468	2017	Ford	Turtle Top	Odyssey	1FDFE4FS3HDC55883	23'	12	3
35	29501	2017	Ford	Turtle Top	Odyssey	1FDFE4FS5HDC53066	23'	12	3
36	29502	2017	Ford	Turtle Top	Odyssey	1FDFE4FS5HDC55884	23"	12	3
37	29636	2018	Dodge	Grand	Caravan	2C7WDGCG2JR288808	16'	4	1

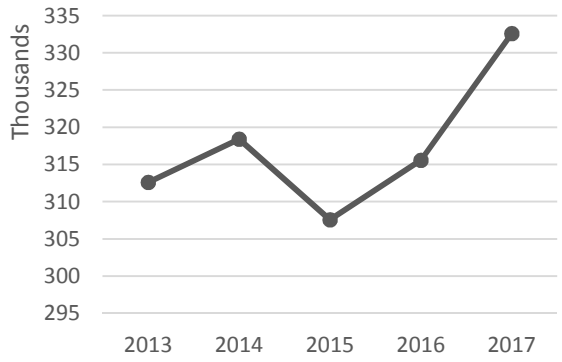
Table C-3: Support Vehicle Inventory

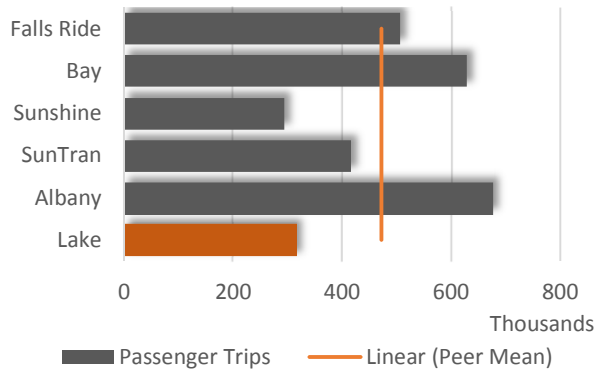
#	County ID	Year	Make	Model	Vehicle Type	VIN	Length	Ambulatory Capacity	Wheelchair Capacity
1	28087	2013	Ford	Stretcher	Van	1FTNE2EL6DDB32216	22'	2	0
2	28088	2013	Ford	Stretcher	Van	1FTNE2EL8DDB32217	22'	2	0
3	23675	2006	Chrysler	Jeep	Liberty	1J4GL48K66W177963	14'	5	0
4	29235	2017	Dodge	Grand	Caravan	2C7WDGCG4HR794070	16'	3	1
5	29236	2017	Dodge	Grand	Caravan	2C7WDGCG2HR794066	16'	3	1
6	29237	2017	Dodge	Grand	Caravan	2C7WDGCG0HR781459	16'	3	1
7	29238	2017	Dodge	Grand	Caravan	2C7WDGCG9HR781461	16'	3	1

APPENDIX D: TREND & PEER ANALYSIS

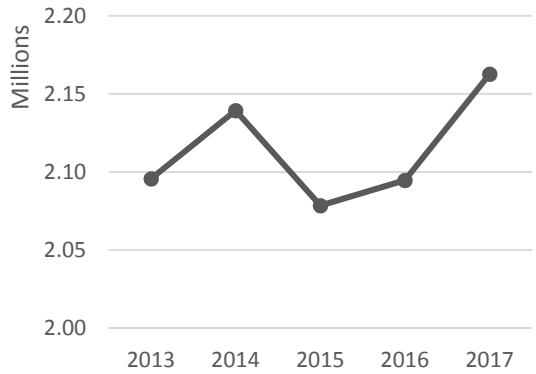
LakeExpress Fixed-Route Service

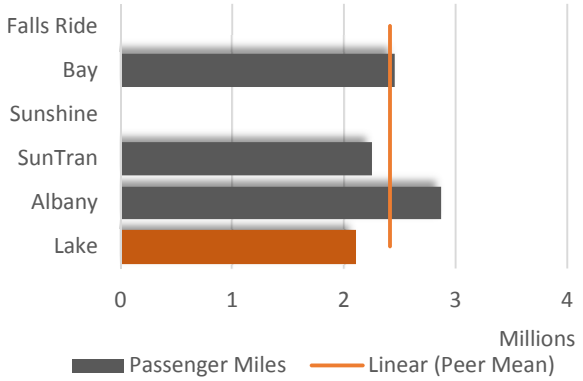
Passenger Trips



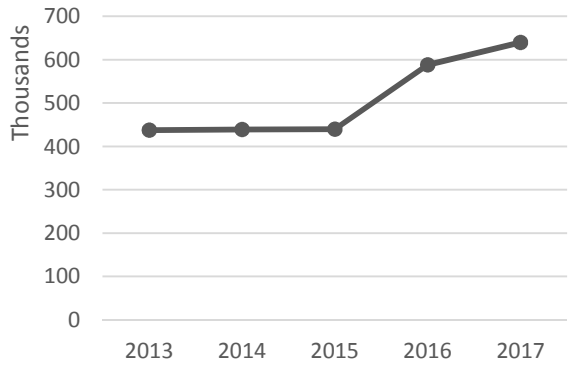


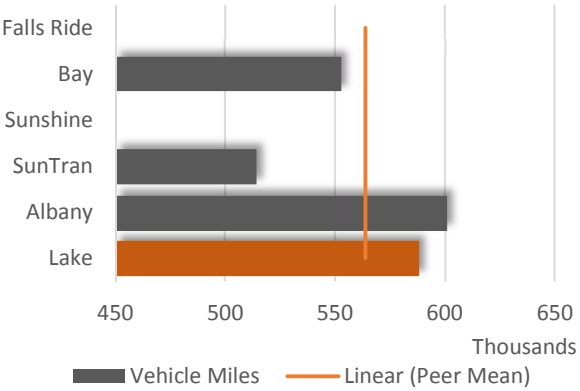
Passenger Miles



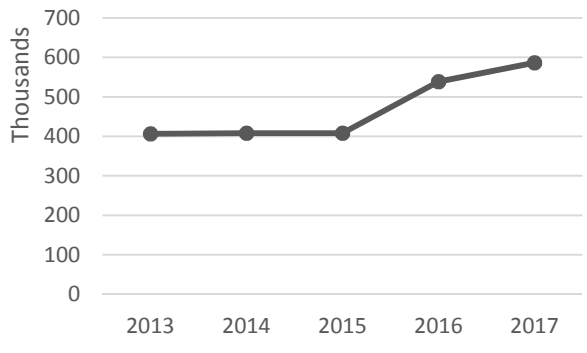


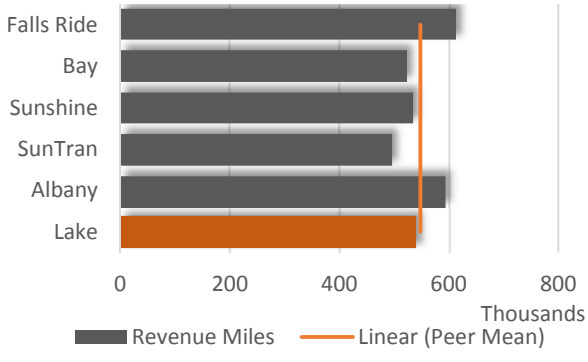
Vehicle Miles



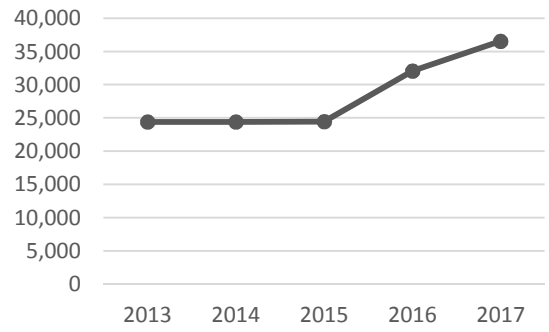


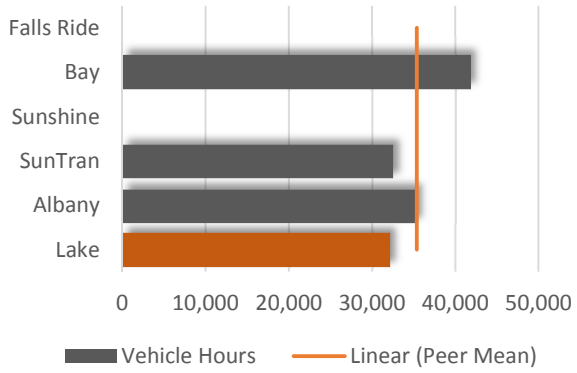
Revenue Miles



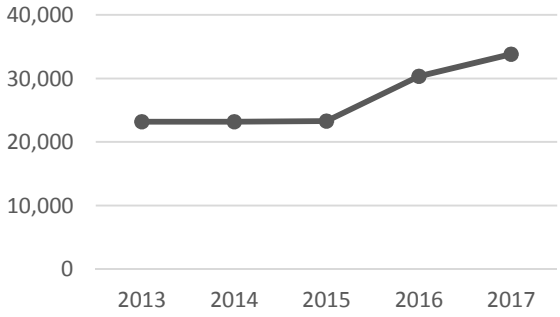


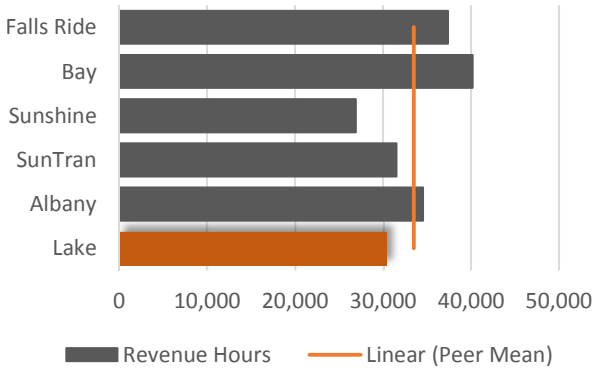
Vehicle Hours



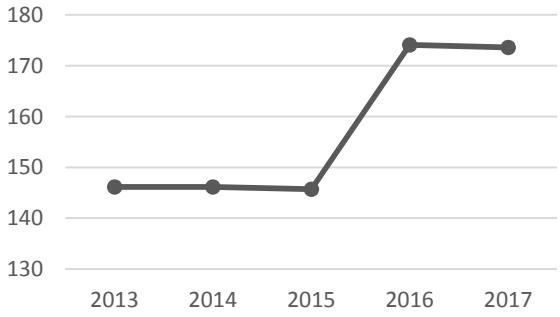


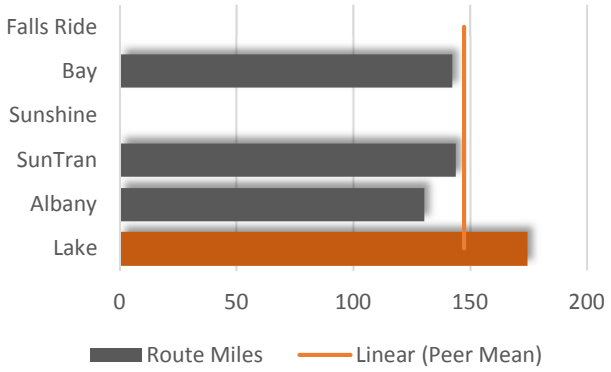
Revenue Hours



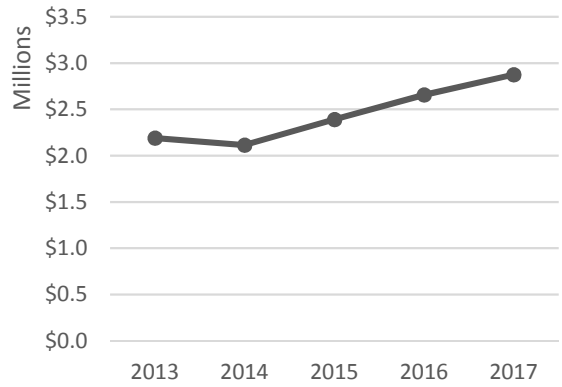


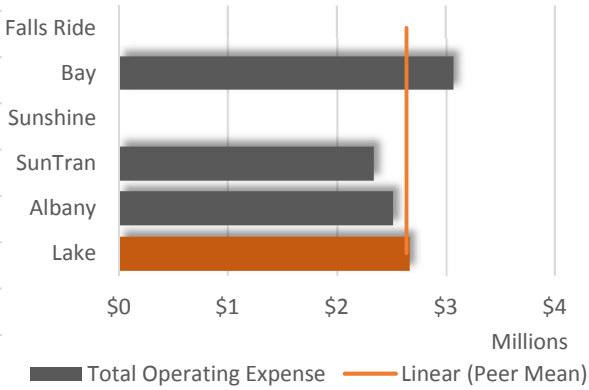
Route Miles



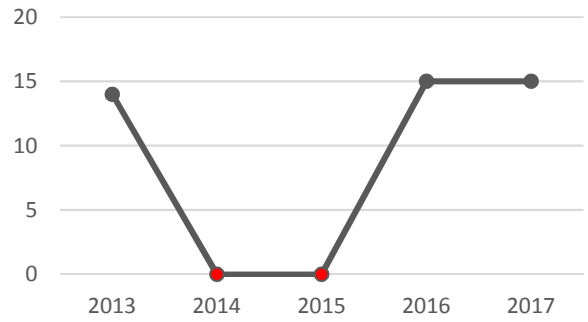


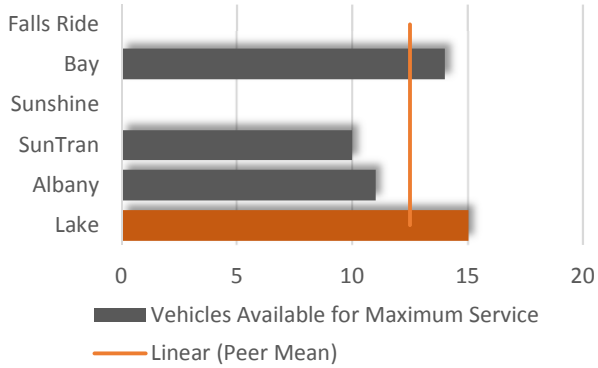
Total Operating Expense



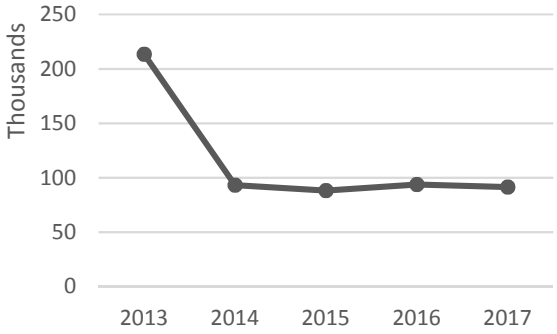


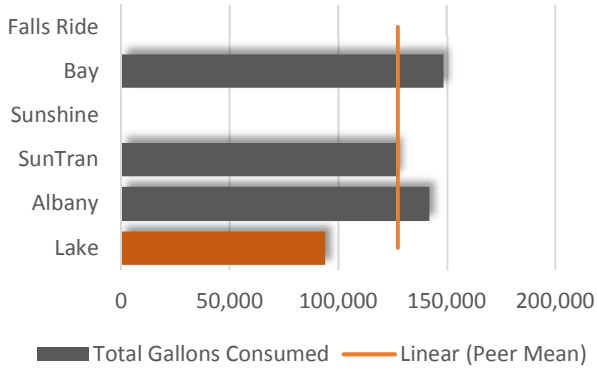
Vehicles Available for Maximum Service



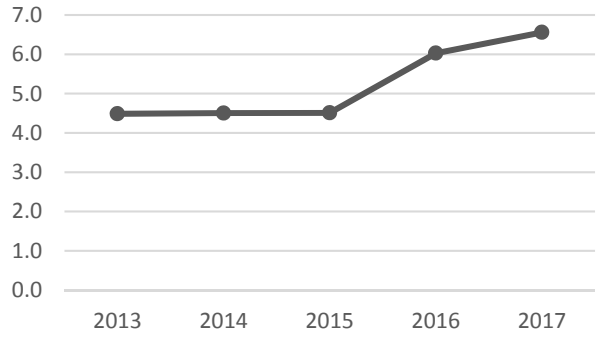


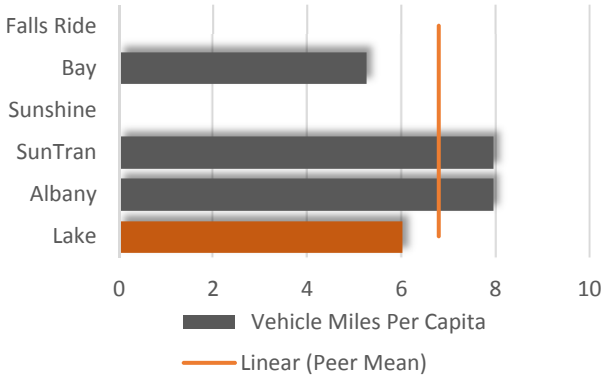
Total Gallons Consumed



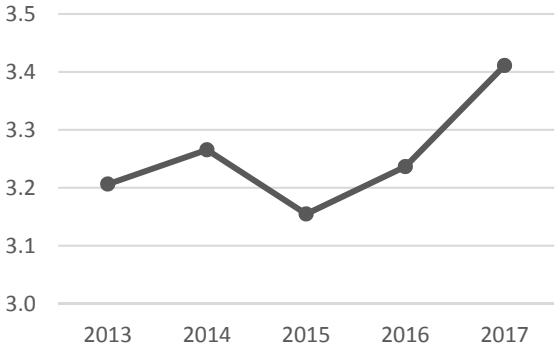


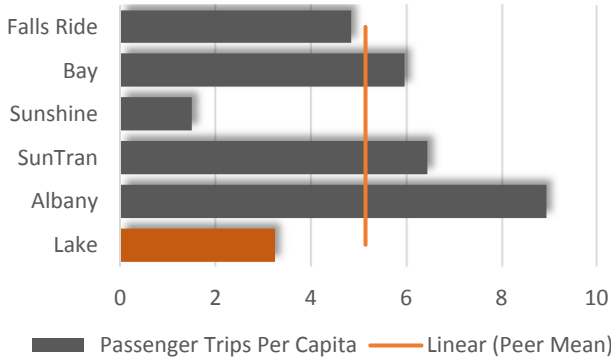
Vehicle Miles per Capita



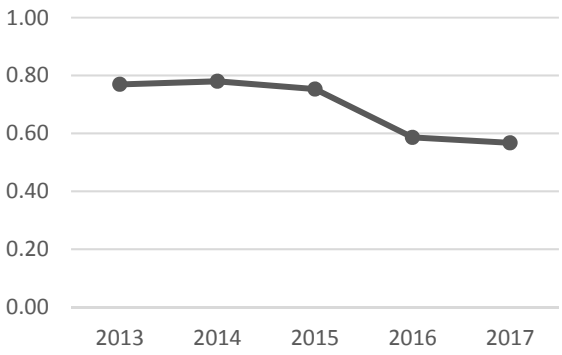


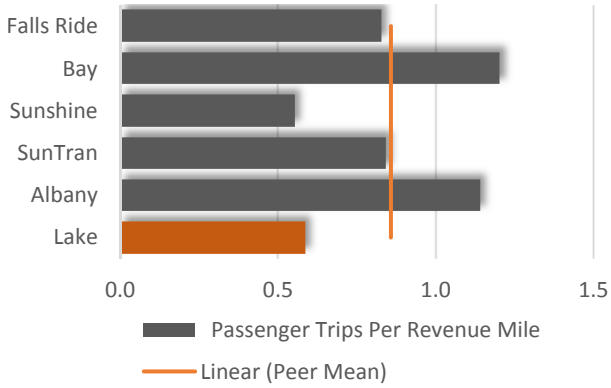
Passenger Trips per Capita



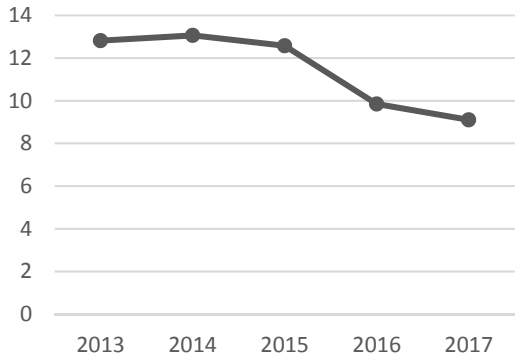


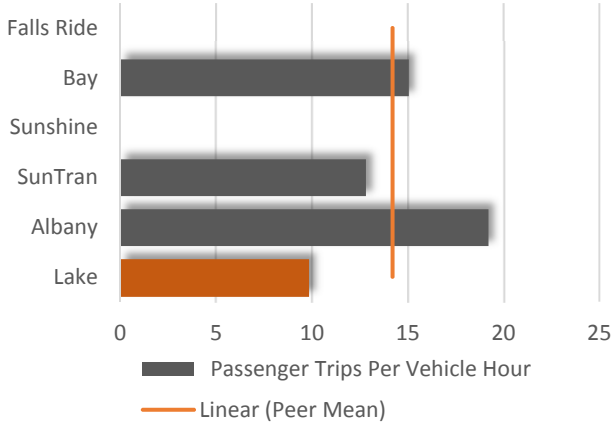
Passenger Trips per Revenue Mile



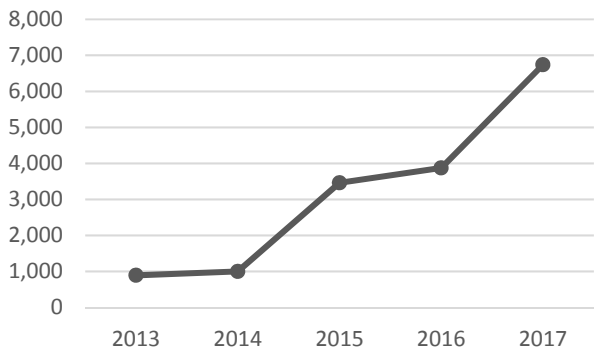


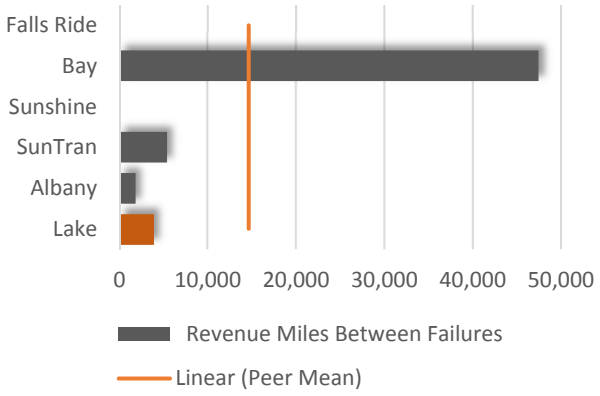
Passenger Trips per Vehicle Hour



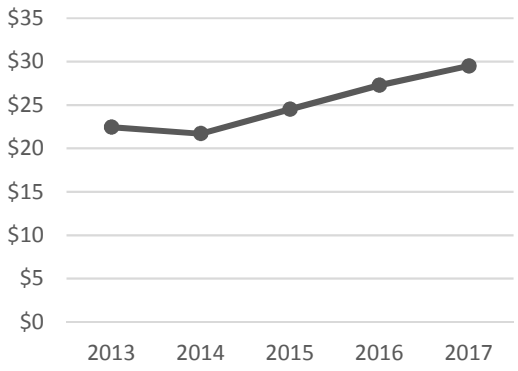


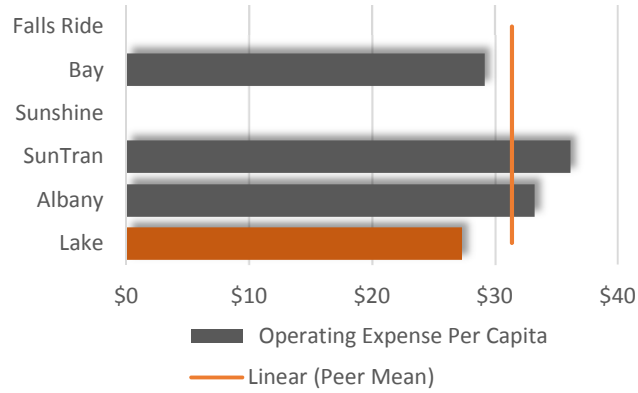
Revenue Miles Between Failures



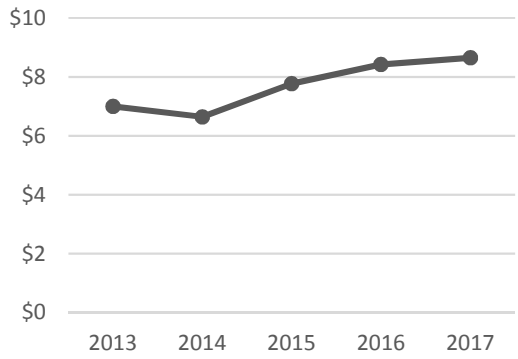


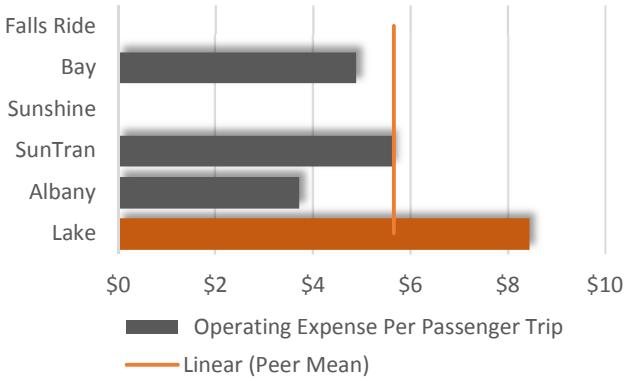
Operating Expense per Capita



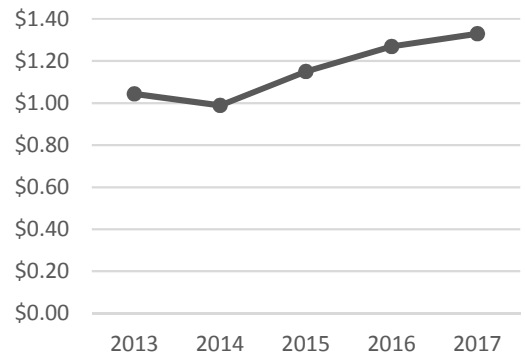


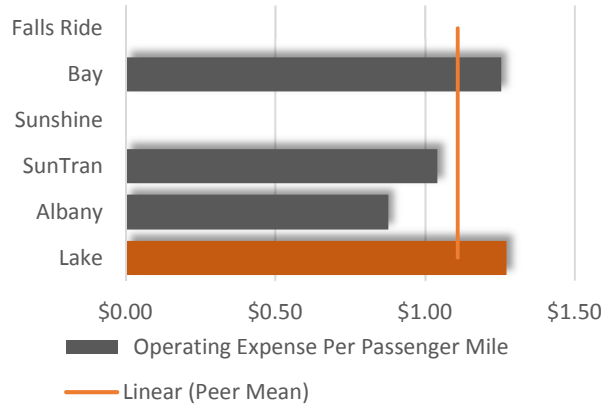
Operating Expense per Passenger Trip



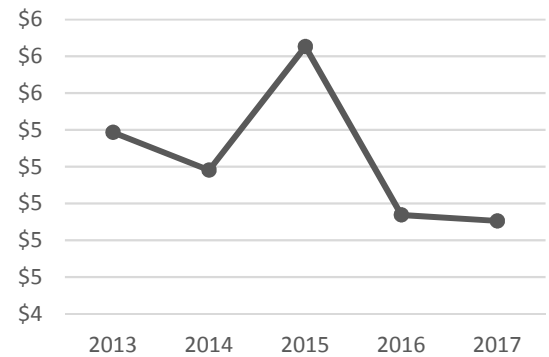


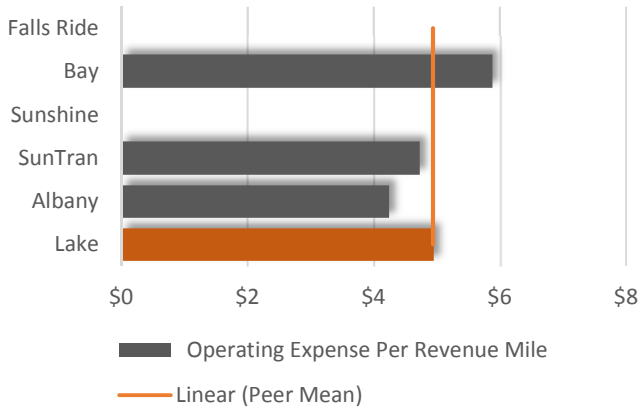
Operating Expense per Passenger Mile



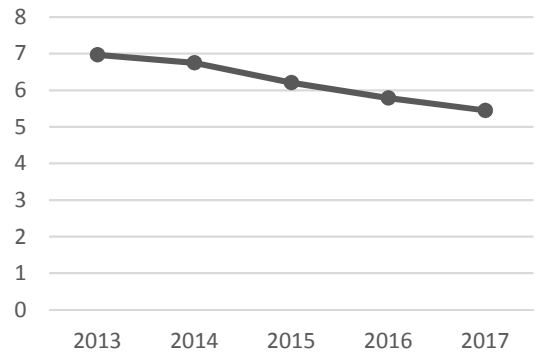


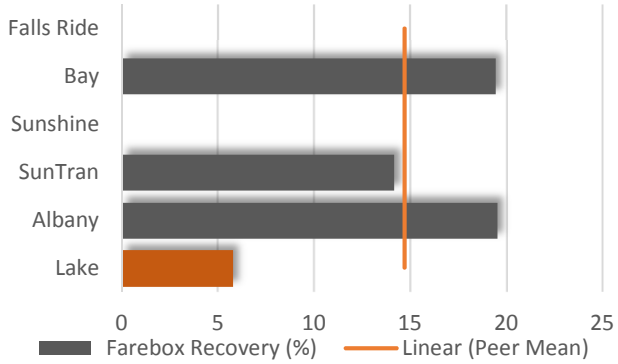
Operating Expense per Revenue Mile



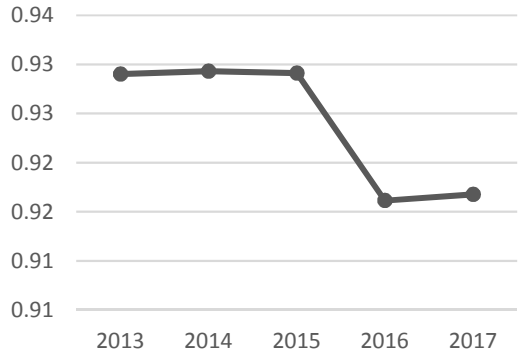


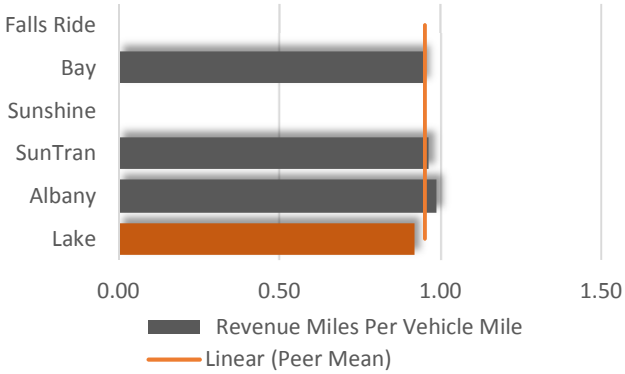
Farebox Recovery (%)



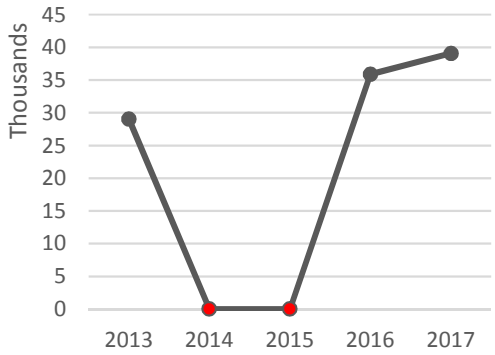


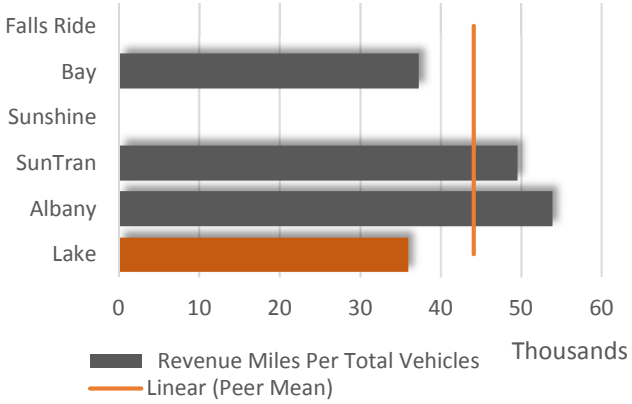
Revenue Miles per Vehicle Mile



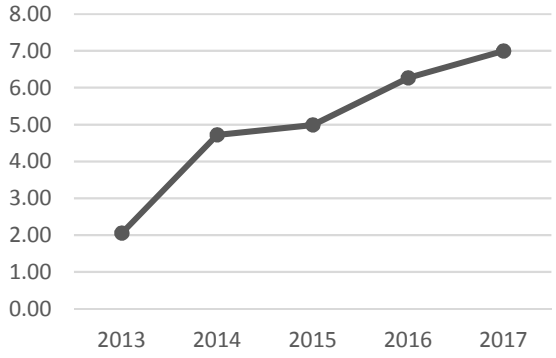


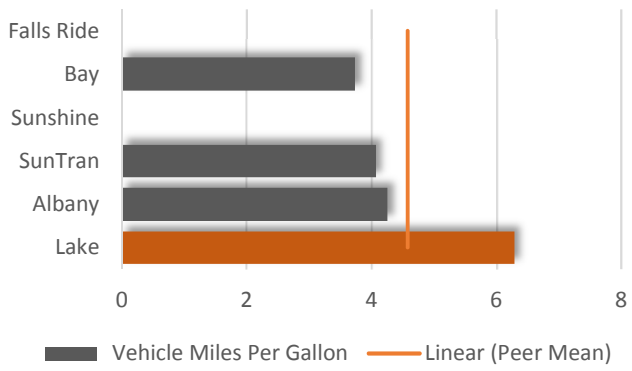
Revenue Miles per Total Vehicles



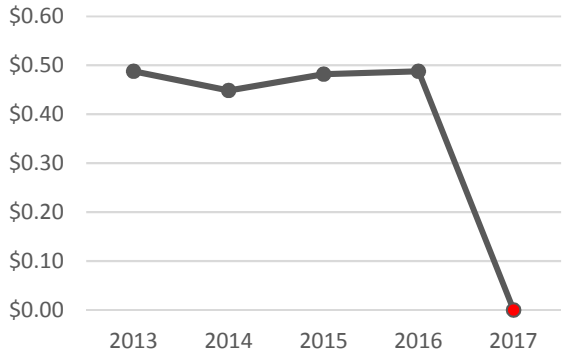


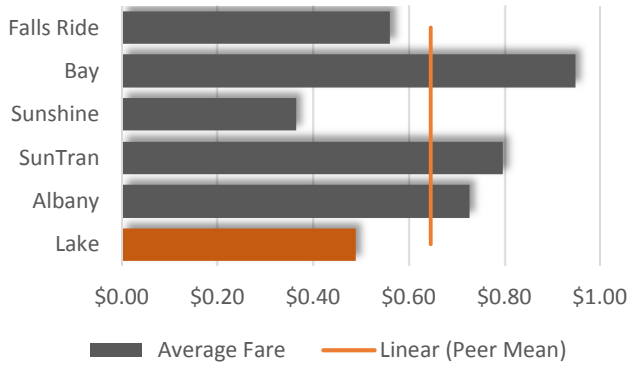
Vehicle Miles per Gallon





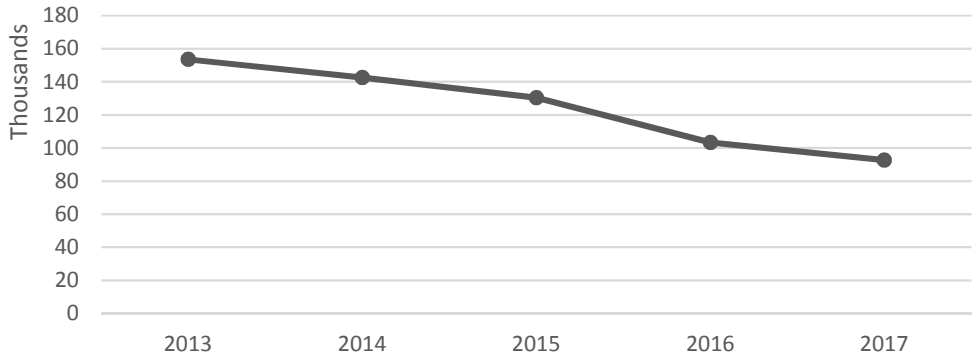
Average Fare



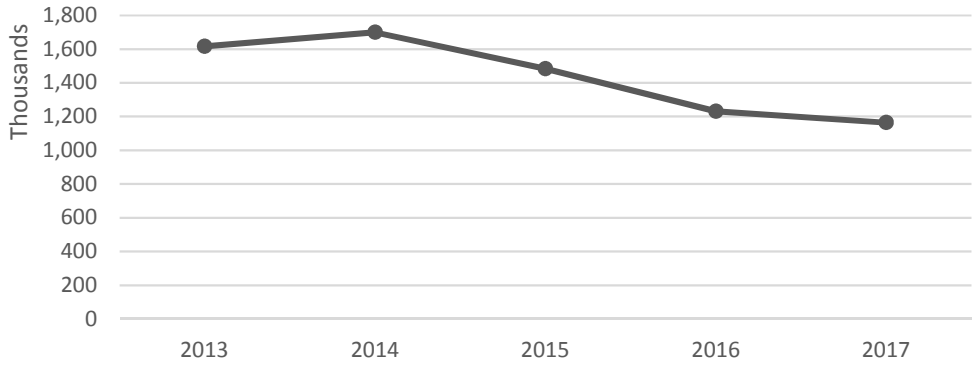


Lake County Connection Paratransit Service

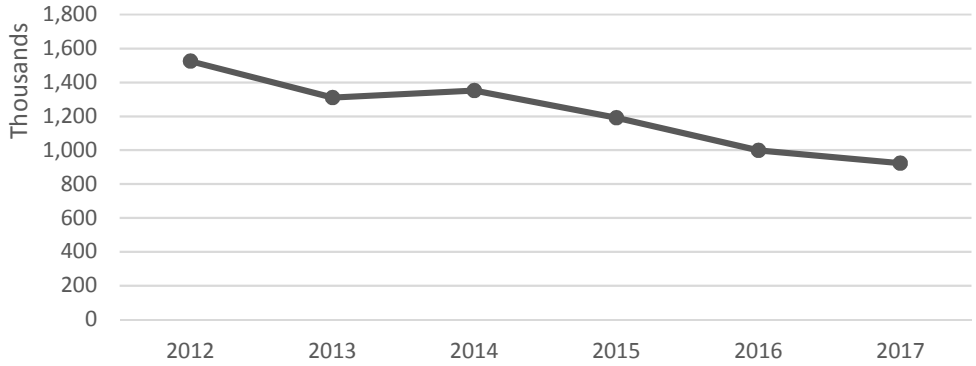
Passenger Trips



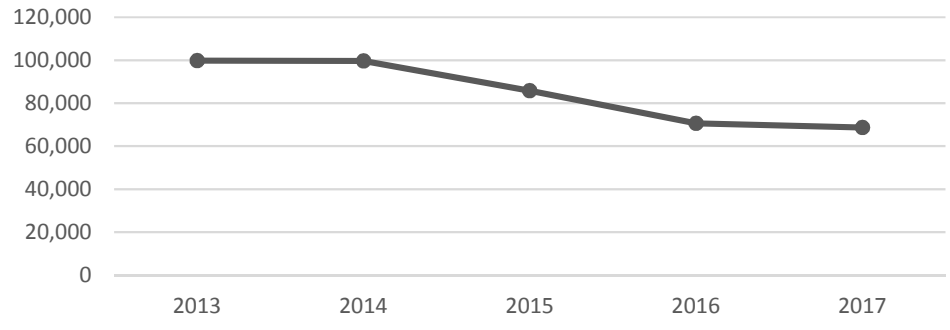
Vehicle Miles



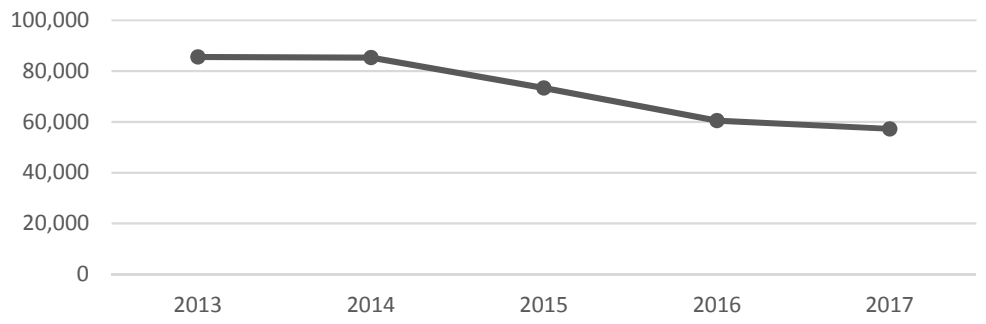
Revenue Miles



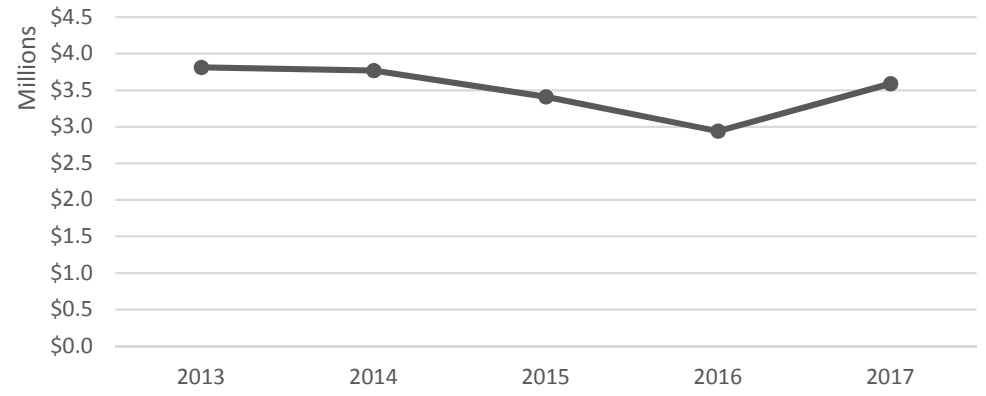
Vehicle Hours



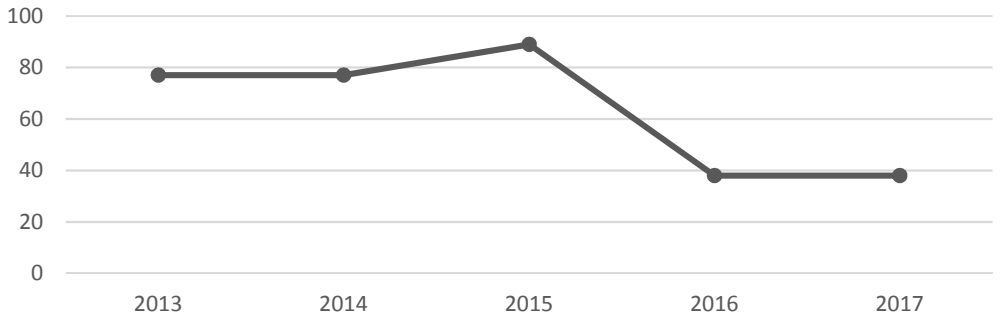
Revenue Hours



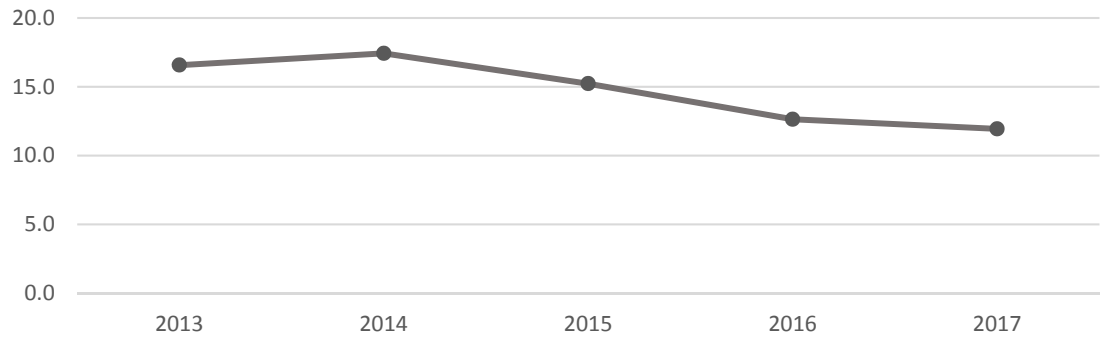
Total Operating Expense



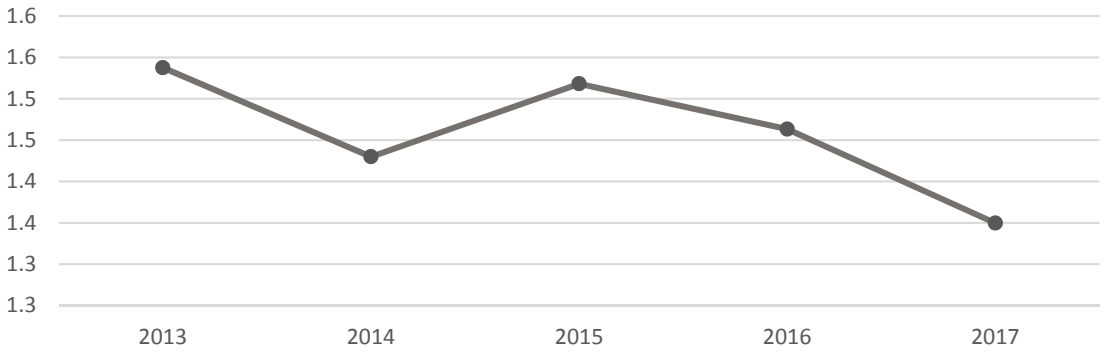
Vehicles Available for Maximum Service



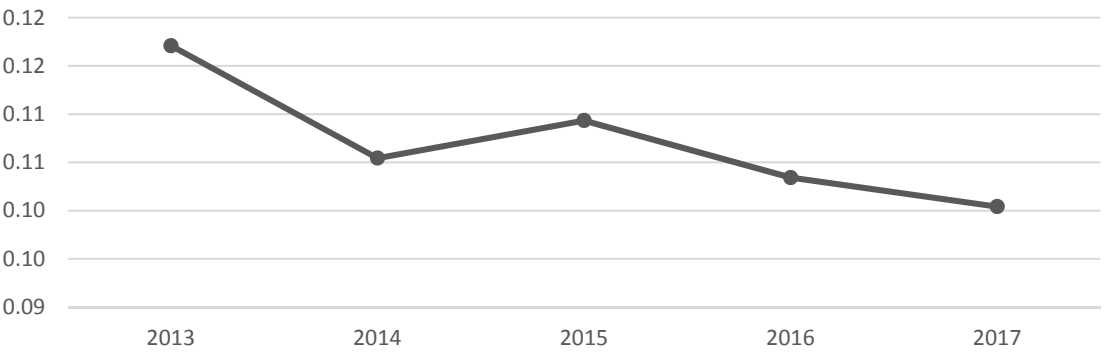
Vehicle Miles per Capita



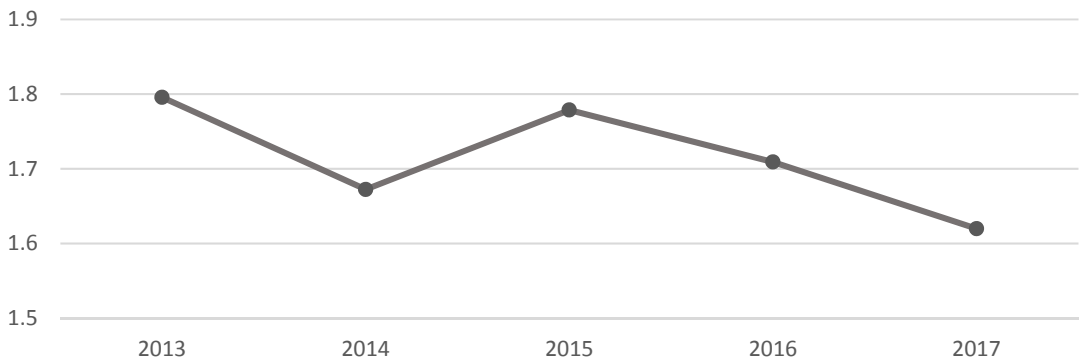
Passenger Trips per Vehicle Hour



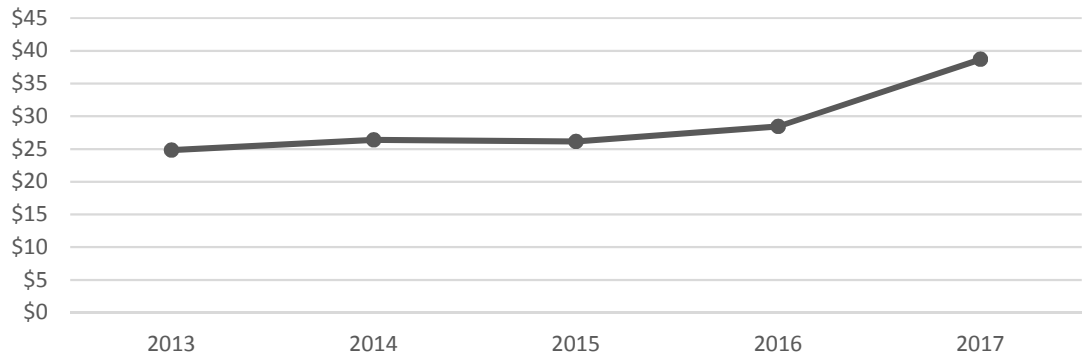
Passenger Trips per Revenue Mile



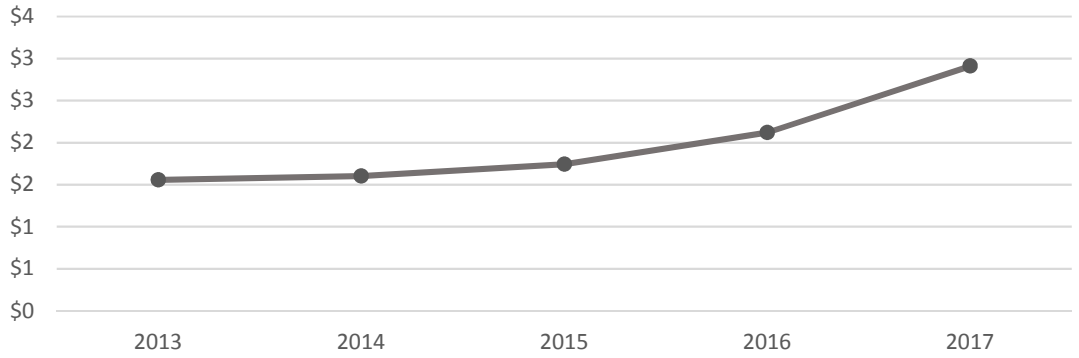
Passenger Trips per Revenue Hour



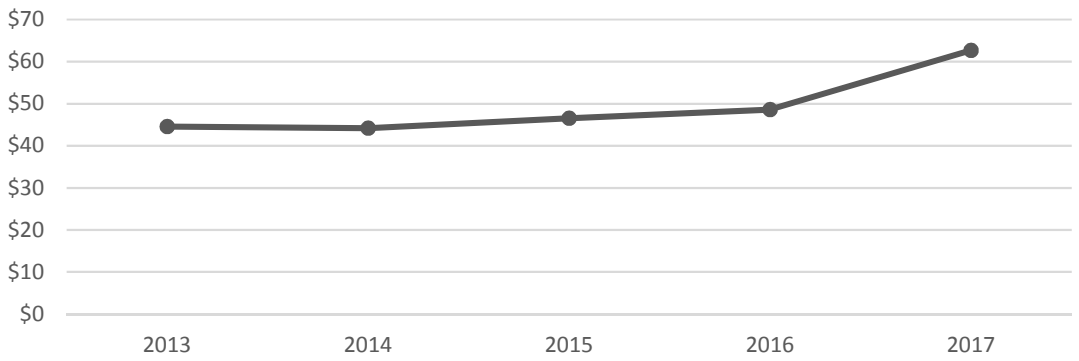
Operating Expense per Passenger Trip



Operating Expense per Passenger Mile



Operating Expense per Revenue Hour



APPENDIX E: 10-YEAR NEEDS PLAN

10-Year Needs Plan

Map E-1 illustrates the 10-Year Needs Plan, the estimated annual operating and capital costs of which are summarized in Table E-1. The cost of these improvements total $151.3 million, or $54.9 million more than the 10-Year Cost Feasible Plan presented previously in Section 10 (see Table 10-2). The 10-Year Needs Plan does not assume any additional revenue to fund the operating costs of the proposed new/enhanced services or the capital costs for additional vehicles needed for the expanded/new service. The 10-Year Needs Plan capital costs total $19 million, or $6.8 million more than the capital costs identified in the 10-Year Cost Feasible Plan. In total, the 10-Year Needs Plan identifies $48.1 million in unfunded operating and capital needs over the TDP planning horizon.

Map E-1: 10-Year Needs Plan

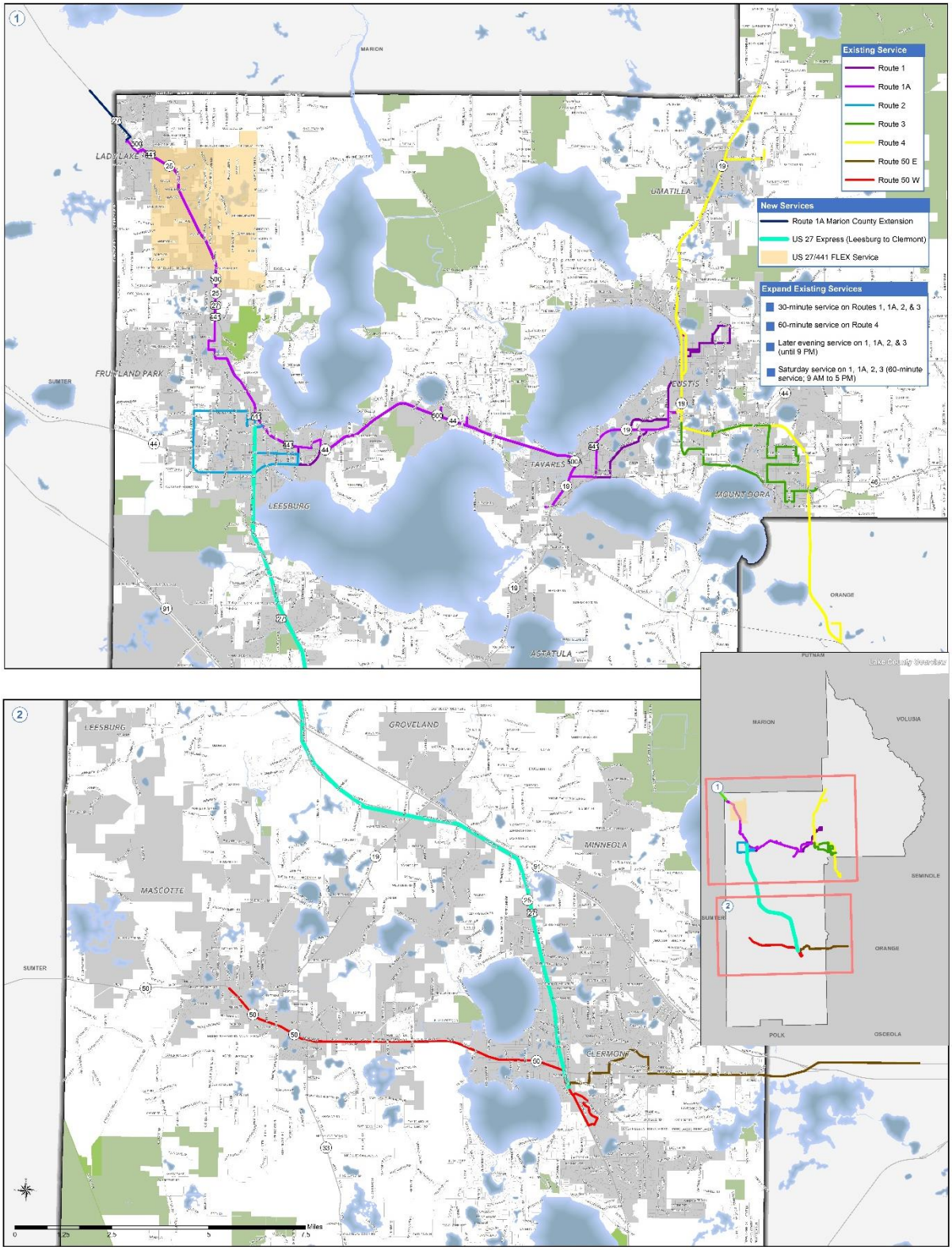


Table E-1: 10-Year Needs Plan

Source	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	10-Year Total
OPERATING AND CAPITAL COSTS											
Operating Costs											
Maintain Existing Service - Fixed Route	$3,197,114	$3,293,027	$3,391,818	$3,493,573	$3,598,380	$3,706,331	$3,817,521	$3,932,047	$4,050,008	$4,171,508	$36,651,327
Maintain Existing Service - Administration	$519,912	$535,510	$551,575	$568,122	$585,166	$602,721	$620,803	$639,427	$658,609	$678,368	$5,960,212
Maintain Existing Service - ADA	$3,627,254	$3,736,071	$3,848,153	$3,963,598	$4,082,506	$4,204,981	$4,331,131	$4,461,064	$4,594,896	$4,732,743	$41,582,398
Service Modification - Fixed Route	$3,026,270	$3,117,058	$3,210,569	$3,306,886	$3,406,093	$3,508,276	$3,613,524	$3,721,930	$3,833,588	$3,948,595	$34,692,788
Service Modification - ADA	$281,202	$289,639	$298,328	$307,277	$316,496	$325,991	$335,770	$345,844	$356,219	$366,905	$3,223,671
New Service - Fixed Route	$589,821	$607,515	$625,741	$644,513	$663,848	$683,764	$704,277	$725,405	$747,167	$769,582	$6,761,632
New Service - ADA	$297,766	$306,699	$315,900	$325,377	$335,138	$345,192	$355,548	$366,214	$377,201	$388,517	$3,413,549
Total Operating Costs	***$11,539,338***	***$11,885,518***	***$12,242,084***	***$12,609,346***	***$12,987,627***	***$13,377,255***	***$13,778,573***	***$14,191,930***	***$14,617,688***	***$15,056,219***	***$132,285,578***
Capital Costs											
Replacement Vehicles	$7,377,280	$190,550	$196,267	$4,089,531	$0	$214,466	$220,900	$3,523,589	$234,352	$1,507,013	$17,553,947
Other Transit Capital	$215,000	$103,000	$106,090	$109,273	$270,122	$115,927	$119,405	$122,987	$126,677	$130,477	$1,418,959
Total Capital Costs	***$7,592,280***	***$293,550***	***$302,357***	***$4,198,803***	***$270,122***	***$330,393***	***$340,305***	***$3,646,576***	***$361,029***	***$1,637,490***	***$18,972,906***
Total Costs	**$19,131,618**	**$12,179,068**	**$12,544,440**	**$16,808,150**	**$13,257,749**	**$13,707,649**	**$14,118,878**	**$17,838,506**	**$14,978,718**	**$16,693,709**	**$151,258,484**
OPERATING AND CAPITAL REVENUE											
OPERATING REVENUES											
Federal	$4,235,790	$4,362,864	$4,493,750	$4,628,562	$4,767,419	$4,910,442	$5,057,755	$5,209,487	$5,365,772	$5,526,745	$48,558,585
State	$1,511,307	$1,556,646	$1,603,346	$1,651,446	$1,700,989	$1,752,019	$1,804,580	$1,858,717	$1,914,478	$1,971,913	$17,325,441
Local	$1,597,183	$1,645,098	$1,694,451	$1,745,285	$1,797,644	$1,851,573	$1,907,120	$1,964,334	$2,023,264	$2,083,962	$18,309,913
Total Operating Revenue	**$7,344,280**	**$7,564,608**	**$7,791,547**	**$8,025,293**	**$8,266,052**	**$8,514,033**	**$8,769,454**	**$9,032,538**	**$9,303,514**	**$9,582,620**	**$84,193,939**
Total Operating Cost	**$11,539,338**	**$11,885,518**	**$12,242,084**	**$12,609,346**	**$12,987,627**	**$13,377,255**	**$13,778,573**	**$14,191,930**	**$14,617,688**	**$15,056,219**	**$132,285,578**
Net Operating (Contingency/Need)	**($4,195,058)**	**($4,320,910)**	**($4,450,537)**	**($4,584,053)**	**($4,721,575)**	**($4,863,222)**	**($5,009,119)**	**($5,159,392)**	**($5,314,174)**	**($5,473,599)**	**($48,091,639)**
OPERATING AND CAPITAL REVENUE (CONT'D)											
CAPITAL REVENUES											
Federal	$5,869,280	$0	$0	$3,109,901	$0	$0	$0	$2,636,850	$0	$1,012,504	$12,628,535
State	$1,508,000	$0	$0	$777,475	$0	$0	$0	$659,212	$0	$253,126	$3,197,814
Local	$215,000	$293,550	$302,357	$311,427	$270,122	$330,393	$340,305	$350,514	$361,029	$371,860	$3,146,558
Total Capital Revenue	**$7,592,280**	**$293,550**	**$302,357**	**$4,198,803**	**$270,122**	**$330,393**	**$340,305**	**$3,646,576**	**$361,029**	**$1,637,490**	**$18,972,906**
Total Capital Cost	**$7,592,280**	**$293,550**	**$302,357**	**$4,198,803**	**$270,122**	**$330,393**	**$340,305**	**$3,646,576**	**$361,029**	**$1,637,490**	**$18,972,906**
Net Capital (Contingency/Need)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
TOTAL COSTS VS. REVENUES											
Total Revenue	**$14,936,560**	**$7,858,158**	**$8,093,904**	**$12,224,096**	**$8,536,174**	**$8,844,426**	**$9,109,759**	**$12,679,114**	**$9,664,543**	**$11,220,110**	**$103,166,845**
Total Cost	**$19,131,618**	**$12,179,068**	**$12,544,441**	**$16,808,149**	**$13,257,749**	**$13,707,648**	**$14,118,878**	**$17,838,506**	**$14,978,717**	**$16,693,709**	**$151,258,484**
Net Total (Contingency/Need)	**($4,195,058)**	**($4,320,910)**	**($4,450,537)**	**($4,584,053)**	**($4,721,575)**	**($4,863,222)**	**($5,009,119)**	**($5,159,392)**	**($5,314,174)**	**($5,473,599)**	**($48,091,639)**
% Local Government Share of Total Revenue	**12%**	**25%**	**25%**	**17%**	**24%**	**25%**	**25%**	**18%**	**25%**	**22%**	**21%**

Technical Appendix H: Congestion Management Process Policy and Procedures Handbook

Lake-Sumter MPO
Metropolitan Planning Organization

Congestion Management Process

POLICY AND PROCEDURES HANDBOOK

NOVEMBER 2019

Prepared For:

Lake-Sumter MPO
Metropolitan Planning Organization

Prepared By:

Kimley»Horn

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CHAPTER 1

Overview

Overview

The Lake-Sumter MPO is required by Florida Law to develop Congestion Management Process (CMP) as part of its routine planning efforts. This handbook outlines the policies and procedures to address federal and state requirements.

Federal guidance includes an Eight-Step Congestion Management Process. These eight steps guide the contents of this document and are described at length in Chapter 2. The other chapters include information as follows:

Chapter 1 - Introduction

An overview of the handbook, an explanation of the purpose of the Congestion Management Process, and an introduction to the causes of congestion.

Chapter 2 - Congestion Management Process Overview

The Federal Eight-Step Congestion Management Process is described in Chapter 2, which also includes the schedule for the State of the System Report.

The following chapters in this handbook discuss specific steps from the Eight-Step Congestion Management Process.

Chapter 3 - Goals and Objectives

A series of CMP goals and objectives are developed to guide the process of monitoring congestion and improving the mobility of persons and goods in Lake County and Sumter County. The CMP goals and objectives will be used as a tool for selecting strategies and performance measures for strategy monitoring and evaluation.

Chapter 4 - Network Identification

The geographic area of application and the transportation network for the Lake-Sumter CMP is described.

Chapter 5 - Development of Performance Measures

Identifying the performance measures to monitor the effectiveness of the transportation system in the CMP.

Chapter 6 - System Performance Monitoring Plan

The development of an ongoing system of monitoring and reporting that relies primarily on data already collected or planned to be collected in the Counties.

Chapter 7 - Congested Corridor Selection and CMP Strategies

A summary of the implementation and management of the CMP strategies, including the process for selecting congested corridors for review and future projects for implementation, as well as an implementation schedule, responsibilities, costs, and possible funding sources for each strategy currently proposed for implementation.

Chapter 8 - Monitor Strategy Effectiveness

Describing provisions to monitor the performance of strategies implemented to address congestion to help determine whether operational or policy adjustments are needed to make the current strategies work better and provides information about how various strategies work in order to implement future approaches within the CMP study area.

CHAPTER 2
Introduction

Introduction

The Congestion Management Process (CMP) is a management system and process conducted by a Metropolitan Planning Organization (MPO) to improve safety and reliability of traffic operations by providing strategies to reduce travel demand on the roadway network or providing improvements to the overall transportation network.

Per the Federal Highway Administration (FHWA) the CMP is, "a systematic approach collaboratively developed and implemented throughout a metropolitan region, that provides for the safe and effective management and operation of new and existing transportation facilities through the use of demand reduction and operational management strategies."

The CMP is intended to provide benefit to the public by improving travel conditions with approaches that often may be implemented more quickly or at a lower cost than many capacity improvements such as adding travel lanes or creating new travel corridors. Longer-term solutions are also identified in the CMP with the intention that they will be considered in the MPO's Long Range Transportation Plan (LRTP), which is a document that plans for at least 20 years in the future.

A Transportation Management Area (TMA) is required to develop and implement a CMP as a part of the metropolitan planning process. A TMA is an urbanized area (UZA) with a population that exceeds 200,000 people, or any area where designation as a TMA has been requested. The area covered by the Lake-Sumter MPO is does not meet the criteria but has developed this CMP "to provide the information needed to make informed decisions regarding the proper allocation of transportation resources" as required by Florida law.

This CMP report updates the Lake-Sumter MPO Goals and Objectives and the development of a matrix of strategies that to be considered when evaluating corridors.

This Policy and Procedures Handbook is being updated to coincide with the development of the Lake-Sumter 2045 LRTP and intended to be updated with each successive LRTP.

A separate document known as the State of the System Report will summarize the performance of the existing transportation system as well as a comparison to prior year performance, identifies congested corridors, and may recommend specific improvements.

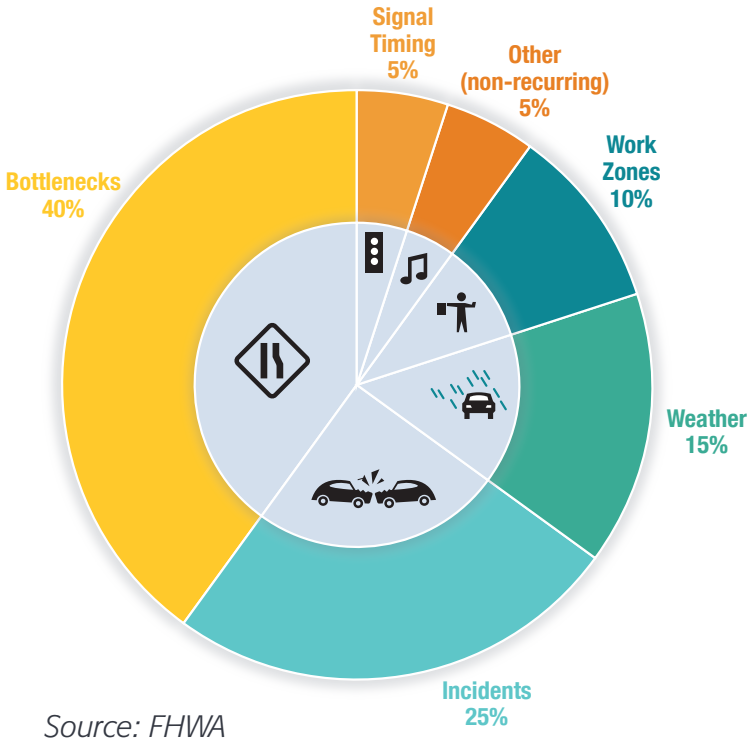
CAUSES OF CONGESTION

Congestion impacts nearly all aspects of a transportation system, which affects most of a community's residents and visitors. A study by FHWA identified six primary causes of congestion as is described below and depicted in **Figure 1**. This CMP uses these national data, which suggests that local causes are likely to be similar, with bottlenecks and traffic incidents typically being the top two causes of congestion.

- *Bottlenecks* often occur where roadways narrow or where vehicles stack up (often at traffic signals). These are most frequent source of congestion and characteristically cause a roadway to operate below its adopted level of service standards.
- *Traffic incidents* includes crashes, stalled vehicles, debris on the road, etc. Comprising 25% of congestion issues.
- *Poor weather* cannot be influenced by any agency.
- *Work zones* account for 10% of congestion causes and is attributed primarily to activities involved with network construction and maintenance.
- *Signal timing* may cause congestion when the operations of the signal are not timed appropriately for the volume of traffic.
- *Nonrecurring events* are considered those events that do not occur on a regular basis such as weekday rush hour. Events such as sporting events or concerts may cause unusually high traffic volumes and changes in traffic patterns in locations that typically do not experience them.

As shown in **Figure 1**, bottlenecks are the largest cause of congestion nationally, followed by traffic incidents and bad weather. Bad weather cannot be controlled, but policies and improvements can be implemented to control traffic incidents and bottlenecks.

Figure 1. FHWA Causes of Congestion



Source: FHWA

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CHAPTER 3
Federal Requirements

Federal Requirements

The initial federal requirements for congestion management were introduced by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and were continued under the successor law, the Transportation Equity Act for the 21st Century (TEA-21). The Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) passed into law in August 2005.

The requirements were further evolved under Moving Ahead for Progress in the 21st Century Act (MAP-21) signed into law on July 6, 2012. The Fixing America's Surface Transportation (FAST) Act of 2015 sustained these requirements and provides the guidelines and subsequent rule-making for this document.

NATIONAL GOALS

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

FEDERAL REGULATIONS

The following summarizes the requirements as per federal regulation codified as CMP in Transportation Management Areas (Section 450.322) - *Statewide Transportation Planning; Metropolitan Transportation Planning; Final Rule:*

a) The transportation planning process in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system.
   - Cooperatively developed and implemented
   - Travel reduction strategies
   - Operational management strategies

b) The CMP should result in multimodal system performance measures and strategies that can be reflected in the metropolitan transportation plan and the Transportation Improvement Plan (TIP).

c) Acceptable levels of service may vary from area to area. Consider strategies that:
   - Manage demand
   - Reduce single occupant vehicle travel
   - Improve transportation system management and operations
   - Improve efficient service integration within and across the following modes:
      i. Highway
      ii. Transit
      iii. Passenger and freight rail operations
      iv. Non-motorized transport
   - Where general purpose lanes are determined to be appropriate, must give explicit consideration to features that facilitate future demand management strategies.

d) The CMP shall be developed, established, and implemented in coordination with Transportation Systems Management (TSM) and operations activities. The CMP shall include:
   - Methods to monitor and evaluate the performance of the multimodal transportation system
      i. Identify the causes of congestion
      ii. Identify and evaluate alternative strategies
      iii. Provide information supporting the implementation of actions
      iv. Evaluate effectiveness of implemented actions
   - Definitions of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of strategies. Performance measures should be tailored to the specific needs of an area.
   - Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion. To the extent possible, this program should be coordinated with existing sources, including public transportation providers.
   - Identification and evaluation of the anticipated performance and expected benefits of congestion management strategies that will contribute to the more effective use and improved safety of the existing and future transportation system. Examples of strategies to consider include:
      i. Demand management measures, including growth management and congestion pricing
      ii. Traffic operational improvements
      iii. Public transit improvements
      iv. Intelligent Transportation Systems (ITS)
      v. Where necessary, additional system capacity
   - Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy
   - Implementation of a process for periodic assessment of the effectiveness of implemented strategies. Results of this assessment shall be provided to decision makers and the public to provide guidance on the selection of effective strategies for future implementation.

e) A TMA designated nonattainment for ozone or carbon monoxide may not program federal funds for any project that will result in a significant increase in the carrying capacity of single occupant vehicles (SOVs), with the exception of safety improvements or the elimination of bottlenecks (within the limits of the appropriate projects that can be implemented).

f) In TMAs designated nonattainment for ozone or carbon monoxide, the CMP shall provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for a corridor in which a project with a significant increase in SOV capacity is proposed to move forward with federal funds.

g) State laws, rules, and regulations pertaining to congestion management systems or programs may constitute the congestion management process, if FHWA and FTA find that these are consistent with the intent of this process.

h) Congestion management plan. An MPO serving a TMA may develop a plan that includes projects and strategies that will be considered in the TIP of such MPO. Such plan shall:

- Develop regional goals to reduce miles traveled during peak commuting hours and improve transportation connections between areas with high job concentration and areas with high concentrations of low-income households;
- Identify existing public transportation services, employer based commuter programs, and other existing transportation services that support access to jobs in the region; and
- Identify proposed projects and programs to reduce congestion and increase job access opportunities.

In developing the CMP, an MPO shall consult with employers, private and nonprofit providers of public transportation, transportation management organizations, and organizations that provide job access reverse commute projects or job-related services to low-income individuals.

CONGESTION MANAGEMENT PROCESS

As stated, the development and maintenance of a CMP is under Florida law for MPOs. Consistent with the guidance from the Final Rule on the CMP for Transportation Management Areas (23 CFR § 450.322) , as presented earlier in this report, the intent of the CMP Update is to "address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system."

Eight-Step Process

Eight distinct actions are the primary elements of a successful CMP. These actions provide a clear sequence of activities to provide a robust and thorough CMP.

1. **Develop Objectives for Congestion Management** – Goals and Objectives should be identified that help to accomplish the congestion management goals (Addressed in Chapter 3).
2. **Define Regional CMP Network** – Identify a well-defined area and the network components to which the CMP applies.
3. **Develop Multimodal Performance Measures** – Develop the measures by which local and regional congestion may be evaluated.
4. **Collect Data / Institute System Performance Monitoring Plan** – There must be a regularly-scheduled performance monitoring plan for assessing the state of the transportation network and evaluating the status of congestion.
5. **Analyze Congestion Problems & Needs** – The CMP must define how congestion issues will be analyzed, presented, and anticipated.
6. **Identify and Assess Strategies** – In collaboration with local and regional partners, the CMP should develop strategies to mitigate congestion.
7. **Program and Implement Strategies** – As a direct result of Action 6, determine when and how strategies will be implemented.
8. **Evaluate Strategy Effectiveness** – The effectiveness of the implemented efforts will be monitored and evaluated to guide future transportation planning decisions.

Figure 2 illustrates the federal Eight-Step Congestion Management Process. Each step of the congestion management process is described in additional detail in the remaining chapters of this handbook.

This CMP handbook outlines all eight actions of the federal process, and the State of the System Report focuses on Actions 4-8.

Figure 2. Federal Eight-Step Congestion Management Process

INCORPORATING TRAVEL-TIME RELIABILITY INTO THE CMP

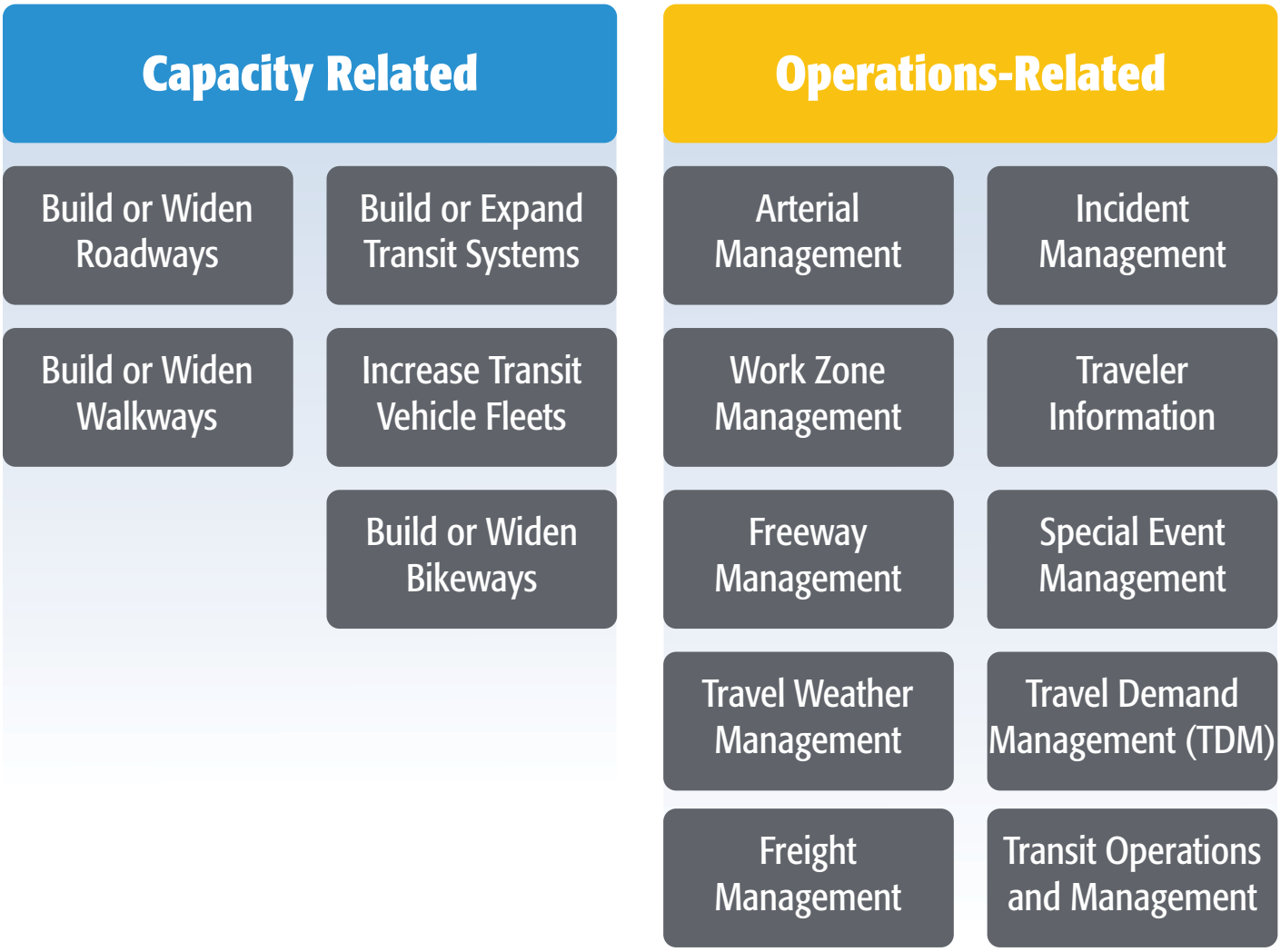
Travel-time reliability is defined as the consistency and dependability in travel times that are measured from day-to-day and/or across different times of the day. Travel-time reliability is significant to the CMP because it incorporates a systematic method to address the issue of traffic congestion caused by non-recurring events. Non-recurring events include:

Non-recurring events account for the majority of traffic congestion-related delay in the United States. Only recently were cost-effective data collection opportunities identified. In addition to more inexpensive travel-time monitoring technologies, there are three factors that have contributed to a greater focus on travel-time reliability in MPOs. These factors include:

- Constraints on Expansion of the Transportation System – New roadway construction and roadway expansion has largely ended in the United States due to high costs, the built-out nature of urbanized areas, and the community desire for multimodal streets.
- Expectations of the Traveling Public – Surveys have shown that the traveling public often values travel-time reliability more than speed.
- Federal Surface transportation Reauthorization Law – When MAP-21 was signed into law, a process that involved performance measurement, target setting, and transportation investment reporting was established and seven national goals were set. Three years later, the FAST Act was signed into law and included the same national goals. One of the seven goals is System reliability – *to improve the efficiency of the surface transportation system.*

Figure 3 lists strategies for travel time reliability which relate to and may be used in addressing congestion management.

Figure 3. Capacity and Operations Strategies for Travel Time Reliability



Source: FHWA

CHAPTER 4

CMP Overview

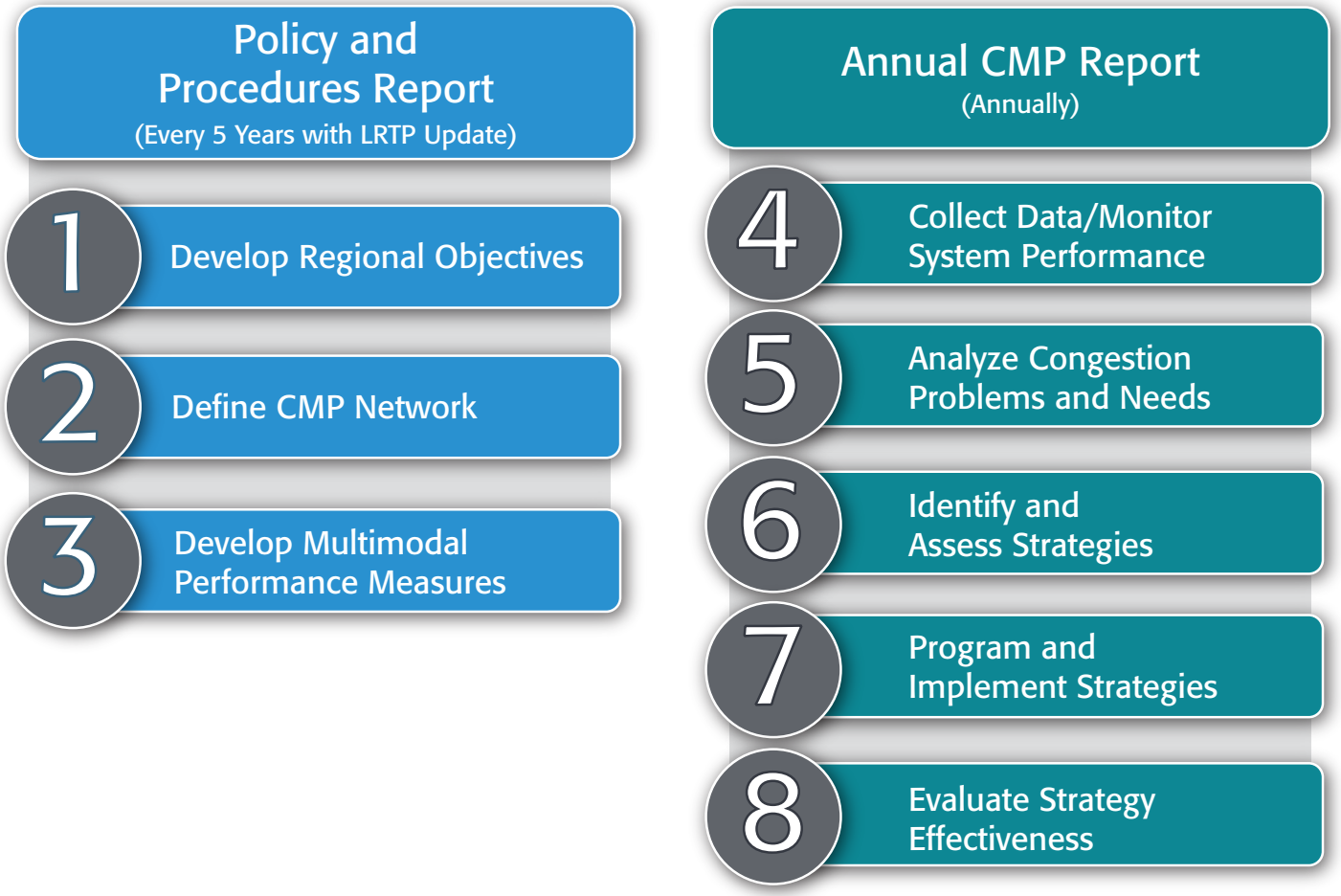
CMP Overview

LAKE-SUMTER MPO EIGHT-STEP CONGESTION MANAGEMENT PROCESS

This section documents the revised Congestion Management Process for the Lake-Sumter MPO that will be used to address the Federal requirements and unique local needs and opportunities of the communities in Lake and Sumter Counties. This process closely matches the Federal Eight-Step Process and includes additional detail in specific sections where appropriate.

Figure 4 demonstrates the Eight-Step Process that will be used by the Lake-Sumter MPO. As noted, the first three steps will typically be updated concurrent with each update of the Long Range Transportation Plan which takes place every four to five years. Steps 4 to 8 will potentially be updated on an annual basis. The remainder of this section details the eight steps and how they will be implemented.

Figure 4. Lake-Sumter MPO's Approach to the Federal Eight-Step Process



CMP IN METROPOLITAN PLANNING PROCESS

The CMP is a dynamic tool integrated into the steps the MPO will take when prioritizing projects in general and in the LRTP and Transportation Improvement Plan (TIP). The plan is objective-driven and performance-based, generating a strong evaluation process that leads to implementing appropriate and effective strategies.

Potential mitigation efforts, as identified in the CMP move into project development and into TIP programming for funding and implementation. Those projects that are executed are closely monitored to evaluate the effectiveness locally and regionally. In Lake County and Sumter County, CMP projects could be funded using boxed funds identified in the LRTP along with other local revenues . Funding the projects in this manner would enable the MPO to regularly add those of the highest priority and to expand funding levels as necessary to address local needs.

CMP COORDINATION WITH LOCAL GOVERNMENT CAPITAL PROGRAMS

As part of the CMP Process, Lake-Sumter MPO will identify and use information about congested corridors to guide the programming of capital projects, which is done annually by the MPO and local governments within Lake County and Sumter County. By coordinating the identification of congested corridors with the programming of capital spending, it is anticipated that operational and system improvements will address congestion in the near-term, delaying the need for additional travel lanes. This will decrease the overall cost of implementing transportation solutions included later in this report.

Coordination with local government occurs during the development of the initial Level of Service (LOS) evaluations. Coordination occurs again when the final LOS evaluations are produced, to identify longer-term congestion mitigation projects via Capital Improvements Plan (CIP) update. Action 6 of the CMP process will identify long-term recommendations would be made available for local government use.

PUBLIC INVOLVEMENT PROCESS

The purpose of CMP public involvement activities is to provide the public with information about congestion monitoring activities in place in Lake County and Sumter County and planned congestion-mitigation strategies. The continuing goal is to develop congested corridors and alternative transportation improvement strategies to alleviate congestion and enhance the mobility of persons and goods.

Federal regulations warrant involvement of the public during key stages of transportation projects. As such, Lake Sumter MPO will involve the public in key stages of transportation improvement projects within and beyond the CMP. Without the actively engaging the community, lack of public support and awareness may adversely impact the success of any potential transportation project.

Proposed CMP improvement projects/strategies will be presented to the citizens of Lake County and Sumter County through the MPO's regular planning process. The CMP public involvement process includes various activities to inform the public and gather input and is integrated with activities conducted throughout the LRTP planning process.

Key elements of the LRTP public involvement process include the following:

- Meetings with the Congestion Management Process Task Force (CMP Task Force)
- Meetings with the Technical Advisory Committee (TAC)
- Meetings with the Citizens Advisory Committee (CAC)
- Meetings with the Bicycle/Pedestrian Advisory Committee (BPAC)
- Coordination with Freight Goods Movement Stakeholders
- Presentations to MPO Board
- Information dissemination through various MPO public involvement opportunities such as postings to the website and newsletters

The MPO CMP Task Force serves as the advisory group for the CMP update. The list below reflects the jurisdictions/agencies most likely to participate in the Task Force.

- Lake County and Sumter County
- City of Clermont
- City of Eustis
- City of Leesburg
- City of Mount Dora
- The Villages
- LakeXpress Transit
- Sumter County Transit
- Florida DOT District 5
- Lake County School Board
- Sumter County School Board

Other stakeholders may be included on the Task Force as warranted. These stakeholders may include and are not limited to local law enforcement agencies, goods movement representatives, community traffic safety teams (CTST), etc. These additional members would generally serve on an ad hoc basis to address specific issues.

The Lake Sumter CMP Task Force typically convenes as the Technical Advisory Committee (TAC) for the MPO. This ensures that CMP related issues are routinely addressed as an ongoing activity of the MPO. Key contributions of the Lake-Sumter CMP Task Force are activities related to identifying, tracking, and evaluating potential congestion or safety related issues on the roadway network. The MPO tracks issues identified along with the status of each issue and the party responsible for resolving the issues, as well as identifying potential projects/solutions. This will allow congestion and safety issues to be identified and addressed which may not be otherwise identified through the formal screening process used by the CMP.

CMP ACTIONS/RECOMMENDATIONS

A list of recommendations and actions is presented to enhance the congestion management process and become more efficient in the overall MPO planning process. The actions/recommendations presented below will be reviewed and considered by MPO staff and the CMP Task Force for implementation as necessary.

- Update the CMP Procedures Handbook (CMP Steps 1 to 3) on a five-year cycle consistent with the update cycle of the LRTP. Timing of the completion of CMP updates in advance of finalizing the LRTP updates would benefit integration of CMP strategies into the LRTP. Additional updates may occur on a more frequent basis to comply with future changes in federal rules or local regulations.
- Develop a State of the System Report that documents the current conditions of the transportation system using performance measures, tracks the effectiveness of previously-implemented strategies, and evaluates trends and conditions for the multimodal transportation system in the CMP study area. The State of the System Report will include Actions 4 through 8 of the CMP which includes:
  - **Step 4:** Collect Data/Monitor System Performance
  - **Step 5:** Analyze Congestion Problems & Needs
  - **Step 6:** Identify and Assess Strategies
  - **Step 7:** Implement Selected Strategies
  - **Step 8:** Monitor Strategy Effectiveness (combined with Step 4)
- Implementation of the selected strategies may include programming in a local government's CIP, identification of corridor studies to be done through the MPO's Unified Planning Work Program (UPWP), or longer term projects that would be included in local governments' Capital Improvements Elements (CIE) or the MPO's Long Range Transportation Plan.
- Enhance coordination with agencies participating in the CMP by framing desirable strategy types and defining roles in implementation. This is essential, as most congestion and mobility strategies are formulated and implemented by other agencies.
- Projects from the CMP process may identify projects for inclusion in the LRTP either through the routine LRTP update cycle or through plan amendments.
- Identify and implement data collection recommendations on collecting key congestion data as well as closing any data gaps identified in this CMP.
- Perform outreach and education efforts to inform interested parties and stakeholders. These efforts may include:
  - Maintaining CMP information on the MPO Website.
  - Developing materials on the CMP and its benefits.
- Continue monitoring changes to federal CMP regulations and modify/update CMP to reflect new requirements.

The general schedule for the development of the CMP's State of the System Report is provided as follows. This schedule is flexible and can be changed from year-to-year as warranted. (For example, a congested corridor identified one year, may not be warrant further evaluation if improvements are already included in the TIP.) This schedule includes opportunities for coordinating the results of the federally required CMP with the local government process used in developing the annual CIP and the annual update of the CIE of the Comprehensive Plan.

STATE OF THE SYSTEM REPORT TENTATIVE SCHEDULE

January to May

- Update of roadway inventory data to support LOS analysis.
- Calculation of Non-Highway Systemwide Performance Monitoring
  - Public Transportation
  - Bicycle
  - Pedestrian
  - TDM
- Produce growth rates on county roadways using county traffic counts to perform initial LOS analysis (existing conditions +1 year and existing + 5 years)*.
- Produce preliminary growth rates on state roadways using older state traffic counts to perform initial LOS analysis (existing conditions and existing + 5 years)* .
- Provide initial LOS analysis for identifying congested corridors used to prioritize projects for funding. This analysis includes a combination of volumes based on growth rates and scheduled improvements to the transportation system.
- Existing volumes on existing network

May

- CMP Task Force meeting to review and identify potential operational issues that would not be identified through the technical screening process.
- Coordinate with goods movement stakeholders and providers to identify related needs (Note: May occur earlier).

May to June

- Receive FDOT traffic counts.
- Produce updated growth rates on state roadways using state traffic counts and revise initial LOS analysis (produced earlier in the year) based on the results of the LOS analysis.
- Screen corridors
- Select corridors for evaluation.

July

- Report to CMP Task Force and CAC the results of the corridor screening and selection.
- Report to the CMP Task Force and CAC the results from the Non-Highway System-wide Performance Monitoring (Public Transportation, Bicycle, Pedestrian, TDM, etc.).

July to August

- Identify strategies to be considered on selected corridors.
- Evaluate strategies where appropriate and make improvement or program recommendations for implementation.
- Report to the CMP Task Force and CAC the recommended strategies for implementation.
- Develop priority list of CMP recommendations for adoption by the MPO Board.

September

- Finalize technical recommendations on strategy implementation.
- Program improvement recommendations in the appropriate local government CIE and identify other priority projects or programs for the TIP.
- Finalize performance monitoring summary.
- Obtain endorsement from the CMP Task Force and CAC on the programmed projects in the CIE and priority projects or programs for the TIP.
- Adopt the CMP Project Priority List for use in developing the TIP during a Public Hearing of the MPO Board.

October to November

- Finalize the CMP State of the System Report.

**Note: Since FDOT state roadway traffic counts for the prior are typically released in May or June of the following year, it is necessary to use preliminary state traffic count data that is a year older for the preliminary analysis. Once the FDOT state roadway traffic count data is provided, growth rates and their associated traffic volumes are used to update the LOS analysis.*

CHAPTER 5

CMP Goals and Objectives

CMP Goals and Objectives

A series of CMP goals and objectives are developed to guide the process of monitoring congestion and improving the mobility of persons and goods in Lake County and Sumter County. These were compiled based on the goals and objectives established in the 2045 Lake-Sumter MPO Long Range Transportation Plan as well as CMP goals and objectives used by other communities in Florida and other states that would also be appropriate for the two-county area

The goals and objectives as established by the 2045 Long Range Transportation Plan are presented below. These CMP goals and objectives will be used as a tool for selecting strategies and performance measures for strategy monitoring and evaluation. The CMP goals and objectives are consistent with the Long Range Plan goals and will be evaluated with each update to the CMP.

CMP GOALS AND OBJECTIVES

Goal 1 – Support Economic Success and Community Values

OBJECTIVE 1.1 – Reduce congestion and improve travel reliability for the traveling public and freight users on highways and major arterials.

OBJECTIVE 1.2 – Enhance access to major employment centers.

OBJECTIVE 1.3 – Coordinate regional transportation planning efforts and local comprehensive planning efforts.

OBJECTIVE 1.4 – Minimize negative environmental impacts associated with transportation investments.

OBJECTIVE 1.5 – Address Environmental Justice (EJ) in all appropriate aspects of MPO planning.

Goal 2 – Promote Safety and Security

OBJECTIVE 2.1 – Prioritize investments to reduce crash related Fatalities for all modes of transportation.

OBJECTIVE 2.2 – Prioritize investments to reduce crash related Serious Injuries for all modes of transportation.

OBJECTIVE 2.3 – Prioritize investments to reduce Bicycle and Pedestrian crash related Fatalities and Serious Injuries.

OBJECTIVE 2.4 – Prioritize investment on evacuation routes.

OBJECTIVE 2.5 – Invest in Transit security.

Goal 3 – Improve Transportation Operations

OBJECTIVE 3.1 – Invest in Intelligent Transportation Systems (ITS).

OBJECTIVE 3.2 – Invest in Vehicle to Infrastructure Communication.

OBJECTIVE 3.3 – Invest in cost effective Congestion Management strategies.

Goal 4 – Improve Mobility

OBJECTIVE 4.1 – Improve transportation options available.

OBJECTIVE 4.2 – Invest in Bicycle and Pedestrian infrastructure.

OBJECTIVE 4.3 – Maintain or enhance Transit service.

OBJECTIVE 4.4 – Balance regional capacity needs with human scale accessibility needs (Complete Streets).

OBJECTIVE 4.5 – Invest in Context Sensitive/Complete Street investments in multimodal corridors

Goal 5 – System Preservation

OBJECTIVE 5.1 – Maintain Transportation infrastructure

OBJECTIVE 5.2 – Maintain Transit assets

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CHAPTER 6

Network Identification

Network Identification

This chapter of the CMP presents an overview of the geographic area of application and the transportation network for the Lake-Sumter CMP.

AREA OF APPLICATION

The CMP application area is inclusive of the Lake-Sumter MPO metropolitan planning area, Lake County and Sumter County, and includes the multimodal transportation system being evaluated and monitored to identify congestion management policies and strategies.

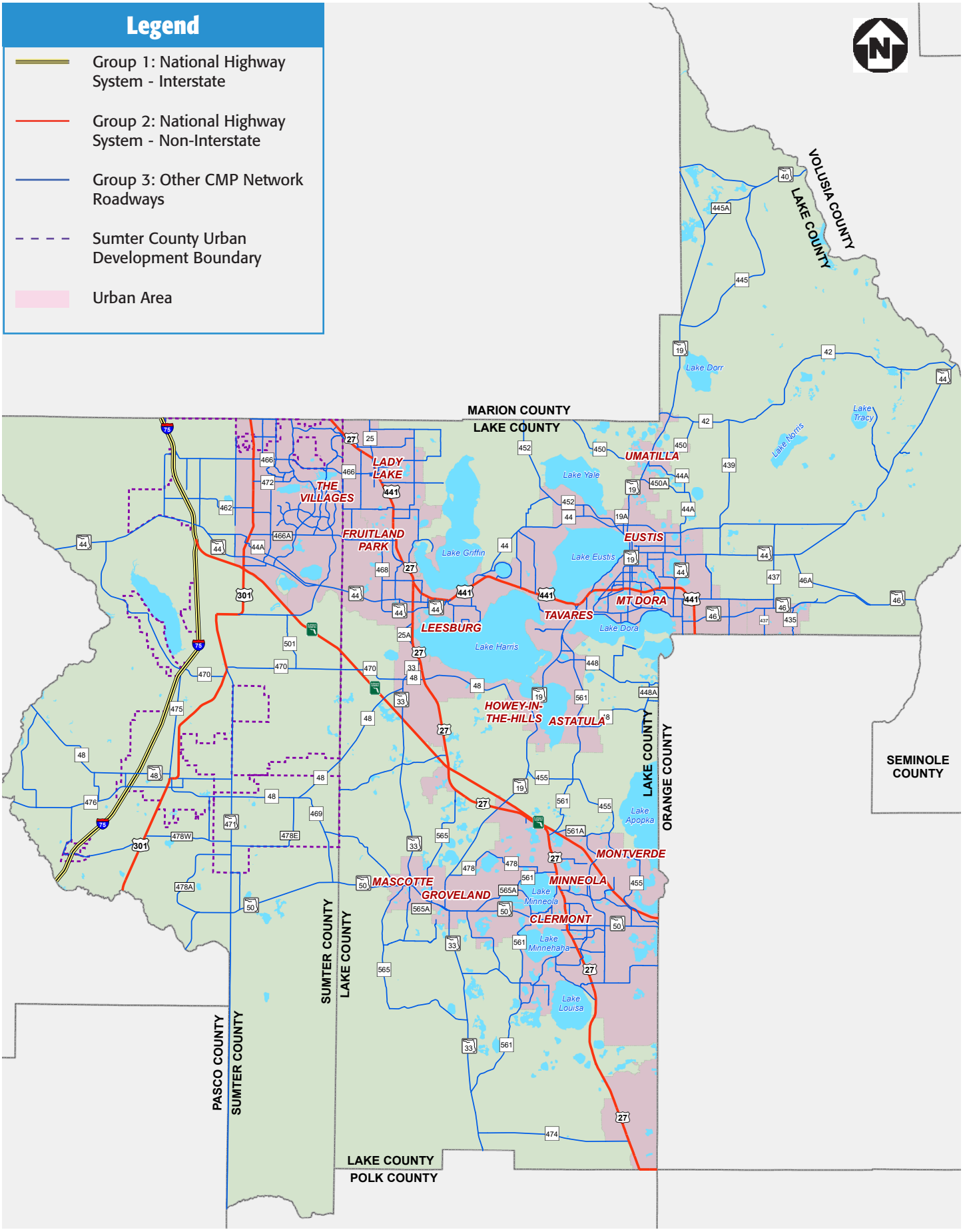
TRANSPORTATION NETWORK

Consistent with federal guidelines, the Lake-Sumter CMP covers a multimodal transportation network. In addition to evaluating congestion on the roadway network, the Lake-Sumter CMP evaluates appropriate transit, bicycle/pedestrian/multiuse path and freight movement networks within its designated area of application. The CMP roadway network is described below.

ROADWAY CMP NETWORK

The Lake-Sumter MPO roadway network includes all existing functionally classified roadways and roads with construction funded in the next five years, known as the existing-plus-committed (E+C) network. **Figure 5** illustrates the existing plus five-year committed roadway network and includes roadway projects through 2024 This map represents the study area and network for the Lake-Sumter CMP.

Figure 5. Lake-Sumter MPO CMP Network



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CHAPTER 7

Development of Performance Measures

Development of Performance Measures

Performance measures are used as tools to measure and monitor the effectiveness of the transportation system in the CMP. They assist in identifying, tracking and monitoring congestion. However, these measures are dependent upon the transportation network and the availability of data. They are typically used to measure the extent and severity of congestion and for the evaluation of the effectiveness of the implemented strategies.

As identified by FHWA, a set of good performance measures:

- Includes quantifiable data that is simple to present and interpret and has professional credibility;
- Describes existing conditions, can be used to identify problems and to predict changes;
- Can be calculated easily and with existing field data, techniques available for estimating the measure, achieves consistent results; and
- Applies to multiple modes, meaningful at varying scales and settings.

PERFORMANCE MEASURES

The performance measures for the Lake-Sumter CMP were selected to address the existing conditions for multi-modal transportation network in the area. The measures are also in compliance with the federal direction of using measures that cover multimodal networks. The measures are organized into seven major categories. These seven categories are

1. Safety
2. Roadway Capacity
3. Roadway Reliability
4. Public Transit
5. Bicycle/Pedestrian/Multiuse Trail Facilities
6. Goods Movement
7. Transportation Demand Management.

The CMP corresponding performance measures are listed on the following page.

Safety Performance Measures (Based on 5-Year Rolling Average)

- Number of fatalities
- Fatality rate
- Number of serious injuries
- Serious injury rate
- Non-motorized safety (number of non-motorized fatalities + serious injuries)

Roadway Capacity Performance Measures

- Percent of Roadway Miles by LOS Type
- Percent of Vehicle Miles Traveled by LOS Type
- V/C ratio
- V/MSV ratio

Reliable Travel Time Performance Measures

- Percent of the Interstate System providing for Reliable Travel Times
- Percent of the non-Interstate NHS providing for Reliable Travel Times
- Percent of the Interstate System where Peak Hour Travel Times meet expectations (Optional)
- Percent of the non-Interstate NHS where Peak Hour Travel Times meet expectations (Optional)

Public Transit Performance Measures

- Percent of congested roadway centerline miles with transit service
- Average peak service frequency
- On-time performance
- Passenger Trips (Annual Ridership)
- Passenger Trips per Revenue Hour

Bicycle/Pedestrian/Multiuse Path Facility Performance Measures

- Percent of Congested Roadway Centerline Miles with Bicycle Facilities
- Percent of Congested Roadway Centerline Miles with Sidewalk Facilities
- Miles of existing Multiuse Paths

Goods Movement Performance Measures

- Vehicle Miles Traveled (VMT) Below LOS Standard on Designated Truck Routes
- Number of Crashes Involving Heavy Vehicles

Transportation Demand Management Performance Measures

- Available information on registered vanpools/carpools and riders.

System Preservation (Optional – Non-CMP)

- Percent of pavements of the Interstate System in Good condition
- Percent of pavements of the non-Interstate NHS in Good condition
- Percent of pavements of the Interstate System in Poor condition
- Percent of pavements of the non-Interstate NHS in Poor condition
- Percent of NHS Bridges Classified as in “Good” Condition
- Percent of NHS Bridges Classified as in “Poor” Condition

These performance measures were identified based on numerous monitoring activities currently conducted and/or planned by various local and state agencies for Lake County and Sumter County. Detailed descriptions of each of these measures, together with an explanation of how the required data are or will be collected, are presented below. Developing additional performance measures resulting from implementation of MAP-21 and the FAST Act

Safety Performance Measures (5 Year Rolling Average)

Crashes at intersections and roadway segments are used as an indicator of congestion. Considered a measure of non-recurring congestion, this measure uses data that are widely available through the many local and state agencies that track them on an ongoing basis throughout the CMP application area. All data is collected and summarized in the form of a 5 year rolling average

Number of Fatalities

This is a summary of the number of fatalities from motor vehicle crashes. This is measured by the number of fatalities and not the number of fatality crashes.

Fatality Rate

This is a summary of the number of fatalities from motor vehicle crashes normalized by exposure in the form of vehicle miles of travel (100,000). This is measured by the number of fatalities and not the number of fatality crashes.

Serious Injuries

This is a summary of the number of incapacitating injuries from motor vehicle crashes. This is measured by the number of persons receiving incapacitating injuries and not the number of incapacitating injury crashes.

Serious Injury Rate

This is a summary of the number of incapacitating injuries from motor vehicle crashes normalized by exposure in the form of vehicle miles of travel (100,000). This is measured by the number of persons receiving incapacitating injuries and not the number of incapacitating injury crashes.

Non-Motorized Safety (Fatalities + Serious Injuries)

This is a summary of the number of fatalities and incapacitating injuries from motor vehicle crashes that involve pedestrians or bicyclists. This is measured by the sum of the number of fatalities and incapacitating injuries and not the number of fatality or incapacitating injury crashes.

Data Collection/Availability – Crash data in Lake and Sumter Counties are collected through various law enforcement Agencies. The data for fatality and incapacitating injury crashes are provided by the FDOT.

Additional Resources

In 2016 FDOT published an updated Strategic Highway Safety Plan (SHSP). This newest plan uses strategies called the "4 Es" to guide 13 Emphasis Areas. The 4 Es are as follows:

- Engineering
- Enforcement
- Education
- Emergency Response

These overarching strategies address the following 13 SHSP Emphasis Areas:

- Lane Departures
- Impaired Driving
- Pedestrians and Bicyclists
- Intersections
- Occupant Protection
- Motorcyclists
- Aging Road Users
- Commercial Motor Vehicles
- Speeding and Aggressive Driving
- Teen Drivers
- Distracted Driving
- Work Zones
- Traffic Records and Information Systems

Roadway Performance Measures

Percent of Vehicle Miles of Travel (VMT) and Roadway Miles Below the Adopted Level of Service (LOS) Standard

This measure summarizes the proportion of vehicle miles of travel and roadway miles below the adopted level of service standard to help quantify the level of congestion within the County.

Data Collection/Availability – The County/FDOT collects traffic volume and capacity data and performs LOS analysis on an annual basis for various planning purposes. LOS/MSV are generally based on FDOT Quality/Level of Service (Q/LOS) methodology.

V/C Ratio and V/MSV Ratio

The volume-to-capacity (V/C) ratio is used as the major tool in measuring roadway conditions and is a measure of the amount of traffic on a given roadway in relation to the amount of traffic the roadway was designed to handle. The volume to maximum service volume (V/MSV) is used to measure the amount of traffic on a roadway in relation to the adopted acceptable amount of traffic the roadway should be able to handle.

Data Collection/Availability – The County/FDOT collects traffic volume and capacity data and performs LOS analysis on an annual basis for various planning purposes based on the FDOT Q/LOS methodology. The County publishes the data into Geographic Information System (GIS) shape files, spreadsheets, and reports once the data are finalized.

Reliable Travel Time Performance Measures

FDOT has an established a Mobility Performance Measures Program based on a benchmarking technique and is referred to as the Florida Reliability Method. The Florida Reliability Method was derived from the Department's definition of reliability of a highway system as the percent of travel on a corridor that takes no longer than the expected travel time plus a certain acceptable additional time. In this context, it is necessary to define the three major components of reliability:

1. **Travel time** - The time it takes a typical commuter to move from the beginning to the end of a corridor. Since speed is determined along each segment as the traveler moves through the corridor, this travel time is a function of both time and distance. This is representative of the typical commuter's experience in the corridor.
2. **Expected travel time** - The median travel time across the corridor during the time-period being analyzed. The median is used rather than the mean so that the value of the expected travel time is not influenced by any unusual major incidents that may have occurred during the sampling period. These major incidents will be accounted for in the percentage of how often the travel takes longer than expected but will not change the baseline to which that unusually high travel time is being compared.
3. **Acceptable additional time** - The amount of additional time, beyond the expected travel time, that a commuter would find acceptable during a commute. The acceptable additional time is expressed as a percentage of the expected travel time during the period being analyzed.

Percent of the Interstate System providing for Reliable Travel Times

Percent of the Interstate System providing reliable travel times.

Percent of the non-Interstate NHS providing for Reliable Travel Times

Percent of the non-Interstate NHS System providing reliable travel times. This will typically only be measured on the State Highway system and a limited number of non-State Highway System facilities.

Percent of the Interstate System where Peak Hour Travel Times meet expectations (Optional)

Percent of the Interstate System providing reliable travel times during the peak hour relive to an established standard. This measure will likely only be required of urban areas over 1 million population and will likely not be required for the Lake-Sumter MPO.

Percent of the non-Interstate NHS where Peak Hour Travel Times meet expectations (Optional)

Percent of the Non-Interstate National Highway System providing reliable travel times during the peak hour relive to an established standard. This measure will likely only be required of urban areas over 1 million population and will likely not be required for the Lake-Sumter MPO.

Data Collection/Availability – Travel Time Reliability Data will be summarized by FDOT for the State Highway System. Data for non-state roadways will only be available on a limited number of roadway corridors and may be of limited quality.

Public Transit Performance Measures

Average Service Frequency and Number of Routes

This measure summarizes the number of routes in Lake County and in Sumter County (fixed-route local bus service), including the average service frequency.

Data Collection/Availability – Lake County's transit system, LakeXpress and Sumter County Transit (SCT) maintain databases of various transit service and operational data including route networks. This data is typically available in GIS or spreadsheet formats and used regularly by LakeXpress and SCT for service planning purposes.

Passenger Trips (Annual Ridership)

Annual ridership summarizes the total number of un-linked passenger trips from all transit routes that operates in the CMP application area in Lake County and Sumter County. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination.

Data Collection/Availability – The ridership data is considered one of the key performance indicators for any transit systems and are collected regularly. Transit ridership data is maintained and summarized in various transit and related documents.

Passenger Trips per Revenue Hour

Passenger Trips per Revenue Hour summarizes the total number of un-linked passenger trips from all transit routes that operates in the CMP application area in Lake County and Sumter County divided by the total revenue hours. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination. The total revenue hours are provided by the transit agencies.

Data Collection/Availability – LakeXpress and SCT regularly collects this data, which are reported in various day-to-day operations reports and annual reports such as the National Transit Database (NTD).

Bicycle/Pedestrian/Multiuse Path Facility Performance Measures

Percent of Congested CMP Roadway Centerline Miles with Bicycle Facilities

This measure identifies the proportion of congested CMP centerline miles, where some type of bicycle facility exists, as defined by the respective planning agencies. Some communities consider paved shoulders and wide curb lanes to be bicycle facilities, excepting interstates and toll facilities.

Data Collection/Availability – The data are regularly collected and maintained by Lake-Sumter MPO and summarized in various local plans.

Percent of Congested CMP Roadway Centerline Miles with Sidewalk Facilities

The proportion of congested CMP roadway network centerline miles on which a sidewalk is available is measured.

Data Collection/Availability – The data are regularly collected and maintained by Lake-Sumter MPO and summarized in various local plans.

Miles of Multiuse Paths

This measure summarizes the total number of miles of multiuse path facilities in Lake County and Sumter County. Multiuse path facilities usually are off-street facilities designated for the exclusive use of nonmotorized travel. They may be used by pedestrians, cyclists, wheelchair users, joggers, and other non-motorized users.

Data Collection/Availability – The data are regularly collected and maintained by Lake-Sumter MPO and summarized in various local plans.

Goods Movement Performance Measures

Vehicle Miles Traveled (VMT) Below LOS Standard on Designated Truck Routes

Measures the total vehicle miles of travel below the adopted LOS standard in Lake County and in Sumter County on designated truck routes. Designated truck routes from the latest LRTP will be used. The VMT for a roadway segment is calculated by multiplying the Annual Average Daily Traffic (AADT) of that segment by the length of the segment in miles.

Data Collection/Availability – The VMT performance data is calculated with the update of the State of the System Report.

Percent of the Interstate System Mileage providing for Reliable Truck Travel Times

Percent of the Interstate System providing reliable truck travel times.

Data Collection/Availability – Truck Travel Time Reliability Data will be summarized by FDOT for the Interstate System.

Percent of the Interstate System Mileage Uncongested

This measures the total vehicle miles of travel below the adopted LOS standard in Sumter County on Interstate 75.

Data Collection/Availability – Level of service performance data are updated annually by the MPO.

Number of Crashes Involving Heavy Vehicles

These crashes involve heavy vehicles. It is considered a measure of nonrecurring congestion that is often more significant when it involves heavy vehicles. This measure uses data that are widely available through the many local and state agencies that track these data on an ongoing basis throughout the CMP application area.

Data Collection/Availability – Crash data in Lake County and Sumter County are collected through various law enforcement agencies including the Florida Highway Patrol, Lake County Sheriff, Sumter County Sheriff, and the police departments of major cities in Lake County and Sumter County.

TDM Performance Measures

Number of Registered Carpools or Vanpools

TDM Performance Measures could include the annual number of registered carpools and vanpools in CMP application area. A carpool is defined as a group of two or more people who commute to work or other destinations together in a private vehicle, while a vanpool is typically a prearranged group of 5 to 15 people who share their commute to work.

Data Collection/Availability – FDOT's reThink Your Commute, through a contracted operator, provides carpool/vanpool services in Lake County and Sumter County and neighboring areas. reThink Your Commute maintains data on the number of carpools and vanpools operating in Lake County and Sumter County on an annual basis. The organization also maintains a list of registered carpool/vanpool users to match to carpools and vanpools.

System Preservation (Optional – Non-CMP)

Federal legislation (MAP-21 & FAST Act) requires the reporting of pavement conditions and bridge conditions on the National Highway System (NHS). While this is not a CMP related performance measure, it is appropriate to include these performance measures in the CMP Annual State of the System report.

- Percent of pavements of the Interstate System in Good condition
- Percent of pavements of the non-Interstate NHS in Good condition
- Percent of pavements of the Interstate System in Poor condition
- Percent of pavements of the non-Interstate NHS in Poor condition
- Percent of NHS Bridges Classified as in "Good" Condition
- Percent of NHS Bridges Classified as in "Poor" Condition

Data Collection/Availability – Pavement condition data for the Interstate and Non-Interstate National Highway System roadways will be provided by FDOT. Non-State NHS pavement condition data will need to be provided by the appropriate jurisdiction and data availability may be limited. Bridge condition information will be provided by the FDOT for all NHS bridges.

RELATIONSHIP OF PERFORMANCE MEASURES TO THE GOALS AND OBJECTIVES

Table 1 illustrates an example of the relationship between the performance measures identified above and the Goals and Objectives for the Congestion Management Process.

Table 1. Relationship of Goals and Objectives to Performance Measures

● Primary
○ Secondary

Performance Measure		GOAL 1 – SUPPORT ECONOMIC SUCCESS AND COMMUNITY VALUES					GOAL 2 – PROMOTE SAFETY AND SECURITY				
		OBJECTIVE 1.1 – Reduce congestion and improve travel reliability for the traveling public and freight users on highways and major arterials.	OBJECTIVE 1.2 – Enhance access to major employment centers.	OBJECTIVE 1.3 – Coordinate regional transportation planning efforts and local comprehensive planning efforts.	OBJECTIVE 1.4 – Minimize negative environmental impacts associated with transportation investments.	OBJECTIVE 1.5 – Address Environmental Justice (EJ) in all appropriate aspects of MPO planning.	OBJECTIVE 2.1 – Prioritize investments to reduce crash related Fatalities for all modes of transportation.	OBJECTIVE 2.2 – Prioritize investments to reduce crash related Serious Injuries for all modes of transportation.	OBJECTIVE 2.3 – Prioritize investments to reduce Bicycle and Pedestrian crash related Fatalities and Serious Injuries.	OBJECTIVE 2.4 – Prioritize investment on evacuation routes.	OBJECTIVE 2.5 – Invest in Transit Security.
Safety Performance Measures (% Year Rolling Average)	Number of Fatalities										
	Fatality Rate										
	Serious Injuries	○		○		○	●	●	●		
	Serious Injury Rate										
	Non-Motorized Safety (Fatalities + Serious Injuries)										
Roadway Capacity Performance Measures	Percent of VMT and Roadway Miles below adopted Level of Service Standard	●	○	○		○					
	V/C Ratio										
	V/MSV Ratio										
Travel Time Reliability Performance Measures	Percent of the Interstate System providing for Reliable Travel Times										
	Percent of the Non-Interstate NHS providing for Reliable Travel Times	●	○	○		○	○	○	○	○	
	Percent of the Interstate System where Peak Hour Travel Times meet expectations (Optional)										
	Percent of the non-Interstate NHS where Peak Hour Travel Times meet expectations (Optional)										
Goods Movement Performance Measures	Vehicle Miles Traveled (VMT) Below LOS Standard on Designated Truck Routes										
	Percent of the Interstate System Mileage Providing for Reliable Truck Travel Times	●	●	○		○	○	○			
	Percent of the Interstate System Mileage Uncongested										
	Number of Crashes Involving Heavy Vehicles										
Public Transit Performance Measures	Percent of Congested Roadway Centerline Miles with Transit Service										
	Passenger Trips per Revenue Hour										
	Average Peak Service Frequency	○	○	○		○					○
	On-Time Performance										
	Annual Ridership										
Bike/ Pedestrian/ Trail Facility Performance Measures	Percent of Congested Roadway Centerline Miles with Bicycle and/or Sidewalk Facilities										
	Miles of Multi-Use Trails			○		○			●		
TDM	Number of Registered Carpools or Vanpools	○	○	○							
System Preservation (Optional - Non-CMP)	Percent of Interstate & Non-Interstate NHS Pavement in Good/Poor Condition										
	Percent of NHS Bridges in Good/Poor Condition										

Table 1. Relationship of Goals and Objectives to Performance Measures (Continued)

● Primary
○ Secondary

Performance Measure		GOAL 3 – IMPROVE TRANSPORTATION OPERATIONS			GOAL 4 – IMPROVE MOBILITY					GOAL 5 – SYSTEM PRESERVATION	
		OBJECTIVE 3.1 – Invest in Intelligent Transportation Systems (ITS).	OBJECTIVE 3.2 – Invest in Vehicle to Infrastructure Communication.	OBJECTIVE 3.3 – Invest in Cost Effective Congestion Management Strategies.	OBJECTIVE 4.1 – Improve transportation options available.	OBJECTIVE 4.2 – Invest in Bicycle and Pedestrian Infrastructure.	OBJECTIVE 4.3 – Maintain or Enhance Transit Service.	OBJECTIVE 4.4 – Balance regional capacity needs with human scale accessibility needs (Complete Streets).	OBJECTIVE 4.5 – Invest in Context Sensitive/Complete Street investments in multimodal corridors	OBJECTIVE 5.1 – Maintain Transportation Infrastructure	OBJECTIVE 5.2 – Maintain Transit Assets
Safety Performance Measures (% Year Rolling Average)	Number of Fatalities	○	○	○		○		○	○	○	
	Fatality Rate										
	Serious Injuries										
	Serious Injury Rate										
	Non-Motorized Safety (Fatalities + Serious Injuries)										
Roadway Capacity Performance Measures	Percent of VMT and Roadway Miles below adopted Level of Service Standard	○	○	○	○		○	○	○	○	○
	V/C Ratio										
	V/MSV Ratio										
Travel Time Reliability Performance Measures	Percent of the Interstate System providing for Reliable Travel Times	○	○	○	○		○	○	○	○	○
	Percent of the Non-Interstate NHS providing for Reliable Travel Times										
	Percent of the Interstate System where Peak Hour Travel Times meet expectations (Optional)										
	Percent of the non-Interstate NHS where Peak Hour Travel Times meet expectations (Optional)										
Goods Movement Performance Measures	Vehicle Miles Traveled (VMT) Below LOS Standard on Designated Truck Routes	○	○	○	○		○	○	○	○	○
	Percent of the Interstate System Mileage Providing for Reliable Truck Travel Times										
	Percent of the Interstate System Mileage Uncongested										
	Number of Crashes Involving Heavy Vehicles										
Public Transit Performance Measures	Percent of Congested Roadway Centerline Miles with Transit Service	○	○	○	●						●
	Passenger Trips per Revenue Hour										
	Average Peak Service Frequency										
	On-Time Performance										
	Annual Ridership										
Bike/ Pedestrian/ Trail Facility Performance Measures	Percent of Congested Roadway Centerline Miles with Bicycle and/or Sidewalk Facilities			○	●	●					●
	Miles of Multi-Use Trails										
TDM	Number of Registered Carpools or Vanpools			●	●						
System Preservation (Optional - Non-CMP)	Percent of Interstate & Non-Interstate NHS Pavement in Good/Poor Condition									●	●
	Percent of NHS Bridges in Good/Poor Condition										

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CHAPTER 8
SYSTEM PERFORMANCE MONITORING PLAN

System Performance Monitoring Plan

The FHWA identifies congestion monitoring as just one of several aspects of transportation system performance that leads to more effective investment decisions for transportation improvements. Safety, physical condition, environmental quality, economic development, travel time reliability, quality of life, and customer satisfaction are among the aspects of performance that also require monitoring.

The Final Rule on Metropolitan Transportation Planning identifies the requirement for, "a coordinated program for data collection and system performance monitoring to assess the extent of congestion, to contribute in determining the causes of congestion, and evaluating the efficiency and effectiveness of implemented actions." In addition, it also indicates that, "to the extent possible, this data collection program should be coordinated with existing data sources and coordinated with operations managers in the metropolitan area."

As a result, the goal of the Lake-Sumter MPO CMP system monitoring plan, as presented in **Table 2**, is to develop an ongoing system of monitoring and reporting that relies primarily on data already collected or planned to be collected in the Counties.

The components of the monitoring plan include roadways, public transit/rideshare, bicycle/pedestrian/multiuse path, transportation demand management (TDM), and goods movement where:

- Roadways are monitored through annual LOS analysis using traffic counts and other related data constantly collected throughout the region;
- Crashes are monitored to help measure safety and nonrecurring congestion;
- Transit performance is monitored continuously through various operating and capital plans;
- Bicycle/pedestrian/multiuse path inventory data are monitored and updated in various city and county databases;
- TDM-related data monitoring is done primarily by the reThink Your Commute Commuter Assistance Program, which maintains an array of databases and coordinates programs to find alternatives for single occupant vehicle (SOV) trips in Lake County and Sumter County and other counties in Central Florida;
- Significant goods movement corridors are evaluated to address mobility needs of the goods movement providers.

The Lake-Sumter MPO CMP will make use of the above available sources to create the State of the System Report to document the performance of the transportation system as described in more detail in Chapter 8 of this report.

Table 2. System Performance Monitoring Plan

Category	Performance Measures	Monitoring Activity	Responsible Agency	Current Status	Geographic Area Covered
Level of Service	Percent of Miles/VMT by LOS Type	Level of Service Analysis	Lake-Sumter MPO	Ongoing	Lake-Sumter MPO Roadway Network
	V/C Ratio				
	V/MSV Ratio				
Safety	Total Crashes	Crash Data Analysis	Lake County and Sumter County Traffic Operations	Ongoing	FDOT, Lake County and Sumter County
	Crash Frequency				
	Crashes involving heavy vehicles				
Transit	Passenger Trips	National Transportation Database Report/ Transit Development Plan	Lake-Sumter MPO/Cities/ FDOT	Ongoing	Lake-Sumter MPO Roadway Network
	Passenger Trips per Revenue Hour				
	Number of Routes & Service				
Bicycle and Pedestrian	Miles of Multiuse Path Facilities	Bicycle/Pedestrian/ Multiuse Path Plans, LRTP and Databases	Lake-Sumter MPO	Ongoing	Lake County and Sumter County
	Percent Congested Miles on Ped. and Bike facilities				
Carpooling	Number of Registered Carpools or Vanpools	Annual Reports and Interim Summaries by reThink Your Commute	reThink Your Commute	Ongoing	Lake County and Sumter County
Truck Traffic	Percent of VMT on Designated Truck Route Corridors on congested roadways	Roadway Databases and LRTP	Lake-Sumter MPO / FDOT	Ongoing	Lake County and Sumter County

The Lake-Sumter MPO, as part of the system monitoring plan, will update the State of the System Report to coordinate with the LRTP, the Lake County and Sumter County Comprehensive Plans and Mobility Fee Update. Since traffic conditions typically do not change drastically from one year to the next, the MPO will update the State of the System Report to coincide with the adoption of the LRTP. It is anticipated that the State of the System Report would then be updated once each year.

CHAPTER 9

Congested Corridor Selectionand CMP Strategies

Congested Corridor Selection and CMP Strategies

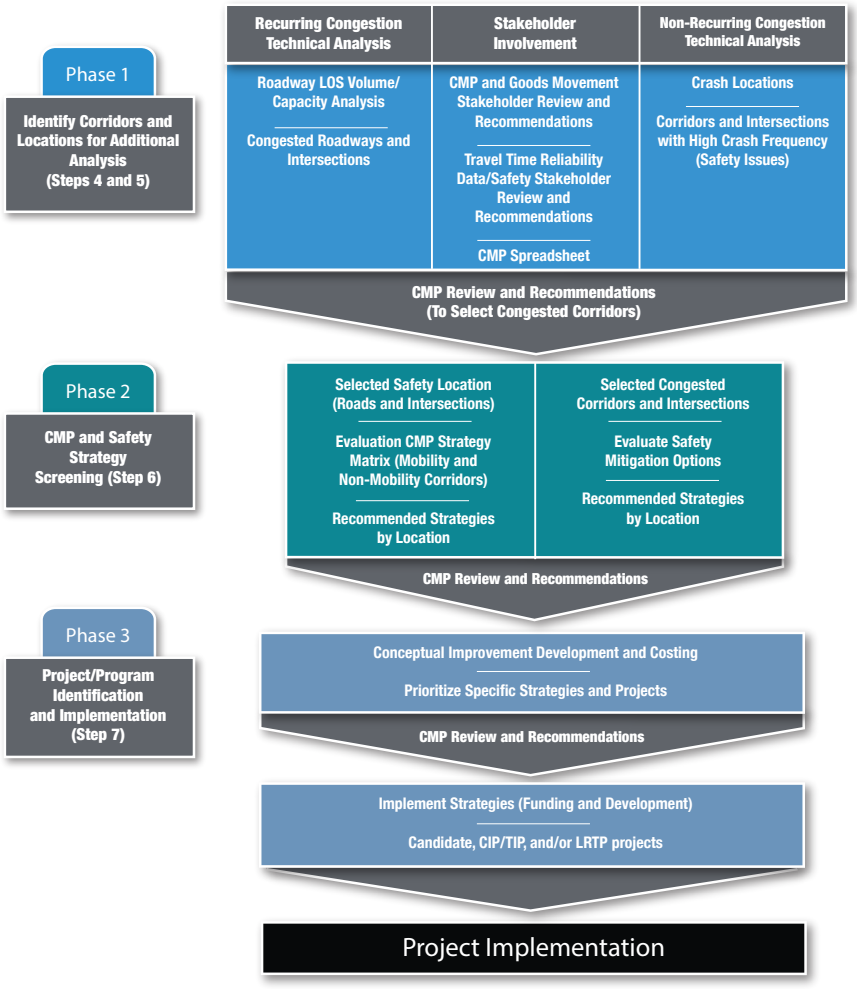
IMPLEMENTATION

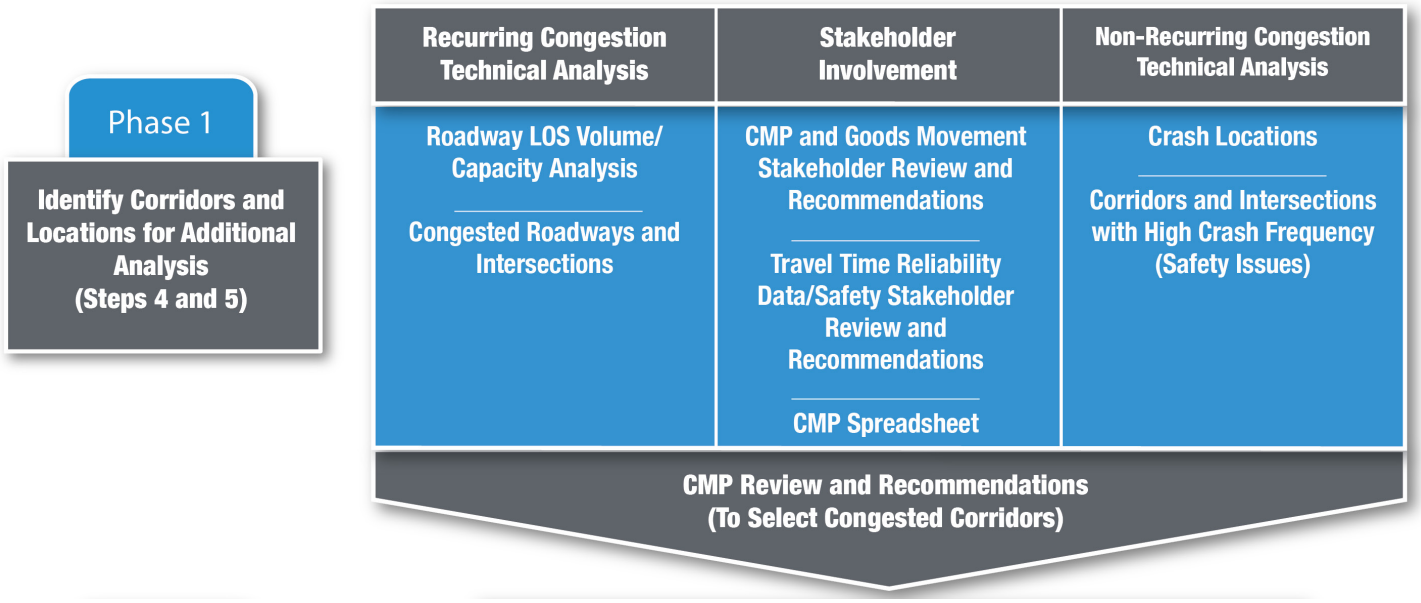
This section summarizes the identification of potential CMP strategies. This includes the process for selecting new corridors and future projects for implementation and may also include an implementation schedule, responsibilities, costs, and possible funding sources for each strategy currently proposed for implementation.

CONGESTED CORRIDOR SELECTION AND PROJECT SELECTION PROCESS

The purpose of the CMP is to identify implementable projects. The list of known congestion issues maintained by the MPO should continue to be used as a primary source in identifying opportunities. However, continued monitoring of the transportation system will provide additional information regarding new congestion where solutions will be needed. The 3-phase CMP process outlined below involves identifying and screening congested corridors to identify potential projects/programs that may be implemented. The process follows three phases as described below and complements the federal 8-Action process described in Chapter 2. Corridors to be evaluated are selected by coordinated efforts of BPAC, TAC, and the Mobility Task Force.

Figure 6. Corridor/Strategy Selection Process





Identify Congested Corridors and Locations for Review (Phase 1)

Monitoring efforts are used to review the level of service on the roadway network to identify recurring congestion. Roadways that are congested today or forecasted to be congested in five years are considered for review through the CMP screening process. The MPO uses a tiered approach in identifying potential projects for implementation in the CMP. This approach includes a series of conditions or criteria for evaluating congestion and identifying the appropriate solution.

- **Not Congested (currently or in five years without improvements):** Corridors that are not anticipated to operate below their adopted level of service standards in either the existing conditions or after committed improvements in the five-year program are implemented.
- **Approaching Congestion or Minimally Congested:** Corridors that are approaching congestion or are minimally congested based on one of the following three criteria (projects on these corridors may have the greatest impact):
  - **Approaching Congestion** – Corridors that are not congested but have segments that have traffic volumes that consume more than 90% of the roadway's capacity at the adopted level of service standard with either the existing conditions or forecasted five-year condition without improvement.
  - **Congested Today** – Existing corridors with traffic volumes that exceed the adopted level of service standard that do not exceed the physical capacity of the roadway.
  - **Congestion in 5 Years** – Corridors forecasted in five years to have traffic volumes that exceed the adopted level of service standard that do not exceed the physical capacity of the roadway.
- **Extremely Congested:** Roadways in the Existing + Committed (E+C) five-year network that have forecast volumes that are greater than the physical capacity (typically occurs when using detailed analysis and the volume-to-capacity ratio is 1.08 or greater) of the roadway and are considered severely congested.

Crash data management procedures also are used to identify corridors or intersections with a high frequency of crashes that result in non-recurring congestion. Safety improvements not only reduce the potential harm to persons in our communities but also can reduce congestion.

Generally, non-congested corridors do not need to be addressed by the CMP; however, the other two categories may require one or more congestion-relieving strategies. Extremely congested corridors typically will require either capacity improvements or a shift to other mobility strategies that rely significantly on public transportation or reductions in travel demand. In some cases, extremely congested corridors may respond favorably to the implementation of operational improvements; these would be considered on a case-by-case basis where appropriate. The corridors approaching congested or minimally congested will generally be the most responsive to CMP improvement strategies.

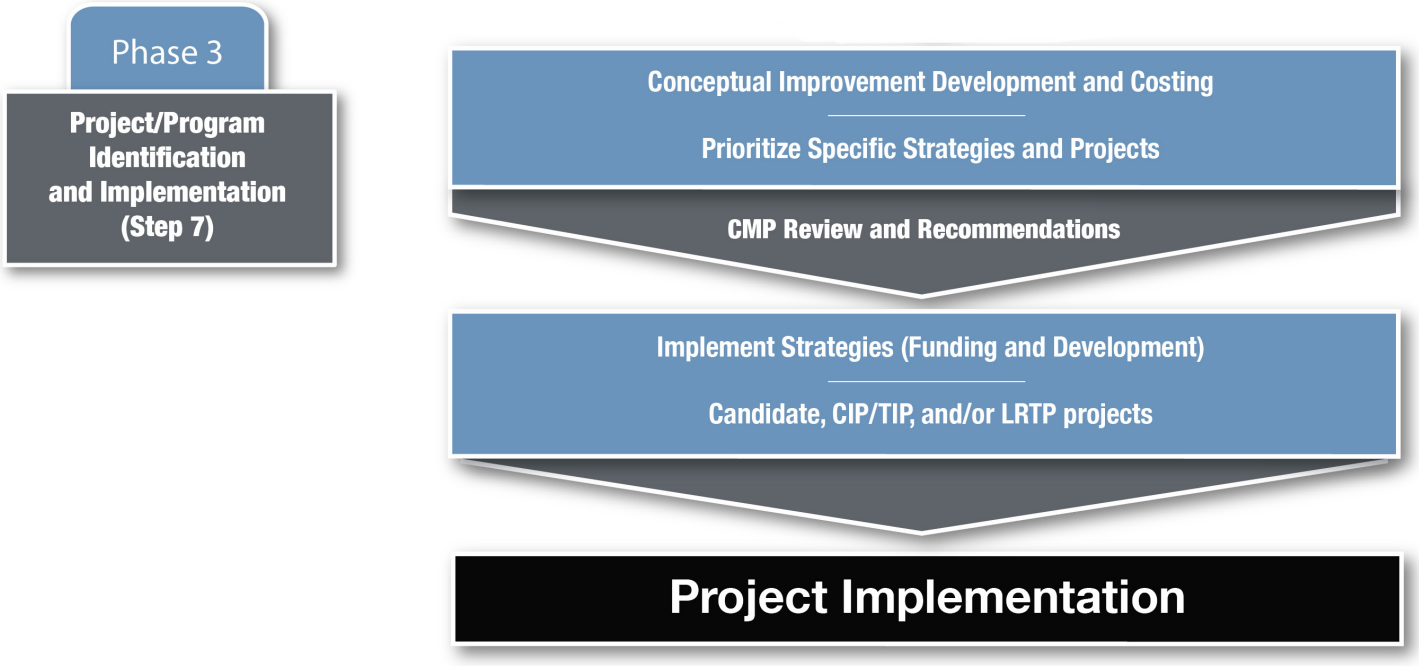
After the congested network and corridors have been identified, two to three corridors are selected for detailed analysis and project identification and implementation each year. The TAC reviews the selection of corridors. Once corridors are selected and evaluated, they will not be reevaluated for three to five years. Corridors typically are selected based on the following:

1. If they are not in the 5-year work program or identified as projects in the 10-year plan and the corridors are forecasted to operate below their adopted level of service standard.
2. Corridors that would receive the greatest mobility or operational benefit from the CMP process.
3. Roadways identified as Long-Term Concurrency Roadways using mobility strategies that would be strengthened through the implementation of mobility improvements

CMP and Safety Strategy Screening (Phase 2)

Once congested corridors are selected for review, they are screened to identify mitigation strategies to reduce congestion or improve safety and reduce crashes. The Congestion Mitigation Process Strategy Matrix (found in Appendix A) is used to address recurring congestion, and the Safety Mitigation Strategy Matrix (found in Appendix B) is used to address nonrecurring congestion. The matrix includes strategies in five tiers as identified in the Lake-Sumter CMP Strategy Toolbox, as illustrated later in this section. The CMP Strategy Matrix typically is used in a workshop setting to quickly review a corridor, and the Safety Mitigation Strategy Matrix is applied based on a review of crash data.

Because this phase is typically the most time-consuming and data-intensive, it is not always necessary to screen the congested corridors if previous analysis or evaluation has been conducted. In the case of the list maintained by the MPO, congestion issues may have already been identified or documented through citizen comment and observation making it simpler to identify the appropriate strategy to address the congestion issue.



Evaluate Project or Program for Implementation (Phase 3)

The congestion or safety mitigation strategies that are identified as having the greatest potential benefit are then evaluated in greater detail based on committee and/or technical recommendations. During this phase, additional analysis is performed on potential projects and programs to identify the specific improvement, implementation issues, and costs. Recommendations for implementation are then made for approved projects or programs. This may result in a need to refocus existing resources, such as existing rideshare programs or local maintenance crews where possible, programming improvements in the local agency capital improvement programs or transportation improvement program, or using boxed-funds controlled by the MPO, and finally may be identified as candidate projects for implementation in future LRTPs. This identification of projects and programs is coordinated with the CMP Task Force, and information is provided to the local government staff for future consideration during the capital budgeting process.

CONGESTION MANAGEMENT STRATEGIES

This section of the CMP Update identifies and evaluates the strategies intended for mitigating existing and future congestion in the Lake-Sumter roadway network. A *Toolbox of Strategies* is presented to help decision makers and planners in effectively using these congestion reduction strategies. The Final Rule on Statewide and Metropolitan Transportation Planning published on February 14, 2007, states that, "development of a congestion management process should result in multimodal system performance measures and strategies that can be reflected in the metropolitan transportation plan and the Transportation Improvement Program (TIP)."

A full range of potential strategies has been identified for the Lake County and Sumter County in its multimodal CMP network. These strategies are included in the Lake-Sumter CMP Toolbox of Strategies. The strategies may be grouped into one of the following broad categories as listed in **Figure 7**.

Figure 8 summarizes the demand and operational management strategies included in the Lake-Sumter MPO CMP Toolbox of Strategies, which is presented later in detail. A full range of demand and operational management strategies are identified in these tables for the MPO to assist in efforts to mitigating existing and future congestion.

Figure 7. Congestion Management Strategies

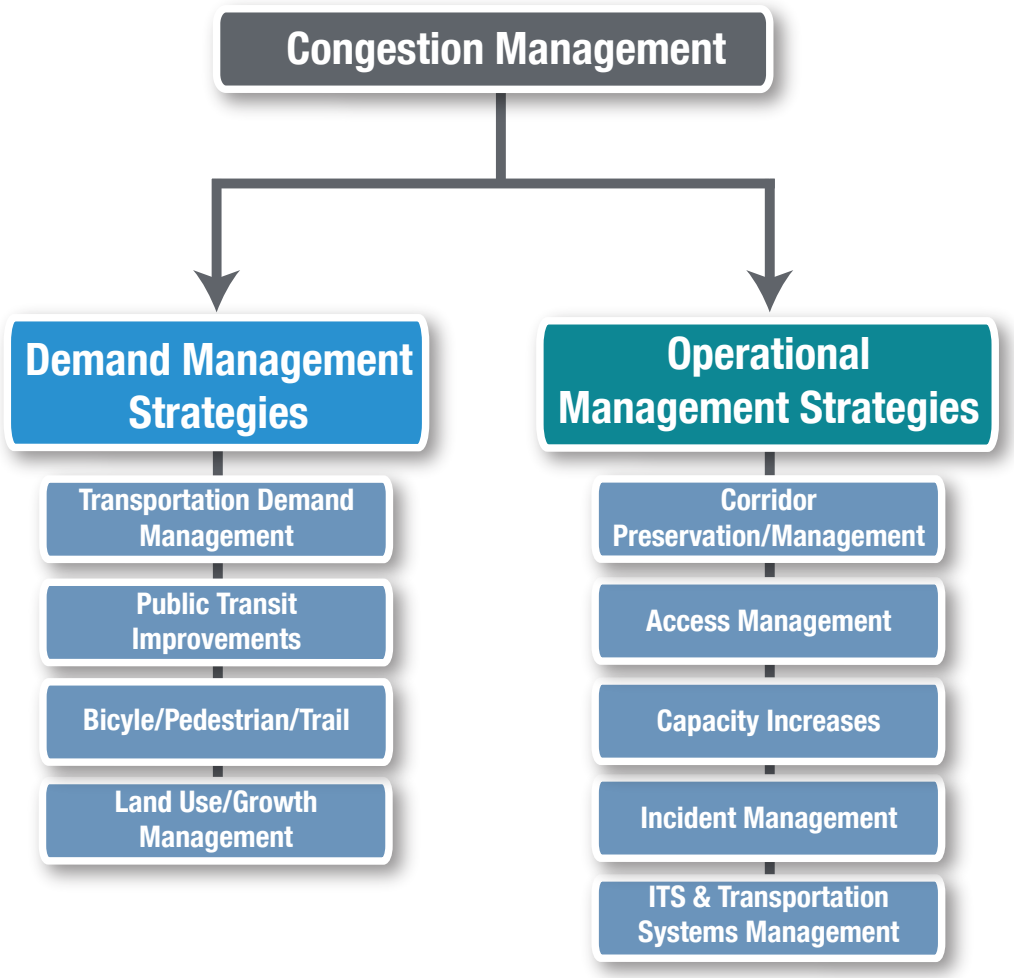
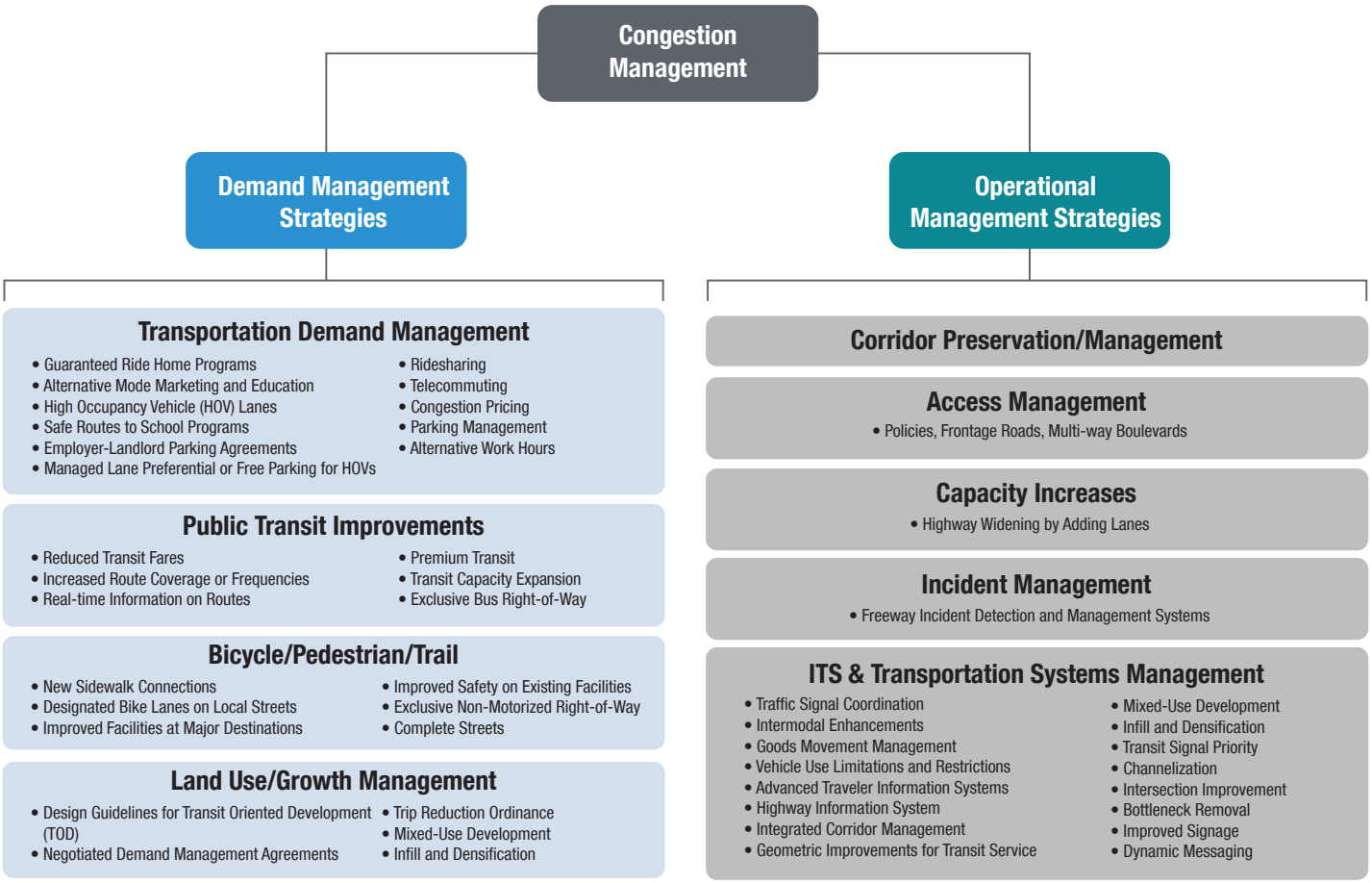


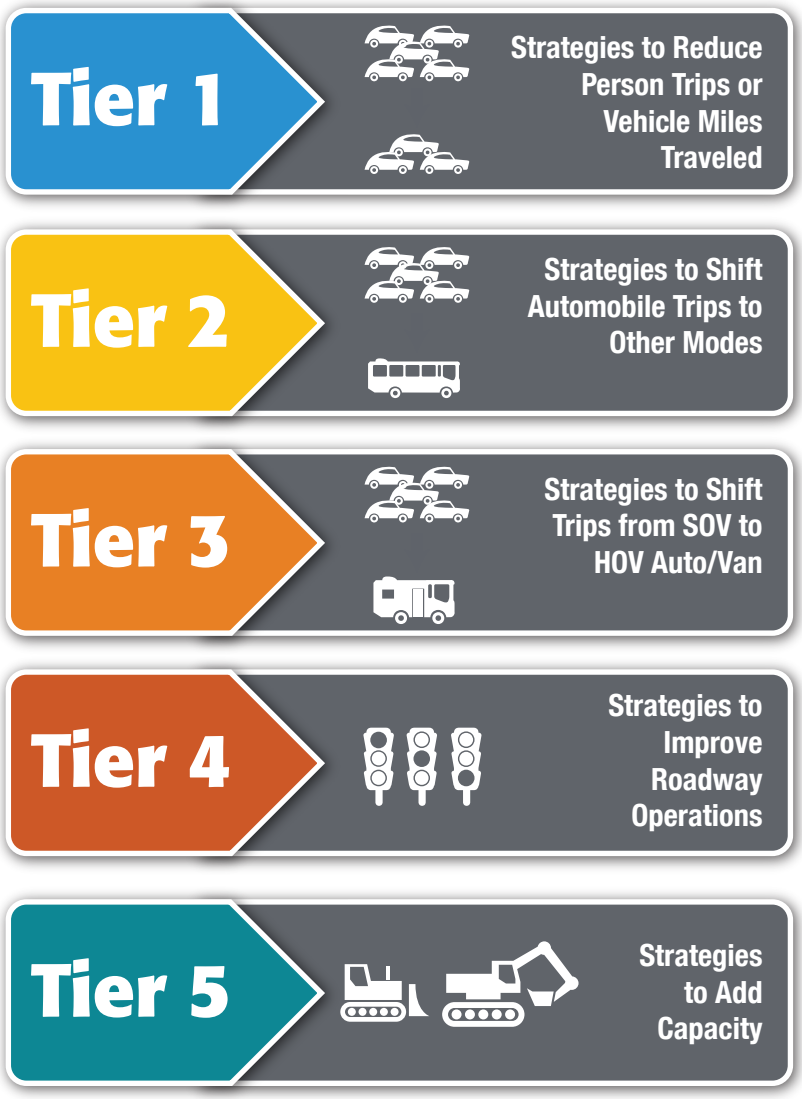
Figure 8. Demand and Operational Management Strategies



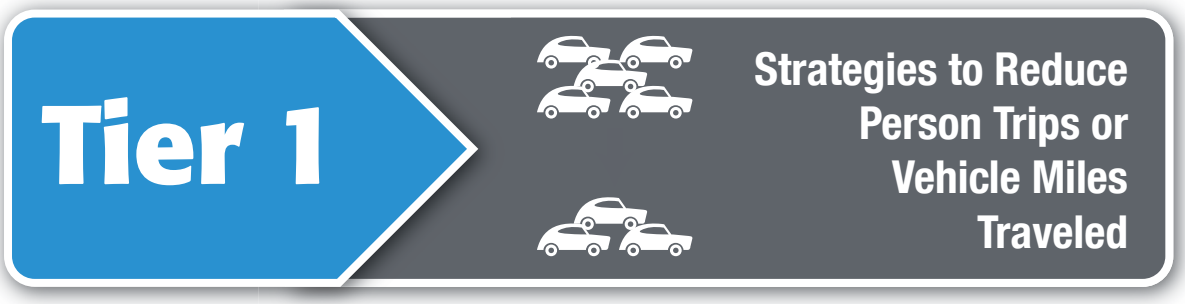
TOOLBOX OF STRATEGIES

The CMP uses a strategy toolbox with multiple tiers of strategies to support the congestion strategy or strategies for congested corridors. Following an approach used by other MPOs and promoted by FHWA, the toolbox of congestion mitigation strategies is arranged so that the measures at the top take precedence over those at the bottom. The toolbox is presented below in **Figure 9**.

Figure 9. Lake-Sumter MPO CMP Toolbox of Strategies



The "top-down" approach promotes the growing sentiment in today's transportation planning arena and follows FHWA's clear direction to consider all available solutions before recommending additional roadway capacity. The Lake-Sumter CMP toolbox of strategies is divided by tiers, strategies, and specific examples. The remainder of this section outlines the tiers and strategies while the specific examples have been included in Appendix C.



Transportation Demand Management Strategies

These strategies are used to reduce the use of single occupant motor vehicles, as the overall objective of TDM is to reduce the miles traveled by automobile. The following TDM strategies, not in any particular order, are available for consideration in the toolbox to potentially reduce travel in the peak hours.

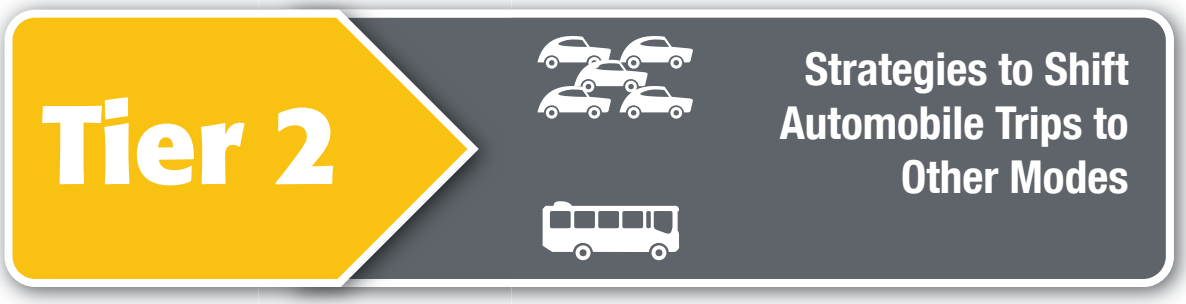
- **Congestion Pricing:** Congestion pricing can be implemented statically or dynamically. Static congestion pricing requires that tolls are higher during traditional peak periods. Dynamic congestion pricing allows toll rates to vary depending upon actual traffic conditions. The more congested the road, the higher the cost to travel on the road. Dynamic congestion pricing works best when coupled with real-time information on the availability of other routes.
- **Alternative Work Hours:** There are three main variations: staggered hours, flex-time, and compressed work weeks. Staggered hours require employees in different work groups to start at different times to spread out their arrival/departure times. Flex-time allows employees to arrive and leave outside of the traditional commute period. Compressed work weeks involve reducing the number of days per week worked while increasing the number of hours worked per day.
- **Telecommuting:** Telecommuting policies allow employees to work at home or a regional telecommute center instead of going into the office, all the time or only one or more days per week.
- **Guaranteed Ride Home Programs:** These programs provide a safety net to those people who carpool or use transit to work so that they can get to their destination if unexpected work demands or an emergency arises.
- **Alternative Mode Marketing and Education:** Providing education on alternative modes of transportation can be an effective way of increasing demand for alternative modes. This strategy can include mapping Websites that compute directions and travel times for multiple modes of travel.
- **Safe Routes to Schools Program:** This federally-funded program provides 100 percent funding to communities to invest in pedestrian and bicycle infrastructure surrounding schools.
- **Preferential or Free Parking for HOVs:** This program provides an incentive for employees to carpool with preferred of free-of-charge parking for HOVs.

Land Use/Growth Management Strategies

The strategies in this category include policies and regulations that would decrease the total number of auto trips and trip lengths while promoting transit and non-motorized transportation options.

- **Negotiated Demand Management Agreements:** As a condition of development approval, local governments require the private sector to contribute to traffic mitigation agreements. The agreements typically set a traffic reduction goal (often expressed as a minimum level of ridesharing participation or a stipulated reduction in the number of automobile trips).

- **Trip Reduction Ordinance:** These ordinances use a locality's regulatory authority to limit trip generation from a development. They spread the burden of reducing trip generation among existing and future developments better than Negotiated Demand Management Agreements.
- **Infill Developments:** This strategy takes advantage of infrastructure that already exists, rather than building new infrastructure on the fringes of the urban area.
- **Transit Oriented Developments:** This strategy clusters housing units and/or businesses near transit stations in walkable communities. By providing convenient access to alternative modes, auto dependence can be reduced.
- **Design Guidelines for Pedestrian-Oriented Development:** Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.
- **Mixed-Use Development:** This strategy allows many trips to be made without automobiles. People can walk to restaurants and services rather than use their vehicles.



Public Transit Strategies

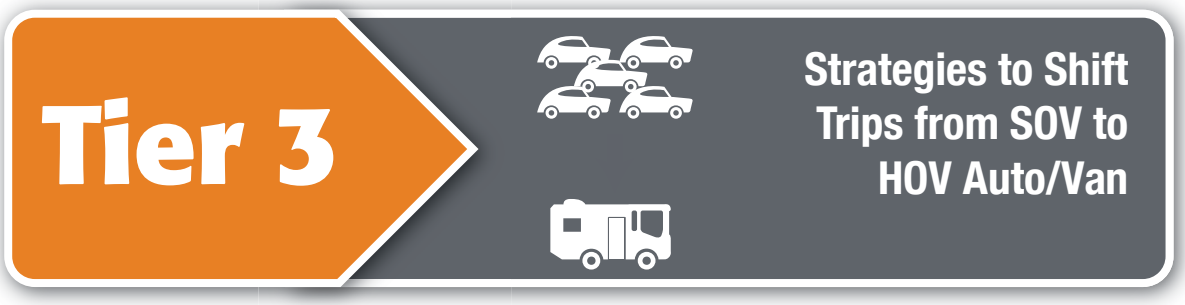
Two types of strategies, capital improvements and operating improvements, are used to enhance the attractiveness of public transit services to shift auto trips to transit. Transit capital improvements generally modernize the transit systems and improve their efficiency; operating improvements make transit more accessible and attractive.

- **Transit Capacity Expansion:** This strategy adds new vehicles to expand transit services.
- **Increasing Bus Route Coverage or Frequencies:** This strategy provides better accessibility to transit to a greater share of the population. Increasing frequency makes transit more attractive to use.
- **Implementing Regional Premium Transit:** Premium transit such as Bus Rapid Transit (BRT) best serves dense urban centers where travelers can walk to their destinations. Premium regional transit from suburban areas can sometimes be enhanced by providing park-and-ride lots.
- **Providing Real-Time Information on Transit Routes:** Providing real-time information on bus progress either at bus stops, terminals, and/or personal wireless devices makes bus travel more attractive.
- **Reducing Transit Fares:** This relatively easy-to-implement strategy encourages additional transit use, to the extent that high fares are a real barrier to transit. However, due to the direct financial impact on the transit system operating budgets, reductions in selected fare categories may be a more feasible strategy to implement.
- **Provide Exclusive Bus Right-Of-Way (ROW) :** Exclusive right-of-way includes bus ways, bus-only lanes, and bus bypass ramps. This strategy is applied to freeways and major highways that have routes with high ridership.

Non-Motorized Transportation Strategies

Non-motorized strategies include bicycle, pedestrian, and multiuse path facility improvements that encourage non-motorized modes of transportation instead of single-occupant vehicle trips.

- **New Sidewalk Connections:** Increasing sidewalk connectivity encourages pedestrian traffic for short trips.
- **Designated Bicycle Facilities on Local Streets:** Enhancing the visibility of bicycle facilities increases the perception of safety. In many cases, bicycle lanes can be added to existing roadways through restriping.
- **Improved Bicycle Facilities at Transit Stations and Other Trip Destinations:** Bicycle racks and bicycle lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles.
- **Improved Safety of Existing Bicycle and Pedestrian Facilities:** Maintaining lighting, signage, striping, traffic control devices, and pavement quality and installing curb cuts, curb extensions, median refuges, and raised crosswalks can increase bicycle and pedestrian safety.
- **Exclusive Non-Motorized Right-of-Way:** Abandoned rail rights-of-way and existing parkland can be used for medium- to long-distance bicycle trails, improving safety and reducing travel times.
- **Complete Streets:** Routinely designing and operating the entire right-of-way can enable safe access for all users including pedestrians, bicyclists, motorists, and transit. Elements that may be found on a complete street include sidewalks, bike facilities, special bus lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, accessible pedestrian signals, curb extensions, support for changing mobility technologies, and more.

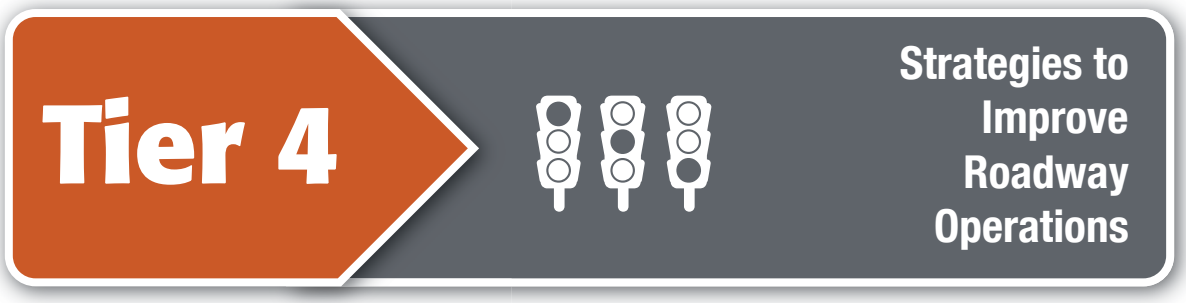


Transportation Demand Management Strategies

In addition to the TDM Strategies that are included in Tier 1, additional strategies are available in Tier 3 that encourage the use of ride-sharing and other forms of HOV implementation.

- **Ridesharing (Carpools & Vanpools):** In ridesharing programs, participants are matched with potential candidates for sharing rides. This typically is arranged/encouraged through employers or transportation management agencies that provide ride-matching services. These programs are more effective if combined with HOV lanes, parking management, guaranteed ride home policies, and employer-based incentive programs.
- **High Occupancy Vehicle Lanes:** This increases corridor capacity while, at the same time, providing an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, park-and-ride lots, rideshare matching services, and employer incentives.

- **Park-and-Ride Lots:** These lots can be used in conjunction with HOV lanes and/or express bus services. They are particularly helpful when coupled with other commute alternatives such as carpool/vanpool programs, transit, and/or HOV lanes.
- **Employer-Landlord Parking Agreements:** Employers can negotiate leases so that they pay for parking spaces used only by employees. In turn, employers can pass along parking savings by purchasing transit passes or reimbursing nondriving employees with the cash equivalent of a parking space.
- **Parking Management:** This strategy reduces the instance of free parking to encourage other modes of transportation. Options include reducing the minimum number of parking spaces required per development, increasing the share of parking spaces for HOVs, introducing or raising parking fees, providing cash-out options for employees not using subsidized parking spaces, and expanding parking at transit stations or park-and-ride lots.
- **Managed Lanes:** FHWA defines managed lanes as highway facilities or a set of lanes in which operational strategies are implemented and managed (in real time) in response to changing conditions. Examples of managed lanes may include high-occupancy toll (HOT) lanes with tolls that vary based on demand, exclusive bus-only lanes, HOV and clean air and/or energy-efficient vehicle lanes, and HOV lanes that could be changed into HOT lanes in response to changing levels of traffic and roadway conditions.



Intelligent Transportation Systems (ITS) Strategies

The strategies in ITS use new and emerging technologies to mitigate congestion while improving safety and environmental impacts. Typically, these systems are made up of many components, including sensors, electronic signs, cameras, controls, and communication technologies. ITS strategies are sets of components working together to provide information and allow greater control of the operation of the transportation system.

- **Dynamic Messaging:** Dynamic messaging uses changeable message signs to warn motorists of downstream queues; it provides travel time estimates, alternate route information, and information on special events, weather, or accidents.
- **Advanced Traveler Information Systems (ATIS):** ATIS provide an extensive amount of data to travelers, such as real-time speed estimates on the Web or over wireless devices and transit vehicle schedule progress. It also provides information on alternative route options.
- **Integrated Corridor Management (ICM):** This strategy, built on an ITS platform, provides for the coordination of the individual network operations between parallel facilities creating an interconnected system. A coordinated effort between networks along a corridor can effectively manage the total capacity in a way that will result in reduced congestion.
- **Transit Signal Priority (TSP):** This strategy uses technology located onboard transit vehicles or at signalized intersections to temporarily extend green time, allowing the transit vehicle to proceed without stopping at a red light.

Transportation Systems Management Strategies

Transportation Systems Management (TSM) strategies identify operational improvements to enhance the capacity of the existing system. These strategies typically are used together with ITS technologies to better manage and operate existing transportation facilities.

- **Traffic Signal Coordination:** Signals can be pre-timed and isolated, pre-timed and synchronized, actuated by events (such as the arrival of a vehicle, pedestrian, bus or emergency vehicle), set to adopt one of several pre-defined phasing plans based on current traffic conditions, or set to calculate an optimal phasing plan based on current conditions.
- **Channelization:** This strategy is used to optimize the flow of traffic for making left or right turns usually using concrete islands or pavement markings.
- **Intersection Improvements:** Intersections can be widened and lanes restriped to increase intersection capacity and safety. This may include auxiliary turn lanes (right or left) and widened shoulders.
- **Bottleneck Removal:** This strategy removes or corrects short, isolated, and temporary lane reductions, substandard design elements, and other physical limitations that form a capacity constraint that results in a traffic bottleneck.
- **Vehicle Use Limitations and Restrictions:** This strategy includes all-day or selected time-of-day restrictions of vehicles, typically trucks, to increase roadway capacity.
- **Improved Signage:** Improving or removing signage to clearly communicate location and direction information can improve traffic flow.
- **Geometric Improvements for Transit:** This strategy includes providing for transit stop locations that do not affect the flow of traffic, improve sight lines, and improve merging and diverging of buses and cars.
- **Intermodal Enhancements:** Coordinating modes makes movement from one mode to the other easier. These enhancements typically include schedule modification to reduce layover time or increase the opportunity for transfers, creation of multimodal facilities, informational kiosks, and improved amenities at transfer locations.
- **Goods Movement Management:** This strategy restricts delivery or pickup of goods in certain areas to reduce congestion.

Freeway Incident Detection and Management Strategy

- **Freeway Incident Detection and Management Systems:** This strategy addresses primarily non-recurring congestion, typically includes video monitoring and dispatch systems, and may also include roving service patrol vehicles.

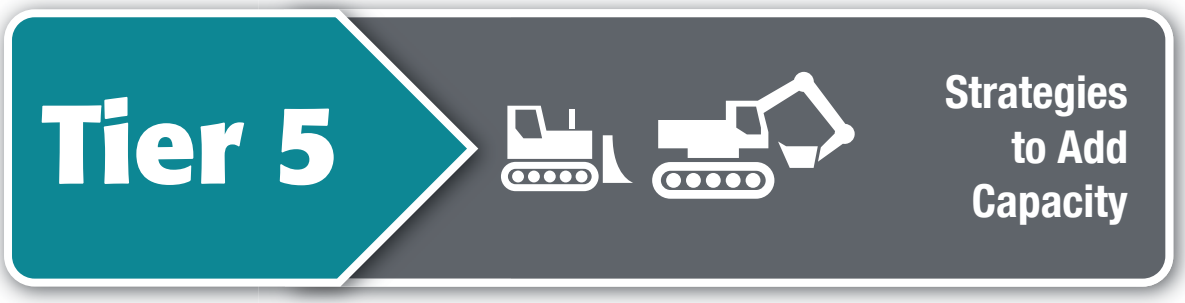
Access Management Strategy

- **Access Management Policies:** This strategy includes adoption of policies to regulate driveways and limit curb cuts and/or policies that require continuity of pedestrian, bicycle, and trail facilities.

Corridor Preservation/Management Strategies

- **Corridor Preservation:** This strategy includes implementing, where applicable, land acquisition techniques such as full title purchases of future rights-of-way and purchase of easements to plan proactively in anticipation of future roadway capacity demands.

- **Corridor Management:** This strategy is applicable primarily in moderate- to high-density areas and includes strategies to manage corridor rights-of-way. The strategies range from land-use regulations to landowner agreements such as subdivision reservations, which are mandatory dedications of portions of subdivided lots that lie in the future right-of-way.



Strategies to add capacity are the costliest and least desirable strategies and should be considered as last resort methods for reducing congestion. Strategies of cities that attempt to "build out of congestion" have not provided intended results. As such, capacity-adding strategies should be applied after determining the demand and operational management strategies identified earlier are not feasible solutions. The key strategy is to increase the capacity of congested roadways through additional general purpose travel lanes.

- Increase the capacity of congested roadways through additional general purpose travel lanes and/or managed lanes

CONGESTION MITIGATION MATRIX

The CMP Strategy Matrix is used to address recurring congestion. The matrix is included in **Appendix B**. The matrix includes strategies in five tiers as identified in the CMP Strategy Toolbox. The CMP Strategy Matrix typically is used in a workshop setting with agency stakeholders to quickly screen through the strategies to identify appropriate strategies that may provide a benefit within the corridor. Following the screening of a corridor using the matrix, strategies which were identified as having a high level of potential benefit or medium level of potential benefit are considered for additional analysis where appropriate. The CMP Strategy Matrix identifies the general level of applicability by mode given the different trip types as follows:

- **Regional Trips:** Long distance trips and/or pass-through trips through the county. Typically these trips are auto dependent unless served by premium transit modes.
- **Regional Access Trips:** Moderate distance trips that have at least one trip end (origin or destination) within the corridor. Typically, these trips are auto dependent unless served by a mix of premium or fixed route transit.
- **Local Access Trips:** These are shorter trips with at least one trip end within the corridor. Typically transit and bicycle modes can compete favorably with the auto modes of travel relative to travel time.
- **Local Circulation Trips:** These are very short trips where both trip ends likely occur within close proximity to the corridor. Typically, walking and bicycling have travel times comparable to auto usage. Public transportation is typically not viable in the absence of frequent local circulator transit service since walking times are of relatively short duration.

CMP SAFETY MITIGATION MATRIX

The Lake-Sumter MPO CMP process also includes a "CMP Safety Mitigation Matrix" for use in streamlining the identification of potential safety issues identified in the identification of congested corridors by making use of crash data produced by the FDOT's Crash Data Management System (CDMS). This system produces maps and reports by crash type or cause which can be used to identify safety issues on the major roadway network for both congested and non-congested roadways. Reducing the number of crashes that occur on major roadways can reduce nonrecurring congestion. While the delay incurred resulting from crashes cannot be determined easily, it is a significant contribution of delay on major roadways. To support the integration of crash reduction as a means to reduce non-reoccurring congestion, a CMP Safety Mitigation Matrix was developed.

The CMP Safety Migration Matrix is provided in **Appendix C**. This Matrix is similar to the CMP Strategy Matrix in that it should be used to screen and identify potential strategies that would reduce congestion caused by specific crash types. The Matrix identifies crash types and the typical strategies that could be implemented to improve safety and reduce these crashes for the Safety Emphasis Areas identified in the State of Florida Strategic Highway Safety Plan. In most cases, additional detailed study will be required to identify the specific safety strategy or strategies to be implemented for a specific location.

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CHAPTER 10

Monitor Strategy Effectiveness

Monitor Strategy Effectiveness

The FHWA guidelines call for CMPs to include provisions to monitor the performance of strategies implemented to address congestion. Regulations require, "a process for periodic assessment of the efficiency and effectiveness of implemented strategies, in terms of the area's established performance measures." This step of the process helps determine whether operational or policy adjustments are needed to make the current strategies work better and provides information about how various strategies work in order to implement future approaches within the CMP study area.

Data collection and performance monitoring are ongoing with the various periodic assessments of roadway, transit, bicycle/pedestrian/multiuse path, freight network performance in Lake County and Sumter County. However, this CMP also identifies the need for a process that supports tracking of the effectiveness of the implemented congestion mitigation strategies and the multimodal transportation system as a whole. This process is described in detail below.

ANNUAL STATE OF THE SYSTEM REPORT

As a key tool in the Lake-Sumter MPO CMP, a State of the System Report will be developed to track the effectiveness of the implemented strategies, to the extent possible with the available project level data, and conditions of the multimodal transportation system as a whole. The same set of quantifiable performance measures established for the Lake-Sumter CMP as described in Chapter 6 of this report will be used to measure system performance at corridor and system levels. The measures that will be utilized in the State of the System Report on Lake-Sumter CMP include:

- **Roadway Performance Measures** including percent of roadway miles and VMT by LOS Type as well as roadway traffic volume to capacity and volume to maximum service volume ratios.
- **Transit Performance Measures**, including passenger trips per revenue hour, passenger trips, and the number of routes.
- **Bicycle/Pedestrian/Multiuse Path Performance Measures**, including percent of congested CMP roadway centerline miles with bicycle facilities, percent of congested CMP roadway centerline miles with sidewalk facilities, and miles of multiuse paths.
- **TDM Performance Measures**, including the number of registered carpools or vanpools in the CMP study area
- **Goods Movement Performance Measures**, including the % of total VMT on truck routes on congested roadways.

The commitment and schedule for preparing an Annual State of the System Report will be determined by the Lake-Sumter MPO TAC.

Typically the Annual State of the System Report will be completed by the MPO during the years between LRTP updates and the report is contingent on available funding. In the future the Annual State of the System Report is anticipated to support the requirement of the Transportation Improvement Program (TIP) to the maximum extent practicable, provide a description of the anticipated effect of the TIP toward achieving the performance targets established in the Plan, and how the TIP links investment priorities to those performance targets.

APPENDIX A

Congested Corridors and Hot Spots

Congested Corridors and Hot Spots

Various criteria that primarily use traffic volume and capacity are used to select and categorize the congested corridors in Lake and Sumter Counties. The methodology using these criteria to select congested corridors within the CMP application area is presented below. Thereafter, criteria used to identify congestion hot spots, i.e. intersections with recurring or non-recurring congestion, are also summarized.

SELECTION METHODOLOGY

This methodology summarizes the steps used to identify the congested roadways for the Lake-Sumter CMP. As indicated earlier, the CMP road network includes all existing and committed roadway segments as identified by the 2040 LRTP.

The selection methodology consists of two main steps. First, five criteria are used to categorize the roadways into three sub-categories. The sub-categories and corresponding criteria are presented below.

Not Congested (currently or in five years without improvements) - The corridors in this category are selected based on applying the following criteria at road segment level:

$$\text{Not Congested Corridors} = \text{Existing or Existing + 5 Years Segments with} \left(\frac{\text{Segment}^{i}\ \text{volume}}{\text{Segment}^{i}\ \text{maximum service volume}} \right) < \text{Segment}^{i}\ \text{maximum service volume} \times 0.90$$

$$(i = 1, 2, 3, \ldots n)$$

Approaching Congestion or Minimally Congested – The corridors that are approaching congestion are analyzed at three levels. The criteria in each level of analysis are summarized below.

- Approaching Congestion: This includes corridors with segments that meet the following criteria, which are currently congested or congested in five years without improvements.

$$\text{Corridors Approaching Congestions} = \text{Existing or Existing + 5 Years Segments with}\ 1.00 > \left(\frac{\text{Segment}^{i}\ \text{volume}}{\text{Segment}^{i}\ \text{maximum service volume}} \right) > 0.90$$

$$(i = 1, 2, 3, \ldots n)$$

- Congested Today: As summarized below, this category uses two criteria to identify the corridors that are congested today.

$$\text{Corridors Congested Today} = \text{Existing Segments with } 1.08 > \left(\frac{\text{Segment}^{i}\text{ volume}}{\text{Segment}^{i}\text{ capacty}}\right) \& \left(\frac{\text{Segment}^{i}\text{ volume}}{\text{Segment}^{i}\text{ maximum service volume}}\right) > 1.00$$

$$(i = 1, 2, 3, \ldots n)$$

- Extremely Congested: This category includes roadways in the 2014 E+C network that meets the following criteria are considered severely congested.

$$\text{Extremely Congested Corridors} = \text{Existing or Existing + 5 Years Segments with } \left(\frac{\text{Segment}^{i}\text{ volume}}{\text{Segment}^{i}\text{ capacty}}\right) > 1.08$$

$$(i = 1, 2, 3, \ldots n)$$

In addition to the congested roadways selected using the criteria presented above, high crash locations identified in crash data analysis reports and Mobility Management Systems Task Force recommendations of congested intersections are used to identify the congestion "Hot Spots."

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APPENDIX B

Congestion Mitigation Strategies Matrix

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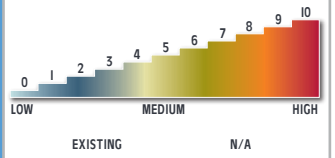
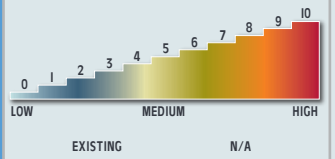
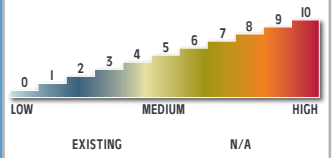
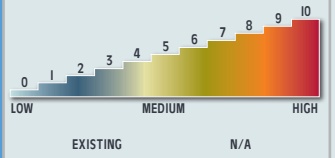
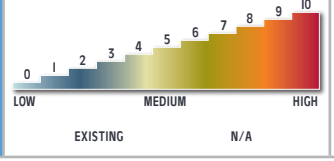
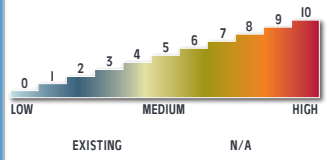
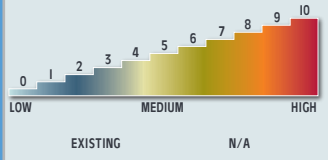
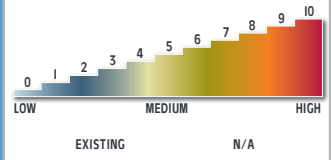
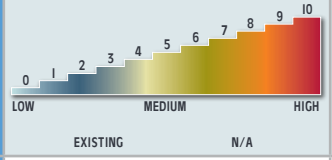
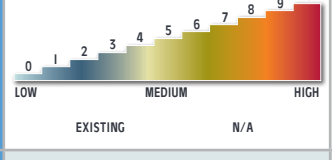
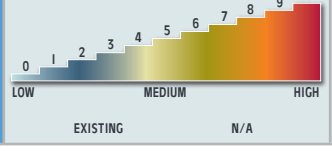
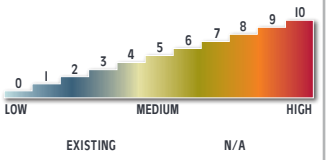
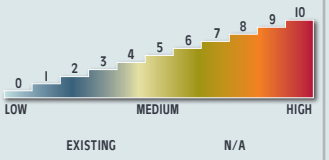
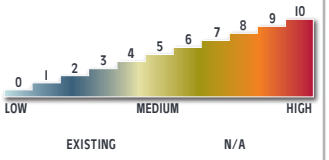
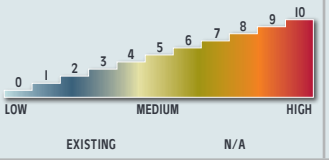
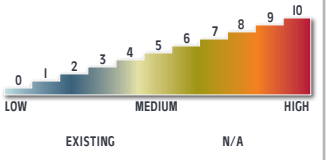
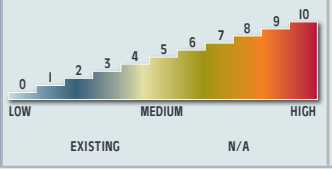
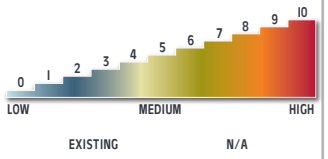
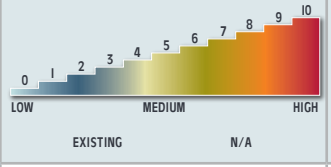
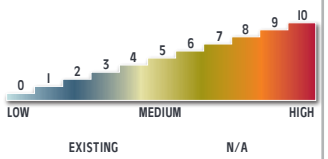
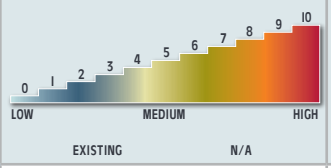
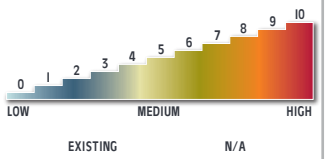
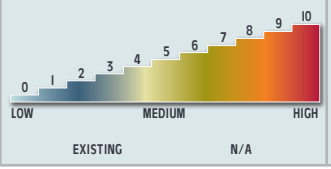
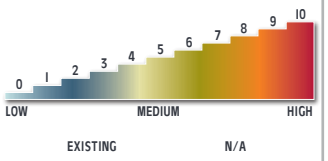
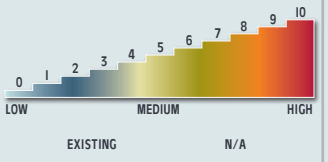
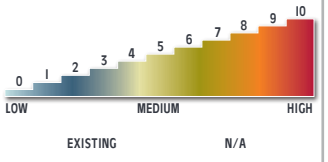
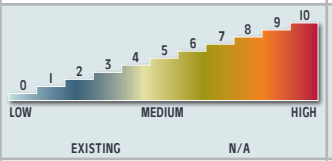
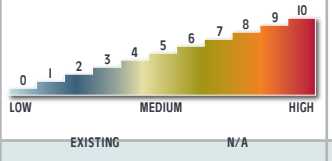
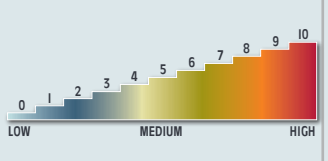
Corridor _____ From _____ To _____ Analyst _____ Date _____

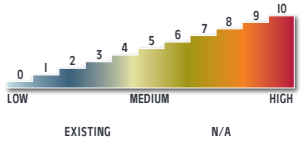
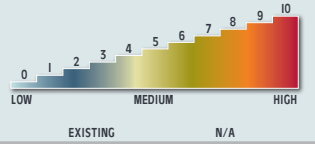
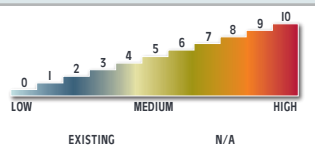
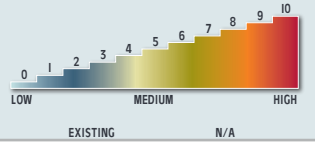
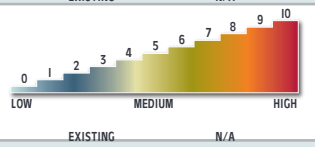
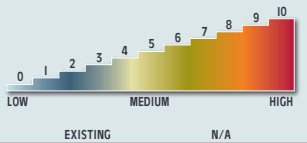
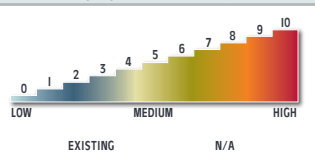
Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types				Potential Effectiveness	Recommendations/ Comments
				Regional Traffic	Regional Access	Local Access	Local Circulation		
Tier 1: Strategies to Reduce Person Trips or Vehicle Miles Traveled	**LT**	**1.01 Congestion Pricing:** Congestion pricing can be implemented statically or dynamically. Static congestion pricing requires that tolls are higher during traditional peak periods. Dynamic congestion pricing allows toll rates to vary depending upon actual traffic conditions. The more congested the road, the higher the cost to travel on the road. Dynamic congestion pricing works best when coupled with real-time information on the availability of other routes.	**Low**						
	ST/LT	**1.02 Alternative Work Hours:** There are three main variations: staggered hours, flex-time, and compressed work weeks. Staggered hours require employees in different work groups to start at different times to spread out their arrival/departure times. Flex-time allows employees to arrive and leave outside of the traditional commute period. Compressed work weeks involve reducing the number of days per week worked while increasing the number of hours worked per day.	**Low**						
	ST/LT	**1.03 Telecommuting:** Telecommuting policies allow employees to work at home or a regional telecommute center instead of going into the office, all the time or only one or more days per week.	**Med**						
	ST/LT	**1.04 Emergency Ride Home Programs:** These programs provide a safety net to those people who carpool or use transit to work so that they can get to their destination if unexpected work demands or an emergency arises.	**Med**						
	ST/LT	**1.05 Alternative Mode Marketing and Education:** Providing education on alternative modes of transportation can be an effective way of increasing demand for alternative modes. This strategy can include mapping websites that compute directions and travel times for multiple modes of travel.	**Med**						

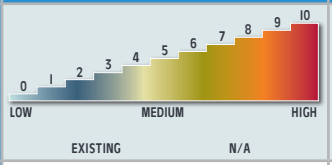
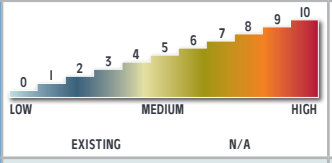
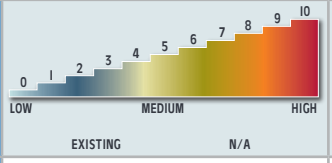
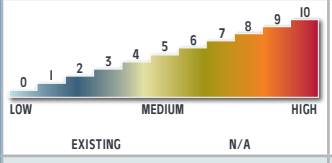
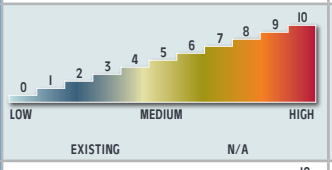
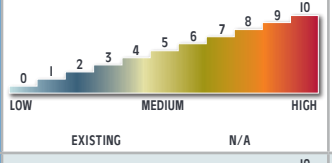
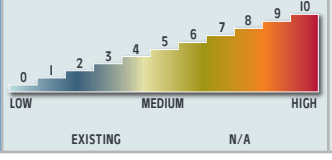
Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types								Potential Effectiveness	Recommendations/ Comments
				Regional Traffic		Regional Access		Local Access		Local Circulation			
Tier 1: Strategies to Reduce Person Trips or Vehicle Miles Traveled	**ST/LT**	**1.06 Safe Routes to Schools Program:** This program provides funding to communities to invest in pedestrian and bicycle infrastructure surrounding schools.	**High**										
	ST/LT	**1.07 Preferential for Free Parking for HOVs:** This program provides an incentive for employees to carpool with preferred of free-of-charge parking for HOVs.	**Low**										
	ST/LT	**1.08 Negotiated Demand Management Agreements:** As a condition of development approval, local governments require the private sector to contribute to traffic mitigation agreements. The agreements typically set a traffic reduction goal (often expressed as a minimum level of ridesharing participation or a stipulated reduction in the number of automobile trips).	**Low**										
	ST/LT	**1.09 Trip Reduction Ordinance:** These ordinances use a locality's regulatory authority to limit trip generation from a development. They spread the burden of reducing trip generation among existing and future developments better than Negotiated Demand Management Agreements.	**Low**										
	ST	**1.10 Infill Developments:** This strategy takes advantage of infrastructure that already exists, rather than building new infrastructure on the fringes of the urban area.	**High**										
	ST/LT	**1.11 Design Guidelines for Pedestrian-Oriented Development:** Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.	**High**										

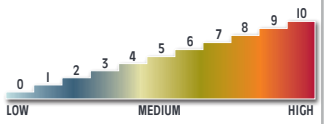
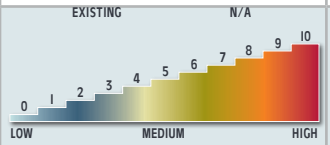
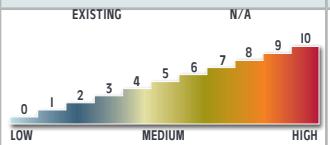
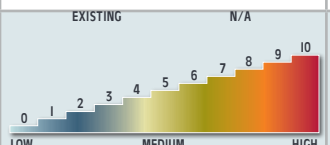
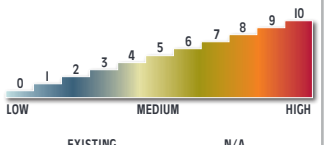
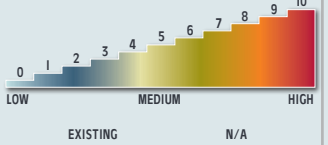
Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types				Potential Effectiveness	Recommendations/ Comments
				Regional Traffic	Regional Access	Local Access	Local Circulation		
Tier One	**ST/LT**	**1.12 Mixed-Use Development:** This strategy allows many trips to be made without automobiles. People can walk to restaurants and services rather than use their vehicles.	**High**						
Tier 2: Strategies to Shift Automobile Trips to Other Modes	**ST/LT**	**2.01 Transit Capacity Expansion:** This strategy adds new vehicles to expand transit services.	**Med**						
	ST/LT	**2.02 Increasing Bus Route Coverage or Frequencies:** This strategy provides better accessibility to transit to a greater share of the population. Increasing frequency makes transit more attractive to use.	**Med**						
	LT	**2.03 Implementing Regional Premium Transit:** Premium transit such as Bus Rapid Transit (BRT) best serves dense urban centers where travelers can walk to their destinations. Premium transit from suburban areas can sometimes be enhanced by providing park-and-ride lots.	**Low**						
	ST/LT	**2.04 Providing Real-Time Information on Transit Routes:** Providing real-time information on bus progress either at bus stops, terminals, and/or personal wireless devices makes bus travel more attractive.	**Low**						
	ST	**2.05 Reducing Transit Fares:** This relatively easy-to-implement strategy encourages additional transit use, to the extent that high fares are a real barrier to transit. However, due to the direct financial impact on the transit system operating budgets, reductions in selected fare categories may be a more feasible strategy to implement.	**Low**						

Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types				Potential Effectiveness	Recommendations/ Comments
				Regional Traffic	Regional Access	Local Access	Local Circulation		
Tier 2: Strategies to Shift Automobile Trips to Other Modes	**LT**	**2.06 Provide Exclusive Bus Right-Of-Way:** Exclusive right-of-way includes bus ways, bus-only lanes, and bus bypass ramps. This strategy is applied to freeways and major highways that have routes with high ridership.	**Low**						
	ST/LT	**2.07 New Sidewalk Connections:** Increasing sidewalk connectivity encourages pedestrian traffic for short trips.	**Med**						
	ST/LT	**2.08 Designated Bicycle Lanes on Facilities or Routes:** Enhancing the visibility of bicycle facilities increases the perception of safety. In many cases, bicycle lanes can be added to existing roadways through restriping.	**Med**						
	ST	**2.09 Improved Bicycle Facilities at Transit Stations and Other Trip Destinations:** Bicycle racks and bicycle lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles.	**Low**						
	ST	**2.10 Improved Safety of Existing Bicycle and Pedestrian Facilities:** Maintaining lighting, signage, striping, traffic control devices, and pavement quality and installing curb cuts, curb extensions, median refuges, and raised crosswalks can increase bicycle and pedestrian safety.	**High**						
	LT	**2.11 Exclusive Non-Motorized ROW:** Abandoned rail rights-of-way and existing parkland can be used for medium- to long-distance bicycle trails, improving safety and reducing travel times.	**Med**						

Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types								Potential Effectiveness	Recommendations/ Comments
				Regional Traffic		Regional Access		Local Access		Local Circulation			
Tier 2	**ST/LT**	**2.12 Intermodal Enhancements:** Coordinating modes makes movement from one mode to the other easier. These enhancements typically includes schedule modification to reduce layover time or increase the opportunity for transfers, creation of multi-modal facilities, informational kiosks, and improved amenities at transfer locations.	**Med**										
Tier 3: Strategies to Increase Vehicle Occupancy	**LT**	**3.01 Ridesharing (Carpools, Vanpools, Lyft, Uber):** In ridesharing programs, participants are matched with potential candidates for sharing rides. This is typically arranged/ encouraged through employers or transportation management agencies, which provide ride-matching services. These programs are more effective if combined with HOV lanes, parking management, guaranteed ride home policies, and employer-based incentive programs.	**Med**										
	ST/LT	**3.02 High Occupancy Vehicle Lanes:** This increases corridor capacity while at the same time providing an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, park-and-ride lots, rideshare matching services, and employer incentives.	**Low**										
	ST/LT	**3.03 Park-and-Ride Lots:** These lots can be used in conjunction with HOV lanes and/or express bus services. They are particularly helpful when coupled with other commute alternatives such as carpool/vanpool programs, transit, and/or HOV lanes.	**Low**										
	ST/LT	**3.04 Employer-Landlord Parking Agreements:** Employers can negotiate leases so that they pay only for parking spaces used by employees. In turn, employers can pass along parking savings by purchasing transit passes or reimbursing non-driving employees with the cash equivalent of a parking space.	**Low**										
	ST/LT	**3.05 Parking Management:** This strategy reduces the instance of free parking to encourage other modes of transportation. Options include reducing the minimum number of parking spaces required per development, increasing the share of parking spaces for HOVs, introducing or raising parking fees, providing cash-out options for employees not using subsidized parking spaces, and expanding parking at transit stations or park-and-ride lots.	**Low**										

Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types				Potential Effectiveness	Recommendations/ Comments
				Regional Traffic	Regional Access	Local Access	Local Circulation		
Tier 3	**LT**	**3.06 Managed Lanes:** The Federal Highway Administration (FHWA) defines managed lanes as highway facilities or a set of lanes in which operational strategies are implemented and managed (in real time) in response to changing conditions. Examples of managed lanes may include the following: high-occupancy toll (HOT) lanes with tolls that vary based on demand; exclusive bus-only lanes; HOV and clean air and/or energy-efficient vehicle lanes; and HOV lanes that could be changed into HOT lanes in response to changing levels of traffic and roadway conditions.	**Low**						
Tier 4: Strategies to Improve Roadway Operations	**ST/LT**	**4.01 Dynamic Messaging:** Dynamic messaging uses changeable message signs to warn motorists of downstream queues; it provides travel time estimates, alternate route information, and information on special events, weather, or accidents.	**High**						
	ST/LT	**4.02 Advanced Traveler Information Systems (ATIS):** ATIS provide an extensive amount of data to travelers, such as real-time speed estimates on the web or over wireless devices and transit vehicle schedule progress. It also provides information on alternative route options.	**High**						
	ST/LT	**4.03 Integrated Corridor Management (ICM):** This strategy, built on an ITS platform, provides for the coordination of the individual network operations between parallel facilities creating an interconnected system. A coordinated effort between networks along a corridor can effectively manage the total capacity in a way that will result in reduced congestion.	**High**						
	ST	**4.04 Transit Signal Priority (TSP):** This strategy uses technology located onboard transit vehicles or at signalized intersections to temporarily extend green time, allowing the transit vehicle to proceed without stopping at a red light.	**Low**						
	ST	**4.05 Truck Signal Priority:** This strategy gives priority to a traffic signal approach when trucks are detected. This can reduce truck travel times and potentially increases safety by reducing the number of trucks arriving at the end of the green phase, which may reduce red light running.	**Med**						
	ST	**4.06 Traffic Signal Coordination:** Signals can be pre-timed and isolated, pre-timed and synchronized, actuated by events (such as the arrival of a vehicle, pedestrian, bus or emergency vehicle), set to adopt one of several pre-defined phasing plans based on current traffic conditions, or set to calculate an optimal phasing plan based on current conditions.	**High**						

Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types								Potential Effectiveness	Recommendations/ Comments
				Regional Traffic		Regional Access		Local Access		Local Circulation			
Tier 4: Strategies to Improve Roadway Operations	**ST/LT**	**4.07 Channelization:** This strategy is used to optimize the flow of traffic for making left or right turns usually using concrete islands or pavement markings.	**High**										
	ST/LT	**4.08 Intersection Improvements:** Intersections can be widened and lanes restriped to increase intersection capacity and safety. This may include auxiliary turn lanes (right or left) and widened shoulders.	**High**										
	ST/LT	**4.09 Bottleneck Removal:** This strategy removes or corrects short, isolated, and temporary lane reductions, substandard design elements, and other physical limitations that form a capacity constraint that results in a traffic bottleneck.	**High**										
	LT	**4.10 Vehicle Use Limitations and Restrictions:** This strategy includes all-day or selected time-of-day restrictions of vehicles, typically trucks, to increase roadway capacity.	**Low**										
	ST	**4.11 Improved Signage:** Improving or removing signage to clearly communicate location and direction information can improve traffic flow.	**Med**										
	ST/LT	**4.12 Geometric Improvements for Transit:** This strategy includes providing for transit stop locations that do not affect the flow of traffic, improve sight lines, and improve merging and diverging of buses and cars.	**Low**										
	ST/LT	**4.13 Goods Movement Management:** This strategy restricts delivery or pickup of goods in certain areas to reduce congestion.	**Low**										

Tier	Short-Term/ Long-Term	Congestion Mitigation Strategy	Applicability to LSMPO	Distribution of Trip Types				Potential Effectiveness	Recommendations/ Comments
				Regional Traffic	Regional Access	Local Access	Local Circulation		
Tier 4: Strategies to Improve Roadway Operations	**ST/LT**	**4.14 Freeway Incident Detection and Management Systems:** This strategy addresses primarily non-recurring congestion, typically includes video monitoring and dispatch systems, and may also include roving service patrol vehicles.	**N/A**						
	ST/LT	**4.15 Access Management Policies:** This strategy includes adoption of policies to regulate driveways and limit curb cuts and/or policies that require continuity of sidewalk, bicycle, and trail networks.	**High**						
	ST/LT	**4.16 Corridor Preservation:** This strategy includes implementing, where applicable, land acquisition techniques such as full title purchases of future rights-of-way and purchase of easements to plan proactively in anticipation of future roadway capacity demands.	**Med**						
	ST/LT	**4.17 Corridor Management:** This strategy is applicable primarily in moderate- to high-density areas and includes strategies to manage corridor rights-of-way. The strategies range from land-use regulations to landowner agreements such as subdivision reservations, which are mandatory dedications of portions of subdivided lots that lie in the future right-of-way.	**Med**						-
	ST/LT	**4.18 Complete Streets:** Routinely design and operate the entire right of way to enable safe access for all users including pedestrians, bicyclists, motorists, and transit Element that may be found on a complete street include sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, accessible pedestrian signals, curb extensions, and more.	**High**						
Tier 5: Strategies to Add Capacity	**LT**	**5.01 Add General Purpose Travel Lanes:** Increase the capacity of congested roadways through additional general purpose travel lanes (or passing lanes on rural two-lane facilities).	**High**						

APPENDIX C

Safety Mitigation Matrix

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Key Safety Emphasis Areas for CMP Integration		
Intersection Crashes	**Vulnerable Road Users / Bicycles and Pedestrians**	**Vulnerable Road Users / Motorcycles**
Crashes which occur at or within 250 feet of signalized and unsignalized intersections are defined as intersection related.	This emphasis area includes bicycle and pedestrian crashes which represent a disproportionate share of fatal crashes.	The emphasis area addresses crashes involving motorcyclists.
Potential Strategies	**Potential Strategies**	**Potential Strategies**
• Increase safety of intersections for all users Identify systemic intersection safety improvements, update the Intersection Safety Plan, and encourage implementation at the local level • Promote improved access management at the State and local level • Consider including safety in the planning/ value engineering manual Update policies, guidelines, handbooks, and training based on the Highway Safety Manual (HSM) • Increase education programs designed to provide targeted information to drivers Increase targeted enforcement activities at high-crash locations and increase public education on intersection safety	• Increase awareness and understanding of safety issues related to Vulnerable Road Users • Increase compliance with traffic laws and regulations related to pedestrian and bicycle safety through education and enforcement Develop and use a systemic approach to identify locations and behaviors prone to pedestrian and bicycle crashes and implement multidisciplinary countermeasures Encourage adequate funding levels for effective pedestrian and bicycle safety programs and initiatives • Promote, plan, and implement built environments (urban, suburban, and rural) which encourage safe bicycling and walking • Support national, state, and local legislative initiatives and policies that promote bicycle and pedestrian safety	• Collect and analyze data on motorcycle crashes, injuries, and fatalities and provide local and state agencies with the best available data to make appropriate and timely decisions that improve motorcycle safety in Florida; Manage motorcycle safety activities in Florida as part of a comprehensive plan that includes centralized program planning, implementation, coordination, and evaluation to maximize the effectiveness of programs and reduce duplication of effort • Promote personal protective gear and its value in reducing motorcyclist injury levels and increasing rider conspicuity Ensure persons operating a motorcycle on public roadways hold an endorsement specifically authorizing motorcycle operation • Promote adequate rider training and preparation to new and experienced motorcycle riders by qualified instructors at state-approved training centers • Reduce the number of alcohol-, drug-, and speed-related motorcycle crashes in Florida • Support legislative initiatives that promote motorcycle-related traffic laws and regulations • Ensure state and local motorcycle safety programs include law enforcement and emergency services components Incorporate motorcycle-friendly policies and practices into roadway design, traffic control, construction, operation, and maintenance • Increase the visibility of motorcyclists by emphasizing rider conspicuity and motorist awareness of motorcycles Develop and implement communications strategies that target high-risk populations and improve public awareness of motorcycle crash problems and programs

Key Safety Emphasis Areas for CMP Integration (continued)			
Lane-Departure Crashes	**Traffic Records**	**Aggressive Driving**	**Impaired Driving**
These crashes include running off the road, crossing the center median into an oncoming lane of traffic, and sideswipe crashes. Running off the road may also involve a rollover or hitting a fixed object. Head-on collisions are related to crashes involving departure from the roadway. One of the most severe types of crashes occurs when a vehicle crosses into an opposing traffic lane and crashes head on with an oncoming vehicle.	This addresses Federal requirements and funding for traffic records. This emphasis area was meant to ensure traffic records aligned with the overall SHSP where possible and appropriate.	Aggressive driving, as defined by State Statute, requires inclusion of at least two of the following contributing causes: speeding, unsafe or improper lane change, following too closely, failure to yield right-of-way, improper passing, and failure to obey traffic control devices.	Originally focused on alcohol impaired driving only, the state has expanded the focus to include drug impaired driving due to its prevalence and close association to alcohol impairment.
Potential Strategies	**Potential Strategies**	**Potential Strategies**	**Potential Strategies**
• Improve engineering practices to reduce lane-departure crashes • Improve law enforcement practices to better capture data related to lane-departure crashes • Increase public education to reduce lane-departure crashes • Partner with emergency responders to reduce severity of lane-departure crashes	• Provide ongoing coordination in support of multi-agency initiatives and projects that improve traffic records information systems	• Support and promote effective law enforcement efforts to reduce aggressive driving Increase training and education on the problem of aggressive driving • Identify initiatives within engineering to reduce instances of aggressive driving	• Improve DUI enforcement Improve prosecution and adjudication of impaired driving cases • Improve the DUI administrative suspension process • Improve prevention, public education, and training Improve the treatment system (i.e., DUI programs, treatment providers, and healthcare providers) • Improve data collection and analysis • Enhance impaired driving legislation • Autonomous vehicles • Ride share programs

Other Safety Emphasis Areas for CMP Integration		
At-Risk Drivers / Aging Road Users	**At-Risk Drivers / Teen Drivers**	**Distracted Driving**
At-risk drivers, comprised of aging road users, is a new emphasis area for 2012. For data purposes in this emphasis area, aging road users are defined as 65-year-olds and older.	At-risk drivers, comprised of teen drivers, is a new emphasis area for 2012. For data purposes in this emphasis area, teen drivers are 15- to 19-year-olds.	Distracted driving occurs when a driver allows any mental or physical activity to take the driver's focus off the task of driving. There are three main types of distraction: manual – taking your hands off the wheel; visual – taking your eyes off the road; and cognitive – taking your mind off driving.
Potential Strategies	**Potential Strategies**	**Potential Strategies**
• Manage and evaluate aging road user safety, access, and mobility activities to maximize the effectiveness of programs and resources • Provide the best available data to assist with decisions that improve aging road user safety, access, and mobility; Provide information and resources regarding aging road user safety, access, and mobility • Inform public officials about the importance of and need to support national, state, regional, and local policy and program initiatives which promote and sustain aging road user safety, access, and mobility • Promote and encourage practices that support and enhance aging in place (i.e., improve the environment to better accommodate the safety, access, and mobility of aging road users) • Enhance aging road user safety and mobility through assessment, remediation, and rehabilitation • Promote safe driving and mobility for aging road users through licensing and enforcement • Promote the safe mobility of aging vulnerable road users (pedestrians, transit riders, bicyclists, and other non-motorized vehicles) • Promote the value of prevention strategies and early recognition of at-risk drivers to aging road users and stakeholders • Bridge the gap between driving retirement and mobility independence (i.e., alternative transportation mobility options, public transportation, and dementia-friendly transportation)	• Expand the network of concerned individuals to build recognition and awareness as it relates to teen driver safety and supports the Florida Teen Safe Driving Coalition • Create a safe driving culture for teen drivers through outreach and education Support initiatives that enhance safe teen driving-related traffic laws and regulations	• Increase public awareness and outreach programs on distracted driving • Encourage companies, state agencies, and local governments to adopt and enforce policies to reduce distracted driving in company and government vehicles • Support legislative initiatives that enhance distracted driving-related traffic laws and regulations • Support Graduated Driver's License (GDL) restrictions to reduce distracted driving behaviors in teen drivers • Increase law enforcement officer understanding of Florida traffic crash report distracted driving data collection • Educate law enforcement, judges, and magistrates on the existing laws that can be applied to distracted driving (careless driving) Deploy high-visibility enforcement mobilizations on distracted driving subject to appropriate/future legislation • Develop and maintain complete, accurate, uniform, and timely traffic records data • Provide the ability to link traffic records data Facilitate access to traffic records data Promote the use of traffic records data

Lake-Sumter MPO

Metropolitan Planning Organization

LAKE-SUMTER MPO

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Technical Appendix I: Congestion Management Process State of the System Report

Lake-Sumter MPO
Metropolitan Planning Organization

Congestion Management Process

STATE OF THE SYSTEM REPORT

DECEMBER 2019
REVISED APRIL 2020

Prepared For:

Lake-Sumter MPO
Metropolitan Planning Organization

Prepared By:

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Introduction

Chapter 8 of the Congestion Management Process (CMP) specifies the transportation system performance measures by which congestion on the Lake-Sumter Metropolitan Planning Organization (MPO) roadway network is to be identified, tracked, and monitored. The System Performance Monitoring Plan identified six categories of performance measure:

- Level of Service,
- Safety,
- Transit,
- Bicycle and Pedestrian,
- Carpooling, and
- Truck Traffic.

Each of the categories are further split into specific performance measures based on available data.

This report summarizes the evaluations for the CMP Network as identified within the CMP Policies and Procedures based on year 2019 data. This represents the first year of the Systems Performance Evaluation State of the System Report.

Level of Service

Calculations for vehicular level of service (LOS) performance measures were based on the 2019 traffic data from the Lake County and Sumter County Annual Traffic Count Reports and characteristics of the functionally classified roadways included within the CMP network, which is consistent with each county's previous Transportation Monitoring System (TMS).

Roadway segment characteristics that affect capacity include number of lanes, median types, posted speed limits, and area types (urban or rural).

Traffic volumes obtained in 2019 were utilized as the baseline existing conditions. Based on historical traffic data on individual roadway segments, a five-year short-term forecast was utilized to estimate traffic volumes for a year 2024 evaluation.

Percent of Miles and Vehicle-Miles Traveled by LOS

Maximum Service Volume (MSV) thresholds utilized to determine roadway segment LOS were derived from the Generalized Service Volume Tables published in the *2012 Florida Department of Transportation (FDOT) Quality/Level of Service (Q/LOS) Handbook*. The service volumes take into account roadway characteristics such as number of lanes and posted speed limits as well as adjustments for median types and the presence of turn lanes along a segment. **Table 1** and **Table 2** summarize the daily LOS calculations for Lake and Sumter Counties, respectively, for existing 2019 conditions.

Table 1: Lake County LOS Summary, 2019

	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Miles	189	405	94	6	13
	27%	57%	13%	1%	2%
Million Vehicle-Miles Traveled (MVMT)	310	2070	563	34	61
	10%	68%	19%	1%	2%

Table 2: Sumter County LOS Summary, 2019

	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Miles	143	149	42	8	3
	42%	43%	12%	2%	1%
Million Vehicle-Miles Traveled (MVMT)	233	879	368	230	15
	14%	51%	21%	13%	1%

The existing 2019 traffic volumes show that approximately 3% of roadway miles and vehicle-miles traveled in Lake County represent LOS E or LOS F. In Sumter County 3% of roadway miles represent LOS E or LOS F and 14% of vehicle-miles traveled represent LOS E or LOS F. The difference in Sumter County is a result of two segments of I-75 that operate at LOS E with 2019 traffic volumes and account for a larger share of vehicle-miles traveled than many other segments.

Table 3 and **Table 4** summarize the short-term year 2024 daily LOS calculations for Lake and Sumter Counties, respectively. Estimated traffic volumes were based on historical traffic growth rates and input from local staff where planned development is expected to result in higher traffic growth than historic trends.

Table 3: Lake County LOS Summary, 2024

	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Miles	170	349	120	7	56
	24%	50%	17%	1%	8%
Million Vehicle-Miles Traveled (MVMT)	289	1669	776	50	817
	8%	46%	22%	1%	23%

Table 4: Sumter County LOS Summary, 2024

	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Miles	121	132	66	4	21
	35%	38%	19%	1%	6%
Million Vehicle-Miles Traveled (MVMT)	242	803	461	101	476
	12%	39%	22%	5%	23%

The year 2024 evaluation includes improvements funded for construction within the current five-year work program and transportation improvement programs for each count. Based on the forecasted 2024 traffic volumes and assumed capacity improvements to the TMS roadway network, approximately 9% of roadway miles and 24% of vehicle-miles traveled in Lake County are expected to operate with LOS E or LOS F. In Sumter County, approximately 7% of roadway miles and 28% of vehicle-miles traveled are expected to operate with LOS E or LOS F in year 2024.

Exhibits illustrating the operating level of service for each roadway within the CMP network for Lake County and Sumter County are located in the **Appendix**. There is a separate exhibit for existing year 2019 and future year 2024 LOS operating conditions.

Volume-to-Adopted Service Volume Ratio

Existing year 2019 and projected year 2024 traffic volumes were compared to the maximum service volume (MSV) at the adopted LOS standards for each respective roadway facility based on the County standards.

The adopted LOS standard in Lake County is LOS D for roadway segments partially or wholly within urban areas (as defined by the latest census) and the adopted LOS standard for roadway segments in all other areas is LOS C. In Sumter County, the adopted LOS standard for roadway segments partially or wholly within the urban development boundary (as defined in the Sumter County Comprehensive Plan) is LOS D, and LOS C for roadway segments in all other areas. The Sumter County Board of County Commissioners adopted an LOS standard of LOS F for two corridors—C-462 from US 301 to C-466A and Morse Boulevard from C-466 to US 27—due to capacity constraints. **Table 5** summarizes the total miles and million vehicle-miles traveled (MVMT) operating below the adopted LOS standard for each county.

Table 5: Lake and Sumter County Roadways with Volumes Exceeding Adopted LOS

		2019	Percent County-wide	2024	Percent County-wide
Lake County	Miles	79	11.1%	126	17.6%
	MVMT	800	26.3%	1,386	38.5%
Sumter County	Miles	20	5.4%	39	10.6%
	MVMT	449	25.9%	780	37.3%

Approximately 11% of roadway centerline miles in Lake County exceed their adopted LOS service capacity in 2019 with that percentage increasing to 18% in year 2024. These roadway segments result in approximately 26% of vehicle-miles traveled occurring on segments exceeding their adopted LOS service capacity in 2019 and increasing to 39% in year 2024.

Approximately 5% of roadway centerline miles in Sumter County exceed their adopted LOS service capacity in 2019 and increasing to 11% in year 2024. These roadway segments result in approximately 26% of vehicle-miles traveled occurring on segments exceeding their adopted LOS service capacity in 2019 and increasing to 37% in year 2024.

Exhibits illustrating the volume to MSV ratio for each county in year 2019 and year 2024 are provided in the **Appendix**.

Volume-to-Capacity Ratio

Vehicular volume-to-capacity (V/C) ratios were calculated for individual roadway segments within the CMP roadway network. The 'capacity' for the purpose of this analysis was taken to be the LOS E service volume plus 8%. This threshold is more representative of the physical capacity of a given roadway segment than the adopted LOS service capacity. **Table 6** summarizes the V/C calculations for year 2019 and year 2024 considering the assumed physical capacity of the roadway segments in Lake and Sumter Counties.

Table 6: Lake and Sumter County Volume-to-Capacity Calculations

		Exceed Adopted LOS	Exceed Physical Capacity	Percent
Lake County	2019 Miles	79	5	0.7%
	2019 MVMT	800	58	1.9%
	2024 Miles	126	31	4.3%
	2024 MVMT	1,386	562	15.6%
Sumter County	2019 Miles	20	1	0.3%
	2019 MVMT	449	7	0.4%
	2024 Miles	39	15	4.0%
	2024 MVMT	780	257	12.3%

In Lake County, less than 1% of roadway centerline miles and approximately 2% of vehicle-miles traveled were on segments for which the 2019 traffic volume exceeds the physical capacity of the roadway. In year 2024 approximately 4% of roadway centerline miles and 16% of vehicle-miles traveled are expected to occur on segments for which the traffic volume exceeds the physical capacity of the roadway.

In Sumter County, less than 1% of roadway centerline miles and less than 1% of vehicle-miles traveled were on segments for which the 2019 traffic volume exceeds the physical capacity of the roadway. In year 2024, approximately 4% of roadway centerline miles and 12% of vehicle-miles traveled are expected to occur on segments for which the traffic volume exceeds the physical capacity of the roadway.

Congested Corridors

Roadway corridors within the CMP transportation network were categorized as not congested, approaching congestion, congested, or extremely congested based on the following criteria which is outlined in the CMP Policies and Procedures Manual:

- *Not Congested* – Operating at an acceptable LOS
- *Approaching Congestion* – Operating between 90% and 100% of LOS Standard
- *Congested* – Exceeding 100% of LOS Standard but less than 108% of LOS E
- *Extremely Congested* – Exceeding 108% of LOS E (physical capacity)

There are exhibits located within the **Appendix** that illustrate the levels of congestion on each roadway within the CMP network for Lake and Sumter County.

Safety

Calculations for safety performance measures were based on the crash incident data between 2014 and 2018 from *Signal Four Analytics*, a database maintained by the University of Florida. Historical traffic volumes on the roadway segments were utilized for crash frequency calculations. Statewide crash rates from FDOT's Crash Analysis Reporting (CAR) System are provided for comparison with local crash rates. Statewide averages are reported for year 2016, which is the most recent validated year of data from FDOT.

Total Crashes

A total of 31,449 crashes were reported in Lake County over the five-year period with an annual average of 6,290 crashes per year. Crash severity data indicated that there were 233 fatal crashes in Lake County over the five-year analysis period resulting in 261 fatalities, and there were 1,343 serious injury crashes resulting in 1,756 serious injuries. **Table 7** summarizes the crash history in Lake County from 2014 to 2018 by crash severity.

Table 7: Crash Summary, Lake County 2014–2018

	2014	2015	2016	2017	2018	Total
Fatal	35	49	47	44	58	**233**
Serious Injury	172	204	288	384	295	**1,343**
Other Injury	1,515	1,682	1,759	1,831	2,011	**8,798**
Property Damage Only	3,571	3,905	4,368	4,596	4,635	**21,075**
Total	**5,293**	**5,840**	**6,462**	**6,855**	**6,999**	**31,449**

A total of 11,636 crashes were reported in Sumter County over the five-year analysis period, resulting in an annual average of 2,327 crashes per year. There were 96 fatal crashes over the five-year analysis period resulting in 104 fatalities, and there were 486 serious injury crashes resulting in 638 serious injuries. **Table 8** summarizes the crash history in Sumter County from 2014 to 2018 by crash severity.

Table 8: Crash Summary, Sumter County 2014–2018

	2014	2015	2016	2017	2018	Total
Fatal	18	16	16	22	24	**96**
Serious Injury	114	103	80	84	105	**486**
Other Injury	399	384	510	518	559	**2,370**
Property Damage Only	1,380	1,542	1,708	2,027	2,027	**8,684**
Total	**1,911**	**2,045**	**2,314**	**2,651**	**2,715**	**11,636**

Crash Frequency

Crash rates were calculated based on million vehicle-miles travelled (MVMT). The crash rates were calculated based on a weighted average of the daily traffic volumes for the roadways within the CMP over the five-year evaluation periods.

The crash rate in Lake County was 228 overall crashes per 100 MVMT, with crash rates of 1.7 fatal crashes per 100 MVMT and 9.8 serious injury crashes per 100 MVMT.

The crash rate in Sumter County was 153 overall crashes per 100 million vehicle miles traveled, with crash rates of 1.3 fatal crashes per 100 MVMT and 6.4 serious injury crashes per 100 MVMT.

The statewide crash rates provided by FDOT for the most recent year of validated data (2016) was 1.4 fatal crashes per 100 MVMT and 8.1 serious injury crashes per 100 MVMT. The Lake County crash rates exceed the statewide averages and the Sumter County crash rates are below the statewide averages.

Crashes Involving Heavy Vehicles

There were 1,531 crashes involving heavy vehicles recorded in Lake County during the five-year analysis period (approximately 306 per year). There were 1,063 crashes involving heavy vehicles recorded in Sumter County during the five-year analysis period (approximately 213 per year).

Transit

Information for the transit performance measures was obtained from the Transportation Disadvantaged Service Plans composed for both Lake and Sumter Counties, as well as published fixed route information from their respective websites.

Passenger Trips

In the latest year of published data (Fiscal Year 2015), Lake County reported 195,804 passenger trips and Sumter County reported 78,275 passenger trips. Both counties reported higher passenger trip quantities in the prior year with ridership trending downward.

Passenger Trips per Revenue Mile

In the latest year of published data (Fiscal Year 2015), Lake County reported 0.135 passenger trips per revenue mile and Sumter County reported 0.155 passenger trips per revenue mile. These rates are lower than the peer group average.

Number of Routes & Service

In Lake County, the LakeXpress transit service operates seven fixed routes throughout the County. Additionally, the County operates Lake County Connection, a paratransit service that is available for residents with disabilities or transportation disadvantaged status.

In Sumter County, the Sumter County Transit service operates two fixed routes called the Orange Shuttle and the Wildwood Circulator. Sumter County also offers door-to-door shuttle services to residents with disabilities or transportation disadvantaged status.

Bicycle and Pedestrian

Bicycle and pedestrian performance measures were determined based on data provided by the MPO and obtained from MPO and FDOT databases. The bicycle and pedestrian evaluation is focused on the urban congested areas, where multi-modal choices should be focused.

Table 9: Bicycle, Pedestrian, and Trail Facility Summary

	Lake County	Sumter County
Percent of Congested Urban Centerline Miles with Bike Lanes and/or Sidewalks	43%	55%
Miles of Multi-Use Trails	51.6 miles	2.4 miles
Fatal Bike/Ped Crashes (avg 2014-2018)	4.4/year	3.4/year
Serious Injury Bike/Ped Crashes (avg 2014-2018)	18.8/year	6.8/year

Lake County has approximately 51.6 miles of multi-use trails with approximately 166.4 miles ranked in the MPO's list of priority projects, under design, or under construction.

Sumter County has a low number of multi-use trails located within public right-of-way for public use. The numbers reported do not include private multi-use trails/multi-modal paths such as those located throughout The Villages.

All CMP roadway segments within the urban areas exceeding 90% of their adopted LOS service capacity in 2019 or 2024 were considered 'congested' and were reviewed for sidewalk and bicycle facility coverage. There is sidewalk, bicycle facilities, or both on approximately 43% of Lake County congested urban centerline miles and 55% of Sumter County congested urban centerline miles.

Carpooling

Data on carpools and vanpools was obtained from the United States Census Bureau, which surveys the population regarding their commuting patterns as part of the annual American Community Survey (ACS). The latest available data was obtained from the 2013–2017 ACS 5-Year Estimates.

Approximately 10% of the commuting population in Lake County and 6% in Sumter County reported commuting to work in a carpool or vanpool.

Truck Traffic

Roadway segments within the CMP network that are designated as truck routes by FDOT were reviewed to determine the truck traffic performance measures.

Percent of Vehicle-Miles Traveled on Designated Truck Route Corridors on Congested Roadways

The vehicle-miles traveled on designated truck routes within the CMP network exceeding the adopted LOS service capacities were compared to the total vehicle-miles traveled on designated truck routes. **Table 10** summarizes the truck traffic evaluations.

Table 10: Truck Traffic on Congested Roadways

		Truck Route MVMT	MVMT Exceeding Adopted LOS	Percentage
Lake County	2019	1,634	642	39%
	2024	1,994	1,052	53%
Sumter County	2019	1,001	449	45%
	2024	1,199	760	63%

Corridors and Locations for Additional Analysis

A part of the CMP process is receiving public input on areas of congestion and roadway conditions contributing to congestion that may not be recognized in a traditional level of service evaluation. The results of the State of the System analysis were presented to a technical committee on September 20, 2019 to the TAC and CAC on November 11, 2019 and to the MPO Board on December 11, 2019. Information from these meetings is summarized below and considered for areas of future study.

Based on the aforementioned performance measures and input from stakeholders in the development of this State of the System Report, the following roadways and intersections are recommended for additional analysis to identify capacity, operational, multi-modal, complete streets, or safety improvements to reduce congestion.

Congested Corridors

The highest priority segments in the CMP network are those that were identified as “extremely congested” based on their respective 2019 or 2024 traffic volumes exceeding the physical capacity of the roadway (LOS E service volume plus 8%). Twenty (20) roadway segments were identified as “extremely congested” in Lake County and one (1) was identified in Sumter County. The roadway segments are summarized in **Table 11** and illustrated in the **Appendix**. Many of these roadways have already been identified within the Long-Range Transportation Plan (LRTP), List of Priority Projects (LOPP), or Transportation Improvement Program (TIP) in various planning, design, and right-of-way acquisition phases but do not have construction funding allocated within the current five-year work program/TIP.

Table 11: Extremely Congested Corridors

County	Segment	Miles
Lake	Florida’s Turnpike – US 27 Interchange to Orange C/L	10.82
Lake	SR 19 – CR 561 to Lane Park Rd	0.90
Lake	SR 19 – Stevens Ave to Golf Links Ave	0.50
Lake	SR 44 – CR 437 to CR 46A	1.15
Lake	SR 44 – US 441 to Waycross Ave	0.45
Lake	SR 50 – East Ave to US 27	0.92
Lake	CR 44 – CR 473 to Apiary Rd	3.17
Lake	CR 44 – CR 452 to SR 19	0.68
Lake	CR 466A – Timbertop Lane to CR 468	1.38
Lake	S Hancock Rd – Hooks St to Johns Lake Rd	1.23
Lake	Hartwood Marsh Rd – US 27 to Hancock Rd	0.70
Lake	Micro Racetrack Rd – Lake Ella Rd to CR 466A	1.74
Lake	US 27 – SR 44 to CR 25A (N)	0.63
Lake	Wolf Branch Rd – US 441 to Britt Rd	1.16

County	Segment	Miles
Lake	Old Hwy 441 – CR 44C/Eudora Dr to Lakeshore Dr	1.06
Lake	CR 452 – CR 44/CR 452 to SR 19	0.99
Lake	Rolling Acres Rd – US 27 to CR 466	0.50
Lake	Donnelly St – 11th Ave to 5th Ave	0.38
Lake	CR 437 – Wolf Branch Rd to SR 46	0.49
Lake	Kurt St – W Lakeview Ave to David Walker Dr	0.25
Sumter	US 301 – Warm Springs Ave to Florida's Turnpike	2.73

Roadways exceeding their adopted service volume but not exceeding their physical capacity in either year 2019 or year 2024 were identified as "congested" and should be monitored and potentially programmed for congestion management improvements. Twenty-two (22) segments were identified as "congested" in Lake County and six (6) were identified in Sumter County. The segments are summarized in **Table 12** and illustrated on the exhibit within the **Appendix**.

Table 12: Congested Corridors

County	Segment	Miles
Lake	Florida's Turnpike – Sumter C/L to US 27 Interchange	12.60
Lake	Main St (Leesburg) – Thomas Ave to US 27	1.03
Lake	Main St (Leesburg) – US 27 to Canal St	0.84
Lake	SR 19 – CR 455 to CR 478	7.45
Lake	SR 33 – Anderson Rd to CR 561	9.92
Lake	SR 33 – CR 561 to CR 474	2.33
Lake	SR 44 – CR 46A to Overlook Dr	8.77
Lake	SR 46 – CR 46A to Seminole C/L	2.61
Lake	US 27 – CR 44A to US 27/US 441 Split	0.15
Lake	US 441 – Lee St to N Canal St	0.42
Lake	Lakeshore Dr (Clermont) – Harder Rd to Lake Louisa Rd	0.67
Lake	CR 46A – SR 44 to SR 46 (existing alignment)	5.59
Lake	CR 46A Realignment – SR 44 to SR 46	3.65
Lake	CR 25 – Marion C/L to Griffin Ave	1.53
Lake	SR 50 – CR 455 to Orange C/L	1.53
Lake	SR 44 – Waycross Ave to Orange Ave	1.65
Lake	SR 19(N) – Stevens Ave to CR 452	1.55
Lake	CR 474 – Green Swamp Rd to US 27	3.35
Lake	CR 452 – Marion C/L to Felkins Rd	3.93
Lake	CR 50 – CR 455 to Orange C/L	1.92

County	Segment	Miles
Lake	CR 561 – CR 48 to S Astatula City Limit	0.63
Lake	Hartwood Marsh Rd – Hancock Rd to bend	1.41
Sumter	I-75 – Hernando C/L to CR 673	1.78
Sumter	I-75 – C-470E to SR 44	7.71
Sumter	Florida's Turnpike – I-75 to Lake County Line	10.67
Sumter	SR 50 – SR 471 to Lake C/L	6.43
Sumter	SR 50 – Hernando C/L to C-478A	2.40
Sumter	CR 104 – US 301 to CR 101	1.31

Roadway segments for which the 2019 or 2024 traffic volume accounted for 90% or greater of the adopted LOS service volume were identified as "approaching congestion," and should be monitored moving forward. Twelve segments were identified as "approaching congestion" in Lake County and 7 were identified in Sumter County as summarized in **Table 13**.

Table 13: Corridors Approaching Congestion

County	Segment	Miles
Lake	US 441 – US 27/US 441 Split to Lee St	0.75
Lake	US 441 – E Dixie Ave to E Main St	0.25
Lake	SR 46 – CR 435 to CR 46A Realignment	0.87
Lake	SR 50 – CR 565 to CR 33	0.77
Lake	Main St (Leesburg) – Dixie Ave/SR 44 to Nichols Dr	0.32
Lake	CR 470 – Sumter C/L to Florida's Turnpike	0.94
Lake	CR 561 – SR 19 to CR 448	1.62
Lake	CR 561 – CR 455 to Howey Cross Rd	1.74
Lake	Citrus Tower Blvd – US 27 to Oakley Seaver Dr	1.80
Lake	Duda Rd – CR 448A to Orange C/L	0.64
Lake	Lakeshore Dr (Clermont) – Oswalt Rd to Harder Rd	1.62
Lake	W Lakeview Ave – Kurt St to SR 19	0.43
Sumter	St Charles Pl – Bailey Trl to Buena Vista Blvd	0.83
Sumter	Bailey Trl – Buena Vista Blvd to Sunset Ridge Dr	0.93
Sumter	US 301 – SR 48 (Main St) to C-48 (Florida St)	0.13
Sumter	US 301 – Florida's Turnpike to CR 156	0.18
Sumter	El Camino Real/Paige Pl – Morse Blvd to Lake C/L	0.29
Sumter	Belvedere Blvd – C-466E to Churchill Downs	0.36

CRASH LOCATIONS FOR FUTURE STUDY

Geographical crash data from years 2014 through 2018 was reviewed to identify areas of high crash concentrations that could benefit from future study. Locations were identified for further evaluation based on the congregation of crashes recorded during the five-year analysis period, specifically fatal and incapacitation injury, run-off the road type, and bicycle and pedestrian crashes. Potential improvements that would benefit congestion levels could include construction of paved shoulders, construction or extension of turn lanes, signal timing or phasing adjustments, lighting, bicycle and pedestrian facility improvements, or signal coordination. **Table 14** summarizes the high crash locations recommended for future study.

Table 14: High Crash Locations for Future Study

County	Type	Description
Lake	Segment	CR 44 – Emeralda Ave to CR 452
Lake	Segment	CR 473/Creek Road – SR 44 to CR 44
Lake	Intersection	US 27/US 441 at N 14th St/US 27/US 441
Lake	Segment	US 27/441 – S Dixie Avenue to Picciola Road
Lake	Segment	CR 468 – SR 44 to Lewis Road
Lake	Intersection	SR 19 at US 27
Lake	Segment	US 192 – US 27 to Orange C/L
Lake	Segment	SR 44 – CR 437(S) to CR 435
Lake	Intersection	Lakeshore Drive at Bronson Road
Lake	Intersection	CR 448 at Lake Jem Road
Sumter	Intersection	SR 50 at C-478A
Sumter	Segment	SR 44 east and west of I-75
Sumter	Intersection	SR 44 at Powell Rd
Sumter	Segment	US 301 – CR 462 to CR 466
Sumter	Intersection	CR 48 at CR 326
Sumter	Segment	C-466 – US 301 to Buena Vista Blvd

STAKEHOLDER-RECOMMENDED CORRIDORS AND INTERSECTIONS

Through coordination with Lake-Sumter MPO stakeholders in the process of developing these performance measures, several intersections and corridors were identified as having contributing factors causing congestion that was not realized within the roadway traffic and crash data obtained. The locations and contributing factors are summarized in **Table 15**.

Table 15: Stakeholder-Recommended Corridors and Intersections

County	Location	Justification
Lake	East Ave (Clermont)	School-related traffic congestion
Lake	Round Lake Rd	School-related traffic congestion
Sumter	CR 466	School-related traffic congestion
Sumter	CR 466 near US 301	Poor signal timing/coordination
Lake	US 441 near Radio Rd	Poor signal timing/coordination
Lake	Lake Denham	Future development anticipated to impact surrounding network
Lake	Tara Oaks	Future development anticipated to impact surrounding network
Sumter	The Villages	Future development anticipated to impact surrounding network
Lake	The Villages	Future development anticipated to impact surrounding network
Lake	Old Hwy 50	Narrow travel lanes
Lake	Clayton Street	Parallel cut-through for traffic between Orange County and Mount Dora
Lake	Micro Racetrack Rd/Lake Ella Rd/Rolling Acres Rd	Parallel cut-through traffic and narrow lanes
Lake	US 441 & CR 44	Intersection operational issues
Lake	CR 44 & N Silver Lake Rd	Intersection operational issues
Lake	Hooks St & US 27	Intersection operational issues
Lake	Limit Ave & N Donnelly St	Intersection operational issues
Lake	US 441 & N Donnelly St	Intersection operational issues
Lake	Hancock Rd & Hartwood Marsh Rd	Intersection operational issues
Sumter	C-466 & US 301	Intersection operational issues
Sumter	SR 44 & CR 229	Intersection operational issues
Sumter	Morse Blvd & Stillwater Trl	Intersection operational issues

Summary and Next Steps

This document summarizes the CMP system performance for the first year evaluation (year 2019) and a short-term five-year horizon (year 2024). This information will serve as a baseline for future year CMP State of the Systems evaluations to identify trends and areas of focus for improved congestion levels, multi-modal transportation choices, and safety improvements.

The information within this document should be evaluated with the congestion mitigation strategies matrix provided within the CMP Policies and Procedures Handbook. The technical committees of the MPO and the respective municipalities should use this information to identify potential mitigation measures and additional studies to be incorporated into the LOPP, TIP, LRTP, and local operational studies.

The CMP database will also be utilized by the individual municipalities to review congestion levels and facilitate transportation concurrency reviews through local land development review processes. The CMP Database for each County based on this first year evaluation are provided within the **Appendix.**

APPENDIX A

Roadway Attributes

Lake County
Figure L-1: CMP Network

LEGEND

National Highway System

- NHS Non-Interstate
- Other CMP Network Roadways
- Strategic Intermodal System (SIS) Roads
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY

LAKE COUNTY

SUMTER COUNTY

LAKE COUNTY

ORANGE COUNTY

LAKE COUNTY

VOLUSIA COUNTY

LAKE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESBURG

TAVARES

EUSTIS

UMATILLA

MT DORA

HOWEY-IN-THE-HILLS

ASTATULA

MONTVERDE

MINNEOLA

GROVELAND

MASCOTTE

CLERMONT

Lake Dorr

Lake Tracy

Lake Norris

Lake Yale

Lake Griffin

Lake Eustis

Lake Dora

Lake Harris

Lake Minneola

Lake Minnehaha

Lake Louisa

Lake Apopka

MARION COUNTY RD

LAKE GRIFFIN RD

GRIFFIN VIEW DR

ROLLING ACRES RD

LAKE ELLA RD

MILLER BLVD

PICCOLA RD

N 14TH ST

NORTH BLVD

GOOSE PRAIRIE RD

RADIO RD

CREEK RD

BURLINGTON AVE

ORANGE AVE

LAKE EUSTIS DR

DAVID WALKER DR

BRITT RD

WOLF BRANCH RD

OLD US HWY 441

LAKESHORE DR

ROUND LAKE RD

CENTRAL AVE

PALM AVE

BRIDGES RD

AUSTIN MERRITT RD

OBRIEN RD

VILLA CITY RD

WILSON LAKE P KWY

TUSCANOOGA RD

S BAY LAKE RD

SUNSET AVE

BROAD ST

EMPIRE RD

MONTE VISTA RD

PINE ISLAND RD

LAKE ERIE RD

LAKE MINNEOLA DR

12TH ST

CITRUS TOWER BLVD

N HANCOCK RD

OLD 50W

LAKE LOUISA RD

HARTWOOD MARSH RD

25 25A 27 33 40 42 44 44A 46 46A 48 19 19A 435 437 439 445 445A 448 448A 450 450A 452 453 455 466 468 470 474 478 565 565A 561 561A

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Tuesday, December 10, 2019

Sumter County
Figure S-1: CMP Network

LEGEND

National Highway System

- NHS Interstate
- NHS Non-Interstate
- Other CMP Network Roadways
- Strategic Intermodal System (SIS) Roads
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY
SUMTER COUNTY
CITRUS COUNTY
SUMTER COUNTY
SUMTER COUNTY
HERNANDO COUNTY
SUMTER COUNTY
LAKE COUNTY
PASCO COUNTY

WILDWOOD
THE VILLAGES
COLEMAN
BUSHNELL
CENTER HILL
WEBSTER

Lake Panasoffkee
Lake Sumter
Lake Miona
Lake Deaton
Lake Okahumpka

EL CAMINO REAL
BUENA VISTA BLVD
MORSE BLVD
MAIN ST
ST CHARLES PL
FLORIDA'S TURNPIKE

Lake County
Figure L-2A: Number of Lanes (2019)

LEGEND

Number of Lanes

- 2 Lanes
- 4 Lanes
- 6 Lanes
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY

LAKE COUNTY

VOLUSIA COUNTY

SUMTER COUNTY

ORANGE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESVILLE

TAVARES

EUSTIS

UMATILLA

MT DORA

HOWEY-IN-THE-HILLS

ASTATULA

MONTVERDE

MINNEOLA

CLERMONT

GROVELAND

MASCOTTE

Lake Griffin

Lake Yale

Lake Eustis

Lake Dorr

Lake Tracy

Lake Norris

Lake Harris

Lake Dora

Lake Minneola

Lake Minnehaha

Lake Apopka

Lake Louisa

MARION COUNTY RD

LAKE GRIFFIN RD

GRIFFIN VIEW DR

LAKE ELLA RD

MILLER BLVD

ROLLING ACRES RD

PICCOLA RD

NORTH BLVD

N 14TH ST

GOOSE PRAIRIE RD

RADIO RD

CREEK RD

BURLINGTON AVE

ORANGE AVE

LAKE EUSTIS DR

DAVID WALKER DR

OLD US HWY 441

LAKESHORE DR

BRITT RD

ROUND LAKE RD

WOLF BRANCH RD

BRIDGES RD

AUSTIN MERRITT RD

OBRIEN RD

PALM AVE

VILLA CITY RD

TUSCANOOGA RD

S BAY LAKE RD

SUNSET AVE

EMPIRE RD

MONTE VISTA RD

PINE ISLAND RD

LAKE ERIE RD

WILSON LAKE PKWY

LAKE MINNEOLA DR

12TH ST

OLD 50W

CITRUS TOWER BLVD

N HANCOCK RD

LAKESHORE DR

LAKE LOUISA RD

HARTWOOD MARSH RD

CENTRAL AVE

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Tuesday, December 10, 2019

Sumter County
Figure S-2A: Number of Lanes (2019)

LEGEND

Number of Lanes

- 2 Lanes
- 4 Lanes
- 6 Lanes
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY
SUMTER COUNTY
CITRUS COUNTY
SUMTER COUNTY
SUMTER COUNTY
LAKE COUNTY
SUMTER COUNTY
HERNANDO COUNTY
PASCO COUNTY

WILDWOOD
COLEMAN
BUSHNELL
THE VILLAGES
CENTER HILL
WEBSTER

Lake Panasoffkee
Lake Sumter
Lake Miona
Lake Deaton
Lake Okahumpka

EL CAMINO REAL
BUENA VISTA BLVD
MORSE BLVD
MAIN ST
ST CHARLES PL

475N 102 103 101 104 301 27 441 466 237 229 209 472 100 121 462 44 44A 466A 213 156 FLORIDA'S TURNPIKE 75 470N 470 471 475 48 575 625 476 476B 673 478W 478E 478A 747 469 728 721 727 50

Lake County
Figure L-2B: Number of Lanes (2024)

LEGEND

Number of Lanes

- 2 Lanes
- 4 Lanes
- 6 Lanes
- 8 Lanes
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY

LAKE COUNTY

VOLUSIA COUNTY

SUMTER COUNTY

ORANGE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESBURG

EUSTIS

UMATILLA

TAVARES

MT DORA

MASCOTTE

GROVELAND

HOWEY-IN-THE-HILLS

ASTATULA

MONTVERDE

MINNEOLA

CLERMONT

Lake Griffin

Lake Yale

Lake Eustis

Lake Dorr

Lake Tracy

Lake Norris

Lake Harris

Lake Dora

Lake Minneola

Lake Minnehaha

Lake Apopka

Lake Louisa

MARION COUNTY RD

LAKE GRIFFIN RD

GRIFFIN VIEW DR

LAKE ELLA RD

MILLER BLVD

ROLLING ACRES RD

PICCOLA RD

NORTH BLVD

N 14TH ST

GOOSE PRAIRIE RD

RADIO RD

CREEK RD

BURLINGTON AVE

ORANGE AVE

LAKE EUSTIS DR

DAVID WALKER DR

LAKESHORE DR

OLD US HWY 441

BRITT RD

ROUND LAKE RD

WOLF BRANCH RD

CENTRAL AVE

BRIDGES RD

AUSTIN MERRITT RD

PALM AVE

OBRIEN RD

VILLA CITY RD

WILSON LAKE PKWY

TUSCANOOGA RD

SUNSET AVE

BROAD ST

EMPIRE RD

MONTE VISTA RD

LAKE MINNEOLA DR

12TH ST

OLD 50W

CITRUS TOWER BLVD

N HANCOCK RD

LAKESHORE DR

HARTWOOD MARSH RD

LAKE LOUISA RD

PINE ISLAND RD

LAKE ERIE RD

S BAY LAKE RD

FLORIDA'S TURNPIKE

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Sumter County
Figure S-2B: Number of Lanes (2024)

MARION COUNTY
SUMTER COUNTY
CITRUS COUNTY
SUMTER COUNTY
SUMTER COUNTY
LAKE COUNTY
HERNANDO COUNTY
SUMTER COUNTY
PASCO COUNTY

WILDWOOD
COLEMAN
BUSHNELL
THE VILLAGES
CENTER HILL
WEBSTER

Lake Panasoffkee
Lake Sumter
Lake Miona
Lake Deaton
Lake Okahumpka

EL CAMINO REAL
BUENA VISTA BLVD
MORSE BLVD
MAIN ST
ST CHARLES PL

LEGEND

Number of Lanes

- 2 Lanes
- 4 Lanes
- 6 Lanes
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

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Tuesday, December 10, 2019

Lake County
Figure L-3: Adopted LOS Standards

LEGEND

Adopted Level of Service Standard

- LOS B
- LOS C
- LOS D
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY

LAKE COUNTY

VOLUSIA COUNTY

SUMTER COUNTY

ORANGE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESBURG

UMATILLA

EUSTIS

MT DORA

TAVARES

HOWEY-IN-THE-HILLS

ASTATULA

MONTVERDE

MINNEOLA

CLERMONT

GROVELAND

MASCOTTE

Lake Dorr

Lake Tracy

Lake Norris

Lake Yale

Lake Griffin

Lake Eustis

Lake Dora

Lake Harris

Lake Apopka

Lake Minneola

Lake Minnehaha

Lake Louisa

MARION COUNTY RD

LAKE GRIFFIN RD

GRIFFIN VIEW DR

ROLLING ACRES RD

LAKE ELLA RD

MILLER BLVD

PICCOLA RD

NORTH BLVD

N 14TH ST

GOOSE PRAIRIE RD

RADIO RD

CREEK RD

BURLINGTON AVE

ORANGE AVE

LAKE EUSTIS DR

DAVID WALKER DR

BRITT RD

WOLF BRANCH RD

OLD US HWY 441

LAKESHORE DR

ROUND LAKE RD

CENTRAL AVE

PALM AVE

OBRIEN RD

AUSTIN MERRITT RD

BRIDGES RD

VILLA CITY RD

TUSCANOOGA RD

S BAY LAKE RD

SUNSET AVE

BROAD ST

EMPIRE RD

MONTE VISTA RD

PINE ISLAND RD

LAKE ERIE RD

WILSON LAKE P KWY

LAKE MINNEOLA DR

12TH ST

CITRUS TOWER BLVD

N HANCOCK RD

HANCOCK RD

HARTWOOD MARSH RD

LAKE LOUISA RD

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Tuesday, December 10, 2019

Sumter County
Figure S-3: Adopted LOS Standards

LEGEND

Adopted Level of Service Standards

- LOS C
- LOS D
- LOS F
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY
SUMTER COUNTY
CITRUS COUNTY
SUMTER COUNTY
SUMTER COUNTY
HERNANDO COUNTY
SUMTER COUNTY
LAKE COUNTY
PASCO COUNTY
WILDWOOD
THE VILLAGES
COLEMAN
BUSHNELL
CENTER HILL
WEBSTER
Lake Panasoffkee
Lake Sumter
Lake Miona
Lake Deaton
Lake Okahumpka
EL CAMINO REAL
MORSE BLVD
BUENA VISTA BLVD
ST CHARLES PL
MAIN ST
FLORIDA'S TURNPIKE
475N
102
103
101
104
301
27
441
466
237
229
209
472
100
121
462
44
44A
213
466A
156
44
470N
75
470
471
475
48
575
625
476
476B
673
476E
478W
478E
478A
747
469
728
721
727
50

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Wednesday, April 1, 2020

APPENDIX B

2019 Roadway Performance

Lake County
Figure L-4: 2019 Volume-to-MSV

LEGEND

2019 Peak Hour Directional V/MSV

- V/MSV < 0.80
- 0.80 < V/MSV < 0.90
- 0.90 < V/MSV < 1.00
- 1.00 < V/MSV
- Urban Areas

N

0 1 2 3 Miles

Volume-to-MSV ratios are calculated as the peak hour directional volume divided by the maximum service volume of the roadway segment based on its adopted level of service standard.

MARION COUNTY

LAKE COUNTY

VOLUSIA COUNTY

SUMTER COUNTY

ORANGE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESBURG

TAVARES

EUSTIS

UMATILLA

MT DORA

HOWEY-IN-THE-HILLS

ASTATULA

GROVELAND

MASCOTTE

MINNEOLA

MONTVERDE

CLERMONT

Lake Dorr

Lake Griffin

Lake Eustis

Lake Yale

Lake Harris

Lake Dora

Lake Tracy

Lake Norris

Lake Minneola

Lake Minnehaha

Lake Louisa

Lake Apopka

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Wednesday, December 18, 2019

MARION COUNTY

SUMTER COUNTY

CITRUS COUNTY

SUMTER COUNTY

SUMTER COUNTY

LAKE COUNTY

SUMTER COUNTY

HERNANDO COUNTY

PASCO COUNTY

WILDWOOD

COLEMAN

THE VILLAGES

BUSHNELL

CENTER HILL

WEBSTER

Lake Panasoffkee

Lake Sumter

Lake Miona

Lake Deaton

Lake Okahumpka

EL CAMINO REAL

BUENA VISTA BLVD

MORSE BLVD

MAIN ST

ST CHARLES PL

FLORIDA'S TURNPIKE

475N 102 103 101 104 301 27 441 466 237 229 209 472 100 121 462 44 44A 466A 213 44A 156 44 470N 75 470 471 475 48 575 476E 625 476 476B 747 469 728 478W 478E 478A 673 721 727 50

Sumter County
Figure S-4: 2019 Volume-to-MSV

LEGEND

2019 Peak Hour Directional V/MSV

- V/MSV < 0.80
- 0.80 < V/MSV < 0.90
- 0.90 < V/MSV < 1.00
- 1.00 < V/MSV
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

Volume-to-MSV ratios are calcluated as the peak hour directional volume divided by the maximum service volume of the roadway segment based on its adopted level of service standard.

Lake County
Figure L-5: 2019 Level of Service

LEGEND

2019 Peak Hour Directional LOS

- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY

LAKE COUNTY

VOLUSIA COUNTY

SUMTER COUNTY

ORANGE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESBURG

TAVARES

EUSTIS

UMATILLA

MT DORA

MASCOTTE

GROVELAND

HOWEY-IN-THE-HILLS

ASTATULA

MONTVERDE

MINNEOLA

CLERMONT

Lake Dorr

Lake Tracy

Lake Norris

Lake Yale

Lake Griffin

Lake Eustis

Lake Harris

Lake Dora

Lake Minneola

Lake Minnehaha

Lake Apopka

Lake Louisa

MARION COUNTY RD

LAKE GRIFFIN RD

ROLLING ACRES RD

GRIFFIN VIEW DR

LAKE ELLA RD

MILLER BLVD

PICCOLA RD

NORTH BLVD

N 14TH ST

GOOSE PRAIRIE RD

RADIO RD

CREEK RD

BURLINGTON AVE

ORANGE AVE

LAKE EUSTIS DR

DAVID WALKER DR

BRITT RD

WOLF BRANCH RD

OLD US HWY 441

LAKESHORE DR

ROUND LAKE RD

CENTRAL AVE

BRIDGES RD

AUSTIN MERRITT RD

OBRIEN RD

PALM AVE

VILLA CITY RD

WILSON LAKE P KWY

TUSCANOOGA RD

S BAY LAKE RD

SUNSET AVE

BROAD ST

EMPIRE RD

MONTE VISTA RD

LAKE MINNEOLA DR

12TH ST

CITRUS TOWER BLVD

N HANCOCK RD

HARTWOOD MARSH RD

LAKE LOUISA RD

PINE ISLAND RD

LAKE ERIE RD

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Tuesday, December 10, 2019

Sumter County
Figure S-5: 2019 Level of Service

LEGEND

2019 Peak Hour Directional LOS

- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY
SUMTER COUNTY
CITRUS COUNTY
SUMTER COUNTY
SUMTER COUNTY
LAKE COUNTY
SUMTER COUNTY
HERNANDO COUNTY
PASCO COUNTY
WILDWOOD
THE VILLAGES
COLEMAN
BUSHNELL
CENTER HILL
WEBSTER
Lake Panasoffkee
Lake Sumter
Lake Miona
Lake Deaton
Lake Okahumpka
EL CAMINO REAL
MORSE BLVD
BUENA VISTA BLVD
ST CHARLES PL
MAIN ST
FLORIDA'S TURNPIKE
475N
102
103
101
104
301
27
441
466
237
229
209
472
100
121
462
44
44A
213
466A
156
475
470N
470
471
48
575
476E
625
476
476B
747
469
728
478W
478E
673
478A
721
727
50

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Tuesday, December 10, 2019

APPENDIX C

2024 Roadway Performance

Lake County
Figure L-6: 2024 Volume-to-MSV

LEGEND

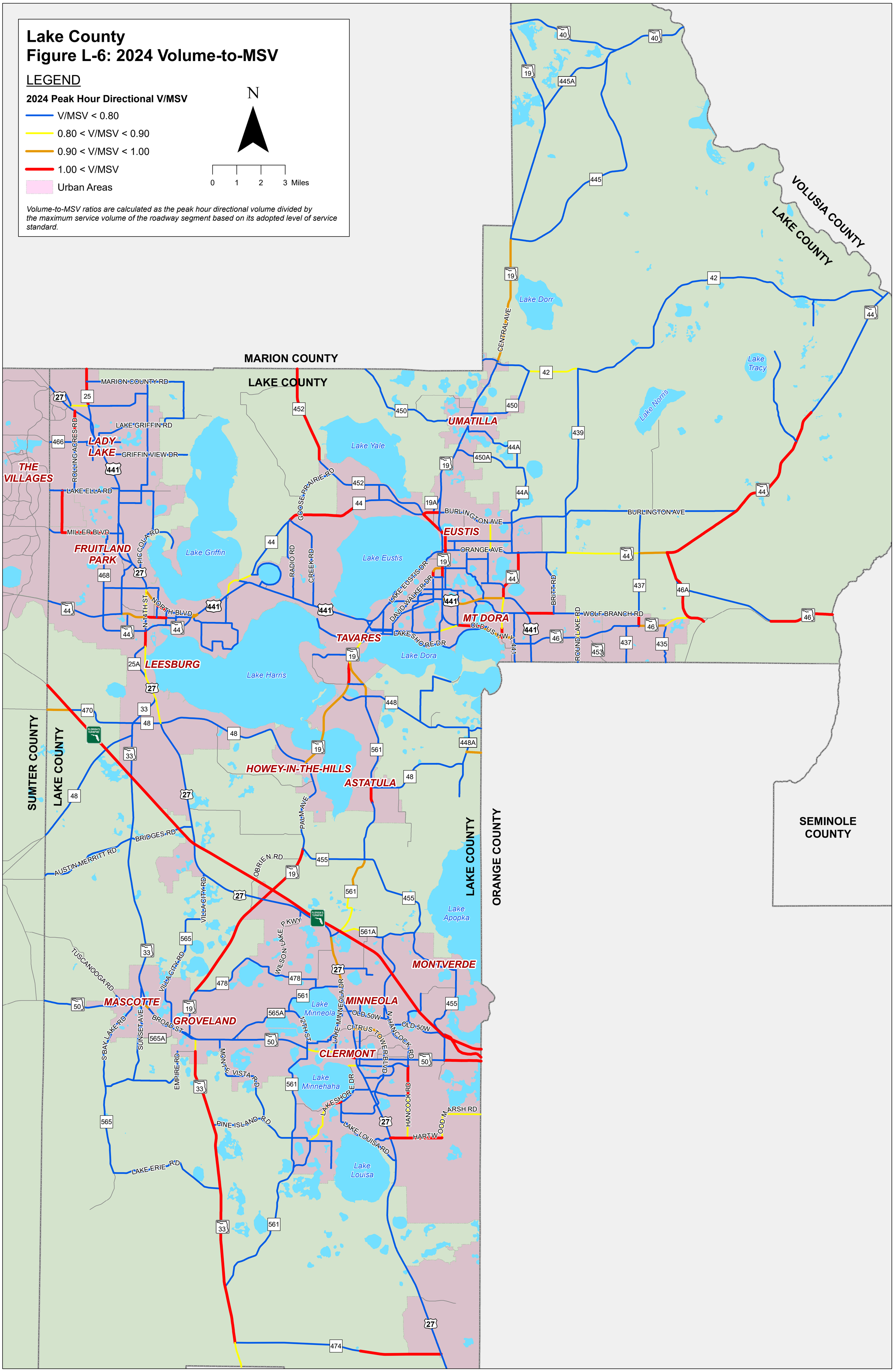
2024 Peak Hour Directional V/MSV

- V/MSV < 0.80
- 0.80 < V/MSV < 0.90
- 0.90 < V/MSV < 1.00
- 1.00 < V/MSV
- Urban Areas

N

0 1 2 3 Miles

Volume-to-MSV ratios are calculated as the peak hour directional volume divided by the maximum service volume of the roadway segment based on its adopted level of service standard.



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Wednesday, December 18, 2019


MARION COUNTY
SUMTER COUNTY
CITRUS COUNTY
SUMTER COUNTY
HERNANDO COUNTY
PASCO COUNTY
LAKE COUNTY
WILDWOOD
THE VILLAGES
COLEMAN
BUSHNELL
CENTER HILL
WEBSTER
Lake Panasoffkee
Lake Miona
Lake Sumter
Lake Deaton
Lake Okahumpka
EL CAMINO REAL
MORSE BLVD
BUENA VISTA BLVD
ST CHARLES PL
MAIN ST
475N
102
103
101
104
301
27
441
466
237
229
209
472
100
75
462
121
44
44A
466A
213
156
470N
470
471
475
48
575
625
476
476E
476B
673
747
478W
478E
478A
721
727
728
469
50
Sumter County
Figure S-6: 2024 Volume-to-MSV
LEGEND
2024 Peak Hour Directional V/MSV
V/MSV < 0.80
0.80 < V/MSV < 0.90
0.90 < V/MSV < 1.00
1.00 < V/MSV
Urban Development Boundary
Urban Areas
N
0
1
2
3 Miles
Volume-to-MSV ratios are calcluated as the peak hour directional volume divided by the maximum service volume of the roadway segment based on its adopted level of service standard.

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Wednesday, April 1, 2020

Lake County
Figure L-7: 2024 Level of Service

LEGEND

2024 Peak Hour Directional LOS

- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Urban Areas

N

0 1 2 3 Miles

MARION COUNTY

LAKE COUNTY

VOLUSIA COUNTY

SUMTER COUNTY

ORANGE COUNTY

SEMINOLE COUNTY

THE VILLAGES

LADY LAKE

FRUITLAND PARK

LEESBURG

TAVARES

EUSTIS

UMATILLA

MT DORA

MASCOTTE

GROVELAND

HOWEY-IN-THE-HILLS

ASTATULA

MONTVERDE

MINNEOLA

CLERMONT

Lake Dorr

Lake Tracy

Lake Norris

Lake Yale

Lake Griffin

Lake Eustis

Lake Dora

Lake Harris

Lake Minneola

Lake Minnehaha

Lake Apopka

Lake Louisa

MARION COUNTY RD

LAKE GRIFFIN RD

GRIFFIN VIEW DR

ROLLING ACRES RD

LAKE ELLA RD

MILLER BLVD

PICCOLA RD

NORTH BLVD

N 14TH ST

GOOSE PRAIRIE RD

RADIO RD

CREEK RD

BURLINGTON AVE

ORANGE AVE

LAKE EUSTIS DR

DAVID WALKER DR

OLD US HWY 441

LAKESHORE DR

BRITT RD

WOLF BRANCH RD

ROUND LAKE RD

CENTRAL AVE

BRIDGES RD

AUSTIN MERRITT RD

OBRIEN RD

PALM AVE

VILLA CITY RD

WILSON LAKE P KWY

TUSCANOOGA RD

S BAY LAKE RD

SUNSET AVE

BROAD ST

EMPIRE RD

MONTE VISTA RD

LAKE MINNEOLA DR

12TH ST

CITRUS TOWER BLVD

N HANCOCK RD

HANCOCK RD

HARTWOOD MARSH RD

LAKE LOUISA RD

PINE ISLAND RD

LAKE ERIE RD

25 27 40 19 445A 445 42 44 450 452 450A 44A 439 19A 437 46A 46 453 435 448 448A 561 455 565 565A 561A 478 468 466 470 48 33 25A 50 474

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Tuesday, December 10, 2019

MARION COUNTY

SUMTER COUNTY

CITRUS COUNTY

SUMTER COUNTY

SUMTER COUNTY

LAKE COUNTY

SUMTER COUNTY

HERNANDO COUNTY

PASCO COUNTY

WILDWOOD

COLEMAN

THE VILLAGES

BUSHNELL

CENTER HILL

WEBSTER

Lake Panasoffkee

Lake Sumter

Lake Miona

Lake Deaton

Lake Okahumpka

EL CAMINO REAL

BUENA VISTA BLVD

MORSE BLVD

ST CHARLES PL

MAIN ST

FLORIDA'S TURNPIKE

475N 102 103 101 104 301 27 441 466 237 229 209 472 100 121 462 44 44A 213 156 466A 470N 470 471 475 48 575 625 476 476B 673 476E 478W 478E 478A 747 469 728 721 727 50

Sumter County
Figure S-7: 2024 Level of Service

LEGEND

2024 Peak Hour Directional LOS

- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Urban Development Boundary
- Urban Areas

N

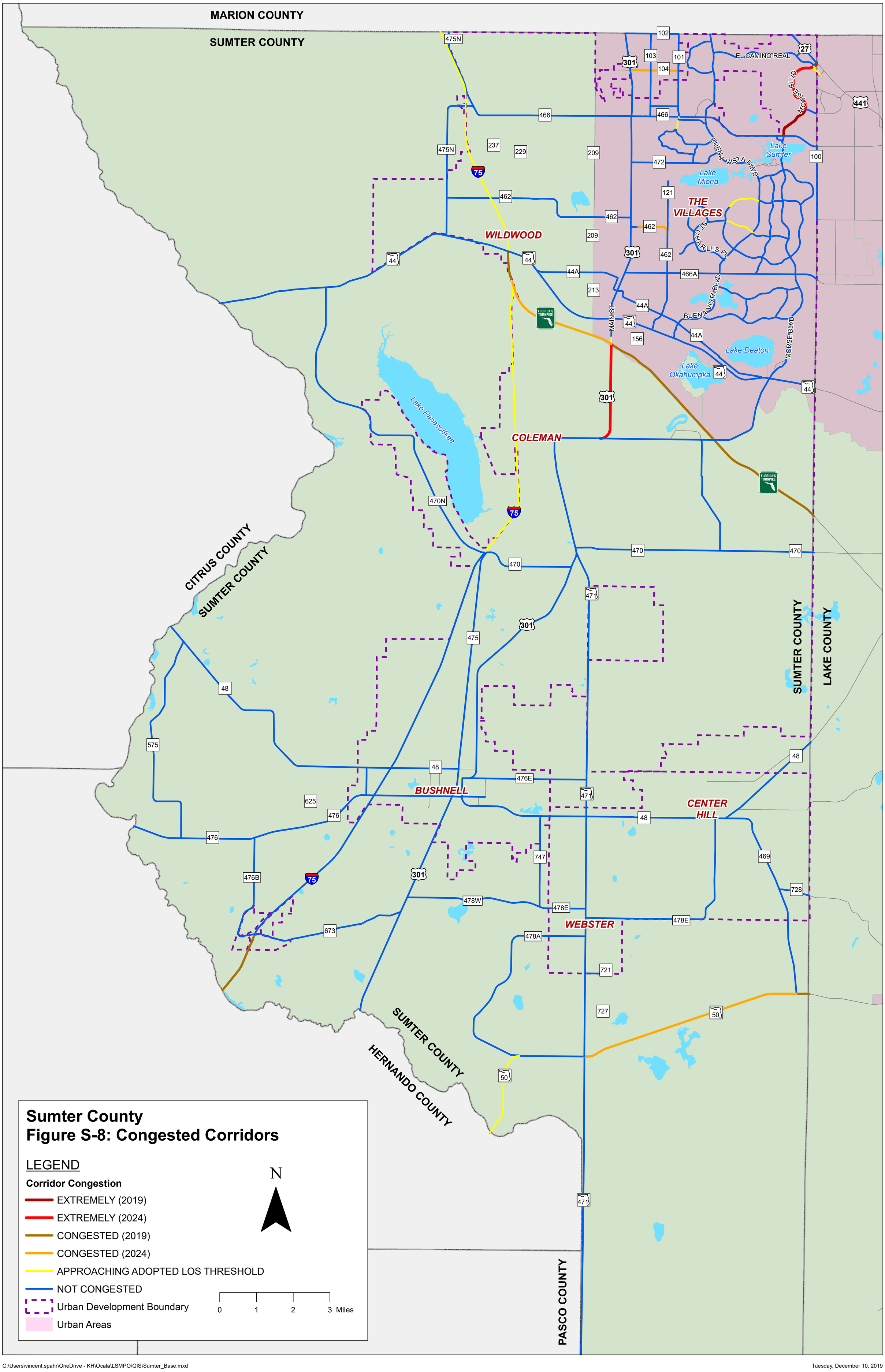
0 1 2 3 Miles

APPENDIX D

Congested Corridors

Lake County
Figure L-8: Congested Corridors
LEGEND
Corridor Congestion
EXTREMELY (2019)
EXTREMELY (2024)
CONGESTED (2019)
CONGESTED (2024)
APPROACHING ADOPTED LOS THRESHOLD
NOT CONGESTED
Urban Areas
N
0 1 2 3 Miles
MARION COUNTY
LAKE COUNTY
VOLUSIA COUNTY
SUMTER COUNTY
ORANGE COUNTY
SEMINOLE COUNTY
THE VILLAGES
LADY LAKE
FRUITLAND PARK
LEESBURG
UMATILLA
EUSTIS
MT DORA
TAVARES
HOWEY-IN-THE-HILLS
ASTATULA
MONTVERDE
MINNEOLA
CLERMONT
MASCOTTE
GROVELAND
Lake Dorr
Lake Norris
Lake Tracy
Lake Yale
Lake Griffin
Lake Eustis
Lake Dora
Lake Harris
Lake Apopka
Lake Minneola
Lake Minnehaha
Lake Louisa
MARION COUNTY RD
LAKE GRIFFIN RD
GRIFFIN VIEW DR
ROLLING ACRES RD
LAKE ELLA RD
MILLER BLVD
PICCIOLA RD
N 14TH ST
NORTH BLVD
GOOSE PRAIRIE RD
RADIO RD
CREEK RD
CENTRAL AVE
BURLINGTON AVE
ORANGE AVE
LAKE EUSTIS DR
DAVID WALKER DR
LAKESHORE DR
OLD US HWY 441
BRITT RD
WOLF BRANCH RD
ROUND LAKE RD
BRIDGES RD
AUSTIN MERRITT RD
OBRIEN RD
PALM AVE
VILLA CITY RD
WILSON LAKE PKWY
TUSCANOOGA RD
S BAY LAKE RD
SUNSET AVE
BROAD ST
EMPIRE RD
MONTE VISTA RD
12TH ST
LAKE MINNEOLA DR
OLD 50W
CITRUS TOWER BLVD
N HANCOCK RD
HANCOCK RD
LAKESHORE DR
LAKE LOUISA RD
HARTWOOD MARSH RD
PINE ISLAND RD
LAKE ERIE RD

Sumter County
Figure S-8: Congested Corridors



LEGEND

Corridor Congestion

- EXTREMELY (2019)
- EXTREMELY (2024)
- CONGESTED (2019)
- CONGESTED (2024)
- APPROACHING ADOPTED LOS THRESHOLD
- NOT CONGESTED
- Urban Development Boundary
- Urban Areas

N

0 1 2 3 Miles

APPENDIX E

CMP Monitoring Spreadsheets

Lake County CMP Spreadsheet

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
10	81	117030	County	30	1.37	ABRAMS ROAD	SR 44	WAYCROSS AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	14,060	5,145	0.37	C	710	267	218	0.38	C	4.00%	14,060	6,259	0.45	C	710	325	265	0.46	C
20	71		County	30	0.67	ANDERSON HILL ROAD	LAKE SHORE DRIVE	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,870	0.18	C	530	127	56	0.24	C	2.00%	10,360	2,065	0.20	C	530	140	62	0.26	C
30	252		County	30	0.38	ARDICE AVENUE	KURT STREET	SR 19	2	2	URBAN	DIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	13,990	5,162	0.37	C	710	230	275	0.39	C	1.00%	13,990	5,425	0.39	C	710	242	289	0.41	C
40	217		County	25	0.63	ARLINGTON AVENUE	W LADY LAKE BOULEVARD	SOUTH TERMINI	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	10,360	1,593	0.15	C	530	58	96	0.18	C	4.50%	10,360	1,985	0.19	C	530	72	119	0.22	C
50	20		County	40	1.89	AUSTIN MERRITT ROAD	YOUTH CAMP ROAD	CR 33	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	1,476	0.16	C	470	100	41	0.21	C	8.75%	9,030	2,245	0.25	C	470	151	63	0.32	C
60	263	117004	County	25	1.74	BATES AVENUE	N CENTER STREET	CR 44 / DELAND ROAD	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	1,320	0.13	C	530	54	67	0.13	C	9.25%	10,360	2,055	0.20	C	530	84	105	0.20	C
70	262		County	40	0.88	BATES AVENUE	CR 44 / DELAND ROAD	ESTES ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	1,785	0.11	C	840	137	149	0.18	C	3.00%	16,820	2,070	0.12	C	840	159	173	0.21	C
80	254		County	35	0.82	BAY ROAD	BAY ROAD / CR 19A	OLD US 441/ CR 500A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	3,015	0.29	C	530	125	144	0.27	C	2.00%	10,360	3,329	0.32	C	530	137	158	0.30	C
90	253	117006	County	35	0.55	BAY ROAD	OLD US 441/ CR 500A	CR 452/ LAKESHORE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,631	0.16	C	530	86	59	0.16	C	1.00%	10,360	1,714	0.17	C	530	90	62	0.17	C
100	196		County	35	1.64	BLACKSTILL LAKE ROAD	FOSGATE ROAD	CR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	5,031	0.36	C	710	215	223	0.31	C	8.00%	14,060	7,392	0.53	D	710	316	328	0.46	C
110	21		County	40	2.64	BRIDGES ROAD	SR 33	US 27	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,485	0.20	B	390	99	34	0.25	B	4.75%	7,560	1,872	0.25	B	390	124	43	0.32	B
120	84	117016	County	45	1.16	BRITT ROAD	SR 44	HORSE RANCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	12,390	4,041	0.33	C	620	122	254	0.41	C	9.25%	12,390	6,289	0.51	C	620	189	395	0.64	C
130	84		ADJACENT	45	1.47	BRITT ROAD	HORSE RANCH ROAD	WOLF BRANCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	12,390	4,041	0.33	C	620	122	254	0.41	C	9.25%	12,390	6,289	0.51	C	620	189	395	0.64	C
140	241		County	35	0.14	C.R. 19A (DORA AVENUE)	LAKE DORA DRIVE	C.R. 500A/ OLD 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	10,360	1,628	0.16	C	530	67	100	0.19	C	1.50%	10,360	1,754	0.17	C	530	73	108	0.20	C
150	50		County	35	1.35	C.R. 19A (DORA AVENUE)	C.R. 500A/ OLD 441	DAVID WALKER ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	14,060	5,011	0.36	C	710	236	218	0.33	C	1.00%	14,060	5,267	0.37	C	710	248	229	0.35	C
160	104		County	20	1.00	C.R. 19A (DORA AVENUE)	DAVID WALKER ROAD	US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	14,060	3,858	0.27	C	710	155	177	0.25	C	1.00%	14,060	4,055	0.29	C	710	163	186	0.26	C
170	0		NO COUNT	35	0.48	C.R. 19A	CR 452	CR 44	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	14,060	-	-	-	710	-	-	-	-		14,060	-	-	-	710	-	-	-	-
180	114		County	45	0.68	C.R. 19A	CR 44	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	2,872	0.23	C	620	139	110	0.22	C	1.75%	12,390	3,132	0.25	C	620	151	120	0.24	C
190	105		County	40	0.53	C.R. 19A	US 441	BAY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	EUSTIS/MOUNT DORA	D	16,820	14,469	0.86	C	840	642	577	0.76	C	1.00%	16,820	15,207	0.90	C	840	674	606	0.80	C
200	258		County	45	0.93	C.R. 19A	BAY ROAD / CR 19A	CR 44C/ CR 500A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	16,820	8,328	0.50	C	840	328	371	0.44	C	1.00%	16,820	8,753	0.52	C	840	345	390	0.46	C
210	1		County	35	1.53	C.R. 25	MARION COUNTY LINE	GRIFFIN AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	14,060	10,696	0.76	D	710	693	258	0.98	D	3.25%	14,060	12,551	0.89	D	710	813	303	1.15	F
220	159	117023	County	35	1.27	C.R. 25	GRIFFIN AVENUE	US 27 / US 441	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	14,060	9,630	0.68	D	710	370	462	0.65	D	2.75%	14,060	11,029	0.78	D	710	423	530	0.75	D
230	116		County	30	0.43	C.R. 25A	US 27/US 441	CR 466A	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	10,360	7,541	0.73	D	530	361	346	0.68	D	1.00%	10,360	7,926	0.77	D	530	379	364	0.72	D
240	189		County	30	1.50	C.R. 25A	CR 466A	US 27/US 441	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	10,360	4,780	0.46	C	530	194	255	0.48	C	1.00%	10,360	5,024	0.48	C	530	204	268	0.51	D
250	118	117037	County	45	1.65	C.R. 25A	US 27 (NORTH)	US 27 (SOUTH)	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	12,390	384	0.03	C	620	15	17	0.03	C	1.75%	12,390	419	0.03	C	620	17	19	0.03	C
260	132		County	50	1.49	SR 33 / C.R. 33	US 27	CR 48 /CR 470	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	18,590	9,402	0.51	C	920	427	301	0.46	C	3.75%	18,590	11,302	0.61	C	920	513	362	0.56	C
270	133		County	45	0.52	SR 33 / SR 48 / C.R. 33 / CR 48	CR 48 /CR 470	CR 48	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	17,700	8,936	0.50	C	880	308	443	0.50	C	4.50%	17,700	11,136	0.63	C	880	384	552	0.63	C
280	19		County	55	4.27	C.R. 33	CR 48	BRIDGES ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	4,200	0.19	B	1,070	229	130	0.21	B	8.50%	21,780	6,316	0.29	B	1,070	345	195	0.32	B
290	24		ADJACENT	35	5.61	C.R. 33	BRIDGES ROAD	PEBBLE ROCK ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	5,931	0.78	C	390	241	223	0.62	C	5.25%	7,560	7,660	1.01	D	390	311	288	0.80	C
300	24		County	35	1.65	SR 33 / C.R. 33	PEBBLE ROCK ROAD	SR 50	2	2	URBAN	UNDIVIDED	STATE	CITY OF MASCOTTE	D	15,540	5,931	0.38	C	790	241	223	0.30	C	5.25%	15,540	7,660	0.49	C	790	311	288	0.39	C
310	74		County	45	0.64	C.R. 42	MARION COUNTY LINE	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	4,866	0.31	C	790	231	192	0.29	C	5.25%	15,930	6,285	0.39	C	790	299	248	0.38	C
320	75		County	45	1.41	C.R. 42	SR 19	CR 450	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	4,388	0.49	C	470	175	207	0.44	C	7.25%	9,030	6,227	0.69	C	470	248	294	0.63	C
330	106		County	55	2.05	C.R. 42	CR 450	CR 439	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	5,378	0.71	C	390	220	242	0.62	C	6.25%	7,560	7,283	0.96	C	390	298	327	0.84	C
340	91		ADJACENT	40	3.58	C.R. 42	CR 439	CENTRAL AVENUE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	3,503	0.46	B	390	162	188	0.48	B	7.00%	7,560	4,913	0.65	C	390	227	263	0.67	C
350	91		County	40	4.93	C.R. 42	CENTRAL AVENUE	PALMETTO STREET	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	3,503	0.24	B	770	162	188	0.24	B	7.00%	14,760	4,913	0.33	B	770	227	263	0.34	B
360	97		ADJACENT	55	3.60	C.R. 42	PALMETTO STREET	LAKE MACK DRIVE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	4,726	0.32	B	770	150	292	0.38	B	4.25%	14,760	5,820	0.39	B	770	185	359	0.47	B
370	97		County	55	3.06	C.R. 42	LAKE MACK DRIVE	SR 44	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	4,726	0.32	B	770	150	292	0.38	B	4.25%	14,760	5,820	0.39	B	770	185	359	0.47	B
380	182		County	40	0.86	C.R. 435	SR 46	DUBSDREAD DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	7,565	0.47	C	790	367	350	0.46	C	3.00%	15,930	8,770	0.55	C	790	425	406	0.54	C
390	96		County	40	0.81	C.R. 435	DUBSDREAD DRIVE	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	5,697	0.34	C	840	383	214	0.46	C	1.00%	16,820	5,988	0.36	C	840	403	225	0.48	C
400	181		County	55	1.74	C.R. 437	CR 44A	SR 44	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	12,260	5,967	0.49	C	640	201	391	0.61	C	4.50%	12,260	7,436	0.61	C	640	250	487	0.76	C
410	92		County	45	2.52	C.R. 437	SR 44	WOLF BRANCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	10,305	0.47	C	1,070	636	352	0.59	C	6.25%	21,780	13,953	0.64	C	1,070	861	476	0.80	D
420	94		County	45	0.49	C.R. 437	WOLF BRANCH ROAD	SR 46	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	13,785	0.87	C	790	780	484	0.99	D	2.00%	15,930	15,219	0.96	D	790	862	534	1.09	F
430	95		County	45	1.50	C.R. 437	SR 46	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	8,779	0.55	C	790	361	522	0.66	C	1.00%	15,930	9,227	0.58	C	790	380	549	0.69	C
440	76		County	55	6.25	C.R. 439	CR 42	CR 44A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	3,665	0.25	B	770	234	123	0.30	B	8.50%	14,760	5,511	0.37	B	770	352	184	0.46	B
450	127		County	45	1.53	C.R. 439	CR 44A	SR 44	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	4,228	0.47	C	470	136	245	0.52	C	4.25%	9,030	5,206	0.58	C	470	167	302	0.64	C
460	31		County	55	1.46	C.R. 44	US 441	SILVER LAKE ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	11,399	0.68	C	840	619	350	0.74	C	2.25%	16,820	12,740	0.76	C	840	692	391	0.82	C
470	29		County	55	2.79	C.R. 44	SILVER LAKE ROAD	CR 473	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	10,699	0.49	C	1,070	654	343	0.61	C	4.00%	21,780	13,017	0.60	C	1,070	796	418	0.74	D
480	119		County	40	3.17	C.R. 44	CR 473	APIARY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	17,453	1.04	F	840	1,035	598	1.23	F	7.75%	16,820	25,349	1.51	F	840	1,504	868	1.79	F
490	45		County	45	2.75	C.R. 44	APIARY ROAD	CR 452	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	21,780	13,073	0.60	C	1,070	566	529	0.53	C	1.00%	21,780	13,739	0.63	C	1,070	594	555	0.56	C
500	48		County	30	0.68	C.R. 44	CR 452	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	14,060	14,397	1.02	E	710	631	639	0.90	D	4.00%	14,060	17,516	1.25	F	710	767	777	1.09	F
510	47		County	45	1.01	C.R. 44	SR 19	HICKS DITCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	16,820	12,089	0.72	C	840	483	551	0.66	C	1.25%	16,820	12,863	0.76	C	840	514	587	0.70	C
520	80		County	45	1.21	C.R. 44	HICKS DITCH ROAD	CR 44A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	16,820	10,974	0.65	C	840	433	497	0.59	C	4.50%	16,820	13,675	0.81	C	840	540	620	0.74	C
530	82		County	55	1.12	C.R. 44	CR 44A	ORANGE AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	10,568	0.63	C	840	460	440	0.55	C	8.25%	16,820	15,708	0.93	C	840	684	654	0.81	C
540	120		County	45	0.42	C.R. 44 LEG A	CR 44	US 441	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	1,290	0.08	C	790	45	74	0.09	C	1.00%	15,930	1,356	0.09	C	790	47	78	0.10	C
550	73		County	55	6.13	C.R. 445	SR 19	NF 552	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	697	0.09	B	390	34	30	0.09	B	3.00%	7,560	808	0.11	B	390	40	35	0.10	B
560	73		ADJACENT	55	4.74	C.R. 445	NF 552	CR 445A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	697	0.09	B	390	34	30	0.09	B	3.00%	7,560	808	0.11	B	390	40	35	0.10	B
570	72		County	55	3.55	C.R. 445A	SR 19	CR 445	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	2,060	0.27	B	390	91	93	0.24	B	9.00%	7,560	3,169	0.42	B	390	140	143	0.37	B
580	128		County	45	0.55	C.R. 445A	CR 445	SR 40	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	11,610	2,657	0.23	C	600	108	106	0.18	C	8.75%	11,610	4,041	0.35	C	600	165	162	0.28	C
590	183		County	55	1.08	C.R. 448	SR 19	CR 561	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	4,396	0.26	C	840	188	179	0.22	C	8.25%	16,820	6,534	0.39	C	840	279	266	0.33	C
600	56		County	55	0.65	C.R. 448	CR 561	LAKE INDUSTRIAL BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	16,820	7,615	0.45	C	840	333	307	0.40	C	1.00%	16,820	8,004	0.48	C	840	350	322	0.42	C
610	134		County	45	4.69	C.R. 448	LAKE INDUSTRIAL BOULEVARD	ORANGE COUNTY LINE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	7,075	0.48	B	770	361	315	0.47	B	1.00%	14,760	7,436	0.50	B	770	379	331	0.49	B
620	272		County	45	1.42	C.R. 448A	CR 448	CR 48	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	11,610	4,763	0.41	C	600	240	265	0.44	C	1.50%	11,610	5,131	0.44	C	600	259	286	0.48	C
630	271		County	55	1.38	C.R. 448A	CR 48	SOUTH TERMINI	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	290	0.03	C	470	18	13	0.04	C	1.00%	9,030	305	0.03	C	470	19	14	0.04	C
640	30		ADJACENT	45	1.80	C.R. 449 (SILVER LAKE)	CR 44	MORNINGSIDE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	2,112	0.17	C	620	165	56	0.27	C	1.25%	12,390	2,248	0.18	C	620	176	60	0.28	C
650	30		County	45	1.25	C.R. 449 (SILVER LAKE)	MORNINGSIDE DRIVE	US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	12,390	2,112	0.17	C	620	165	56	0.27	C	1.25%	12,390	2,248	0.18	C	620	176	60	0.28	C
660	219		County	25	1.34	C.R. 44A (LAKESIDE AVENUE/ ROSE STREET)	SR 19	SKYLINE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF UMATILLA	D	10,360	954	0.09	C	530	53	41	0.10	C	1.00%	10,360	1,002	0.10	C	530	55	44	0.10	C
670	220		County	45	2.04	C.R. 44A	SKYLINE DRIVE	CR 450A/ CR44A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,750	0.23	B	390	110	62	0.28	B	3.00%	7,560	2,029	0.27	B	390	127	71	0.33	B
680	288		County	45	2.83	C.R. 44A	CR 450A	CR 44A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,960	0.26	B	390	124	64	0.32	B	2.50%	7,560	2,218	0.29	B	390	140	72	0.36	B
690	172		County	35	1.01	C.R. 44A (GRIFFIN ROAD)	THOMAS ROAD	US 27/US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	13,320	8,722	0.65	D	680	316	468	0.69	D	1.00%	13,320	9,167	0.69	D	680	332	492	0.72	D
700	79		County	55	0.88	C.R. 44A	CR 44 / DELAND ROAD	ESTES ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	15,930	4,957	0.31	C	790	229	235	0.30	C	1.50%	15,930	5,341	0.34	C	790	247	253	0.32	C
710	78		County	55	2.29	C.R. 44A	ESTES ROAD	CR 439	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	4,746	0.63	C	390	198	241	0.62	C	3.50%	7,560	5,637	0.75	C	390	235	286	0.73	C
720	221		County	45	3.18	C.R. 44A	CR 439	CR 437	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	4,057	0.27	B	770	175	203	0.26	B	8.00%	14,760	5,961	0.40	B	770	257	299	0.39	B
730	115		County	55	4.03	C.R. 44A	CR 437	SR 44	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	1,458	0.10	B	770	73	78	0.10	B	6.50%	14,760	1,998	0.14	B	770	100	107	0.14	B
760	51		County	25	0.91	C.R. 44C (EUDORA ROAD)	US 441	CR 500A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	13,320	9,533	0.72	D	680	423	387	0.62	D	1.00%	13,320	10,020	0.75	D	680	445	406	0.65	D
770	161		County	35	0.75	C.R. 44C (GRIFFIN ROAD)	CR 468	THOMAS ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	13,320	5,664	0.43	C	680	231	246	0.36	C	1.00%	13,320	5,953	0.45	C	680	243	259	0.38	C
780	42		County	55	4.55	C.R. 450	MARION COUNTY LINE	BABB ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,808	0.24	B	390	122	77	0.31	B	1.00%	7,560	1,900	0.25	B	390	129	81	0.33	B
790	43		County	35	0.96	C.R. 450	BABB ROAD	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF UMATILLA	D	10,360	2,697	0.26	C	530	178	120	0.34	C	3.75%	10,360	3,242	0.31	C	530	214	144	0.40	C
800	44		County	35	2.06	C.R. 450	SR 19	E UMATILLA BOULEVARD/ W 7TH STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF UMATILLA	D	21,780	4,405	0.20	B	1,070	179	269	0.25	B	1.50%	21,780	4,746	0.22	B	1,070	192	290	0.27	B
810	44		ADJACENT	35	1.36	C.R. 450	E UMATILLA BOULEVARD/ W 7TH STREET	CR 42	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	4,405	0.49	C	470	179	269	0.57	C	1.50%	9,030	4,746	0.53	C	470	192	290	0.62	C
820	77		County	55	2.72	C.R. 450A	SR 19	CR 44A NORTH	2	2	RURAL	UNDIVIDED	COUNTY	CITY OF UMATILLA	C	7,560	1,800	0.24	B	390	88	88	0.22	B	7.25%	7,560	2,555	0.34	B	390	124	124	0.32	B
830	113		County	55	3.93	C.R. 452	MARION COUNTY LINE	FELKINS ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	5,806	0.77	C	390	297	225	0.76	C	6.25%	7,560	7,862	1.04	D	390	403	305	1.03	D
840	113		ADJACENT	55	1.72	C.R. 452	FELKINS ROAD	SANDY LANE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	5,806	0.35	C	840	297	225	0.35	C	6.25%	16,820	7,862	0.47	C	840	403	305	0.48	C
850	46		ADJACENT	45	2.55	C.R. 452	SANDY LANE	LAKE LANDING BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	9,788	0.45	C	1,070	474	407	0.44	C	5.00%	21,780	12,493	0.57	C	1,070	605	519	0.57	C
860	46		County	45	1.06	C.R. 452	LAKE LANDING BOULEVARD	CR 44	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	16,820	9,788	0.58	C	840	474	407	0.56	C	5.00%	16,820	12,493	0.74	C	840	605	519	0.72	C
870	107	117026	County	40	0.99	C.R. 452 (EUSTIS)	CR 44 / CR 452	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	12,390	13,376	1.08	F	620	606	497	0.98	D	4.00%	12,390	16,274	1.31	F	620	738	605	1.19	F
880	240		County	30	0.84	ST CLAIR ABRAMS AVENUE	US 441	CR 500A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	10,360	2,540	0.25	C	530	113	128	0.24	C	1.00%	10,360	2,670	0.26	C	530	119	135	0.25	C
890	240		ADJACENT	30	0.13	ST CLAIR ABRAMS AVENUE	CR 500A	CR 452 / EAST MAIN STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	10,360	2,540	0.25	C	530	113	128	0.24	C	1.00%	10,360	2,670	0.26	C	530	119	135	0.25	C
900	238		County	35	0.40	C.R. 452 (E MAIN STREET)	ST CLAIR ABRAMS AVENUE	DORA AVENUE	2	2	URBAN	DIVIDED	COUNTY	CITY OF TAVARES	D	13,990	2,654	0.19	C	710	140	135	0.20	C	1.00%	13,990	2,790	0.20	C	710	147	142	0.21	C
910	239		County	35	1.58	C.R. 452 (LAKE DORA DRIVE)	DORA AVENUE	LAKE AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	10,360	1,442	0.14	C	530	80	69	0.15	C	1.00%	10,360	1,516	0.15	C	530	84	73	0.16	C
920	54		ADJACENT	35	0.53	C.R. 452 (LAKESHORE DRIVE)	LAKE AVENUE	BAY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,520	0.15	C	530	77	77	0.15	C	1.00%	10,360	1,598	0.15	C	530	81	81	0.15	C
930	54		County	35	2.19	C.R. 452 (LAKESHORE DRIVE)	BAY ROAD	OLD US 441 / CR 500A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	1,520	0.07	B	1,070	77	77	0.07	B	1.00%	21,780	1,598	0.07	B	1,070	81	81	0.08	B
940	267		County	25	0.15	C.R. 452 (LAKESHORE DRIVE)	OLD US 441 / CR 500A	11TH AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	606	0.06	C	530	25	33	0.06	C	1.00%	10,360	637	0.06	C	530	26	35	0.07	C
950	162		County	45	2.73	C.R. 455	SR 19	CR 561	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	3,350	0.23	B	770	135	140	0.18	B	5.75%	14,760	4,430	0.30	B	770	178	185	0.24	B
960	191		County	25	4.49	C.R. 455	CR 561	CR 561A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,610	0.21	B	390	71	83	0.21	B	2.00%	7,560	1,777	0.24	B	390	79	92	0.24	B
970	65		County	45	3.46	C.R. 455	C.R. 561A	RIDGEWOOD AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF MONTVERDE	D	12,390	2,629	0.21	C	620	141	127	0.23	C	1.00%	12,390	2,763	0.22	C	620	148	134	0.24	C
980	67		County	35	2.61	C.R. 455	RIDGEWOOD AVENUE	CR 455/ CR 50	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF MONTVERDE	D	21,780	7,351	0.34	B	1,070	373	331	0.35	B	5.00%	21,780	9,382	0.43	C	1,070	476	423	0.44	C
990	70		County	45	0.95	C.R. 455	CR 455 / CR 50	SR 50	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	8,629	0.51	C	840	347	373	0.44	C	4.00%	16,820	10,498	0.62	C	840	423	454	0.54	C
1000	89	110416	County	35	0.68	C.R. 46 (SANFORD ROAD)	HIGHLAND STREET	US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	6,335	0.61	D	530	278	298	0.56	D	1.00%	10,360	6,658	0.64	D	530	292	314	0.59	D
1010	98		County	35	0.44	C.R. 460 (MARTIN LUTHER KING BOULEVARD)	THOMAS ROAD	US 27	2	2	URBAN	DIVIDED	COUNTY	CITY OF LEESBURG	D	13,990	5,728	0.41	C	710	263	251	0.37	C	2.00%	13,990	6,324	0.45	C	710	291	277	0.41	C
1020	6	117033	County	45	1.02	C.R. 466	SUMTER COUNTY LINE ROAD	ROLLING ACRES ROAD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	35,820	22,395	0.63	C	1,800	977	982	0.55	C	1.00%	35,820	23,537	0.66	C	1,800	1,027	1,032	0.57	C
1030	5	117034	County	45	0.88	C.R. 466	ROLLING ACRES ROAD	US 27	4	4	URBAN	DIVIDED	COUNTY	TOWN OF LADY LAKE	D	35,820	16,274	0.45	C	1,800	693	614	0.38	C	1.00%	35,820	17,104	0.48	C	1,800	728	646	0.40	C
1040	4		County	25	2.45	C.R. 466 / LAKE GRIFFIN ROAD	US 27/ US 441	GRAYS AIRPORT ROAD	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	21,780	2,830	0.13	B	1,070	185	103	0.17	B	1.00%	21,780	2,975	0.14	B	1,070	194	108	0.18	B
1050	4		ADJACENT	25	1.67	C.R. 466 / LAKE GRIFFIN ROAD	GRAYS AIRPORT ROAD	MARION COUNTY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,320	2,830	0.21	C	680	185	103	0.27	C	1.00%	13,320	2,975	0.22	C	680	194	108	0.29	C
1060	11	117031	County	45	1.01	C.R. 466A	SUMTER COUNTY LINE	TIMBERTOP LN	4	4	URBAN	DIVIDED	COUNTY	FRUITLAND PARK	D	29,850	13,377	0.45	C	1,500	513	618	0.41	C	1.00%	29,850	14,059	0.47	C	1,500	539	649	0.43	C
1065	11	117031	ADJACENT	45	1.38	C.R. 466A	TIMBERTOP LN	CR 468 / ROSE AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	12,390	13,377	1.08	F	620	513	618	1.00	D	1.00%	12,390	14,059	1.13	F	620	539	649	1.05	F
1070	171		County	35	0.64	C.R. 466A	CR 468 / ROSE AVENUE	US 27	4	4	URBAN	DIVIDED	COUNTY	FRUITLAND PARK	D	29,160	6,474	0.22	C	1,470	271	264	0.18	C	1.00%	29,160	6,804	0.23	C	1,470	285	278	0.19	C
1080	117		County	40	1.94	C.R. 466A (PICCIOLA ROAD)	US 27	CR 466B	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	16,820	6,347	0.38	C	840	346	186	0.41	C	1.00%	16,820	6,671	0.40	C	840	363	195	0.43	C
1090	117		ADJACENT	40	1.35	C.R. 466A (PICCIOLA ROAD)	CR 466B	COUNTY ROAD TERMINI	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	6,347	0.51	C	620	346	186	0.56	C	1.00%	12,390	6,671	0.54	C	620	363	195	0.59	C
1100	167		County	35	1.75	C.R. 466B	EAGLE NEST ROAD	CR 466A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	4,585	0.44	C	530	157	242	0.46	C	1.00%	10,360	4,818	0.47	C	530	165	254	0.48	C
1110	10		County	35	0.55	C.R. 468	CR 466A	PINE RIDGE DAIRY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	10,360	3,637	0.35	C	530	126	162	0.30	C	3.00%	10,360	4,217	0.41	C	530	146	187	0.35	C
1120	12		County	35	1.80	C.R. 468	PINE RIDGE DAIRY ROAD	GRIFFIN ROAD	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	13,320	6,169	0.46	C	680	276	291	0.43	C	3.75%	13,320	7,416	0.56	D	680	332	350	0.51	D
1130	14		County	45	1.13	C.R. 468	GRIFFIN ROAD	SR 44	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	7,658	0.62	C	620	352	331	0.57	C	5.00%	12,390	9,773	0.79	C	620	449	423	0.72	C
1140	93		County	55	5.59	C.R. 46A	SR 44	SR 46	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	9,262	1.23	D	390	169	561	1.44	D	4.25%	7,560	3,421	0.45	B	390	63	207	0.53	B
1145	93		County	55	3.65	C.R. 46A REALIGNMENT	SR 44	SR 46	0	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	-	-	-	-	-	-	-	-	-	4.25%	7,560	7,983	1.06	D	390	146	483	1.24	D
1150	15		County	55	0.94	C.R. 470	SUMTER COUNTY LINE	FLORIDA TURNPIKE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,590	8,816	0.65	D	700	456	325	0.65	D	7.00%	13,590	12,364	0.91	D	700	640	456	0.91	D
1155	204		County	55	2.39	C.R. 470	FLORIDA TURNPIKE	BAY AVENUE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,870	7,451	0.58	C	670	342	273	0.51	C	2.75%	12,870	8,534	0.66	D	670	392	313	0.59	D
1160	204		ADJACENT	55	0.54	C.R. 470	BAY AVENUE	CR 33	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	7,451	0.60	C	620	342	273	0.55	C	2.75%	12,390	8,534	0.69	C	620	392	313	0.63	C

Lake County CMP Spreadsheet

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
1170	173		County	35	2.99	C.R. 473	CR 44	FOUNTAIN LAKE BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	14,060	7,042	0.50	D	710	303	287	0.43	C	6.00%	14,060	9,424	0.67	D	710	406	384	0.57	D
1180	32		County	40	1.03	C.R. 473	FOUNTAIN LAKE BOULEVARD	US 441	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	35,820	13,629	0.38	C	1,800	721	543	0.40	C	3.00%	35,820	15,799	0.44	C	1,800	835	629	0.46	C
1190	41		County	55	5.21	C.R. 474	SR 33	GREEN SWAMP ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	4,422	0.58	C	390	196	103	0.50	B	5.75%	7,560	5,848	0.77	C	390	259	136	0.66	C
1200	155		County	55	3.35	C.R. 474	GREEN SWAMP ROAD	US 27	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	6,183	0.82	C	390	145	271	0.70	C	13.25%	7,560	11,518	1.52	D	390	269	506	1.30	D
1210	135		County	45	5.99	C.R. 478	SR 19	JAMARLY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF GROVELAND	D	21,780	1,641	0.08	B	1,070	66	105	0.10	B	5.25%	21,780	2,120	0.10	B	1,070	86	136	0.13	B
1220	18		County	55	3.17	C.R. 48	SUMTER COUNTY LINE	CLEARWATER LAKE RD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	21,780	2,849	0.13	B	1,070	92	173	0.16	B	5.00%	21,780	3,636	0.17	B	1,070	117	221	0.21	B
1225	291		County	55	2.41	C.R. 48	CLEARWATER LAKE RD	CR 33	2	2	RURAL	UNDIVIDED	COUNTY	CITY OF LEESBURG	C	7,560	2,730	0.36	B	390	92	158	0.41	B	1.00%	7,560	2,870	0.38	B	390	97	167	0.43	B
1230	17		County	45	0.46	C.R. 48	CR 33	HAYWOOD WORM FARM RD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	7,814	0.49	C	790	304	362	0.46	C	2.25%	15,930	8,733	0.55	C	790	340	404	0.51	C
1235	153		County	45	0.68	C.R. 48	HAYWOOD WORM FARM RD	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	9,128	0.54	C	840	397	376	0.47	C	4.00%	16,820	11,106	0.66	C	840	483	457	0.58	C
1240	16		County	40	4.89	C.R. 48	US 27	LIME AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	9,624	0.44	C	1,070	409	396	0.38	C	1.00%	21,780	10,115	0.46	C	1,070	430	416	0.40	C
1250	34		County	40	2.04	C.R. 48	LIME AVENUE	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	HOWEY-IN-THE-HILLS	D	21,780	8,572	0.39	C	1,070	321	404	0.38	C	3.00%	21,780	9,937	0.46	C	1,070	372	469	0.44	C
1260	59		County	40	1.14	C.R. 48	CR 561	RANCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF ASTATULA	D	16,820	5,764	0.34	C	840	283	244	0.34	C	1.00%	16,820	6,058	0.36	C	840	297	256	0.35	C
1270	59		ADJACENT	40	3.17	C.R. 48	RANCH ROAD	CR 448A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	5,764	0.76	C	390	283	244	0.73	C	1.00%	7,560	6,058	0.80	C	390	297	256	0.76	C
1280	275		County	30	0.71	C.R. 50 (SUNSET AVENUE)	CR 33	SR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MASCOTTE	D	10,360	1,443	0.14	C	530	100	57	0.19	C	4.25%	10,360	1,777	0.17	C	530	123	70	0.23	C
1290	68		County	45	1.74	C.R. 50	US 27	N HANCOCK ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MINNEOLA	D	16,820	7,953	0.47	C	840	418	277	0.50	C	1.00%	16,820	8,359	0.50	C	840	439	291	0.52	C
1300	158		County	45	2.47	C.R. 50	N HANCOCK ROAD	CR 455	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	6,509	0.30	B	1,070	168	493	0.46	C	1.75%	21,780	7,098	0.33	B	1,070	183	537	0.50	C
1310	69		County	45	1.92	C.R. 50	CR 455	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	6,933	0.41	C	840	165	611	0.73	C	7.25%	16,820	9,837	0.58	C	840	234	867	1.03	F
1320	53		County	35	1.08	C.R. 500A/ OLD 441	SR 19	DORA AVENUE	2	2	URBAN	DIVIDED	COUNTY	CITY OF TAVARES	D	8,390	4,593	0.55	D	870	355	-	0.41	C	6.75%	8,390	6,367	0.76	D	870	493	-	0.57	D
1325	53		County	35	1.08	C.R. 500A/ OLD 441	DORA AVENUE	SR 19	2	2	URBAN	DIVIDED	COUNTY	CITY OF TAVARES	D	8,390	4,593	0.55	D	870	-	453	0.52	D	6.75%	8,390	6,367	0.76	D	870	-	627	0.72	D
1330	125	115084	County	45	1.94	C.R. 500A/OLD 441/ALFRED ST	DORA AVENUE	BAY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	16,820	9,214	0.55	C	840	449	389	0.53	C	5.50%	16,820	12,042	0.72	C	840	587	509	0.70	C
1340	124		County	35	0.79	C.R. 500A/OLD 441	BAY ROAD	CR 44C / EUDORA AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	8,390	0.81	D	530	394	341	0.74	D	2.75%	10,360	9,609	0.93	D	530	452	391	0.85	D
1350	123		County	35	1.06	C.R. 500A/OLD 441	CR 44C / EUDORA DRIVE	LAKESHORE DRIVE	2	2	URBAN	DIVIDED	COUNTY	CITY OF MOUNT DORA	D	14,760	15,132	1.03	E	750	598	699	0.93	D	4.25%	14,760	18,633	1.26	F	750	737	861	1.15	F
1360	268		County	35	0.79	C.R. 500A/OLD 441	LAKESHORE DRIVE	5TH AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	10,172	0.98	D	530	486	425	0.92	D	1.25%	10,360	10,824	1.04	E	530	517	452	0.98	D
1370	268		ADJACENT	25	0.63	C.R. 500A/ 5TH AVENUE	OLD 441	N HIGHLAND STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	10,172	0.98	D	530	486	425	0.92	D	1.25%	10,360	10,824	1.04	E	530	517	452	0.98	D
1380	269		ADJACENT	30	0.26	C.R. 500A (HIGHLAND STREET)	5TH AVENUE	SR 46	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	13,320	2,744	0.21	C	680	121	110	0.18	C	1.00%	13,320	2,884	0.22	C	680	127	116	0.19	C
1390	90	115004	County	35	0.75	C.R. 500A/ OLD 441	SR 46	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	4,957	0.48	C	530	226	228	0.43	C	1.00%	10,360	5,210	0.50	D	530	237	239	0.45	C
1400	55		County	45	1.62	C.R. 561	SR 19	CR 448	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	16,820	13,621	0.81	C	840	642	486	0.76	C	4.00%	16,820	16,571	0.99	D	840	781	591	0.93	C
1410	57		County	50	3.93	C.R. 561	CR 448	CR 48	2	2	URBAN	UNDIVIDED	COUNTY	ASTATULA/TAVARES	D	21,780	9,093	0.42	C	1,070	429	442	0.41	C	1.00%	21,780	9,557	0.44	C	1,070	450	464	0.43	C
1420	60		County	40	0.63	C.R. 561	CR 48	SOUTH ASTATULA CITY LIMIT	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF ASTATULA	D	12,390	10,623	0.86	C	620	454	519	0.84	C	4.25%	12,390	13,081	1.06	F	620	560	639	1.03	F
1430	60		ADJACENT	40	2.49	C.R. 561	SOUTH ASTATULA CITY LIMIT	CR 455	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	10,623	0.49	C	1,070	454	519	0.48	C	4.25%	21,780	13,081	0.60	C	1,070	560	639	0.60	C
1440	61		County	35	1.74	C.R. 561	CR 455	HOWEY CROSS ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	7,010	0.78	C	470	351	303	0.75	C	4.50%	9,030	8,736	0.97	C	470	437	377	0.93	C
1450	63		County	40	1.77	C.R. 561	HOWEY CROSS ROAD	TURNPIKE ROAD / CR 561A	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	12,260	8,301	0.68	C	640	431	351	0.67	C	5.00%	12,260	10,595	0.86	C	640	550	448	0.86	C
1460	36		County	45	0.46	C.R. 561 / C.R. 561A	TURNPIKE ROAD / CR 561A	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	9,344	0.75	C	620	405	428	0.69	C	1.50%	12,390	10,066	0.81	C	620	437	461	0.74	C
1470	279		County	30	1.78	EAST AVE/LAKE MINNEOLA DR/MAIN AVE	US 27	EAST AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CLERMONT/MINNEOLA	D	14,060	1,812	0.13	C	710	57	102	0.14	C	1.00%	14,060	1,905	0.14	C	710	60	107	0.15	C
1480	279		ADJACENT	30	1.05	8TH ST/OSCEOLA ST/4TH ST/CARROL ST/3RD ST/ORANGE AVE	EAST AVENUE	W MINNEOLA AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	10,360	1,812	0.17	C	530	57	102	0.19	C	1.00%	10,360	1,905	0.18	C	530	60	107	0.20	C
1490	0	115065	State	0	0.42	C.R. 561 (W MINNEOLA AVENUE)	8TH STREET	C.R. 561A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	10,360	850	0.08	C	530	47	56	0.11	C	1.00%	10,360	893	0.09	C	530	49	59	0.11	C
1500	37		ADJACENT	35	0.23	C.R. 561	C.R. 561A	SR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	3,111	0.22	C	710	128	152	0.21	C	3.00%	14,060	3,607	0.26	C	710	148	176	0.25	C
1510	176		County	25	4.31	C.R. 561	SR 50	LOG HOUSE ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	6,364	0.45	C	710	274	301	0.42	C	3.00%	14,060	7,377	0.52	D	710	318	349	0.49	C
1520	102		County	55	1.56	C.R. 561	LOG HOUSE ROAD	FLORIDA BOYS RANCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	3,165	0.19	C	840	128	179	0.21	C	1.00%	16,820	3,326	0.20	C	840	134	189	0.23	C
1530	139		County	55	5.87	C.R. 561	FLORIDA BOYS RANCH ROAD	SR 33	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	2,141	0.28	B	390	112	88	0.29	B	7.75%	7,560	3,109	0.41	B	390	163	128	0.42	B
1540	62		County	55	1.16	C.R. 561A	TURNPIKE ROAD / CR 561	SCRUB JAY LN	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	4,881	0.39	C	620	260	196	0.42	C	14.75%	12,390	9,711	0.78	C	620	517	391	0.83	C
1545	64		County	55	0.69	C.R. 561A	SCRUB JAY LN	N HANCOCK ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	5,470	0.25	B	1,070	179	300	0.28	B	17.25%	21,780	12,122	0.56	C	1,070	398	665	0.62	C
1546	64		ADJACENT	55	1.37	C.R. 561A	N HANCOCK ROAD	CR 455	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	5,470	0.25	B	1,070	179	300	0.28	B	17.25%	21,780	12,122	0.56	C	1,070	398	665	0.62	C
1550	37		County	35	1.69	C.R. 561	W MINNEOLA AVE	C.R. 565A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,320	3,111	0.23	C	680	128	152	0.22	C	3.00%	13,320	3,607	0.27	C	680	148	176	0.26	C
1560	207		County	40	1.67	C.R. 561A	CR 565A	JALARMY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	6,627	0.39	C	840	330	251	0.39	C	5.50%	16,820	8,662	0.51	C	840	432	328	0.51	C
1570	66		County	40	1.11	C.R. 561 (LAKE MINNEOLA SHORES)	JALARMY ROAD	US 27	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MINNEOLA	D	16,820	10,013	0.60	C	840	345	469	0.56	C	2.25%	16,820	11,191	0.67	C	840	385	524	0.62	C
1580	35		County	55	7.01	C.R. 565	US 27	KJELLSTROM LANE	2	2	RURAL	UNDIVIDED	COUNTY	GROVELAND/MASCOTTE	C	14,760	2,037	0.14	B	770	117	67	0.15	B	10.00%	14,760	3,281	0.22	B	770	188	108	0.24	B
1590	206		County	40	0.63	C.R. 565 (VILLA CITY ROAD)	KJELLSTROM LANE	SR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF GROVELAND	D	16,820	4,686	0.28	C	840	200	213	0.25	C	5.25%	16,820	6,053	0.36	C	840	258	276	0.33	C
1600	0	118063	ADJACENT	45	1.96	C.R. 565	SR 50	SLOANS RIDGE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MASCOTTE	D	16,820	875	0.05	C	840	36	43	0.05	C	6.50%	16,820	1,199	0.07	C	840	49	59	0.07	C
1610	0	118063	State	45	5.44	C.R. 565	SLOANS RIDGE	LAKE ERIE ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	875	0.12	B	390	36	43	0.11	B	6.50%	7,560	1,199	0.16	B	390	49	59	0.15	B
1620	136		County	40	2.78	C.R. 565A	SR 50	CR 561A	2	2	URBAN	UNDIVIDED	COUNTY	CLERMONT/GROVELAND	D	16,820	9,273	0.55	C	840	381	337	0.45	C	1.00%	16,820	9,746	0.58	C	840	401	354	0.48	C
1630	137		County	55	4.60	C.R. 565A	SR 50	CR 565B	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF GROVELAND	D	21,780	2,324	0.11	B	1,070	61	124	0.12	B	1.00%	21,780	2,443	0.11	B	1,070	64	131	0.12	B
1640	138		County	45	3.66	C.R. 565B	SR 33	CR 561	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,754	0.23	B	390	89	81	0.23	B	1.00%	7,560	1,843	0.24	B	390	93	85	0.24	B
1650	227		County	25	0.30	CANAL STREET	US 441	MAIN STREET	2	2	URBAN	DIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	13,990	3,765	0.27	C	710	185	126	0.26	C	1.00%	13,990	3,957	0.28	C	710	194	132	0.27	C
1660	228		County	25	0.31	CANAL STREET	MAIN STREET	SR 44	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	13,320	3,169	0.24	C	680	132	117	0.19	C	1.00%	13,320	3,331	0.25	C	680	139	123	0.20	C
1670	178		County	35	1.80	CITRUS TOWER BOULEVARD	US 27	OAKLEY SEAVER DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	12,888	0.92	D	710	630	448	0.89	D	1.00%	14,060	13,546	0.96	D	710	662	471	0.93	D
1680	169		County	30	0.47	CITRUS TOWER BOULEVARD	OAKLEY SEAVER DRIVE	SR 50	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	29,160	15,581	0.53	D	1,470	577	614	0.42	C	1.00%	29,160	16,376	0.56	D	1,470	606	646	0.44	C
1690	197		County	40	0.28	CITRUS TOWER BOULEVARD	SR 50	HOOKS STREET	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	35,820	19,518	0.54	C	1,800	581	943	0.52	C	2.25%	35,820	21,814	0.61	C	1,800	650	1,054	0.59	C
1692	280		County	30	1.16	CITRUS TOWER BOULEVARD	HOOKS STREET	JOHNS LAKE ROAD	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	30,780	18,498	0.60	D	1,550	800	595	0.52	D	1.75%	30,780	20,174	0.66	D	1,550	872	649	0.56	D
1695	283		County	40	0.60	CITRUS TOWER BOULEVARD	JOHNS LAKE ROAD	US 27	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	37,810	15,267	0.40	C	1,900	737	464	0.39	C	1.25%	37,810	16,245	0.43	C	1,900	785	494	0.41	C
1700	168		ADJACENT	35	0.95	DAVID WALKER DRIVE	OLD US 441 / CR 500A	CR 19A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	14,060	8,220	0.58	D	710	367	299	0.52	D	2.75%	14,060	9,414	0.67	D	710	420	343	0.59	D
1710	168		County	35	0.44	DAVID WALKER DRIVE	CR 19A	US 441	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	14,060	8,220	0.58	D	710	367	299	0.52	D	2.75%	14,060	9,414	0.67	D	710	420	343	0.59	D
1720	156		County	35	0.53	DAVID WALKER DRIVE	US 441	MOUNT HOMER ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	14,060	5,694	0.40	C	710	212	263	0.37	C	2.50%	14,060	6,442	0.46	C	710	240	297	0.42	C
1730	157		County	20	0.74	DAVID WALKER DRIVE	MOUNT HOMER ROAD	FLINKS AVE/KURT AVE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	5,553	0.54	D	530	331	185	0.62	D	2.00%	10,360	6,131	0.59	D	530	365	205	0.69	D
1740	234	117014	County	35	2.29	DEAD RIVER ROAD	WEST TERMINI	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	21,780	7,020	0.32	B	1,070	248	315	0.29	B	1.00%	21,780	7,378	0.34	B	1,070	261	331	0.31	B
1750	86		County	35	1.25	DONNELLY STREET	US 441	11TH AVENUE	2	2	URBAN	DIVIDED	CITY OF MT. DORA	CITY OF MOUNT DORA	D	14,760	11,220	0.76	D	750	514	455	0.69	D	3.75%	14,760	13,487	0.91	D	750	618	547	0.82	D
1760	86		ADJACENT	35	0.38	DONNELLY STREET	11TH AVENUE	5TH AVENUE	2	2	URBAN	UNDIVIDED	CITY OF MT. DORA	CITY OF MOUNT DORA	D	10,360	11,220	1.08	F	530	514	455	0.97	D	3.75%	10,360	13,487	1.30	F	530	618	547	1.17	F
1770	58		County	55	0.64	DUDA ROAD	CR 448A	ORANGE COUNTY LINE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	6,163	0.68	C	470	256	317	0.67	C	7.00%	9,030	8,644	0.96	C	470	359	445	0.95	C
1780	112		County	40	1.43	EAGLES NEST ROAD	US 27	CR 466B	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	3,736	0.30	C	620	200	132	0.32	C	4.25%	12,390	4,601	0.37	C	620	246	163	0.40	C
1790	278		County	30	0.73	EAST AVENUE	CR 561	SR 50	2	2	URBAN	UNDIVIDED	CITY OF CLERMONT	CITY OF CLERMONT	D	10,360	5,841	0.56	D	530	275	267	0.52	D	3.00%	10,360	6,772	0.65	D	530	319	310	0.60	D
1800	87		ADJACENT	25	0.85	EAST CROOKED LAKE ROAD	LAKEVIEW DRIVE	BROADVIEW AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	5,192	0.50	D	530	275	199	0.52	D	7.00%	10,360	7,282	0.70	D	530	385	279	0.73	D
1810	87		County	25	0.78	EAST CROOKED LAKE ROAD	BROADVIEW AVENUE	US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	5,192	0.50	D	530	275	199	0.52	D	7.00%	10,360	7,282	0.70	D	530	385	279	0.73	D
1820	28		County	35	0.77	EMERALDA AVENUE	EMERALDA ISLAND ROAD	CR 44	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,320	3,673	0.28	C	680	205	123	0.30	C	2.50%	13,320	4,156	0.31	C	680	232	139	0.34	C
1830	26		County	40	4.26	EMPIRE CHURCH ROAD	CR 565	ANDERSON ROAD	2	2	RURAL	UNDIVIDED	COUNTY	CITY OF GROVELAND	C	7,560	1,442	0.19	B	390	44	105	0.27	B	3.00%	7,560	1,672	0.22	B	390	51	122	0.31	B
1840	126		ADJACENT	40	0.76	ESTES ROAD	CR 44A	LAKE LINCOLN LANE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	3,456	0.22	C	790	234	158	0.30	C	2.50%	15,930	3,911	0.25	C	790	265	179	0.34	C
1850	126		County	40	0.49	ESTES ROAD	LAKE LINCOLN LANE	SR 44	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	3,456	0.21	C	840	234	158	0.28	C	2.50%	16,820	3,911	0.23	C	840	265	179	0.32	C
1860	260		County	35	0.52	EUDORA ROAD	OLD MT DORA ROAD	US 441	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	2,998	0.29	C	530	141	141	0.27	C	1.00%	10,360	3,151	0.30	C	530	148	148	0.28	C
1865	282		County	35	0.73	EXCALLIBUR ROAD	HOOKS STREET	CITRUS TOWER BOULEVARD	2	2	URBAN	DIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	14,760	4,651	0.32	C	750	203	167	0.27	C	8.50%	14,760	6,993	0.47	C	750	305	251	0.41	C
1870	218		County	35	0.63	FISH CAMP ROAD	CR 452	CR 44	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,505	0.15	C	530	82	64	0.15	C	1.25%	10,360	1,601	0.15	C	530	87	68	0.16	C
1875	286		County	40	1.69	GRASSY LAKE ROAD/FOSGATE ROAD	CR 50 (WASHINGTON STREET)	HANCOCK ROAD	2	2	URBAN	UNDIVIDED	CITY OF CLERMONT	UNINCORPORATED LAKE COUNTY	D	16,820	4,061	0.24	C	840	182	229	0.27	C	9.75%	16,820	6,466	0.38	C	840	290	365	0.43	C
1880	251		County	30	0.39	GOLFLINKS AVENUE	KURT STREET	SR 19 / BAY STREET	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	940	0.09	C	530	43	48	0.09	C	2.25%	10,360	1,051	0.10	C	530	48	53	0.10	C
1890	0		NO COUNT	0	0.38	GOLFLINKS AVENUE	SR 19 / BAY STREET	MARY STREET	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	-	-	-	530	-	-	-	-		10,360	-	-	-	530	-	-	-	-
1900	27		County	45	1.86	GOOSE PRAIRIE ROAD	EMERALDA AVENUE	CR 452	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	2,763	0.22	C	620	164	105	0.26	C	4.25%	12,390	3,402	0.27	C	620	202	130	0.33	C
1910	109		County	35	1.23	GRAND HIGHWAY	CITRUS TOWER BOULEVARD	SR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	6,443	0.46	C	710	271	250	0.38	C	1.00%	14,060	6,772	0.48	C	710	285	263	0.40	C
1915	290		County	25	0.26	S. GRAND HIGHWAY	SR 50	HOOKS STREET	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	29,160	6,203	0.21	C	1,470	270	211	0.18	C	1.00%	29,160	6,520	0.22	C	1,470	283	221	0.19	C
1920	195		County	40	1.66	CITRUS GROVE ROAD	US 27	GRASSY LAKE ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MINNEOLA	D	12,390	1,584	0.13	C	620	81	56	0.13	C	10.50%	12,390	2,609	0.21	C	620	134	93	0.22	C
1930	8	117007	ADJACENT	45	1.76	GRAYS AIRPORT ROAD	MARION COUNTY ROAD	CR 466	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	2,425	0.20	C	620	156	97	0.25	C	3.25%	12,390	2,845	0.23	C	620	183	114	0.30	C
1940	8	117007	County	45	1.25	GRAYS AIRPORT ROAD	CR 466	GRIFFIN VIEW DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	2,425	0.20	C	620	156	97	0.25	C	3.25%	12,390	2,845	0.23	C	620	183	114	0.30	C
1950	215	117007	County	45	1.75	S GRAYS AIRPORT ROAD	GRIFFIN VIEW DRIVE	EAGLES NEST ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	2,225	0.18	C	620	79	127	0.20	C	5.50%	12,390	2,908	0.23	C	620	104	166	0.27	C
1960	216		County	45	1.43	S GRAYS AIRPORT ROAD	EAGLES NEST ROAD	US 27 / US 412	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	12,390	786	0.06	C	620	51	26	0.08	C	2.75%	12,390	900	0.07	C	620	58	30	0.09	C
1970	200	117008	County	35	0.85	GRIFFIN AVENUE	US 27 / US 411	CR 25	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	13,320	9,182	0.69	D	680	275	525	0.77	D	1.00%	13,320	9,651	0.72	D	680	289	552	0.81	D
1980	3		County	35	1.19	GRIFFIN AVENUE	CR 25	UNCLE DONALDS LANE	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	10,360	2,654	0.26	C	530	114	115	0.22	C	3.00%	10,360	3,077	0.30	C	530	132	134	0.25	C
1990	3		ADJACENT	35	1.66	GRIFFIN AVENUE	UNCLE DONALDS LANE	GRAYS AIRPORT ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	2,654	0.26	C	530	114	115	0.22	C	3.00%	10,360	3,077	0.30	C	530	132	134	0.25	C
2000	224		County	25	0.51	GRIFFIN ROAD	US 27	LEE STREET	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	13,320	2,061	0.15	C	680	77	96	0.14	C	1.00%	13,320	2,166	0.16	C	680	81	101	0.15	C
2010	7		County	45	1.85	GRIFFIN VIEW DRIVE	US 27	GRAYS AIRPORT ROAD	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	12,390	3,579	0.29	C	620	218	110	0.35	C	1.00%	12,390	3,762	0.30	C	620	229	115	0.37	C
2020	9		County	45	1.64	GRIFFIN VIEW DRIVE	GRAYS AIRPORT ROAD	SULEN ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	1,715	0.19	C	470	104	69	0.22	C	1.00%	9,030	1,803	0.20	C	470	109	72	0.23	C
2030	257		County	30	0.36	GROVE STREET	SR 19 (BADGER AVENUE)	LAKEVIEW AVENUE	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	1,475	0.14	C	530	23	104	0.20	C	1.00%	10,360	1,550	0.15	C	530	25	109	0.21	C
2040	256		County	30	0.37	GROVE STREET	LAKEVIEW AVENUE	GOLFLINKS AVENUE	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	2,561	0.25	C	530	158	70	0.30	C	1.00%	10,360	2,692	0.26	C	530	166	74	0.31	C
2045	255	117017	County	25	0.50	GROVE STREET	GOLFLINKS AVENUE	OLD MT DORA ROAD	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	3,733	0.36	C	530	135	241	0.45	C	1.50%	10,360	4,022	0.39	C	530	145	259	0.49	C
2050	284		County	35	2.14	HAMMOCK RIDGE	LAKE SHORE DRIVE	US 27	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	59,040	14,951	0.25	B	2,920	811	491	0.28	B	1.50%	59,040	16,106	0.27	B	2,920	873	529	0.30	B
2054	312		County	45	1.70	N. HANCOCK ROAD	C.R. 561A	SR 91 (FLORIDA TURNPIKE)	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	15,930	5,917	0.37	C	790	203	372	0.47	C	1.00%	15,930	6,219	0.39	C	790	213	391	0.49	C
2055	313		County	45	1.97	N. HANCOCK ROAD	SR 91 (FLORIDA TURNPIKE)	OLD HWY 50 (W)	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	35,820	9,510	0.27	C	1,800	228	729	0.41	C	10.00%	35,820	15,316	0.43	C	1,800	367	1,175	0.65	C
2056	313		ADJACENT	45	0.28	N. HANCOCK ROAD	OLD HWY 50 (E)	OLD HWY 50 (E)	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	35,820	9,510	0.27	C	1,800	228	729	0.41	C	10.00%	35,820	15,316	0.43	C	1,800	367	1,175	0.65	C
2060	209		County	35	0.29	N. HANCOCK ROAD	OLD HWY 50 (E)	N RIDGE BOULEVARD	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	30,780	15,634	0.51	D	1,550	658	757	0.49	D	5.00%	30,780	19,953	0.65	D	1,550	840	966	0.62	D
2070	179		County	45	1.50	N. HANCOCK ROAD	N RIDGE BOULEVARD	SR 50	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	37,810	17,171	0.45	C	1,900	673	722	0.38	C	1.50%	37,810	18,498	0.49	C	1,900	725	778	0.41	C
2080	165		County	45	0.25	S. HANCOCK ROAD	SR 50	HOOKS STREET	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	35,820	20,782	0.58	C	1,800	704	962	0.53	C	2.00%	35,820	22,945	0.64	C	1,800	778	1,062	0.59	C
2085	165		ADJACENT	45	1.23	S. HANCOCK ROAD	HOOKS STREET	JOHNS LAKE ROAD	2	2	URBAN	DIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	17,660	20,782	1.18	F	880	704	962	1.09	F	2.00%	17,660	22,945	1.30	F	880	778	1,062	1.21	F
2090	180		County	45	1.75	S. HANCOCK ROAD	JOHNS LAKE ROAD	HARTWOOD MARSH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	16,820	11,056	0.66	C	840	439	499	0.59	C	6.75%	16,820	15,327	0.91	C	840	609	692	0.82	C
2100	146		County	40	0.70	HARTWOOD MARSH ROAD	US 27	HANCOCK ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	16,511	1.04	F	790	626	747	0.95	C	4.75%	15,930	20,822	1.31	F	790	789	942	1.19	F
2104	AVG (146,150)		AVERAGE	40	1.41	HARTWOOD MARSH ROAD	HANCOCK ROAD	N. 90 DEGREE BEND	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	13,855	0.82	C	840	705	510	0.84	C	N/A	16,820	16,903	1.00	F	840	850	630	1.01	F
2110	150		County	40	2.47	HARTWOOD MARSH ROAD	N. 90 DEGREE BEND	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	11,200	0.51	C	1,070	785	273	0.73	D	3.00%	21,780	12,984	0.60	C	1,070	910	317	0.85	D
2120	264		County	30	0.75	HASELTON STREET	SR 44	LAKEVIEW AVENUE	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	1,646	0.16	C	530	77	90	0.17	C	1.00%	10,360	1,730	0.17	C	530	81	95	0.18	C
2130	269		County	25	1.01	HIGHLAND STREET	LIMIT AVENUE	5TH AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	2,744	0.26	C	530	121	110	0.23	C	1.00%	10,360	2,884	0.28	C	530	127	116	0.24	C
2140	163		County	30	0.35	HOOKS STREET	LAKESHORE DRIVE	US 27	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	10,360	7,614	0.73	D	530	372	280	0.70	D	4.75%	10,360	9,602	0.93	D	530	470	354	0.89	D
2150	281		County	40	0.84	HOOKS STREET	US 27	OAKLEY SEAVER DRIVE	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	35,820	10,015	0.28	C	1,800	375	430	0.24	C	2.75%	35,820	11,470	0.32	C	1,800	429	493	0.27	C
2153	289		County	35	0.27	HOOKS STREET	OAKLEY SEAVER DRIVE	CITRUS TOWER BOULEVARD	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	29,160	13,858	0.48	D	1,470	670	434	0.46	D	5.50%	29,160	18,112	0.62	D	1,470	875	567	0.60	D
2155	185		County	35	1.05	HOOKS STREET	CITRUS TOWER BOULEVARD	HANCOCK ROAD	4	4	URBAN	DIVIDED	COUNTY	CITY OF CLERMONT	D	29,160	10,718	0.37	C	1,470	506	324	0.34	C	1.00%	29,160	11,265	0.39	C	1,470	532	341	0.36	C

Lake County CMP Spreadsheet

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
2160	184	117021	County	35	0.59	HUFFSTETLER DRIVE	DAVID WALKER DRIVE	KURT STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	1,169	0.11	C	530	75	50	0.14	C	5.25%	10,360	1,510	0.15	C	530	96	64	0.18	C
2170	143		County	35	0.35	JALARMY ROAD	CR 478	CR 561A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	5,060	0.49	C	530	166	259	0.49	C	3.00%	10,360	5,866	0.57	D	530	193	300	0.57	D
2180	170		County	35	1.57	JOHNS LAKE ROAD	US 27	HANCOCK ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	6,160	0.44	C	710	247	258	0.36	C	1.00%	14,060	6,475	0.46	C	710	260	271	0.38	C
2190	249		County	35	0.25	KURT STREET	W LAKEVIEW AVENUE	DAVID WALKER DRIVE	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	8,710	0.84	D	530	525	280	0.99	D	3.00%	10,360	10,098	0.97	D	530	608	325	1.15	F
2200	248		County	35	0.50	KURT STREET	DAVID WALKER DRIVE	MT HOMER ROAD / W ARDICE AVENUE	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	14,060	4,334	0.31	C	710	172	237	0.33	C	2.50%	14,060	4,903	0.35	C	710	195	268	0.38	C
2205	247		County	35	0.42	KURT STREET	MT HOMER ROAD / W ARDICE AVENUE	US 441	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	14,060	5,512	0.39	C	710	251	270	0.38	C	1.00%	14,060	5,793	0.41	C	710	264	284	0.40	C
2210	213		County	25	0.45	W LADY LAKE BOULEVARD	WEST TERMINI	US 27/US441	2	2	URBAN	UNDIVIDED	TOWN OF LADY LAKE	TOWN OF LADY LAKE	D	10,360	1,298	0.13	C	530	61	36	0.11	C	1.00%	10,360	1,364	0.13	C	530	64	38	0.12	C
2220	214		County	25	0.96	E LADY LAKE BOULEVARD	US 27/US441	BERCHFIELD ROAD	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	10,360	562	0.05	C	530	30	24	0.06	C	4.75%	10,360	709	0.07	C	530	38	30	0.07	C
2230	246		County	35	0.56	FAIRVIEW AVENUE	OLD 441/ CR 500A	LAKESHORE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	680	0.07	C	530	41	23	0.08	C	1.00%	10,360	714	0.07	C	530	43	24	0.08	C
2240	202		NO COUNT	40	0.64	LAKE DRIVE	SR 44	COUNTRY ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	-	-	-	470	-	-	-	-		9,030	-	-	-	470	-	-	-	-
2250	187		County	35	0.50	LAKE ELLA ROAD	SUMTER COUNTY LINE	MICRO RACETRACK ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,912	0.18	C	530	125	65	0.24	C	10.00%	10,360	3,080	0.30	C	530	201	105	0.38	C
2254	186		ADJACENT	35	0.51	LAKE ELLA ROAD	MICRO RACETRACK ROAD	ROLLING ACRES ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,949	0.19	C	530	336	401	0.76	D	1.00%	10,360	2,048	0.20	C	530	353	421	0.79	D
2255	186		County	45	1.91	LAKE ELLA ROAD	ROLLING ACRES ROAD	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	1,949	0.12	C	840	107	69	0.13	C	1.00%	16,820	2,048	0.12	C	840	113	72	0.13	C
2260	40		County	35	5.01	LAKE ERIE ROAD	CR 565	SR 33	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	633	0.08	B	390	26	40	0.10	B	1.00%	7,560	665	0.09	B	390	27	42	0.11	B
2270	242		County	35	1.59	LAKE EUSTIS DRIVE	US 441	CLAY BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	EUSTIS/TAVARES	D	14,060	6,821	0.49	C	710	323	314	0.46	C	5.25%	14,060	8,810	0.63	D	710	418	406	0.59	D
2280	145		County	40	2.57	LAKE LOUISA ROAD	LAKESHORE DRIVE	VISTA DEL LAGO BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	3,719	0.17	B	1,070	170	161	0.16	B	1.75%	21,780	4,056	0.19	B	1,070	185	175	0.17	B
2290	151		County	35	1.13	LAKE LOUISA ROAD	VISTA DEL LAGO BOULEVARD	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	14,060	3,583	0.25	C	710	86	206	0.29	C	1.00%	14,060	3,766	0.27	C	710	90	217	0.31	C
2300	199		County	25	1.10	LAKE MACK DRIVE	CR 42	ANOTHER ANNA ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	9,030	1,515	0.17	C	470	41	96	0.20	C	1.00%	9,030	1,592	0.18	C	470	43	100	0.21	C
2310	229		County	25	0.20	LAKE STREET	US 441	MAIN STREET	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	10,360	3,074	0.30	C	530	106	129	0.24	C	2.50%	10,360	3,478	0.34	C	530	120	145	0.27	C
2320	230		County	25	0.31	LAKE STREET	MAIN STREET	SR 44	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	10,360	3,235	0.31	C	530	112	123	0.23	C	1.00%	10,360	3,400	0.33	C	530	117	129	0.24	C
2330	39		County	45	1.55	LAKESHORE DRIVE (CLER)	CR 561	OSWALT ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	2,757	0.16	C	840	121	132	0.16	C	6.50%	16,820	3,777	0.22	C	840	165	181	0.22	C
2340	177		County	45	1.62	LAKESHORE DRIVE (CLER)	OSWALT ROAD	HARDER ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	10,954	0.65	C	840	610	366	0.73	C	4.50%	16,820	13,650	0.81	C	840	760	456	0.90	C
2350	38		County	40	0.67	LAKESHORE DRIVE (CLER)	HARDER ROAD	LAKE LOUISA ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	16,152	0.96	D	840	465	862	1.03	F	1.00%	16,820	16,976	1.01	F	840	488	906	1.08	F
2354	285		County	35	0.75	LAKESHORE DRIVE (CLER)	LAKE LOUISA ROAD	ANDERSON HILL ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,320	7,955	0.60	D	680	448	250	0.66	D	2.75%	13,320	9,110	0.68	D	680	513	286	0.75	D
2360	49		County	35	1.65	LAKESHORE DRIVE (EUSTIS)	CLAY BOULEVARD	SOUTH BAY STREET / SR 19 SB	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	5,874	0.57	D	530	318	225	0.60	D	2.50%	10,360	6,646	0.64	D	530	360	255	0.68	D
2370	250		County	35	0.43	W LAKEVIEW AVENUE	KURT STREET	SR 19	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	7,701	0.74	D	530	461	265	0.87	D	2.50%	10,360	8,713	0.84	D	530	522	300	0.98	D
2380	259		County	30	0.65	E LAKEVIEW AVENUE	SR 19	JASMINE STREET / CROOKED LAKE COURT	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	2,689	0.26	C	530	175	124	0.33	C	1.00%	10,360	2,826	0.27	C	530	184	130	0.35	C
2384	259		ADJACENT	30	0.34	E LAKEVIEW AVENUE	JASMINE STREET / CROOKED LAKE COURT	HASELTON STREET	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	2,689	0.26	C	530	175	124	0.33	C	1.00%	10,360	2,826	0.27	C	530	184	130	0.35	C
2390	149		County	35	0.62	LANE PARK CUTOFF	SR 19	CR 561	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	13,320	2,193	0.16	C	680	128	202	0.30	C	4.25%	13,320	2,700	0.20	C	680	157	248	0.36	C
2400	225		County	25	0.74	LEE STREET	GRIFFIN ROAD	US 441	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	10,360	2,244	0.22	C	530	123	98	0.23	C	1.00%	10,360	2,359	0.23	C	530	129	103	0.24	C
2410	226		County	25	0.50	LEE STREET	US 441	MAIN STREET	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	10,360	2,533	0.24	C	530	119	126	0.24	C	1.00%	10,360	2,662	0.26	C	530	125	132	0.25	C
2420	193		County	40	0.35	WILSON LAKE PARKWAY	US 27	LIBBY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF GROVELAND	D	15,930	2,429	0.15	C	790	71	130	0.16	C	4.75%	15,930	3,064	0.19	C	790	90	164	0.21	C
2430	270	117005	County	35	0.99	LIMIT AVENUE	DONNELLY STREET	US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	3,088	0.30	C	530	139	142	0.27	C	5.75%	10,360	4,085	0.39	C	530	184	187	0.35	C
2440	223		County	25	0.71	LONE OAK DRIVE	MAIN STREET	SR 44	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	10,360	3,227	0.31	C	530	166	189	0.36	C	1.00%	10,360	3,391	0.33	C	530	175	199	0.38	C
2450	144		County	35	0.87	LOG HOUSE ROAD	CR 561	LAKESHORE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	3,285	0.32	C	530	181	135	0.34	C	3.00%	10,360	3,808	0.37	C	530	210	156	0.40	C
2460	237		County	25	0.74	E MAIN STREET	SR 19	CR 452/ ST CLAIR ABRAMS STREET	2	2	URBAN	DIVIDED	CITY OF TAVARES	CITY OF TAVARES	D	13,990	7,249	0.52	D	710	379	268	0.53	D	1.00%	13,990	7,618	0.54	D	710	399	282	0.56	D
2470	100		ADJACENT	45	0.76	MAIN STREET (LEESBURG)	CR 468	THOMAS AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	16,820	10,677	0.63	C	840	458	501	0.60	C	1.00%	16,820	11,222	0.67	C	840	481	526	0.63	C
2480	100		County	35	1.03	MAIN STREET (LEESBURG)	THOMAS AVENUE	US 27	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	10,360	10,677	1.03	E	530	458	501	0.95	D	1.00%	10,360	11,222	1.08	F	530	481	526	0.99	D
2490	99		County	25	0.45	MAIN STREET (LEESBURG)	US 27	LEE STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	10,360	9,965	0.96	D	530	379	501	0.95	D	3.00%	10,360	11,552	1.12	F	530	440	581	1.10	F
2500	99		ADJACENT	25	0.39	MAIN STREET (LEESBURG)	LEE STREET	CANAL STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	10,360	9,965	0.96	D	530	379	501	0.95	D	3.00%	10,360	11,552	1.12	F	530	440	581	1.10	F
2510	231		County	25	0.41	MAIN STREET (LEESBURG)	CANAL STREET	LAKE STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	10,360	4,943	0.48	C	530	210	232	0.44	C	6.25%	10,360	6,693	0.65	D	530	284	314	0.59	D
2520	232		County	35	0.62	MAIN STREET (LEESBURG)	LAKE STREET	DIXIE AVENUE / SR 44	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	13,320	4,021	0.30	C	680	148	257	0.38	C	8.00%	13,320	5,908	0.44	C	680	218	378	0.56	D
2530	152		County	35	0.32	MAIN STREET (LEESBURG)	DIXIE AVENUE / SR 44	NICHOLS DRIVE / SUNNYSIDE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	10,360	4,957	0.48	C	530	416	107	0.78	D	5.00%	10,360	6,326	0.61	D	530	531	137	1.00	E
2540	2		County	45	2.52	MARION COUNTY ROAD	CR 25	GRAYS AIRPORT ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	2,200	0.10	B	1,070	110	99	0.10	B	1.00%	21,780	2,312	0.11	B	1,070	115	104	0.11	B
2550	2		ADJACENT	45	3.01	MARION COUNTY ROAD	GRAYS AIRPORT ROAD	LAKE GRIFFIN ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	2,200	0.29	B	390	110	99	0.28	B	1.00%	7,560	2,312	0.31	B	390	115	104	0.29	B
2560	274		County	30	3.23	MASCOTTE EMPIRE ROAD	SR 50	EMPIRE CHURCH ROAD	2	2	URBAN	UNDIVIDED	CITY OF MASCOTTE	CITY OF MASCOTTE	D	21,780	800	0.04	B	1,070	36	44	0.04	B	1.00%	21,780	841	0.04	B	1,070	38	46	0.04	B
2570	212		County	25	0.42	McLENDON STREET	CLAY AVENUE	US 27/US441	2	2	URBAN	UNDIVIDED	TOWN OF LADY LAKE	TOWN OF LADY LAKE	D	10,360	1,324	0.13	C	530	60	45	0.11	C	3.00%	10,360	1,535	0.15	C	530	69	52	0.13	C
2580	188		County	35	1.74	MICRO RACETRACK ROAD	LAKE ELLA ROAD	CR 466A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	9,401	0.91	D	530	362	460	0.87	D	7.75%	10,360	13,654	1.32	F	530	525	668	1.26	F
2590	122		County	25	1.10	MORNINGSIDE DRIVE (MOUNT DORA)	US 441	CR 500A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,498	0.14	C	530	74	58	0.14	C	1.50%	10,360	1,614	0.16	C	530	80	62	0.15	C
2600	243		County	40	0.74	MT HOMER ROAD	CR 19A	US 441	2	2	URBAN	UNDIVIDED	CITY OF TAVARES	CITY OF TAVARES	D	15,930	249	0.02	C	790	32	5	0.04	C	1.00%	15,930	262	0.02	C	790	34	5	0.04	C
2610	244		County	40	0.68	MT HOMER ROAD	US 441	DAVID WALKER DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	12,390	2,155	0.17	C	620	155	67	0.25	C	6.50%	12,390	2,953	0.24	C	620	212	91	0.34	C
2620	245		County	35	0.51	MT HOMER ROAD	DAVID WALKER DRIVE	KURT STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	3,771	0.36	C	530	230	163	0.43	C	1.00%	10,360	3,963	0.38	C	530	242	171	0.46	C
2630	0	110505	State	40	0.23	OLD 441 (CR 500A)	US 441	SR 19	4	4	URBAN	UNDIVIDED	CITY OF TAVARES	CITY OF TAVARES	D	35,820	15,250	0.43	C	1,800	539	824	0.46	C	1.00%	35,820	16,028	0.45	C	1,800	566	866	0.48	C
2640	52		County	25	0.34	OLD EUSTIS ROAD	MORNINGSIDE DRIVE	E CROOKED LAKE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	782	0.08	C	530	58	15	0.11	C	1.00%	10,360	822	0.08	C	530	61	16	0.12	C
2650	88		County	25	0.99	OLD EUSTIS ROAD	E CROOKED LAKE DRIVE	DONNELLY STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	1,362	0.13	C	530	86	54	0.16	C	4.25%	10,360	1,677	0.16	C	530	105	67	0.20	C
2660	121		County	25	0.65	OLD MOUNT DORA ROAD	SR 19	EUDORA ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	5,030	0.49	C	530	257	265	0.50	D	1.00%	10,360	5,286	0.51	D	530	270	279	0.53	D
2670	121		ADJACENT	25	0.89	OLD MOUNT DORA ROAD	EUDORA ROAD	US 441	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	10,360	5,030	0.49	C	530	257	265	0.50	D	1.00%	10,360	5,286	0.51	D	530	270	279	0.53	D
2680	194	115150	County	40	1.01	ORANGE AVENUE	SR 19	HASSELTON STREET	4	4	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	25,870	12,986	0.50	C	1,300	518	621	0.48	C	2.00%	25,870	14,337	0.55	C	1,300	572	686	0.53	C
2690	198	115150	County	55	0.98	ORANGE AVENUE	HASSELTON STREET	ABRAMS ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	16,820	14,184	0.84	C	840	581	676	0.80	C	1.50%	16,820	15,280	0.91	C	840	626	728	0.87	C
2700	210		County	45	1.97	OSWALT ROAD	LAKESHORE DRIVE	EDGEWATER DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	4,049	0.24	C	840	125	232	0.28	C	1.00%	16,820	4,255	0.25	C	840	131	244	0.29	C
2710	276		County	40	0.20	PALMETTO DRIVE	SUNSET AVENUE	CR 33	2	2	URBAN	UNDIVIDED	CITY OF MASCOTTE	CITY OF MASCOTTE	D	12,390	840	0.07	C	620	42	69	0.11	C	10.50%	12,390	1,385	0.11	C	620	70	114	0.18	C
2720	261		County	25	0.38	PRESCOTT STREET	BATES AVENUE	SR 44	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	10,360	562	0.05	C	530	20	34	0.06	C	2.25%	10,360	628	0.06	C	530	22	38	0.07	C
2730	174		County	45	2.29	RADIO ROAD	CR 44	MORNINGSIDE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	3,484	0.21	C	840	252	265	0.32	C	3.75%	16,820	4,188	0.25	C	840	303	319	0.38	C
2740	101		County	45	0.95	RADIO ROAD	MORNINGSIDE DRIVE	US 441	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	7,650	0.45	C	840	363	262	0.43	C	2.50%	16,820	8,656	0.51	C	840	411	296	0.49	C
2750	160		County	35	0.78	ROLLING ACRES ROAD	US 27 / US 441	OAK STREET	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	14,060	17,349	1.23	F	710	710	739	1.04	E	1.00%	14,060	18,234	1.30	F	710	746	777	1.09	F
2760	166	117011	County	35	0.50	ROLLING ACRES ROAD	OAK STREET	CR 466	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	13,320	16,851	1.27	F	680	779	656	1.15	F	1.00%	13,320	17,711	1.33	F	680	818	690	1.20	F
2770	201		County	45	2.00	ROLLING ACRES ROAD	CR 466	LAKE ELLA ROAD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	7,929	0.36	C	1,070	320	384	0.36	C	7.50%	21,780	11,383	0.52	C	1,070	459	551	0.51	C
2780	203		County	45	1.00	ROUND LAKE ROAD	WOLF BRANCH ROAD	SR 46	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	16,820	7,468	0.44	C	840	280	429	0.51	C	9.75%	16,820	11,891	0.71	C	840	447	683	0.81	C
2790	130		County	45	1.02	ROUND LAKE ROAD	SR 46	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	5,388	0.32	C	840	268	275	0.33	C	5.25%	16,820	6,959	0.41	C	840	346	355	0.42	C
2800	147		County	40	4.15	ROYAL TRAILS ROAD	SEAGRAPE AVENUE	SR 44	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	1,674	0.11	B	770	124	50	0.16	B	3.50%	14,760	1,988	0.13	B	770	147	60	0.19	B
2810	211		County	25	0.50	SHAY BOULEVARD	TARRSON BOULEVARD	GRIFFIN AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF LADY LAKE	D	10,360	2,550	0.25	C	530	116	106	0.22	C	1.00%	10,360	2,680	0.26	C	530	122	112	0.23	C
2820	205		County	55	3.14	SHIRLEY SHORES ROAD	CR 448	DEER ISLAND ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	14,760	2,410	0.16	B	770	128	87	0.17	B	1.00%	14,760	2,533	0.17	B	770	134	91	0.17	B
2830	175	117022	County	35	1.11	SLEEPY HOLLOW ROAD	US 441	SUNNYSIDE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	14,060	3,819	0.27	C	710	144	179	0.25	C	5.00%	14,060	4,874	0.35	C	710	183	228	0.32	C
2840	111		County	55	3.61	SR 19	MARION COUNTY LINE	CR 445A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	2,131	0.25	B	430	91	79	0.21	B	1.00%	8,400	2,240	0.27	B	430	96	83	0.22	B
2850	0	110365	State	55	5.50	SR 19	CR 445A	CR 445	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	4,300	0.51	B	430	199	153	0.46	B	5.75%	8,400	5,687	0.68	C	430	263	202	0.61	C
2860	0	110297	State	55	5.21	SR 19	CR 445	CR 42	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	6,900	0.82	C	430	317	219	0.74	C	5.75%	8,400	9,125	1.09	D	430	419	289	0.97	C
2870	0	115036	ADJACENT	40	0.90	SR 19	CR 42	BAKER ROAD	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	18,590	12,300	0.66	C	920	620	523	0.67	C	1.00%	18,590	12,927	0.70	C	920	652	550	0.71	C
2880	0	115036	ADJACENT	55	1.19	SR 19	BAKER ROAD	CR 450 (UMATILLA BOULEVARD)	2	2	URBAN	UNDIVIDED	STATE	CITY OF UMATILLA	D	18,590	12,300	0.66	C	920	620	523	0.67	C	1.00%	18,590	12,927	0.70	C	920	652	550	0.71	C
2890	0	115036	State	35	0.51	SR 19	CR 450 (UMATILLA BOULEVARD)	CR 450 (OCALA STREET)	2	2	URBAN	DIVIDED	STATE	CITY OF UMATILLA	D	16,320	12,300	0.75	D	830	620	523	0.75	D	1.00%	16,320	12,927	0.79	D	830	652	550	0.79	D
2900	0	115035	State	40	1.38	SR 19	CR 450 (OCALA STREET)	CR 450A	4	4	URBAN	DIVIDED	STATE	CITY OF UMATILLA	D	39,800	18,150	0.46	C	2,000	952	657	0.48	C	2.75%	39,800	20,787	0.52	C	2,000	1,090	752	0.55	C
2910	0	110008	State	55	2.22	SR 19	CR 450A	CR 19A	4	4	URBAN	DIVIDED	STATE	EUSTIS/UMATILLA	D	65,600	18,750	0.29	B	3,240	957	704	0.30	B	1.00%	65,600	19,706	0.30	B	3,240	1,005	739	0.31	B
2920	0	110008	ADJACENT	55	0.58	SR 19	CR 19A	CR 44	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	41,790	18,750	0.45	C	2,100	957	704	0.46	C	1.00%	41,790	19,706	0.47	C	2,100	1,005	739	0.48	C
2930	0	111017	State	45	0.75	SR 19	CR 44	CR 452	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	41,790	15,600	0.37	C	2,100	808	519	0.38	C	1.00%	41,790	16,396	0.39	C	2,100	849	545	0.40	C
2941	0	115176	State	35	0.87	SR 19 (N)	ORANGE AVENUE	CR 452	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	19,440	16,750	0.86	D	1,960	1,641	-	0.84	D	4.00%	19,440	20,379	1.05	F	1,960	1,996	-	1.02	E
2951	0	110208	ADJACENT	40	0.82	SR 19 (S)	CR 452	ORANGE AVENUE	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	23,880	13,250	0.55	C	2,400	-	1,000	0.42	C	1.00%	23,880	13,926	0.58	C	2,400	-	1,051	0.44	C
2960	0	115176	ADJACENT	35	0.68	SR 19 (N)	STEVENS AVE	ORANGE AVENUE	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	19,440	16,750	0.86	D	1,960	1,641	-	0.84	D	4.00%	19,440	20,379	1.05	F	1,960	1,996	-	1.02	E
2970	0	110208	State	35	0.62	SR 19 (S)	ORANGE AVENUE	STEVENS AVE	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	19,440	13,250	0.68	D	1,960	-	1,000	0.51	D	1.00%	19,440	13,926	0.72	D	1,960	-	1,051	0.54	D
2980	0	115013	State	35	0.50	SR 19	STEVENS AVE	GOLF LINKS AVENUE	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	34,020	33,750	0.99	D	1,710	1,536	1,112	0.90	D	6.00%	34,020	45,165	1.33	F	1,710	2,056	1,488	1.20	F
2990	0	110421	State	40	0.92	SR 19	GOLF LINKS AVENUE	US 441	4	4	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	41,790	23,750	0.57	C	2,100	1,083	915	0.52	C	5.00%	41,790	30,312	0.73	C	2,100	1,382	1,168	0.66	C
3000	0	115125	State	35	0.24	SR 19 (DUNCAN DRIVE)	US 441	CR 500A/ LAKE SHORE BOULEVARD	4	4	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	32,400	18,000	0.56	D	1,630	616	679	0.42	C	2.25%	32,400	20,118	0.62	D	1,630	688	758	0.47	D
3010	0	115125	ADJACENT	35	0.37	SR 19	CR 500A/ LAKE SHORE BOULEVARD	CR 452 (MAIN STREET)	4	4	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	32,400	18,000	0.56	D	1,630	616	679	0.42	C	2.25%	32,400	20,118	0.62	D	1,630	688	758	0.47	D
3020	0	110049	State	45	1.38	SR 19	CR 452 (MAIN STREET)	CR 561	4	4	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	41,790	32,750	0.78	C	2,100	1,547	1,482	0.74	C	3.00%	41,790	37,966	0.91	C	2,100	1,793	1,717	0.85	C
3030	0	110049	ADJACENT	45	0.90	SR 19	CR 561	LANE PARK ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF TAVARES	D	18,590	32,750	1.76	F	920	1,547	1,482	1.68	F	3.00%	18,590	37,966	2.04	F	920	1,793	1,717	1.95	F
3040	0	110494	State	55	3.87	SR 19	LANE PARK ROAD	CR 48	2	2	URBAN	UNDIVIDED	STATE	HOWEY-IN-THE-HILLS/TAVARES	D	18,590	15,700	0.84	C	920	614	727	0.79	C	4.00%	18,590	19,101	1.03	F	920	747	885	0.96	D
3050	0	110495	State	40	0.84	SR 19	CR 48	CENTRAL AVENUE	2	2	URBAN	UNDIVIDED	STATE	HOWEY-IN-THE-HILLS	D	14,160	9,350	0.66	C	700	369	399	0.57	C	1.25%	14,160	9,949	0.70	C	700	393	424	0.61	C
3060	0	110495	ADJACENT	35	3.09	SR 19	CENTRAL AVENUE	CR 455	2	2	URBAN	UNDIVIDED	STATE	HOWEY-IN-THE-HILLS	D	24,200	9,350	0.39	C	1,190	369	399	0.33	B	1.25%	24,200	9,949	0.41	C	1,190	393	424	0.36	C
3070	0	110255	State	55	2.72	SR 19	CR 455	US 27 / SR 25	2	2	RURAL	UNDIVIDED	STATE	CITY OF GROVELAND	C	8,400	13,500	1.61	D	430	522	618	1.44	D	7.75%	8,400	19,607	2.33	E	430	758	898	2.09	E
3080	0	110376	State	55	4.73	SR 19	US 27 / SR 25	CR 478	2	2	RURAL	UNDIVIDED	STATE	CITY OF GROVELAND	C	8,400	10,050	1.20	D	430	363	475	1.10	D	3.75%	8,400	12,081	1.44	D	430	436	570	1.33	D
3090	0	110376	ADJACENT	55	1.22	SR 19	CR 478	LAKE CATHERINE ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF GROVELAND	D	17,700	10,050	0.57	C	880	363	475	0.54	C	3.75%	17,700	12,081	0.68	C	880	436	570	0.65	C
3100	0	110097	State	45	0.70	SR 19	LAKE CATHERINE ROAD	SR 50/ SR 33	2	2	URBAN	UNDIVIDED	STATE	CITY OF GROVELAND	D	17,700	11,950	0.68	C	880	403	573	0.65	C	2.50%	17,700	13,520	0.76	C	880	456	648	0.74	C
3110	0	115072	State	40	0.52	SR 33	SR 50/ SR 33	ANDERSON ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF GROVELAND	D	18,590	13,850	0.75	C	920	472	552	0.60	C	6.75%	18,590	19,199	1.03	F	920	654	765	0.83	C
3120	0	110497	State	60	3.16	SR 33	ANDERSON ROAD	CR 565B	2	2	RURAL	UNDIVIDED	STATE	CITY OF GROVELAND	C	8,400	10,600	1.26	D	430	505	426	1.17	D	5.00%	8,400	13,529	1.61	D	430	645	544	1.50	D
3130	0	111002	State	60	6.76	SR 33	CR 565B	CR 561	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	8,600	1.02	D	430	317	295	0.74	C	7.50%	8,400	12,346	1.47	D	430	454	424	1.06	D
3140	103		County	60	2.33	SR 33	CR 561	CR 474	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	8,185	0.97	C	430	323	246	0.75	C	7.50%	8,400	11,750	1.40	D	430	464	353	1.08	D
3150	140		County	60	1.04	SR 33	CR 474	POLK COUNTY LINE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	10,320	6,234	0.60	C	540	241	199	0.45	C	13.50%	10,320	11,743	1.14	F	540	454	375	0.84	C
3160	110		County	45	4.71	SR 40	MARION COUNTY LINE	CR 445A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	4,956	0.59	C	430	190	198	0.46	B	4.25%	8,400	6,103	0.73	C	430	234	244	0.57	C
3170	0	110503	State	55	1.61	SR 40	CR 445A	RIVER ROAD	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	10,320	4,450	0.43	C	540	263	222	0.49	C	1.00%	10,320	4,677	0.45	C	540	276	233	0.51	C
3180	0	110050	State	45	1.43	SR 40	RIVER ROAD	VOLUSIA COUNTY LINE	2	2	RURAL	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	14,220	7,750	0.55	C	740	354	346	0.48	C	1.00%	14,220	8,145	0.57	C	740	372	363	0.50	C
3190	0	110496	State	55	2.38	SR 44	SUMTER COUNTY LINE	CR 468	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	39,800	22,300	0.56	C	2,000	819	844	0.42	C	2.50%	39,800	25,230	0.63	C	2,000	927	955	0.48	C
3200	0	110487	State	45	1.54	SR 44	CR 468	S LONE OAK DRIVE	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	39,800	16,250	0.41	C	2,000	625	600	0.31	C	1.75%	39,800	17,723	0.45	C	2,000	682	654	0.34	C
3210	0	115147	State	35	0.76	SR 44	S LONE OAK DRIVE	US 27	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	23,300	0.72	D	1,630	803	947	0.58	D	4.00%	32,400	28,348	0.87	D	1,630	977	1,152	0.71	D
3220	0	115179	State	35	0.57	SR 44 (DIXIE AVENUE)	US 27	S 9TH STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	25,000	0.77	D	1,630	914	994	0.61	D	1.00%	32,400	26,275	0.81	D	1,630	960	1,044	0.64	D
3230	0	115143	ADJACENT	35	0.34	SR 44 (DIXIE AVENUE)	S 9TH STREET	CANAL STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	23,250	0.72	D	1,630	981	864	0.60	D	1.00%	32,400	24,436	0.75	D	1,630	1,031	908	0.63	D
3240	0	115143	State	40	0.41	SR 44 (DIXIE AVENUE)	CANAL STREET	S LAKE STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	39,800	23,250	0.58	C	2,000	981	864	0.49	C	1.00%	39,800	24,436	0.61	C	2,000	1,031	908	0.52	C
3250	0	115142	State	40	0.79	SR 44 (DIXIE AVENUE)	S LAKE STREET	E MAIN STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	39,800	21,800	0.55	C	2,000	997	719	0.50	C	2.75%	39,800	24,967	0.63	C	2,000	1,141	823	0.57	C
3260	0	115183	State	40	0.11	SR 44 (DIXIE AVENUE)	E MAIN STREET	US 441	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	41,790	21,600	0.52	C	2,100	-	-	-	B	3.00%	41,790	25,040	0.60	C	2,100	-	-	-	B
3262	0	110005	State	45	0.45	SR 44 (OLD C.R. 44B)	US 441	WAYCROSS AVENUE	2	2	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	19,510	23,750	1.22	F	970	1,323	836	1.36	F	1.00%	19,510	24,961	1.28	F	970	1,390	879	1.43	F

Lake County CMP Spreadsheet

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
3268	0	110006	State	45	1.65	SR 44 (OLD C.R. 44B)	WAYCROSS AVENUE	ORANGE AVENUE	2	2	URBAN	UNDIVIDED	STATE	EUSTIS/MOUNT DORA	D	18,590	17,750	0.95	D	920	918	654	1.00	D	1.00%	18,590	18,655	1.00	F	920	965	687	1.05	F
3270	0	110500	ADJACENT	55	2.27	SR 44	ABRAMS ROAD	THRILL HILL ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF EUSTIS	D	18,590	15,150	0.81	C	920	568	570	0.62	C	4.25%	18,590	18,655	1.00	F	920	699	702	0.76	C
3280	0	110500	ADJACENT	55	1.14	SR 44	THRILL HILL ROAD	CR 439	2	2	URBAN	UNDIVIDED	STATE	CITY OF MOUNT DORA	D	17,700	15,150	0.86	C	880	568	570	0.65	C	4.25%	17,700	18,655	1.05	F	880	699	702	0.80	C
3290	0	110500	State	55	3.03	SR 44	CR 439	CR 437	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	16,400	15,150	0.92	C	850	568	570	0.67	C	4.25%	16,400	18,655	1.14	D	850	699	702	0.83	C
3300	0	110500	ADJACENT	55	1.15	SR 44	CR 437	CR 46A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	13,550	15,150	1.12	F	700	568	570	0.81	C	4.25%	13,550	18,655	1.38	F	700	699	702	1.00	D
3310	0	110010	ADJACENT	55	3.43	SR 44	CR 46A	CR 44A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	8,450	1.01	D	430	407	409	0.95	C	3.00%	8,400	9,796	1.17	D	430	472	474	1.10	D
3320	0	110010	ADJACENT	55	5.34	SR 44	CR 44A	OVERLOOK DRIVE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	8,450	1.01	D	430	407	409	0.95	C	3.00%	8,400	9,796	1.17	D	430	472	474	1.10	D
3330	0	110010	State	55	5.64	SR 44	OVERLOOK DRIVE	CR 42	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	16,400	8,450	0.52	B	850	407	409	0.48	B	3.00%	16,400	9,796	0.60	C	850	472	474	0.56	C
3340	0	110010	ADJACENT	55	0.26	SR 44	CR 42	VOLUSIA COUNTY LINE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	13,550	8,450	0.62	C	700	407	409	0.58	C	3.00%	13,550	9,796	0.72	C	700	472	474	0.68	C
3344	0		0	0	1.80	SR 46/428 (WEKIVA PKWY)	ORANGE C/L	CR 46A (REALIGNED)	0	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	-	-	-	-	-	-	-	-	-		65,600	-	-	-	3,240	-	-	-	-
3345	0		0	0	5.54	SR 46/428 (WEKIVA PKWY)	CR 46A (REALIGNED)	SEMINOLE C/L	0	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	-	-	-	-	-	-	-	-	-		65,600	-	-	-	3,240	-	-	-	-
3350	0	110501	ADJACENT	45	1.08	SR 46	US 441	VISTA VIEW	6	6	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	62,900	11,500	0.18	C	3,170	484	526	0.17	C	4.00%	62,900	13,992	0.22	C	3,170	588	640	0.20	C
3360	0	110501	State	55	0.94	SR 46	VISTA VIEW	ROUND LAKE ROAD	6	6	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	62,900	11,500	0.18	C	3,170	484	526	0.17	C	4.00%	62,900	13,992	0.22	C	3,170	588	640	0.20	C
3370	0	110001	ADJACENT	55	2.11	SR 46	ROUND LAKE ROAD	CR 437 SOUTH	2	2	URBAN	UNDIVIDED	STATE	CITY OF MOUNT DORA	D	24,200	14,200	0.59	C	1,190	500	600	0.50	C	1.00%	24,200	14,924	0.62	C	1,190	526	631	0.53	C
3380	0	110001	State	45	0.51	SR 46	CR 437 SOUTH	CR 437 NORTH	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	17,700	14,200	0.80	C	880	500	600	0.68	C	1.00%	17,700	14,924	0.84	C	880	526	631	0.72	C
3390	0	111019	State	45	1.11	SR 46	CR 437 NORTH	CR 435	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	17,700	16,850	0.95	D	880	609	712	0.81	C	4.00%	17,700	20,501	1.16	F	880	741	866	0.98	D
3395	0	111019	ADJACENT	45	0.87	SR 46	CR 435	CR 46A (REALIGNED)	0	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	-	-	-	-	-	-	-	-	-	1.00%	17,700	17,710	1.00	F	880	640	748	0.85	C
3400	0	111019	ADJACENT	55	4.68	SR 46	CR 435	CR 46A	2	0	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	16,400	16,850	1.03	D	850	609	712	0.84	C	1.00%	-	-	-	-	-	-	-	-	-
3410	131		County	45	2.61	SR 46	CR 46A	SEMINOLE COUNTY LINE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,400	24,846	2.96	E	430	981	1,088	2.53	E	1.00%	8,400	26,113	3.11	E	430	1,031	1,144	2.66	E
3420	0	110319	State	55	3.64	SR 50	SUMTER COUNTY LINE	CR 565 / BAY LAKE ROAD	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	24,200	13,800	0.57	C	1,190	507	677	0.57	C	1.25%	24,200	14,684	0.61	C	1,190	539	720	0.61	C
3430	0	110319	ADJACENT	35	0.77	SR 50	CR 565 / BAY LAKE ROAD	CR 33	2	2	URBAN	UNDIVIDED	STATE	CITY OF MASCOTTE	D	14,800	13,800	0.93	D	750	507	677	0.90	D	1.25%	14,800	14,684	0.99	D	750	539	720	0.96	D
3440	0	110241	State	45	0.96	SR 50	CR 33	GROVELAND FARMS ROAD	4	4	URBAN	DIVIDED	STATE	CITY OF MASCOTTE	D	39,800	25,000	0.63	C	2,000	845	1,179	0.59	C	3.25%	39,800	29,335	0.74	C	2,000	991	1,383	0.69	C
3450	0	110241	ADJACENT	45	0.63	SR 50	GROVELAND FARMS ROAD	SR 50 ONE WAY PAIRS	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	41,790	25,000	0.60	C	2,100	845	1,179	0.56	C	3.25%	41,790	29,335	0.70	C	2,100	991	1,383	0.66	C
3460	0	115182	State	35	0.44	SR 50 (E)	SR 50 ONE WAY PAIRS	SR 19	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	19,440	14,750	0.76	D	1,960	1,173	-	0.60	D	1.00%	19,440	15,502	0.80	D	1,960	1,233	-	0.63	D
3470	0	115077	State	35	0.44	SR 50 (W)	SR 19	SR 50 ONE WAY PAIRS	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	19,440	15,500	0.80	D	1,960	-	1,350	0.69	D	3.00%	19,440	17,969	0.92	D	1,960	-	1,565	0.80	D
3481	0	115181	State	35	0.33	SR 50 (E)	SR 19	SR 33 SOUTH	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	19,440	16,500	0.85	D	1,960	1,106	-	0.56	D	1.00%	19,440	17,342	0.89	D	1,960	1,162	-	0.59	D
3491	0	115076	State	35	0.34	SR 50 (W)	SR 33 SOUTH	SR 19	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	19,440	15,500	0.80	D	1,960	-	1,305	0.67	D	1.75%	19,440	16,905	0.87	D	1,960	-	1,423	0.73	D
3500	0	115134	State	55	1.53	SR 50	SR 33 SOUTH	CR 565A NORTH	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	41,790	26,500	0.63	C	2,100	1,092	1,293	0.62	C	1.00%	41,790	27,852	0.67	C	2,100	1,148	1,359	0.65	C
3510	0	110396	State	55	3.15	SR 50	CR 565A NORTH	CR 561	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	41,790	31,000	0.74	C	2,100	981	1,434	0.68	C	3.25%	41,790	36,376	0.87	C	2,100	1,151	1,682	0.80	C
3520	0	115057	State	40	1.19	SR 50	CR 561	EAST AVENUE	4	4	URBAN	DIVIDED	STATE	CITY OF CLERMONT	D	39,800	36,500	0.92	C	2,000	1,059	1,538	0.77	C	1.50%	39,800	39,321	0.99	D	2,000	1,141	1,657	0.83	C
3530	0	115050	State	40	0.92	SR 50	EAST AVENUE	US 27	4	4	URBAN	DIVIDED	STATE	CITY OF CLERMONT	D	41,790	47,500	1.14	F	2,100	1,527	1,955	0.93	C	2.75%	41,790	54,400	1.30	F	2,100	1,749	2,239	1.07	F
3540	0	110390	State	55	2.14	SR 50	US 27	HANCOCK ROAD	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	47,250	0.75	C	3,170	1,979	2,341	0.74	C	1.00%	62,900	49,660	0.79	C	3,170	2,080	2,460	0.78	C
3550	0	110390	ADJACENT	55	1.49	SR 50	HANCOCK ROAD	CR 455	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	47,250	0.75	C	3,170	1,979	2,341	0.74	C	1.00%	62,900	49,660	0.79	C	3,170	2,080	2,460	0.78	C
3560	0	750572	State	50	1.53	SR 50	CR 455	ORANGE COUNTY LINE	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	57,750	0.92	C	3,170	1,525	3,084	0.97	C	1.00%	62,900	60,696	0.96	C	3,170	1,602	3,241	1.02	F
3562	0	972200	State	70	1.38	SR 91 (FLORIDA TURNPIKE)	SUMTER COUNTY LINE	CR 470	4	4	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	B	45,800	52,950	1.16	C	2,260	2,702	1,981	1.20	C	5.25%	45,800	68,387	1.49	D	2,260	3,490	2,559	1.54	D
3564	0	972160	State	70	7.50	SR 91 (FLORIDA TURNPIKE)	CR 470	US 27/SR 25	4	4	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	B	45,800	54,550	1.19	C	2,260	2,468	2,068	1.09	C	5.50%	45,800	71,295	1.56	D	2,260	3,226	2,703	1.43	D
3566	0	972006	State	70	3.72	SR 91 (FLORIDA TURNPIKE)	US 27/SR 25	US 27/SR 25/SR 19 INTERCHANGE	4	4	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	B	45,800	48,250	1.05	C	2,260	2,445	1,792	1.08	C	5.75%	45,800	63,812	1.39	D	2,260	3,234	2,370	1.43	D
3568	0	972005	State	70	10.82	SR 91 (FLORIDA TURNPIKE)	US 27/SR 25/SR 19 INTERCHANGE	ORANGE COUNTY LINE	4	4	URBAN	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	61,500	69,200	1.13	D	3,020	2,606	3,109	1.03	D	7.25%	61,500	98,196	1.60	F	3,020	3,698	4,412	1.46	F
3569	287		County	30	0.84	STEVES ROAD	US 27	CITRUS TOWER BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF CLERMONT	D	14,060	6,756	0.48	C	710	354	271	0.50	D	1.75%	14,060	7,368	0.52	D	710	387	296	0.55	D
3570	13		County	20	1.46	SUNNYSIDE DRIVE	MAIN STREET/DR NICHOLS DRIVE	SLEEPY HOLLOW ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	14,060	3,945	0.28	C	710	148	270	0.38	C	5.25%	14,060	5,096	0.36	C	710	191	348	0.49	C
3580	33	117012	County	35	3.31	SUNNYSIDE DRIVE	SLEEPY HOLLOW ROAD	BRIDGEWATER COURT	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	21,780	2,527	0.12	B	1,070	92	208	0.19	B	6.50%	21,780	3,462	0.16	B	1,070	126	285	0.27	B
3590	233	117013	County	35	1.14	SUNNYSIDE DRIVE	BRIDGEWATER COURT	SUNNYSIDE DRIVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	1,542	0.15	C	530	62	95	0.18	C	1.25%	10,360	1,641	0.16	C	530	66	101	0.19	C
3600	190		County	35	0.79	THOMAS AVENUE	CR 460	CR 44A	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF LEESBURG	D	10,360	8,091	0.78	D	530	360	365	0.69	D	1.00%	10,360	8,503	0.82	D	530	378	384	0.72	D
3610	222		County	35	1.07	THOMAS AVENUE	GRIFFIN ROAD (CR 44A)	MAIN STREET	2	2	URBAN	UNDIVIDED	CITY OF LEESBURG	CITY OF LEESBURG	D	10,360	7,696	0.74	D	530	362	313	0.68	D	2.75%	10,360	8,814	0.85	D	530	414	359	0.78	D
3620	208		County	30	0.32	TURKEY FARM ROAD	OLD HWY 50	BRIMMING LAKE ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MINNEOLA	D	10,360	209	0.02	C	530	10	12	0.02	C	1.00%	10,360	220	0.02	C	530	10	12	0.02	C
3630	23		NO COUNT	35	4.19	TUSCANOOGA ROAD	SUMTER COUNTY LINE	EGG ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	-	-	-	390	-	-	-	-		7,560	-	-	-	390	-	-	-	-
3640	273		County	40	0.54	TUSCANOOGA ROAD	EGG ROAD	SR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MASCOTTE	C	15,960	2,662	0.17	C	790	104	158	0.20	C	1.00%	15,960	2,798	0.18	C	790	109	167	0.21	C
3650	277		County	40	0.31	UNDERPASS ROAD	CR 33	AMERICAN LEGION ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MASCOTTE	D	16,820	1,064	0.06	C	840	62	62	0.07	C	1.00%	16,820	1,119	0.07	C	840	65	65	0.08	C
3660	0	110470	State	55	1.01	US 192	US 27	ORANGE COUNTY LINE	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	49,000	0.78	C	3,170	1,504	2,401	0.76	C	1.00%	62,900	51,499	0.82	C	3,170	1,580	2,523	0.80	C
3670	108		County	45	1.11	US 27/US441	SUMTER COUNTY LINE	GRIFFIN AVENUE	6	6	URBAN	DIVIDED	STATE	TOWN OF LADY LAKE	D	59,900	32,106	0.54	C	3,020	1,382	1,157	0.46	C	1.00%	59,900	33,744	0.56	C	3,020	1,453	1,216	0.48	C
3680	0	111012	State	45	1.12	US 27/US441	GRIFFIN AVENUE	ALT US 441 / ALT US 27	4	8	URBAN	DIVIDED	STATE	TOWN OF LADY LAKE	D	41,790	27,750	0.66	C	2,100	1,223	1,155	0.58	C	1.00%	84,110	29,166	0.35	C	4,240	1,285	1,214	0.30	C
3690	0	111012	ADJACENT	40	0.79	US 27/US441	ALT US 441 / ALT US 27	CR 466	4	6	URBAN	DIVIDED	STATE	TOWN OF LADY LAKE	D	41,790	27,750	0.66	C	2,100	1,223	1,155	0.58	C	1.00%	62,900	29,166	0.46	C	3,170	1,285	1,214	0.41	C
3700	0	111021	State	55	2.27	US 27/US441	CR 466	LAKE ELLA ROAD	4	6	URBAN	DIVIDED	STATE	TOWN OF LADY LAKE	D	41,790	29,400	0.70	C	2,100	1,212	1,434	0.68	C	1.00%	62,900	30,900	0.49	C	3,170	1,274	1,507	0.48	C
3710	0	110430	State	55	1.89	US 27/US441	LAKE ELLA ROAD	CR 466A / MILLER BOULEVARD	6	6	URBAN	DIVIDED	STATE	FRUITLAND PARK	D	59,900	31,000	0.52	C	3,020	1,278	1,512	0.50	C	1.00%	59,900	32,581	0.54	C	3,020	1,343	1,589	0.53	C
3720	0	110431	State	45	1.35	US 27/US441	CR 466A / MILLER BOULEVARD	CR 460 (MARTIN LUTHER KING BLVD)	6	6	URBAN	DIVIDED	STATE	FRUITLAND PARK	D	59,900	38,500	0.64	C	3,020	1,662	1,606	0.55	C	1.00%	59,900	40,464	0.68	C	3,020	1,747	1,688	0.58	C
3730	0	110109	ADJACENT	45	0.51	US 27/US441	CR 460 (MARTIN LUTHER KING BLVD)	CR 466A (LEE ROAD)	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	59,900	50,250	0.84	C	3,020	2,061	1,932	0.68	C	1.25%	59,900	53,470	0.89	C	3,020	2,193	2,056	0.73	C
3740	0	110109	State	45	0.67	US 27/US441	CR 466A (LEE ROAD)	CR 44A/ GRIFFIN ROAD	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	59,900	50,250	0.84	C	3,020	2,061	1,932	0.68	C	1.25%	59,900	53,470	0.89	C	3,020	2,193	2,056	0.73	C
3750	0	110109	ADJACENT	35	0.15	US 27/US441	CR 44A/ GRIFFIN ROAD	US 27/US441 SPLIT	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	50,000	50,250	1.01	E	2,520	2,061	1,932	0.82	D	1.25%	50,000	53,470	1.07	F	2,520	2,193	2,056	0.87	D
3760	0	115120	State	35	1.04	US 27/SR 25	US 27/US441 SPLIT	MAIN STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	29,250	0.90	D	1,630	1,123	1,176	0.72	D	3.00%	32,400	33,909	1.05	F	1,630	1,302	1,363	0.84	D
3770	0	115119	State	35	0.57	US 27/SR 25	MAIN STREET	SR 44	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	25,750	0.79	D	1,630	915	1,067	0.65	D	3.25%	32,400	30,215	0.93	D	1,630	1,074	1,252	0.77	D
3780	0	115116	State	35	0.63	US 27/SR 25	SR 44	CR 25A (NORTH)	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	41,000	1.27	F	1,630	1,649	1,951	1.20	F	2.50%	32,400	46,388	1.43	F	1,630	1,866	2,207	1.35	F
3785	0	110014	State	55	2.16	US 27/SR 25	CR 25A (NORTH)	CR 33	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	41,790	36,750	0.88	C	2,100	1,320	1,580	0.75	C	3.50%	41,790	43,647	1.04	F	2,100	1,568	1,877	0.89	C
3790	0	110014	ADJACENT	55	1.12	US 27/SR 25	CR 33	CR 48	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	41,790	36,750	0.88	C	2,100	1,320	1,580	0.75	C	2.25%	41,790	41,075	0.98	D	2,100	1,475	1,766	0.84	C
3800	0	110362	State	55	2.54	US 27/SR 25	CR 48	PLANTATION BOULEVARD	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	65,600	27,000	0.41	B	3,240	1,092	1,293	0.40	B	2.50%	65,600	30,548	0.47	B	3,240	1,235	1,463	0.45	B
3810	0	110362	ADJACENT	55	2.67	US 27/SR 25	PLANTATION BOULERVARD	FLORIDA TURNPIKE	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	65,600	27,000	0.41	B	3,240	1,092	1,293	0.40	B	2.50%	65,600	30,548	0.47	B	3,240	1,235	1,463	0.45	B
3820	142	110364	County	55	4.08	US 27/SR 25	FLORIDA TURNPIKE	SR 19	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	41,790	22,314	0.53	C	2,100	836	882	0.42	C	1.00%	41,790	23,453	0.56	C	2,100	878	927	0.44	C
3830	0	110363	State	55	3.36	US 27/SR 25	SR 19	CR 561	4	4	URBAN	DIVIDED	STATE	CITY OF GROVELAND	D	65,600	19,700	0.30	B	3,240	976	824	0.30	B	1.00%	65,600	20,705	0.32	B	3,240	1,026	866	0.32	B
3840	0	110468	State	55	2.14	US 27/SR 25	CR 561	CR 561A	4	4	URBAN	DIVIDED	STATE	CITY OF MINNEOLA	D	41,790	36,750	0.88	C	2,100	1,732	1,463	0.82	C	3.25%	41,790	43,123	1.03	F	2,100	2,032	1,717	0.97	D
3850	0	110163	State	50	0.38	US 27/SR 25	CR 561A	CR 561/ MAIN AVENUE	6	6	URBAN	DIVIDED	STATE	CITY OF MINNEOLA	D	62,900	41,750	0.66	C	3,170	1,976	1,669	0.62	C	2.50%	62,900	47,236	0.75	C	3,170	2,236	1,888	0.71	C
3860	0	110163	ADJACENT	50	0.68	US 27/SR 25	CR 561/ MAIN AVENUE	CR 50	6	6	URBAN	DIVIDED	STATE	CITY OF MINNEOLA	D	59,900	41,750	0.70	C	3,020	1,976	1,669	0.65	C	2.50%	59,900	47,236	0.79	C	3,020	2,236	1,888	0.74	C
3870	0	110423	State	50	0.79	US 27/SR 25	CR 50	GRAND HIGHWAY	6	6	URBAN	DIVIDED	STATE	CITY OF MINNEOLA	D	59,900	36,250	0.61	C	3,020	1,630	1,420	0.54	C	1.00%	59,900	38,099	0.64	C	3,020	1,713	1,492	0.57	C
3880	0	115047	State	50	1.22	US 27/SR 25	GRAND HIGHWAY	SR 50	6	6	URBAN	DIVIDED	STATE	CITY OF CLERMONT	D	62,900	28,250	0.45	C	3,170	1,293	1,279	0.41	C	1.00%	62,900	29,691	0.47	C	3,170	1,359	1,344	0.43	C
3890	0	110012	State	55	1.54	US 27/SR 25	SR 50	JOHNS LAKE ROAD	6	6	URBAN	DIVIDED	STATE	CITY OF CLERMONT	D	62,900	34,500	0.55	C	3,170	1,312	1,349	0.43	C	1.00%	62,900	36,260	0.58	C	3,170	1,379	1,418	0.45	C
3900	0	110011	State	55	2.06	US 27/SR 25	JOHNS LAKE ROAD	HARDWOOD MARSH ROAD	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	34,250	0.54	C	3,170	1,428	1,321	0.45	C	1.00%	62,900	35,997	0.57	C	3,170	1,501	1,388	0.47	C
3910	0	110311	State	55	0.95	US 27/SR 25	HARDWOOD MARSH ROAD	LAKE LOUISA ROAD	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	26,500	0.42	C	3,170	894	1,021	0.32	C	2.50%	62,900	29,982	0.48	C	3,170	1,011	1,155	0.36	C
3920	0	110007	State	65	6.51	US 27/SR 25	LAKE LOUISA ROAD	BOGGY MARSH RD	6	6	RURAL	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	48,090	28,000	0.58	C	2,520	1,175	1,390	0.55	C	2.75%	48,090	32,068	0.67	C	2,520	1,346	1,592	0.63	C
3927	0	110007	ADJACENT	65	2.01	US 27/SR 25	BOGGY MARSH RD	CR 474	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	28,000	0.45	C	3,170	1,175	1,390	0.44	C	2.75%	62,900	32,068	0.51	C	3,170	1,346	1,592	0.50	C
3930	141		County	55	1.72	US 27/SR 25	CR 474	US 192	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	62,900	51,646	0.82	C	3,170	1,929	1,546	0.61	C	1.50%	62,900	55,637	0.88	C	3,170	2,078	1,666	0.66	C
3940	0	115096	State	35	0.75	US 441/ SR 500	US 27/US441 SPLIT	LEE STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	34,020	31,250	0.92	D	1,710	1,561	1,319	0.91	D	1.00%	34,020	32,844	0.97	D	1,710	1,641	1,386	0.96	D
3950	0	110492	State	35	0.42	US 441/ SR 500	LEE STREET	N CANAL STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	32,400	32,750	1.01	E	1,630	1,634	1,381	1.00	E	1.00%	32,400	34,421	1.06	F	1,630	1,717	1,451	1.05	F
3960	0	115093	State	45	1.06	US 441/ SR 500	N CANAL STREET	E DIXIE AVENUE	4	4	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	41,790	32,000	0.77	C	2,100	1,278	1,188	0.61	C	1.00%	41,790	33,632	0.80	C	2,100	1,343	1,249	0.64	C
3970	0	115092	State	45	0.25	US 441/ SR 500	E DIXIE AVENUE	E MAIN STREET	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	59,900	52,500	0.88	C	3,020	2,493	1,887	0.83	C	2.25%	59,900	58,678	0.98	D	3,020	2,786	2,109	0.92	C
3980	0	110177	State	45	1.41	US 441/ SR 500	E MAIN STREET	CR 44	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	59,900	36,784	0.61	C	3,020	1,837	1,473	0.61	C	3.00%	59,900	42,643	0.71	C	3,020	2,130	1,708	0.71	C
3990	0	110177	ADJACENT	45	3.07	US 441/ SR 500	CR 44	RADIO ROAD	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	62,900	36,784	0.58	C	3,170	1,837	1,473	0.58	C	3.00%	62,900	42,643	0.68	C	3,170	2,130	1,708	0.67	C
4000	0	110128	ADJACENT	45	0.88	US 441/ SR 500	RADIO ROAD	CR 473	6	6	URBAN	DIVIDED	STATE	CITY OF LEESBURG	D	62,900	46,500	0.74	C	3,170	1,848	1,895	0.60	C	3.50%	62,900	55,227	0.88	C	3,170	2,195	2,251	0.71	C
4010	0	110128	State	50	2.33	US 441/ SR 500	CR 473	OLD US 441/ CR 500A	6	6	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	62,900	46,500	0.74	C	3,170	1,848	1,895	0.60	C	3.50%	62,900	55,227	0.88	C	3,170	2,195	2,251	0.71	C
4020	0	110504	State	45	0.20	US 441/ SR 500	OLD US 441/ CR 500A	SR 19 / DUNCAN DRIVE	6	6	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	59,900	27,250	0.45	C	3,020	1,074	1,120	0.37	C	1.00%	59,900	28,640	0.48	C	3,020	1,129	1,177	0.39	C
4030	0	110414	State	45	0.62	US 441/ SR 500	SR 19 / DUNCAN DRIVE	CR 452 / ST CLAIR ABRAMS AVENUE	6	6	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	59,900	49,500	0.83	C	3,020	2,148	1,937	0.71	C	1.00%	59,900	52,025	0.87	C	3,020	2,257	2,035	0.75	C
4040	0	110414	ADJACENT	45	0.39	US 441/ SR 500	CR 452 / ST CLAIR ABRAMS AVENUE	CR 452 / LAKE EUSTIS DRIVE	6	6	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	62,900	49,500	0.79	C	3,170	2,148	1,937	0.68	C	1.00%	62,900	52,025	0.83	C	3,170	2,257	2,035	0.71	C
4050	0	110414	ADJACENT	50	1.22	US 441/ SR 500	CR 452 / LAKE EUSTIS DRIVE	DAVID WALKER DRIVE	6	6	URBAN	DIVIDED	STATE	EUSTIS/TAVARES	D	62,900	49,500	0.79	C	3,170	2,148	1,937	0.68	C	1.00%	62,900	52,025	0.83	C	3,170	2,257	2,035	0.71	C
4060	0	110414	ADJACENT	45	1.02	US 441/ SR 500	DAVID WALKER DRIVE	SR 19/ BAY STREET	6	6	URBAN	DIVIDED	STATE	CITY OF EUSTIS	D	62,900	49,500	0.79	C	3,170	2,148	1,937	0.68	C	1.00%	62,900	52,025	0.83	C	3,170	2,257	2,035	0.71	C
4070	0	110475	ADJACENT	50	1.36	US 441/ SR 500	SR 19/ BAY STREET	OLD MT DORA ROAD	6	6	URBAN	DIVIDED	STATE	EUSTIS/MOUNT DORA	D	62,900	52,500	0.83	C	3,170	2,439	2,061	0.77	C	4.50%	62,900	65,425	1.04	F	3,170	3,039	2,568	0.96	C
4080	0	110475	State	50	1.22	US 441/ SR 500	OLD MT DORA ROAD	DONNELLY STREET/SR 44	6	6	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	62,900	52,500	0.83	C	3,170	2,439	2,061	0.77	C	4.50%	62,900	65,425	1.04	F	3,170	3,039	2,568	0.96	C
4090	0	110499	State	55	1.19	US 441/ SR 500	DONNELLY STREET/SR 44	WOLF BRANCH ROAD	4	4	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	41,790	30,750	0.74	C	2,100	1,221	1,560	0.74	C	1.00%	41,790	32,319	0.77	C	2,100	1,283	1,640	0.78	C
4100	0	110002	State	55	1.31	US 441/ SR 500	WOLF BRANCH ROAD	SR 46	4	4	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	41,790	31,500	0.75	C	2,100	1,585	1,340	0.75	C	1.00%	41,790	33,107	0.79	C	2,100	1,666	1,408	0.79	C
4110	0	750642	State	55	0.74	US 441/ SR 500	SR 46	ORANGE COUNTY LINE	4	4	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	41,790	34,000	0.81	C	2,100	1,440	1,229	0.69	C	2.75%	41,790	38,939	0.93	C	2,100	1,649	1,408	0.79	C
4120	192		County	25	0.83	VISTA DEL LAGO BOULEVARD	LAKE LOUISA ROAD	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,320	1,527	0.11	C	680	79	66	0.12	C	1.00%	13,320	1,605	0.12	C	680	83	69	0.12	C
4130	265		County	30	0.88	WASHINGTON AVENUE	HASELTON STREET	ABRAMS ROAD	2	2	URBAN	UNDIVIDED	CITY OF EUSTIS	CITY OF EUSTIS	D	14,060	1,980	0.14	C	710	79	118	0.17	C	1.00%	14,060	2,081	0.15	C	710	83	124	0.17	C
4140	164		County	35	0.99	WAYCROSS AVENUE	COUNTY CLUB ROAD	SR 44 (OLD C.R. 44B)	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF EUSTIS	D	14,060	5,722	0.41	C	710	183	359	0.51	D	2.50%	14,060	6,474	0.46	C	710	206	407	0.57	D
4150	236		County	25	0.52	WELLS AVENUE	SR 19	LAKE AVENUE	2	2	URBAN	UNDIVIDED	CITY OF TAVARES	CITY OF TAVARES	D	10,360	1,767	0.17	C	530	41	125	0.23	C	4.75%	10,360	2,228	0.22	C	530	51	157	0.30	C
4160	129		County	45	1.16	WOLF BRANCH ROAD	US 441	BRITT ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	16,820	14,369	0.85	C	840	603	679	0.81	C	7.75%	16,820	20,870	1.24	F	840	875	986	1.17	F
4170	148		County	45	3.52	WOLF BRANCH ROAD	BRITT ROAD	CR 437	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	16,820	7,402	0.44	C	840	359	341	0.43	C	7.25%	16,820	10,504	0.62	C	840	510	484	0.61	C
4180	235	117015	County	35	1.71	WOODLEA ROAD	LANE PARK ROAD	SR 19	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	14,060	3,319	0.24	C	710	153	150	0.22	C	1.00%	14,060	3,489	0.25	C	710	160	158	0.23	C
4190	22		County	45	2.14	YOUTH CAMP ROAD	SUMTER COUNTY LINE	AUSTIN MERRITT ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,560	1,178	0.16	B	390	38	80	0.21	B	2.25%	7,560	1,316	0.17	B	390	42	90	0.23	B

Sumter County CMP Database

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
4000	474		SUMTER	20	1.61	ST. CHARLES	BUENA VISTA BLVD	AMBERJACK TERRACE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	4,520	0.34	C	675	252	219	0.37	C	1.00%	13,320	4,751	0.36	C	675	265	230	0.39	C
4010	472		SUMTER	20	0.66	ST. CHARLES	AMBERJACK TERRACE	BAILEY TRAIL	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	8,397	0.63	D	675	448	384	0.66	D	3.00%	13,320	9,734	0.73	D	675	519	445	0.77	D
4020	470		SUMTER	20	0.83	ST. CHARLES	BAILEY TRAIL	BUENA VISTA BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	10,843	0.81	D	675	598	486	0.89	D	1.00%	13,320	11,396	0.86	D	675	629	511	0.93	D
4030	476		SUMTER	20	0.55	TAMARIND GROVE RUN	DIVINDING CREEK PATH	ST. CHARLES PLACE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	3,412	0.33	C	525	150	173	0.33	C	6.00%	10,360	4,566	0.44	C	525	201	232	0.44	C
4040	478		SUMTER	20	0.71	BUTTONWOOD RUN	HARDING PATH	ST.CHARLES PL	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	5,432	0.52	D	525	258	270	0.51	D	4.75%	10,360	6,851	0.66	D	525	325	341	0.65	D
4050	480		SUMTER	20	0.57	PENNECAMP DRIVE	MEADOWLARK AVE	ST. CHARLES PLACE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	4,230	0.41	C	525	195	203	0.39	C	6.75%	10,360	5,864	0.57	D	525	270	281	0.54	D
4060	267		SUMTER	20	0.57	STILLWATER TRL	MORSE BLVD	LOCKHART AVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	4,961	0.48	C	525	254	252	0.48	C	1.00%	10,360	5,214	0.50	D	525	267	265	0.51	D
4070	270		SUMTER	20	1.08	STILLWATER TRL	LOCKHART AVE	ODELL CIRCLE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	3,452	0.33	C	525	218	148	0.42	C	8.75%	10,360	5,251	0.51	D	525	332	225	0.63	D
4830	483		SUMTER	30	1.18	HILLSBOROUGH TRAIL	BUENA VISTA BLVD	ANNA MARIA AVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	7,673	0.58	D	675	333	375	0.56	D	1.00%	13,320	8,064	0.61	D	675	350	394	0.58	D
4835	1271		SUMTER	55	1.34	Hillsborough Trail	ANNA MARIA AVE	MORSE BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	15,930	6,780	0.43	C	792	342	306	0.43	C	1.00%	15,930	7,126	0.45	C	792	359	322	0.45	C
4860	486		SUMTER	35	0.60	Anna Maria Ave	HILLSBOROUGH TRAIL	PINELLAS PLACE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	4,453	0.43	C	525	201	225	0.43	C	5.00%	10,360	5,683	0.55	D	525	257	287	0.55	D
4870	487		SUMTER	35	0.85	Charlotte Crt	HILLSBOROUGH TRAIL	PINELLAS PLACE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	3,218	0.31	C	525	151	169	0.32	C	8.00%	10,360	4,728	0.46	C	525	222	248	0.47	C
4880	488		SUMTER	35	2.42	PINELLAS PLACE	BUENA VISTA BLVD	MORSE BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	8,272	0.62	D	675	375	452	0.67	D	1.25%	13,320	8,802	0.66	D	675	399	481	0.71	D
4890	489		SUMTER	35	1.84	TALLEY RIDGE RD	BUENA VIST BLVD	BUENA VISTA BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	4,242	0.41	C	525	204	215	0.41	C	1.00%	10,360	4,458	0.43	C	525	214	226	0.43	C
4910	491		NO COUNT	35	0.82	OAK FOREST DR	SOUTHERN TRACE	TALLEY RIDGE RD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	-	-	-	525	-	-	-	-		10,360	-	-	-	525	-	-	-	-
4920	492		SUMTER	35	0.79	PARR DR	BELVEDERE BLVD	BUENA VISTA BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	4,319	0.32	C	675	236	223	0.35	C	1.00%	13,320	4,539	0.34	C	675	248	234	0.37	C
4930	493		SUMTER	35	0.53	TRIGGERFISH RUN	BUTTONWOOD RUN	PENNECAMP DR	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	1,172	0.11	C	525	60	55	0.11	C	1.25%	10,360	1,247	0.12	C	525	64	59	0.12	C
5000	249		SUMTER	25	0.93	BAILEY TRL	BUENA VISTA BLVD (N)	SUNSET RIDGE DR	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	10,981	0.82	D	675	520	532	0.79	D	3.25%	13,320	12,885	0.97	D	675	610	624	0.92	D
5010	252		SUMTER	30	0.39	BAILEY TRL	SUNSET RIDGE DR	ST. CHARLES PLACE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	10,453	0.78	D	675	540	504	0.80	D	1.00%	13,320	10,986	0.82	D	675	568	530	0.84	D
5020	255		SUMTER	20	0.50	BAILEY TRL	ST. CHARLES PL	BASSINGER CT	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	3,543	0.27	C	675	163	163	0.24	C	5.50%	13,320	4,631	0.35	C	675	213	213	0.32	C
5030	258		SUMTER	20	0.39	BAILEY TRL	BASSINGER CT	BUENA VISTA BLVD (S)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	5,423	0.41	C	675	278	260	0.41	C	1.75%	13,320	5,914	0.44	C	675	303	284	0.45	C
5080	484	-	NO COUNT	35	1.00	CR 209	CR 232	C-462 E	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	10,360	-	-	-	525	-	-	-	-		10,360	-	-	-	525	-	-	-	-
6000	200	-	NO COUNT	30	1.26	CR 213 (Walker Rd)	SR 44	C-44A	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	13,320	-	-	-	675	-	-	-	-		13,320	-	-	-	675	-	-	-	-
12500	1250		SUMTER	55	0.76	WOODRIDGE DR	CR 103	CR 101	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	15,930	4,394	0.28	C	792	232	235	0.30	C	1.00%	15,930	4,618	0.29	C	792	244	247	0.31	C
325310	180122	180122	FDOT	60	2.73	US 301/SR 35	CR 656	C-478	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	4,886	0.58	C	430	211	245	0.57	C	1.25%	8,400	5,199	0.62	C	430	225	261	0.61	C
3221000	382	-	NO COUNT	25	1.40	CR 156	US 301/SR 35	SR 44	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	10,360	-	-	-	525	-	-	-	-		10,360	-	-	-	525	-	-	-	-
3223000	115		SUMTER	45	3.53	CR 673	SR 93/I-75	CR 674	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	16,400	2,236	0.14	B	850	106	78	0.12	B	1.00%	16,400	2,350	0.14	B	850	111	82	0.13	B
3224000	464		SUMTER	30	1.37	CR 121	C-462	CR 114	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	10,360	3,366	0.32	C	525	208	135	0.40	C	4.75%	10,360	4,245	0.41	C	525	262	170	0.50	D
3229000	330	-	NO COUNT	35	2.08	CR 727	SR 50	CR 721	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	9,030	-	-	-	469	-	-	-	-		9,030	-	-	-	469	-	-	-	-
3231000	388	118009	FDOT	35	0.83	CR 728	C-469	LAKE COUNTY BOUNDARY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	421	0.04	C	525	21	17	0.04	C	1.00%	10,360	442	0.04	C	525	22	18	0.04	C
3245100	340	-	NO COUNT	45	1.56	CR 229	SR 44	C-462	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	12,390	-	-	-	616	-	-	-	-		12,390	-	-	-	616	-	-	-	-
3245110	342	-	NO COUNT	45	2.26	CR 229	C-462	C-466	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	-	-	-	1,190	-	-	-	-		24,200	-	-	-	1,190	-	-	-	-
3248000	273		SUMTER	35	0.29	CR 101	C-466	WOODRIDGE DR	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	29,160	7,772	0.27	C	1,467	373	343	0.25	C	1.00%	29,160	8,168	0.28	C	1,467	392	360	0.27	C
3248102	462	-	NO COUNT	35	1.25	CR 209	CR 216	C-466	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	10,360	-	-	-	525	-	-	-	-		10,360	-	-	-	525	-	-	-	-
3248105	120	-	NO COUNT	45	1.51	CR 209	C-462 E	CR 216	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	12,390	-	-	-	616	-	-	-	-		12,390	-	-	-	616	-	-	-	-
3248110	1402		NO COUNT	35	1.26	CR 209	C-466	CR 202	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	10,360	-	-	-	525	-	-	-	-		10,360	-	-	-	525	-	-	-	-
3248400	468		SUMTER	35	1.31	CR 104	US 301/SR 35	CR 101	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	5,110	2,928	0.57	C	259	79	249	0.96	C	5.50%	5,110	3,827	0.75	C	259	103	325	1.25	D
3253100	85307	85307	FDOT	60	0.61	US 301/SR 35	HERNANDO COUNTY BOUNDARY	CR 656	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	4,457	0.53	B	430	187	272	0.63	C	4.25%	8,400	5,488	0.65	C	430	230	335	0.78	C
3253110	426	180042	FDOT	30	0.18	US 301/SR 35 (Noble Av)	C-48 (Florida St)	C-476 (Noble Av)	2	2	RURAL	UNDIVIDED	STATE	BUSHNELL	C	10,320	4,843	0.47	C	536	187	237	0.44	C	3.75%	10,320	5,822	0.56	C	536	225	285	0.53	C
3253130	424	180117	FDOT	30	0.13	US 301/SR 35 (Noble Av)	SR 48 (Main St)	C-48 (Florida St)	2	2	URBAN	UNDIVIDED	STATE	BUSHNELL	D	11,840	9,300	0.79	D	600	405	469	0.78	D	2.75%	11,840	10,651	0.90	D	600	464	537	0.90	D
3253140	180112	180112	FDOT	60	3.01	US 301/SR 35	C-478	C-476 (Seminole Av)	2	2	URBAN	UNDIVIDED	STATE	BUSHNELL	D	14,160	6,114	0.43	C	704	204	311	0.44	C	1.50%	14,160	6,587	0.47	C	704	219	334	0.47	C
3253150	422	180117	FDOT	45	0.53	US 301/SR 35 (Main St)	C-476 (Seminole Ave)	SR 48 (Main St)	4	4	URBAN	UNDIVIDED	STATE	BUSHNELL	D	37,810	9,300	0.25	C	1,900	405	469	0.25	C	2.75%	37,810	10,651	0.28	C	1,900	464	537	0.28	C
3253170	432	180088	FDOT	45	0.45	US 301/SR 35	C-470 E (S)	SR 471	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	18,585	6,543	0.35	C	924	226	349	0.38	C	4.00%	18,585	7,961	0.43	C	924	274	425	0.46	C
3253180	434	180083	FDOT	45	0.11	US 301/SR 35	SR 471	C-470 E (N)	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	18,585	14,057	0.76	C	924	576	668	0.72	C	1.25%	18,585	14,958	0.80	C	924	613	711	0.77	C
3253190	436	180041	FDOT	35	3.06	US 301/SR 35	C-470 E (N)	CR 514 (Warm Springs Ave)	2	2	URBAN	UNDIVIDED	STATE	COLEMAN	D	15,540	7,143	0.46	C	788	308	357	0.45	C	4.50%	15,540	8,901	0.57	D	788	384	445	0.56	D
3253200	438	180041: 180077	FDOT	45	1.24	US 301/SR 35 (Warm Springs Ave)	CR 514 (Warm Springs Ave)	C-468	2	2	URBAN	UNDIVIDED	STATE	COLEMAN	D	14,160	10,329	0.73	C	704	526	441	0.75	C	3.50%	14,160	12,268	0.87	C	704	624	523	0.89	C
3253210	300	180077	FDOT	55	2.73	US 301/SR 35	C-468	SR 91/FLORIDAS TURNPIKE	2	2	URBAN	UNDIVIDED	STATE	WILDWOOD	D	17,700	13,514	0.76	C	880	744	525	0.84	C	8.00%	17,700	19,856	1.12	F	880	1,092	771	1.24	F
3253220	460	180077: 180006	FDOT	45	0.18	US 301/SR 35 (Main St)	SR 91/FLORIDAS TURNPIKE	CR 156 (Clay Drain Rd)	2	2	URBAN	DIVIDED	STATE	WILDWOOD	D	25,410	16,257	0.64	C	1,250	791	643	0.63	C	7.50%	25,410	23,339	0.92	D	1,250	1,135	923	0.91	D
3253230	3202	180006	FDOT	45	0.51	US 301/SR 35 (Main St)	CR 156 (Clay Drain Rd)	SR 44	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	41,790	19,000	0.45	C	2,100	838	762	0.40	C	7.25%	41,790	26,961	0.65	C	2,100	1,188	1,081	0.57	C
3253240	3402	185016	FDOT	40	0.79	US 301/SR 35 (Main St)	SR 44	C-44A	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	39,800	23,471	0.59	C	2,000	1,099	901	0.55	C	6.25%	39,800	31,782	0.80	C	2,000	1,487	1,219	0.74	C
3253250	360	180026	FDOT	35	0.54	US 301/SR 35 (Main St)	C-44A	C-466A (Cleveland Ave)	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	32,400	21,257	0.66	D	1,630	1,015	875	0.62	D	2.00%	32,400	23,469	0.72	D	1,630	1,121	966	0.69	D
3253270	442	180002	FDOT	45	0.26	US 301/SR 35	C-462 (S)	C-462 (N)	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	39,800	21,114	0.53	C	2,000	938	808	0.47	C	1.00%	39,800	22,191	0.56	C	2,000	986	849	0.49	C
3253280	446	180002: 180206	FDOT	55	1.01	US 301/SR 35	C-462 (N)	CR 222	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	39,800	24,693	0.62	C	2,000	1,066	858	0.53	C	2.50%	39,800	27,938	0.70	C	2,000	1,206	970	0.60	C
3253290	448	180206	FDOT	45	0.50	US 301/SR 35	CR 222	C-472	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	39,800	28,271	0.71	C	2,000	1,193	908	0.60	C	5.50%	39,800	36,949	0.93	C	2,000	1,559	1,186	0.78	C
3269100	332		SUMTER	35	0.51	CR 721	SR 471	CR 727	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	912	0.09	C	525	45	39	0.09	C	3.75%	10,360	1,096	0.11	C	525	54	47	0.10	C
3290000	500		WILDWOOD	35	1.17	CR 139 (Powell Rd)	C-44A	C-466A	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	30,780	13,419	0.44	C	1,549	686	503	0.44	C	1.00%	30,780	14,104	0.46	D	1,549	721	529	0.47	D
3293100	336		SUMTER	40	0.46	CR 747	C-478 E	CR 730	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	9,030	894	0.10	C	469	54	29	0.12	C	1.00%	9,030	940	0.10	C	469	57	30	0.12	C
3293110	334		SUMTER	40	2.01	CR 747	CR 730	C-48	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	15,930	1,395	0.09	C	792	72	76	0.10	C	1.00%	15,930	1,466	0.09	C	792	76	80	0.10	C
3297000	386	-	NO COUNT	35	1.85	CR 625	C-476	C-48	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	9,030	-	-	-	469	-	-	-	-		9,030	-	-	-	469	-	-	-	-
3300000	292		SUMTER	35	0.36	BUENA VISTA BLVD	C-472 (Rainey Trail)	BELVEDERE BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	20,360	0.70	D	1,467	845	1,076	0.73	D	1.00%	29,160	21,399	0.73	D	1,467	888	1,131	0.77	D
3301000	281		SUMTER	45	0.73	CR 616 (Hayes Rd)	C-476	C-48	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	12,390	4,388	0.35	C	616	164	195	0.32	C	4.75%	12,390	5,534	0.45	C	616	207	246	0.40	C
3525100	75		SUMTER	55	1.03	C-475 N	SR 44	C-462	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	4,845	0.20	B	1,190	298	154	0.25	B	5.75%	24,200	6,408	0.26	B	1,190	394	204	0.33	B
3525110	76		SUMTER	50	3.18	C-475 N	C-462	C-466	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	4,635	0.19	B	1,190	149	280	0.24	B	6.50%	24,200	6,350	0.26	B	1,190	204	384	0.32	B
3526000	65		SUMTER	55	4.45	C-470 N	SR 44	CR 412	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	8,400	3,305	0.39	B	430	151	153	0.36	B	4.75%	8,400	4,168	0.50	B	430	190	193	0.45	B
3528120	1120		WILDWOOD	35	1.47	C-44A	US 301/SR 35	CR 139	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	13,320	3,032	0.23	C	675	172	133	0.25	C	2.25%	13,320	3,389	0.25	C	675	192	149	0.28	C
3529000	95		SUMTER	55	6.39	C-478A	SR 50	SR 471	2	2	URBAN	UNDIVIDED	COUNTY	WEBSTER	D	24,200	755	0.03	B	1,190	28	53	0.04	B	1.00%	24,200	794	0.03	B	1,190	29	56	0.05	B
3530000	64		SUMTER	45	0.79	C-470 N	CR 412	CR 416 N	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	3,729	0.15	B	1,190	202	143	0.17	B	1.00%	24,200	3,919	0.16	B	1,190	212	150	0.18	B
3532000	111		SUMTER	55	4.72	C-575	CR 663	C-48	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	8,400	690	0.08	B	430	32	31	0.07	B	1.25%	8,400	734	0.09	B	430	34	33	0.08	B
3533100	40		SUMTER	30	1.15	C-466A	US 301/SR 35	C-462/CR 139	2	2	URBAN	DIVIDED	COUNTY	WILDWOOD	D	14,763	9,137	0.62	D	713	382	381	0.54	D	1.00%	14,763	9,603	0.65	D	713	401	400	0.56	D
3534100	92		SUMTER	35	3.30	C-478 E	SR 471	CR 707	2	2	URBAN	UNDIVIDED	COUNTY	CENTER HILL	D	24,200	1,596	0.07	B	1,190	82	71	0.07	B	1.00%	24,200	1,677	0.07	B	1,190	86	75	0.07	B
3534110	91		SUMTER	55	2.77	C-478 E (Virginia Ave)	CR 707	C-48 E	2	2	URBAN	UNDIVIDED	COUNTY	CENTER HILL	D	24,200	1,021	0.04	B	1,190	40	61	0.05	B	1.00%	24,200	1,073	0.04	B	1,190	42	64	0.05	B
3535100	94		SUMTER	55	3.67	C-478 W	US 301/SR 35	CR 747	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	2,092	0.09	B	1,190	106	106	0.09	B	2.25%	24,200	2,338	0.10	B	1,190	118	118	0.10	B
3535110	93		SUMTER	55	1.26	C-478 E	CR 747	SR 471	2	2	URBAN	UNDIVIDED	COUNTY	WEBSTER	D	24,200	1,779	0.07	B	1,190	62	129	0.11	B	2.75%	24,200	2,037	0.08	B	1,190	71	148	0.12	B
3537100	18		SUMTER	45	1.39	C-466	C-475	CR 229	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	5,961	0.25	B	1,190	341	216	0.29	B	4.00%	24,200	7,252	0.30	B	1,190	415	263	0.35	B
3537120	77		SUMTER	55	2.20	C-475 N	C-466	MARION COUNTY BOUNDARY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	5,787	0.24	B	1,190	319	224	0.27	B	4.00%	24,200	7,041	0.29	B	1,190	388	273	0.33	B
3537130	20		SUMTER	35	0.99	C-466	CR 209	US 301/SR 35	2	2	URBAN	DIVIDED	COUNTY	WILDWOOD	D	14,763	8,726	0.59	D	713	304	467	0.65	D	3.00%	14,763	10,116	0.69	D	713	352	541	0.76	D
3537140	22	187004	SUMTER	45	0.27	C-466	US 301/SR 35	CR 105	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	25,324	0.71	C	1,800	934	1,302	0.72	C	1.00%	35,820	26,616	0.74	C	1,800	982	1,368	0.76	C
3537150	28		SUMTER	45	0.78	C-466	CR 103	CR 101	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	25,444	0.71	C	1,800	1,094	1,191	0.66	C	1.00%	35,820	26,742	0.75	C	1,800	1,150	1,252	0.70	C
3537160	34		SUMTER	45	2.30	C-466	BUENA VISTA BLVD	MORSE BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	24,879	0.69	C	1,800	1,107	1,118	0.62	C	1.75%	35,820	27,133	0.76	C	1,800	1,207	1,219	0.68	C
3537170	37	187033	SUMTER	45	0.98	C-466	MORSE BLVD	C-100 (LAKE COUNTY BOUNDARY)	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	27,144	0.76	C	1,800	1,287	1,156	0.72	C	1.00%	35,820	28,529	0.80	C	1,800	1,353	1,215	0.75	C
3537180	31	187007	SUMTER	45	0.73	C-466	CR 101	BUENA VISTA BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	31,080	0.87	C	1,800	1,339	1,419	0.79	C	1.00%	35,820	32,665	0.91	C	1,800	1,407	1,491	0.83	C
3537200	19		SUMTER	55	2.02	C-466	CR 229	CR 209	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	7,555	0.31	B	1,190	239	454	0.38	C	2.00%	24,200	8,341	0.34	B	1,190	264	501	0.42	C
3538000	89		SUMTER	45	1.66	C-476B	SR 93/I-75	SW 95TH AVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	17,000	1,871	0.11	B	840	90	67	0.11	B	1.00%	17,000	1,966	0.12	B	840	95	70	0.11	B
3539100	87	-	NO COUNT	35	0.50	JASPER ST	C-476A (Seminole Ave)	C-476 E	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	10,360	-	-	-	525	-	-	-	-		10,360	-	-	-	525	-	-	-	-
3539120	390	188007	FDOT	35	0.63	SEMINOLE AVE E	C-48	JASPER ST	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	10,360	907	0.09	C	525	37	43	0.08	C	7.00%	10,360	1,272	0.12	C	525	52	60	0.11	C
3540100	362		SUMTER	35	0.41	C-476 E (Noble Ave)	US 301/SR 35	JASPER ST	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	2,528	0.10	B	1,190	140	106	0.12	B	1.00%	24,200	2,657	0.11	B	1,190	147	111	0.12	B
3540110	82	188006	FDOT	45	2.76	C-476 E	JASPER ST	SR 471	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	2,086	0.09	B	1,190	95	110	0.09	B	1.00%	24,200	2,192	0.09	B	1,190	100	116	0.10	B
3541110	15		SUMTER	45	0.20	C-462	US 301/SR 35	CR 131	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	**F**	33,300	12,120	0.36	C	1,640	392	773	0.47	C	5.50%	33,300	15,840	0.48	C	1,640	512	1,010	0.62	D
3542100	11		SUMTER	45	2.01	C-462	C-475	CR 229	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	825	0.03	B	1,190	15	77	0.06	B	9.75%	24,200	1,314	0.05	B	1,190	24	123	0.10	B
3542120	356		SUMTER	45	1.05	C-462	CR 229	CR 223	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	1,549	0.06	B	1,190	46	107	0.09	B	3.25%	24,200	1,818	0.08	B	1,190	54	126	0.11	B
3542130	13		SUMTER	45	1.34	C-462	CR 223	CR 209	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	2,888	0.12	B	1,190	123	197	0.17	B	3.75%	24,200	3,472	0.14	B	1,190	148	237	0.20	B

Sumter County CMP Database

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
3542150	14		SUMTER	55	1.01	C-462	CR 209	US 301/SR 35	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	24,200	3,385	0.14	B	1,190	99	271	0.23	B	3.50%	24,200	4,020	0.17	B	1,190	118	322	0.27	B
3543100	66		SUMTER	35	0.75	C-472	US 301/SR 35	CR 117	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	14,060	5,422	0.39	C	713	256	238	0.36	C	3.50%	14,060	6,440	0.46	C	713	304	283	0.43	C
3545100	972210	972210	FDOT	70	3.35	SR 91/FLORIDAS TURNPIKE	SR 93/I-75	US 301/SR 35	4	4	RURAL	FREEWAY	STATE	WILDWOOD	C	43,000	46,929	1.09	D	2,500	2,483	1,820	0.99	C	5.00%	43,000	59,895	1.39	E	2,500	3,169	2,323	1.27	E
3545110	972200	972200	FDOT	70	7.32	SR 91/FLORIDAS TURNPIKE	US 301/SR 35	LAKE COUNTY BOUNDARY	4	4	RURAL	FREEWAY	STATE	WILDWOOD	C	43,000	51,500	1.20	D	2,500	2,548	2,136	1.02	D	5.25%	43,000	66,515	1.55	F	2,500	3,291	2,759	1.32	E
3546100	180208	180208	FDOT	70	1.78	SR 93/I-75	HERNANDO COUNTY BOUNDARY	CR 673	4	4	RURAL	FREEWAY	STATE	UNINCORPORATED SUMTER COUNTY	C	43,000	54,500	1.27	E	2,500	2,761	2,179	1.10	D	4.00%	43,000	66,308	1.54	F	2,500	3,359	2,651	1.34	E
3546120	180194	180194	FDOT	70	5.91	SR 93/I-75	CR 673	C-48	6	6	RURAL	FREEWAY	STATE	BUSHNELL	C	64,000	54,776	0.86	C	3,720	2,609	2,213	0.70	C	2.50%	64,000	61,974	0.97	C	3,720	2,952	2,504	0.79	C
3546130	180358	180358	FDOT	70	6.43	SR 93/I-75	C-48	C-470 E	6	6	RURAL	FREEWAY	STATE	BUSHNELL	C	64,000	54,481	0.85	C	3,720	1,590	1,489	0.43	B	1.00%	64,000	57,260	0.89	C	3,720	1,671	1,565	0.45	B
3546140	189920	189920	FDOT	70	7.71	SR 93/I-75	C-470 E	SR 91/FLORIDAS TURNPIKE	6	6	RURAL	FREEWAY	STATE	UNINCORPORATED SUMTER COUNTY	C	64,000	53,759	0.84	C	3,720	2,739	2,296	0.74	C	4.50%	64,000	66,993	1.05	D	3,720	3,413	2,861	0.92	C
3546150	180186	180186	FDOT	70	0.82	SR 93/I-75	SR 91/FLORIDAS TURNPIKE	SR 44	6	6	RURAL	FREEWAY	STATE	UNINCORPORATED SUMTER COUNTY	C	64,000	77,786	1.22	D	3,720	3,850	3,227	1.03	D	3.25%	64,000	91,275	1.43	E	3,720	4,518	3,787	1.21	D
3546180	180188	180188	FDOT	70	6.37	SR 93/I-75	SR 44	MARION COUNTY BOUNDARY	6	6	RURAL	FREEWAY	STATE	UNINCORPORATED SUMTER COUNTY	C	64,000	83,643	1.31	E	3,720	3,035	2,910	0.82	C	2.50%	64,000	94,634	1.48	F	3,720	3,433	3,292	0.92	C
3547105	418	180209	FDOT	45	0.51	US 27/US 441/SR 500	MARION COUNTY BOUNDARY	BUENOS AIRES BLVD	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	59,900	40,929	0.68	C	3,020	1,820	1,484	0.60	C	1.25%	59,900	43,552	0.73	C	3,020	1,937	1,579	0.64	C
3547120	458	180209	FDOT	45	0.51	US 27/US 441/SR 500	BUENOS AIRES BLVD	MORSE BLVD	6	6	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	59,900	40,929	0.68	C	3,020	1,820	1,484	0.60	C	1.25%	59,900	43,552	0.73	C	3,020	1,937	1,579	0.64	C
3549100	83		SUMTER	55	1.34	C-476 W	HERNANDO COUNTY BOUNDARY	C-575	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	17,000	3,753	0.22	B	840	132	200	0.24	B	4.25%	17,000	4,621	0.27	B	840	163	246	0.29	B
3549110	84		SUMTER	45	2.01	C-476 W	C-575	C-476B	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	17,000	4,710	0.28	B	840	185	181	0.22	B	3.00%	17,000	5,460	0.32	B	840	214	210	0.25	B
3549120	85		SUMTER	45	1.55	C-476 W	C-476B	CR 625	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	17,000	4,353	0.26	B	840	148	247	0.29	B	3.25%	17,000	5,108	0.30	B	840	174	290	0.35	B
3549130	364		SUMTER	45	1.82	C-476 W	CR 625	CR 616	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	4,955	0.20	B	1,190	164	296	0.25	B	2.75%	24,200	5,675	0.23	B	1,190	188	339	0.28	B
3549140	86		SUMTER	45	2.34	C-476 W	CR 616	US 301/SR 35	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	4,730	0.20	B	1,190	101	357	0.30	B	3.00%	24,200	5,483	0.23	B	1,190	117	414	0.35	B
3549160	366		SUMTER	30	0.27	C-476 (Seminole Ave)	US 301/SR 35	C-48	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	10,360	4,545	0.44	C	525	162	286	0.54	D	1.75%	10,360	4,957	0.48	C	525	177	312	0.59	D
3550100	62		SUMTER	45	2.90	C-470 N	CR 416 N	CR 479	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	6,801	0.28	B	1,190	367	220	0.31	B	3.00%	24,200	7,884	0.33	B	1,190	425	255	0.36	C
3550110	55		SUMTER	55	2.48	C-470 E	SR 93/I-75	US 301/SR 35	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	11,225	0.46	C	1,190	345	574	0.48	C	9.25%	24,200	17,470	0.72	D	1,190	537	893	0.75	D
3551100	1220	180201	FDOT	45	1.15	SR 44	US 301/SR 35	CR 139	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	41,790	20,843	0.50	C	2,100	904	779	0.43	C	2.75%	41,790	23,871	0.57	C	2,100	1,035	892	0.49	C
3551130	1200	180102	FDOT	45	2.59	SR 44	C-44A	US 301/SR 35	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	41,790	19,714	0.47	C	2,100	607	924	0.44	C	5.75%	41,790	26,072	0.62	C	2,100	803	1,222	0.58	C
3552100	180203	180203	FDOT	60	2.92	SR 44	CITRUS COUNTY BOUNDARY	C-470 N	4	4	RURAL	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	40,300	13,286	0.33	B	2,100	367	743	0.35	B	6.25%	40,300	17,990	0.45	B	2,100	497	1,005	0.48	B
3552110	392	180203: 180202	FDOT	60	3.67	SR 44	C-470 N	C-475	4	4	RURAL	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	40,300	13,000	0.32	B	2,100	423	649	0.31	B	6.50%	40,300	17,811	0.44	B	2,100	580	890	0.42	B
3552120	394	180202	FDOT	60	1.73	SR 44	C-475	SR 93/I-75	4	4	RURAL	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	40,300	11,357	0.28	B	2,100	479	556	0.26	B	6.00%	40,300	15,198	0.38	B	2,100	641	744	0.35	B
3552130	396	180102	FDOT	45	1.00	SR 44	SR 93/I-75	C-44A	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	65,600	19,714	0.30	B	3,240	607	924	0.29	B	5.75%	65,600	26,072	0.40	B	3,240	803	1,222	0.38	B
3553100	378		SUMTER	35	0.27	C-48	C-478 (Virginia Ave)	C-469	2	2	RURAL	UNDIVIDED	COUNTY	CENTER HILL	D	23,100	6,371	0.28	B	1,200	235	288	0.24	B	6.50%	23,100	8,729	0.38	C	1,200	322	395	0.33	B
3553130	368		SUMTER	30	0.51	CR 48 (Florida St)	US 301/SR 35 (Noble Ave)	C-476 W	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	10,360	3,545	0.34	C	525	140	219	0.42	C	1.00%	10,360	3,726	0.36	C	525	147	230	0.44	C
3553140	54		SUMTER	55	2.75	C-469	CR 728	C-48 E	2	2	RURAL	UNDIVIDED	COUNTY	CENTER HILL	D	9,940	2,766	0.28	C	518	159	83	0.31	C	7.50%	9,940	3,971	0.40	C	518	228	119	0.44	C
3553150	452		SUMTER	55	2.90	C-469	SR 50	CR 728	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	12,390	3,100	0.25	C	616	111	171	0.28	C	9.00%	12,390	4,770	0.38	C	616	171	263	0.43	C
3553160	370		SUMTER	35	0.59	C-48	C-476 W	CR 557	2	2	RURAL	UNDIVIDED	COUNTY	BUSHNELL	D	23,100	7,150	0.31	B	1,200	370	317	0.31	B	1.00%	23,100	7,515	0.33	B	1,200	389	333	0.32	B
3553170	97	187001	SUMTER	55	1.75	C-48	CR 557	CR 747	2	2	RURAL	UNDIVIDED	COUNTY	BUSHNELL	D	23,100	6,667	0.29	B	1,200	281	330	0.28	B	2.25%	23,100	7,452	0.32	B	1,200	314	369	0.31	B
3553180	372	187001	SUMTER	45	1.26	C-48	CR 747	SR 471	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	5,666	0.23	B	1,190	230	282	0.24	B	4.00%	24,200	6,894	0.28	B	1,190	280	343	0.29	B
3553190	98		SUMTER	55	1.45	C-48	SR 471	CR 567	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	5,767	0.24	B	1,190	233	282	0.24	B	2.00%	24,200	6,367	0.26	B	1,190	257	311	0.26	B
3553200	99		SUMTER	55	1.82	C-48	CR 567	CR 569 (North Ave)	2	2	RURAL	UNDIVIDED	COUNTY	CENTER HILL	D	23,100	6,051	0.26	B	1,200	253	294	0.25	B	1.00%	23,100	6,360	0.28	B	1,200	266	309	0.26	B
3553210	99		ADJACENT	55	1.82	C-48	CR 569 (North Ave)	C-478 (Virginia Ave)	2	2	RURAL	UNDIVIDED	COUNTY	CENTER HILL	D	23,100	6,051	0.26	B	1,200	253	294	0.25	B	1.00%	23,100	6,360	0.28	B	1,200	266	309	0.26	B
3554120	412	180016: 180009	FDOT	40	1.00	SR 48 (CR 48 W)	CR 609	CR 311 (N West St)	4	4	RURAL	DIVIDED	STATE	BUSHNELL	D	30,400	10,507	0.35	C	1,580	451	467	0.30	C	2.50%	30,400	11,888	0.39	C	1,580	510	529	0.33	C
3554130	414	180009	SUMTER	40	0.52	SR 48 (CR 48 W)	CR 311 (N West St)	C-475 S (Main St)	4	4	RURAL	DIVIDED	STATE	BUSHNELL	D	30,400	13,022	0.43	C	1,580	577	531	0.37	C	2.25%	30,400	14,554	0.48	C	1,580	645	593	0.41	C
3554140	416	180207	FDOT	40	0.25	SR 48 (Main St N)	US 301/SR 35	SR 48	4	4	URBAN	UNDIVIDED	STATE	BUSHNELL	D	37,810	8,386	0.22	C	1,900	365	423	0.22	C	1.00%	37,810	8,814	0.23	C	1,900	384	445	0.23	C
3555100	102		SUMTER	45	0.54	C-48	CITRUS COUNTY BOUNDARY	C-575	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	8,400	3,792	0.45	B	430	134	190	0.44	B	1.00%	8,400	3,985	0.47	B	430	141	200	0.47	B
3555110	374		SUMTER	45	5.16	C-48	C-575	CR 625	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	8,400	4,222	0.50	B	430	125	236	0.55	B	1.00%	8,400	4,437	0.53	B	430	131	248	0.58	C
3555120	103		SUMTER	45	1.77	C-48	CR 625	CR 616	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	5,407	0.22	B	1,190	159	305	0.26	B	1.00%	24,200	5,683	0.23	B	1,190	167	321	0.27	B
3555130	105		SUMTER	45	0.48	C-48	CR 616	CR 313	4	4	URBAN	DIVIDED	COUNTY	BUSHNELL	D	35,820	7,230	0.20	C	1,800	334	249	0.19	C	1.00%	35,820	7,599	0.21	C	1,800	351	262	0.20	C
3556100	100		SUMTER	35	2.93	C-48	C-469	CR 558	2	2	URBAN	UNDIVIDED	COUNTY	CENTER HILL	D	24,200	4,023	0.17	B	1,190	132	244	0.21	B	6.50%	24,200	5,512	0.23	B	1,190	181	334	0.28	B
3556110	101		SUMTER	55	0.20	C-48	CR 558	LAKE COUNTY BOUNDARY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	4,303	0.18	B	1,190	242	98	0.20	B	7.00%	24,200	6,035	0.25	B	1,190	339	137	0.28	B
3557110	53		SUMTER	45	1.02	C-468 (Warm Springs Ave)	US 301/SR 35	CR 513	4	4	RURAL	DIVIDED	COUNTY	WILDWOOD	D	27,360	10,393	0.38	C	1,422	438	452	0.32	C	12.75%	27,360	18,938	0.69	C	1,422	798	824	0.58	C
3557120	52		SUMTER	55	1.74	C-468 (Warm Springs Ave)	CR 513	CR 501	4	4	RURAL	DIVIDED	COUNTY	WILDWOOD	D	27,360	9,844	0.36	C	1,422	419	495	0.35	C	16.75%	27,360	21,353	0.78	C	1,422	909	1,074	0.76	C
3557130	51		SUMTER	55	2.00	C-468 (Warm Springs Ave)	CR 501	SANDALWOOD DR	4	4	RURAL	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	28,880	10,996	0.38	C	1,501	473	501	0.33	C	14.25%	28,880	21,405	0.74	C	1,501	921	975	0.65	C
3557140	50		SUMTER	45	0.90	C-468 (Warm Springs Ave)	SANDALWOOD DR	SR 44	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	37,810	13,344	0.35	C	1,900	639	573	0.34	C	12.50%	37,810	24,046	0.64	C	1,900	1,151	1,033	0.61	C
3558110	404	180061	FDOT	35	0.26	SR 471	C-478 E (S)	C-478 E (N)	2	2	URBAN	UNDIVIDED	STATE	WEBSTER	D	24,200	6,057	0.25	B	1,190	296	255	0.25	B	4.00%	24,200	7,369	0.30	B	1,190	360	310	0.30	B
3558120	406	181001	FDOT	35	1.26	SR 471	C-478 (N)	CR 722	2	2	URBAN	UNDIVIDED	STATE	WEBSTER	D	24,200	7,700	0.32	B	1,190	350	337	0.29	B	5.50%	24,200	10,064	0.42	C	1,190	457	440	0.38	C
3558140	181001	181001	FDOT	55	1.26	SR 471	CR 722	C-48 E	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	24,200	7,700	0.32	B	1,190	350	337	0.29	B	5.50%	24,200	10,064	0.42	C	1,190	457	440	0.38	C
3558150	181003	181003	FDOT	55	1.01	SR 471	C-48 E	C-476	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	24,200	6,157	0.25	B	1,190	301	260	0.25	B	3.25%	24,200	7,225	0.30	B	1,190	353	305	0.30	B
3558170	180020	180020	FDOT	55	2.27	SR 471	SR 50	CR 721	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	5,229	0.62	C	430	253	227	0.59	C	6.50%	8,400	7,164	0.85	C	430	347	311	0.81	C
3558180	180061	180061	FDOT	55	1.01	SR 471	CR 721	C-478A	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	24,200	6,057	0.25	B	1,190	296	255	0.25	B	4.00%	24,200	7,369	0.30	B	1,190	360	310	0.30	B
3558190	402	180061	FDOT	35	0.50	SR 471	C-478A	C-478 E (S)	2	2	URBAN	UNDIVIDED	STATE	WEBSTER	D	24,200	6,057	0.25	B	1,190	296	255	0.25	B	4.00%	24,200	7,369	0.30	B	1,190	360	310	0.30	B
3559100	180204	180204	FDOT	60	2.40	SR 50	HERNANDO COUNTY BOUNDARY	C-478A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	6,814	0.81	C	430	265	322	0.75	C	4.50%	8,400	8,491	1.01	D	430	330	401	0.93	C
3559110	180021	180021	FDOT	60	1.77	SR 50	C-478A	SR 471	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	6,914	0.82	C	430	286	332	0.77	C	2.00%	8,400	7,634	0.91	C	430	316	367	0.85	C
3560110	180118	180118	FDOT	55	6.08	SR 50	SR 471	C-469	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	7,971	0.95	C	430	279	364	0.85	C	4.00%	8,400	9,698	1.15	D	430	339	443	1.03	D
3560120	180017	180017	FDOT	55	0.35	SR 50	C-469	LAKE COUNTY BOUNDARY	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	9,471	1.13	D	430	230	452	1.05	D	3.25%	8,400	11,113	1.32	D	430	270	530	1.23	D
4000100	466		SUMTER	35	1.46	CR 102	US 301/SR 35	CR 101	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	1,324	0.05	B	1,190	53	108	0.09	B	5.00%	24,200	1,690	0.07	B	1,190	68	138	0.12	B
4002000	274		SUMTER	35	1.97	CR 101	WOODRIDGE DR	CR 102	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	4,198	0.17	B	1,190	285	127	0.24	B	1.75%	24,200	4,578	0.19	B	1,190	311	139	0.26	B
4008000	344	-	NO COUNT	40	1.75	CR 237	CR 222	C-466	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	12,390	-	-	-	616	-	-	-	-		12,390	-	-	-	616	-	-	-	-
4009000	114	188030	FDOT	45	0.26	CR 501	C-470E	C-500	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	12,390	2,070	0.17	C	616	81	94	0.15	C	3.25%	12,390	2,429	0.20	C	616	95	110	0.18	C
5000000	155		SUMTER	35	0.51	BUENA VISTA BLVD	EL CAMINO REAL	MARION COUNTY BOUNDARY	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	15,599	0.53	D	1,467	798	743	0.54	D	1.00%	29,160	16,395	0.56	D	1,467	839	781	0.57	D
5000110	146		SUMTER	30	0.29	BUENOS AIRES BLVD	EL CAMINO REAL	US 27/US 441/SR 500	4	4	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	27,540	10,612	0.39	C	1,386	484	538	0.39	C	1.00%	27,540	11,153	0.40	C	1,386	509	565	0.41	C
5000300	143		SUMTER	35	0.54	EL CAMINO REAL	BUENA VISTA BLVD	ENRIQUE DR	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	17,285	0.59	D	1,467	862	810	0.59	D	1.50%	29,160	18,621	0.64	D	1,467	929	873	0.63	D
5000390	140		SUMTER	35	1.83	EL CAMINO REAL	ENRIQUE DR	BUENOS AIRES BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	18,945	0.65	D	1,467	925	861	0.63	D	1.00%	29,160	19,911	0.68	D	1,467	972	905	0.66	D
5000420	128		SUMTER	35	1.82	MORSE BLVD N	RIO GRANDE AVE	EL CAMINO REAL	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	**F**	10,920	11,368	1.04	F	560	592	473	1.06	F	2.00%	10,920	12,551	1.15	F	560	654	522	1.17	F
5000430	119		SUMTER	35	1.00	MORSE BLVD N	C-466	RIO GRANDE AVE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	**F**	14,040	19,961	1.42	F	720	935	938	1.30	F	1.00%	14,040	20,979	1.49	F	720	983	986	1.37	F
5000500	131		SUMTER	25	0.32	RIO GRANDE AVE	MORSE BLVD N	LAKE COUNTY BOUNDARY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	8,473	0.82	D	525	405	390	0.77	D	1.00%	10,360	8,905	0.86	D	525	426	410	0.81	D
5000700	134		SUMTER	20	0.29	EL CAMINO REAL/PAIGE PLACE	MORSE BLVD N	LAKE COUNTY BOUNDARY	2	2	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	14,763	13,320	0.90	D	713	619	635	0.89	D	1.00%	14,763	13,999	0.95	D	713	651	667	0.94	D
5999990	137		SUMTER	35	0.59	EL CAMINO REAL	BUENOS AIRES BLVD	MORSE BLVD N	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	13,472	0.46	D	1,467	685	617	0.47	D	1.00%	29,160	14,159	0.49	D	1,467	720	648	0.49	D
6000001	1260		SUMTER	55	0.22	MORSE BLVD	SR 44	KRISTINE WAY	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	9,949	0.28	C	1,800	452	500	0.28	C	8.25%	35,820	14,788	0.41	C	1,800	672	743	0.41	C
6000002	1270		SUMTER	55	1.63	MORSE BLVD	KRISTINE WAY	HILLSBOROUGH TRAIL	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	13,949	0.39	C	1,800	729	612	0.41	C	8.50%	35,820	20,975	0.59	C	1,800	1,096	920	0.61	C
6000003	485		SUMTER	35	0.96	MORSE BLVD	HILLSBOROUGH TRAIL	PINELLAS PLACE	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	13,007	0.45	C	1,467	667	599	0.45	D	8.50%	29,160	19,558	0.67	D	1,467	1,003	901	0.68	D
6000004	490		SUMTER	35	0.36	MORSE BLVD	PINELLAS PLACE	C-466A	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	16,307	0.56	D	1,467	836	752	0.57	D	3.25%	29,160	19,135	0.66	D	1,467	981	882	0.67	D
6000005	314		SUMTER	35	0.39	BUENA VISTA BLVD	C-466A	ST.CHARLES PL	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	21,147	0.73	D	1,467	934	1,119	0.76	D	2.25%	29,160	23,636	0.81	D	1,467	1,044	1,251	0.85	D
6000010	350		SUMTER	35	2.07	BUENA VISTA BLVD	C-44A	C-466A	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	4,822	0.17	C	1,467	223	220	0.15	C	3.00%	29,160	5,590	0.19	C	1,467	259	255	0.18	C
6000015	348		SUMTER	35	0.43	BUENA VISTA BLVD	SR 44	C-44A	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	29,160	12,447	0.43	C	1,467	599	598	0.41	C	1.00%	29,160	13,082	0.45	D	1,467	630	629	0.43	C
6000020	220		NO COUNT	30	0.09	MARIPOSA WAY	C-466E	500 FT SOUTH MARIPOSA WAY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	3,571	0.27	C	675	205	133	0.30	C	6.50%	13,320	4,893	0.37	C	675	281	182	0.42	C
6000030	185		SUMTER	30	0.36	BELVEDERE BLVD	C-466E	CHURCHILL DOWNS	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	11,502	0.86	D	675	586	614	0.91	D	1.25%	13,320	12,239	0.92	D	675	624	653	0.97	D
6000035	187		SUMTER	30	1.33	BELVEDERE BLVD	CHURCHILL DOWNS	BUENA VISTA BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	7,855	0.59	D	675	422	359	0.63	D	5.75%	13,320	10,388	0.78	D	675	558	475	0.83	D
6000045	329		SUMTER	20	0.51	BONITA BLVD	CANAL ST	MORSE BLVD N	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	3,804	0.29	C	675	193	169	0.29	C	7.00%	13,320	5,335	0.40	C	675	271	237	0.40	C
6000050	326		SUMTER	20	0.52	BONITA BLVD	BUENA VISTA BLVD	CANAL ST	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	4,349	0.33	C	675	218	228	0.34	C	2.25%	13,320	4,861	0.36	C	675	244	255	0.38	C
6000055	216		SUMTER	25	0.49	CANAL ST	C-466A	ODELL CIR (S)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	3,571	0.27	C	675	205	133	0.30	C	6.50%	13,320	4,893	0.37	C	675	281	182	0.42	C
6000060	213		SUMTER	20	0.63	CANAL ST	ODELL CIR (S)	BONITA BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	5,199	0.39	C	675	239	242	0.36	C	8.00%	13,320	7,639	0.57	D	675	351	356	0.53	D
6000065	204		SUMTER	30	0.97	CANAL ST	BONITA BLVD	ODELL CIR (N)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	5,629	0.42	C	675	224	297	0.44	C	4.25%	13,320	6,931	0.52	D	675	276	366	0.54	D
6000070	198		SUMTER	35	0.76	CANAL ST	ODELL CIR (N)	STILLWATER TRL	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	5,490	0.41	C	675	258	274	0.41	C	2.75%	13,320	6,288	0.47	C	675	295	314	0.47	C
6000080	195		NO COUNT	25	0.62	CHURCHILL DOWNS	BELEVEDERE BLVD	MORVEN PARKWAY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	7,855	0.59	D	675	422	359	0.63	D	5.75%	13,320	10,388	0.78	D	675	558	475	0.83	D
6000085	275		SUMTER	35	2.00	NE 90TH ST (CR 100)	TERMINUS (Lake Ella Rd)	C-466	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	10,360	2,080	0.20	C	525	82	141	0.27	C	6.75%	10,360	2,883	0.28	C	525	114	195	0.37	C

Sumter County CMP Database

SEGMENT ID	COUNTY STATION	FDOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2019)	LANES (2024)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2019 AADT	2019 DAILY V/C	2019 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2019 PEAK HOUR NB/EB VOLUME	2019 PEAK HOUR SB/WB VOLUME	2019 PEAK HOUR V/C	2019 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2024)	2024 AADT	2024 DAILY V/C	2024 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2024)	2024 PEAK HOUR NB/EB VOLUME	2024 PEAK HOUR SB/WB VOLUME	2024 PEAK HOUR V/C	2024 PEAK HOUR LOS
6000090	69	188040	FDOT	35	0.23	LYNNHAVEN LN	C-472	CHURCHILL DOWNS	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	2,780	0.21	C	675	100	140	0.21	C	1.00%	13,320	2,922	0.22	C	675	105	147	0.22	C
6000095	72		NO COUNT	35	0.30	LYNNHAVEN LN	CHURCHILL DOWNS	BELVEDERE BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	6,737	0.51	D	675	302	265	0.45	C	1.50%	13,320	7,258	0.54	D	675	325	285	0.48	C
6000100	246		SUMTER	25	0.44	ODELL CIRCLE	BUENA VISTA BLVD (S)	BACKWATER WAY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	6,186	0.46	C	675	295	304	0.45	C	7.25%	13,320	8,778	0.66	D	675	419	431	0.64	D
6000105	240		SUMTER	35	0.38	ODELL CIRCLE	CANAL ST (S)	ARVIN LN	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	6,734	0.51	D	675	310	315	0.47	C	8.25%	13,320	10,010	0.75	D	675	461	468	0.69	D
6000110	231		SUMTER	25	0.51	ODELL CIRCLE	MORSE BLVD N (S)	STILLWATER TRL	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	5,866	0.44	C	675	245	319	0.47	C	3.00%	13,320	6,800	0.51	D	675	284	370	0.55	D
6000115	482		SUMTER	30	1.55	ODELL CIRCLE	STILLWATER TRL	MORSE BLVD N (N)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	9,051	0.68	D	675	473	406	0.70	D	1.00%	13,320	9,513	0.71	D	675	497	427	0.74	D
6000120	228		SUMTER	30	0.31	ODELL CIRCLE	MORSE BLVD N (N)	CANAL ST (N)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	4,993	0.37	C	675	297	282	0.44	C	1.00%	13,320	5,248	0.39	C	675	312	296	0.46	C
6000125	222		SUMTER	30	0.36	ODELL CIRCLE	CANAL ST (N)	BUENA VISTA BLVD (N)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	4,909	0.37	C	675	250	270	0.40	C	7.00%	13,320	6,885	0.52	D	675	351	379	0.56	D
6000130	264		SUMTER	20	0.39	STILLWATER TRL	CANAL ST	MORSE BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	11,306	0.39	C	1,467	490	540	0.37	C	4.75%	29,160	14,259	0.49	D	1,467	618	681	0.46	D
6000135	261		SUMTER	35	0.35	STILLWATER TRL	BUENA VISTA BLVD	CANAL ST	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	11,678	0.40	C	1,467	512	542	0.37	C	2.00%	29,160	12,893	0.44	C	1,467	565	598	0.41	C
6000145	454		SUMTER	35	0.51	CR 139 (Powell Rd)	SR 44	C-44A	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	30,780	10,667	0.35	C	1,549	542	451	0.35	C	1.00%	30,780	11,211	0.36	C	1,549	570	474	0.37	C
32230001	116		SUMTER	40	0.63	CR 673	CR 674	US 301/SR 35	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	16,400	2,198	0.13	B	850	103	68	0.12	B	4.75%	16,400	2,772	0.17	B	850	130	86	0.15	B
32531601	430	180088	FDOT	50	5.60	US 301/SR 35	C-542	C-470 E (S)	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	24,200	6,543	0.27	B	1,190	226	349	0.29	B	4.00%	24,200	7,961	0.33	B	1,190	274	425	0.36	C
32531602	428	180001 180042	FDOT	55	1.36	US 301/SR 35	C-476 (Noble Av)	C-542	2	2	URBAN	UNDIVIDED	STATE	BUSHNELL	D	14,160	5,336	0.38	C	704	202	263	0.37	C	4.00%	14,160	6,492	0.46	C	704	245	320	0.45	C
32532601	400	185008	FDOT	40	1.28	US 301/SR 35	C-466A (Cleveland Ave)	C-462 (S)	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	39,800	20,957	0.53	C	2,000	913	788	0.46	C	3.50%	39,800	24,890	0.63	C	2,000	1,084	936	0.54	C
32533001	420	180210	FDOT	45	1.26	US 301/SR 35	C-472	C-466	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	41,790	24,943	0.60	C	2,100	1,136	979	0.54	C	4.25%	41,790	30,713	0.73	C	2,100	1,399	1,205	0.67	C
32533101	440	180100	FDOT	45	0.75	US 301/SR 35	C-466	CR 204	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	39,800	21,071	0.53	C	2,000	962	829	0.48	C	5.25%	39,800	27,214	0.68	C	2,000	1,242	1,071	0.62	C
32533102	450	180100	FDOT	45	1.52	US 301/SR 35	CR 204	MARION COUNTY BOUNDARY	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	39,800	21,071	0.53	C	2,000	962	829	0.48	C	5.25%	39,800	27,214	0.68	C	2,000	1,242	1,071	0.62	C
33000001	289		SUMTER	20	0.33	BUENA VISTA BLVD	BELVEDERE BLVD	TALL TREES LN	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	20,031	0.69	D	1,467	970	896	0.66	D	4.00%	29,160	24,371	0.84	D	1,467	1,180	1,090	0.80	D
33000002	286		SUMTER	35	0.23	BUENA VISTA BLVD	TALL TREES LN	LAUREL MANOR DR	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	18,934	0.65	D	1,467	888	878	0.61	D	1.00%	29,160	19,900	0.68	D	1,467	933	923	0.64	D
33000003	283		SUMTER	35	0.15	BUENA VISTA BLVD	LAUREL MANOR DR	C-466	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	17,836	0.61	D	1,467	806	860	0.59	D	1.00%	29,160	18,746	0.64	D	1,467	847	904	0.62	D
35270001	56	188014	FDOT	55	2.45	C-470 E	US 301/SR 35	NE 50TH WAY	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	8,979	0.37	C	1,190	339	393	0.33	B	9.00%	24,200	13,815	0.57	C	1,190	522	605	0.51	C
35270002	58		SUMTER	55	1.49	C-470 E	NE 50TH WAY	CR 501	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	24,200	9,939	0.41	C	1,190	443	345	0.37	C	8.75%	24,200	15,118	0.62	C	1,190	674	525	0.57	C
35270003	59		SUMTER	55	2.56	C-470 E	CR 501	LAKE COUNTY BOUNDARY	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	24,200	10,669	0.44	C	1,190	504	407	0.42	C	8.25%	24,200	15,859	0.66	C	1,190	749	605	0.63	C
35281102	8		SUMTER	35	1.54	C-44A	SR 44 (W)	CR 213	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	1,298	0.05	B	1,190	56	81	0.07	B	1.25%	24,200	1,381	0.06	B	1,190	60	86	0.07	B
35281103	1100		WILDWOOD	35	1.13	C-44A	CR 213	US 301/SR 35	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	24,200	1,298	0.05	B	1,190	56	81	0.07	B	1.00%	24,200	1,364	0.06	B	1,190	59	85	0.07	B
35281301	9	-	SUMTER	35	0.52	C-44A	CR 139	BUENA VISTA BLVD	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	30,780	6,664	0.22	C	1,549	295	284	0.19	C	5.75%	30,780	8,813	0.29	C	1,549	390	376	0.25	C
35281302	354		SUMTER	25	2.80	C-44A	BUENA VISTA BLVD	SR 44 (E)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	1,532	0.06	B	1,190	70	69	0.06	B	8.50%	24,200	2,304	0.10	B	1,190	105	104	0.09	B
35310001	81	187006	SUMTER	35	0.43	C-475 S (Main Street)	SR 48 W	JUMPER DR S	4	4	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	30,780	7,145	0.23	C	1,549	288	429	0.28	C	4.25%	30,780	8,798	0.29	C	1,549	355	528	0.34	C
35310002	80		SUMTER	45	0.57	C-475 S (Main Street)	JUMPER DR S	CR 542 W	4	4	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	37,810	3,502	0.09	C	1,900	176	165	0.09	C	11.75%	37,810	6,103	0.16	C	1,900	307	288	0.16	C
35310003	79	-	CONSTRUCTION	55	1.27	C-475 S	CR 542 W	CR 532 W	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	4,587	0.19	B	1,190	234	202	0.20	B	1.00%	24,200	4,821	0.20	B	1,190	246	212	0.21	B
35310004	78	-	CONSTRUCTION	55	3.69	C-475 S	CR 532 W	C-470 E	2	2	URBAN	UNDIVIDED	COUNTY	BUSHNELL	D	24,200	4,021	0.17	B	1,190	205	177	0.17	B	1.00%	24,200	4,226	0.17	B	1,190	215	186	0.18	B
35320001	112	188011	FDOT	55	1.60	C-575	C-476	CR 663	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	16,400	729	0.04	B	850	31	36	0.04	B	1.00%	16,400	766	0.05	B	850	33	38	0.04	B
35331101	41		SUMTER	45	0.75	C-466A	C-462/CR 139	C-133 (NE 57th Dr)	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	37,810	22,776	0.60	C	1,900	969	1,036	0.55	C	4.75%	37,810	28,724	0.76	C	1,900	1,222	1,307	0.69	C
35331102	43		SUMTER	45	0.68	C-466A	C-133 (NE 57th Dr)	BUENA VISTA BLVD	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	37,810	25,010	0.66	C	1,900	1,117	1,172	0.62	C	5.75%	37,810	33,076	0.87	C	1,900	1,477	1,550	0.82	C
35331103	46		ADJACENT	45	1.07	C-466A	BUENA VISTA BLVD	CANAL ST	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	37,810	18,028	0.48	C	1,900	826	784	0.43	C	3.50%	37,810	21,412	0.57	C	1,900	981	931	0.52	C
35331104	46		SUMTER	45	1.07	C-466A	CANAL ST	MORSE BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	37,810	18,028	0.48	C	1,900	826	784	0.43	C	3.50%	37,810	21,412	0.57	C	1,900	981	931	0.52	C
35331105	49	187031	SUMTER	45	0.61	C-466A	MORSE BLVD	LAKE COUNTY BOUNDARY	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	37,810	19,532	0.52	C	1,900	845	920	0.48	C	2.50%	37,810	22,099	0.58	C	1,900	956	1,041	0.55	C
35371401	25		SUMTER	45	0.25	C-466	CR 105	CR 103	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	35,820	21,605	0.60	C	1,800	819	1,123	0.62	C	1.00%	35,820	22,707	0.63	C	1,800	861	1,180	0.66	C
35380001	90		SUMTER	45	1.55	C-476B	SW 95TH AVE	C-476 W	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	C	17,000	1,942	0.11	B	840	118	56	0.14	B	1.00%	17,000	2,041	0.12	B	840	124	59	0.15	B
35411002	16	187003	FDOT	45	1.14	C-462	CR 121	CR 134	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	F	33,300	9,771	0.29	C	1,640	416	358	0.25	B	1.00%	33,300	10,269	0.31	C	1,640	437	376	0.27	C
35411003	17		SUMTER	45	0.50	C-462	CR 134	C-466A	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	F	33,300	11,810	0.35	C	1,640	674	419	0.41	C	1.00%	33,300	12,412	0.37	C	1,640	708	440	0.43	C
35411101	12	-	SUMTER	35	0.85	C-462	CR 131	CR 121	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	F	33,300	14,168	0.43	C	1,640	458	904	0.55	D	6.25%	33,300	19,185	0.58	D	1,640	620	1,224	0.75	E
35431101	800		WILDWOOD	35	0.93	C-472	CR 117	LYNN HAVEN LANE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	14,060	6,785	0.48	C	713	259	381	0.53	D	1.75%	14,060	7,400	0.53	D	713	282	416	0.58	D
35431102	67		SUMTER	35	0.82	C-472	LYNN HAVEN LANE	BUENA VISTA BLVD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	6,737	0.51	D	675	302	265	0.45	C	1.50%	13,320	7,258	0.54	D	675	325	285	0.48	C
35480001	180197	180197	FDOT	60	16.73	SR 471	POLK COUNTY BOUNDARY	SR 50	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	C	8,400	3,600	0.43	B	430	130	124	0.30	B	6.50%	8,400	4,932	0.59	C	430	177	170	0.41	B
35501001	60		SUMTER	35	1.78	C-470 N	CR 479	SR 93/I-75	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	24,200	8,107	0.34	B	1,190	405	302	0.34	B	1.00%	24,200	8,521	0.35	B	1,190	426	317	0.36	C
35511201	398	180201	FDOT	45	0.63	SR 44	CR 139	BUENA VISTA BLVD	4	4	URBAN	DIVIDED	STATE	WILDWOOD	D	41,790	20,843	0.50	C	2,100	904	779	0.43	C	2.75%	41,790	23,871	0.57	C	2,100	1,035	892	0.49	C
35511202	456	180005	FDOT	55	2.94	SR 44	BUENA VISTA BLVD	C-468	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	41,790	20,343	0.49	C	2,100	777	859	0.41	C	4.25%	41,790	25,049	0.60	C	2,100	957	1,057	0.50	C
35541001	108		SUMTER	45	0.18	C-48	CR 313	SR 93/I-75	4	4	URBAN	DIVIDED	COUNTY	BUSHNELL	D	37,810	10,439	0.28	C	1,900	415	390	0.22	C	4.75%	37,810	13,165	0.35	C	1,900	523	492	0.28	C
35541002	410	180016	SUMTER	40	0.32	SR 48 (CR 48 W)	SR 93/I-75	CR 609	4	4	RURAL	DIVIDED	STATE	BUSHNELL	D	31,920	16,596	0.52	C	1,659	685	768	0.46	C	2.50%	31,920	18,777	0.59	C	1,659	775	869	0.52	C
35581601	408	180089	FDOT	55	6.29	SR 471	C-476	US 301/SR 35	2	2	URBAN	UNDIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	24,200	5,386	0.22	B	1,190	251	253	0.21	B	8.50%	24,200	8,099	0.33	B	1,190	377	380	0.32	B
40010001	278		SUMTER	35	0.24	CR 103	C-466 E	WOODRIDGE DR	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	30,780	3,299	0.11	C	1,549	147	183	0.12	C	2.75%	30,780	3,778	0.12	C	1,549	168	210	0.14	C
40090001	113		SUMTER	55	2.43	CR 501	C-500	Corbin Trail	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	24,200	6,291	0.26	B	1,190	338	254	0.28	B	12.00%	24,200	11,087	0.46	C	1,190	596	448	0.50	C
40090002	113		ADJACENT	55	0.48	CR 501	Corbin Trail	C-468 (Warm Springs Ave)	4	4	URBAN	DIVIDED	COUNTY	WILDWOOD	D	35,820	6,291	0.18	C	1,800	338	254	0.19	C	12.00%	35,820	11,087	0.31	C	1,800	596	448	0.33	C
50000101	149		SUMTER	35	0.49	BUENA VISTA BLVD	C-466	SADDLEBROOK LN	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	19,270	0.66	D	1,467	859	838	0.59	D	1.00%	29,160	20,253	0.69	D	1,467	903	881	0.62	D
50000102	352		SUMTER	35	1.39	BUENA VISTA BLVD	SADDLEBROOK LN	EL CAMINO REAL	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	21,462	0.74	D	1,467	922	1,027	0.70	D	1.00%	29,160	22,557	0.77	D	1,467	969	1,079	0.74	D
59999951	182		SUMTER	35	0.50	MORSE BLVD N	C-466A	ODELL CIRCLE S. END	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	22,470	0.77	D	1,467	1,055	1,012	0.72	D	3.25%	29,160	26,367	0.90	D	1,467	1,238	1,187	0.84	D
59999952	176		SUMTER	35	0.54	MORSE BLVD N	ODELL CIRCLE S. END	BONITA BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	14,473	0.50	D	1,467	626	652	0.44	C	3.25%	29,160	16,983	0.58	D	1,467	735	765	0.52	D
59999953	170		SUMTER	35	1.12	MORSE BLVD N	BONITA BLVD	ODELL CIRCLE N. END	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	12,800	0.44	C	1,467	619	568	0.42	C	2.25%	29,160	14,306	0.49	D	1,467	692	635	0.47	D
59999954	164		SUMTER	35	0.86	MORSE BLVD N	ODELL CIRCLE N. END	STILLWATER TRAIL	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	16,467	0.56	D	1,467	784	730	0.53	D	1.00%	29,160	17,307	0.59	D	1,467	824	767	0.56	D
59999955	158		SUMTER	35	0.98	MORSE BLVD N	STILLWATER TRAIL	C-466	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	26,685	0.92	D	1,467	1,231	1,161	0.84	D	1.00%	29,160	28,046	0.96	D	1,467	1,294	1,220	0.88	D
60000051	311		SUMTER	35	0.42	BUENA VISTA BLVD	ST. CHARLES PL	ODELL CIRCLE S. END	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	15,270	0.52	D	1,467	679	806	0.55	D	1.00%	29,160	16,049	0.55	D	1,467	714	847	0.58	D
60000052	308		SUMTER	35	0.68	BUENA VISTA BLVD	ODELL CIRCLE S. END	BONITA BLVD	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	12,758	0.44	C	1,467	562	596	0.41	C	2.00%	29,160	14,086	0.48	D	1,467	620	658	0.45	D
60000053	305		SUMTER	35	0.94	BUENA VISTA BLVD	BONITA BLVD	ODELL CIRCLE N. END	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	14,224	0.49	D	1,467	628	667	0.45	D	1.75%	29,160	15,513	0.53	D	1,467	685	727	0.50	D
60000054	302		SUMTER	35	0.61	BUENA VISTA BLVD	ODELL CIRCLE N. END	STILLWATER TRAIL	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	23,446	0.80	D	1,467	923	1,238	0.84	D	1.00%	29,160	24,642	0.85	D	1,467	970	1,301	0.89	D
60000055	299		SUMTER	35	0.58	BUENA VISTA BLVD	STILLWATER TRAIL	TEMBERRY FOREST DR	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	18,964	0.65	D	1,467	761	1,030	0.70	D	1.00%	29,160	19,931	0.68	D	1,467	800	1,083	0.74	D
60000056	295		SUMTER	35	0.93	BUENA VISTA BLVD	TEMBERRY FOREST DR	C-472 (Rainey Trail)	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	29,160	22,645	0.78	D	1,467	1,051	1,055	0.72	D	1.00%	29,160	23,800	0.82	D	1,467	1,105	1,109	0.76	D
60000201	219		NO COUNT	30	0.12	MARIPOSA WAY	500 FT SOUTH MARIPOSA WAY	MORSE BLVD N	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	3,571	0.27	C	675	205	133	0.30	C	6.50%	13,320	4,893	0.37	C	675	281	182	0.42	C
60000801	192	188037	FDOT	25	1.12	CHURCHILL DOWNS	MORVEN PARKWAY	LYNNHAVEN LN	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	1,540	0.12	C	675	75	67	0.11	C	1.00%	13,320	1,619	0.12	C	675	79	70	0.12	C
60001001	243		SUMTER	30	0.38	ODELL CIRCLE	BACKWATER WAY	CANAL ST (S)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	5,630	0.42	C	675	221	310	0.46	C	1.00%	13,320	5,917	0.44	C	675	232	326	0.48	C
60001051	237		SUMTER	25	0.52	ODELL CIRCLE	ARVIN LN	MORSE BLVD N (S)	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED SUMTER COUNTY	D	13,320	6,664	0.50	D	675	359	303	0.53	D	7.75%	13,320	9,679	0.73	D	675	521	440	0.77	D
355113021	1240	180005	WILDWOOD	55	1.26	SR 44	C-468	LAKE COUNTY BOUNDARY	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED SUMTER COUNTY	D	39,800	23,600	0.59	C	2,000	915	1,054	0.53	C	4.75%	39,800	29,763	0.75	C	2,000	1,154	1,329	0.66	C
400100012	276		SUMTER	35	2.01	CR 103	WOODRIDGE DR	CR 102	2	2	URBAN	UNDIVIDED	COUNTY	WILDWOOD	D	10,360	3,720	0.36	C	525	196	162	0.37	C	7.75%	10,360	5,403	0.52	D	525	285	235	0.54	D