2013 Lake-Sumter Transit Development Plan

Completed for:

Lake County Community Services Department
Sumter County Public Works Division

LakeXpress

SUMTER COUNTY TRANSIT

Lake-Sumter MPO
Metropolitan Planning Organization

TranSystems

EXPERIENCE | Transportation

LAKE~SUMTER

TRANSIT DEVELOPMENT PLAN

2013 Major Update

December 2013

Prepared for:

Lake County Community Services Department

Sumter County Public Works Division

By:

101 Southhall Lane, Suite 355
Maitland, FL 32751
(407) 875-8900

In association with:
Kittelson & Associates, Inc.

Table of Contents

List of Figures

List of Tables

1 Introduction

The Transit Development Plan (TDP) documents a planning process that builds on and formulates Lake County's goals and objectives for transit, reviews and assesses current transit services, identifies unmet transit needs, and develops an appropriate course of action to address the objectives in the short-range future, and the ten-year planning horizon. The TDP serves as a guide for the local transit system, providing a roadmap for implementing service and organizational changes, improvements, and potential expansion during the ten-year period.

Overall transit needs across the region focus on efforts to maintain and enhance the accessibility of the transportation system for all users including the young, the elderly, the economically disadvantaged and the persons with disabilities. Public transit provides transportation for citizens who typically cannot drive. In addition to this segment of the population, transit is increasingly being seen as a viable option for riders who may have access to an automobile, but choose to take transit because it provides a more attractive alternative or supports broader community goals. As such the Lake~Sumter TDP seeks to enhance and expand transit service as part of a long term multimodal mobility strategy, including the integration of paratransit services into all future planning efforts.

The development of the Lake~Sumter TDP reflects the goals and planning factors outlined in the Florida Transportation Plan and Federal SAFETEA-LU Legislation as well as Florida Administrative Code, Rule 9J-5, the Chapter 14-73 Rule and meeting all State and Federal requirements.

Requirements of the TDP Major Update

According to the Florida Department of Transportation (FDOT)'s *Guidance for Producing a Transit Development Plan*, the purpose of a TDP is a *10-year horizon plan intended to support the development of an effective multi-modal transportation system for the State of Florida. The TDP serves as the basis for defining public transit needs which is a prerequisite to receipt of state funds. The rule requires that the TDP be the provider's planning, development and operational guidance document.*

A major update of the TDP is required every five years and an annual update, yearly. The last major update was a ten-year TDP prepared in 2008; this major update covers a ten year period, from 2014 to 2023.

There are four key components to strategic planning that are applicable to the Transit Development Plan:

- The agency's vision and its evolution over time
- Orientation toward the future
- Consideration of the external environment
- Broad-scale data collection

Each section of the TDP was drafted with these components kept in mind as overall principles guiding any conclusions drawn or recommendations made.

While the preparation of a TDP is required through legislative mandate, it also serves as a strategic planning document, drafted under the guidance of local perspective. As highlighted in FDOT's Guidance, each transit system in Florida has certain unique situations or conditions which should be addressed within the TDP process. Nowhere is this uniqueness more pronounced than in Lake County, where

some areas of the County are extremely rural, some are urban, and some are covered by private retirement communities, developed into small, sovereign municipalities unto themselves. In addition, both the Lake County Board of County Commissioners and the advisory committees of the MPO are heavily involved in the development of transit services and priorities in Lake County.

In addition to the key components of *strategic planning* outlined above, certain, specific items are required to be included in and Major Update of a Florida TDP. Table 1.1 below defines these requirements and demonstrates that these requirements have been met by this planning document.

Table 1.1 – Elements Required of a TDP Major Update

TDP Element Required	Item Included in this TDP
Specification of an approved public participation process and documentation of its use	√
A situation appraisal that includes at least:	√
Effects of land use, state and local transportation plans, other governmental actions and policies, socio-economic trends, organizational issues and technology	√
Estimation of the community's demand for transit service using an approved technique	√
Performance evaluation of service provided in the community	√
The agency vision, mission and goals	√
Consideration of alternative courses of action	√
Ten-year implementation plan including:	√
Ten-year program of strategies and policies	√
Maps indicating areas to be served and types and levels of service	√
Monitoring program to track performance	√
Ten-year financial plan noting sources and expenditures of funds	√
Implementation program noting projects and services	√
Relationship to other plans and policies	√

Timeline

The planning process for the current TDP began in May, 2012 with the publication of the updated Transportation Disadvantaged Service Plan (TDSP), which provided certain demographic profiles also used in the current TDP. Through the spring of 2013, TDP components and proposals have been discussed during public meetings of the MPO's various advisory committees. TDPs must be developed, adopted and submitted on or before September 1st of the fiscal year for which funding is being sought. For this TDP, an extension had been granted by FDOT for the County to submit the plan after September 1st, as long as a final plan is approved by December 31st.

Planning Environment

Lake County is located in east central Florida and is bordered by seven counties, including Volusia, Seminole, Orange, Osceola, Polk, Sumter, and Marion counties. According to the 2010 Census, the county is composed of 1,157 square miles, with 953 square miles of land area and 204 square miles of water area. Lake County is shown in Figure 1.1. This TDP also covers the urbanized portions of Sumter County. Sumter County is shown in Figure 1.2.

Figure 1.1 – Lake County Location

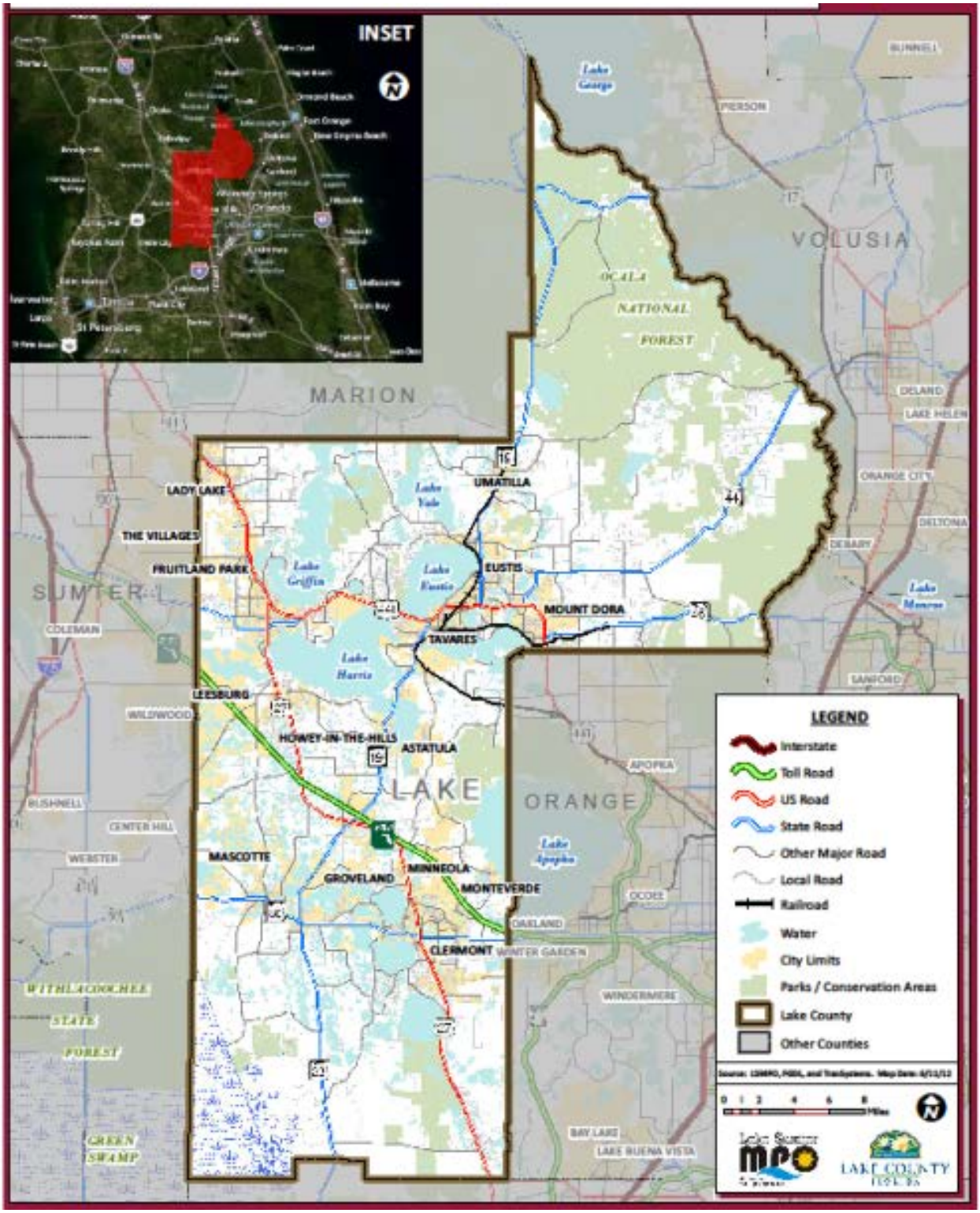
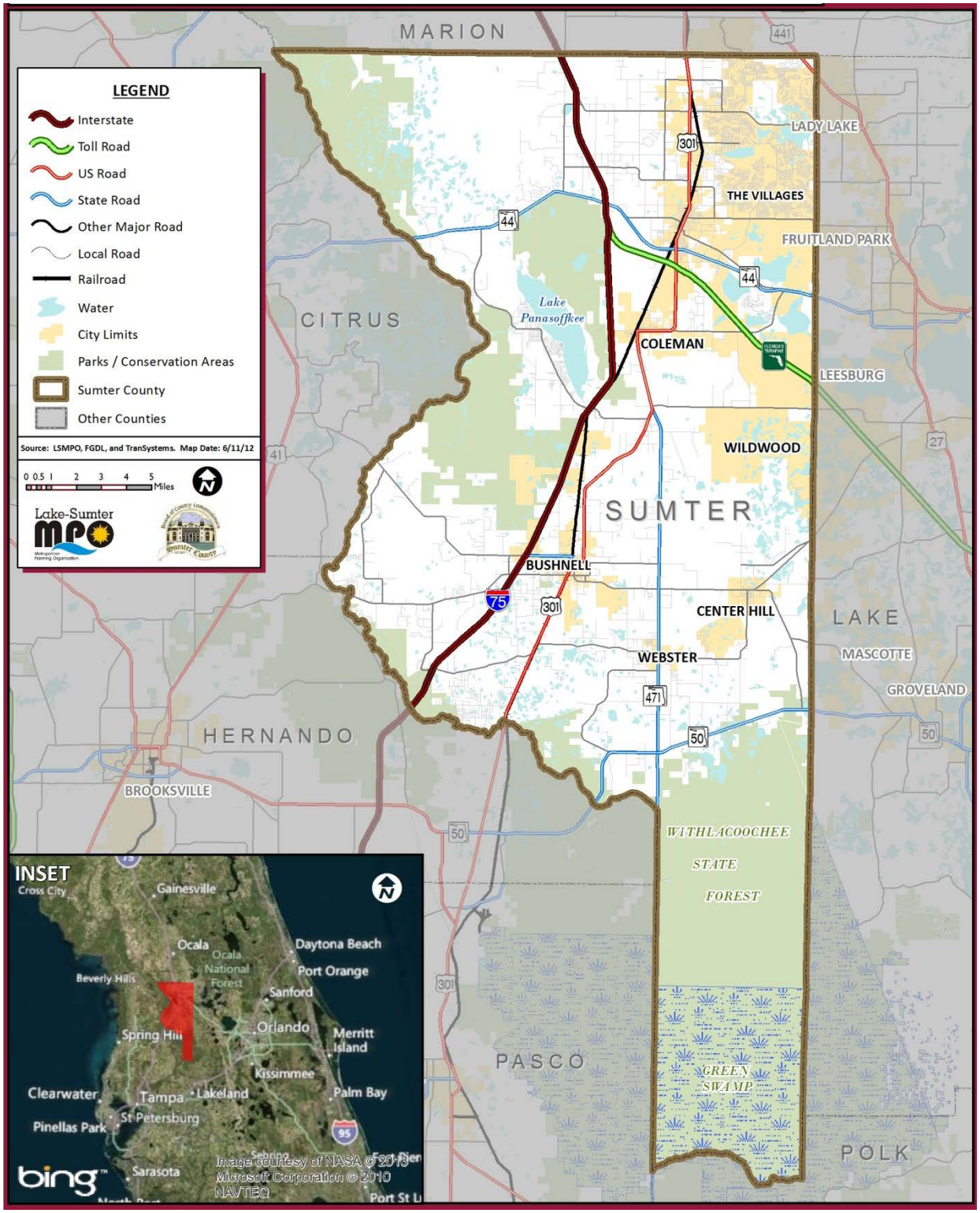


Figure 1.2 – Sumter County Location



The Lady Lake-The Villages Urbanized Area encompasses the northwest corner of Lake County, northeast corner of Sumter County, and much of south central Marion County, including Belleview. Between Census years 2000 and 2010, the population of the UZA grew from 50,721 to 112,991, an increase of almost 123 percent, partially due to an increase in size, from 50 square miles to 71 square miles.

The Leesburg-Eustis-Tavares UZA covers much of central Lake County and has a population of just over 130,000; a growth of 74 percent from Census year 2000.

Finally, part of the Orlando urbanized area extends into south Lake County. Although the Orlando UZA contains approximately 1.5 million people, only about 82,000 of those reside within the boundaries of Lake County.

Lake County is unique in that the county is extremely diverse in its settlement patterns. Some areas of the County, such as Leesburg, are densely populated, urban areas with mixed uses included educational institutions, high density housing, and commercial; other areas are extremely rural with little to no development and large swaths of swamp, water features, and park land. Most interesting, parts of Lake County are encompassed by very large-scale retirement communities such as The Villages and traditional age restricted communities like The Plantation. These communities are set far back from primary arterials and have developed into municipality-like size; some containing big box retail and primary services such as shopping and medical. The Villages is a census-designated place (CDP) that entails portions of Sumter, Lake and Marion counties and which is controlled by several Community Development Districts (CDD's).

2 Public Involvement

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

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

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

2.1 Public Involvement Plan

Lake County has a Public Involvement Plan. However, since the County has contracted with the Lake-Sumter MPO for the development of this TDP, the MPO's Public Involvement Plan (PIP) was followed for preparation of this document. The MPO's Public Involvement Plan (PIP) was approved by the Board in April, 2012 under Resolution 2012-10. While neither FHWA nor FTA approval of the MPO's PIP is required, FHWA reviews and comments on the PIP whenever it is updated. A complete copy of the PIP is included as Appendix A.

The PIP outlines four specific objectives:

- To make readily available information on the activities of the MPO; to provide requested information to the public, government agencies and elected officials in a responsive and timely manner; and to increase public awareness of the MPO and its role in transportation.
- To increase public participation in the MPO planning process, especially from those segments of the population that are considered to be traditionally underserved; and to increase and enhance the levels of participation by the public in the planning process.
- To explore new and innovative means by which to engage the public on the transportation planning process; to utilize technologies to better communicate with the public; and to establish methods by which public input targets all demographic segments of the community.
- To establish goals and objectives for public involvement activities; to establish monitoring methods in order to analyze public involvement activities; and to establish measures by which the MPO may determine the effectiveness of public involvement activities.

To meet these objectives, the MPO provides full and open access to all Governing Board meetings and Committee meetings, conducts public outreach campaigns, and elicits public involvement on all key decisions, including the development of this TDP. Further, citizens unable to attend public hearings or Board meetings may submit written public comment to the MPO in three additional ways: 1) via U.S. Postal Service; 2) via the web site www.lakesumtermpo.com/voice.aspx; or by emailing mwoods@LakeSumterMPO.com.

The MPO provides notification of meetings, hearings, or other significant events via the MPO social media page and feed, newspaper publications, and public notices posted on the MPO web site (www.LakeSumterMPO.com) and the web sites for both Lake (www.lakecountyfl.gov) and Sumter (www.sumtercountyfl.gov) counties. The May 2013 legal ad is presented in Appendix C. In addition, the MPO utilizes email lists; direct mailings to public service agencies and institutions, or individuals, groups, and organizations that have expressed interest or made comments at previous hearings; public service announcements; as well as presentations at service clubs, civic and professional groups, regional sites, open houses, and other community forums.

Technical and policy information relating to the data and content of transportation plans, programs, and projects is available at the MPO web site and the MPO office in Leesburg. Copies of draft plans for public review are also placed at public buildings throughout the planning area, including the Lake County Administration Building, Clermont City Hall, Leesburg Public Library, Lady Lake Town Hall, and the Sumter County Service Center.

Supplementing the notification process in the MPO plan, notices regarding the TDP will also be posted on the LakeXpress and Sumter County Transit websites. Copies of the draft and final plan will also be made available at the Lake County Public Transportation Division Office.

2.2 Advisory Committees

As a supplement to the MPO's public involvement process, four advisory committees have been formed: the Technical Advisory Committee (TAC), comprised of planners and engineers from various local governments; the Citizens' Advisory Committee (CAC), made up of interested community members; the Transportation Disadvantaged Coordinating Board (TDCB), a group advising on paratransit issues; and the Bicycle & Pedestrian Advisory Committee (BPAC), with a membership of various professionals and concerned citizens. Each advisory committee brings a unique perspective to the planning process and assists the MPO is both capturing broad opinion and developing comprehensive documents.

A complete list of advisory committee membership, current as of July 2013, is provided as Appendix D.

2.3 Participation Opportunities

Throughout 2013, the TDP was discussed at various MPO Committee and Board meetings, all of which were advertised and opened to the public, and at several other public meetings, as outlined in Table 2.1 below. In addition, the MPO has made informal presentations throughout Lake and Sumter counties. Comments were accepted both at these meetings and continuously throughout the development of the TDP. Comments were accepted up until final adoption of the TDP by the Board of County Commissioners on October 22, 2013.

Table 2.1 – MPO Committee/Board Meeting Dates

MPO Committee/Board	Meeting Date
Lake BCC Public Transportation Budget Workshop	December 18, 2012
MPO LakeXpress Task Force	January 17, 2013
MPO East Lake Taskforce	January 17, 2013
South Lake Task Force	February 7, 2013
South Lake Task Force	April 4, 2013
MPO Technical Advisory Committee	April 10, 2013
MPO Citizen Advisory Committee	April 10, 2013
MPO Bicycle & Pedestrian Advisory Committee	April 11, 2013
MPO LakeXpress Task Force	April 19, 2013
MPO East Lake Taskforce	April 19, 2013
MPO Governing Board	April 24, 2013
MPO Technical Advisory Committee	May 8, 2013
MPO Citizen Advisory Committee	May 8, 2013
MPO Bicycle & Pedestrian Advisory Committee	May 9, 2013
MPO Governing Board	May 22, 2013
South Lake Task Force	June 6, 2013
MPO Technical Advisory Committee	June 12, 2013
MPO Citizen Advisory Committee	June 12, 2013
MPO Bicycle & Pedestrian Advisory Committee	June 13, 2013
South Lake Task Force	August 1, 2013
MPO Technical Advisory Committee	August 14, 2013
MPO Citizen Advisory Committee	August 14, 2013
MPO Bicycle & Pedestrian Advisory Committee	August 15, 2013
MPO Governing Board	August 28, 2013
MPO LakeXpress Task Force	September 17, 2013
MPO East Lake Task Force	September 17, 2013
MPO Northwest Lake Task Force	September 18, 2013
Public Hearing - Leesburg Public Library	September 18, 2013
MPO Governing Board	September 25, 2013
MPO South Lake Task Force	October 3, 2013
Lake County BCC	October 8, 2013
MPO Technical Advisory Committee	October 9, 2013
MPO Citizen Advisory Committee	October 9, 2013
TDP Public Meeting - Leesburg Gymnasium	October 10, 2013
Leesburg City Council Meeting	October 14, 2013
Lake County BCC – Final adoption	October 22, 2013

The Regional Workforce Development Board was notified on all phases of work and meetings in developing the TDP. The Board also sits on the Transportation Disadvantaged Coordinating Board for both Lake and Sumter Counties. As part of the public survey discussed in Section 4.5, the MPO set up a survey table for four hours one afternoon at the Board's location on Route 2 to obtain feedback from their riders who use the system.

2.4 Needs Identified

Various transit-related needs were identified by staff, through the TDP's public participation process and through a public survey (discussed in a later section). In general, stakeholders highlighted the need for effective and efficient transportation services to meet the demand of a rapidly expanding population and geography. Other specific needs identified through the process and through previous reports include the need for:

- Transportation that is both affordable (to the consumer) and cost-effective (for the funding partners)
- Integration of LakeXpress service with current Sumter County Transit services in a revenue-neutral fashion
- Regional transportation connectivity, especially with regard to the South Lake and Orlando areas
- Local connections between transit and retirement communities such as The Villages
- Additional transit service, especially weekend service/evening service
- Increase the on time performance standard from 92% to 95%
- Increased visibility for existing transit services through marketing, education, and coordination with partners and hiring a marketing person. Marketing will include free rides to students during summer and Christmas breaks, special promotional events with users of the County's Library service and other events.
- Monitoring existing and potential park-and-ride facility use
- An analysis of existing paratransit use: Transportation Disadvantaged (TD) vs. ADA-certified trips
- Enhance the maintenance to ensure adequate fixed route buses are always on the route.
- Add additional ITS infrastructure to the vehicles
- Service along the CR 473 and CR 44 corridor
- Provide service to students at Lake County schools that may benefit from the fixed routes.

3 Existing Services and Service Performance

The Lake County Board of County Commissioners contracts with a private entity, most recently MV Transportation, Inc., to provide fixed route service, LakeXpress, as well as Transportation Disadvantaged (TD) and ADA Complementary Paratransit service, known together as the Lake County Connection (LCC). On July 30, 2013 the BCC awarded a contract to Ride Right to become its transit operator beginning October 1, 2013.

Lake County currently operates a fleet of 14 fixed route and 67 paratransit vehicles throughout the county. Two paratransit vehicles also serve as spares to the fixed route. In addition to the LakeXpress/LCC service, Lake County is served by several LYNX fixed routes.

Three FDOT-owned Park-and-Ride lots are located within Lake County, two of which are currently in use. Besides public transportation service, there are five for-profit transportation providers and 18 taxi operations in Lake County. There are numerous "coordination contractors" providing agency and other transportation to residents of Lake County, under contract with the County.

Sumter County Transit, in adjacent Sumter County, operates flexible shuttle routes on limited fixed schedules in and around The Villages, Wildwood, and as far south as Bushnell, Webster and Center Hill in Sumter County. The Villages shuttles connect with LakeXpress service at the Spanish Springs Station. Sumter County Transit also provides paratransit service throughout the county. The Villages area (which includes parts of Sumter, Lake and Marion counties) and parts of Wildwood in Sumter County are included in the Lady Lake-The Villages urbanized area. As a result, Sumter County shuttle services are eligible to share federal FTA Section 5307 funding with parts of Lake County and therefore must be considered as part of the existing services covered under this TDP. Marion County could also receive Section 5307 funding for service in the Lady Lake-The Villages urbanized area; however, they have agreed to allow Lake County to use all the funds at the current time.

This section focuses on services in Lake County and the relevant services in Sumter County but also includes a discussion of other adjacent-area transit service providers.

3.1 LakeXpress Fixed Route Service

Fixed route bus service was initiated in Lake County on May 21, 2007 and is known as LakeXpress. Current service is comprised of four fixed routes traveling through the County along SR19 and the U.S. Highway 441 Corridor, serving the major hub cities of Lady Lake, Fruitland Park, Leesburg, Tavares, Eustis, Mount Dora, Umatilla, and Zellwood. Currently, there are two transfer points between LakeXpress local routes; one transfer point allowing access to LYNX Link 44; and one transfer point between LakeXpress and Sumter County Transit service (Table 3.1).

Table 3.1 – Public Transit Transfer Points in Lake County

Transfer Location	LakeXpressRoutes	Other Providers
14th St. & Citizens Blvd.	1, 2	
Lake Tech	1, 3, 4	
Anthony House @ Holly St.	4	LYNX Link 44
Spanish Springs Station	1	SCT Village Shuttle

3.1.1 Operating Characteristics

LakeXpress provides fixed-schedule service on four routes, two base routes and two circulator routes in Leesburg and Mount Dora, respectively. LakeXpress routes operate on weekdays between the hours of 6 a.m. and 7:45 p.m. on 60 minute headways (except Route 4 which operates every 120 minutes). Service is not available on weekends or on the following holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Labor Day, Thanksgiving Day and Christmas. Figure 3.1 below provides an overview of the LakeXpress fixed route system.

Route 1 The Villages to Eustis: LakeXpress Route 1 operates in an east-west alignment, traveling between Spanish Springs Station in The Villages to the west and Wall Street, Eustis, in the east. Timepoints along the route include major destinations such as Wal-Mart, Lake-Sumter Community College, Lake Square Mall, the Tavares government complex, Eustis Square, and the Waterman Hospital. In Leesburg, the route makes a loop through Lake Street and Newell Hill Road before continuing east toward Tavares and Eustis. Once into Eustis, the route traverses local streets to serve downtown destinations.

There are three transfer points along Route 1. At Spanish Springs Station, the western route terminus, riders can connect to the Sumter County Transit Villages shuttles. At 14th Street and Citizens Boulevard, riders can transfer to LakeXpress Route 2. Finally, at Lake Tech, riders are able to transfer among routes 1, 3, and 4.

Like all LakeXpress routes, Route 1 operates Monday through Friday. The route begins at 6 a.m. and runs until 7:50 p.m. In the eastbound direction, three express/altered alignment runs leave from US Highway 27 and Citizens Boulevard: at 6 a.m. direct to Lake Square Mall; at 6:32 a.m. direct to Main Street in Tavares; and also at 6 a.m. to the eastern terminus in Eustis. Beginning at 6:30 a.m., buses run the entire route, east to west, on 60-minute headways. The last two eastbound runs operate between The Villages and Wal-Mart, only; the last timepoint occurring at 7:50 p.m.

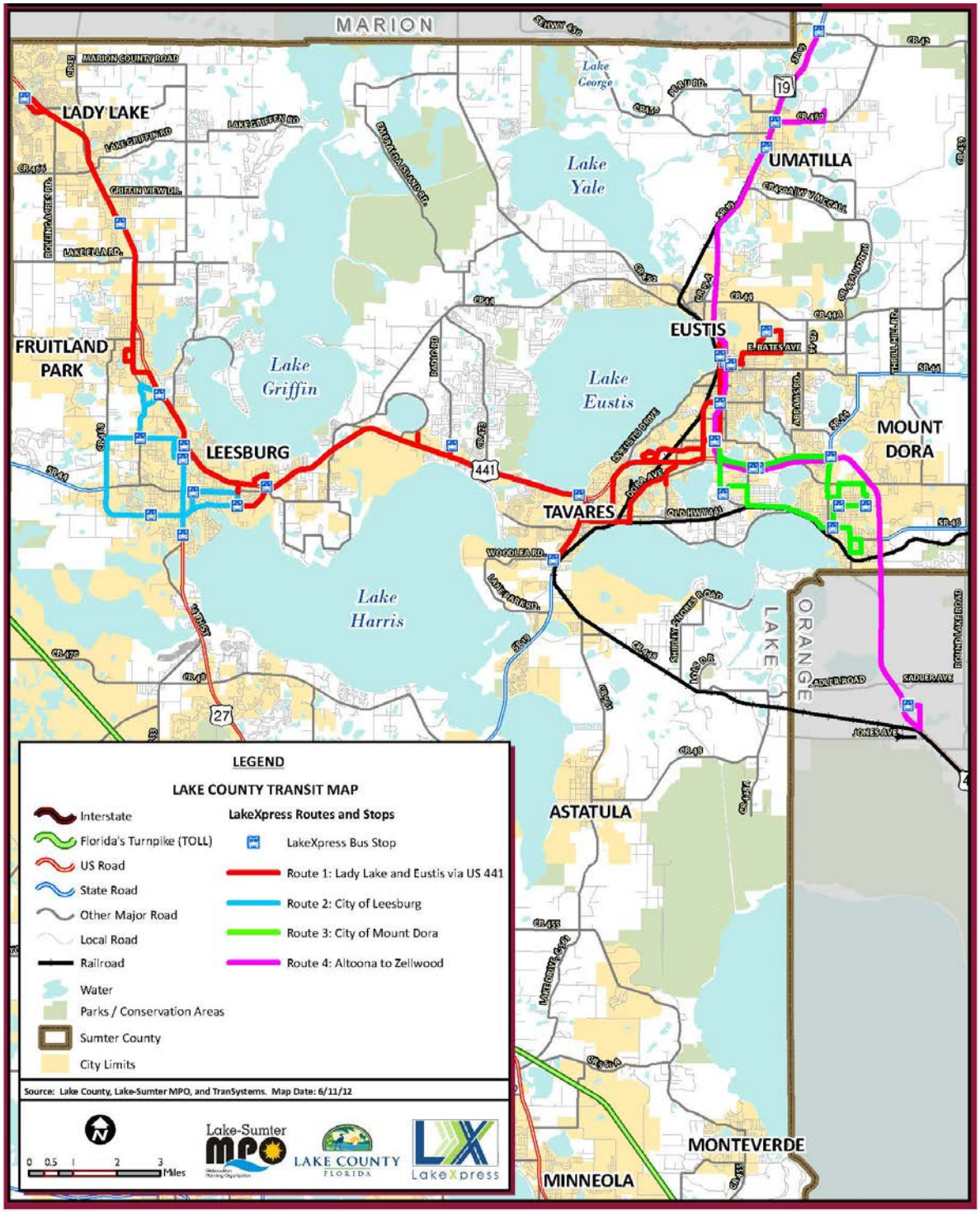
In the westbound direction, there are three alternative, AM alignments, departing at 6 a.m., 6:25 a.m., and 6:53 a.m., respectively. Beginning at 7:14 a.m., the west bound route leaves Palmetto Street and Getford Road, serving all timepoints on 60-minute headways. The last two runs of the day, leaving at 6:14 p.m. and 7:14 p.m. terminate at Lake Square Mall and Waterman Hospital, respectively.

Route 2 City of Leesburg: The Leesburg Circulator operates through the City of Leesburg from Wal-Mart in the north to the Southside Shopping Center in the south. There are various important destinations along and adjacent to this circulator, including various subsidized housing complexes, City Hall, Leesburg Library, Beacon College (for developmentally delayed persons), a One-Stop Center, and the Leesburg Recreation Center. From 6 a.m. until 7 p.m., the route operates 13 complete runs on 60-minute headways.

At 14th Street and Citizens Boulevard, riders can transfer to LakeXpress Route 1.

Route 3 Mount Dora Circulator: Like the Leesburg route, the Mount Dora route is also a circulator. It operates between Eustis Square in the east, also a transfer point to Route 1, and downtown Mount Dora surrounding City Hall in the west. City Hall, Mount Dora High, Mount Dora Middle School, Triangle Elementary, Mount Dora Library and Wal-Mart are among the primary destinations along the route. Beginning at 6:38 a.m., the route operates on hourly headways with the last departure occurring at 6:38 p.m.

Figure 3.1 – LakeXpress System Map



Route 4 Altoona/Umatilla to Zellwood: Route 4 is the only LakeXpress route that travels outside of the county to its terminus. In the north, the route originates at the Altoona post office. In the south, the route originates at Anthony House in Zellwood, Orange County. The majority of the route travels on state and US highways and there are limited stops at destinations such as Umatilla City Hall, Eustis Square, and the Mount Dora Wal-Mart. A complete one-way trip takes approximately 60 minutes to complete.

In the southbound to Zellwood direction, there are three AM and three PM departures: 7:11 a.m., 9:11 a.m., 11:11 a.m., 1:11 p.m., 3:11, and 5:11 p.m. In the northbound direction, there are two AM and four PM departures: 8:20 a.m., 10:20 a.m., 12:20 p.m., 2:20 p.m., 4:20 p.m., and 6:20 p.m.

3.1.2 Fare Schedule

A detailed LakeXpress fare schedule is presented in Table 3.2. Fares have not increased since service inception, in 2007. The regular full cash fare is $1. Seniors, students, Medicare cardholders, veterans, and individuals with disabilities are eligible for a reduced fare of $0.50. Children five years of age and younger are provided free passage throughout the system when accompanied by a paying adult. Multi-ride regular and discounted passes (Daily, 30-Day, and 10-Ride) are available for purchase at the Tavares City Hall, Lake County Public Transportation Office and various libraries that are part of the Lake County Public Library System. Bus-to-Bus transfers within the system are free. Diamond manual fareboxes are used on all vehicles. It has been suggested that the County acquire electronic fareboxes in order to obtain a more accurate accounting of passengers and revenues.

Table 3.2 – LakeXpress Fare Schedule

Fare Type	Cost	
One-way Trip		
	Regular	Reduced
Adult	$1.00	$0.50
Student (with valid ID)		$0.50
Veteran (with a DD-214)		$0.50
Senior		$0.50
Medicare cardholder		$0.50
ADA Eligibile		$0.50
Multi-Trip Pass		
1-Day Pass (unlimited rides)	$3.00	$1.50
30-Day Pass (unlimited rides)	$30.00	$15.00
10-Ride Pass	$8.00	$4.00

Source: Lake County

3.1.3 Transportation Budget and Operating Performance

The 2012 operating budget for LakeXpress was $1,790,832; capital costs were $816,238. Compared to previous years, operating expenses remained relatively steady; an increase of only 11 percent from 2010 to 2013. For comparison, gas prices during the same period increased 25 percent.[1] Capital costs in 2012 were much higher than in previous years, an increase of 127 percent over 2011, due to investments in passenger stations, administrative buildings, vehicles, and ITS technology which were all grant funded.

Operating Statistics and Measures of Efficiency and Effectiveness

Table 3.3 below provides detailed budgetary information in conjunction with operating statistics and performance measurements. Sources of transportation funding in Lake County are discussed in a later section.

Table 3.3 – LakeXpress Operating Characteristics and Performance Measures

Operating Expense			Service Effectiveness			Service Efficiency		
2010	2011	2012	2010	2011	2012	2010	2011	2012
$1,620,604	$1,692,299	$1,790,832						
Capital Expense			Operating Expense/Pass. Mile			Operating Expense per VRM		
$313,753	$360,319	$816,238	$1.35	$0.95	$0.85	$4.21	$4.27	$4.34
Farebox Revenues			Operating Expense/Pass. Trip			Operating Expense per VRH		
$104,210	$124,276	$107,039	$6.96	$6.57	$6.03	$69.71	$72.80	$77.34
Unlinked Passenger Trips			Passengers Trips per VRM					
232,794	257,721	296,969	0.61	0.65	0.72			
Passenger Miles			Passengers Trips per VRH					
1,198,889	1,784,837	2,117,357	10.01	11.09	12.83			
Vehicle Revenue Miles (VRM)								
384,653	396,443	412,188						
Vehicle Revenues Hour (VRH)								
23,249	23,245	23,154						

Annual rideship for each of LakeXpress' four fixed routes is outlined in Table 3.4 and Figure 3.2 below. **In aggregate, ridership on LakeXpress was up almost 28 percent between 2010 and 2012.**

Route 4, Altoona to Zellwood experienced the largest growth, an increase of nearly 43 percent, although all routes saw growth over 22 percent.

Detailed ridership by route and month is provided as Appendix E.

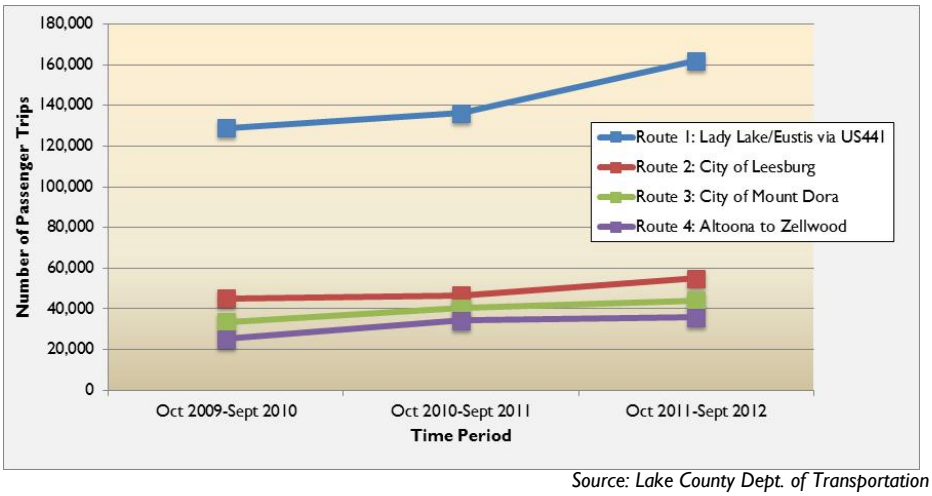
[1] U.S Energy Information Administration: Weekly U.S. All Grades All Formulations Retail Gasoline Prices (Dollars per Gallon), July 2010-July 2012

Table 3.4 – Annual LakeXpress Ridership

LakeXpress Route	Oct 2009-Sept 2010	Oct 2010-Sept 2011	Oct 2011-Sept 2012	Percent Change
Route 1: Lady Lake/Eustis via US441	128,959	136,147	161,873	25.52%
Route 2: City of Leesburg	45,056	46,679	55,110	22.31%
Route 3: City of Mount Dora	33,585	40,488	44,061	31.19%
Route 4: Altoona to Zellwood	25,194	34,407	35,925	42.59%
LakeXpress Total:	232,794	257,721	296,969	27.57%

Source: Lake County Dept. of Transportation

Figure 3.2 – Annual LakeXpress Ridership



Source: Lake County Dept. of Transportation

Certain measures of transit efficiency and effectiveness are commonly accepted throughout the transit industry. The National Transit Database (NTD), an information clearinghouse established by Congress and administered by the FTA, annually collects such information from recipients of Section 5307 and Section 5311 federal funds. Measures of effectiveness relate the desired outcome or the amount of service consumed (such as passenger trips or passenger-miles) to service provided (such as vehicle revenue hours or vehicle trips) or to resources used (typically operating and maintenance expense, referred to as "O&M expense", or sometime simply "operating expense"). Measures of service *effectiveness* include operating expense per passenger mile or per unlinked passenger trip and unlinked passenger trips per vehicle revenue mile (VRM) or vehicle revenue hour (VRH). Measures of efficiency relate service provided to resources used. Measures of service *efficiency* examine operating expense per vehicle revenue mile (VRM) or vehicle revenue hour (VRH).

Measures of effectiveness and efficiency in the transit industry are generally based on peer comparisons, rather than industry-wide standards. In Florida, the Integrated National Transit Database Analysis System (INTDAS) combines information from both FTA and the NTD to allow for comparisons of peer

characteristics. Table 3.5 below illustrates operating characteristics for LakeXpress (fixed route) and three peer agencies: Collier Area Transit, the Council on Aging of St. Lucie, Inc., and Pasco County Transportation for the year 2011, the most recent data available through this system.

Table 3.5 – Operating Characteristics and Performance Measures for LakeXpress and Florida Peers

Transit Sponsor	Lake County Board of County Commissioners	Collier Area Transit	Council on Aging of St. Lucie, Inc.	Pasco County Public Transportation	***Peer Average***
Location	Tavares	Naples	Fort Pierce	Port Richey	
Fixed Route Fare	$1.00	$1.50	$2.00	$1.50	**1.67**
Paratransit Fare	$2.00	$1.00	$2.00	$4.00	**2.33**
Farebox Recovery (%)	7.34	21.11	10.46	23.12	**18.23**
Operating Expense Per Passenger Mile	$0.95	$0.55	$1.20	$0.69	**$0.81**
Operating Expense Per Passenger Trip	$6.57	$4.59	$9.56	$4.85	**$6.33**
Operating Expense Per Revenue Hour	$72.80	$79.30	$67.65	$63.37	**$70.11**
Operating Expense Per Revenue Mile	$4.27	$4.32	$4.73	$3.74	**$4.26**
Passenger Miles	1,784,837	9,699,497	1,163,521	5,914,595	**5,592,538**
Passenger Trips	257,721	1,154,702	145,769	845,177	**715,216**
Passenger Trips Per Revenue Hour	11.09	17.27	7.08	13.07	**12.47**
Passenger Trips Per Revenue Mile	0.65	0.94	0.49	0.77	**0.73**
Total Operating Expense	$1,692,299	$5,300,989	$1,393,528	$4,097,123	**$3,597,213**

In most measures, LakeXpress tends to fall in the middle of the peer group, ahead of the Council on Aging of St. Lucie, Inc., and below the other two. However, as demonstrated by Table 3.3, between 2011 and 2012, LakeXpress increased its effectiveness in all measures. Operating expense per passenger mile and per passenger trip decreased, and trips per vehicle revenue mile and vehicle revenue hour increased. In terms of efficiency, costs were actually slightly up, though this is probably attributable to the increase in fuel prices. Farebox recovery was the lowest of the peers, due to LakeXpress having the lowest fixed route fares of the group.

Figure 3.3 and Figure 3.4 below are similar to those provided by the NTD and illustrate the change in effectiveness and efficiency for LakeXpress service between 2010 and 2012.

- In terms of effectiveness, operating expense per passenger mile improved steadily between 2010 and 2012, down nearly 60 percent from $1.35 to $0.85.
- Operating expense per unlinked passenger trip also decreased during those same years, down 15.5 percent from $6.96 to $6.03.
- Effectiveness of revenue service increased as well. Trips per revenue mile grew from 0.61 in 2010 to 0.72 in 2012 and trips per revenue hour increased from 10.01 in 2010 to 12.83 in 2012.

Service efficiency is measured by operating expense per vehicle revenue mile and operating expense per vehicle revenue hour. Unlike the improvements in measures of effectiveness discussed above, between 2010 and 2012 LakeXpress service efficiency declined due to increasing costs. Its operating expense per vehicle revenue mile increased 3%, from $4.21 in 2010 to $4.34 in 2012. Operating expense per vehicle revenue hour increased 11%, from $69.71 in 2010 to $77.34 in 2012.

3.2 Lake County Connection Paratransit Service

3.2.1 Transportation Disadvantaged (TD) Program

Since 2001, the Lake County Board of County Commissioners has served as the Community Transportation Coordinator (CTC) for Lake County. Lake County operates paratransit under the Transportation Disadvantaged (TD) Program as *Lake County Connection* (LCC). Lake County Connection provides paratransit services to individuals qualifying under guidelines identified in the Florida Statutes 427 and other local requirements, who would otherwise not have access to other means of transportation.

The statewide TD program was developed in an effort to more cost-effectively and efficiently coordinate the existing TD services currently sponsored by social and human service agencies without duplication of services. The Florida Coordinated Transportation System (FCTS) with the enactment of Chapter 427, F.S. Chapter 427 defines TD as:

> *"…those persons who because of physical or mental disability, income status, or age are unable to transport themselves or to purchase transportation and are, therefore, dependent upon others to obtain access to health care, employment, education, shopping, social activities, or children who are handicapped or high-risk or at-risk as defined in Section 411.202, Florida Statutes."*

Currently, Lake County's TD Program is funded through the following agencies: Lake County Board of County Commissioners, Florida Department of Transportation, Agency for Persons with Disabilities, Agency for Health Care Administration (Medicaid), Florida Commission for the Transportation

Figure 3.3 – LakeXpress Measures of Service Effectiveness

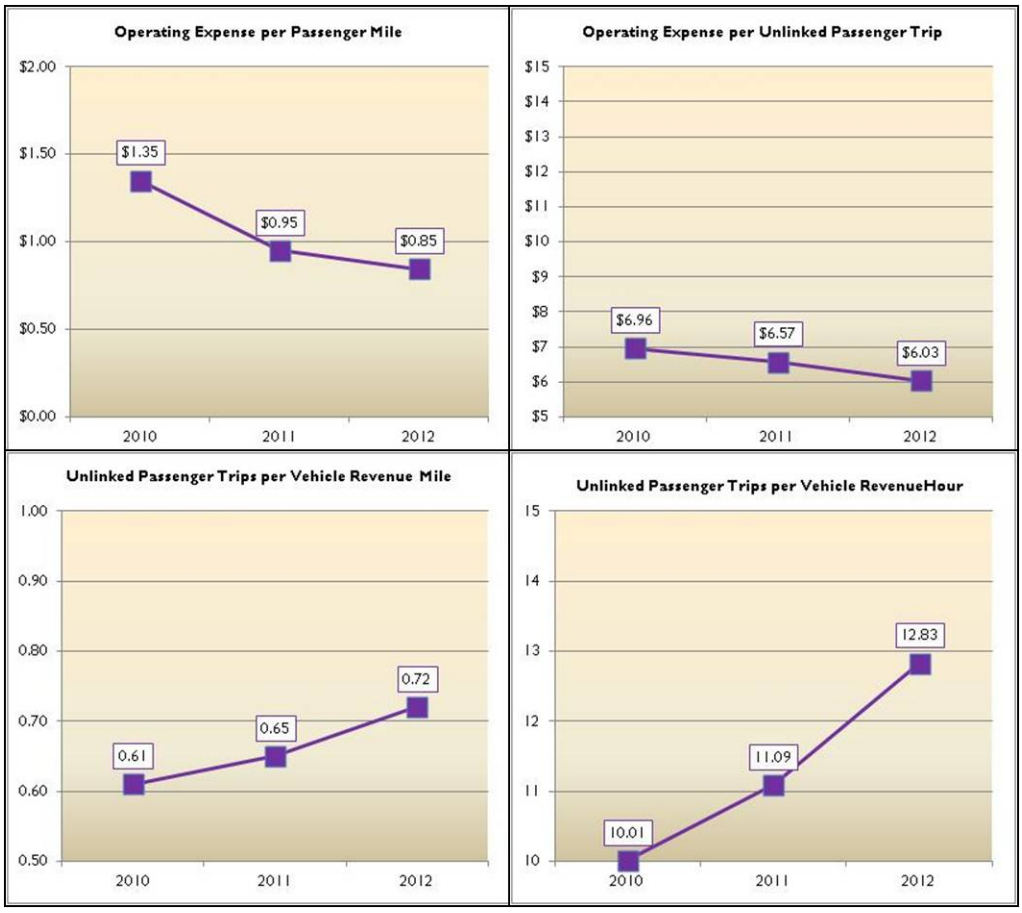
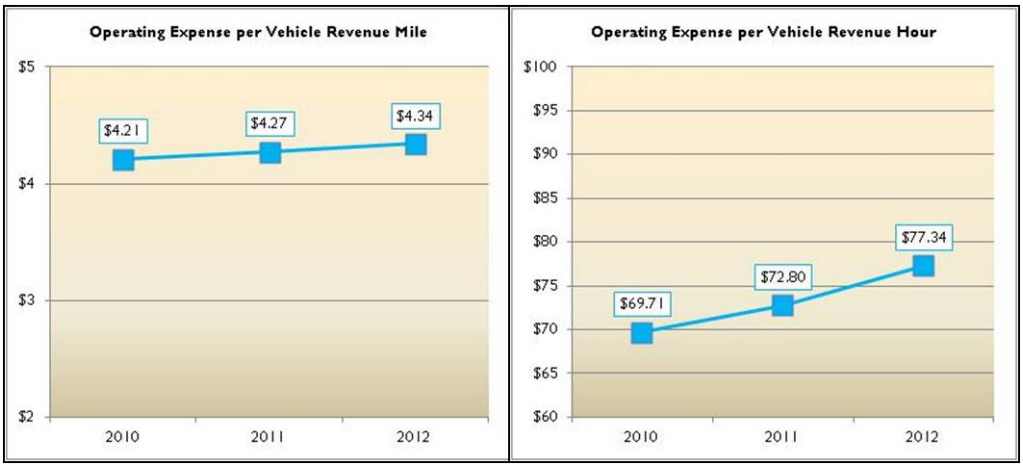


Figure 3.4 – LakeXpress Measures of Service Efficiency



Disadvantaged (CTD), and Mid Florida Community Services and Elder Affairs.[2] These agencies are known as "sponsoring agencies" and pay for riders' individual trips, based on program eligibility.

The Lake County Board of County Commissioners currently contracts with MV Transportation, Inc. to provide its paratransit service. However, on July 30, 2013 the BCC approved a contract with Ride Right to become their Operator beginning October 1, 2013. TD paratransit service is available within all of Lake County. Trips are provided on Tuesdays and Thursdays to Orlando, and to Gainesville on Monday's, Wednesday's and Friday's for medical appointments. Service is operated Monday through Friday, from 6 a.m. to 7 p.m. and on Saturdays for dialysis trips. After hour service is available for hospital discharges only.

TD trips under Lake County Connection are provided on a first-come, first-served basis and must be reserved a minimum of 48-hours in advance. According to the LCC Rider's Guide, trip priority is based upon three criteria: critical medical care, other medical, and nutritional (grocery shopping, meals sites, food stamps). Subscription trips, or "standing orders," for those trips that occur regularly over an extended period of time may be allowed on LCC, depending on the trip funding source.

Lake County Connection TD fares vary depending on the rider's destination. The one-way fare to travel within Lake County is $2; the fare to Orlando is $5; and the Gainesville fare is $10 (Table 3.6).

Table 3.6 – Lake County Connection TD Service Fares and Service Characteristics

Service Area	One-way Fare	Days of Service
Within Lake County	$2	Mon - Fri (Sat. dialysis and hospital)
Orlando medical trip	$5	Tues/Thurs, leaving Orlando at 2 PM
Gainesville medical trip	$10	Mon, Wed, Fri, leaving Gainesville at 2 PM

Source: Lake County Connection Rider's Guide

3.2.2 ADA Complementary Paratransit

In addition to the TD Program, ADA Complementary Paratransit (door-to-door) service is provided. The Americans with Disabilities Act (ADA) requires public transit agencies that provide fixed-route service to provide "complementary paratransit" services to people with disabilities who cannot use the fixed-route bus or rail service because of a disability. The ADA regulations specifically define a population of customers who are entitled to this service as a civil right. Successful completion of an eligibility application is required to utilize these services and ADA service is provided during the same days and hours as fixed route services. According to staff at the Lake County Public Transportation Division, ADA-funded trips make up an extremely small portion of overall paratransit trips. For the purposes of this analysis, ADA trips are included as part of the overall paratransit program.

Similar to the analysis for Lake County's fixed route service, Table 3.7 presents a snapshot of recent and current operating characteristics and performance measures for Lake County Connection.

[2] Lake County Connection Rider's Guide

Table 3.7 - Lake County Connection Operating Characteristics and Performance Measures

Operating Expense			Service Effectiveness			Service Efficiency		
2010	2011	2012	2010	2011	2012	2010	2011	2012
$3,857,296	$4,098,937	$4,492,618						
Capital Expense			Operating Expense/Pass. Mile			Operating Expense per VRM		
$1,540,728	$217,224	$228,426	$1.01	$1.35	$1.65	$2.09	$2.41	$2.95
Farebox Revenues			Operating Expense/Pass. Trip			Operating Expense per VRH		
$134,137	$136,774	$185,298	$17.73	$21.37	$24.65	$34.36	$37.43	$44.12
Unlinked Passenger Trips			Passengers Trips per VRM					
217,582	191,767	182,240	0.12	0.11	0.12			
Passenger Miles			Passengers Trips per VRH					
3,828,171	3,034,916	2,730,864	1.94	1.75	1.79			
Vehicle Revenue Miles (VRM)								
1,844,587	1,701,203	1,524,914						
Vehicle Revenues Hour (VRH)								
112,276	109,505	101,826						

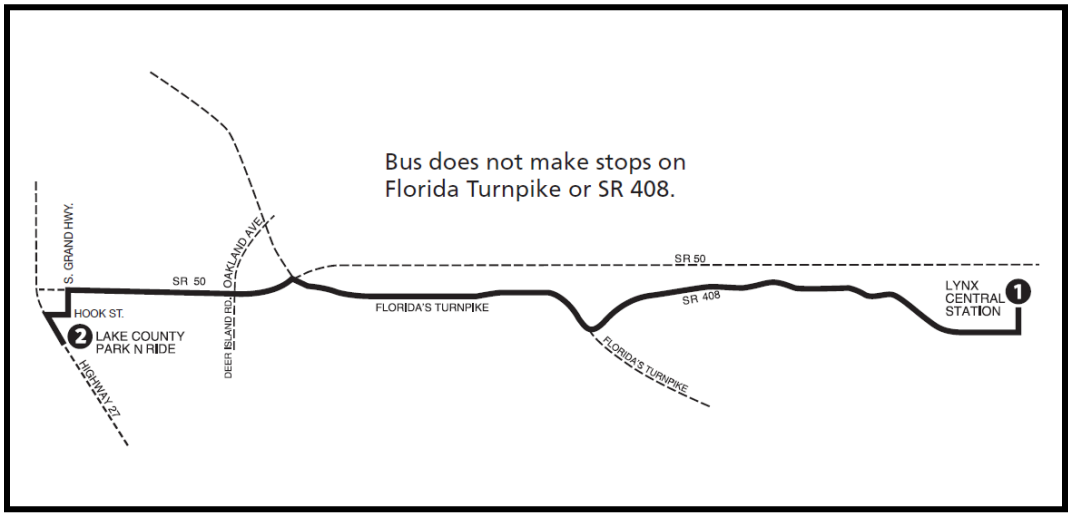
3.3 Lynx Service in Lake County

The Central Florida Regional Transit Authority, operating as LYNX, is the Orlando area's largest provider of public transportation service, operating 81 fixed routes, ADA complementary paratransit, on-demand flexible services, Bus Rapid Transit (BRT), commuter service, vanpool, roadside assistance, and university transit, over approximately 2,500 square miles of service area. In FY2012, LYNX's system-wide ridership was just under 30 million passenger trips. LYNX's primary fixed route service area encompasses Orange, Seminole, and Osceola counties.

Lake County contracts with LYNX to provide residents additional transportation alternatives and connectivity to neighboring areas. Direct service to Downtown Orlando via the Clermont Express (Link 204), a limited stop express bus route, is a popular option for Lake County transit users. This route departs from the Clermont Park-and-Ride lot and travels due east to downtown Orlando with a terminus at LYNX Central Station. The Clermont Express runs during the weekday AM and PM peak periods, operating on 30-minute headways. Currently, there is no connecting LakeXpress route serving the Clermont Park-and-Ride facility. Link 204 is shown in Figure 3.5.

LakeXpress Route 4 connects to LYNX Link 44 at the Anthony House stop, in Zellwood (Orange County). Link 44 extends into the far northwestern limits of the LYNX system, with Monday through Saturday service to Zellwood. Service is operated on hourly headways between approximately 5:30 a.m. and 9 p.m. and LakeXpress riders with a valid pass may transfer for free between systems. LakeXpress operates on a two-hour headway to connect with LYNX Link 44.

Figure 3.5 – LYNX Route 204

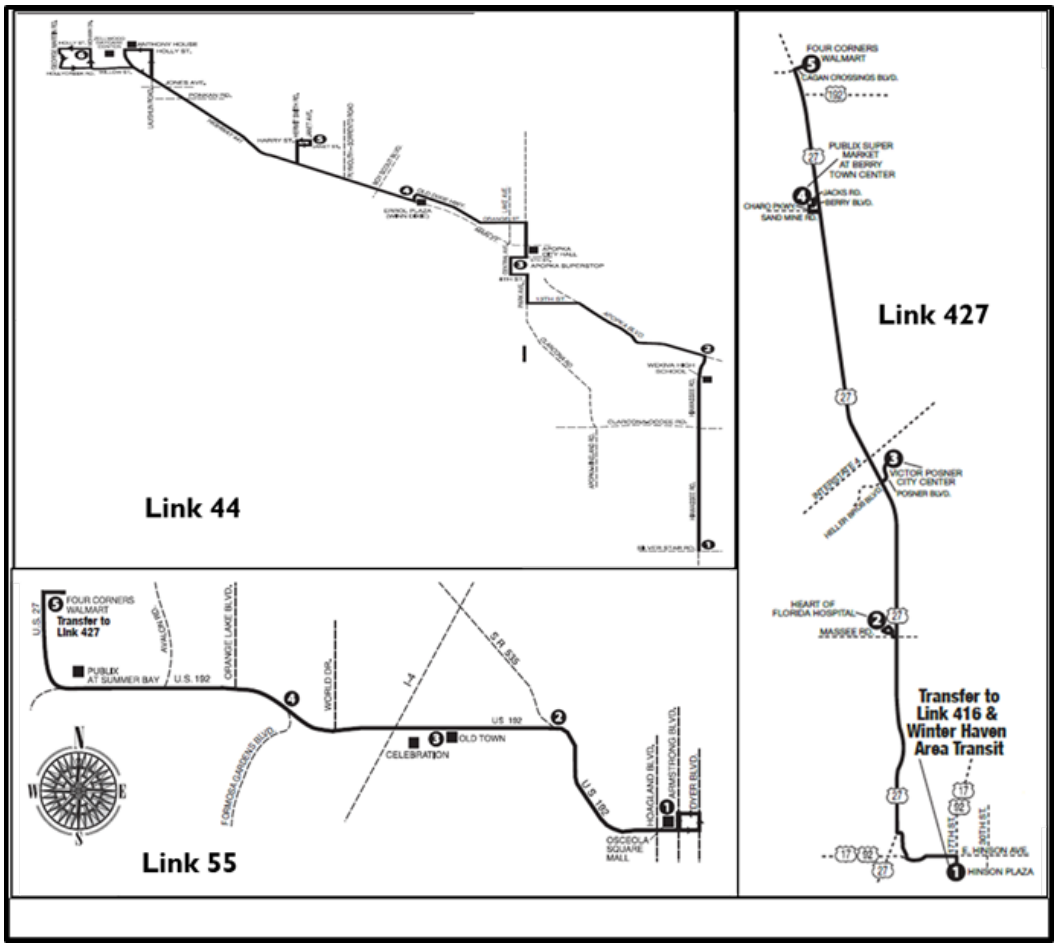


The Four Corners community located in the far southeastern corner of Lake County (and so named because it sits at the juncture of Lake, Polk, Osceola, and Orange counties) is served by two LYNX routes: Link 55 and Link 427. Link 55 provides half-hour service along U.S. Highway 192 between the Four Corners Wal-Mart and Osceola Square Mall, seven days per week, from approximately 6 a.m. to 10 p.m. Link 427 is a limited stop service running north-south between Four Corners and Haines City, in Polk County. Monday through Friday, hourly service operates between 5:48 a.m. and 7:39 p.m. On Saturdays, there are two northbound trips in the AM period and two in the PM period. There are three AM trips southbound, with the final southbound trip departing Four Corners at 1:48 p.m. There is no Sunday service. Lake County terminated funding this on service June 30, 2013. However, Polk County has continued funding this service along a revised route.

LYNX Routes Link 44, 55 and 427 are shown in Figure 3.6.

LYNX fares vary depending on the type of service utilized. The regular, general public fare for a one-way ride on the fixed route system is $2.

Figure 3.6 – Other LYNX Routes Serving Lake County Riders



3.4 Other Transportation Providers in Lake County

There is one private-for-profit operator under contract with Lake County providing transportation services to the coordinated system, and 14 coordination contractors. The area is also serviced by five other private operators and numerous taxi cabs. Ride Right will be the operator effective October 1, 2013.

Private for Profit Operator:
M.V. Transportation Inc. (agreement expired September 30, 2013)
Ride Right (beginning October 1, 2013)

Coordination Contracts as of August, 2013

Beacon College, Inc.
Bridgeway Services
Brower, Joan
Building Blocks Ministries
Creative Concepts Learning Facility
Count Your Blessings
Earth Angels Care, LLC
Gift of Love, Inc.
Great Expectations, Inc.
Kinsman Transportation, Inc.
Life Care Services
Love Thy Neighbor
Sunrise Arc, Inc.
Tee Foundation, Inc.

Other Private Operators:
American Logistics
Godoy Transportation
GT Transportation
Palmetto Transport & Logistic
Sunshine Shuttle & Charter Inc.

Taxicabs

A1 Taxi Leesburg
A1 Taxi Fruitland Park
A1 Transport
AAA Access Taxi of Clermont
AAA Airport Taxi of Clermont
AAA Yellow Cab of Clermont
Ambassador Limousine & Airport Shuttle
Central Taxi
Central Taxi South
Eco Green Airport Taxi
Eustis Taxi
Eutco
Home Town Taxi & Delivery Service
Kings 321 Zoom Taxi & Delivery Service
Mr. Taxi
#1 Cab
Ronny's Ride
Tippy's Taxi
Tri-City Cab
Yellow Cab City Inc.

3.5 Sumter County Transit

The Sumter County Board of County Commissioners serves as the designated CTC for adjoining Sumter County, providing both door-to-door paratransit and deviated shuttle service Monday through Friday, in Sumter County and The Villages area of Lake County. Transit service is provided by a contractor, Ride Right, LLC. During FY2010, Sumter County Transit provided 95,980 passenger trips with its fleet of 52 vehicles.

The Lady Lake-The Villages Urbanized Area (UZA) encompasses The Villages in the northeast corner of Sumter County, Lady Lake in the northwest corner of Lake County, and southern Marion County. Both Sumter County Transit and LakeXpress operate within the UZA making them jointly eligible for federal transit funding allocated to the UZA.

Sumter County Transit operates five deviated shuttles: the Orange Shuttle, Villages Shuttles (Green, Purple, and Blue), and the Wildwood Circulator (Figure 3.7). The three Villages shuttles and the Wildwood Circulator all operate within the UZA. All five shuttles operate on a fixed route schedule, but will deviate up to ¾ mile off the alignment with an advanced reservation.

The Villages Shuttles (referred to as the Shopper Shuttles in Figure 3.7) are comprised of three, color-coded shuttle routes within The Villages community, operating at various times throughout the day Monday, Wednesday, Friday, and Saturday. The Green route serves the northern portion of The Villages, the Blue route serves the southern portion of The Villages, and the Purple route provides a connection between north and south. Riders can transfer from the Green Route to LakeXpress Route 1 at Spanish Springs Station.

The Wildwood Circulator operates Monday, Wednesday, and Friday between the Villages Service Center and Publix at Southern Trace with a single northbound trip in the morning, departing at 9 a.m., and a southbound trip in the afternoon, departing at 12:25 p.m.

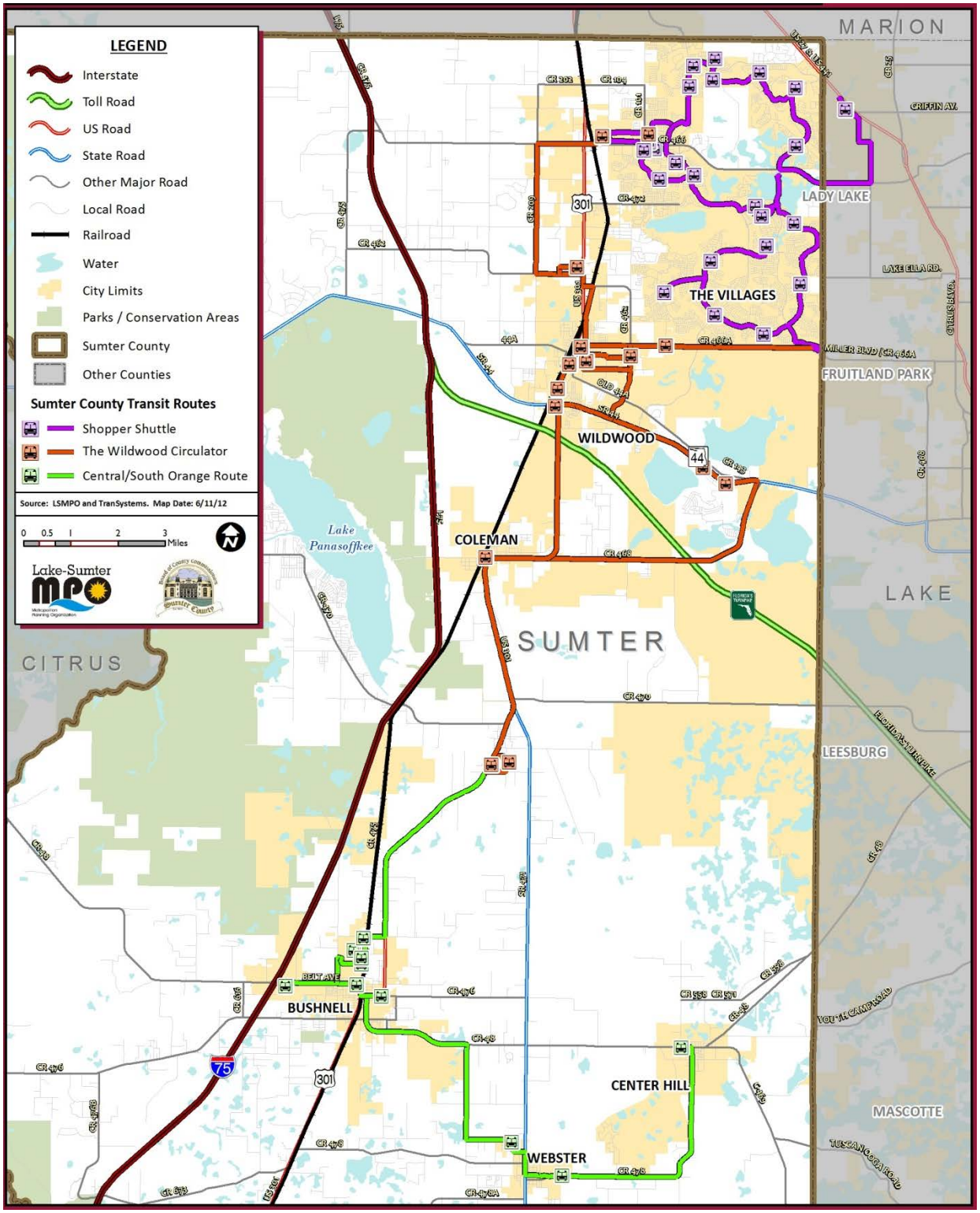
The Orange Shuttle operates Monday, Wednesday, and Friday, in the communities of Center Hill, Webster, Sumterville, and Bushnell. There is a morning run departing Center Hill at 7:45 a.m. and returning at 11:20 a.m. and an afternoon run, departing at noon and returning at 3:30 p.m.

Shuttle fares are $0.50 for the general public and $1 to deviate off the route. Senior citizens ride at half-fare prices: $0.25 for the regular route and $0.50 to deviate.

Door-to-door paratransit is also provided by Sumter County Transit and is available Monday through Friday, from 8 a.m. until 3 p.m. The service operates on a priority trip basis; medical, employment, nutritional and educational needs trips are given the highest priority. Trip appointment scheduling is encouraged three days in advance to ensure driver and vehicle availability. Paratransit trips that begin and end within Sumter County are $1.50 each way. Out-of-county paratransit trips are available for medical purposes only, and return trips must be scheduled to depart no later than 2 p.m., Monday through Friday. Trips to Leesburg (Lake County) are $2 each way and trips to Gainesville (Alachua County) are $8 one-way.

This TDP considers only the deviated shuttle routes that operate within the Lady Lake-The Villages UZA.

Figure 3.7 – Sumter County Shuttle Routes



3.6 Lake County Public Transportation Facilities and Vehicles

3.6.1 Maintenance Facilities

All Lake County transit services use the new 31,520 square foot county owned maintenance facility in Groveland. The new 31,520 square foot building is located on 23.24 acres of land. Much of the vehicle storage area is uncovered but paved.

3.6.2 Park-and-Ride Locations

There are three Park-and-Ride locations within Lake County, two of which are owned by FODT and are currently in use. The Clermont Park-and-Ride, located near the intersection of US Highway 27 and Hook Street can accommodate 128 vehicles and is currently served by LYNX route 204 (Clermont Express) in the AM and PM peak periods.

The Minneola Park-and-Ride, also located along US Highway 27, just south of Lake Minneola Shores, can hold 89 vehicles and is not currently served by any public transit routes. The Mascotte lot, located on North Sunset Avenue, is currently inactive but is planned to be an integral part of the planned South Lake service. Table 3.8 shows specific facility characteristics.

Table 3.8 – Active FDOT Park-and-Ride Facilities in Lake County

Location	Dimension	Sq. Feet	Vehicle Capacity	Transit Connections
Clermont	428' x 214'	91,592	128	LYNX Link 204 - AM/PM peak service
Minneola	393' x 119'	46,767	89	None

Source: Lake County (2013)

Both the Clermont and Minneola lots are situated in southeast Lake County, near Orange along regional corridors, allowing users from various locations access to employment centers and major destinations throughout the county.

A user survey of the Clermont Park-and-Ride facility conducted in 2013 by TranSystems found that 95 percent of users were from Lake County; 76 percent of the users were traveling to downtown Orlando; and 100 percent of the users were traveling for work purposes. In addition, 76 percent of users reported traveling from the lot to their destination via public transit.

Average daily ridership on Link 204 serving the Clermont Park-and-Ride facility is approximately 136 one-way trips, or about 68 round trips per day.

3.6.3 Shelters

In 2009, Lake County began an effort to evaluate bus stop site conditions and identify potential shelter locations throughout the County. As a result of that effort, 15 shelters have been installed throughout Eustis, Tavares, Leesburg, Mount Dora, Umatilla, and Fruitland Park. The shelters are either 4x8 or 4x12 and manufactured by Brasco. The Lake County Department of Community Services, Public Transportation Division recently had installed the first 15 of 27 bus shelters for LakeXpress as part of the County's Bus Shelter Program. The prototype shelter was installed outside of the Lake County

Administration Building, 315 W. Main St., Tavares, which is one of the highest volume bus stops for LakeXpress.

The shelters were purchased using grant funding through the American Recovery and Reinvestment Act (ARRA). Some of the features of the pre-fabricated shelters include easy accessibility for persons with disabilities, solar powered lights, built-in trash cans and benches, and space on the interior to display a route map. Table 3.9 presents an inventory of current shelter locations and characteristics, organized by jurisdiction.

Table 3.9 – LakeXpress Bus Shelter Inventory

Lake County Site Number	Description / Location	Jurisdiction	Shelter Size
2	Eustis Public Library	Eustis	4x8
3	Tall Pines Apartments Wall Street West Side of Road	Eustis	4x8
4	Lake Tech	Eustis	4x12
13	Fruitland Park Public Library Dixie Ave	Fruitland Park	4x8
12	Lady Lake Public Library	Lady Lake	4x8
22	North Lake Community Park	Lake County	4x8
25	Lake Sumter Community College	Leesburg	4x12
15	Leesburg Regional Medical Centrr	Leesburg	4x8
26	WalMart - Leesburg Mlk Blvd	Leesburg	4x8
28	Intersection Of Lincoln & Grandview	Mount Dora	4x8
5	5th Ave East Side Of Suntrust Driveway	Mount Dora	4x8
9	Florida Hospital Waterman	Tavares	4x8
17	County Admin Blgd East Bound	Tavares	4x8
21	Lake County Health Department CR 450	Umatilla	4x8
20	Umatilla Public Library	Umatilla	4x8

Source: Lake County (2013)

3.6.4 Transit Vehicles Inventory

Lake County's current vehicle inventory for public transportation includes 80 county-owned vehicles. There are no contractor-owned vehicles. As of the 2008 contract with MV Transportation, the County assumed ownership of previously contractor-owned vehicles used in the operation of LakeXpress and Lake County Connection services. The 13 standard buses that comprise the fixed route inventory can each accommodate two non-ambulatory passengers and between 18 – 29 ambulatory passengers. The paratransit fleet provides a wider range of seating, from 2/2 cutaway vans to up to 18/4 cutaway buses. With the exception of eight sedans, all vehicles used in transit services are accessible to mobility devices, with lifts manufactured by Braun, or Ricon.

The current fleet was procured using a combination of funds from the Lake County Board of County Commissioners (BCC), the Florida Commission for the Transportation Disadvantaged (CTD), FDOT,

FTA, and ARRA (FDOT and FTA). Table 3.10 below provides a breakdown of vehicle funding sources and the number of current vehicles that were funded by each source. Typically, federal funds require an 80/20 local match; however, in Florida Toll Revenue Credits are used as a soft match so the County does not have to pay a match for the vehicles purchased under the 5307 program.

Table 3.10 – Vehicle Funding Source Breakdown

Source	Number	% Share
Board of County Commissioners	1	1.25%
Commission for the Transportation Disadvantaged	5	6.25%
FDOT	37	46.25%
FDOT ARRA	14	17.50%
FTA	21	26.25%
FTA ARRA	2	2.50%
Total:	80	

Average annual mileage on both fixed route and paratransit vehicles is just over 30,000 miles. As demonstrated by the detailed inventory table contained in Appendix F, the oldest vehicles in the fleet are model year 2003. According to expected retirement dates, almost 30 percent of vehicles have exceeded their useful lives.

3.6.5 On-Board Technology

Thirteen of the 14 fixed route vehicles have been equipped with Automatic Annunciation Systems (AAS), Automatic Passenger Counters (APCs), Automatic Vehicle Locators (AVLs), and security cameras. The County is currently working with their routing software provider, RouteMatch, to link their scheduling system to the APCs.

3.7 Public Transportation Funding in Lake County

3.7.1 Funding Sources for Operations and Capital

The history of Lake County operating funding by source is shown in Table 3.11 beginning with 2007; the year in which LakeXpress fixed route service began. The 2012 budget is higher compared to the previous two years, and higher compared to 2007, but level compared with 2008 (without accounting for inflation). The distribution of funds by source is show in Table 3.12. Fare revenues account for only five percent of operating costs, up slightly from two percent in 2007.

Since 2008, the local share of operating funds has declined from 44 percent to 20 percent and the state and federal shares have both increased. State funds are currently the largest source of Lake County Transit's operating revenues, followed by federal and local funds. The local match from the General Fund is used for the cash match for Transportation Disadvantaged contracts and those contracts are used as soft match for the Section 5307 Grant. The General Funds dollars also supported the contracted services with Lynx for the South Lake services.

Table 3.11 – Lake County Sources of Transit Operating Funds, 2007-2012

Sources of Operating Funds	2007	2008	2009	2010	2011	2012
Fare Revenues	$95,025	$165,572	$201,701	$238,347	$261,050	$292,337
Local Funds	$0	$2,573,723	$2,249,013	$600,599	$1,247,273	$1,184,061
State Funds	$0	$1,626,418	$1,869,881	$2,253,260	$2,159,865	$2,502,796
Federal Assistance	$300,858	$1,425,136	$1,233,345	$2,245,783	$1,990,807	$1,912,164
Other Funds*	$4,657,729	$110,330	$104,722	$139,911	$132,242	$19,228
Total	**$5,053,612**	**$5,901,179**	**$5,658,662**	**$5,477,900**	**$5,791,237**	**$5,910,586**

**There is no information provided in the National Transit Database about the origin of these funds in 2007*

Table 3.12 – Lake County Sources of Transit Operating Funds, 2007-2012, % Distribution

Sources of Operating Funds	2007	2008	2009	2010	2011	2012
Fare Revenues	2%	3%	4%	4%	5%	5%
Local Funds	0%	44%	40%	11%	22%	20%
State Funds	0%	28%	33%	41%	37%	42%
Federal Assistance	6%	24%	22%	41%	34%	32%
Other Funds	92%	2%	2%	3%	2%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Almost all (93%) of $7.5 million in capital invested in Lake County transit operations between 2007 and 2012 came from federal funds (see Table 3.13 and Table 3.14 below). As is typical throughout the industry, capital funding is much more uneven, year to year, than operating funding.

3.7.2 National Peer Comparison

As a supplement to the Florida peer analysis previously conducted, and to provide a national perspective, national peer agencies for Lake County were selected with the use of the Florida Transit Information System (FTIS). The default peer-selection parameters were used; three agencies were selected as national peers. Eau Claire Transit and the Redding Area Bus Authority operate both demand-response and fixed route service; Wiregrass Transit Authority operates demand-response service only. Table 3.15 compares the sources of operating funding in Lake County and its peers. The share of operating costs paid for from passenger fares at Lake County is among the lowest of the peers, although the Alabama agency showed a similarly low percentage. The share paid by state operating assistance was among the highest, with the exception of Redding, California. The latter was an outlier among the group, with 69 percent of operating assistance coming from state sources.

Table 3.16 shows the distribution of capital funding sources for Lake County and its national peers. Two of the peers had received 100 percent federal funding for capital, similar to Lake County in 2011, while the Redding Bus Authority received no federal assistance for capital during the same year. In general, the amount and sources of capital funding can vary significantly from year to year.

Table 3.13 – Lake County Sources of Transit Capital Funds, 2007-2012

Sources of Capital Funds	2007	2008	2009	2010	2011	2012
Local Funds	$0	$23,328	$57,031	$29,727	$21,722	$27,884
State Funds	$0	$64,908	$62,245	$0	$0	$62,739
Federal Assistance	$1,619,426	$609,288	$1,350,138	$1,824,754	$555,821	$1,014,041
Other Funds	$186,921	$0	$20,000	$0	$0	$0
Total	**$1,806,347**	**$697,524**	**$1,489,414**	**$1,854,481**	**$577,543**	**$1,104,664**

Table 3.14 – Lake County Sources of Transit Capital Funds, 2007-2012, % Distribution

Sources of Capital Funds	2007	2008	2009	2010	2011	2012
Local Funds	0%	3%	4%	2%	4%	3%
State Funds	0%	9%	4%	0%	0%	6%
Federal Assistance	90%	87%	91%	98%	96%	92%
Other Funds	10%	0%	1%	0%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 3.15 – National Peer Sources of Transit Operating Funds

Name	Lake County Board of County Commissioners	Eau Claire Transit	Redding Area Bus Authority	Wiregrass Transit Authority
City	Tavares	Eau Claire	Redding	Dothan
State	FL	WI	CA	AL
Fares	5%	19%	15%	2%
DG*	2%	1%	2%	29%
Local	22%	22%	0%	7%
State	37%	26%	69%	0%
Federal	34%	32%	14%	62%
Total	**100%**	**100%**	**100%**	**100%**

**Directly Generated, other than passenger fares*

Table 3.16 – National Peer Sources of Transit Capital Funds

Name	Lake County Board of County Commissioners	Eau Claire Transit	Redding Area Bus Authority	Wiregrass Transit Authority
City	Tavares	Eau Claire	Redding	Dothan
State	FL	WI	CA	AL
Fares	0%	0%	0%	0%
DG*	4%	0%	0%	0%
Local	0%	0%	27%	0%
State	0%	0%	78%	0%
Federal	96%	100%	0%	100%
Total	**100%**	**100%**	**100%**	**100%**

**Directly Generated, other than passenger fares*

3.8 Adjacent Area Providers

Ocala/Marion County Public Transportation System (SunTran and Marion Transit Services)

SunTran

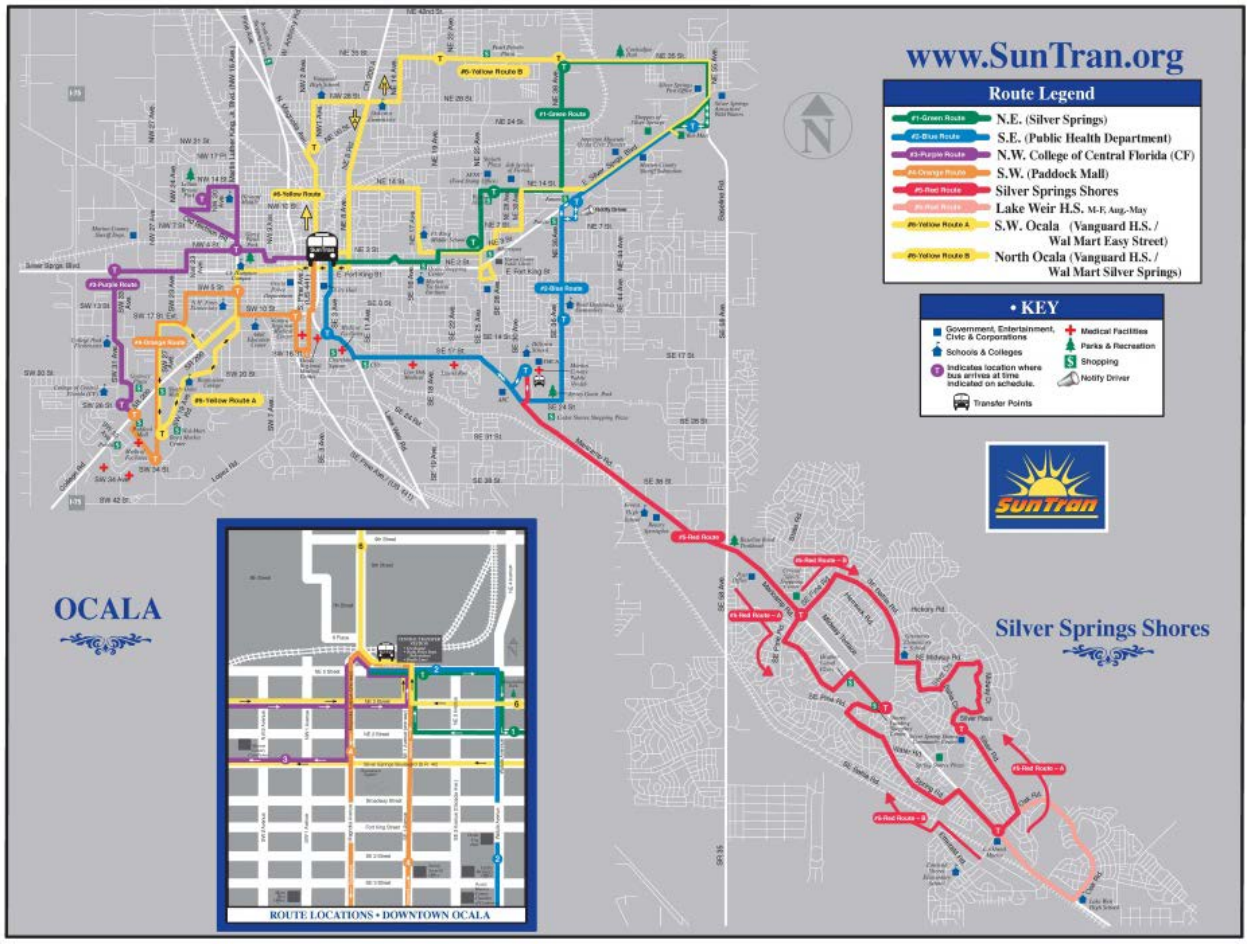
Marion County operates the transit agency "SunTran" through a cooperative effort of the Ocala/Marion County Transportation Planning Organization (TPO), Marion County Board of County Commissioners, the City of Ocala, the Florida Department of Transportation, and the Federal Transportation Administration.[3] SunTran operates Monday through Saturday from approximately 5 a.m. until 8 p.m., serving the City of Ocala and the Silver Springs Shores area. SunTran does not operate bus service on Sundays and certain holidays. Six fixed routes operate on headways between 60 and 140 minutes, providing over 400,000 trips per year. SunTran's system-wide route map is provided as **Error! Not a valid bookmark self-reference.**.

The #1 Green, #2 Blue, #3 Purple, #4 Orange, #5 Red, and #6 Yellow (A&B) serve a variety of important destinations throughout the Ocala area, including Wal-Mart, Booster Stadium, the One-Stop Center, MT High School, YMCA, City Hall, Marion County Department of Health, and the Downtown Transfer Station. The regular, general public one-way fare is $1.50 and discounted fares are offered for students, seniors, persons with disabilities, and Medicaid card holders (ranging from $0.75 to $1.10).

Currently, there are no available transfer points between SunTran and LakeXpress service. While part of the Lady Lake-The Villages urbanized area extends into Marion County, Sun Tran's fixed route services do not enter that urbanized area.

[3] http://www.ocalafl.org/tpo/TPO.aspx?id=681

Figure 3.8 – SunTran Fixed Route System Map



Marion Transit Services

Paratransit services in Marion County are provided by Marion Senior Services under the name Marion Transit Services. TD transportation is available Monday through Friday from 9 a.m. until 2 p.m., unless special arrangements are made (primarily for dialysis patients) and ADA service is available during the same days and hours as the fixed route service. Like other TD services, transportation is provided according to the following needs: Medical, life sustaining activities, education, employment, business, and recreational. Fares vary from $1 to $5 one-way, depending on location and eligibility for service.

Volusia County (Votran)

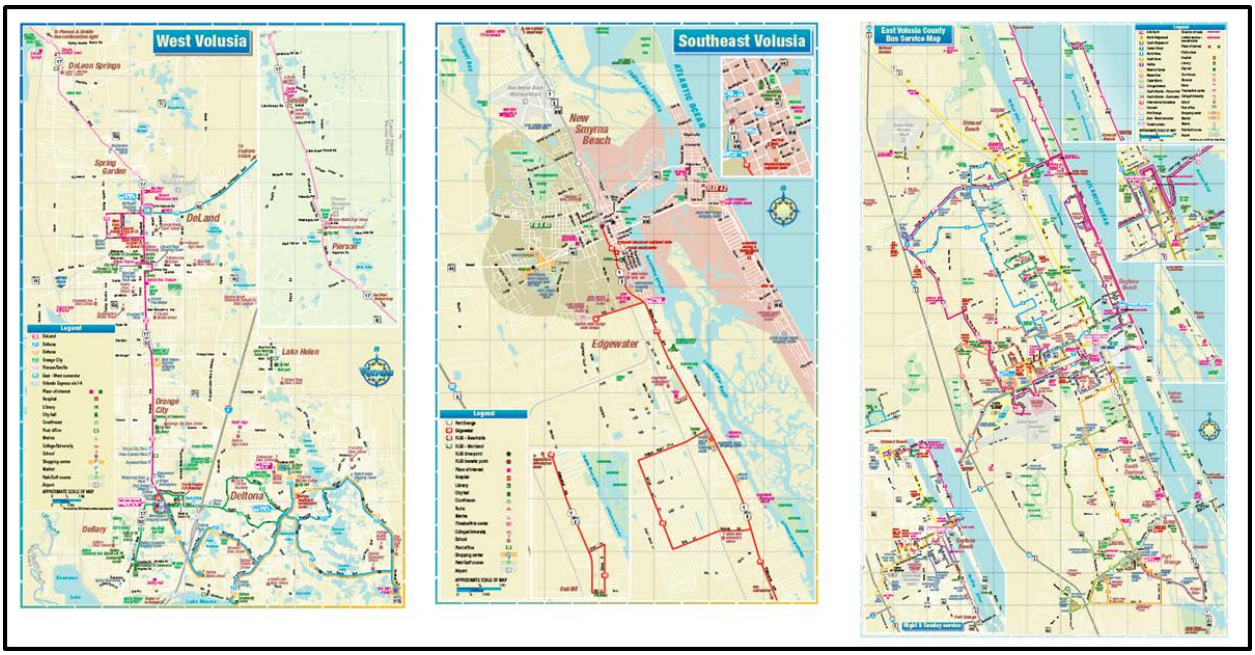
Based in South Daytona, Volusia County's public transit system is known as Votran. Votran directly operates a combination of fixed routes, flexible services, paratransit, and Vanpools. Paratransit services are also provided under contract to Votran and by area taxis (discussed below). Votran provides service to all urban areas of the County with a fleet of 134 vehicles, four of which are trackless-trolley vehicles.[4] Fifty-six (56) peak-period vehicles provide half-hour to hourly service on 26 fixed routes

[4] http://www.votran.org/benefits.htm

(Figure 3.9). Standard service operates Monday through Saturday, from 6 a.m. until 7 p.m. with limited evening and Sunday service. The regular one-way fare for fixed route service is $1.25. During FY2011, Votran provided just over 3.5 million fixed route trips.

Votran's demand response paratransit is known as Votran Gold is available to eligible TD and ADA certified persons residing in Volusia County. Votran operates its paratransit function as a partial brokerage with both directly operated and contracted service. Paratransit service is available Monday through Saturday from 6 a.m. until 6 p.m. and the one-way fare is $2.50. Almost 300,000 demand response trips were provided during FY2011.[5]

Figure 3.9 – Votran Fixed Route System Map



[5] National Transit Database 2011

4 Situational Appraisal

4.1 Population Profile

Lake County population increased from 152,104 persons in 1990, to an estimated 298,265 persons in 2011, an overall increase of 96%. Lake County ranks as the 23rd fastest growing county in the United States. There are 14 incorporated municipalities and several unincorporated communities. Table 4.1 presents population by municipality for the years 2000, 2003, 2006, 2009, 2010, and 2011; and percent change from 2000 to 2011. Table 4.2 shows this data for Sumter County.

Table 4.1 – Lake County Population Trends

Municipality	2000	2003	2006	2009	2010	2011	Percent Change (2000-2011)
Astatula	1,298	1,381	1,591	1,630	1,623	1,795	38.29%
Clermont	9,338	15,373	21,986	24,199	24,632	29,358	214.39%
Eustis	15,106	16,305	17,766	18,275	18,210	18,483	22.36%
Fruitland Park	3,186	3,265	3,628	3,978	4,257	4,086	28.25%
Groveland	2,394	3,726	5,509	7,135	7,352	8,800	267.59%
Howey-in-the-Hills	956	1,016	1,156	1,221	1,212	1,100	15.06%
Lady Lake	11,828	12,556	12,805	14,129	14,254	13,946	17.91%
Leesburg	15,956	16,290	18,841	20,506	20,757	20,251	26.92%
Mascotte	2,687	3,469	4,270	4,476	4,648	5,091	89.47%
Minneola	5,435	7,124	9,440	9,047	9,173	9,485	74.52%
Montverde	882	1,041	1,183	1,192	1,176	1,455	64.97%
Mount Dora	9,418	10,594	11,125	11,100	11,687	12,557	33.33%
Tavares	9,700	10,699	12,552	13,329	13,333	14,015	44.48%
Umatilla	2,214	2,359	2,672	3,047	3,083	3,456	56.10%
Unincorporated County	120,129	135,518	151,734	158,729	162,035	154,387	28.52%
Total	**210,527**	**240,716**	**276,258**	**291,993**	**297,432**	**298,265**	**41.68%**

Source: 2000 and 2010 Census, 2003, 2006, 2009 and 2011 Bureau of Economic and Business Research (BEBR)projections

Table 4.2 – Sumter County Population Trends

Municipality	1990	2000	2006	2009	2010	2011	2012	Percent Change (1990-2012)	2017
Bushnell	1,998	2,050	2,327	2,364	2,418	2,439	2,445	22.4%	2,913
Center Hill	735	910	893	921	988	962	944	28.4%	1,125
Coleman	857	647	655	644	703	705	703	-18.0%	838
Webster	746	805	767	784	785	768	774	3.8%	922
Wildwood	3,560	3,924	4,564	4,825	6,709	6,926	6,969	95.8%	8,303
County	23,681	45,009	73,393	85,788	81,817	84,815	88,363	273.1%	105,273
Total	**31,577**	**53,345**	**82,599**	**95,326**	**93,420**	**96,615**	**100,198**	**217.31%**	**119,373**

Demographic and travel behavior characteristics were compiled using data from the 1990, 2000, and 2010 Census of Population and Housing, as well as the America Community Survey estimates. Table 4.3 provides a summary of this information for the Lake County as a whole including the percent changes from 1990 to 2010 in each category, while Table 4.4 shows this for Sumter County.

Figure 4.1through Figure 4.10 display selected information for the two counties, including 2010 population density, persons age 65 and older, and households with no vehicle available. The maps focus on developing an understanding of the geographic locations of populations with characteristics conducive to transit use and provide base data that were used to assist in establishing transit demand and mobility needs for Lake County.

According to the 2010 American Community Survey, nearly 80 percent of Lake County commuters drove to work alone and 13 percent carpooled; little has changed since 1990 in this regard. The average trip time for commuters to get to work was approximately 30 minutes. According to 2008 ACS estimates, 40 percent of Lake County residents travel to other counties for employment, up from 35 percent a decade ago.

In order to understand potential commuting patterns for public transportation, journey-to-work flows from and to Lake County can be identified. Table 4.5 provides a summary of the destinations for workers who lived within the County in 1990, 2000, and 2010, including the percent change from 1990 to 2010.

Table 4.6 presents a summary of counties of origin for commuters who work in Lake County. This information will be used to identify potential commuter markets for transit, including fixed bus routes within the County and park-and-ride services between Lake and other counties.

According to ACS estimates, nearly 40 percent of the work trips originating in Lake County terminate outside the County, an increase of 15 percent since 1990. Similarly, the analysis also shows 15 percent of the work trips terminating in Lake County originate outside the County, a slight increase over previous decades. The commuter flows to Orange, Seminole, Sumter, and Osceola counties increased significantly from 1990 to 2000, but remained fairly flat between 2000 and 2008. In addition, with the exception of Sumter County, the commuter flows from Orange, Seminole, Osceola, and other counties remained constant or decreased for the same time period.

Table 4.3 – Lake County Demographic and Journey-to-Work Characteristics

Characteristics	1990	2000	2010	Percent Change (1990-2010)
POPULATION CHARACTERISTICS				
Persons	152,104	210,528	297,052	95.3%
Households	63,550	88,413	115,635	82.0%
Number of Workers	56,934	86,307	132,151	132.1%
Land Area (square miles)	953	953	953	N/A
Water Area (square miles)	204	204	204	N/A
Person per Household	2.45	2.34	2.57	4.9%
Workers per Household	0.90	0.98	1.14	27.0%
Persons per Square Mile	159.61	221.00	311.70	95.3%
Workers per Square Mile	59.74	91.00	138.67	132.1%
DEMOGRAPHIC CHARACTERISTICS				
Gender				
Male	47.80%	48.40%	48.46%	0.7%
Female	52.20%	51.60%	51.54%	-0.7%
Ethnic Origin				
White	90.45%	87.50%	82.01%	-8.4%
Black	8.56%	8.30%	9.80%	1.2%
Other	0.99%	4.20%	4.40%	3.4%
Hispanic Origin by Race				
Not of Hispanic Origin	97.27%	94.40%	87.90%	-9.4%
Of Hispanic Origin	2.73%	5.60%	12.10%	9.4%
Age				
<16Years	16.70%	16.90%	18.35%	1.6%
16-29 Years	13.62%	9.10%	13.94%	0.3%
30-59 Years	31.10%	41.00%	36.47%	5.4%
60+ Years	38.57%	32.80%	31.24%	-7.3%
Education Level (persons over 18)				
<12th Grade	31.08%	21.34%	9.00%	-22.1%
High School Grad	36.07%	34.33%	32.80%	-3.3%
Some College	17.99%	25.75%	25.40%	7.4%
College Grad	14.87%	3.92%	14.30%	-0.6%
Household Income				
Under $10,000	16.24%	8.40%	5.34%	-10.9%
$10,000 to $19,999	27.18%	7.20%	11.28%	-15.9%
$20,000 to $29,999	23.14%	15.90%	13.33%	-9.8%
$30,000 to $39,999	14.53%	15.60%	12.91%	-1.6%
$40,000 to $49,999	8.03%	19.50%	10.32%	2.3%
$50,000 or more	10.88%	33.50%	46.81%	35.9%
Median Household Income	$24,415	$36,903	$42,033	N/A
Poverty Status				
Above Poverty Level	89.14%	91.00%	90.20%	1.1%
Below Poverty Level	10.86%	9.00%	9.80%	-1.1%

Source: 1990, 2000, and 2010 Census of Population and Housing and 2010 ACS 5-Year Estimates

Lake County Demographic and Journey-to-Work Characteristics (cont.)

Characteristics	1990	2000	2010	Percent Change (1990-2010)
Vehicles Available in Household				
None	6.48%	5.35%	3.86%	-2.6%
One	50.48%	44.37%	42.21%	-8.3%
Two	30.86%	37.33%	39.49%	8.6%
Three or More	12.18%	12.95%	14.45%	2.3%
JOURNEY-TO-WORK CHARACTERISTICS				
Place of Work				
Worked inside county of residence	75.13%	63.60%	58.76%	-16.4%
Worked outside county of residence	24.37%	35.60%	40.15%	15.8%
Worked outside state of residence	0.50%	0.80%	1.09%	0.6%
Means of Transportation				
Drive Alone	79.26%	78.80%	80.95%	1.7%
Carpool	13.84%	12.90%	11.25%	-2.6%
Public Transit	0.39%	1.90%	0.25%	-0.1%
Walk	2.34%	1.70%	1.12%	-1.2%
Work at Home	2.02%	3.00%	4.47%	2.4%
Other	2.16%	0.90%	1.96%	-0.2%
Travel Time to Work				
< 10 Minutes/ < 5 Minutes (2008)	18.75%	11.20%	2.27%	-16.5%
10 - 19 minutes/ 5 - 19 Minutes (2008)	34.59%	30.00%	35.84%	1.3%
20 - 29 minutes	16.54%	21.50%	16.85%	0.3%
30 - 44 minutes	15.00%	22.40%	18.19%	3.2%
45+ minutes	12.79%	14.90%	22.38%	9.6%
Work at Home	2.33%	3.00%	4.47%	2.1%
Departure Time to Work				
6 a.m. to 9 a.m.	70.99%	68.70%	64.87%	-6.1%
Other times	29.01%	31.30%	35.13%	6.1%
Private Vehicle Occupancy				
Drive Alone	79.26%	78.80%	87.80%	8.5%
2-person carpool	11.24%	10.10%	9.40%	-1.8%
3-person carpool	1.81%	1.70%	1.46%	-0.3%
4+-person carpool	0.78%	0.60%	1.34%	0.6%
Other Means	6.91%	8.80%	0.00%	-6.9%

Source: 1990, 2000, and 2010 Census of Population and Housing, 2008 ACS 3-Year Estimates

Table 4.4 – Sumter County Demographic and Journey-to-Work Characteristics

Characteristics	1990	2000	2010	Percent Change (1990-2010)
POPULATION CHARACTERISTICS				
Persons	31,557	53,345	93,420	196.04%
Households	15,298	25,195	41,361	170.37%
Number of Workers	10,848	14,698	34,625	219.18%
Land Area (square miles)	545.73	545.73	545.73	N/A
Water Area (square miles)	35	35	35	N/A
Persons per Household	2.46	2.27	2.26	-8.18%
Workers per Household	0.71	0.58	0.84	17.91%
Persons per Sqaure Mile	57.83	97.75	171.18	196.01%
Workers per Square Mile	19.88	26.93	63.45	219.15%
DEMOGRAPHIC CHARACTERISTICS				
Gender				
Male	50.22%	53.10%	52.03%	1.81%
Female	49.78%	46.90%	47.97%	-1.81%
Ethnic Origin				
White	82.62%	82.60%	86.59%	3.97%
Black	16.16%	13.80%	9.66%	-6.50%
Other	1.23%	3.60%	3.75%	2.52%
Hispanic Origin by Race				
Not of Hispanic Origin	97.59%	93.70%	94.02%	-3.57%
Of Hispanic Origin	2.41%	6.30%	5.98%	3.57%
Age				
< 16 Years	19.79%	14.08%	8.00%	-11.79%
16-29 Years	17.71%	13.16%	7.92%	-9.79%
30-59 Years	33.39%	36.21%	27.88%	-5.51%
60+ Years	29.18%	36.55%	56.19%	27.01%
Education Level (persons over 25)				
< 12th Grade	35.74%	22.70%	12.40%	-23.34%
High School Grad	38.11%	38.80%	35.10%	-3.01%
Some College	14.61%	21.40%	22.80%	8.19%
College Grad	7.83%	12.20%	14.40%	6.57%
Household Income				
Under $10,000	23.48%	10.60%	6.29%	-17.19%
$ 10,000 to $ 14,999	14.60%	9.60%	6.09%	-8.51%
$ 15,000 to $ 24,999	23.05%	17.30%	15.52%	-7.53%
$ 25,000 to $ 34,999	16.50%	17.10%	15.07%	-1.43%
$ 35,000 to $ 49,999	13.41%	19.70%	19.45%	6.04%
$ 50,000 or more	8.96%	25.80%	46.02%	37.06%
Median Household Income	$19,584	$32,073	$43,079	N/A
Poverty Status				
Above Poverty Level	80.17%	90.40%	93.00%	12.83%
Below Poverty Level	19.83%	9.60%	7.00%	-12.83%

Sumter County Demographic and Journey-to-Work Characteristics (cont.)

Characteristics	1990	2000	2010	Percent Change (1990-2010)
Vehicles Available in Household				
None	7.57%	5.26%	3.41%	-4.16%
One	41.48%	51.60%	39.44%	-2.04%
Two	36.83%	31.83%	38.32%	1.49%
Three or more	14.13%	11.30%	18.82%	4.69%
JOURNEY TO WORK CHARACTERISTICS				
Place of Work				
Worked inside county of residence	60.39%	54.16%	63.32%	2.93%
Worked outside county of residence	39.61%	44.84%	34.51%	-5.10%
Worked outside state of residence	0.00%	1.00%	2.17%	2.17%
Means of Transportation				
Drive Alone	76.89%	81.25%	75.81%	-1.08%
Carpool	15.95%	12.76%	16.39%	0.44%
Public Transit	0.29%	0.17%	0.14%	-0.15%
Walk	2.40%	1.15%	0.96%	-1.44%
Work at Home	2.64%	3.05%	4.54%	1.90%
Other	4.23%	1.61%	0.10%	-4.13%
Travel Time to Work				
< 10 Minutes/ < 5 Minutes (2008)	18.97%	15.97%	7.46%	-11.51%
10 - 19 minutes/ 5 - 19 Minutes (2008)	28.64%	27.90%	35.41%	6.77%
20 - 29 minutes	14.73%	16.92%	17.04%	2.31%
30 - 44 minutes	19.99%	19.01%	17.31%	-2.68%
45+ minutes	15.03%	20.20%	18.21%	3.18%
Work at Home	2.64%	3.05%	4.54%	1.90%
Departure Time to Work				
6 a.m. to 9 a.m.	68.50%	50.78%	50.54%	-17.96%
Other times	31.50%	23.35%	49.46%	17.96%
Private Vehicle Occupancy				
Drive Alone	76.89%	86.42%	79.41%	2.52%
2 - person carpool	12.74%	10.58%	13.01%	0.27%
3 - person carpool	1.94%	1.35%	3.53%	1.59%
4+ - person carpool	1.27%	1.65%	0.74%	-0.53%
Other Means	7.16%	5.99%	3.31%	-3.85%

Figure 4.1 – Lake County 2010 Population Density

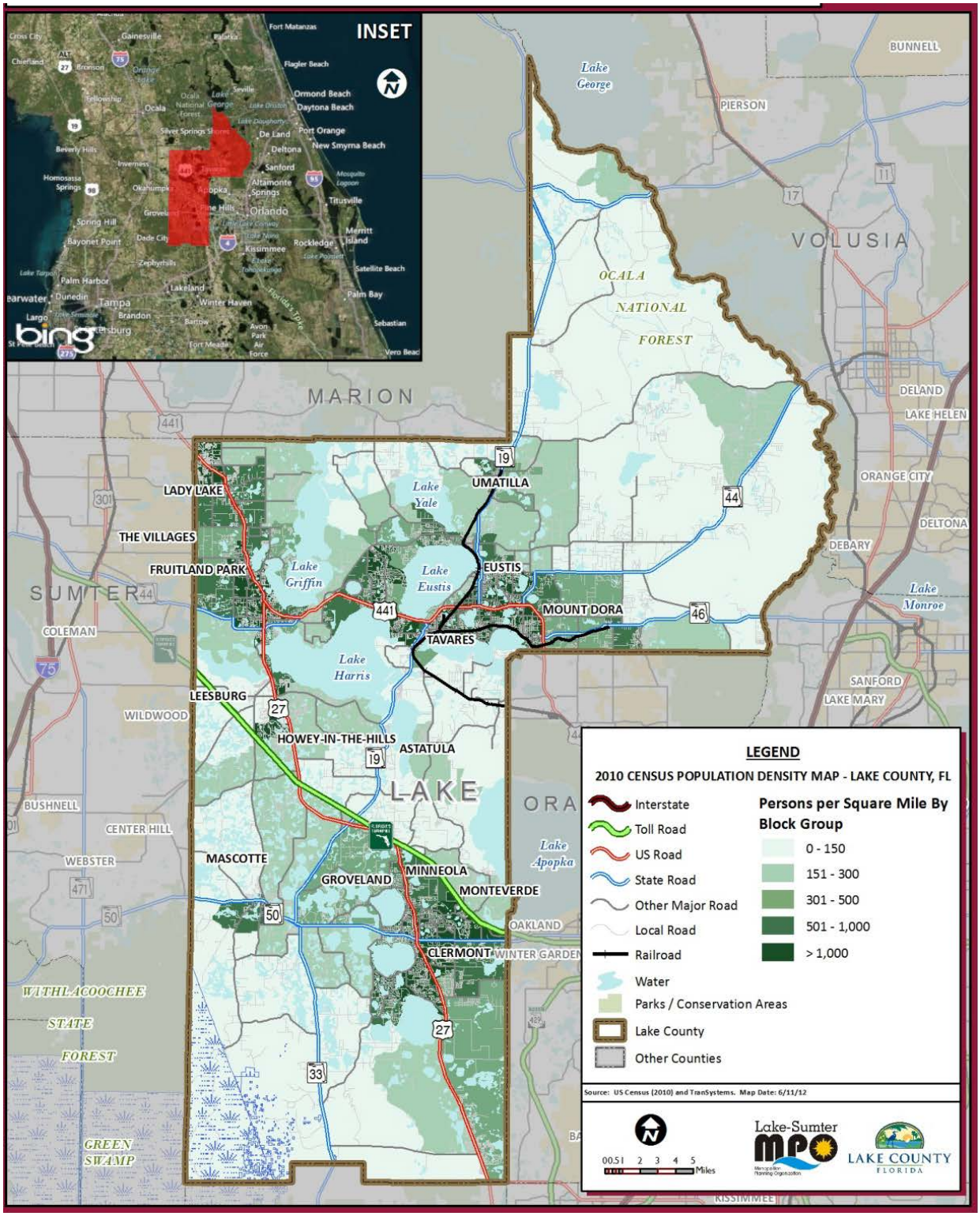


Figure 4.2 – Sumter County 2010 Population Density

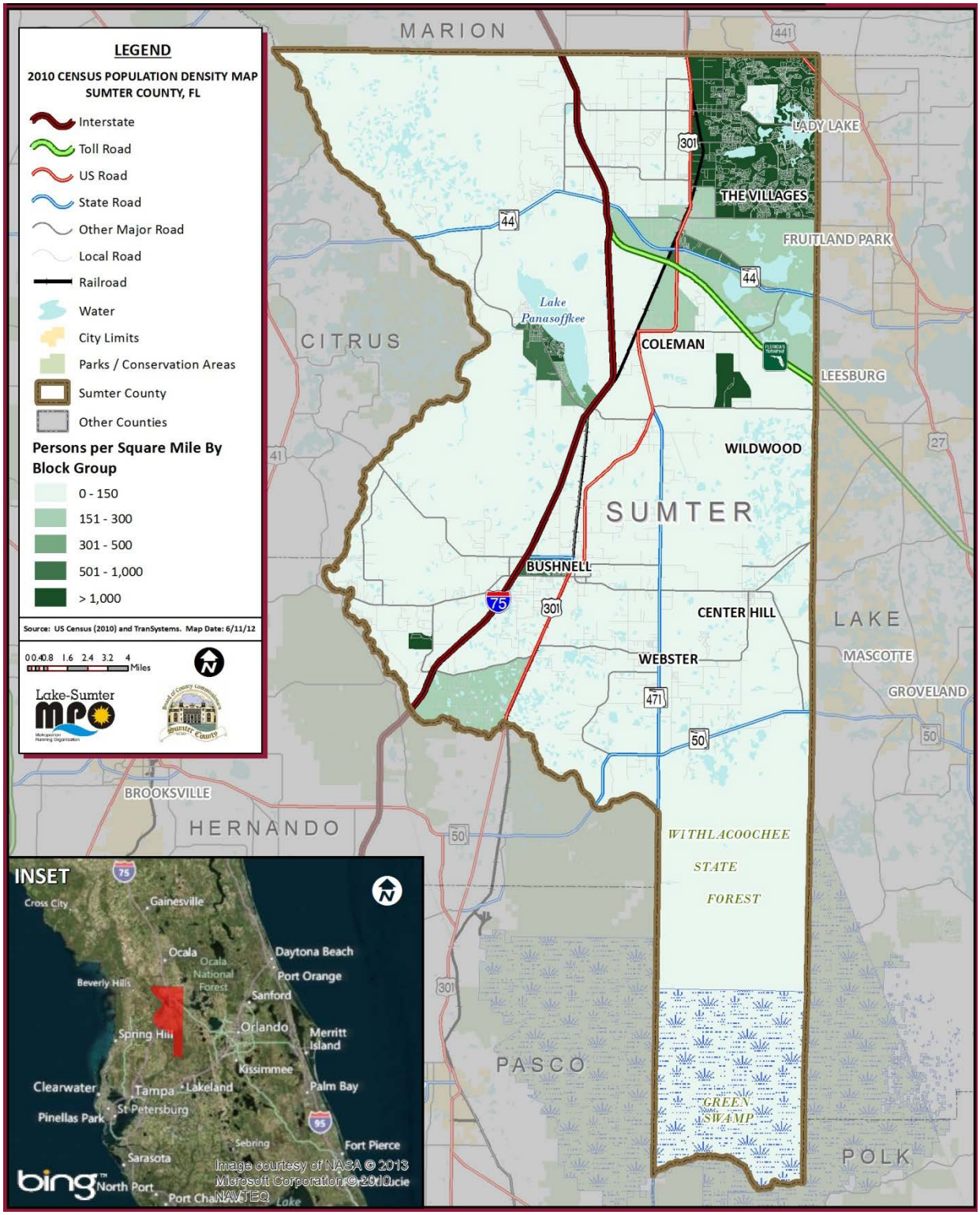


Figure 4.3 – Lake County 2010 Household Density

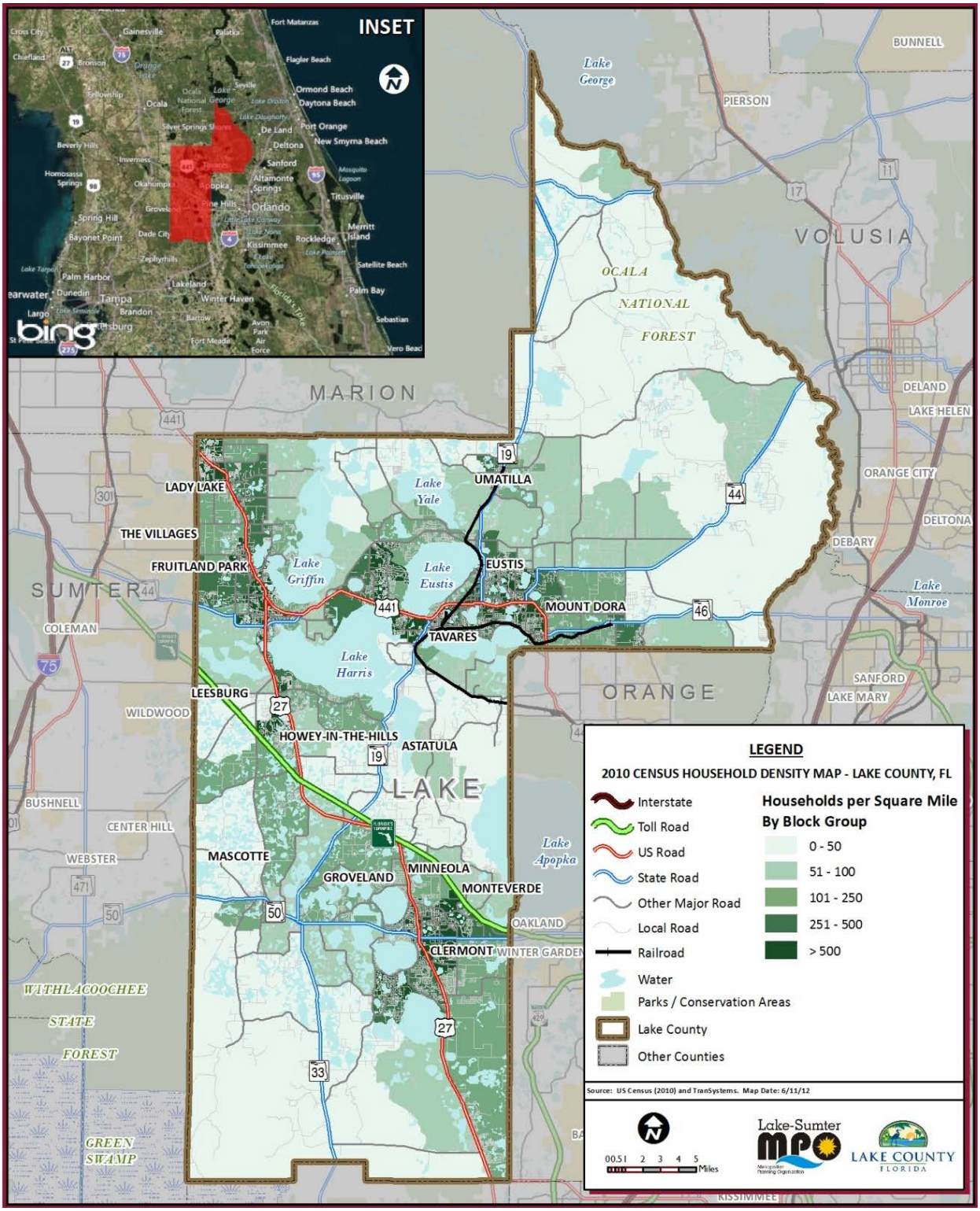


Figure 4.4 – Sumter County 2010 Household Density

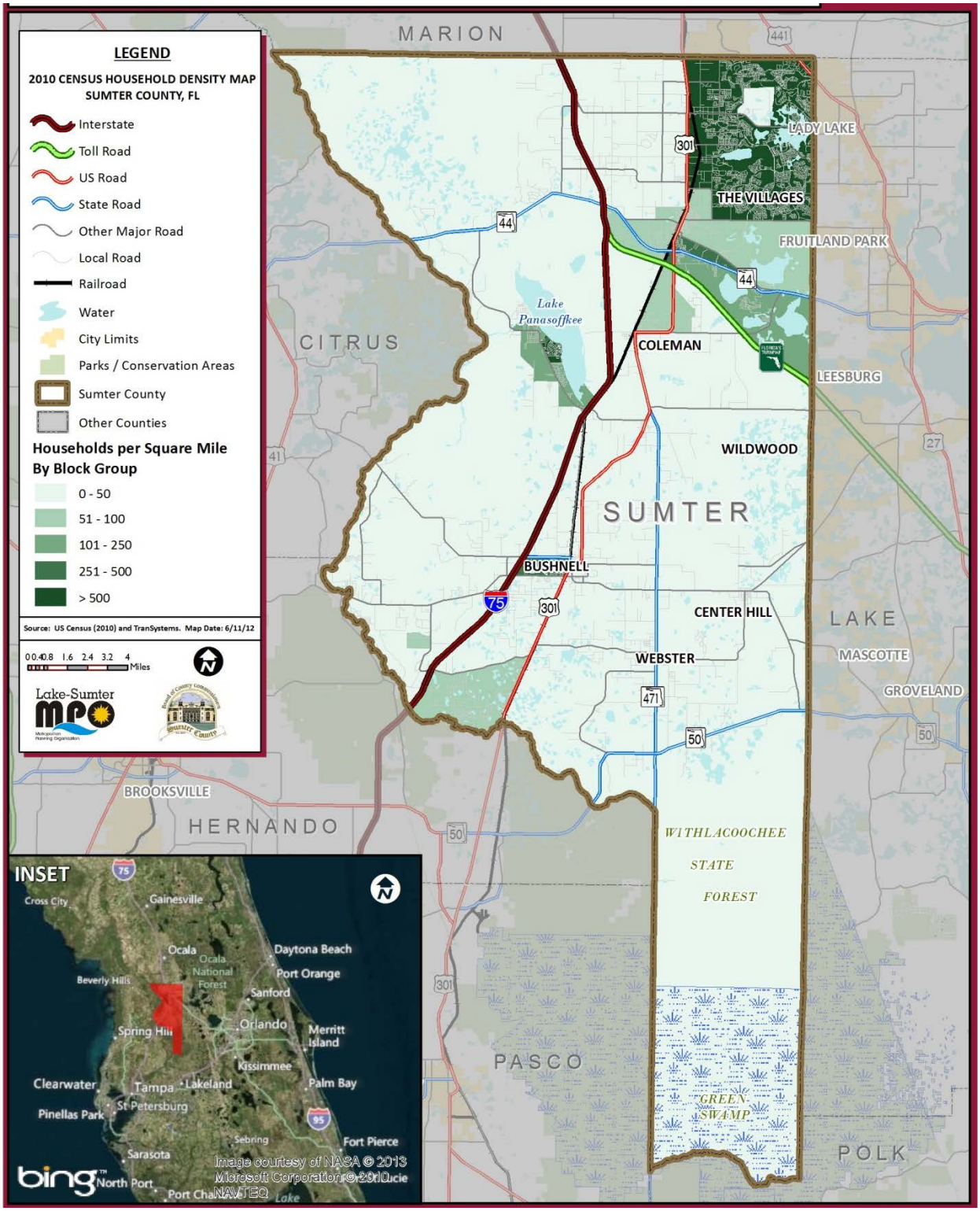


Figure 4.5 – Lake County 2010 Persons 17 Years and Younger

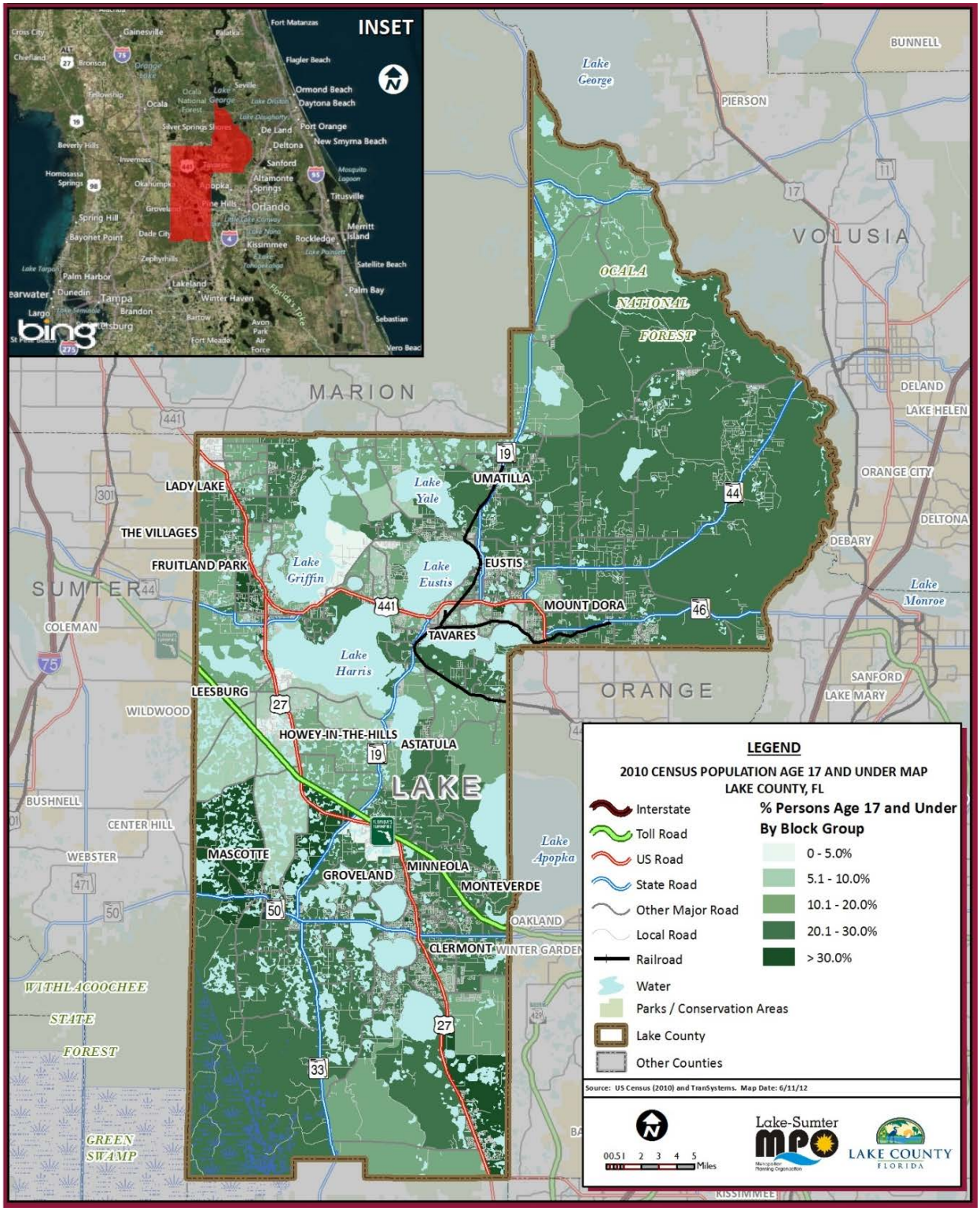


Figure 4.6 – Sumter County 2010 Persons 17 Years and Younger

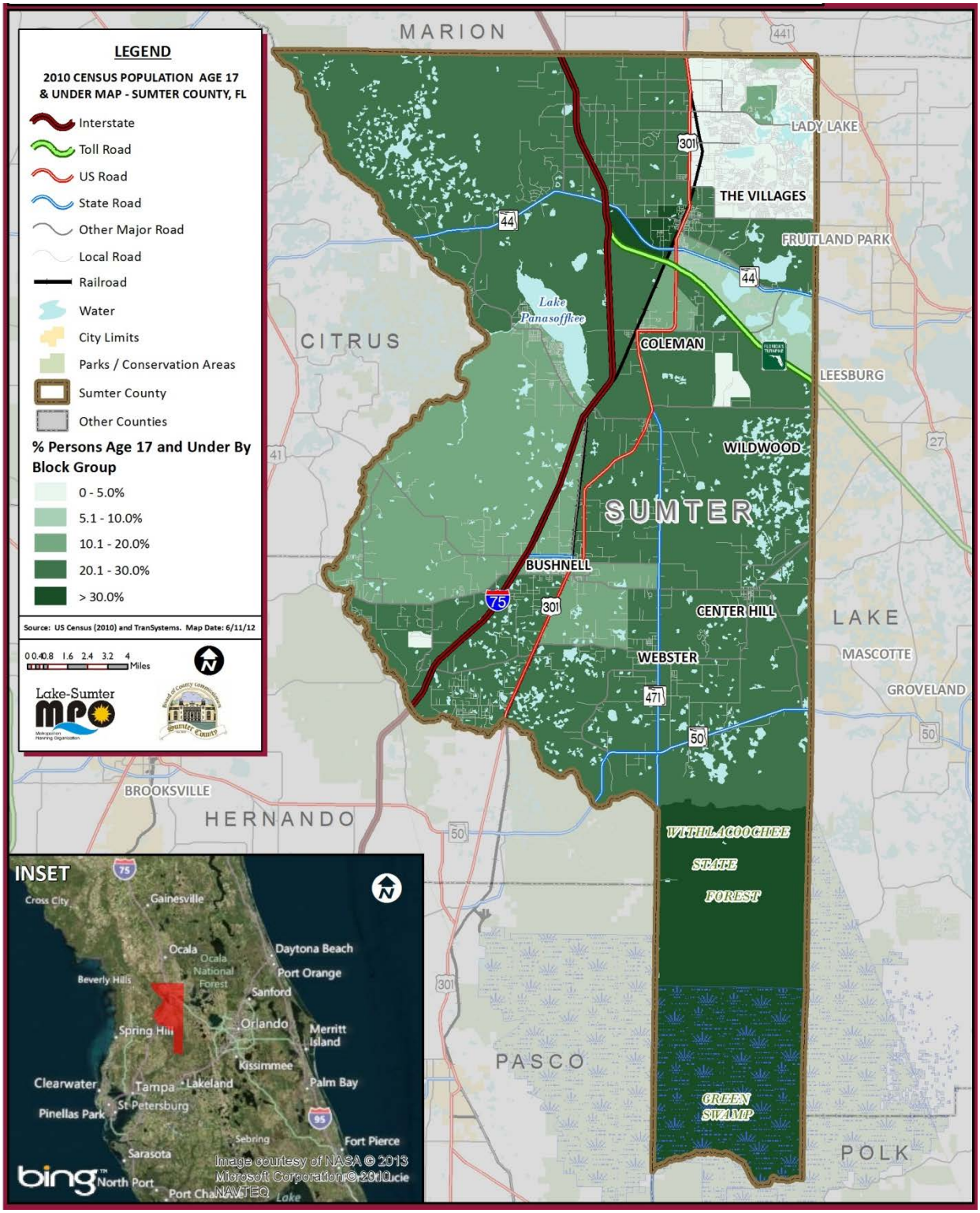


Figure 4.7 – Lake County 2010 Persons 65 Years and Older

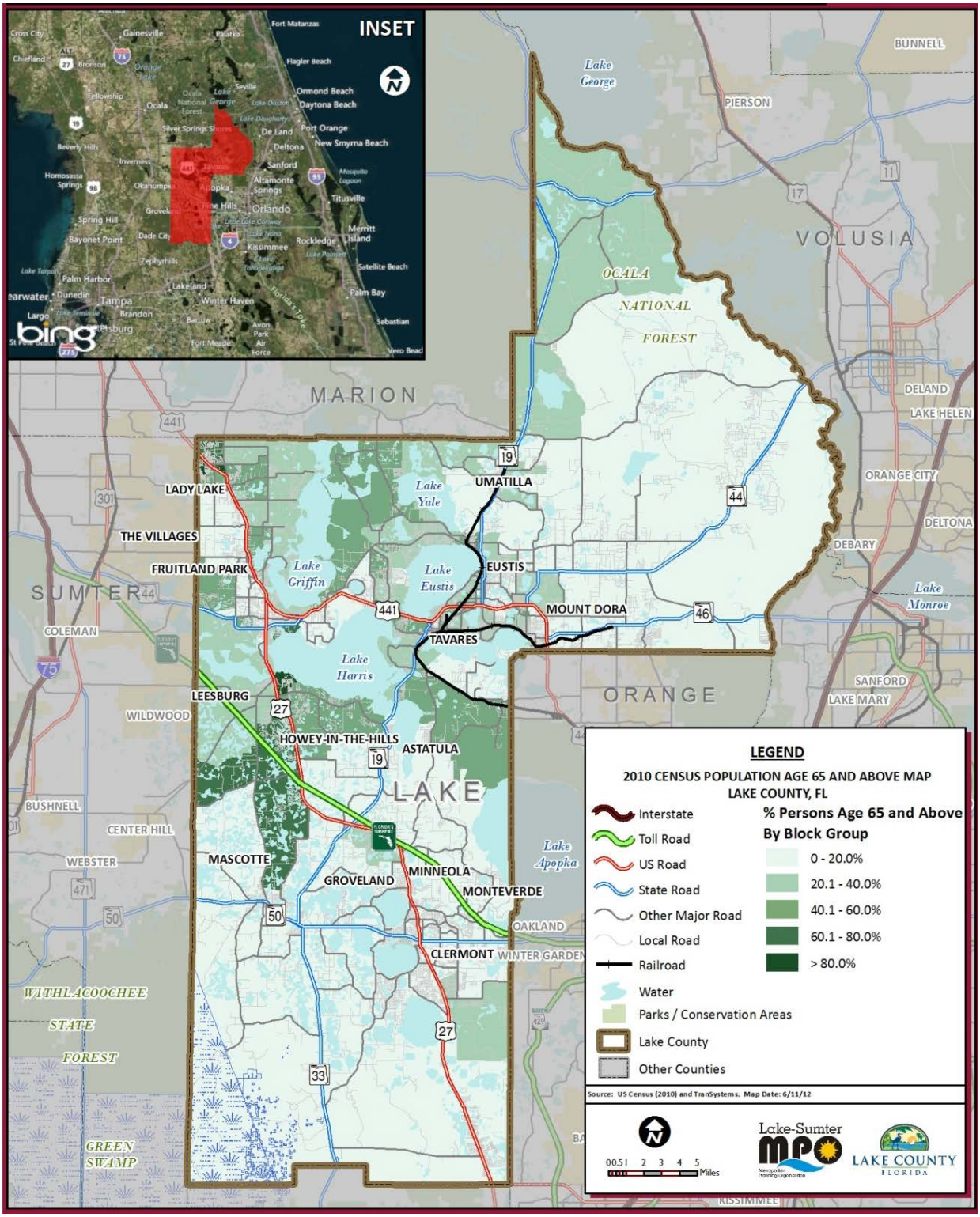


Figure 4.8 – Sumter County 2010 Persons 65 Years Older

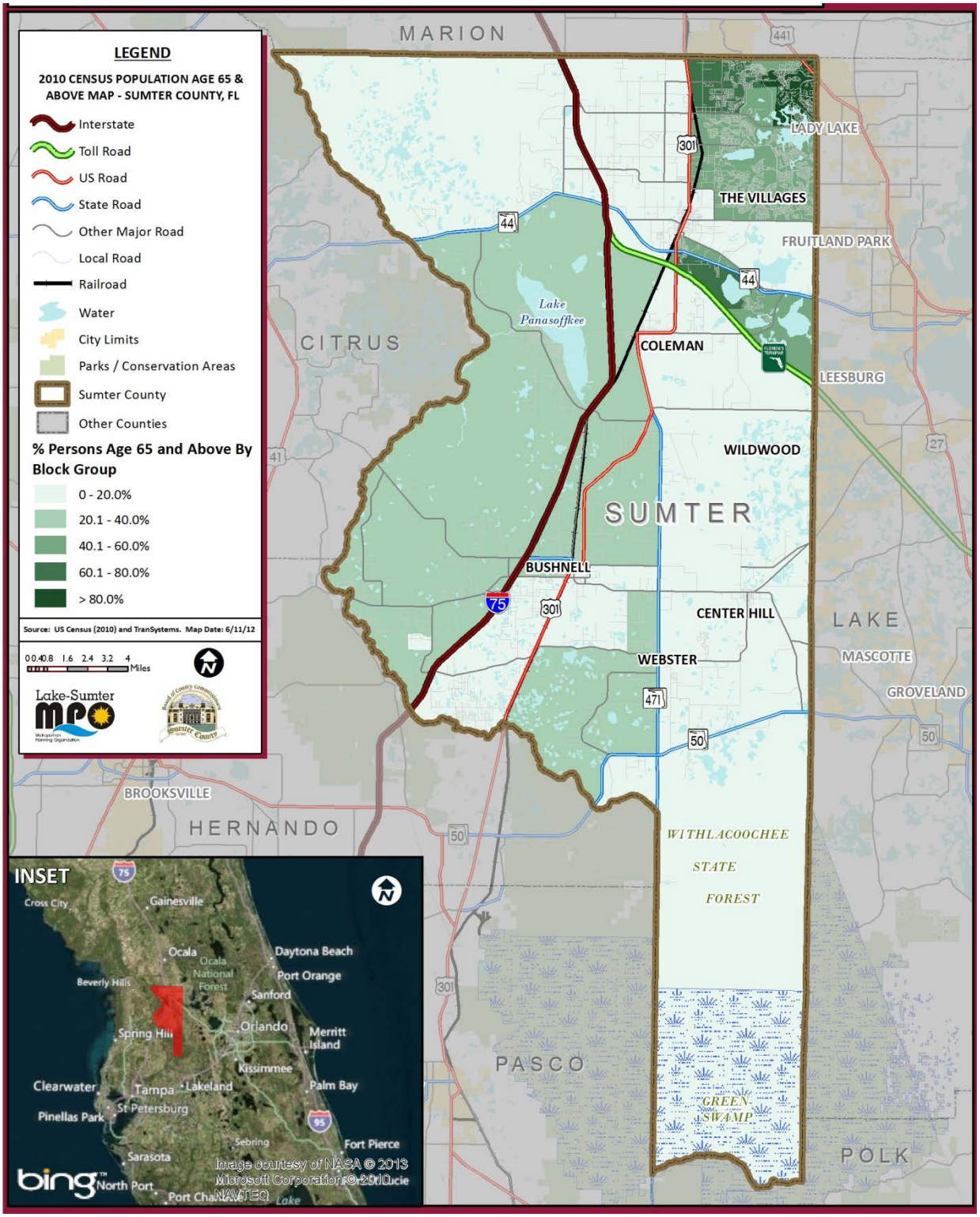


Figure 4.9 – Lake County 2010 Zero-Vehicle Households

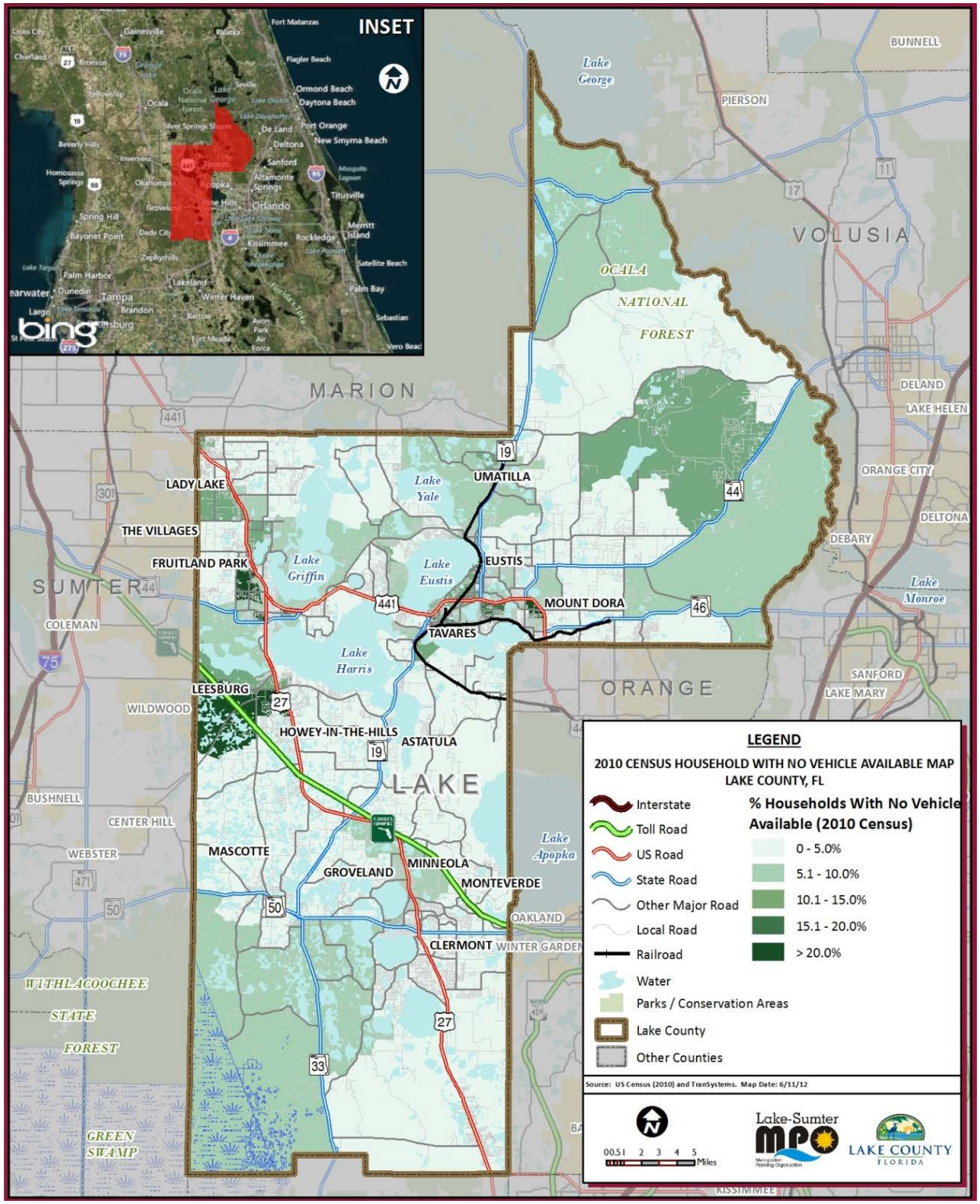


Figure 4.10 – Sumter County 2010 Zero Vehicle Households

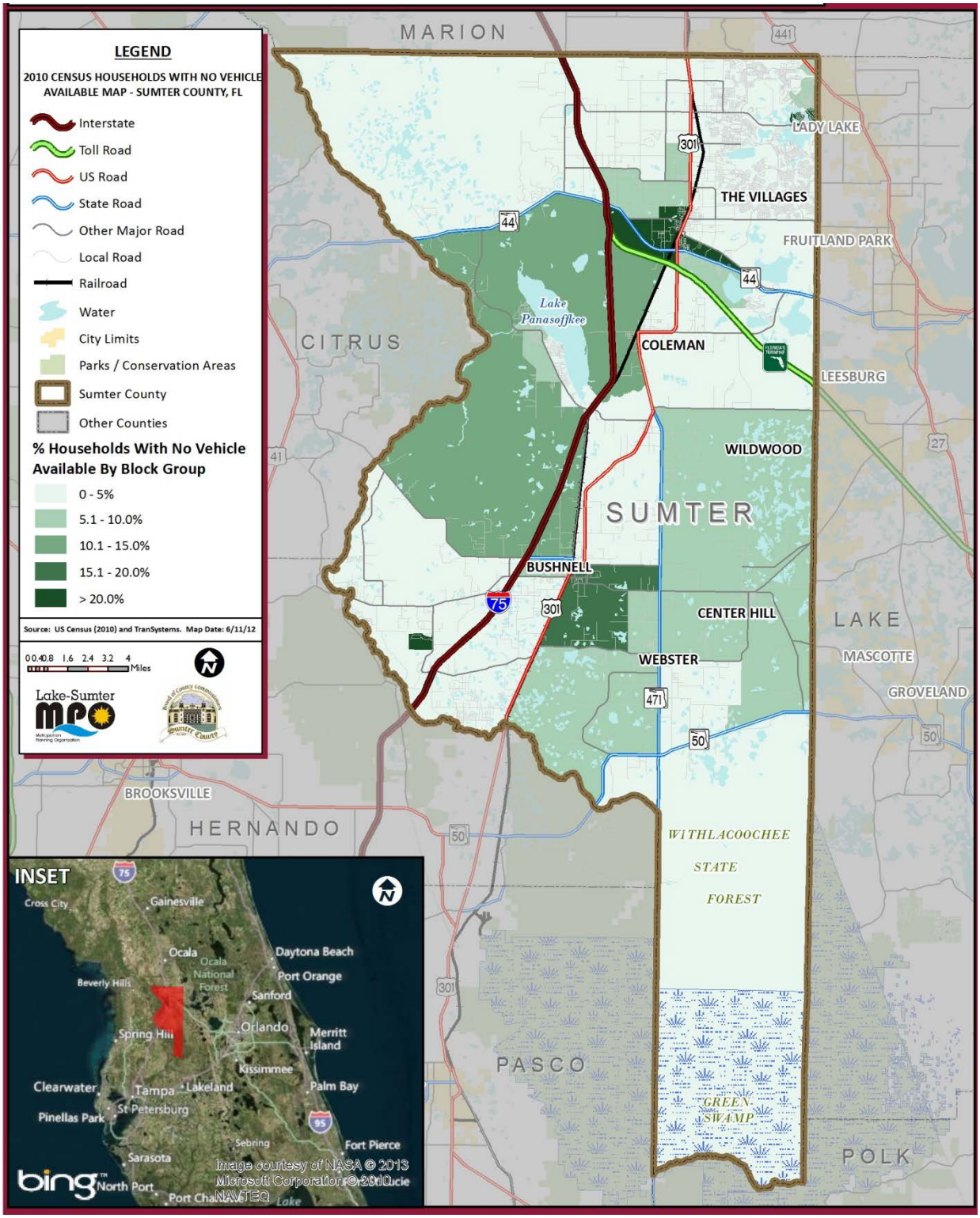


Table 4.5 – County of Work for Workers Residing in Lake County

County of Residence		County of Work						
		Lake County	Orange County	Seminole County	Sumter County	Osceola County	Other	Total
Lake County (2010)	Number of Workers	71,055	28,670	3,555	3,175	2,750	7,554	116,759
	% Distribution	60.86%	24.55%	3.04%	2.72%	2.36%	6.47%	100%
Lake County (2000)	Number of Workers	51,842	20,009	2,979	1,214	1,110	4,309	81,463
	% Distribution	63.60%	24.60%	3.70%	1.50%	1.40%	5.30%	100%
Lake County (1990)	Number of Workers	42,777	7,948	1,261	510	457	3,981	56,934
	% Distribution	75.10%	14.00%	2.20%	0.90%	0.80%	7.00%	100%
Percent Change (1990 - 2010)		14.24%	-10.55%	-0.84%	-1.82%	-1.56%	0.53%	

Source: 2006-2008 ACS, 2000 and 2010 Census commuter flow data, and 1999/03 Lake County TDP/TDSP
Note: Data represent number of workers 16 years old and over in the commuter flow

Table 4.6 – Commuting from Neighboring Counties to Lake County

County of Work		County of Residence						
		Lake County	Orange County	Seminole County	Sumter County	Osceola County	Other	Total
Lake County (2010)	Number of Workers	71,055	5,095	1,295	5,820	715	9,434	93,414
	% Distribution	76.06%	5.45%	1.39%	6.23%	0.77%	10.10%	100%
Lake County (2000)	Number of Workers	51,842	7,063	1,645	3,188	1,628	7,280	72,646
	% Distribution	71.40%	9.70%	2.30%	4.40%	2.20%	10.00%	100%
Lake County (1990)	Number of Workers	42,777	1,786	758	2,183	66	3,958	51,528
	% Distribution	83.00%	3.50%	1.50%	4.20%	0.10%	7.70%	100%
Percent Change (1990 - 2010)		6.94%	-1.95%	0.11%	-2.03%	-0.67%	-2.40%	

Source: 2006-2008 ACS, 2000 and 2010 Census commuter flow data, and 1999/03 Lake County TDP/TDSP
Note: Data represent number of workers 16 years old and over in the commuter flow

Table 4.7 provides a summary of the destinations in surrounding counties for workers who lived within Sumter County in 1990, 2000, and 2010 including the percent change from 1990 to 2010. In addition, Table 4.8 presents a summary of surrounding counties of origin for commuters who work in Sumter County. This information will be used to identify potential commuter markets for transit, including fixed bus routes within the County and park-and-ride and Express Bus services between Sumter and other adjacent counties.

Table 4.7 – County of Work for Workers Residing in Sumter County

County of Residence		County of Work						
		Lake County	Pasco County	Hernando County	Citrus County	Marion County	Polk County	Total
Sumter County (2010)	Number of Workers	5,820	1,025	750	605	2,565	195	10,960
	% Distribution	53.10%	9.35%	6.84%	5.52%	23.40%	1.78%	100.00%
Sumter County (2000)	Number of Workers	3,188	263	390	206	797	112	4,956
	% Distribution	64.33%	5.31%	7.87%	4.16%	16.08%	2.26%	100.00%
Sumter County (1990)	Number of Workers	2,183	228	371	185	420	35	3,422
	% Distribution	63.79%	6.66%	10.84%	5.41%	12.27%	1.02%	100.00%
Percent Change (1990 - 2010)		10.69%	-2.69%	4.00%	-0.11%	-11.13%	-0.76%	

Source: 2006-2008 ACS, 2000 and 2010 Census commuter flow data
Note: Data represent number of workers 16 years old and over in the commuter flow

Table 4.8 – Commuting from Neighboring Counties to Sumter County

County of Work		County of Residence						
		Lake County	Pasco County	Hernando County	Citrus County	Marion County	Polk County	Total
Sumter County (2010)	Number of Workers	3,175	630	735	1,040	3,800	100	9,480
	% Distribution	33.49%	6.65%	7.75%	10.97%	40.08%	1.05%	100.00%
Sumter County (2000)	Number of Workers	1,214	306	303	675	1,043	93	3,634
	% Distribution	33.41%	8.42%	8.34%	18.57%	28.70%	2.56%	100.00%
Sumter County (1990)	Number of Workers	510	133	167	217	346	0	1,373
	% Distribution	37.14%	9.69%	12.16%	15.80%	25.20%	0.00%	100.00%
Percent Change (1990 - 2010)		-3.65%	-3.04%	-4.41%	-4.83%	14.88%	1.05%	

Source: 2006-2008 ACS, 2000 and 2010 Census commuter flow data, and 1999/03 Sumter County TDP/TDSP
Note: Data represent number of workers 16 years old and over in the commuter flow

According to the American Communities Survey (ACS) estimates, 45 percent of the work trips originating from Sumter County terminate outside the County. The commuter flows to Orange, Seminole, Lake, and Osceola Counties have increased significantly from 1990 to 2010. In addition, the commuter flows from Orange, Seminole, Osceola, and other counties have also increased considerably for the same time period. Overall, however, the change in the outbound commuter flow has only increased slightly more than the change in the inbound commuter flow for the 10 year period, from 1990 to 2010.

Although access to retail stores and services in the county is increasing, travel to out-of-county destinations continues to be necessary for many Sumter County residents, particularly for medical and employment purposes.

4.2 Land Use

Maps summarizing a variety of land use, transportation, and population data for existing conditions and future (2035) conditions were prepared using data from the 2010 Census, the Central Florida Regional Planning Model (CFRPM), and the Lake County Geographic Information System (GIS). This information can be used to inform the assessment of potential transit needs. The Alternative Land use scenario utilized in TRANSPORTATION 2035 is the basis of the future conditions analyses.

4.2.1 Existing Land Use Profile

Figure 4.11 shows that Lake County contains significant agricultural, public, semi-public, and recreational acreage; the largest concentrations in the north portion and the far southern portion of the county. There are, significantly sized pockets located in the central portion of the county as well. Residential uses are found primarily in the central portion of the county and, to a lesser extent, in the south portion of the county. Retail and office uses tend to follow major roadways. Industrial uses (not including agricultural uses) and institutional uses are a very small percentage of the land uses in the county. Figure 4.12 shows existing roadways in Lake County and surrounding areas.

Sumter County is located at the literal crossroads of Central Florida, connecting to several major transportation corridors which provide easy access to all areas of the state. Interstate 75, US Highway 301, State Road 44, SR 50, SR 471, and the Florida Turnpike all serve to make Sumter County an attractive location for development.

The MPO plays an active role in merging the needs of the transportation disadvantaged with regional and municipal development plans. Public transportation will play an important role in future mobility strategies as outlined in the new long range transportation plan "Transportation 2035".

Transportation models have not been adequate in addressing severe long-term transportation problems that transportation disadvantaged groups overwhelmingly encounter, and the negative impacts of transportation on the disadvantaged have not been effectively considered in the modeling studies. Therefore "Transportation 2035" aims to develop a transportation planning/modeling approach in order to understand the travel patterns of the transportation disadvantaged, and help in developing policies to solve the problems of the disadvantaged.

Figure 4.11 – Lake County Existing Land Use

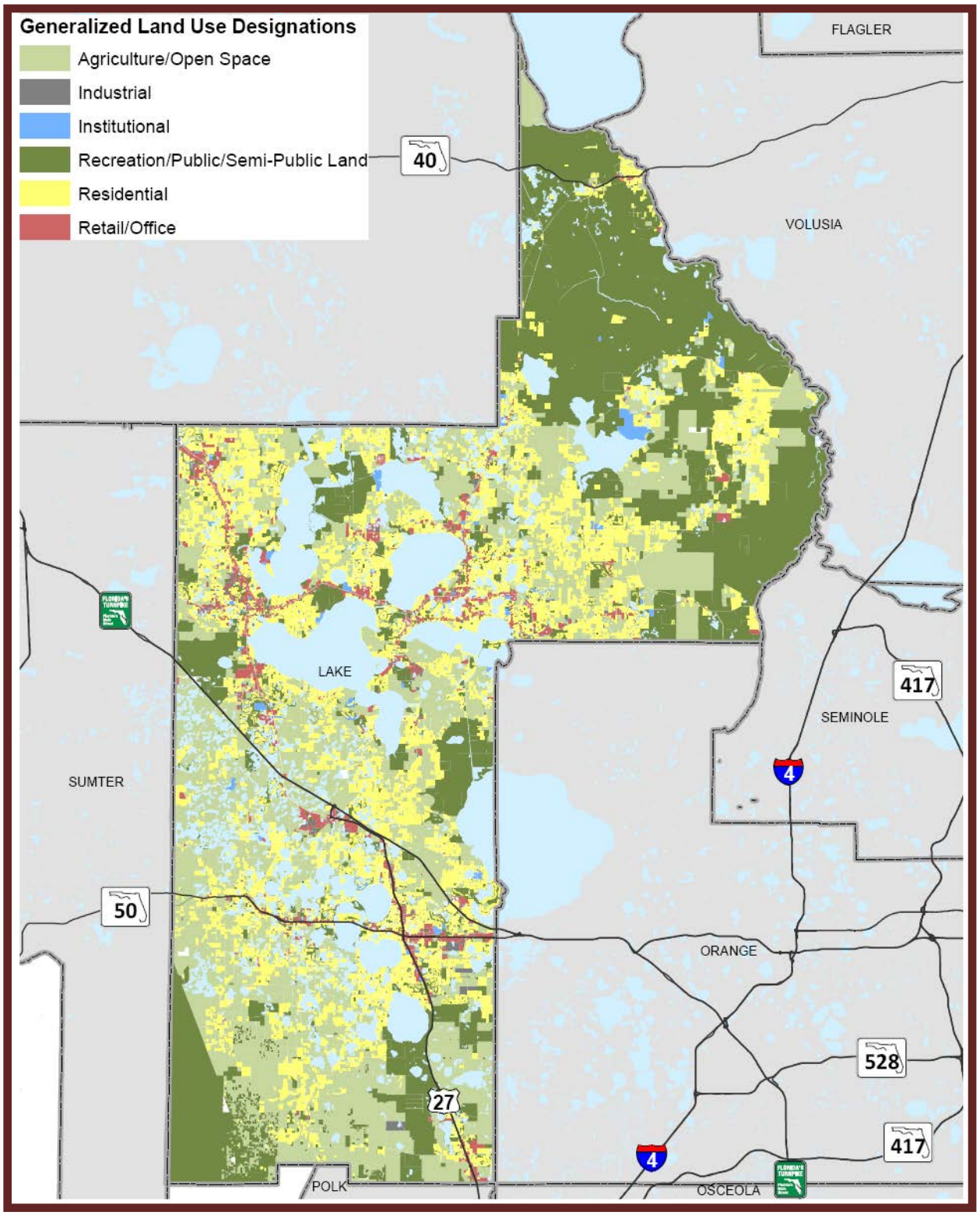
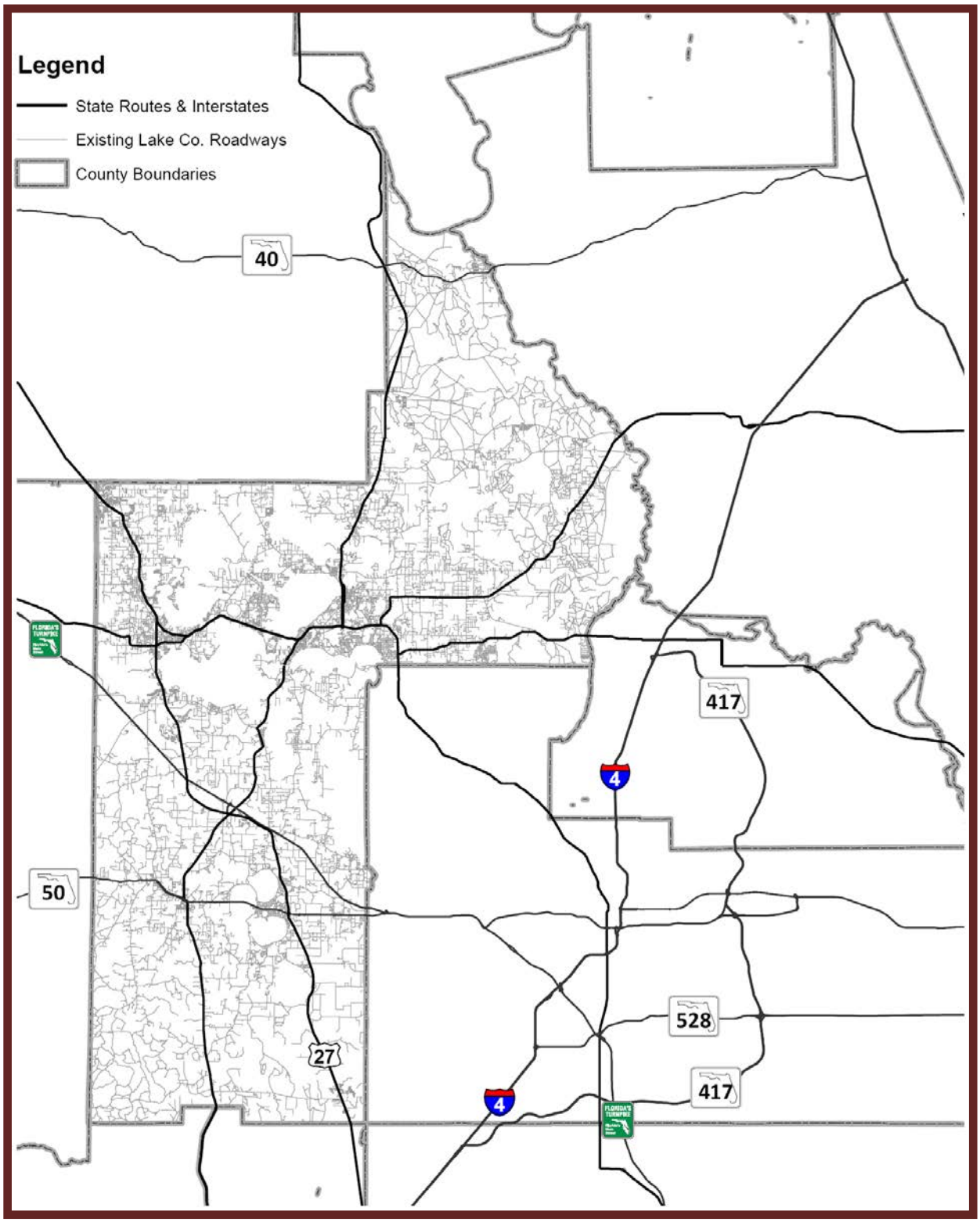


Figure 4.12 – Lake County Roadway Network



4.2.2 Future Land Use

Figure 4.13 shows a desired future land use pattern that is similar to that in Figure 4.11 at a basic level, but recognizes significant growth in mixed-use development, industrial development, and residential development. Some centrally located agricultural lands are converted to residential lands, as distinctions between residential densities are recognized. Figure 4.14 shows Sumter County.

Figure 4.15 shows that a small number of new roadway segments are anticipated to be constructed over the long term. Most of these are in the Clermont area.

4.2.3 Major Trip Generators/Activity Centers

Major travel attractors and generators in Lake County include activity centers such as hospitals, schools, shopping centers, employment centers and central business districts. Trip generators are land uses from which trips originate (e.g., residential developments), while trip attractors are land uses which are destinations (e.g., shopping districts, employment centers, medical offices, educational facilities and recreation sites).

Figure 4.16 and Figure 4.17 illustrate major activity centers in Lake and Sumter counties, respectively. Most of the major activity centers are located along the US 441 corridor. The communities of Clermont, Minneola, Groveland, and Mascotte have experienced significant growth since the 2000 census. As a result, activity centers have emerged south of Leesburg, along the Florida Turnpike, SR 50, and the Four Corners area in the form of DRIs.

In addition to the effort to illustrate the major activity centers, a compilation of current major employers and most recent major investments was performed. The data, as recent as 2006, were drawn from a series of data sheets provided by the Metro-Orlando Economic Development Commission, which provides an online information portal that provides demographic and statistical information on the entire Orlando Metropolitan Statistical Area (MSA), which includes Orange, Seminole, Lake, and Osceola counties.

Table 4.9 shows the top ten private employers in Lake County, according to the Metro-Orlando Economic Development Commission. Additionally, major employers in neighboring counties impact commuting patterns. Among Lake County residents commuting to work, 20,009 or 24.6 percent work in Orange County. The Walt Disney Company is the largest employer in Orange County with 56,800 employees. Businesses in Seminole County employ 2,979 Lake County residents to various major employers through the County. Sumter County employs 1,214 Lake County residents or 1.5 percent of Lake County commuters. Major employers in Sumter County near the Lake County border include Coleman Federal Prison on CR 470 and CR 501, which employs 1,004 employees; The Villages of Lake-Sumter Inc. employs 700 people in Sumter County; T&D Concrete located at The Villages employs 460 employees; The Villages Regional Medical Center has 367 employees; and SECO Energy employs 300 people. Sumter County major employer data was derived from Enterprise Florida, Inc.

Table 4.10 provides a listing of recent, notable establishment activity, as highlighted by the Metro-Orlando Economic Development Commission. The table demonstrates the continued growth of economic opportunities in the Metro Orlando area, leading to the potential for even more employment-based trip generators.

Figure 4.13 – Lake County Future Land Use Patters

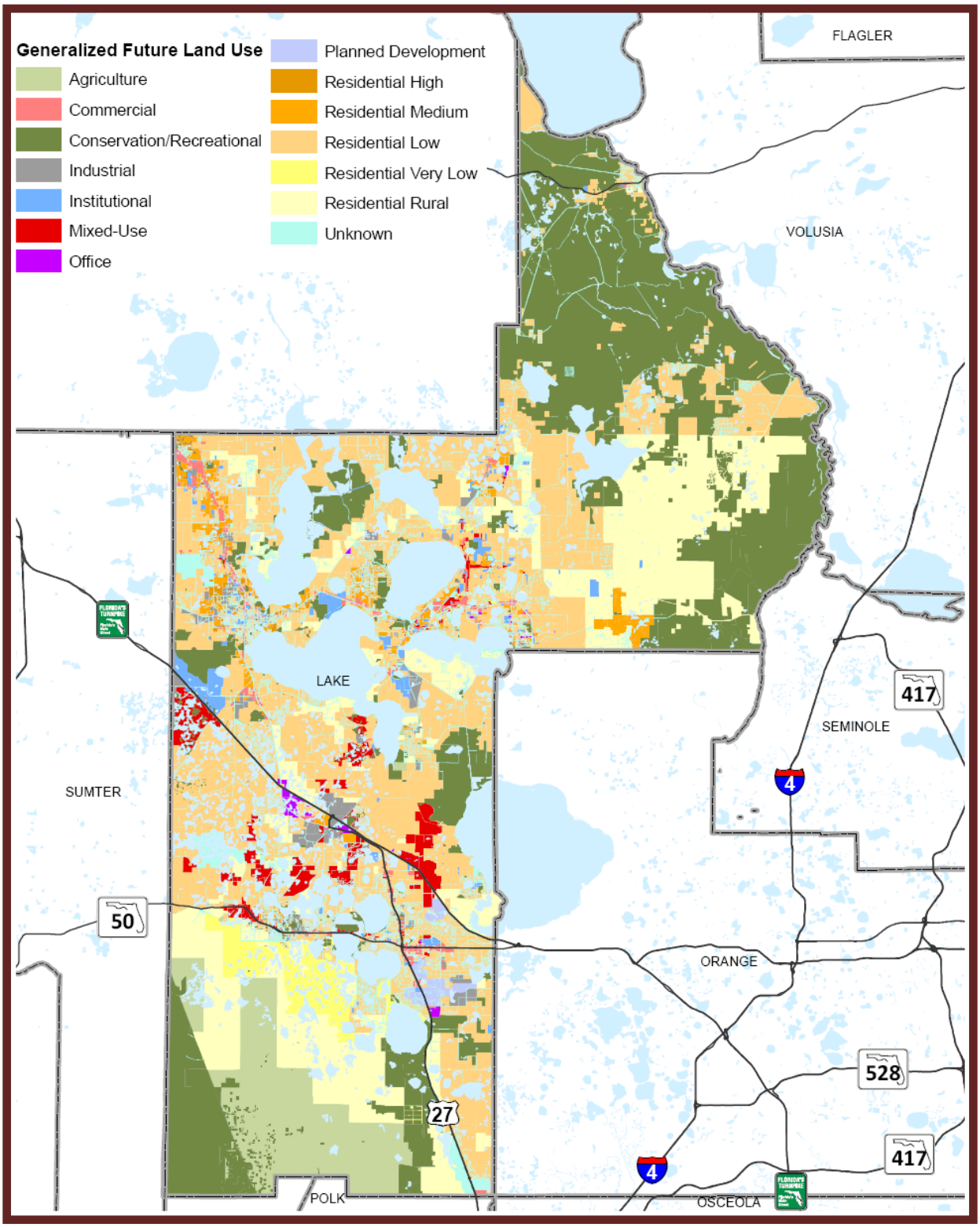


Figure 4.14 – Sumter County Future Land Use Patters

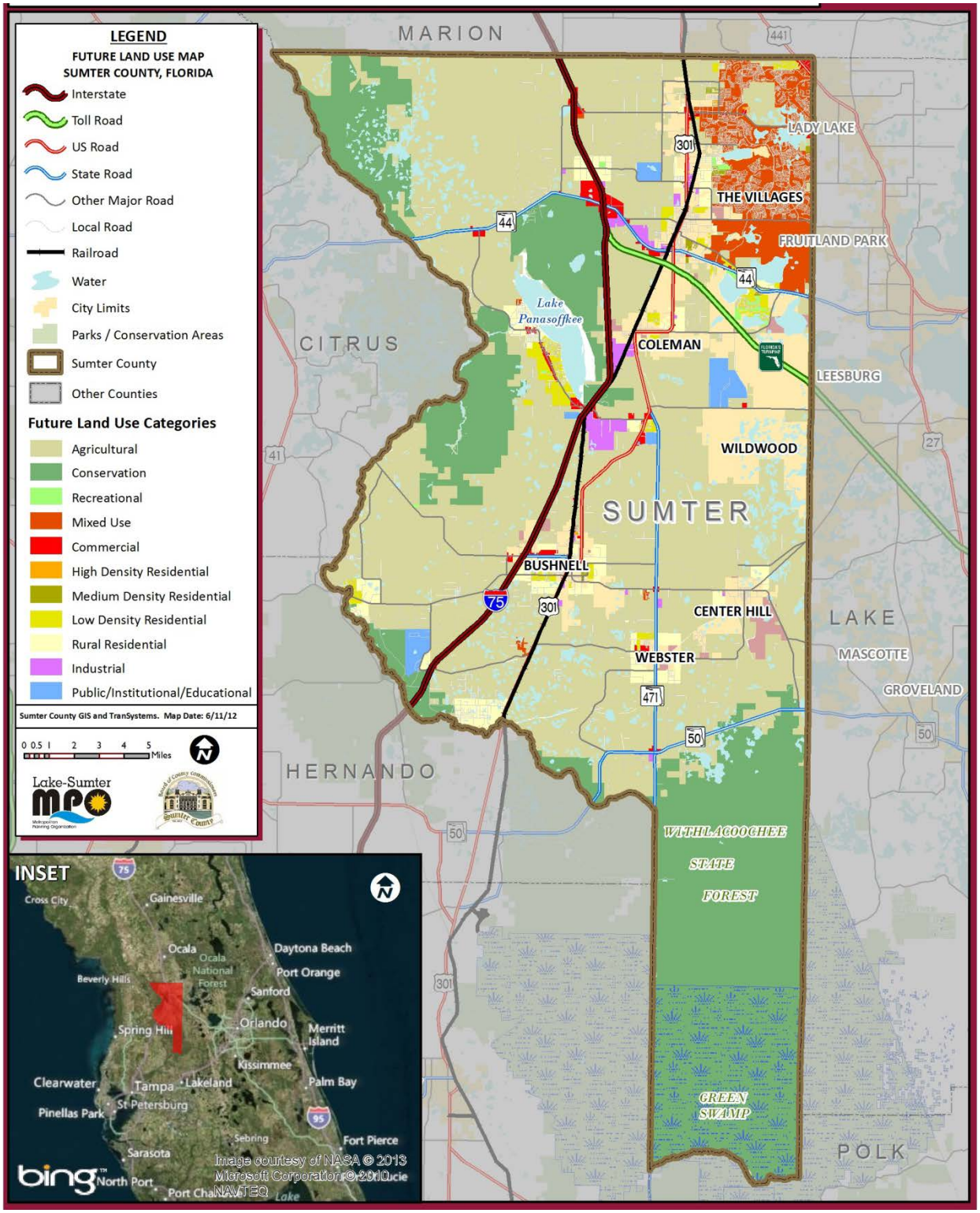


Figure 4.15 – Lake County Future Roadway Network

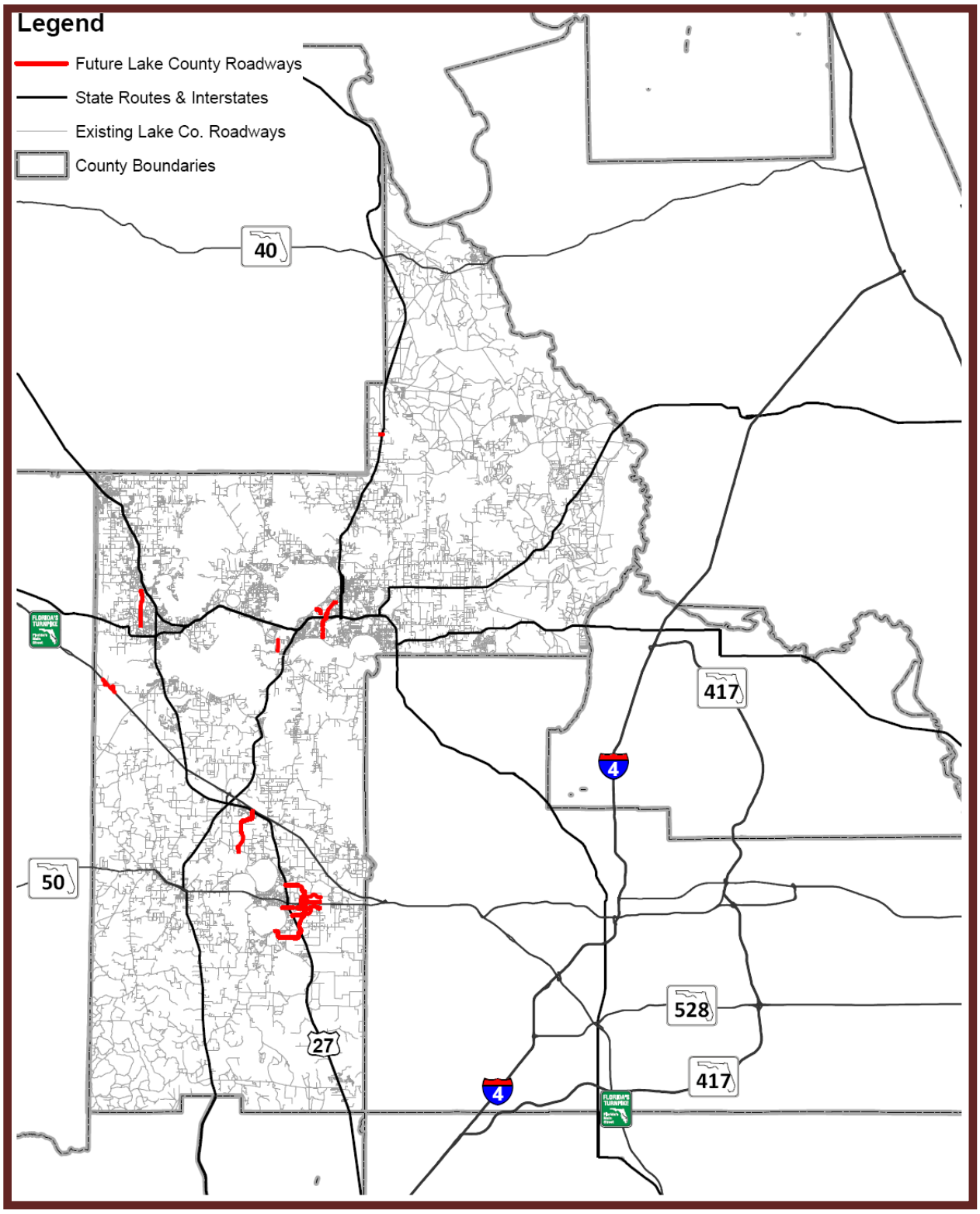


Figure 4.16 – Lake County Major Activity Centers

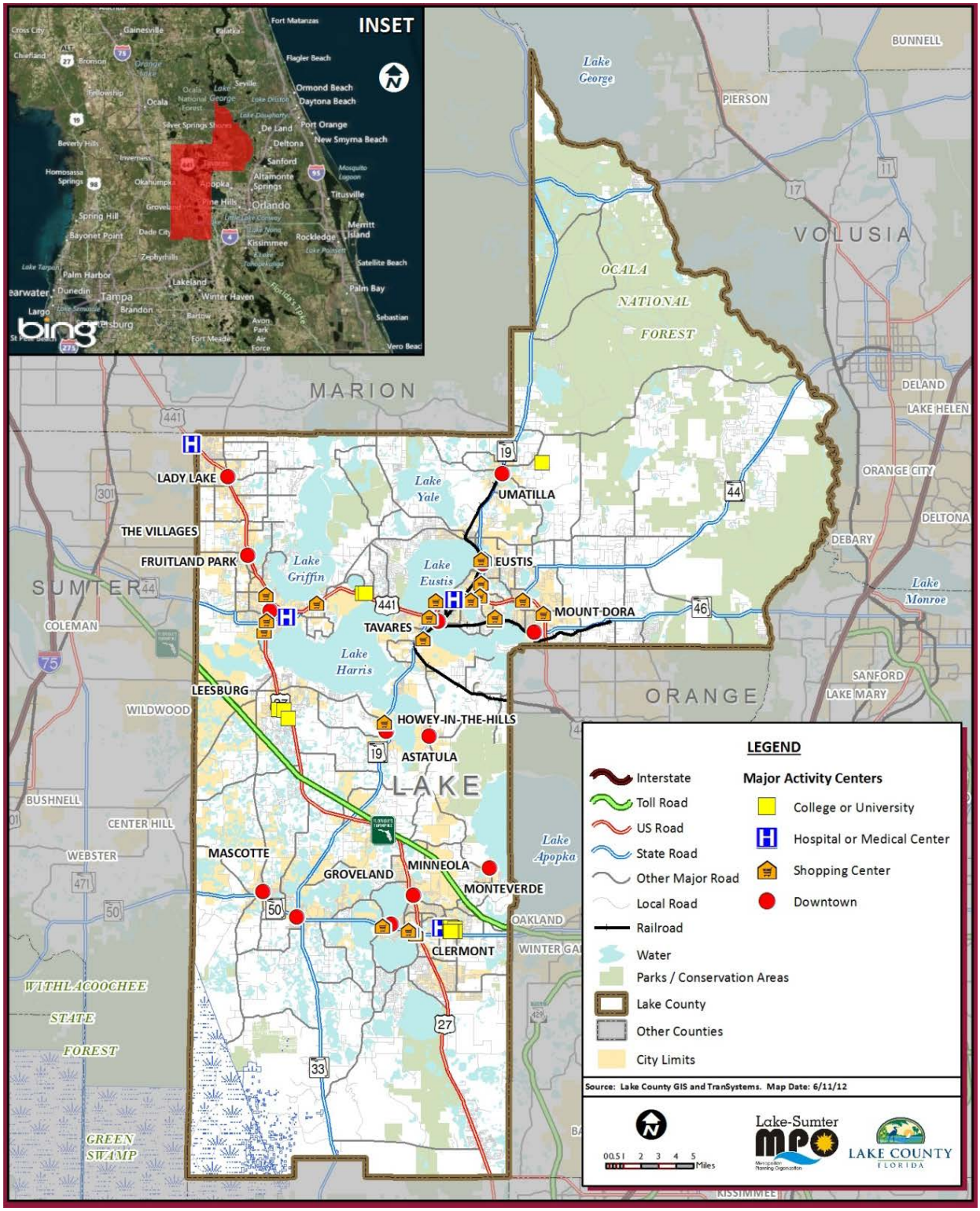


Figure 4.17 – Sumter County Major Activity Centers

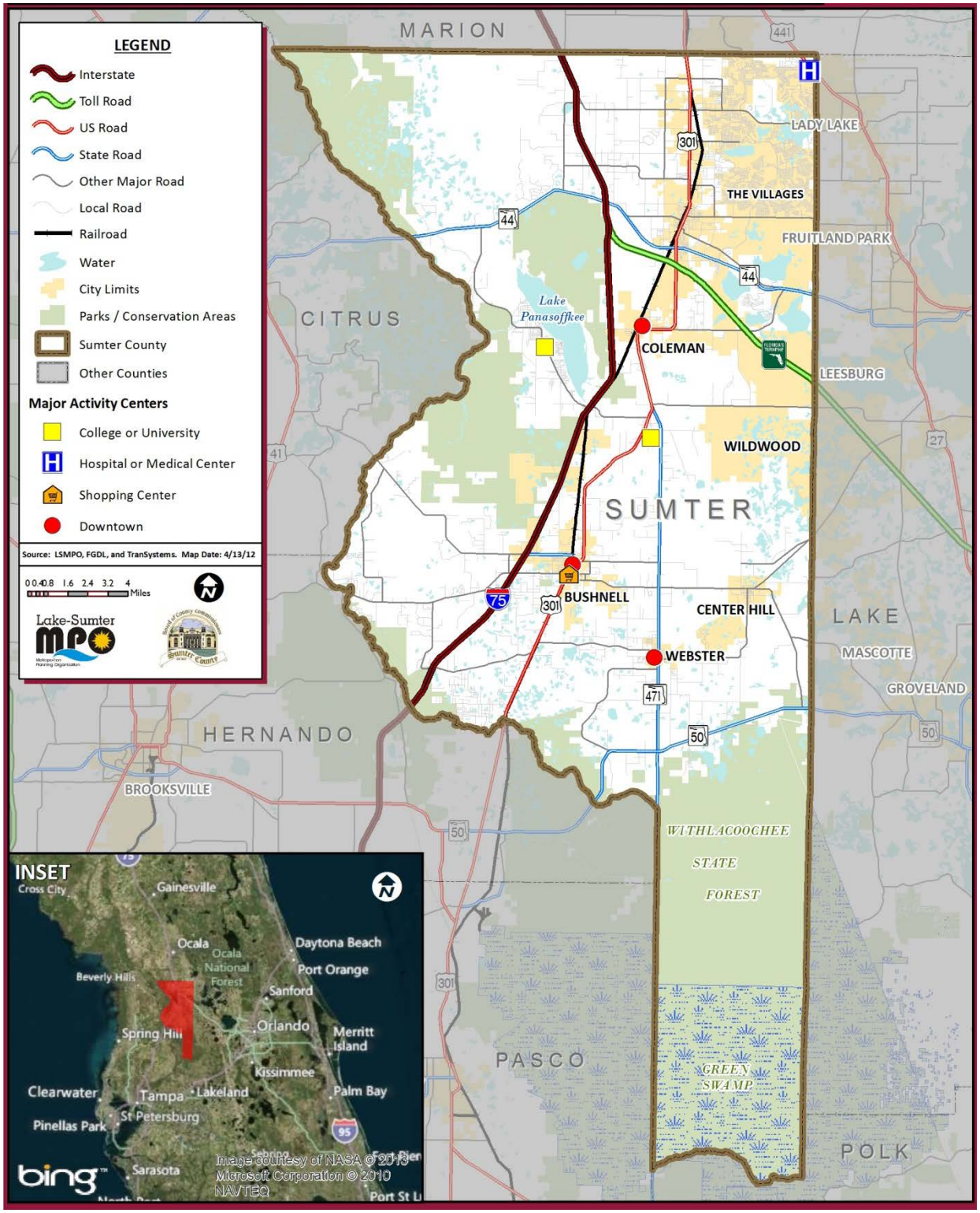


Table 4.9 – Major Private Employers in Lake County

Employer	Number Employed
Leesburg Regional Medical Center	2,300
Wal-Mart Super Centers	1,922
Villages of Lake-Sumter, Inc.	1,900
Florida Hospital - Waterman	1,562
Publix Supermarkets	1,027
Embarq	811
Lifestream Behavioral Center	600
Lester Coggins Trucking	350
Cutrale Citrus Juices	321

Source:
http://www.eflorida.com/profiles/CountyReport.asp?CountyID=59&Display=all

Table 4.10 – Recent Establishment Activity

Company	Products and Services	Investment
Blue Rhino	Refurb. Propane Cylinders	$6,000,000
Dunkin' Brands, Inc.	Distribution Center	$500,000
ICS of Florida, Inc.	Mfg. Energy Efficient Panels	$800,000
National Institute of Telehealth (NIT)	Interactive Video Tech/ Research & Dev.	$5,000,000
Rapter Technology Group	Energy	Unknown

Source: Metro-Orlando Economic Development Commission, http://www.orlandoedc.com/, accessed April 2012

Examples of trip attractors located in Sumter County include the shopping centers in Wildwood and Bushnell, the flea market in Webster, the Florida Department of Health and Rehabilitative Services' District 13 headquarters/Sumter County Government Building in Wildwood, the Thomas E. Langley Medical Center near Sumterville, the federal prison southeast of Coleman, the Florida National Cemetery and Sumter Correctional Institution near the Hernando County line, the Dade Battlefield Historic Memorial southwest of Bushnell, the public schools, the satellite campus of Lake-Sumter Community College in Sumterville, and the county courthouse in Bushnell.

Table 4.11 shows Sumter County's ten largest public and private sector employers as of 2009 including Coleman Prison, Sumter District Schools, The Villages, Sumter Correctional Institute, T&D Concrete, Sumter County Government, Villages Regional Medical Center, Lake-Sumter Community College, Wal-Mart Superstore and Sumter Electric Cooperative. Figure 3.7 showed the locations of the service route stops. In most cases these stops are associated with the trip generators and attractors listed.

Table 4.11 – Major Employers in Sumter County

Employer	Number Employed
Coleman Federal Prison	1,004
Sumter District Schools	815
The Villages	700
Sumter Correctional Institute	500
T&D Concrete	460
Sumter County Government	437
Villages Regional Medical Center	367
Lake Sumter Community College	365
Wal-Mart Superstore	340
Sumter Eletric Cooperative	300

Source: eFlorida

4.3 State and Local Transportation Plans

This section provides a summary of existing plans, programs, and documents that may or may not be relevant to the preparation of a Transit Development Plan (TDP) and TDSP for Lake County and Sumter County. The purpose of reviewing this information is to ensure consistency, coordination, and understanding of other transportation planning and programming activities that were recently completed or are in the process of being developed.

Lake County Comprehensive Plan

Florida law requires every incorporated municipality and county to adopt a comprehensive plan that is consistent with the Growth Management Act of 1985. The Growth Management Act requires all comprehensive plans to be consistent with state and regional plans. For communities with a population over 50,000, all comprehensive plans must include a transportation-related element that summarizes the existing and future transportation conditions, how those conditions relate to what the community considers the ideal transportation situation, and how they propose to get there. The Lake County Comprehensive Plan is the primary policy document concerning land use, transportation, and other planning categories for the County and was last amended in 2010.

These documents provide information that can be used in preparing the TDP, including the following:

- Historical overview of public transportation in Lake County
- Inventory of existing transit services, including public and private
- Map of locations for existing transit providers
- Discussion of existing paratransit services
- Analysis of Lake County transit services
- Map of locations for hospitals, post-secondary schools, and shopping centers
- Miscellaneous data related to demographic and residential characteristics in Lake County

- Currently adopted goals and objectives for the Mass Transit Element, along with proposed changes for the transit portions of goals and objectives in the update of the Transportation Element of the Comprehensive Plan update.

East Central Florida Strategic Policy Plan

The most recent East Central Florida 2060 Plan Strategic Policy Plan is a long-range guide for the physical, economic, and social development of a planning region. Included in the Plan are regional goals and policies. The Plan provides a basis for the review of resources and facilities included in local government Comprehensive Plans throughout the region. Section 5 of the Plan addresses transportation and specifically, public transportation. To the extent possible, the current TDP is consistent with this regional policy plan and the regional plan was considered during this update of the TDP and TDSP.

Florida Commission for the Transportation Disadvantaged 2005 Five/Twenty Year Plan

The Commission's 2005 Five/Twenty Year Plan was reviewed as part of the current TDP update. This Plan identifies goals, objectives, and actions for the Commission to pursue in the next five to 20 years. Included in the five-year plan is a forecast of demand for TD services, projected costs of meeting the demand, and estimated future funding. In addition, the 20-year plan provides a longer-term picture of transportation disadvantaged services in the state of Florida. The short- and long-term plan of the CTD will be considered throughout the development of the TDP and updated TDSP.

The current TDP is consistent with the goals, objectives and strategies outlined *Transportation 2035,* adopted December 2010. *Transportation 2035* was adopted as the MPO's regional vision for a true, multimodal transportation network and included extensive public involvement throughout the plan development process.

Transportation Improvement Plan

The current TDP is consistent with the MPO TIP 2011/12-2015/16

Memorandum of Agreement (Transportation Disadvantaged Services In Lake County and Sumter County)

The fully executed Memorandum of Agreement between the CTD and Lake County Board of County Commissioners (BCC), and the CTD and Sumter County Board of County Commissioners (BCC) which designates the BCC as the CTC were also reviewed as part of this task. The agreement specifies the responsibilities pertaining to the provision TD services in Lake County and Sumter County. One requirement identified in the agreements specifies that the CTC "shall arrange for all services in accordance with Chapter 427, Florida Statutes, and Rule 41-2, Florida Administrative Code." The agreement also requires the preparation of a TDSP for approval by the TDCB and the CTD. Numerous other requirements are identified in the agreement that is made as a basis for the provision of funding.

Lake County and Sumter County executed new Five (5) year Memorandum of Agreements January 2013 and December 2012 respectfully.

Annual Performance Report from the CTD

The 2011 Annual TD Performance Report prepared by the CTD was reviewed for Lake County and Sumter County. The performance report provides an overview of the operating environment, the CTC, and other information related to the TD program in Lake County and Sumter County. Statistics reported by Lake County CTC and the Sumter County CTC in their Annual Operations Report are also provided in the CTD Annual Performance Report, including service statistics, passenger trip information, a financial summary, and a graphical summary of performance indicators.

Annual Operations Report

An Annual Operations Report (AOR) is submitted to the CTD. The AORs for FY11 through FY13 were reviewed for this TDP update effort. The AOR is compiled by the CTC based on information from Lake County Connection, Sumter County Transit and other Coordination Contractors.

Lake County ADA Transition Plan

In 2010, the MPO and the Lake County Public Transportation Division completed an evaluation of bus stops and shelters within the County with regard to ADA accessibility. The primary purpose of the bus stop evaluation conducted as part of the study was to identify and design or accessibility issues, especially as it related to ADA guidelines, operational efficiency, and the overall safety of the systems and its use by patrons.

As a result of the assessment, The ADA Transition Plan was drafted in 2012. The Plan highlighted ADA accessibility requirements and outlined an approach, financial plan, and implementation schedule for replacement of Lake County bus shelters and barrier removal at bus stops.

Lake County Transit Operations Plan (TOP)

The Transit Operations Plan (TOP) is a document developed in response to the direction given in the Transit Development Plan (TDP). Lake County developed the TOP to guide the implementation and management of fixed-route transit services in the County. This transit operations plan includes specific service policies, financial planning elements, and bus route scheduling and routing for the new Lake County fixed-route transit service. Lake County adopted its current TOP on October 17, 2006.

Lake County Public Transportation Substance Abuse Program

In order to ensure a safe environment for passengers and employees of the County public transportation system, as well as the safety of the general public, Lake County has adopted a Substance Abuse Program to address drug abuse and alcohol misuse by employees that are safety sensitive. The Lake County Substance Abuse Policy was updated to address direct observations and other changes that took place in rule changes by FTA in 2011. This Substance Abuse Program is in response to, and in compliance with, regulations published by the United States Department of Transportation and the Federal Transit Administration (FTA) prohibiting drug and alcohol use by transit employees and requiring transit agencies to test for prohibited drug use and alcohol misuse, as part of the Omnibus Transportation Employee Testing Act of 1991.

Lake County Public Transportation System Safety Program Plan

In compliance with Chapter 14-90 of the Florida Administrative Code, Lake County has developed a System Safety Program Plan that meets the state's minimum safety standards for equipment and operations related to public transportation programs. The purpose of this Plan "is to provide for improved communication, documentation, and coordination within the entire system to decrease injuries, property damage, and delays in service."

Florida Department of Transportation District Five Emergency Operations Plan

The Florida Department of Transportation (FDOT) has provided an Emergency Operations Plan for major public and private transportation providers within FDOT District Five, which includes Lake County. The Emergency Operations Plan provides, and annually updates, contacts for both public and private transportation providers that operate in the nine counties within District Five.

Lake County Comprehensive Emergency Management Plan

The Comprehensive Emergency Management Plan (CEMP), adopted December 2001, is an operation-orientated document required by Chapter 252, Florida Statutes. The CEMP establishes the framework to ensure Lake County and its Municipalities will be adequately prepared to deal with all hazards threatening the lives and property of Lake County citizens.

4.4 Organizational Issues

The Lake County Board of County Commissioners currently contracts with MV Transportation, Inc., a private, for-profit corporation, to provide both its public and TD transportation services. On July 30, 2013 the BCC awarded a contract to Ride Right, Inc., another private, for-profit corporation, to become its transit operator beginning October 1, 2013. Day-to-day oversight of the contracted operator is the responsibility of the Lake County Public Transportation Division (LCPTD). The LCPTD comes under the Community Services Director within the county government. An organizational chart of the Community Services Department is provided in Figure 4.18.

The Sumter County Board of County Commissioners also contracts with Ride Right to provide its TD transportation services. Day-to-day oversight of Ride Right, Inc. is the responsibility of the Sumter County Transit Division which falls under Sumter County Public Works Department.

4.5 Public Survey

In 2012 a survey was conducted to evaluate the perception of transit services in Lake County. Surveys were distributed at public events by the Lake~Sumter MPO, Lake County Transit staff and Sumter County Transit. Surveys were also collected online. The full survey instrument along with the number of responses to each question can be found in Appendix G.

Current riders were asked which of the LakeXpress routes they rode. Of those surveyed, 18 percent used Route 1; 27 percent used Route 2; 29 percent used Route 3; and 26 percent used Route 4.

Over 80 percent of those surveyed rated the LakeXpress bus service as *good* (30%) or *very good* (54%) (see Figure 4.19).

Figure 4.18 – Lake County Community Services Organizational Chart

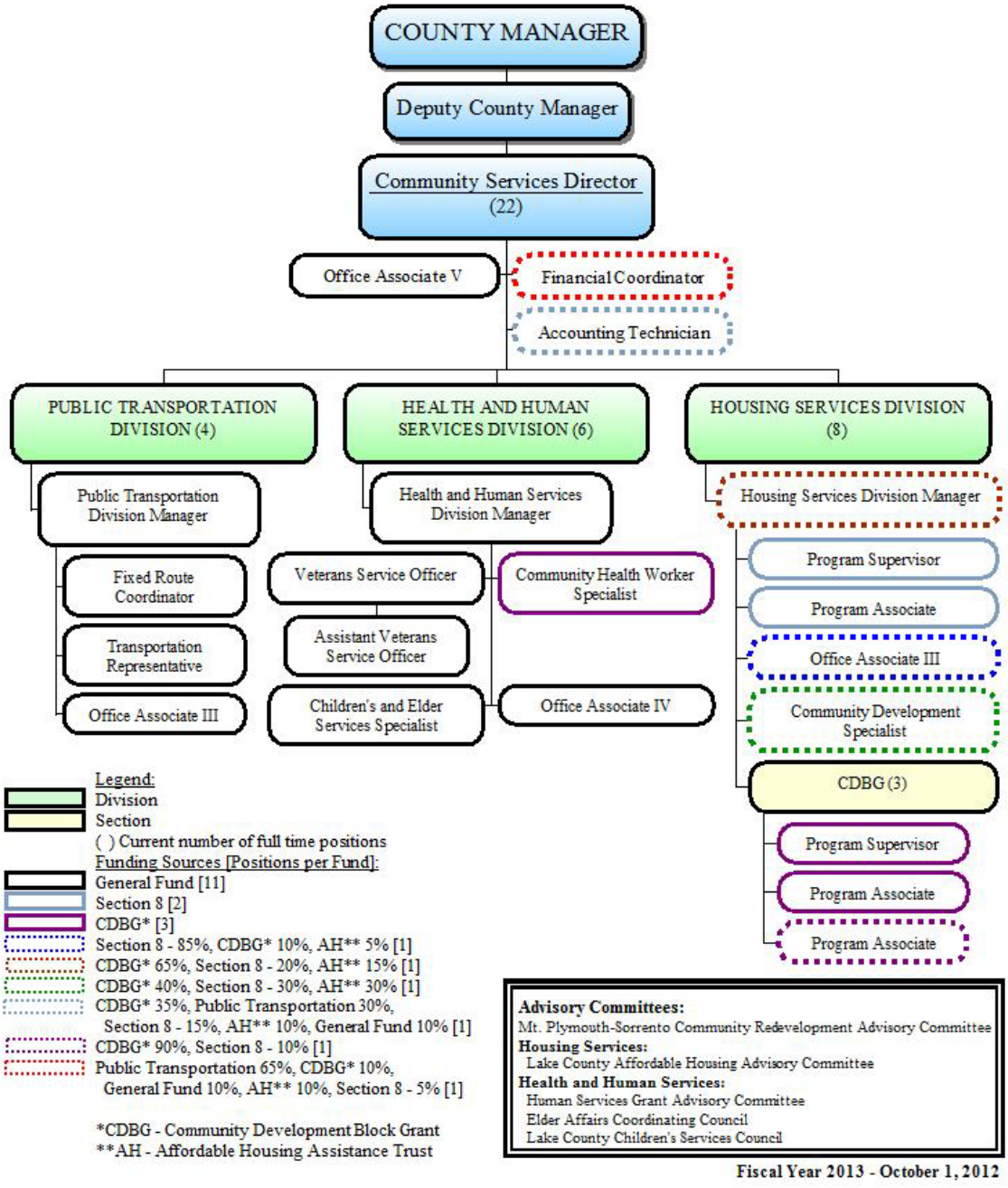
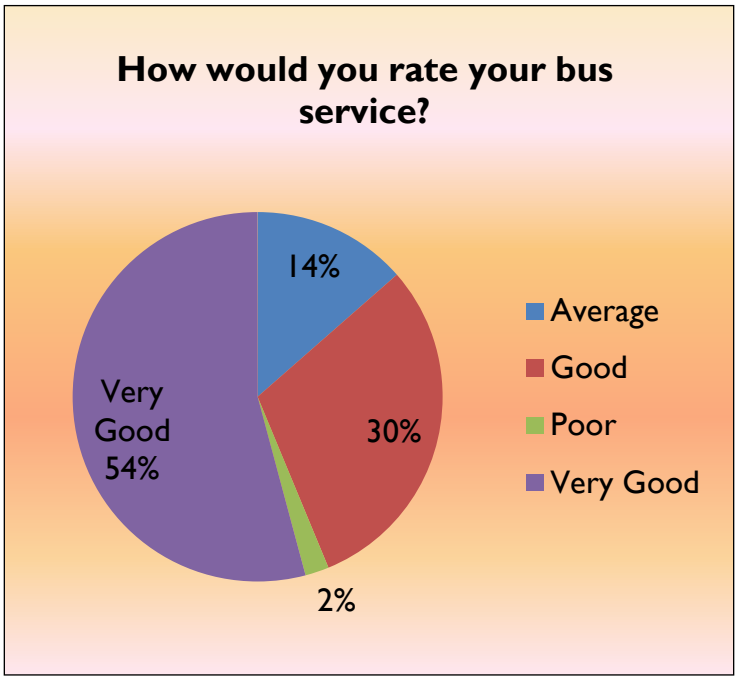


Figure 4.19 – Rate the LakeXpress Bus Service



The most popular reason cited for using LakeXpress was to travel to *school or college* (40%) and for *shopping/errands* (25%). Only 14% of those trips surveyed were traveling for *work*[6]. Approximately 41 percent of respondents indicated that they traveled less than one block to get to their bus route and around 23 percent walked up to two blocks.

Wheelchair lifts were not heavily utilized by participants as most of those surveyed (89%) did not use the wheelchair lift to board the bus.

The bus system is utilized on a regular basis. The largest average number of trips per person, per week (36%) was *3-5 trips* (see Figure 4.20). Around 71 percent of participants did not have any other means of transportation besides LakeXpress, indicating that they are dependent on public transit. The most important reasons participants chose to ride the bus was that they *do not have a car available* (38%) or that they *did not drive* (24%).

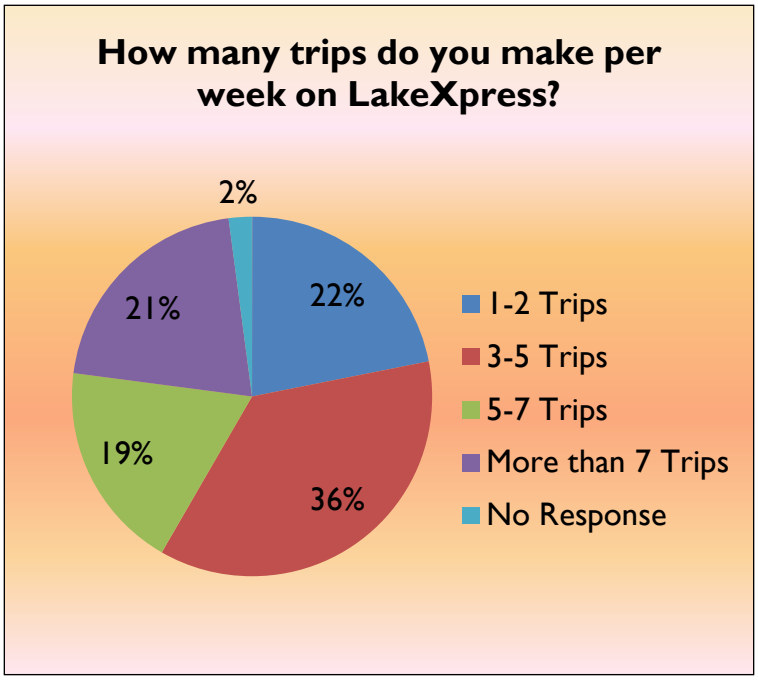
A majority of those surveyed (68%) have been using LakeXpress for more than six months. Overwhelmingly, (85%) of participants believe there is a need for additional transit service in Lake County. Of those who indicated there should be additional transit service, around 55 percent indicated they would like to see weekend service added.

Respondents said that information about LakeXpress was most commonly collected from the *LakeXpress bus schedule* (33%) or from LakeXpress *bus drivers* (21%). Only 4% used the LakeXpress website.

[6] This contradicts other observations and may indicate an oversampling of students. Further surveys should be conducted to obtain a more robust sample of riders.

Demographic information indicated the common age range for participants (28%) was 40 – 49 years old and that most participants (46%) made less than $10,000 in 2012.

Figure 4.20 – Number of LakeXpress Trips per Week



5 Future Demand for Transit Service

This section briefly discusses several methods used to pinpoint areas where future demand for transit service could support enhancements to existing services or potential new services. They include:

- Review of Projected Future Demographics
- Identification of Transit Supportive Population Densities
- Use of Existing Paratransit Ridership Data
- Analysis of Projected Travel Flows

These analyses were used in conjunction with input received throughout the process to develop the service alternatives outlined in Section 7. This section also discusses the methodology used to develop ridership estimates for the alternatives.

5.1 Future Demographics

Lake County's projected long-term demographic pattern is an intensification of its existing pattern. This trend suggests that LakeXpress transit services might be utilized at a higher level over the long term and might be provided more cost-effectively as a result. The trend also suggests that enhancements to existing transit services may be warranted. Such enhancements may include reduced headways, extended service spans, and the provision of transit service in new areas; all of these are outcomes of increased densities.

Figure 5.1 and Figure 5.2 show that population and household densities in Lake, Sumter and Orange counties in the long term are anticipated to be more intense than the existing population densities. Conversely, Figure 5.3 shows very small changes in employment densities over the long term.

Figure 5.4 shows the percentage of households that do not have access to an automobile and Figure 5.5 shows the percentage of the population who are older than 64 years of age. The maps show that the highest concentrations of such residents are anticipated to remain in the central and western portions of Lake County. Figure 5.6 shows the projected long-term percentage of the population who are less than 15 years old. The map does not reveal a particularly strong pattern of where such residents are likely to be concentrated.

5.2 Identification of Transit Supportive Population Densities

Several research reports exist that relate density (typically household or employment density) to the type and/or frequency of transit service that an area can support. The formative research on this subject is that of Pushkarev and Zupan[7]. The table contained in Appendix H summarizes their findings. From this research, following thresholds can be used in to classify Census tracts based on transit-supportive densities:

- <3 households per acre = not transit-supportive
- 3-4 households per acre = supportive of bus service at 60-minute headways
- 5-9 households per acre = supportive of bus service with 15- to 30-minute headways
- >10 households per acre = supportive of bus service with 10-minute headways

[7] Pushkarev and Zupan, *Transportation and Land Use Policy*, Indiana University Press, 1977

Figure 5.1 – 2035 Population Density

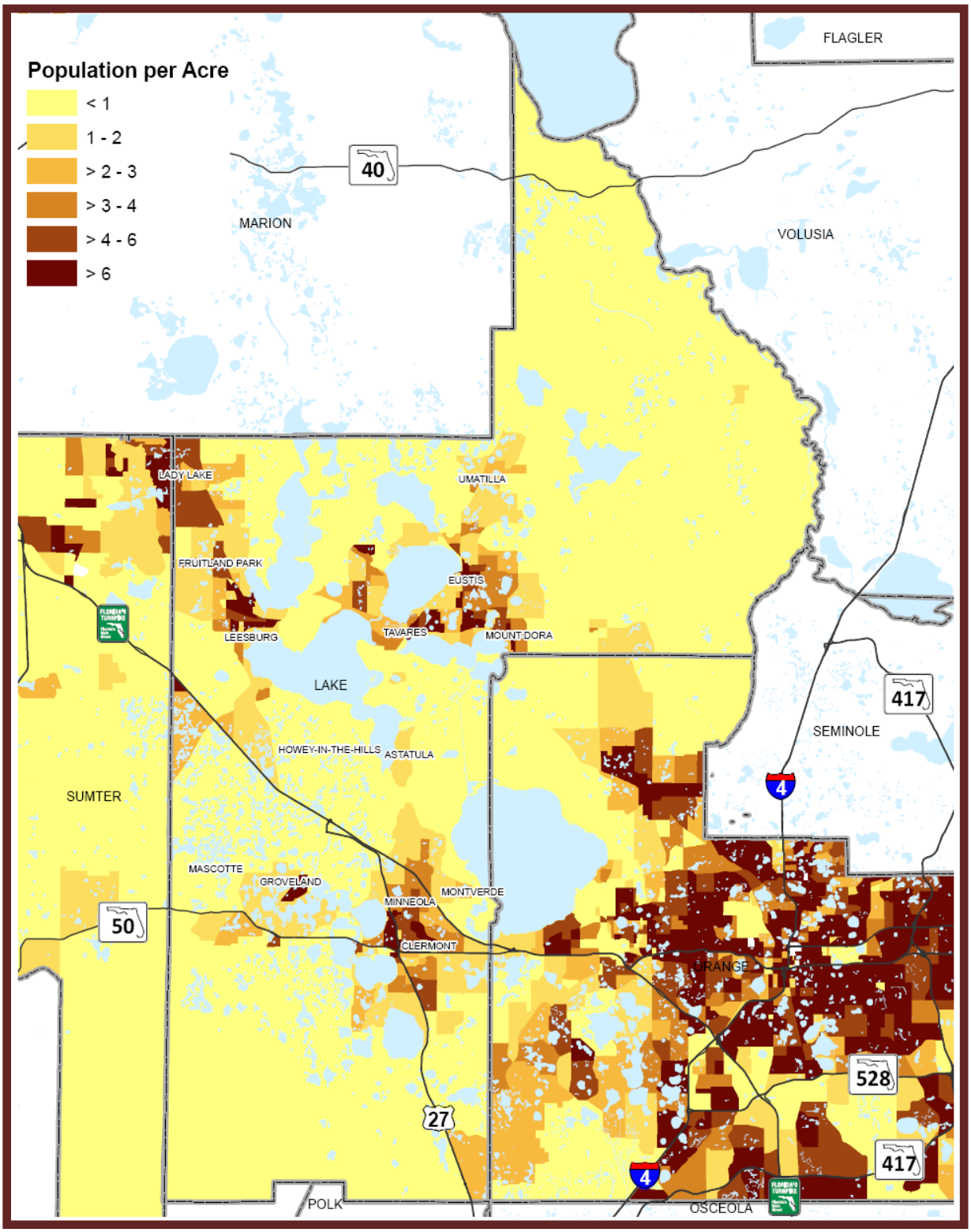


Figure 5.2 – 2035 Household Density

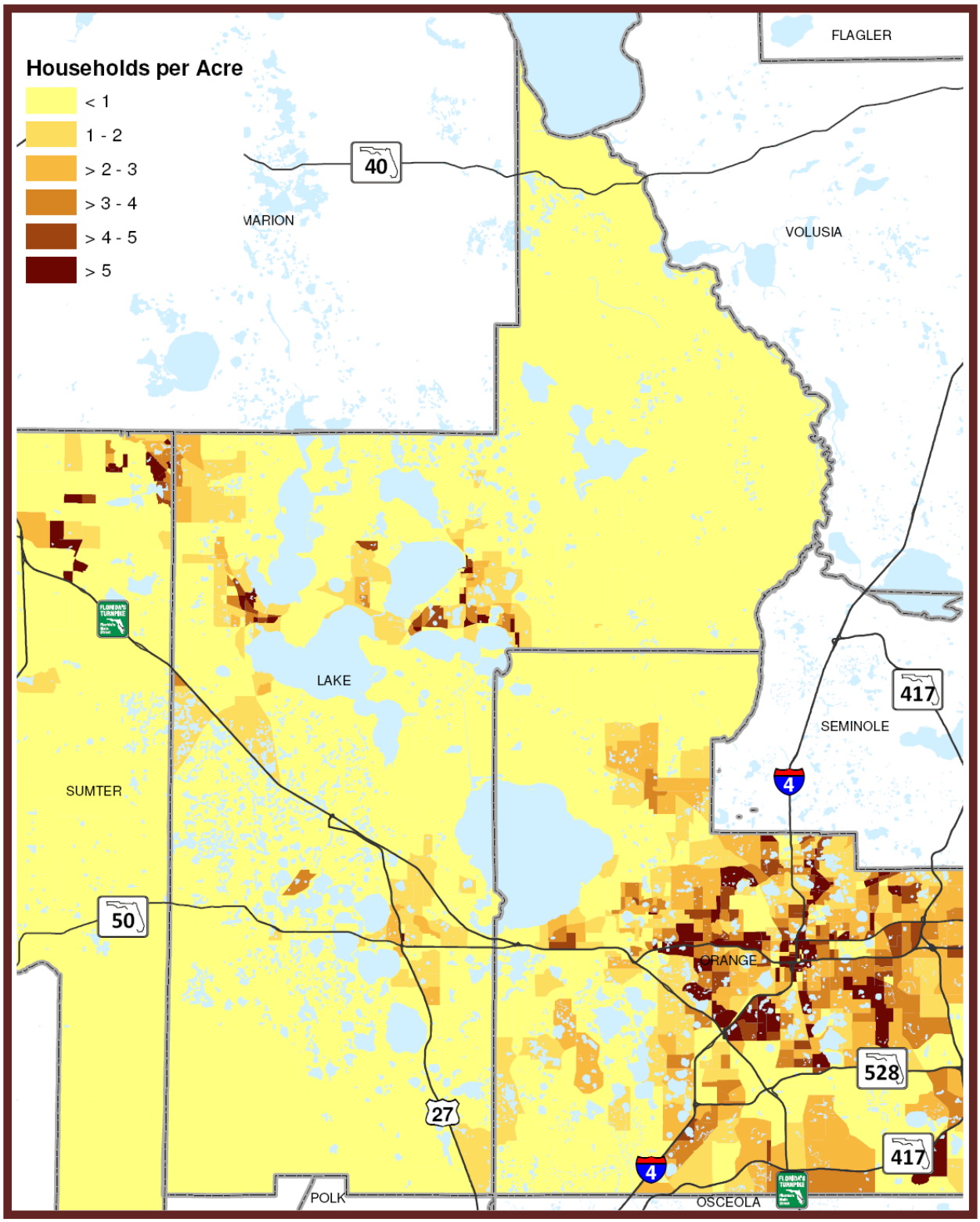


Figure 5.3 – 2035 Employment Density

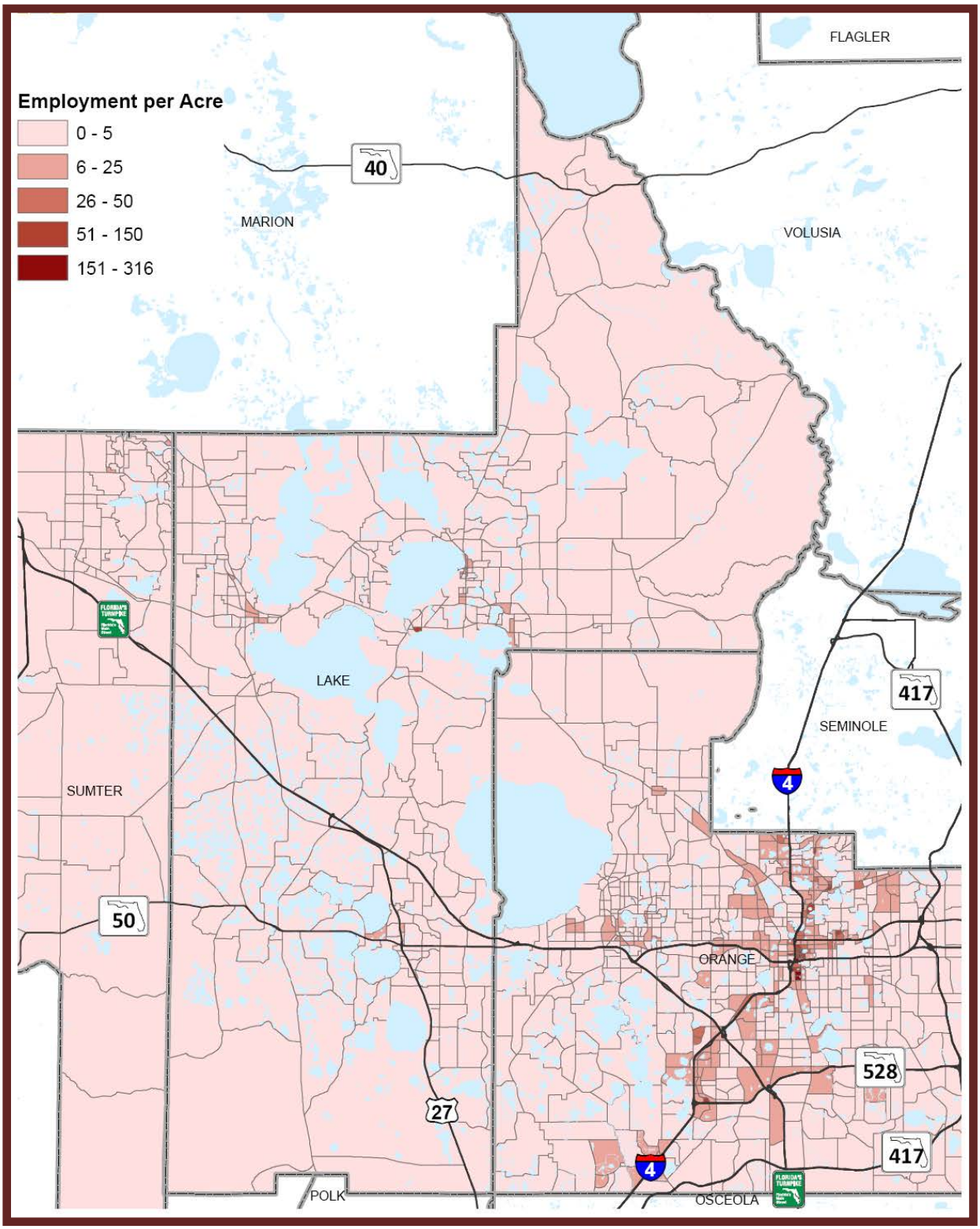


Figure 5.4 – 2035 Percentage of Households with No Vehicle Access

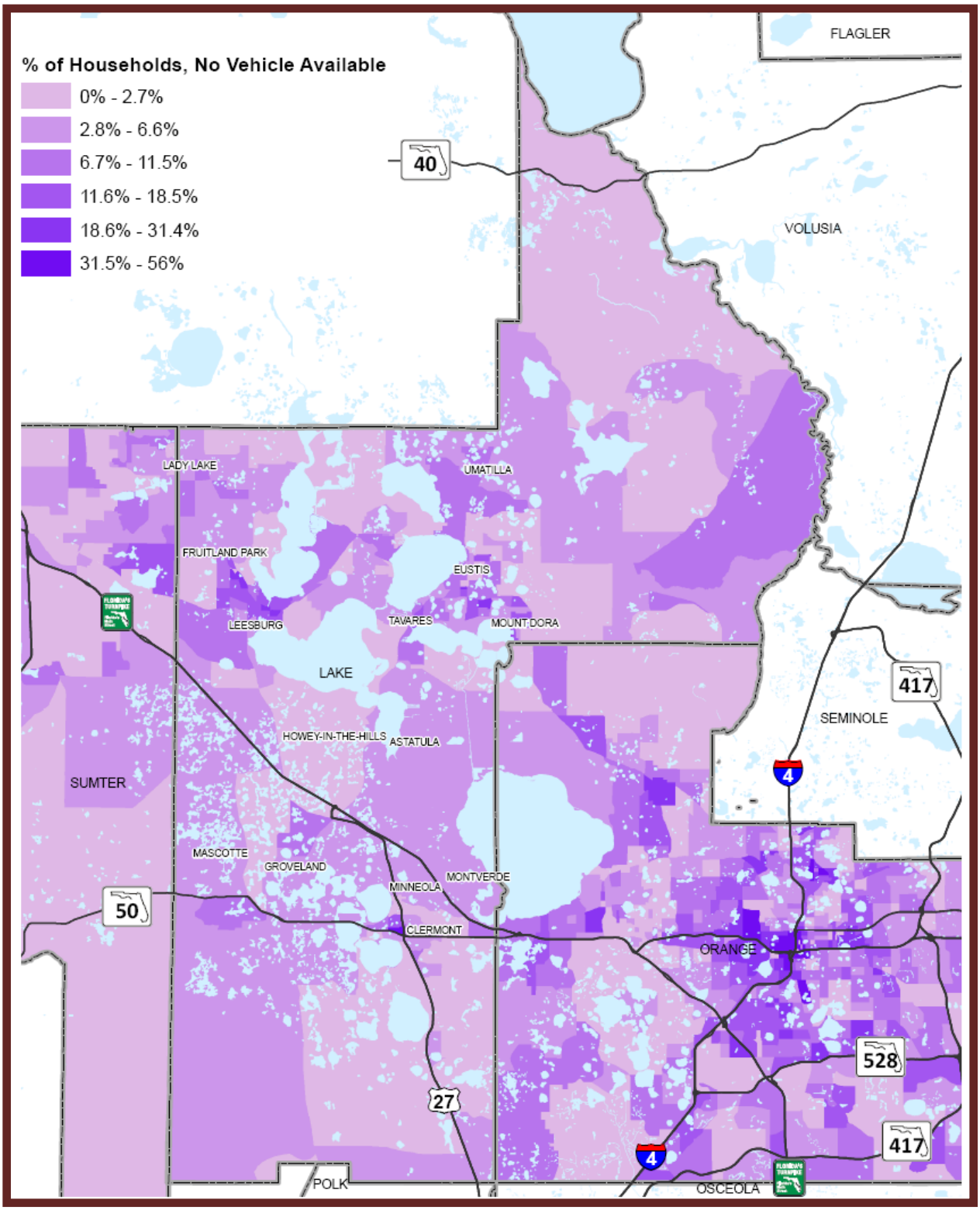


Figure 5.5 – 2035 Percentage of Persons 64 Years and Older

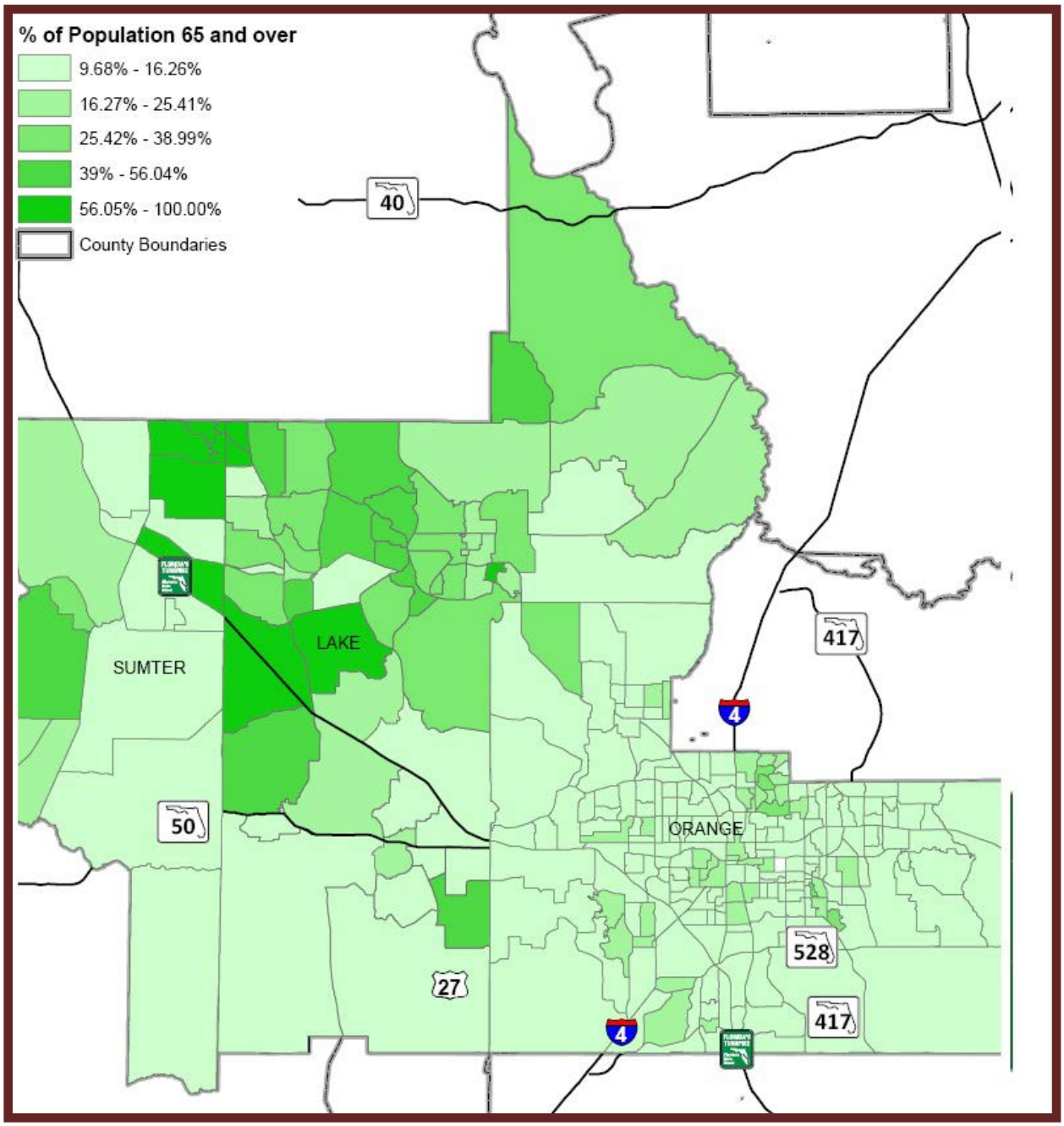


Figure 5.6 – 2035 Percentage of Persons 15 Years and Younger

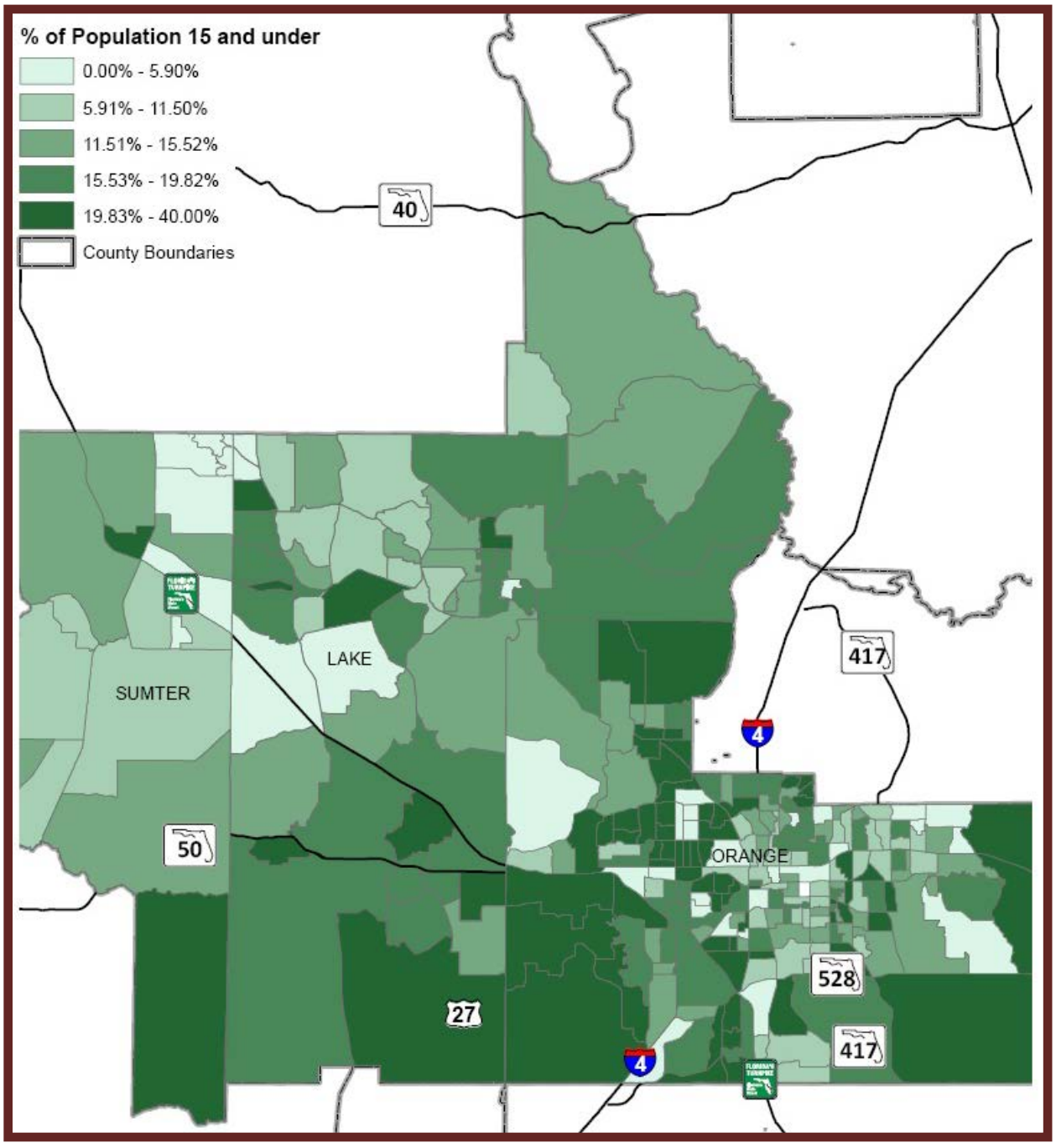


Figure 5.7 identifies census tracts within the County by the level of transit service that each might support using 2005 data (before LakeXpress began operation), while Figure 5.8 identifies census tracts within the County by the level of transit service that each might support in 2035. (The source data for these maps come from the Central Florida Regional Planning Model - CFRPM). The thresholds listed above were used to classify census tracts based on transit-supportive household densities. It is worth comparing the thresholds with relevant quality of service (QOS) standards suggested as defaults in the 2nd Edition of the *Transit Capacity & Quality of Service Manual* (TCQSM). Table 5.1 outlines the default TCQSM quality of service standards based on transit headways.

Table 5.1 – TCSQM Standards and Characteristics

QOS	Standards/Characteristics
QOS A	Average headways < 10 minutes
	Passengers do not need schedules
QOS B	Average headway 10-14 minutes
	Frequent service; passengers consult schedules
QOS C	Average headway 15-20 minutes
	Maximum desireable time to wait if bus/train is missed
QOS D	Average headway 21-30 minutes
	Service unattrative to choice riders
QOS E	Average headway 31-60 minutes
	Service available during the hour
QOS F	Average headway > 60 minutes
	Service unattrative to all riders

The TCQSM suggestions indicate that transit service provided at headways of more than 60 minutes is unattractive to all riders. On this basis, it is recommended that LakeXpress strive to provide hourly service or better on all existing and future routes. Three of the four existing routes operate hourly, with only Route 4 providing less frequent service. To the extent that LakeXpress wishes to grow choice ridership, it should strive to provide service at 20-minute headways or better.

Review of Figure 5.7 shows that most of the census tracts in Lake County in 2005 were not transit-supportive at that time based on the thresholds. Pockets of transit-supportive census tracts exist in the central part of the county in parts of Eustis and Mount Dora and west of Lake Eustis. Pockets also exist in Sumter County in The Villages and Wildwood.

If a transit agency were to use the locations of these pockets to design a transit system for the two counties without knowing the existing routes, such a system might focus on the central Lake county, with extensions into Sumter County and express or limited-stop transit service connecting southern Lake County to other origins and destinations. The current LakeXpress routes, Sumter County shuttles, and LYNX's 204 Clermont Xpress embody this configuration. The analysis did not reveal

Figure 5.7 – 2005 Transit-Supportive Areas

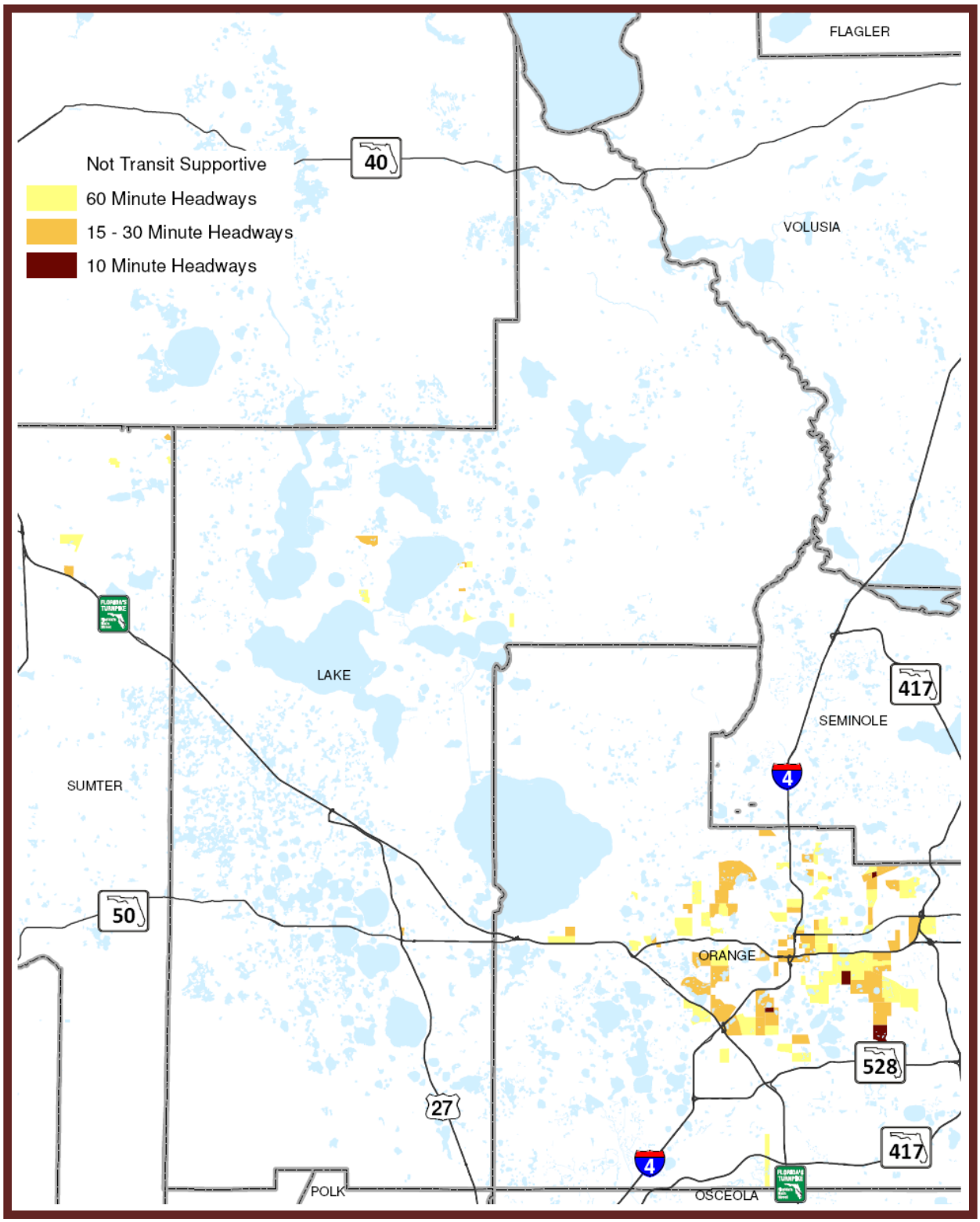
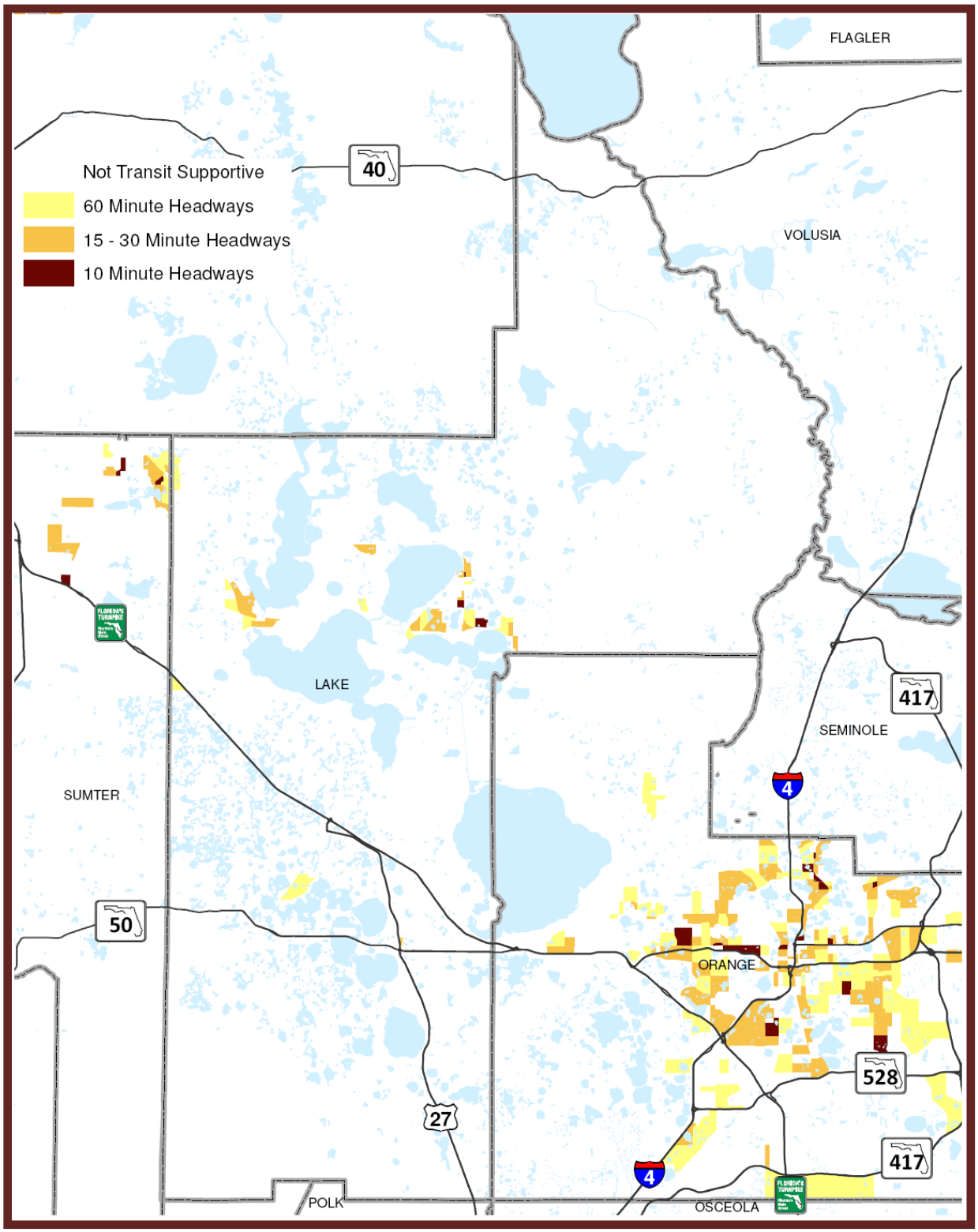


Figure 5.8 – 2035 Transit-Supportive Areas



household densities that would support higher-frequency transit service than is currently provided in Lake County, although there may be value in providing more frequent service in Sumter County and in reducing headway on LakeXpress Route 4 to 60 minutes. The components of such a system that are not currently in place are the following:

- Route 4 service at headways of no more than 60 minutes
- Service in Sumter County at headways of no more than 60 minutes

It is worth noting that, as shown in Figure 5.4, the highest concentrations of households that currently do not have automobile access are in central Lake County.

Review of projected 2035 conditions in Figure 5.8 shows new transit-supportive pockets in the central county, new transit-supportive pockets in the Groveland and Leesburg areas, and pockets that are dense enough to meet the threshold for 10-minute bus service. Transit-supportive pockets in the Lake County portion of The Villages and at the intersection of the Turnpike and CR 470W are also apparent. If a planner were to design a transit system for Lake County from scratch, it would most likely focus on the central county, with service connecting The Villages to Mount Dora; a high level of circulator service in the Eustis, Tavares, and Mount Dora area; a moderate level of circulator service in the Leesburg and Fruitland Park area; and Express transit service extending west of Clermont to Groveland. Service might also connect to origins and destinations in Sumter County and Orange County. Many of the components of such a service are already in place; the components that are not currently in place are the following:

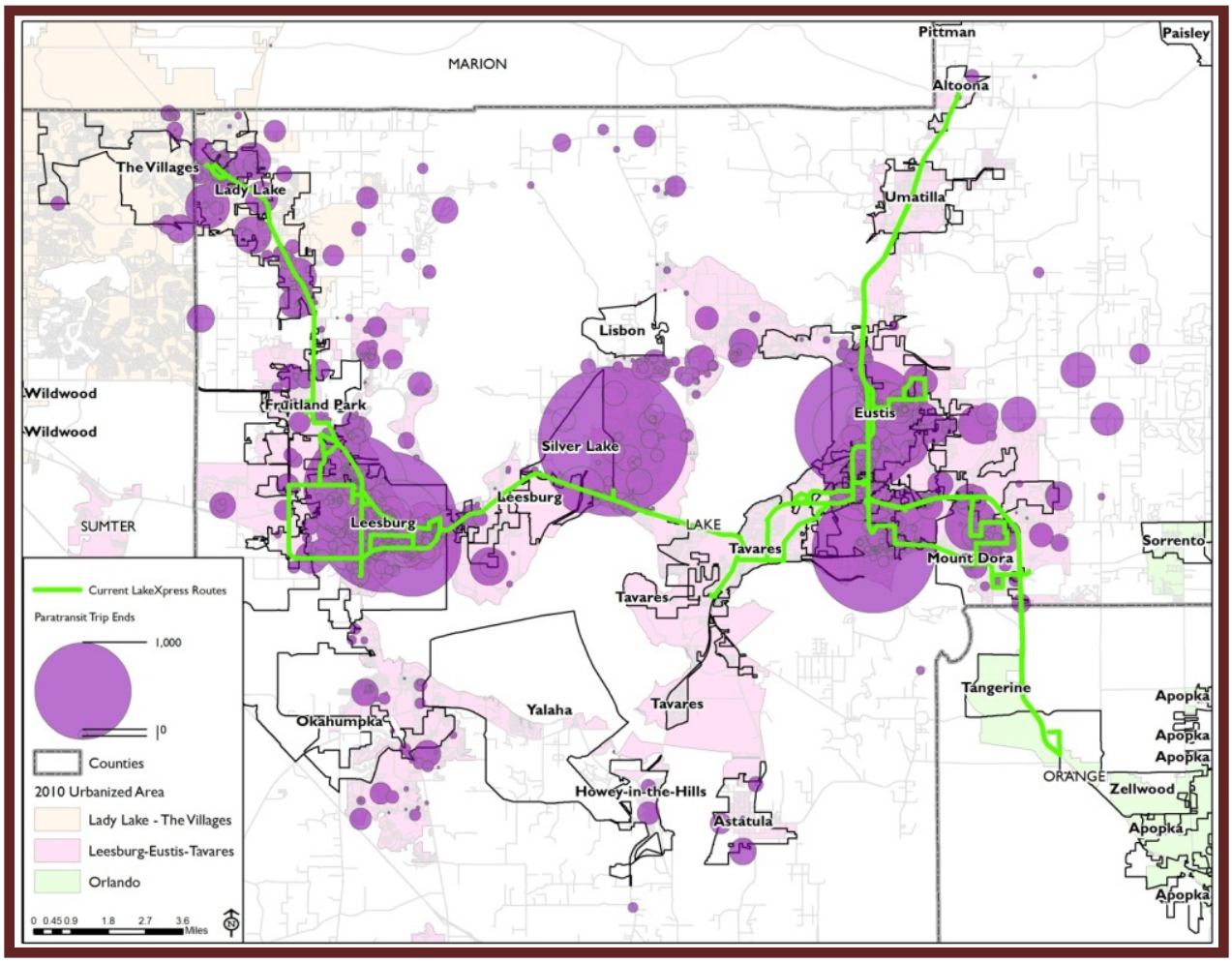
- Service at headways shorter than 60 minutes in central Lake County
- Express transit service extended west from Clermont to Groveland (connecting to or in partnership with LYNX)
- Express or limited-stop transit service between Clermont, Groveland, and the cities in central Lake County
- Transit service into Sumter County (in partnership with Sumter County)

5.3 Use of Existing Paratransit Ridership Data

There is currently significant overlap between existing and proposed fixed route LakeXpress services and current paratransit ridership. This is shown in Figure 5.9. Origin and destination locations for one year of paratransit trips were analyzed and overlaid with both existing and possible future services. Shifting only a fraction of these trips to fixed route could result in significant cost savings to Lake County. Figure 5.9 also shows that nearly all of the major paratransit destinations for the analysis year are located on or near a current fixed route alignment. While it would be impossible to shift all paratransit trips to fixed route, some of the paratransit trips could probably have been made using fixed route service.

Table 5.2 provides a list of the most common paratransit trip origins and destinations (trip ends) served by Lake County Connection; trips either began or terminated at each address, for a total of 214,134 trip ends at an estimated cost of $4.7 million. For demonstration purposes, costs savings based purely on operational costs can be estimated in a simple fashion. Using the operating expense per paratransit passenger for FY2011, $21.96, and the expense per fixed route passenger for the same year, approximately $6, we can estimate that moving just ten percent of paratransit trips to fixed route would

Figure 5.9 – Paratransit Trips and Current LakeXpress Service



have saved close to $600,000; a significant savings.[8] Similarly, Figure 5.10 displays paratransit trips with some of the South Lake County service additions considered in the alternatives section of this TDP. As shown, there is again significant overlap between current paratransit trips and potential fixed route service, representing both a demand for service and a cost-savings opportunity.

5.4 Analysis of Projected Travel Flows

Projected travel flows by all modes from the Central Florida Regional Planning Model (CFRPM) can be used to identify and quantify potential markets for transit to, from, and within Lake County. Appendix J

[8] However, it should be noted that there are numerous factors that can prevent the shifting of paratransit clients to fixed route services. Some are dialysis patients that cannot use fixed route services. Others are very elderly or have major disabilities that would prevent them from accessing fixed route services. In other cases physical barriers prevent possible fixed route riders with disabilities from getting to the bus stops.

Table 5.2 – Locations with the Most Paratransit Trip Ends

Address	Destination Type	# Trip Ends
404 Webster St., Leesburg	AIMS, Full Circle, GRITS, Life Stream Assisted Living	117,088
801 E Dixie Ave., Leesburg	Medical/Dialysis	25,016
907 E Orange, Eustis	Henderson House	23,962
1211 Penn St., Leesburg	Leesburg Senior Center	9,716
401 E North Blvd., Leesburg	Dialysis	9,021
35201 Radio Rd., Leesburg	Sunrise Arc	8,251
2735 W Old Us Highway 441, Mount Dora	Dialysis	5,782
1821 Dora Ave., Tavares	Lake Pointe Senior Apartments	5,660
411 W Woodward Ave., Eustis	Lake Eustis Care Center	3,134
700 N Palmetto St., Leesburg	Leesburg Regional Medical Center- Rehab Services	2,226
120 E 20th Ave., Mount Dora	McCoy Adult Day Care	2,152
301 W Ward Ave, Eustis	Mid-Florida Community Services Inc.	2,126

contains detailed origin-destination (O-D) flow tables for all modes for 2005 and 2035 from the model. These were used to interpolate the 2023 flows shown in Table 5.3. The table includes home-based work, home-based shopping, home-based social/recreational, home-based-other, and non-home-based trips by all modes.

Analysis of these projected flows identified several large markets for local circulators in Lake County in places such as Lady Lake, Leesburg, Tavares, Eustis, Mount Dora, and Clermont, and also in Wildwood and The Villages in Sumter County. The projections also show considerable movement among the Central Lake County communities served by Route 1 and between the adjacent communities of Mount Dora, Eustis and Tavares. Movement between South Lake communities is also evident, especially between Minneola and Clermont, but also along the corridor connecting Mascotte, Groveland and Clermont.

5.5 Ridership Forecasting

Preliminary fixed-route ridership forecasts for existing LakeXpress routes and potential new routes discussed in Section 7 were developed using a sketch-level ridership forecasting process. The sketch-level process relies on elasticities, the model-generated origin-destination (O-D) flows discussed above, and existing and future population densities. Elasticities assess changes to existing routes. O-D flows and transit-supportive densities assess the need for new routes and identify the level of transit service to be offered by the new routes.

Figure 5.10 – Paratransit Trips and Potential South Lake Fixed Route Services

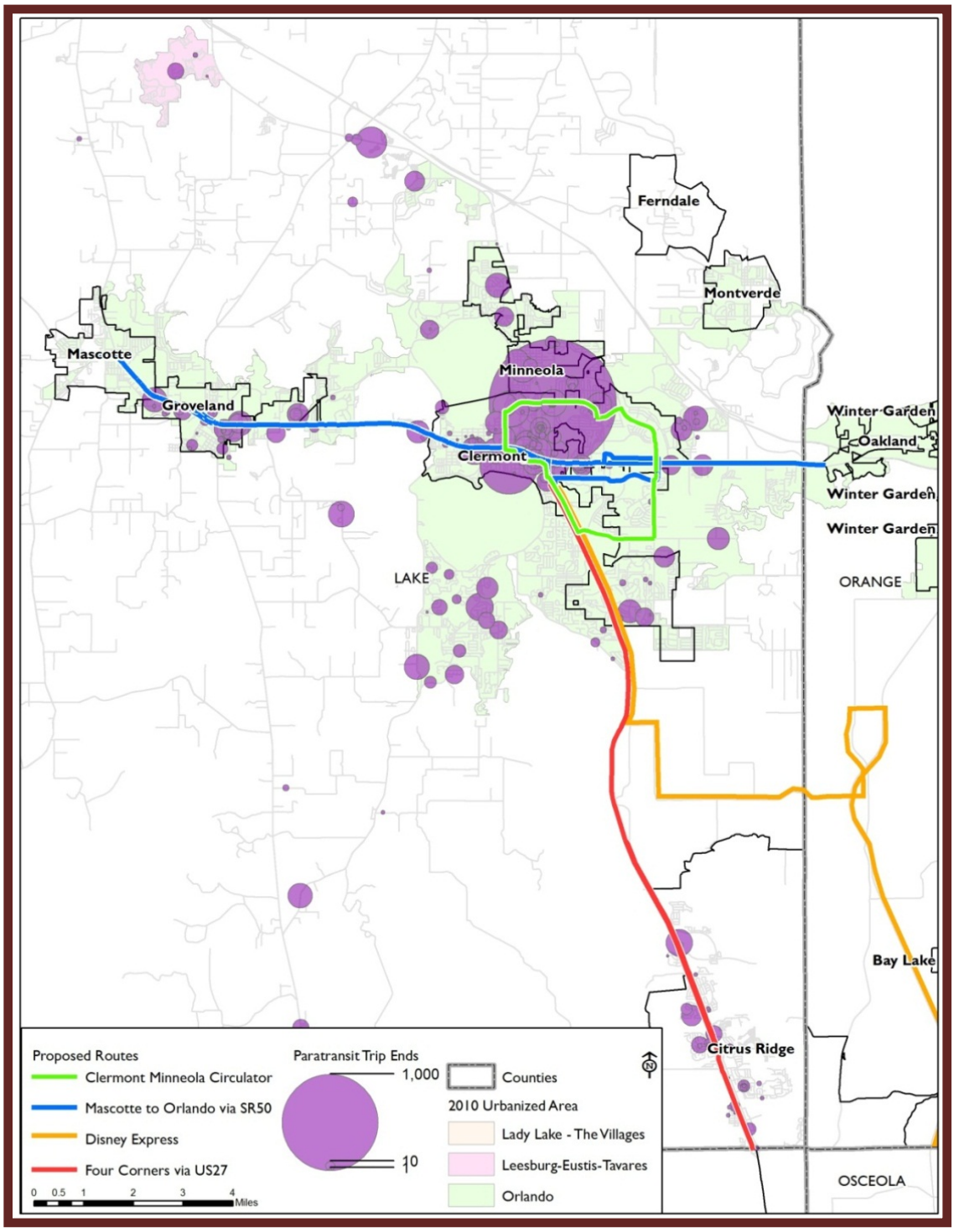


Table 5.3 – 2023 Forecasted Origin-Destination Flows (all modes)

	Wildwood	Lady Lake	Fruitland Park	Leesburg	Howey-in-the-Hills	Astatula	Mascotte	Groveland	Minneola	Clermont	Montverde	Tavares	Eustis	Umatilla	Mount Dora	Sorrento	Villages	Orange County
Wildwood	163,803	4,794	6,066	18,316	179	17	195	436	196	322	28	634	220	47	204	14	10,268	1,014
Lady Lake	7,279	30,408	7,995	19,781	236	19	73	246	94	173	14	1,660	579	199	467	20	10,845	954
Fruitland Park	5,956	6,855	8,731	18,365	177	14	57	178	67	102	6	1,189	378	55	330	15	3,115	454
Leesburg	22,995	6,778	8,744	154,114	2,866	316	1,522	3,796	1,449	1,964	182	20,211	6,926	890	5,576	205	1,797	6,880
Howey-in-the-Hills	570	97	150	4,063	2,436	148	110	738	390	465	58	2,998	542	52	626	22	28	1,345
Astatula	81	19	23	863	168	864	43	369	546	596	77	3,235	389	41	575	36	6	1,785
Mascotte	1,352	124	154	5,942	309	87	7,379	8,408	1,420	4,674	133	986	174	26	187	12	53	5,207
Groveland	1,424	144	158	5,450	771	406	4,279	21,507	6,780	14,506	515	2,599	433	49	504	25	64	10,186
Minneola	644	69	83	2,407	437	538	674	5,528	14,892	24,776	1,399	2,189	333	36	494	32	32	16,651
Clermont	490	76	63	1,888	291	296	1,388	6,286	12,545	64,495	1,648	1,455	221	28	329	31	30	42,833
Montverde	139	14	17	524	96	118	88	756	2,354	4,237	1,443	597	93	7	137	10	7	5,365
Tavares	767	358	550	17,062	1,369	965	108	949	740	788	122	41,503	12,819	1,061	14,940	525	113	7,296
Eustis	428	177	250	8,366	314	161	36	209	120	182	22	16,922	28,761	3,805	18,893	785	62	6,468
Umatilla	220	130	61	1,776	69	29	9	60	37	67	7	3,062	7,547	9,115	2,907	156	57	1,785
Mount Dora	227	106	132	4,558	268	196	25	165	136	194	35	14,023	12,440	1,003	25,371	1,423	34	10,572
Sorrento	20	11	10	288	20	17	2	13	15	30	4	783	807	94	2,431	1,764	4	3,603
Villages	7,148	14,159	988	1,954	18	4	9	24	12	24	2	129	48	26	44	1	32,621	108
Orange County	1,535	298	217	4,457	512	497	785	3,568	6,366	29,781	1,453	6,869	4,470	581	12,283	2,194	152	5,058,318

5.5.1 Elasticity

Elasticity is a concept originating in economics that relates a 1% change in a parameter such as transit travel time to a corresponding change in ridership. Elasticities for transit service coverage (expressed as bus miles) and bus frequency (expressed as buses per hour) were obtained from commonly used industry research documents[9]. The elasticities used for service coverage and bus frequency were +0.8 and +0.4, respectively. The literature also provides the following formula for applying elasticities to produce estimates of ridership change:

$$R_2 = \frac{(E-1)X_1R_1 - (E+1)X_2R_1}{(E-1)X_2 - (E+1)X_1}$$

- Where E = elasticity
- R_1 = base ridership
- R_2 = estimated future ridership
- X_1 = quantity of base attribute (travel time or frequency)
- X_2 = quantity of future attribute (travel time or frequency)

Using this formula, it is possible to estimate the change in ridership that corresponds to a change in bus miles (possibly resulting from extension of an existing route and/or an increase in service span) or to a change in bus frequency.

5.5.2 Approach to Ridership Forecasting

Ridership estimates for existing and potential new services were developed for 2023, the final year of this TDP. The first step was to obtain the 2005 and 2035 Origin-destination (O-D) flows between population centers in Lake and Sumter Counties and between Lake and Sumter Counties and adjacent counties from the Central Florida Regional Planning Model (CFRPM). The 2005 and 2035 flows were then interpolated to obtain 2012 flows and the 2023 O-D flows presented in the previous section. Next, different methods were used to develop estimates for existing and potential new routes.

Potential New Routes

The steps used to develop 2023 ridership forecasts for potential new routes were as follows:

1. Determine existing transit mode share in corridors that are currently served by transit.
    a. Identify 2012 O-D flows in corridors that are currently served by transit.
    b. Using 2012 ridership data, calculate the current transit mode split for each of the corridors currently served by transit.
2. Use data about transit-supportive future densities to identify the appropriate level of transit service (if any) to be provided in corridors that are not currently served by transit.
3. Estimate potential 2023 daily ridership in the corridors identified in Step 2 and any other corridors identified through the public involvement process.
    a. Identify 2023 O-D flows in corridors that are not currently served by transit.
    b. Identify the existing corridor currently served by transit that is most comparable to each unserved corridor. (For example, a new route that connects multiple cities might be comparable to Route 1 while a new circulator might be comparable to Route 2 or 3.)

[9] Exhibit 3-19 of TCRP Report 118.

c. Apply the 2012 transit mode share, calculated in Step 1, from the comparable corridor to the 2023 flow in the corridor not currently served by transit.
d. Use elasticities to refine the results of this step. If the new route that connects multiple cities operates at half-hour headways, application of the mode share from Route 1 (which has hourly headways) to the corridor may underestimate transit potential.

Existing LakeXpress Routes

The steps used to develop preliminary 2023 ridership forecasts for the existing routes are as follows:

1. From the 2012 ridership data, determine average daily riders for each route.
2. Compare 2012 to 2023 flows to determine growth factors for each O-D.
3. Apply a growth factor, based on 2012 to 2023 flows, to represent 2023 conditions.
4. Estimate ridership changes resulting from potential service modifications using elasticities.

5.5.3 Current Transit Shares

Table 5.4 shows approximate transit mode shares in corridors currently served by transit, which were calculated by comparing 2011/2012 ridership data to 2012 O-D flows (interpolated from the 2005 and 2035 O-D data) in the same service areas. This is an approximation, but it provides a general idea of how often transit is currently used with respect to total travel demand in a given service area. When these mode splits are applied in comparable service areas, they provide estimates of ridership potential in the new service areas.

Table 5.4 – Transit Mode Shares by Route

Route	Daily Riders (2011/2012)	O-D Flow (2012)*	Transit Mode Share
1	696	129,126	0.005
2	249	148,424	0.002
3	187	72,486	0.003
4	151	37,906	0.004

*This 2012 O-D flow was interpolated. It represents trips made between cities served by the route. Circulator routes include intracity trips.

5.5.4 2012-2023 Growth Factors

Table 5.5 shows growth factors developed form a comparison of estimated 2012 O-D flows to estimated 2023 flows. Application of growth factors in this manner assumes that transit ridership grows in proportion to total travel demand. This assumption does not take into consideration factors such as increased congestion (which may or may not provide an incentive for drivers to switch to transit), intensified transportation demand management (TDM) programs, fare increases, etc. It also assumes that current levels of transit service continue to be provided.

Table 5.5 – Growth Factors for Converting 2012 O-D Flows to 2023 O-D Flows

	Wildwood	Lady Lake	Fruitland Park	Leesburg	Howey-in-the-Hills	Astatula	Mascotte	Groveland	Minneola	Clermont	Montverde	Tavares	Eustis	Umatilla	Mount Dora	Sorrento	Villages	Orange County
Wildwood	1.99	1.7	2.16	1.64	1.52	1.9	1.86	1.86	2.17	1.84	1.39	1.56	1.54	1.64	1.51	1.45	2.04	1.73
Lady Lake	1.94	1.3	1.25	1.16	1.08	1.2	1.28	1.43	1.68	1.26	1.03	1.12	1.14	1.06	1.13	1.19	1.8	1.29
Fruitland Park	2.19	1.52	1.56	1.2	1.11	1.5	1.19	1.44	1.7	1.33	1.65	1.14	1.17	1.17	1.17	1.25	2.21	1.31
Leesburg	2.09	1.35	1.26	1.28	1.13	1.4	1.44	1.47	1.73	1.39	1.16	1.12	1.12	1.15	1.13	1.15	1.69	1.28
Howey-in-the-Hills	1.89	1.4	1.18	1.25	1.16	1.4	1.27	1.5	1.86	1.49	1.27	1.12	1.13	1.23	1.13	1.39	2.01	1.33
Astatula	2.12	1.48	1.47	1.2	1.34	1.5	1.4	1.52	1.95	1.57	1.31	1.21	1.19	1.24	1.2	1.26	2.06	1.42
Mascotte	2.06	1.41	1.17	1.33	1.12	1.3	1.39	1.38	1.67	1.45	1.18	1.14	1.12	1.13	1.1	1.36	2.03	1.26
Groveland	2.22	1.78	1.46	1.55	1.44	1.4	1.53	1.57	1.8	1.5	1.31	1.33	1.38	1.31	1.36	1.52	2.11	1.45
Minneola	2.12	1.62	1.33	1.38	1.42	1.5	1.37	1.35	1.73	1.39	1.51	1.31	1.28	1.28	1.34	1.33	2.14	1.46
Clermont	1.94	1.32	1.21	1.12	1.08	1.2	1.17	1.11	1.38	1.19	1.18	0.99	1.01	0.92	1.04	1.18	1.82	1.2
Montverde	2.08	1.53	1.23	1.18	1.14	1.1	1.19	1.17	1.88	1.47	1.15	1.05	1.09	0.9	1.07	1.16	2.1	1.31
Tavares	2.09	1.46	1.37	1.23	1.29	1.6	1.41	1.49	1.76	1.41	1.19	1.26	1.27	1.28	1.27	1.25	1.85	1.38
Eustis	2.03	1.49	1.34	1.16	1.21	1.6	1.31	1.5	1.67	1.42	1	1.18	1.19	1.25	1.21	1.27	2.01	1.32
Umatilla	2.29	1.59	1.37	1.35	1.41	1.7	1.54	1.72	1.92	1.58	1.25	1.33	1.38	1.36	1.38	1.43	2.1	1.53
Mount Dora	2.06	1.35	1.29	1.14	1.19	1.3	1.17	1.45	1.62	1.36	1.25	1.14	1.15	1.19	1.16	1.22	1.65	1.28
Sorrento	1.95	1.41	1.16	0.87	0.96	1.1	2.57	1.12	1.08	1.22	1.11	0.87	0.86	0.91	0.92	0.92	1.5	1
Villages	1.65	0.98	1.06	0.89	0.87	1.4	1.14	1.3	1.56	1.27	1.3	0.89	0.99	0.85	0.89	1	1.45	1.01
Orange County	2.03	1.35	1.22	1.2	1.22	1.3	1.31	1.38	1.74	1.46	1.29	1.05	1.05	1.11	1.06	1.06	1.89	1.25

*Based on interpolation between 2005 and 2035 O-D flows.

6 Agency Mission and Goals

In order to establish a set of goals and objectives for the Lake County Transit Development Plan (TDP), the 2008 TDP goals and objectives were revised to remove objectives that have been accomplished, to incorporate the means by which the County's progress toward meeting its goals can be measured, and to identify new goals and objectives for the maturing the Lake County transit system.

The overall mission statement from the 2008 TDP remains unchanged:

> "*The mission is to provide a safe, professional, efficient, cost-effective, and accessible public transportation system that will meet the financially feasible mobility and accessibility needs of residents and visitors traveling in Lake County.*"

Goal 1: Provide cost-effective transit services to meet the evolving transportation needs of the general public.
Objective 1.1 – Monitor demand for new or enhanced transit services. • Consider how demand might change as population and employment centers grow.
Objective 1.2 – Ensure that all transit vehicles and transit facilities meet the requirements of the Americans with Disabilities Act (ADA). • Require contracted operators to use accessible vehicles. • Address ADA compliance of existing facilities in accordance with the 2012 *ADA Transition Plan*. • Implement new facilities that are ADA-compliant.
Objective 1.3 – Preserve current funding sources and identify potential new funding sources for transit to augment federal and state funding. • Explore means of providing existing transit service more efficiently (e.g., implementation of transit preferential treatments such as queue jump lanes to reduce transit delays). • Expand bus advertising and investigate implementation of shelter and bench advertising. • Encourage paratransit riders to utilize fixed-route transit service when possible. • Create community transit stop adoption programs to reduce transit stop maintenance costs and create a sense of community ownership of transit infrastructure. • Pursue a stable source of operating funds to support existing and future transit services and to serve as local matching funds for state and federal grant programs. • Identify cost saving opportunities through partnerships with local governments and large employers. • Work with local governments, community redevelopment agencies (CRAs), downtown development authorities, and/or other entities to identify sources of additional operating funds for new and expanded transit services. • Participate in all future local, regional, and state transit or transportation funding initiatives.

Goal 2: Provide regional transit connectivity.
Objective 2.1 – Provide transit service across county lines. • Provide fixed-route transit service in partnership with Sumter County Transit. • Continue providing fixed-route transit service in partnership with LYNX. • Continue partnership with LYNX to provide enhanced transit service in the Lake County portion of the Orlando Urbanized Area. • Provide fixed-route transit service in partnership with Polk County Transit Services and/or other Polk County transit operators. • 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. • Increase public awareness of the benefits of regional transit service.
Objective 2.2 – Provide transit service between activity centers. • Connect major activity centers and employment centers. • Connect areas with a significant number of low-income and zero-car households to activity centers. • Connect high-density residential areas to activity centers.
Objective 2.3 – Provide transit service to and from transportation hubs. • Provide county transit service at intercity bus stops and intercity rail stations.
Objective 2.4 – Coordinate with the Lake-Sumter MPO to monitor and track the need for new park-and-ride lots. • Monitor existing park and ride facilities to gauge existing levels of usage. • Coordinate with FDOT's reThink commuter services program to identify locations in Lake and Sumter Counties for new park-and-ride lots. • Coordinate with FDOT's reThink commuter services program to promote and market existing and future park-and-ride lots in Lake and Sumter Counties.

Goal 3: Achieve quality of transit service standards and maximize the performance, reliability, efficiency, and capacity of the LakeXpress system.
Objective 3.1 – Continue to improve on-time performance with a goal of achieving 95 percent or better.
Objective 3.2 – Provide transit service at a maximum headway of 1 hour throughout the day.
Objective 3.3 – Improve the LakeXpress passenger experience. • Provide shelter, seating, solar lighting, and transit route information at all transit stops. • Prioritize the provision of amenities at transfer points and at the stops with the highest levels of boardings and alightings. • Explore the provision of real-time transit information at transfer points. • Explore the provision of wi-fi on board buses. • Minimize vehicle breakdowns.
Objective 3.4 – Continue to provide transit route and schedule information that is easily accessible by the general public. • Upgrade and enhance the LakeXpress website. • Explore new technologies and media for providing transit information in Lake and Sumter Counties (e.g., a smart phone app created from transit feed data by third-party app developers).
Objective 3.5 – Maintain exemplary customer service practices. • Enhance the mystery rider program and/or develop other programs to review and assess customer service, on-time performance and other related factors.
Objective 3.6 – Maintain safe and secure transit services and transit facilities. • Comply with ADA requirements when designing and locating transit facilities. • Consider Crime Prevention through Environmental Design principles when designing and locating transit facilities. • Explore installation of security cameras on board transit vehicles. • Continue coordinating with local law enforcement agencies. • Coordinate with the Lake County Emergency Management Division.

Goal 4: Increase the visibility and utilization of transit services through marketing, education, and coordination with partners.

Objective 4.1 – 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.

- Market transit as an attractive and cost-effective travel option.
- Coordinate with FDOT's reThink commuter services program to enhance the promotion and marketing of ride-sharing.
- Upgrade and enhance the www.RideLakexpress.com website.
- Explore options to increase the number of ticket sales locations and allow on-line ticket sales.
- Improve the visibility of LakeXpress signage and facilities.
- Explore innovative approaches to marketing transit (e.g., coordinating marketing efforts with middle and high school media classes).
- Explore options to rename existing routes to increase community involvement and promotion.
- Consider re-naming the routes or selling the naming rights to local businesses.
- Continue marketing to students for free rides during the summer and holidays.
- Work with local vendors to advertise on bus schedules.
- Track and promote successes in attracting competitive federal funding grants and awards.

Objective 4.2 – Maintain an ongoing dialogue with the public through surveys and presentations to citizens groups, the LakeXpress Task Force, and the Transit Disadvantaged Coordinating Board.

- Explore improvements to existing passenger outreach methods.
- Improve existing passenger outreach methods by conducting Transit Training.
- Develop and promote a student outreach and marketing program which may include reduced fare or no-fare strategies.

Objective 4.3 – Support local and regional transportation demand management programs.

- Coordinate with FDOT's reThink commuter services program.
- Develop and support strategies and policies to reduce travel demand (specifically that of single-occupant vehicles) and/or redistribute this demand.

Goal 5: Coordinate transit services with the planning efforts and projects of local governments and agencies.
Objective 5.1 – Coordinate planning efforts to provide or enhance transit in urbanized areas by integrating transit into development review processes. • Coordinate with the MPO to revise the *Traffic Impact Study Methodology Guidelines* to include transit assessments. • Enhance coordination with the Lake County Public Works and Growth Management Departments to ensure that transit needs are addressed in County-approved development projects.
Objective 5.2 – Support partners' transportation studies and projects, including the US 192, SR 50, and US 441 projects. • Provide data to support these studies and projects. • Obtain data from these studies and projects. • Incorporate transit infrastructure (e.g., striping of transit lanes), and ADA accessibility projects, into planned and programmed roadway projects and resurfacing projects.
Objective 5.3 – Coordinate transit planning efforts with the near- and long-term planning efforts of local governments, agencies, and the State. • Initiate planning strategies to provide transit service in projected growth areas. • Continue coordinating planning and programming efforts with the MPO. • MPO should coordinate with the cities to ensure that transit needs are addressed in all of their new developments as well as with redevelopment projects.
Objective 5.4 – Coordinate planning efforts with local human services agencies. • Reduce service duplication and fragmentation. • Monitor and encourage migration of paratransit riders to LakeXpress service. • Coordinate with the Agency for Persons with Disabilities (APD). • Coordinate with Sumter County on the provision of paratransit trips. • Develop and promote a mobility management program. • Explore establishing a Human Services Committee to better identify service needs and identify funding.

Goal 6: Encourage land use patterns that support and promote transit patronage.
Objective 6.1 – Promote model land development regulations that encourage transit-oriented development and require the provision of transit infrastructure and amenities in new developments.
Objective 6.2 – Coordinate with local governments to provide incentives for developers to create transit-oriented developments. • Encourage growth and redevelopment along existing LakeXpress transit routes • Work with local governments to identify existing and future transit stops with transit-oriented development potential. • Work to streamline and simplify the process for transit-oriented development to occur at or along LakeXpress routes. • Work with the private sector, local governments, and the Lake~Sumter MPO to attract and implement transit-oriented, walkable, mixed-use development around LakeXpress transit routes.
Objective 6.3 – Identify opportunities to educate the community regarding the economic benefits of transit service and transit-oriented development. • Develop public transportation services with a focus on employment sites. • Develop transit services designed to link employment opportunities with affordable and workforce housing. • Create a user-friendly brochure outlining the economic benefits of transit service and transit-oriented development. • Partner with the Lake County Economic Development Department to promote transit.
Objective 6.4 – Work with local governments to improve connectivity of sidewalks, bicycle facilities, and trails in existing and future transit corridors.
Goal 7: Identify and implement energy conservation and sustainability practices.
Objective 7.1 – Improve fuel efficiency and reduce emissions. • Encourage contracted operators to use vehicles that run on alternative fuels and alternative propulsion systems. • Require contracted operators to sustain exemplary fleet maintenance practices.
Objective 7.2 – Support land use decision-making that reduces trip lengths and promotes non-automobile travel. • Encourage growth and redevelopment along LakeXpress transit routes. • Work with the private sector, local governments, and the MPO to attract and implement transit-oriented, walkable, mixed-use developments along LakeXpress transit routes.

Goal 8: Ensure the safety of the passengers, drivers, the general public and property in the delivery of all transportation services.
• Establish a culture of safety with the operator that permeates throughout the organization. • Promote educational campaigns about transit, pedestrian and bicycle safety. • Maintain a transit accident and incident database to effectively evaluate all events in order to establish corrective actions.

7 Alternatives Considered

Detailed descriptions for each alternative considered are provided in this section. Alternatives are grouped using the general categories suggested by FDOT for showing alternatives in TDP financial plans. Existing fixed route services are listed first, followed by other existing services (such as paratransit), fixed route improvements, and other service improvements.

7.1 Maintain Existing Fixed Route Services

The baseline alternative against which service expansion alternatives are compared is maintaining the current transit system as-is, with no changes to fixed route configuration or headways, maintaining current paratransit policies, and holding total paratransit revenue-hours of service constant at current levels. Current (2012) and estimated 2023 ridership and operating costs for fixed route service are show in Table 7.1.

Table 7.1 – Operating Costs and Ridership on Existing Fixed Routes

		Operating Cost		Daily Ridership		Auunal Ridership	
		2012	est. 2023	2012	est. 2023	2012	est. 2023
LakeXpress	Route #1	$1,037,499	$1,436,141	696	870	161,873	202,341
	Route #2	$240,848	$333,390	249	330	55,110	73,037
	Route #3	$240,848	$333,390	187	220	44,061	51,836
	Route #4	$222,321	$307,744	151	190	35,925	45,204
	TOTAL LakeXpress	**$1,741,515**	**$2,410,665**	**1,283**	**1,610**	**296,969**	**372,419**
Sumter County Transit	Villages Shuttle	$169,068	$234,029	17	30	3,400	6,052
	Wildwood Circulator	$39,708	$54,965	18	32	2,700	4,806
	Orange Shuttle	$52,944	$73,287	22	39	3,300	5,874
	Total SCT	**$261,720**	**$362,281**	**57**	**101**	**9,400**	**16,732**

The four LakeXpress fixed routes carried an average of 1,283 per day in 2012. Using a combination of the growth factors shown in Table 5.5 for the origins and destinations served, ridership is projected to grow by 25% to 1,610 by 2023. The service cost approximately $1.74M to operate in 2012. This is projected to increase to $2.41M for the same level of service in 2023.

LakeXpress routes 1, 2, and 3 would continue to run on 60 minute headways, and Route 4 would continue with 120-minute headways. Sumter County would continue to maintain and operate the Village Shuttles (Green, Purple, and Blue), the Orange Shuttle, and the Wildwood Circulator on current schedules.

Sumter County flexible shuttle routes currently average 57 riders daily (on just two round trips per route) but ridership is projected to increase to 101 per day by 2023 with no increase in service. Current costs for this service could not be separated out from the remainder of the SCT budget. However, annual costs were estimated using hourly costs for Lake County Connection and were estimated to be about $262,000 in 2012 and $362,000 by 2023.

7.2 Maintain Other Existing Services

In 2013 Lake County paid LYNX an amount equivalent to $68,674 per year to support service on Link 55 and $168,376 to support service on Link 204. Lake County recently reached an agreement with Lynx to continue funding these two routes on a modified schedule that includes a significant service reduction on Link 204. Lake County's estimated annual net cost of service on the revised Link 55 is expected to be similar to current costs, while service reductions on Link 204 are expected to reduce annual costs to about $24,000 when the revised schedule becomes fully effective in 2015.

Without fixed schedules to "maintain", maintaining the existing Lake County Connection paratransit service is assumed to mean maintaining existing service policies with no change in the number of revenue-hours of service provided. While all ADA-eligible paratransit trips must be accommodated, TD trips are provided on a first-come, first-served basis, must be reserved a minimum of 48-hours in advance, and are prioritized with medical trips receiving highest priority. Continuing the existing number of revenue-hours of service as population in the county increases would likely result in demand in excess of capacity and therefore more denied TD trip requests. LCC service cost approximately $4.49M in 2012. This is projected to increase to $6.22M in 2023 with no increase in revenue-hours.

7.3 Potential Fixed Route Improvements

Numerous alternatives were considered for possible inclusion in the plan. Several alternatives were suggested through the open meetings that were held during the development of this TDP, while others resulted from analysis of demographic data and travel flow projections described in Section 5. Detailed descriptions for each alternative considered are provided in this section. Table 7.2 lists the alternatives and provides estimated annual operating costs in 2023 dollars along with estimated 2023 daily and annual ridership changes. The 2023 cost per new rider attracted was used to place each potential service change or new service into preliminary high (<$7), medium (<$15), low (<$25) and very low priority categories. These categories were based purely on the calculation of 2023 cost per new rider. Many other factors were later considered in determining which projects to include in the ten year implementation plan.

7.3.1 Restructure Route 1 and Implement Golden Triangle Service on Route 3

LakeXpress Route 1 currently operates in an east-west alignment, traveling between Spanish Springs Station in The Villages to the west and Wall Street, Eustis, in the east. There are three transfer points along Route 1. At Spanish Springs Station, the western route terminus, riders can connect to the Sumter County Transit shuttles. At 14th Street and Citizens Boulevard, riders can transfer to LakeXpress Route 2 or Route 1. Finally, at Lake Tech, riders are able to transfer between route 1, 3, and 4. Route 3 currently serves as a circulator within Mount Dora. It operates between Eustis Square in the east, also a transfer point to Route 1, and downtown Mount Dora surrounding City Hall in the west.

The review of census tracts containing transit-supportive densities identified the need for a high level of circulator service in the Eustis, Tavares, and Mount Dora area. As highlighted by Figure 5.8, those tracts are estimated to be supportive of very frequent service. Expansion of Route 3 to provide more circulator service and conversion of Route 1 into a more pure linear "spine" service could allow LakeXpress to decrease circulator headways in the future and to serve important destinations in a more efficient fashion.

Table 7.2 – Operating Costs and Ridership on Proposed Alternatives

Service Change	2023 Annual Operating Cost	Daily Ridership Increase	Annual Ridership Increase	2023 Cost per New Rider	Initial Priority Assessment
Restructure Routes 1 and 3	$0	NA	NA	NA	high
Modify Route 2	$0	NA	NA	NA	high
Increase frequency on Route 1	$1,077,105	270	68,580	$15.71	low
Increase frequency on Route 2	$333,390	105	26,670	$12.50	medium
Increase frequency on Golden Triangle Service	$666,780	70	17,780	$37.50	low
Increase frequency on Route 4	$307,744	60	15,240	$20.19	low
Extend service hours on Route 1	$307,744	90	22,860	$13.46	low
Extend service hours on Route 2	$128,227	45	11,430	$11.22	medium
Extend service hours on Golden Triangle Service	$256,454	30	7,620	$33.66	low
Extend service hours on Route 4	$128,227	30	7,620	$16.83	low
Add weekend service on Route 1	$315,014	825	42,900	$7.34	medium
Add weekend service on Route 2	$105,005	315	16,380	$6.41	high
Add weekend service on Golden Triangle	$210,009	210	10,920	$19.23	medium
Add weekend service on Route 4	$105,005	180	9,360	$11.22	medium
Expand service on Villages Shuttle (T/Th)	$127,031	23	2,340	$54.29	very low
Expand service on Villages Shuttle (hourly)	$1,178,942	15	3,810	$309.43	very low
Expand service on Wildwood Circulator (T.Th)	$38,109	24	2,496	$15.27	low
Expand service on Wildwood Circulator (hourly)	$511,909	18	4,572	$111.97	very low
Expand service on Orange Shuttle (T/Th)	$50,812	29	3,042	$16.70	low
Expand service on Orange Shuttle (hourly)	$620,496	26	6,604	$93.96	very low
New Route: SR50 Spine Service	$769,361	995	252,730	$3.04	high
New Route: SR50 Spine Service increase frequency	$769,361	309	78,486	$9.80	medium
New Route: SR50 Spine Service extend service hours	$205,163	103	26,162	$7.84	medium
New Route: SR50 Spine Service weekend service	$210,009	945	49,140	$4.27	high
New Route: Leesburg to Brownwood	$359,035	90	22,860	$15.71	low
New Route: Clermont Minneola Circulator	$359,035	295	74,930	$4.79	high
New Route: Clermont Minneola Circulator increase frequency	$359,035	92	23,368	$15.36	low
New Route: Clermont Minneola Circulator extend service hours	$102,581	31	7,874	$13.03	medium
New Route: Clermont Minneola Circulator weekend service	$105,005	280	14,560	$7.21	medium
New Route: US 27 South to Four Corners	$307,744	35	8,890	$34.62	very low
New Express: Clermont to Disney	$461,617	155	39,370	$11.73	medium
New Route: Leesburg to Clermont	$718,070	120	30,480	$23.56	low

To date, definition of this alternative is still in its conceptual stage. The preliminary route alignments and routing alternatives shown in Figure 7.1, and discussed below, will need to be refined through community workshops, meetings with stakeholders, and eventually through a final public hearing. The planning should take into account considerations such as access to/from destinations frequented by transit riders and the locations of, and safe access routes to, new or relocated bus stops. The final routes and stops will be documented in an updated Transit Operations Plan.

Under this alternative, Route 1 would be restructured into a more direct linear "spine" service along SR 441, rather than traversing parking lots to make internal stops at locations such as Lake Sumter Community College and the Lake Square Mall. The eastern route terminus would become Lake Tech, near Eustis Square, and the route would no longer travel to Eustis or parts of Tavares. The western end of the route would be extended approximately one mile from its current terminus at Spanish Springs Station to The Villages Hospital on El Camino Real.

Route 1 would continue to operate on 60-minute headways. However, the shortening of the eastern end of the route would allow the route to be operated at current headways with three buses instead of four. The fourth bus would be reassigned to Route 3 to facilitate the expansion of that service to cover areas no longer served by Route 1.

Route 3, the Mount Dora Circulator, would be significantly reconfigured, as shown in Figure 7.1, effectively taking over Eustis and Tavares from Route 1 and creating what has been called the "Golden Triangle." Using two buses (the current Route 3 bus plus the one bus removed from Route 1), the route would operate on 60-minute headways, beginning at Ardice Avenue and then serving Eustis, Mount Dora, and Tavares.

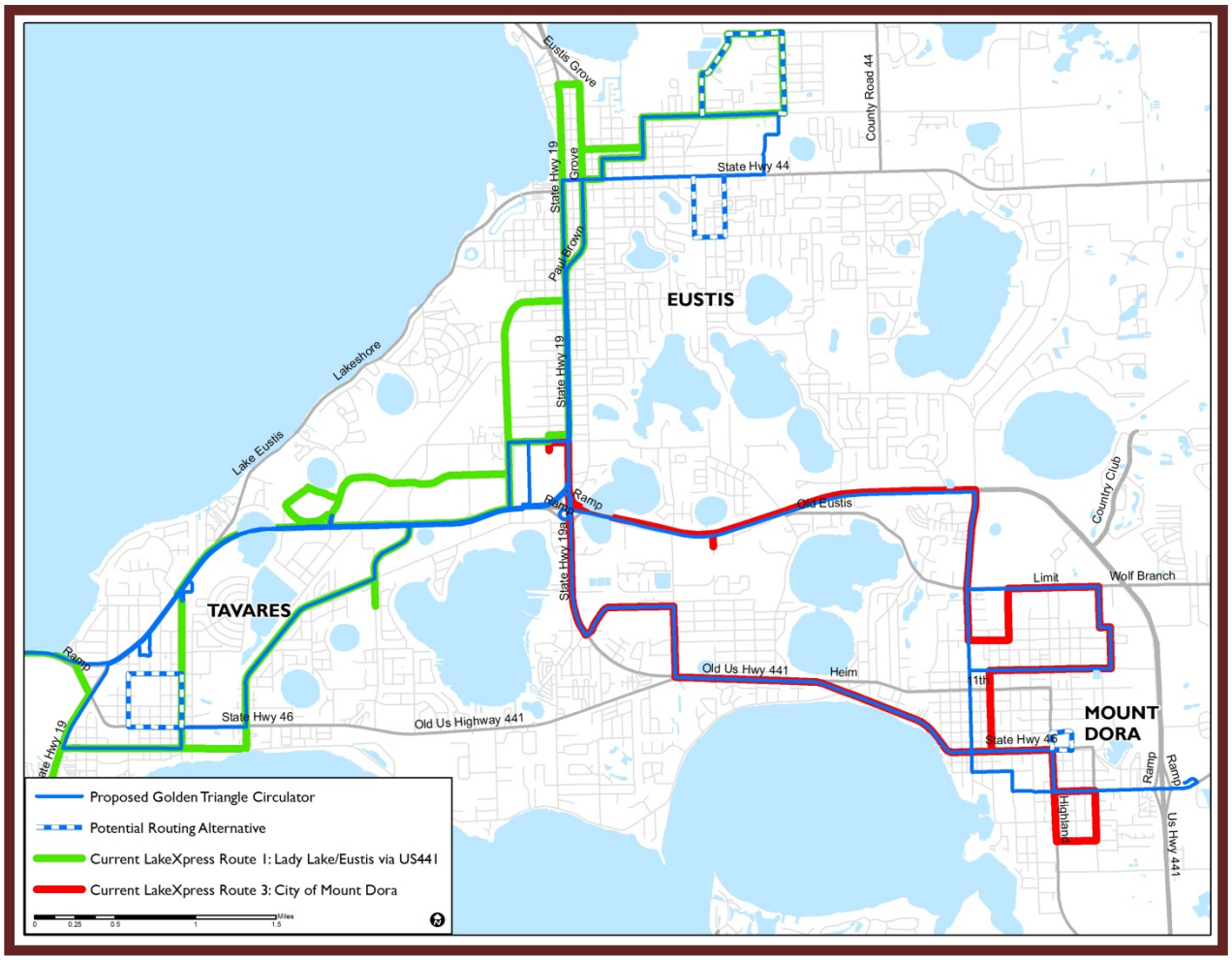
The Eustis portion would travel north on Bay and Grove streets, Orange and Bates avenues, passing Carver Park and the Grove Square Shopping Center before returning to Eustis Square via Bay Street, a distance of 7.7 miles. There are several possible routing options in the areas around Orange and Bates avenues. Further planning is needed to determine the final routing.

In Mount Dora, the route would remain somewhat similar to the current alignment, continuing to travel along US 441, serving the Golden Triangle Shopping Center, the Mt. Dora Shopping Center, and the Tri-Cities Shopping Plaza, among other destinations. In contrast to the current configuration, the revised route would operate in a clockwise fashion and would move the Mount Dora Wal-Mart stop to a location along US 441 (rather than inside the parking lot). In addition, the proposed route would no longer operate south of 1st Avenue, and would instead extend east along 1st Avenue to the Veranda Apartments. The Mount Dora portion of the proposed route would be just over 15.5 miles.

On the western side of the route, the eight mile Tavares portion would operate in a clockwise loop, traveling along Dora Street, Main Street, and US 441, a distance of 7.9 miles. The Golden Triangle service along US 441 would recapture riders and destinations from the revised Route 1.

These changes are not expected to affect operating costs as one of the four buses now in service on Route 1 would be moved to Route 3/Golden Triangle. The change is likely to result in some shift of ridership from Route 1 to Route 3. The magnitude of that shift has not yet been estimated due to limited stop-level data. (This could also impact ridership estimates on other alternatives involving these routes if this restructuring is assumed to occur first. Route 1 ridership impacts could be over-estimated while Golden Triangle Route ridership impacts could be under-estimated.)

Figure 7.1 – Proposed Golden Triangle Service



Because this is a no-cost improvement, it was rated as a high priority.

7.3.2 Modify and Extend Route 2 to Fruitland Park

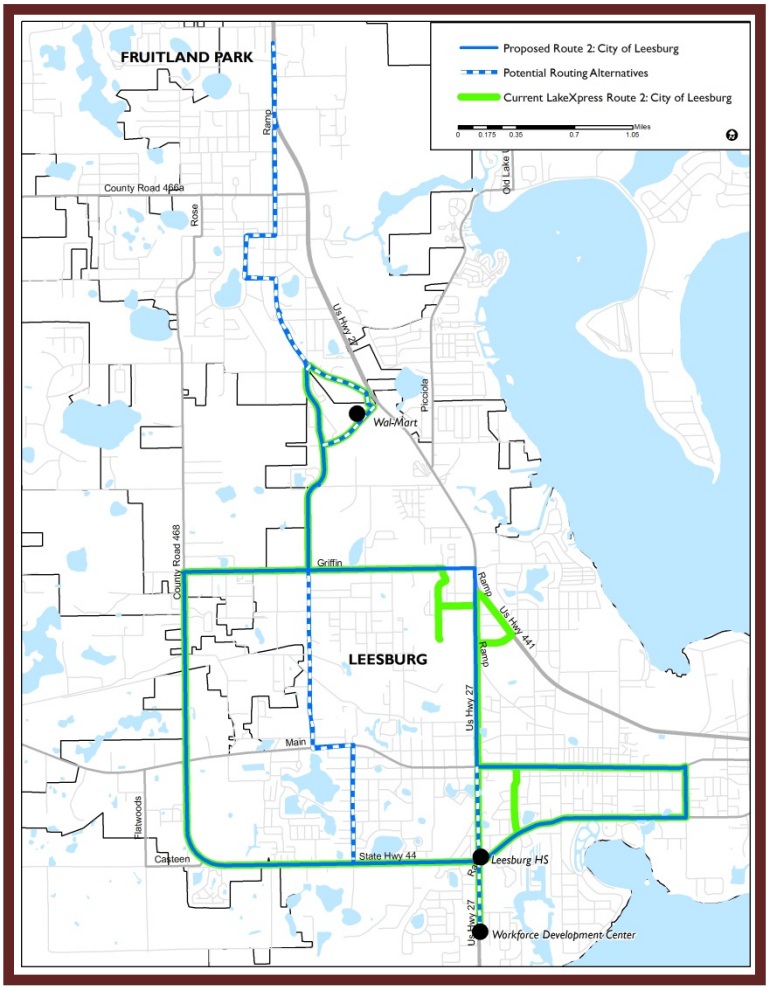
The Leesburg Circulator operates through the City of Leesburg from Wal-Mart in the north to the Southside Shopping Center in the south. At 14th Street and Citizens Boulevard, riders can transfer to LakeXpress Route 1. Under its current configuration, the Leesburg Circulator leaves Citizens Boulevard traveling south on 14th Street all the way to the South Side Shopping Center. The route then backtracks north up 14th Street and takes a right on Dixie Avenue to serve the Leesburg Regional Medical Center, Lake Street, and Main Street, in a circular fashion, before returning to 14th Street for a third time and continuing on to the South Street.

The analysis of Census tracts containing transit-supportive densities identifies central Leesburg as an area among the most likely to have transit service that is highly utilized. The existing routing loops back on itself. A more direct routing could increase its attractiveness to potential riders. In addition, the

new Lake County Public Transportation Office in Fruitland Park will be nearby and could provide the opportunity to create a new transfer connection between Routes 1 and 2. This and other locations could be studied for possible future development as a transfer site.

A preliminary proposed revision and possible routing alternatives have been developed and are shown in Figure 7.2. The proposed revision would serve the downtown area in a more direct fashion by traveling from 14th Street to Main Street, east to Lake Street, south to the Leesburg Regional Medical Center, and then continuing on to the South Side Shopping Center, an estimated time savings of five minutes.

Figure 7.2 – Proposed Route 2 Modifications



The portion of 14th Street between W. Main Street and South Street (SR 44) may still need to be served in some fashion, as would some destinations south of SR44 and along Lone Oak Drive and Thomas Avenue. Also, an extension north to the LakeXpress building at Fruitland Park from the Wal-Mart on S. Dixie Avenue could provide a new transfer point with Route 1. The possible routing alternatives need to be studied further to insure that important destinations continue to have good access to bus service.

The proposed route would continue to operate on 60-minute headways with one bus. There would be no increase in operating cost. These changes have the potential to attract new riders by providing faster, more direct service and better transfer connections, though this increase has not been quantified.

Because this is a no-cost improvement, it was rated as a high priority.

7.3.3 Increase Frequency on Existing LakeXpress Routes

Frequency could be increased on each of the LakeXpress routes. Doubling the number of buses assigned to each route would cut headways in half. Routes 1, 2, and the Golden Triangle headways would be reduced to 30 minutes, while Route 4 headways would be reduced to 60 minutes. This would require expansion of the fixed route fleet, adding a total of seven buses in peak service. No additional spare vehicles would be needed since LakeXpress already has a sufficient number of spares.

Year 2023 operating costs shown in the table assume the revised Route 1 and Route 3 (Golden Triangle) configuration discussed above, while the estimates of the resulting ridership increase were based on the current configuration (since ridership estimates on the reconfigured routes are not available). This causes the cost per new rider to be overestimated on Route 3 and underestimated on Route 1. Therefore, the alternatives for increased frequency on Routes 1 and 3, as well as that for Route 4, were placed in the low priority category. Improved frequency on Route 2 is estimated to have slightly better potential for attracting ridership and was therefore included in the medium priority category.

7.3.4 Extend Service Hours into the Evening on Existing LakeXpress Routes

The service span on each of the LakeXpress routes could be extended into the late evening, from approximately 8 p.m. until midnight. Doing so would allow LakeXpress fixed route to capture 2nd shift and late retail shift workers. During extended evening hours, all routes would operate at current headways, even if daytime frequency were improved, as in the previous alternative. The additional span of service would not require the purchase of additional buses; just require the current number of buses to operate longer hours. The projected ridership increase shown in Table 7.2, however, is not large. (Again, the impacts of the Golden Triangle reconfiguration are reflected in the operating costs, but not ridership.) Therefore, the alternatives for evening service on Routes 1 and 3, as well as that for Route 4, were placed in the low priority category. Evening service on Route 2 is estimated to have slightly better potential for attracting ridership and was therefore included in the medium priority category.

7.3.5 Add Weekend Service on Existing LakeXpress Routes

Fixed route service on Saturdays, from 7 a.m. to 7 p.m., and on Sundays, from 9 a.m. to 5 p.m., would provide LakeXpress customers with much greater access to employment and recreational opportunities in Lake County. On weekends, all routes would operate at current headways, even if weekday frequency were improved. The purchase of additional buses would not be required; the existing fleet would operate on the additional days. As shown in Table 7.2, weekend service is projected to generate more new riders per dollar invested than either evening service or increased weekday frequency. Therefore, the alternatives for weekend service on Routes 1, 3, and 4, were placed in the medium priority category, while Route 2 was included in the high priority category. (Again, the impacts of the Golden Triangle reconfiguration are reflected in the operating costs, but not ridership.)

7.3.6 Expand Sumter County Transit Shuttles – Add Tuesday and Thursday Service

The Orange Shuttle, Villages Shuttles (Green, Purple, and Blue), and the Wildwood Circulator operate on a fixed route schedule, but will deviate up to ¾ mile off the alignment with an advanced reservation. All routes operate two round trips each service day. All routes provide service on Mondays, Wednesdays and Fridays and The Villages Shuttles (Green and Blue) operate on Saturdays. There is no Tuesday, Thursday or Sunday service on any route. Adding service on Tuesdays and Thursdays using the same schedule would be a first step towards expanding service on the shuttles and developing a more full-service fixed/flexible route transit system in Sumter County. (It was assumed that no new vehicles would be required although if the vehicles operating on the shuttle routes provide paratransit service on Tuesdays and Thursdays, there could be increased vehicle needs.) Existing ridership on these routes is currently very low (only an average of 57 riders in total). Even with expected growth up to 101 riders per day in 2023, and Tuesday/Thursday ridership comparable to other days, this ridership is still low causing the addition of Tuesday and Thursday service to be placed in the low priority category.

7.3.7 Expand Sumter County Transit Shuttles – Increase Frequency to Hourly

An additional step towards developing a more full-service fixed/flexible route transit system in Sumter County would be providing hourly service on the existing routes. With round trip times, including deviations, of two to four hours on these routes, the five vehicles now in service (one on each route) would increase to 15. Even with this large expansion of service, the 101 riders projected per day in 2023 is projected to increase to only 160 with hourly service. Therefore, increased frequency on these routes was placed in the very low priority category.

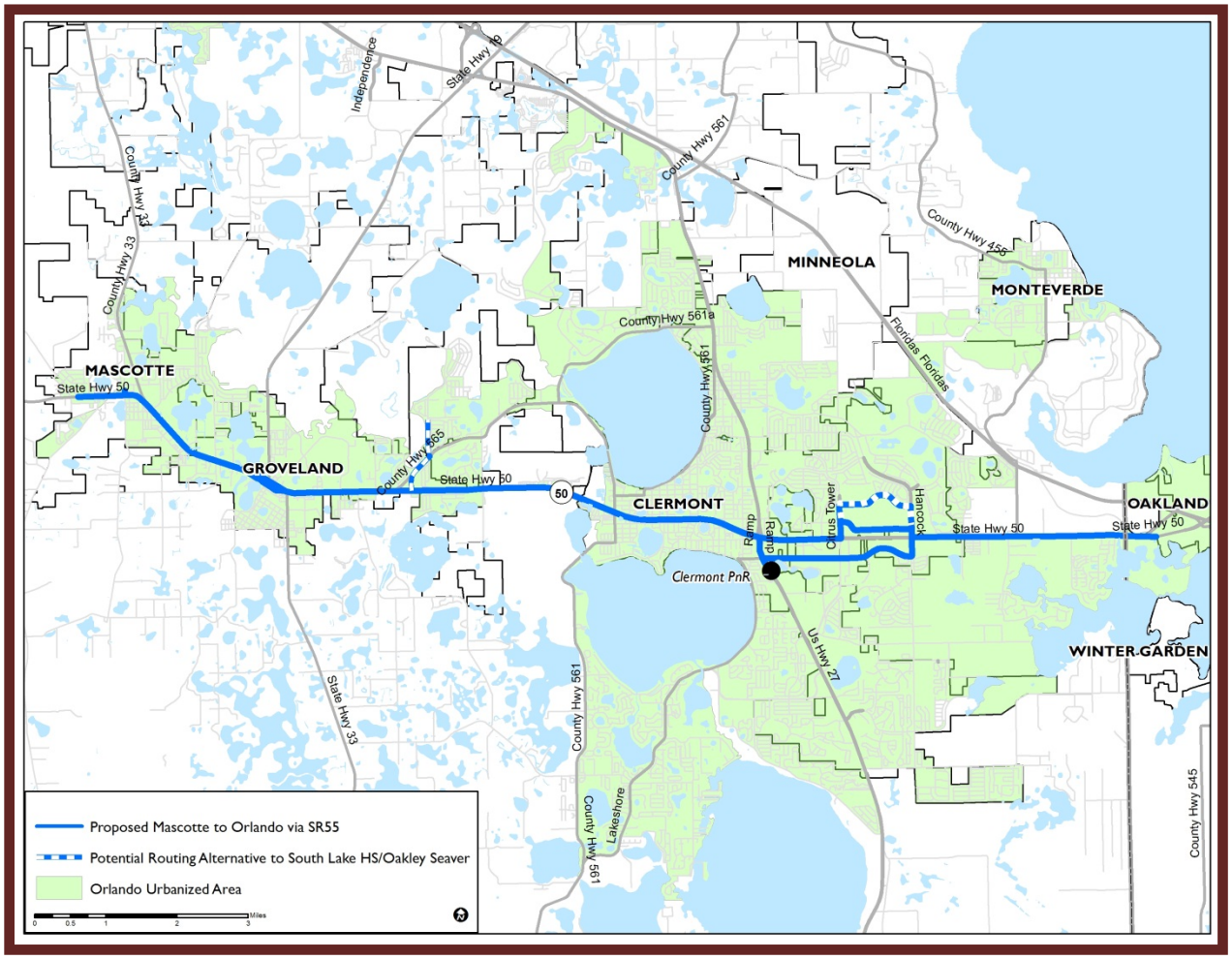
7.4 Potential New Routes

Six new fixed routes were considered. Projected costs and ridership on these routes were also presented in Table 7.2, and are discussed below.

7.4.1 SR50 Spine Service

A new linear "spine" in South Lake County could link Mascotte to LYNX 105 (at SR50 and Park Avenue in Orlando), approximately 38 miles round trip, via Groveland and Clermont. The potential route would begin at in Mascotte and travel to the Orlando area via SR50, connecting to Lynx bus service while also serving the Clermont park-and-ride location. Figure 7.3 presents a conceptual rendering of how the spine service alignment might look; potential route stops would need to be identified through further analysis. The proposed route would operate on hourly headways, weekdays from 5 a.m. until 8 p.m. – a 15 hour span of service. Two buses would be needed to provide this service. Year 2023 annual operating costs for this route are estimated at $769,000. Significant future ridership is projected for this route, with ridership estimated 995 per day, placing this possible new route in the high priority category. This route was also examined for increased frequency, evening service and weekend service. These three service expansion options were rated medium, medium, and high, respectively.

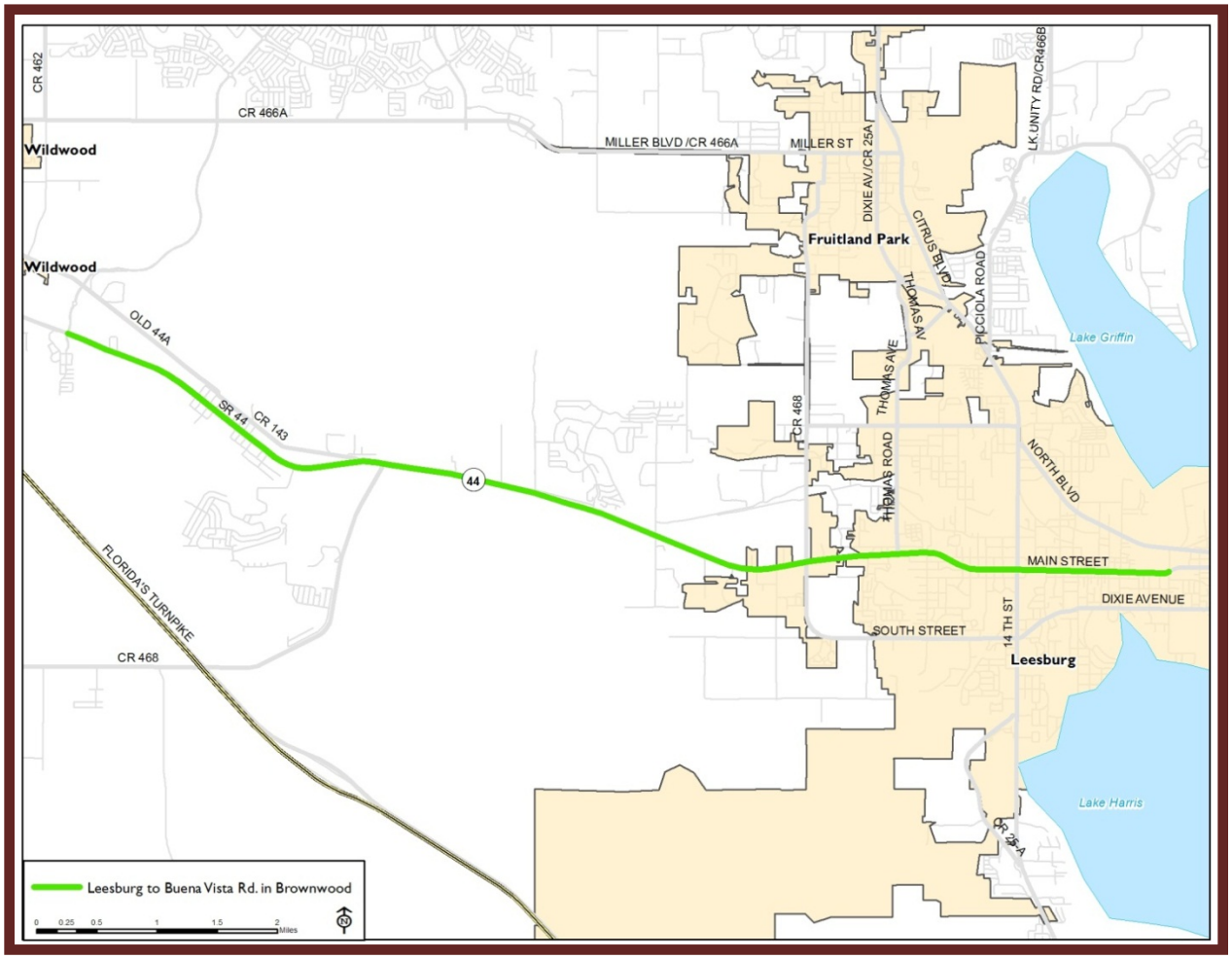
Figure 7.3 – SR50 Spine Service



7.4.2 Leesburg to Brownwood

Figure 7.4 shows a possible new route connecting Leesburg to the Brownwood area near Wildwood in Sumter County along Main Street in Leesburg and SR44. Brownwood is expected to become a significant employment center that would attract employees from the Leesburg area. The proposed route from Leesburg to Brownwood would operate weekdays, between 6 a.m. and 8 p.m. on 60-minute headways. One vehicle would be required to provide adequate service along the approximately 19 mile round-trip route. Year 2023 annual operating costs for this route are estimated at $359,000. Future ridership for this route is projected to be low, just 90 per day, placing this possible new route in the low priority category.

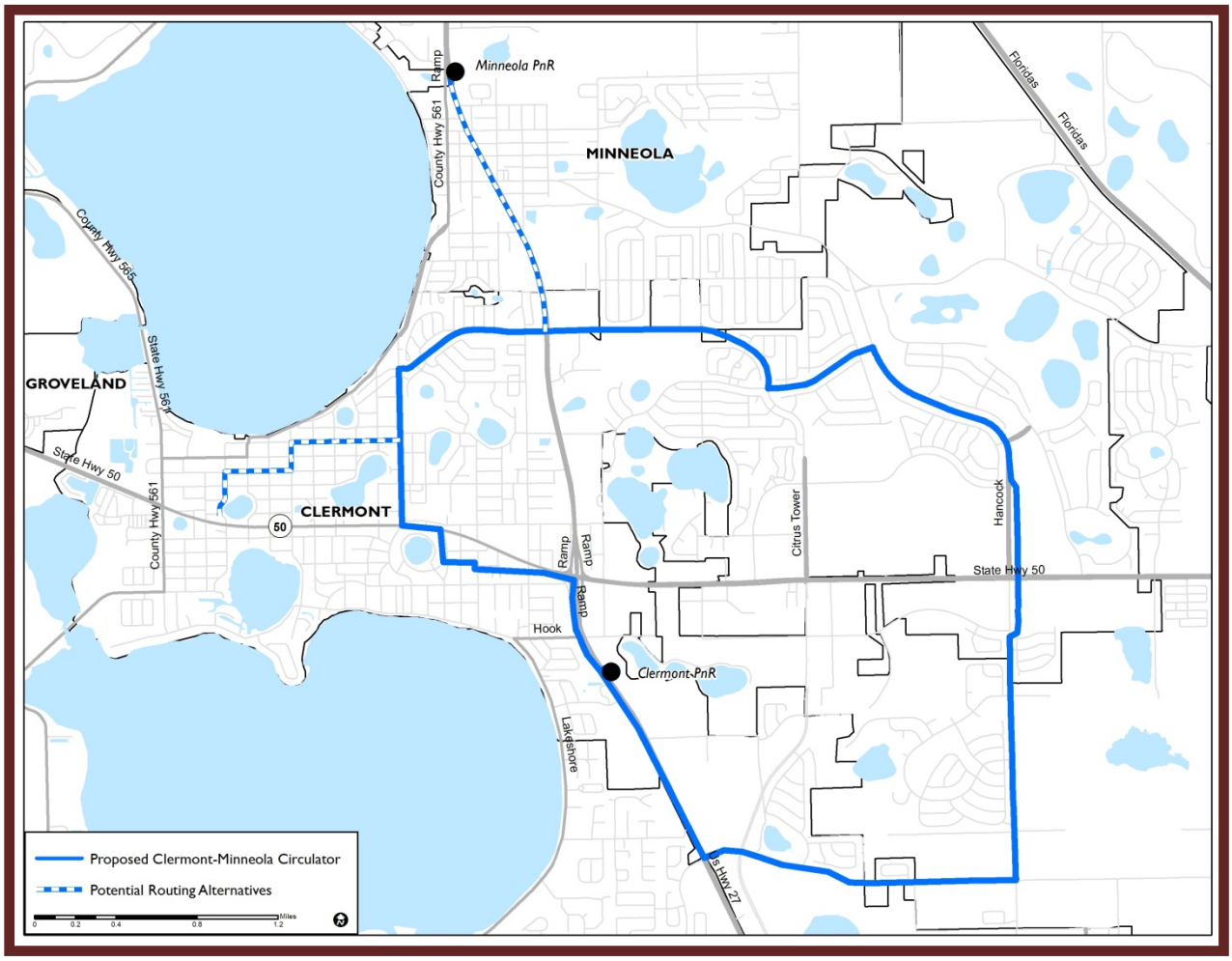
Figure 7.4 – Leesburg to Brownwood Route



7.4.3 Clermont Minneola Circulator

Figure 7.5 illustrates the proposed Clermont Minneola Circulator which would operate in a clockwise, 10.6 mile loop serving the two downtown areas, as well as the Clermont Park-and-Ride on US27 and also possibly the Minneola Park-and-Ride. Service would run weekdays between 6 a.m. and 8 p.m., on 60-minute headways. One additional vehicle would be required to implement this service. Year 2023 annual operating costs for this route are estimated at $359,000. Future ridership for this route is projected to be 295 per day, placing this possible new route in the high priority category. This route was also examined for increased frequency, evening service and weekend service. These three service expansion options were rated low, low, and medium, respectively.

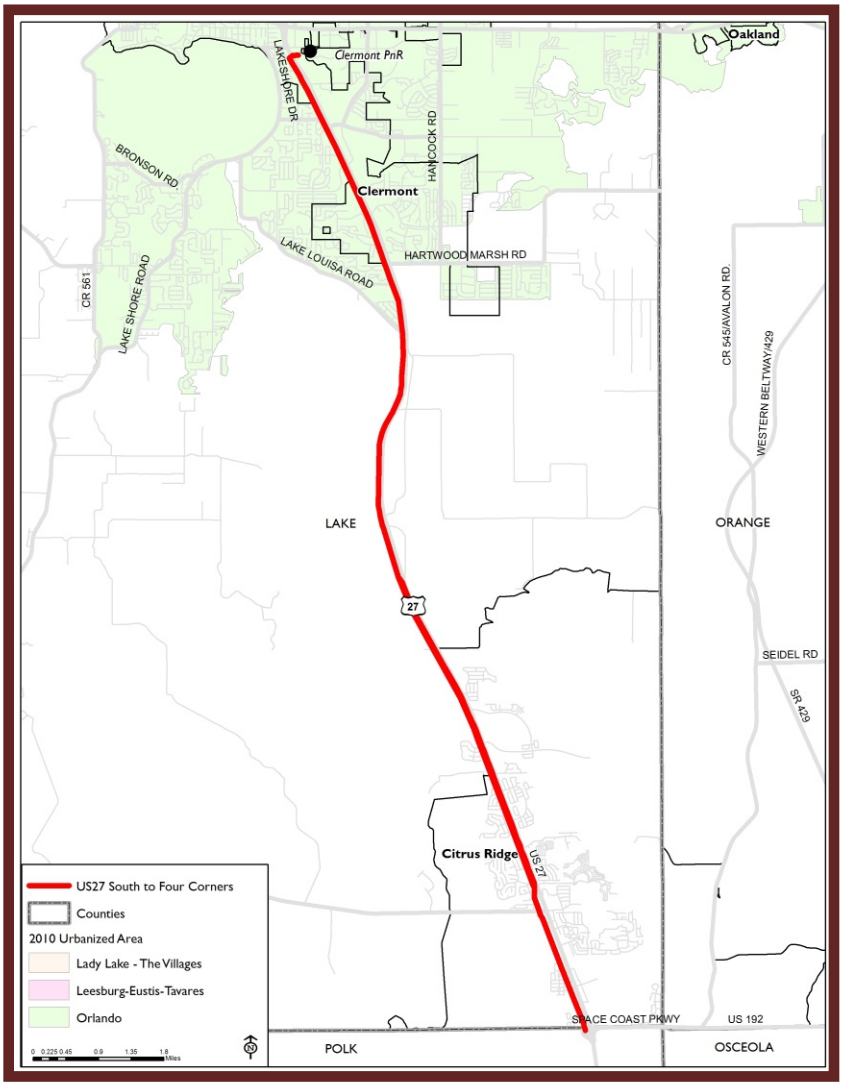
Figure 7.5 – Clermont Minneola Circulator



7.4.4 US27 South to Four Corners

This route would make a 28 mile round trip along US27 between the Clermont park-and-ride and the Wal-Mart in the Four Corners area, as shown in Figure 7.6. The service would provide access to the shopping destinations, medical services, and recreational activities located along US27 and surrounding the Four Corners Wal-Mart location. It would also provide connections to LYNX routes Link 55 and Link 427. One additional vehicle would be required to implement this service, which would run on weekdays between 8 a.m. and 8 p.m. It may be possible to operate this route hourly with one bus, though it may be necessary to operate the route at only a 90-minute headway. Year 2023 annual operating costs for this route are estimated at $308,000. Future ridership for this route is projected to be low, at just 35 per day (assuming hourly service), placing this possible new route in the very low priority category.

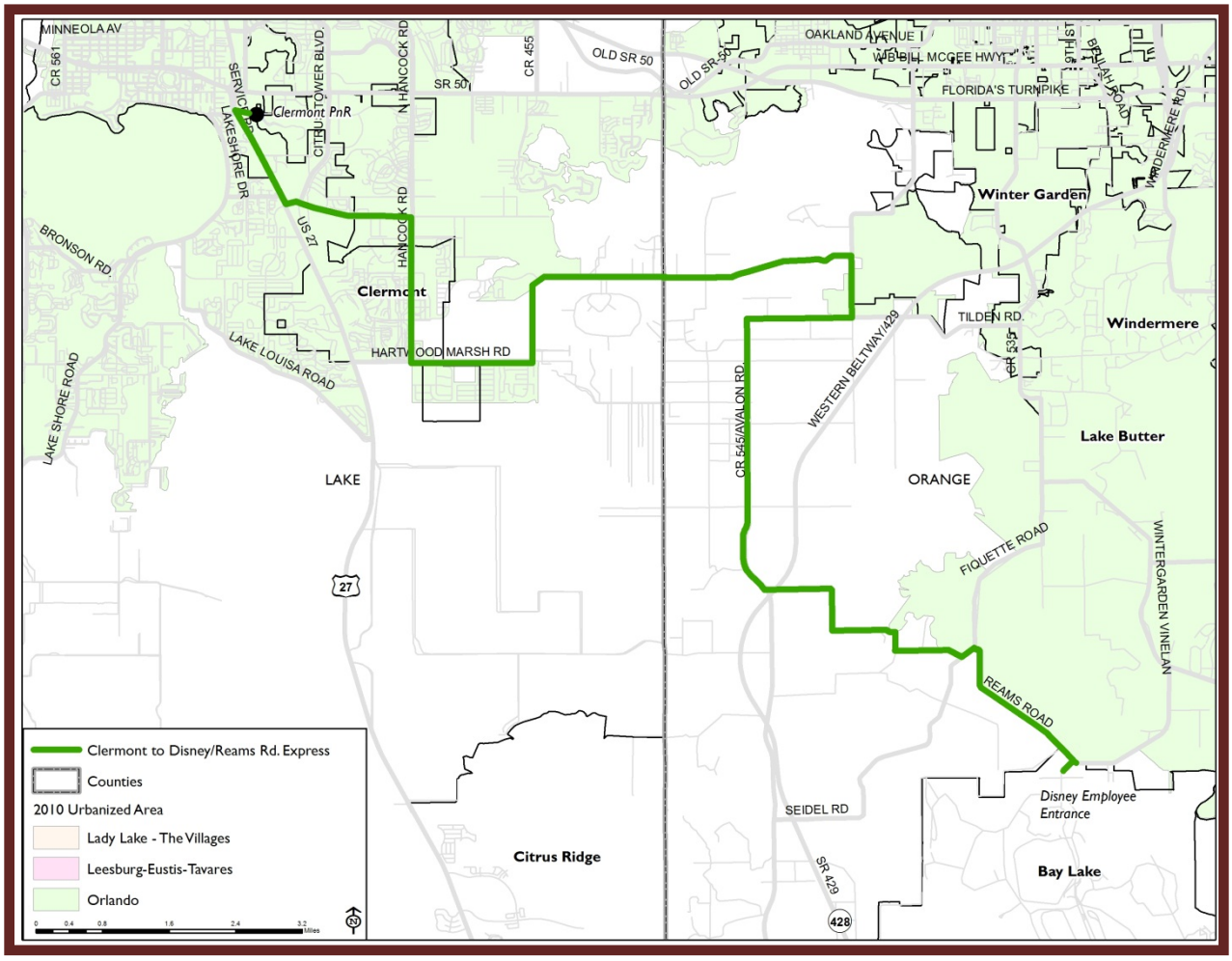
Figure 7.6 – US27 South to Four Corners Route



7.4.5 Clermont to Disney Employee Entrance Express

This commuter express route would travel between the Clermont Park-and-Ride and the Disneyworld employee entrance, as shown in Figure 7.7. The service would provide service for Disneyworld employees. Three additional vehicles would be required to run this service every 30 minutes for six morning and six afternoon trips. Further planning would be needed to match the schedule to the work shift times at Disneyworld, which most likely do not match traditional commuting hours. Year 2023 annual operating costs for this route are estimated at $462,000. Future ridership for this route is projected to be fairly low, at 155 per day, placing this possible new route in the medium priority category.

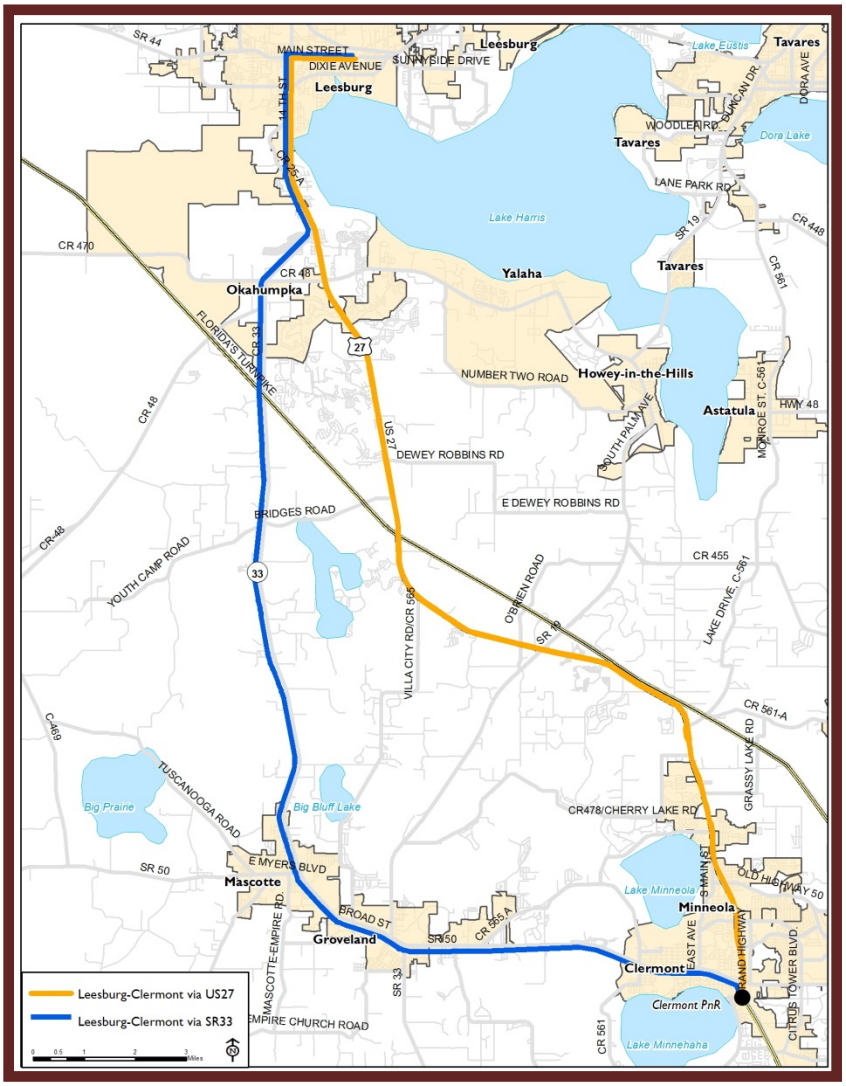
Figure 7.7 – Clermont to Disney Employee Entrance Express



7.4.6 Leesburg to Clermont

Two possible routes, shown in Figure 7.8, connecting Leesburg to Clermont were considered. Only one of the two routes would be implemented, as much of the demand is expected to be end to end between Leesburg and Clermont. The route would operate on weekdays, from 6 a.m. until 8 p.m., with hourly service, using two buses traveling along either directly via the US27 corridor through Minneola, or along the SR33/SR50 corridor through Mascotte and Groveland. The latter routing is projected to generate somewhat higher ridership, but would duplicate part of the proposed SR50 South Lake Spine service (which is identified above as a high priority alternative), making that alignment much less attractive. Year 2023 annual operating costs for this route are estimated at $718,000. Future ridership for either of these routes is projected to be fairly low, at 120 per day, placing these possible new routes in the low priority category.

Figure 7.8 – Leesburg to Clermont Routes



7.5 Other Service Improvements

7.5.1 Expand Lake County Connection Paratransit Services to Match Growth

Countywide operation of paratransit service is expected to continue under current operating policies through 2023. With growth in overall travel in the county estimated to increase by 31 percent from 2012 to 2023, paratransit demand can be expected to increase proportionally even if nothing else changes. Because paratransit service is provided on a trip by trip basis, rather than at the pre-determined service frequencies of fixed route services, the amount of service provided to maintain the existing level of customer service can be expected to increase as well. While the cost of the existing quantity of paratransit service (in terms of revenue-hours operated) is expected to increase to $6.22M in 2023 due to inflation, increasing the amount of service provided to match the 31% projected travel growth in the county could further increase costs to as much as $8.1M. While this growth in paratransit cost could be mitigated somewhat by the addition of new fixed routes and other efforts to make the fixed route bus system more attractive to paratransit users, the TDP assumes that the full 31% increase in paratransit demand will be accommodated through increased service and additional vehicle purchases.

8 Implementation Plan

Using a combination of the analysis of costs and ridership presented in the previous section and the input received from stakeholders, the public and county staff, a recommended list of service enhancements was developed for the first five years and the second five years of this TDP. The recommended services are shown in Table 8.1. The years shown for each improvement may vary, depending on funding, vehicle procurement cycles, and construction of bus stops; however, the list represents a rough prioritization of transit needs. Assumptions regarding the years of implementation are necessary for development of annual costs used in the financial plan in Section 9.

Table 8.1 – Recommended Service Implementation Timetable

First Five Years	
2014	Restructure Routes 1 and 3 (Golden Triangle service); Restructure Route 2
2015	SR50 Spine service (Rt. 5)
2016	*no new service*
2017	Weekend Service Routes 1-5
2018	*no new service*
Second Five Years	
2019	Evening Service Routes 1-5
2020	Clermont-Minneola Circulator (Rt. 6)
2021	*no new service*
2022	*no new service*
2023	Double Frequency Routes 1-6

8.1 First Five Years

In the first five years, Lake County should focus on implementing the most cost-effective new and modified services, beginning with those that can be implemented at little to no cost. Most of the first five year recommendations were rated in the "high" category in the previous section. The only medium-ranked improvement that is included, weekend service, has long been viewed as a top priority among the public. Two of the five routes were ranked "high" for weekend service with the other three ranked "medium".

The restructuring of Routes 1 and 3 to create the Golden Triangle service has been in the planning stages for some time. Preliminary routings have been developed and are being modified through community workshops. Similarly, changes to Route 2 are being analyzed in detail and have been received favorably. These changes can be made soon and do not impact operating costs and so are recommended for 2014, the first year of implementation of this TDP.

The most promising new route, and one that has been proposed as far back as the previous (2008) TDP, is the SR50 Spine service in South Lake County. This proposed route also has considerable support from the community and, as described in Section 7.4.1, ridership demand is estimated to be significant.

Given the need to purchase two new regular transit buses and install bus stops along a long corridor through three communities, some lead time is necessary to secure additional funding and prepare for implementation. As a result, this new service is recommended for implementation in FY 2014/15. This would be the first local transit service to operate in South Lake County. While Table 7.2 shows an estimated 995 riders in 2023, daily ridership in 2015 is projected to be around 825 (after an initial adjustment period for riders to become aware of, and begin using, the service).

The analysis in the previous section indicated that weekend service would be the most cost-effective step toward improving service on existing routes. Input from the public noted in Section 2.4 also supports this concept. This would expand access to transit without significant capital investment and at moderate operating cost. Weekend service on the four existing routes and the new SR50 service is slated to be implemented in 2017.

Paratransit demand in the county is likely to continue to increase as the county grows, even with efforts to accommodate as many TD patrons as possible on fixed routes. Additional hours of paratransit are likely to be needed each year of the TDP time frame.

Throughout the initial five year period, Lake County will need to continually address transit capital needs. In addition to the buses, bus stops and shelters needed for the new route, continued investment in existing stops and replacement of existing vehicles that have exceeded their useful life will need to continue. Additional paratransit vehicles will also be necessary to support growing demand.

8.2 Second Five Years

New and expanded services proposed for the second five years generally include those that were rated medium and several that were rated low. These proposed services should be re-evaluated as part of the next TDP major update in 2018. The suggested implementation years in the table can be considered a rough priority but were developed primarily for the purpose of developing the ten-year financial plan.

A second new South Lake County route, the Clermont-Minneola Circulator, is recommended for the second five years. The capital needs for this much shorter route would be less than that for the SR50 service. Nevertheless, some lead time would still be required, so this route is recommended for 2020.

The second five year improvements also include evening service and increased frequency on all routes. Therefore, ridership on those routes can be monitored over the first five years to assess the need for expanded service. After implementation of weekend service in the first five years, the second step would be evening service, especially where there are second shift jobs or retail jobs for transit riders. The last step would be doubling the frequency on all routes. This could attract new choice riders, but at a doubling of operating cost and with significant capital investment in new buses. Therefore, the second five year recommendation shows evening service in 2019 and the doubling of frequency in 2023.

As in the first five years, paratransit demand in the county is likely to continue to increase as the county grows, even with new fixed routes in place. Additional hours of paratransit service are likely to be needed each year. The county will also continue to need to address transit capital needs.

9 Ten-Year Financial Plan

The ten-year financial plan for Lake County Transit and Sumter County Shuttle services includes a ten-year assessment of operating and capital costs for maintaining existing services and implementing new and modified services according to the implementation timetable outlined in the previous section. It also includes estimates of future revenues for all sources and a comparison of costs and expected revenues that serve to highlight gaps in future funding.

9.1 Operating Costs

Year 2023 operating costs for each alternative were shown in Section 7. These were derived using a cost per revenue-hour developed from 2012 Lake County data. Separate unit costs were developed for paratransit and fixed route bus service[10].

Lake County Public Transportation operations are provided by a private contractor. As a result, there is a known cost per revenue-hour built into the operator's contract which covers the actual operation of the vehicle plus operator supervision. The contractor's cost in 2012 was $39.47 per revenue-hour for fixed route service, for a total of $953,296. In addition, Lake County incurred costs directly for fuel, maintenance, bus washes, county staff time and miscellaneous expenses in the amount of $808,459 for fixed route service, for an additional cost per hour of $33.47. The resulting cost per revenue-hour of $72.94 was used as the baseline 2012 cost used for assessing new and modified services. For Lake County paratransit services, the cost per hour developed from the County's 2012 National Transit Database submission, $44.12, as shown in Table 3.7, was used. A 3% annual inflation factor was assumed for all costs.

Table 9.1 shows the annual operating costs, by year, for existing, modified and new services. New and modified services are included as identified in the service implementation timetable shown in Table 8.1. Table 9.1 was developed using the FDOT Financial Planning Tool and uses the format specified by FDOT. Note that the table includes the Sumter County shuttles under existing services, so the totals are greater than that for Lake County services alone.

The table shows that the cost of maintaining existing Lake County services and Sumter County Shuttles is expected to increase, due to inflation, from $7.03M in 2014 to $9.11M in 2023. Improvements in fixed routes services that were identified in the implementation plan are expected to add $6.82M annually by 2023, while growth in paratransit service could add as much as $1.88M. As a result, total operating cost for all existing, new and modified services is projected to reach $17.8M in 2023.

9.2 Capital Costs

Capital costs for Lake County include vehicle replacement, fleet expansion for new services, facility improvements, parking improvements, ITS Technology, electronic fareboxes, safety and security measures and other capital improvements.

[10] Unit costs were not available for Sumter County Transit. Therefore, the Lake County paratransit operating cost per revenue hours was used to assess the cost of service improvements on Sumter County Shuttle services.

Table 9.1 – Annual Operating Costs for Transit Improvements

Service Type/Mode	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Maintain Existing Fixed Route	**$2,125,232**	**$2,188,989**	**$2,254,659**	**$2,322,299**	**$2,391,968**	**$2,463,727**	**$2,537,639**	**$2,613,768**	**$2,692,181**	**$2,772,946**	**$24,363,407**
Route #1	$1,100,682	$1,133,703	$1,167,714	$1,202,745	$1,238,828	$1,275,992	$1,314,272	$1,353,700	$1,394,311	$1,436,141	**$12,618,088**
Route #2	$255,516	$263,181	$271,076	$279,209	$287,585	$296,213	$305,099	$314,252	$323,679	$333,390	**$2,929,199**
Route #3	$255,516	$263,181	$271,076	$279,209	$287,585	$296,213	$305,099	$314,252	$323,679	$333,390	**$2,929,199**
Route #4	$235,860	$242,936	$250,224	$257,731	$265,463	$273,427	$281,630	$290,079	$298,781	$307,744	**$2,703,876**
Sumter County Villages Shuttle	$179,364	$184,745	$190,287	$195,996	$201,876	$207,932	$214,170	$220,595	$227,213	$234,029	**$2,056,208**
Sumter County Wildwood Circulator	$42,126	$43,390	$44,692	$46,032	$47,413	$48,836	$50,301	$51,810	$53,364	$54,965	**$482,930**
Sumter County Orange Shuttle	$56,168	$57,853	$59,589	$61,377	$63,218	$65,114	$67,068	$69,080	$71,152	$73,287	**$643,906**
Maintain Other Existing Services	**$4,902,144**	**$5,001,468**	**$5,151,512**	**$5,306,057**	**$5,465,239**	**$5,629,196**	**$5,798,072**	**$5,972,014**	**$6,151,175**	**$6,335,710**	**$55,712,589**
Maintain TD/ADA Paratransit Service	$4,766,160	$4,909,145	$5,056,419	$5,208,112	$5,364,355	$5,525,286	$5,691,045	$5,861,776	$6,037,629	$6,218,758	**$54,638,685**
Link 55 - Reduced Service	$60,822	$68,378	$70,429	$72,542	$74,718	$76,960	$79,269	$81,647	$84,096	$86,619	**$755,481**
Link 204 - Reduced Service	$75,162	$23,945	$24,663	$25,403	$26,165	$26,950	$27,759	$28,592	$29,449	$30,333	**$318,422**
Fixed Route Improvements	**$0**	**$607,341**	**$625,561**	**$1,435,786**	**$1,569,437**	**$2,619,086**	**$3,026,226**	**$3,117,013**	**$3,210,523**	**$6,820,255**	**$23,031,227**
Increase frequency on Route 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,077,105	**$1,077,105**
Increase frequency on Route 2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$333,390	**$333,390**
Increase frequency on Golden Triangle	$0	$0	$0	$0	$0	$0	$0	$0	$0	$666,780	**$666,780**
Increase frequency on Route 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$307,744	**$307,744**
Extend service hours on Route 1	$0	$0	$0	$0	$0	$273,427	$281,630	$290,079	$298,781	$307,744	**$1,451,661**
Extend service hours on Route 2	$0	$0	$0	$0	$0	$113,928	$117,346	$120,866	$124,492	$128,227	**$604,859**
Extend service hours on Golden Triangle	$0	$0	$0	$0	$0	$227,856	$234,691	$241,732	$248,984	$256,454	**$1,209,717**
Extend service hours on Route 4	$0	$0	$0	$0	$0	$113,928	$117,346	$120,866	$124,492	$128,227	**$604,859**
Add weekend service on Route 1	$0	$0	$0	$263,819	$271,734	$279,886	$288,282	$296,931	$305,839	$315,014	**$2,021,505**
Add weekend service on Route 2	$0	$0	$0	$87,940	$90,578	$93,295	$96,094	$98,977	$101,946	$105,005	**$673,835**
Add weekend service on Golden Triangle	$0	$0	$0	$175,879	$181,156	$186,591	$192,188	$197,954	$203,893	$210,009	**$1,347,670**
Add weekend service on Route 4	$0	$0	$0	$87,940	$90,578	$93,295	$96,094	$98,977	$101,946	$105,005	**$673,835**
New Route: SR50 Spine Service	$0	$607,341	$625,561	$644,328	$663,658	$683,567	$704,074	$725,197	$746,952	$769,361	**$6,170,039**
Increase frequency on SR50 Spine	$0	$0	$0	$0	$0	$0	$0	$0	$0	$769,361	**$769,361**
Extend service hours on SR50 Spine	$0	$0	$0	$0	$0	$182,285	$187,753	$193,386	$199,187	$205,163	**$967,774**
Add weekend service on SR50 Spine	$0	$0	$0	$175,879	$181,156	$186,591	$192,188	$197,954	$203,893	$210,009	**$1,347,670**
New Route: Clermont Minneola Circulator	$0	$0	$0	$0	$0	$0	$328,568	$338,425	$348,578	$359,035	**$1,374,606**
Increase frequency on Minneola Circulator	$0	$0	$0	$0	$0	$0	$0	$0	$0	$359,035	**$359,035**
Extend service hours on Minneola Circulator	$0	$0	$0	$0	$0	$91,142	$93,877	$96,693	$99,594	$102,581	**$483,887**
Add weekend service on Minneola Circulator	$0	$0	$0	$0	$90,578	$93,295	$96,094	$98,977	$101,946	$105,005	**$585,895**
TD/ADA Paratransit Service Growth	**$261,557**	**$404,106**	**$554,972**	**$714,526**	**$883,154**	**$1,061,257**	**$1,249,251**	**$1,447,570**	**$1,656,663**	**$1,876,999**	**$10,110,054**
Operating Costs - Existing Service	**$7,027,377**	**$7,190,457**	**$7,406,171**	**$7,628,356**	**$7,857,207**	**$8,092,923**	**$8,335,711**	**$8,585,782**	**$8,843,356**	**$9,108,656**	**$80,075,995**
Operating Costs - New Service	**$261,557**	**$1,011,446**	**$1,180,533**	**$2,150,312**	**$2,452,591**	**$3,680,342**	**$4,275,477**	**$4,564,582**	**$4,867,186**	**$8,697,254**	**$33,141,281**
Total Annual Operating Costs	**$7,288,934**	**$8,201,904**	**$8,586,704**	**$9,778,668**	**$10,309,798**	**$11,773,265**	**$12,611,188**	**$13,150,365**	**$13,710,542**	**$17,805,910**	**$113,217,276**

9.2.1 Vehicle Replacement

A vehicle inventory specifying the make, model and age of each vehicle in the fleet was provided by the Lake County Public Transportation Division. There are a total of 81 County-owned vehicles providing fixed-route and paratransit service. A summary of the vehicle inventory by vehicle type is shown in Table 9.2. Vehicles are grouped by FTA Vehicle Service Life category[11]. The FTA useful life standard for each vehicle category is shown and used to estimate the earliest acceptable retirement date for use of federal funds. These dates are used in determining the vehicle replacement schedule contained in the financial plan. Table 9.2 also notes whether each vehicle is currently in fixed route (FR) or paratransit (PT) service.

In determining the cost to replace each vehicle, the vehicles were grouped according to type and a single replacement cost was assigned to each category, rather than using an actual replacement cost for the specific make and model of vehicle. All vehicles in fixed route service were assumed to be replaced by fixed route buses. All sedans were assumed to be replaced by Special Needs Vans. Otherwise each vehicle was assumed to be replaced by a similar vehicle. The replacement cost, in 2012 dollars, for each type of vehicle is shown in Table 9.3. The table shows an actual recent replacement cost provided by Lake County, plus an estimated cost of all add-ons not typically included in the vehicle price. Add-ons for Lake County fixed route buses include mobile data terminals, automatic vehicle location, video camera system, automatic passenger counters, automatic annunciation system, and a farebox. Paratransit vehicles are equipped with mobile data terminals and automatic vehicle location.

9.2.2 Fleet Expansion

The new fixed routes identified for implementation in the ten year period would require three additional vehicles in peak service. The doubling of frequency on all routes in 2023 would require an additional ten. Expanding the peak vehicle requirement by these 13 vehicles would not necessitate the addition of any more spare vehicles, since LakeXpress currently has enough spares to support this growth.

Projected growth in the county is expected to generate an increase in paratransit demand that could potentially equal the 31% projected increase in travel in the county projected by 2023. If demand for paratransit increase at this rate, the existing paratransit fleet of 67 vehicles would need to be increased by 22 vehicles over the ten year period to create a total fleet of 89 vehicles. If the relative proportions of vehicle types are to be maintained, the expansion would consist of 13 large vehicles, six small vehicles and three vans. This could be reduced somewhat if new fixed routes attract some current TD riders.

9.2.3 Vehicle Acquisition Timetable and Costs

The number of vehicles of each type that would need to be purchased each year, for both replacement and expansion, is shown in Table 9.4 All 14 buses used in fixed route service would need to be replaced over the ten year period as they reach the end of their useful life. The largest purchase would be in 2016 when five buses would be replaced. The 13 fixed route buses for expanded service would be

[11] Lake County fixed route buses are considered Heavy Duty Small Transit Buses by the FTA. The large and small paratransit vehicles are considered medium-duty- and light-duty-buses, respectively. The distinction between medium and light duty vehicles is based primarily on size and capacity rather than the actual specifications of each specific vehicle.

Table 9.2 – Lake County Transit Vehicle Inventory Summary

Vehicle Type	Year	Make/Size/Type	Quantity	Service	Useful Life	Retirement
Fixed Route Bus	2006	Bluebird 30' Ultra LF	5	FR	10	2016
	2008	Eldorado 29' EZ Rider II	1	FR	10	2018
	2009	Eldorado 30' EZ Rider II	2	FR	10	2019
	2010	Eldorado 31' EZ Rider II	1	FR	10	2020
	2011	Eldorado 31' EZ Rider II	1	FR	10	2021
	2012	Eldorado 31' EZ Rider II	1	FR	10	2022
	2013	Eldorado 31' EZ Rider II	1	FR	10	2023
Large Paratransit	2005	Chevy 20' Champion	1	PT	7	2012
	2005	Ford 22' Cutaway	2	PT	7	2012
	2006	Chevy 23' Turtle	1	PT	7	2013
	2006	Int'l 31' Cutaway	1	FR	7	2013
	2007	Chevy 23' Cutaway	5	PT	7	2014
	2007	Chevy 25' Cutaway	1	PT	7	2014
	2008	Chevy 26' Cutaway	1	PT	7	2015
	2008	Int'l 29' Cutaway	1	FR	7	2015
	2009	Chevy 25' Cutaway	3	PT	7	2016
	2010	Chevy 23' Champion	2	PT	7	2017
	2010	Chevy 26' Challenger	2	PT	7	2017
	2010	Chevy 26' Champion	14	PT	7	2017
	2011	Chevy 23' Champion	2	PT	7	2018
	2011	Chevy 26' Cutaway	3	PT	7	2018
	2012	Ford 23' Cutaway	4	PT	7	2019
Small Parartransit	2003	Ford 22' Cutaway	2	PT	5	2008
	2005	Ford 18' Van	3	PT	5	2010
	2008	Chevy 21' General	2	PT	5	2013
	2009	Chevy 21' General	11	PT	5	2014
Sedan	2005	Chevy Impala Sedan	8	PT	4	2009

Table 9.3 – Vehicle Cost by Type (2012)

Vehicle Type	Vehicle Cost	Add-Ons	Total Cost
Fixed Route Bus	$380,000	$32,000	$412,000
Large Paratransit	$86,400	$9,000	$95,400
Small Parartransit	$67,000	$9,000	$76,000
Special Needs Van	$47,400	$9,000	$56,400

Table 9.4 – Capital Needs and Costs for Transit Improvements

Capital Needs	2012 Unit Cost	10-Year Need	2014		2015		2016		2017		2018		2019		2020		2021		2022		2023	
Vehicle Requirements																						
Fixed-Route Buses																						
Replacement Buses -Existing Service	$412,000	14	0	$0	2	$900,407	5	$2,318,548	0	$0	1	$491,950	2	$1,013,416	1	$521,909	1	$537,567	1	$553,694	1	$570,304
Increase frequency on Route 1	$412,000	3	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3	$1,710,913
Increase frequency on Route 2	$412,000	1	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	1	$570,304
Increase frequency on Golden Triangle	$412,000	2	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	2	$1,140,609
Increase frequency on Route 4	$412,000	1	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	1	$570,304
New Route: SR50 Spine Service	$412,000	2	0	$0	2	$900,407	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Increase frequency on SR50 Spine	$412,000	2	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	2	$1,140,609
New Route: Clermont Minneola Circulator	$412,000	1	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	1	$521,909	0	$0	0	$0	0	$0
Increase frequency on Minneola Circulator	$412,000	1	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	1	$570,304
Total		27	0	**$0**	4	**$1,800,814**	5	**$2,318,548**	0	**$0**	1	**$491,950**	2	**$1,013,416**	2	**$1,043,819**	1	**$537,567**	1	**$553,694**	11	**$6,273,348**
Paratransit Vehicles																						
Replacement - Large	$95,400	55	5	$506,049	6	$625,477	3	$322,121	18	$1,990,705	5	$569,563	4	$469,320	0	$0	5	$622,377	6	$769,258	3	$396,168
Replacement - Small	$76,600	36	10	$812,649	8	$669,623	0	$0	0	$0	0	$0	10	$942,083	8	$776,277	0	$0	0	$0	0	$0
Replacement - Special Needs Vans	$56,400	24	4	$239,339	4	$246,519	0	$0	0	$0	4	$269,378	4	$277,460	0	$0	0	$0	4	$303,188	4	$312,283
Service Growth - Large	$95,400	18	3	$303,630	1	$104,246	1	$107,374	1	$110,595	1	$113,913	2	$234,660	1	$120,850	4	$497,901	2	$256,419	2	$264,112
Service Growth - Small	$76,600	9	2	$162,530	0	$0	1	$86,214	0	$0	1	$91,464	0	$0	1	$97,035	2	$199,891	1	$102,944	1	$106,032
Service Growth - Special Needs Vans	$56,400	4	1	$59,835	0	$0	0	$0	1	$65,383	0	$0	0	$0	0	$0	2	$147,178	0	$0	0	$0
Total		146	25	**$2,084,032**	19	**$1,645,865**	5	**$515,708**	20	**$2,166,683**	11	**$1,044,318**	20	**$1,923,523**	10	**$994,161**	13	**$1,467,348**	13	**$1,431,809**	10	**$1,078,595**
Other Capital Improvements																						
Bus Stops on New Routes	$4,000	142	0	$0	87	$380,269	0	$0	0	$0	0	$0	0	$0	55	$278,689	0	$0	0	$0	0	$0
Shelters on New Routes	$14,000	21	0	$0	13	$198,876	0	$0	0	$0	0	$0	0	$0	8	$141,878	0	$0	0	$0	0	$0
Fareboxes on Existing Fleet	$13,196	7	7	$98,000	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Accessibility Improvements at Existing Stops			1	$41,942	1	$41,942	1	$41,942	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Other Transit Infrastructure			1	$250,000	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Total				**$389,942**		**$621,087**		**$41,942**		**$0**		**$0**		**$0**		**$420,568**		**$0**		**$0**		**$0**
Total Vehicle Cost - Maintain Existing				**$1,558,038**		**$2,442,026**		**$2,640,669**		**$1,990,705**		**$1,330,891**		**$2,702,279**		**$1,298,186**		**$1,159,943**		**$1,626,139**		**$1,278,755**
Total Vehicle Cost - New Service				**$525,994**		**$1,004,653**		**$193,588**		**$175,978**		**$205,377**		**$234,660**		**$739,794**		**$844,971**		**$359,363**		**$6,073,188**
Total Vehicle Cost				**$2,084,032**		**$3,446,680**		**$2,834,256**		**$2,166,683**		**$1,536,268**		**$2,936,939**		**$2,037,980**		**$2,004,914**		**$1,985,502**		**$7,351,943**
Total Other Transit Infrastructure Cost				**$389,942**		**$621,087**		**$41,942**		**$0**		**$0**		**$0**		**$420,568**		**$0**		**$0**		**$0**
Total Capital Cost				**$2,473,974**		**$4,067,767**		**$2,876,198**		**$2,166,683**		**$1,536,268**		**$2,936,939**		**$2,458,547**		**$2,004,914**		**$1,985,502**		**$7,351,943**

added when new routes are added in 2015 and 2020, with the largest group added when headways would be doubled in 2023.

The 67 vehicles in the current paratransit fleet would all need to be replaced, with many needing replacement in the first year, since nearly half the fleet has reached its useful life. To spread costs more evenly, this initial replacement of vehicles was spread over the first two years of the plan. The 22 additional vehicles needed for expansion would be phased in over the ten years. While the fleet would increase to 89 vehicles over the time period of the TDP, the plan includes purchase of 146 paratransit vehicles. This is because these vehicles have a useful life of 4-7 years and many will need to be replaced twice in ten years.

Unlike operating costs, vehicle acquisition costs tend to vary greatly from year to year due to vehicle replacement cycles and service expansion plans. The table shows that annual vehicle costs would vary considerably; $7.3M in 2023 when frequencies would be doubled and reaching $3.4M in 2015 when new service would coincide with replacement of five fixed route buses. In most other years, however, vehicle acquisition costs would range between $1.5M and $2.9M.

9.2.4 Other Capital Improvements

There are several other capital costs associated with maintaining and expanding transit service. Each new route will require the installation of bus stops and shelters. The number and spacing of stops can vary from route to route. For the SR50 route, an average stop spacing of three per mile in each direction was assumed since the route would travel through some less developed areas where there would be few stops. The Clermont-Minneola Circulator was assumed to have five stops per mile. The number of stops with shelters was estimated to be similar to the current share of 15%. Each new stop was estimated to cost $4,000 with each shelter costing and additional $10,000 (or $14,000 for a stop with a shelter), similar to costs used in the 2012 *ADA Transition Plan* for the Lake County Public Transportation Division. These costs are included in the table in the year that each new route would begin service.

The 2012 ADA Transition Plan addresses improved accessibility of existing bus stops in Central Lake County. It states that the County plans to install 27 shelters or stops Lake County, with an approximate completion date of December 2016. At the time the Transition Plan was drafted, the total estimated cost for all improvements was just under $310,000. To date, 15 shelters have been installed, costing approximately $172,000. For the County to stay on schedule to complete the improvements by December of 2016, the County would need to spend an additional $136,312, divided between the remainder of 2013, and then equally among calendar years 2014-2016. The cost for the remainder of 2013 is estimated at $10,486; the cost for each subsequent year through 2016 is $41,942. This figure is included in Table 9.4 under "accessibility improvements at existing stops.

LakeXpress also plans to upgrade its fareboxes. While the cost of new buses includes upgraded fareboxes, LakeXpress intends to replace the fareboxes on seven of the existing fleet in 2014, at a cost of $14,000 each.

Lake County is also in the process of developing property next to its Public Transportation Division headquarters building in Fruitland Park. The former Florida Highway Patrol Building at 2440 US 441 has been renovated and now houses the administrative functions of the Public Transportation Division, including limited maintenance and vehicle storage. The County has expressed a willingness to reserve part of the space for a passenger transfer facility that would include passenger amenities such as

restrooms and an indoor waiting area. The county has estimated the cost to complete the facility at $250,000. Other options for locating a transfer facility are also being considered. Completion of a new transfer facility is shown as a year one (2014) project.

9.3 Revenue Sources and Estimates

Both Lake County and Sumter County Transit rely on multiple sources of federal, state and local funding as well as fare revenues and revenues from non-government sources. The various federal funding sources available have been in flux recently as the latest federal transportation authorization legislation, MAP-21, takes effect and changes in urbanized area boundaries after the 2010 census impact funding eligibility. Lake County will also be requesting that the cities help off-set the cost of transit services.

The elimination, under MAP-21, of specific funding levels for the Jobs Access and Reverse Commute (JARC) Program (Section 5316) and the New Freedoms Program (Section 5317) impacts Sumter County Transit, which has made use of both of these programs. JARC projects may still be funded using a share of a recipients' Section 5307 Urbanized Area Formula Grants or Section 5311 Rural Area Formula Grants. New Freedoms projects may be funded under the Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program.

Changes in urbanized area boundaries resulting from the 2010 census also impact federal funding. The Lady Lake-The Villages urbanized area now includes much of the area served by Sumter County's shuttle routes. This expansion makes those services eligible to be considered for Section 5307 urbanized area formula funding.

Table 9.5 and Table 9.6 show current (2013) and projected revenues by source for Lake County and Sumter County Transit, respectively. Projections for most line items were made by assuming a 2% annual increase. Exceptions to this method were made for some federal funding sources and for Lake County fare revenues.

Lake and Sumter County will no longer receive Section 5316 and Section 5317 federal funding due to the elimination of those as distinct programs. Activities under those programs may be funded using the County's 5311 and 5310 funding though it is unclear whether any increase in those funds would be available. Former Section 5316 projects would also be eligible for 5307 funding if they are within the urbanized area (essentially The Villages and Wildwood). Therefore, no future funding is shown for 5316 and 5317 for Sumter County.

Section 5307 money may be used to fund 80% of capital projects or 50% of transit operations. Section 5307 funding is available for the two urbanized areas – Leesburg-Eustis-Tavares, which is almost entirely within Lake County, and Lady Lake-The Villages, which includes parts of Sumter, Marion and Lake Counties. Year 2013 5307 funds were approximately $1.98M for Leesburg-Eustis-Tavares and $1.42M for Lady Lake-The Villages.

Table 9.6 assumes that Sumter County funds 50% of their shuttle operations, estimated at about $139,000, with 5307 funds beginning in 2014. (A larger share of 5307 funds could be made available to Sumter County if additional eligible services or capital projects can be identified.) The remainder of the 5307 funds for both urbanized areas is allocated to Lake County in Table 9.5. The 2013 amount used for capital expenses is increased by 2% annually in the table, while all remaining 5307 funds are listed as operating revenue.

Table 9.5 – Lake County Transit Projected Revenue

	2013 Actual	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2014-2023
Annual Operating Revenue												
Federal												
FTA 5307	$1,462,344	$2,242,156	$2,285,611	$2,329,893	$2,375,018	$2,421,001	$2,467,859	$2,515,606	$2,564,261	$2,613,839	$2,664,357	$24,479,599
FTA 5307 (Orlando)		$404,855	$412,952	$421,211	$429,636	$438,228	$446,993	$455,933	$465,052	$474,353	$483,840	$4,433,053
FTA 5311	$491,320	$501,146	$511,169	$521,393	$531,821	$542,457	$553,306	$564,372	$575,660	$587,173	$598,916	$5,487,413
State												
Public Transit Block Grant	$760,943	$776,162	$791,685	$807,519	$823,669	$840,143	$856,945	$874,084	$891,566	$909,397	$927,585	$8,498,756
Medicaid Non-Emergency Transportation	$916,228	$934,553	$953,244	$972,308	$991,755	$1,011,590	$1,031,822	$1,052,458	$1,073,507	$1,094,977	$1,116,877	$10,233,090
CTD	$565,945	$577,264	$588,809	$600,585	$612,597	$624,849	$637,346	$650,093	$663,095	$676,357	$689,884	$6,320,879
Medicaid Waiver Services	$136,000	$138,720	$141,494	$144,324	$147,211	$150,155	$153,158	$156,221	$159,346	$162,533	$165,783	$1,518,945
Local Funding Sources												
Local	$1,809,818	$1,846,014	$1,882,935	$1,920,593	$1,959,005	$1,998,185	$2,038,149	$2,078,912	$2,120,490	$2,162,900	$2,206,158	$20,213,342
Services Revenues												
Mid Florida/DOEA	$180,000	$183,600	$187,272	$191,017	$194,838	$198,735	$202,709	$206,763	$210,899	$215,117	$219,419	$2,010,369
Paratransit Copays	$110,000	$112,200	$114,444	$116,733	$119,068	$121,449	$123,878	$126,355	$128,883	$131,460	$134,089	$1,228,559
Fixed Route Fares	$160,401	$167,314	$279,160	$291,374	$363,093	$378,595	$432,363	$500,674	$521,444	$542,846	$699,744	$4,176,606
Stretcher Vehicle Inspections	$1,500	$1,530	$1,561	$1,592	$1,624	$1,656	$1,689	$1,723	$1,757	$1,793	$1,828	$16,753
Other Revenues												
Reimbursements	$7,538	$7,689	$7,843	$7,999	$8,159	$8,323	$8,489	$8,659	$8,832	$9,009	$9,189	$84,190
Motor Fuel Tax Rebate	$110,000	$112,200	$114,444	$116,733	$119,068	$121,449	$123,878	$126,355	$128,883	$131,460	$134,089	$1,228,559
Advertising Revenue	$11,400	$11,628	$11,861	$12,098	$12,340	$12,587	$12,838	$13,095	$13,357	$13,624	$13,897	$127,323
Total Operating Revenues	$6,723,437	$8,017,031	$8,284,483	$8,455,373	$8,688,900	$8,869,401	$9,091,422	$9,331,305	$9,527,030	$9,726,836	$10,065,655	$90,057,436
Annual Capital Revenue												
Federal												
FTA 5307	$1,064,997	$1,086,297	$1,108,023	$1,130,183	$1,152,787	$1,175,843	$1,199,360	$1,223,347	$1,247,814	$1,272,770	$1,298,225	$11,894,648
FTA 5310	$521,902	$532,340	$542,987	$553,847	$564,924	$576,222	$587,746	$599,501	$611,491	$623,721	$636,196	$5,828,975
State	$65,700	$67,014	$68,354	$69,721	$71,116	$72,538	$73,989	$75,469	$76,978	$78,518	$80,088	$733,785
Local	$65,289	$66,595	$67,927	$69,285	$70,671	$72,084	$73,526	$74,997	$76,496	$78,026	$79,587	$729,194
Total Capital Revenues	$1,717,888	$1,752,246	$1,787,291	$1,823,036	$1,859,497	$1,896,687	$1,934,621	$1,973,313	$2,012,780	$2,053,035	$2,094,096	$19,186,602

Table 9.6 – Sumter County Transit Projected Revenue

	2013 Actual	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2014-2023
Annual Revenue												
Federal												
FTA 5307		$138,829	$142,994	$147,284	$151,703	$156,254	$160,941	$165,769	$170,743	$175,865	$181,141	$1,591,522
FTA 5310	$145,044	$147,945	$150,904	$153,922	$157,000	$160,140	$163,343	$166,610	$169,942	$173,341	$176,808	$1,619,955
FTA 5311	$279,045	$284,626	$290,318	$296,125	$302,047	$308,088	$314,250	$320,535	$326,946	$333,485	$340,154	$3,116,574
FTA 5316	$83,338	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FTA 5317	$105,377	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
State												
Service Development Grant	$45,671	$46,584	$47,516	$48,466	$49,435	$50,424	$51,433	$52,461	$53,510	$54,581	$55,672	$510,082
Medicaid Non-Emergency Transportation	$264,465	$269,754	$275,149	$280,652	$286,265	$291,991	$297,831	$303,787	$309,863	$316,060	$322,381	$2,953,734
CTD	$215,554	$219,865	$224,262	$228,748	$233,323	$237,989	$242,749	$247,604	$252,556	$257,607	$262,759	$2,407,461
Community Care for Elderly/Title III	$38,115	$38,877	$39,654	$40,447	$41,256	$42,082	$42,923	$43,782	$44,657	$45,550	$46,461	$425,691
Local Funding Sources	$517,334	$527,681	$538,234	$548,999	$559,979	$571,179	$582,602	$594,254	$606,139	$618,262	$630,627	$5,777,957
Services Revenues	$5,162	$5,265	$5,370	$5,478	$5,587	$5,699	$5,813	$5,929	$6,048	$6,169	$6,292	$57,648
Other Revenues	$237	$241	$246	$251	$256	$261	$267	$272	$277	$283	$289	$2,644
Total Operating Revenues	$1,699,340	$1,679,667	$1,714,649	$1,750,372	$1,786,852	$1,824,106	$1,862,151	$1,901,003	$1,940,681	$1,981,202	$2,022,585	$18,463,268

Lake County also receives a share of 5307 funding from the Orlando urbanized area since parts of south Lake County are included in that UZA.

The other line item for which specific estimates were made is Lake County fare revenue. With several service modifications and new services included in the implementation plan and in the projected operating costs, revenue estimates should be consistent with the implementation schedule and ridership estimates. For existing services, annual ridership was interpolated between 2012 actual and 2023 estimates. For modifications to the existing services, 2023 ridership estimates were scaled back proportionally to the base ridership estimates and were included beginning with the year shown in the implementation plan. For new services, 2023 ridership estimates were scaled back using the overall county growth rate and were included beginning with the year shown in the implementation plan. Revenue was estimated from ridership assuming the current average fare adjusted for 2% annual inflation. The resulting estimates show fare revenues increasing from $160,000 in 2013 to $700,000 by 2023.

9.4 Ten-Year Financial Summary

While future capital costs were estimated only for Lake County Transit in Section 9.2, operating costs estimated in Section 9.1 covered all Lake County services, *plus* the Sumter County Shuttles. Lake and Sumter County operating costs must be separated in order to understand the future financial outlook for Lake County.

Table 9.7 first separates the operating costs for the two counties. Sumter County operating costs are estimated at $278,000 in 2014 and are expected to grow to $362,000 by 2023 with no expansion of service. Lake County annual operating costs are expected to grow from $7.01M in 2014 to $17.4M in 2023 with two new routes, expanded paratransit and the expansion of service on all local routes to provide more frequent weekday service, evening service and weekend service.

The table shows that much of the increase in Lake County operating costs is due to new and expanded services, which would account for about half of the 2023 operating costs. While operating revenues can cover operating costs in the first few years, 2023 revenues of $10.1M, however, are only expected to cover about 58% of the operating expenses, highlighting the need to explore new funding sources if Lake County Transit is expected to grow.

Capital expenditures from year to year can be more uneven, depending on vehicle replacement needs and service expansion. Ten year total revenues for capital of $19.2M are not expected to cover the $29.9M need. Moderate to significant shortfalls would be felt in six of the first seven years when the cost of vehicle replacement plus the cost of vehicles for new service would exceed the available capital funds. A significant shortfall would also occur in 2023 with the doubling of service. Projected operating surpluses in the first three years could offset a portion of the capital shortfall; however a significant capital deficit would still exist.

9.5 Alternative Transit Financing Strategies

The projected shortfall in funding suggests that Lake County seek new funding sources. In addition to the grant sources listed above, additional federal and state sources of money are available. There are also cost-savings strategies that could be implemented at a local level.

Table 9.7 – Ten-Year Lake County Transit Financial Summary

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Annual Operating Costs - Lake and Sumter											
Total Operating Costs	$7,288,934	$8,201,904	$8,586,704	$9,778,668	$10,309,798	$11,773,265	$12,611,188	$13,150,365	$13,710,542	$17,805,910	$113,217,276
Sumter County	$277,659	$285,988	$294,568	$303,405	$312,507	$321,882	$331,539	$341,485	$351,730	$362,281	$3,183,044
Lake County	$7,011,275	$7,915,915	$8,292,136	$9,475,263	$9,997,291	$11,451,383	$12,279,649	$12,808,880	$13,358,812	$17,443,628	$110,034,231
Lake County Annual Operating Costs											
Lake County	$7,011,275	$7,915,915	$8,292,136	$9,475,263	$9,997,291	$11,451,383	$12,279,649	$12,808,880	$13,358,812	$17,443,628	$110,034,231
Operating Costs - Existing Service	$6,749,718	$6,904,469	$7,111,603	$7,324,951	$7,544,700	$7,771,041	$8,004,172	$8,244,297	$8,491,626	$8,746,375	$76,892,951
Operating Costs - New Service	$261,557	$1,011,446	$1,180,533	$2,150,312	$2,452,591	$3,680,342	$4,275,477	$4,564,582	$4,867,186	$8,697,254	$33,141,281
Operating Revenues	$8,017,031	$8,284,483	$8,455,373	$8,688,900	$8,869,401	$9,091,422	$9,331,305	$9,527,030	$9,726,836	$10,065,655	$90,057,436
Operating Surplus (Defecit)*	$1,005,756	$368,568	$163,237	($786,363)	($1,127,890)	($2,359,961)	($2,948,344)	($3,281,849)	($3,631,976)	($7,377,973)	($19,976,796)
Lake County Annual Capital Costs											
Lake County	$2,473,974	$4,067,767	$2,876,198	$2,166,683	$1,536,268	$2,936,939	$2,458,547	$2,004,914	$1,985,502	$7,351,943	$29,858,736
Vehicles	$2,084,032	$3,446,680	$2,834,256	$2,166,683	$1,536,268	$2,936,939	$2,037,980	$2,004,914	$1,985,502	$7,351,943	$28,385,197
Other Transit Infrastructure	$389,942	$621,087	$41,942	$0	$0	$0	$420,568	$0	$0	$0	$1,473,539
Capital Revenues	$1,752,246	$1,787,291	$1,823,036	$1,859,497	$1,896,687	$1,934,621	$1,973,313	$2,012,780	$2,053,035	$2,094,096	$19,186,602
Capital Surplus (Defecit)*	($721,728)	($2,280,476)	($1,053,162)	($307,186)	$360,419	($1,002,318)	($485,234)	$7,865	$67,533	($5,257,847)	($10,672,133)

Federal Sources

Transportation Development Credit: Formerly known as Toll Revenue Credits, agencies can use local toll revenue as a soft match for capital, and then capitalize some maintenance costs. In FY2012 the Florida Turnpike System earned toll revenues of approximately $608.8 million, which reflects an increase of nearly $9 million, or 1.5 percent, compared to FY11. In FY2013 toll revenues are expected to grow to $731 million as a result of a statutorily required system-wide toll rate increase. Lake County should determine their appropriate share of revenue credit.

State (FDOT) Programs

Transit Corridor Funds Program: Capital or operating assistance to alleviate congestion or other mobility issues in a specific corridor- up to 100% of cost.

Transit Service Development Program: Innovative techniques to improve or expand public transit services.

Park-and-Ride Lot Program: Purchase/lease, construction, promotion or monitoring activities are eligible uses. FDOT will assist in the funding for a potential lot development based on need/demand. Shared use (leased) lots are also an option.

County Incentive Grant Program: Improvements on state highway system that can include transit funding.

Transportation Regional Incentive Program (TRIP): Funding provided to improve regional transportation facilities, such as Park-and-Ride lots.

Cost Saving Strategies and Non-Government Funding

In addition to new government revenue sources, transit agencies can implement cost saving strategies and/or seek funding from the private sector or non-government entities. A few strategies that have been suggested for Lake County include:

- Use of alternative fuel types; natural gas (CNG) costs about $1.06 per diesel gallon equivalent, and low-cost bio-diesel may also be available locally.
- Increased efficiency/vehicle speed
- Advertising opportunities
- Waste oil recycling
- Automatic trash receptacles at shelters/facilities
- Special events targeted towards ridership growth (shopping bus, lunch bus, etc.)
- Private sector partnerships (hospitals, large employment centers, developers)
- Public sector partnerships (schools, government centers)

TranSystems

EXPERIENCE | Transportation