TECHNICAL REPORT NO. 7

APRIL 2011

ADOPTED OCTOBER 27, 2010

Development of the Cost Feasible Plan

Submitted to:
Metropolitan Transportation Planning Organization
for the Gainesville Urbanized Area

Submitted by:
Renaissance Planning Group

TABLE OF CONTENTS

LIST OF TABLES

LIST OF MAPS

LIST OF FIGURES

INTRODUCTION AND OVERVIEW

Following adoption of the 2035 Needs Plan by the Metropolitan Transportation Planning Organization (MTPO) for the Gainesville Urbanized Area in August 2010, the MTPO staff and consultant team developed a recommended Cost Feasible 2035 Long Range Transportation Plan. This plan was presented to the MTPO's advisory committees for review and recommendations, and subsequently presented to the MTPO for official adoption at a public hearing. Following a meeting to discuss the cost feasible plan, the MTPO adopted the 2035 Long Range Transportation Plan on October 27, 2010, reflecting an estimate of project costs by year of expenditure and the anticipated revenues available from various sources to fund selected projects. The adopted Cost Feasible Plan builds upon the input from the public and the MTPO's advisory committees for a financially constrained list of transportation projects to be completed through the year 2035. This report describes the development of the 2035 Cost Feasible Transportation Plan.

The Cost Feasible Plan reflects projected transportation revenues available to the MTPO and local governments from federal, state and local sources that are anticipated to accumulate in five-year increments to the year 2035. Costs for all transportation projects were developed by year of expenditure for specific phases to reflect inflation and match the timing of projected revenues.

The Cost Feasible Plan includes several components: (1) Strategic Intermodal System (SIS) projects as defined by the Florida Department of Transportation's 2035 SIS Cost Feasible Plan; (2) Roadway capacity and operational projects in the Gainesville Urbanized Area funded with state/federal revenues; (3) Local transportation projects funded using transportation impact fees, gas taxes and developer mitigation; (4) non-roadway capacity projects using federal enhancement revenues; and (5) transit/multimodal corridor feasibility studies and funding toward development of a Bus Rapid Transit network and a new transit maintenance facility to accommodate needed growth in transit service. Due to the lack of defined local funding sources for transit service expansion, the adopted plan does not include any local bus service expansion or operating cost for the planned Bus Rapid Transit network.

Overall, the adopted plan entails a balanced approach to development of a fiscally constrained multimodal transportation system by combining funding sources to help achieve the MTPO's adopted vision, goals and objectives, as well as project priorities defined through the 2035 planning horizon.

DEVELOPMENT OF PROJECT COSTS

The total estimated cost for projects in the 2035 Needs Plan is $981.5 million. The estimates were developed with techniques that reflect anticipated inflation rates over time. Specifically, costs were developed according to federal and state guidance to metropolitan planning organizations that project cost estimates in the Long Range Transportation Plan to reflect the anticipated year of expenditure of funds associated with various project phases (Project Development and Environmental studies, right-of-way acquisition, preliminary engineering/design and construction).

Working with the Florida Department of Transportation, Alachua County and the City of Gainesville, the first step entailed development of current year 2010 project costs based on the project type, location and length. Where available, the 2010 cost estimate used a more refined project cost developed by FDOT or one of the local governments; otherwise, the cost estimates were developed from statewide average costs for various types of projects as reflected in the Long Range Estimates (LRE) for projects, produced by FDOT. The resulting costs were reviewed and refined as necessary by the MTPO's Technical Advisory Committee based on local information and costs developed for specific projects through local planning processes. Several local governments provided updated cost estimates for projects, and other costs were revised based on a review of existing plans, PD&E studies, and other project information. The current year 2010 project costs for all Needs Plan projects are shown in **Tables 1-3**, except for the bicycle and pedestrian projects, which were developed by MTPO staff for the cost feasible priorities only.

Table 1: Year 2035 Transit Needs Plan Project Costs

Facility/Location	From/To	Type	Length	Project Cost 2010 $'s (in millions)
Santa Fe to Airport (via Oaks Mall, Archer Road, Downtown)		Bus Rapid Transit (Dedicated Lane)	16.3	$ 110.5
Santa Fe to Newberry Road (NW 83rd St, NW 76th Blvd)		Bus Rapid Transit (Dedicated Lane)	3.7	$ 22.1
Newberry Road (NW 76th Blvd to NW 62nd Blvd		Bus Rapid Transit (Dedicated Lane)	0.9	$ 5.5
NW 62nd Blvd / SW 37th Blvd (Newberry Rd to Archer Rd)		Bus Rapid Transit (Dedicated Lane)	3.9	$ 23.2
Archer Rd (SW 37th Blvd to US 441)		Bus Rapid Transit (Dedicated Lane)	2.3	$ 13.6
Depot Ave / Waldo Rd (US 441 to Airport)		Bus Rapid Transit (Dedicated Lane)	5.5	$ 33.0
Haile Village Center to Butler Plaza Intermodal Center		Bus Rapid Transit (Dedicated Lane)	6.5	$52.0
Jonesville to Butler Plaza Intermodal Center (via Oaks Mall)		Bus Rapid Transit (Dedicated Lane)	14.2	$ 98.4
Northwood Village to UF/ 2nd Ave S (via 13th Street)		Bus Rapid Transit (Dedicated Lane)	5.3	$ 44.9
Eastside Activity Center (@ SE 43rd St) to Downtown RTS Transfer Center		Bus Rapid Transit (Dedicated Lane)		$ 13.0
Downtown/UF		Streetcar	5.4	$ 49.5
Urban Village/UF		Streetcar	7.1	$ 59.6
High Springs to US 441/Northwood Village Intermodal Center		Express Bus Route	13.2	$ 10.1
Archer to Butler Plaza Intermodal Center (via Archer Road)		Express Bus Route	7.2	$ 10.1
Newberry to Newberry Road Intermodal Center (via Newberry Road)		Express Bus Route	6.8	$ 10.1
Waldo to Airport Area Intermodal Center (via Waldo Road/US301)		Express Bus Route	10.2	$ 10.1
Hawthorne to Eastside Intermodal Center (via Hawthorne Road)		Express Bus Route	12.2	$ 10.1

Facility/Location	From/To	Type	Length	Project Cost 2010 $'s (in millions)
Existing RTS Fixed Route Bus (increased frequency)		Fixed Route Bus	5 Routes	$ 21.1
Planned RTS Fixed Route Bus (new fixed route service)		Fixed Route Bus	6 Routes	$ 23.9
Fixed Route Bus from Santa Fe to Airport on NW/NE 39th Ave		Fixed Route Bus		$ 3.9
I-75 and Newberry Road (Oaks Mall)		Park & Ride Lot		$ 0.2
Newberry Road and Ft. Clarke Boulevard		Park & Ride Lot		$ 0.2
US 441 and Williston Road		Park & Ride Lot		$ 0.2
SE Hawthorne Road and SE 24th Street/SE 8th Ave		Park & Ride Lot		$ 0.2
Newberry Road and CR 241 (Jonesville)		Intermodal Center/Park & Ride Lot		$ 0.4
Butler Plaza Area		Intermodal Center/Park & Ride Lot		$ 0.4
Archer Road and Tower Road (SW 75th Street)		Intermodal Center/Park & Ride Lot		$ 0.4
Eastside Activity Center (SE 43rd Street and SE Hawthorne Road)		Intermodal Center/Park & Ride Lot		$ 0.4
NW 34th Street and US 441 (Northwood Village)		Intermodal Center/Park & Ride Lot		$ 0.4
NW 39th Avenue and I-75 (Springhills Area)		Intermodal Center/Park & Ride Lot		$ 0.4
NE 39th Avenue and Waldo Road (Airport Area)		Intermodal Center/Park & Ride Lot		$ 0.4
Downtown Intermodal Center (RTS Transfer Center)		Intermodal Center/Park & Ride Lot		$ 0.4
RTS Maintenance Facility		Transit Maintenance		$ 66.0

Facility/Location	From/To	Type	Length	Project Cost 2010 $'s (in millions)
		Facility		
Multimodal Regional Transportation Center (Archer Rd/SW 16th Ave)		Multimodal Regional Transit Center		$ 3.4
Bus Replacement Program				$ 8.0
Total Transit Needs				$609.2

Table 2: Year 2035 Roadway Needs Plan Project Costs

Facility/Location	From/To	Type	Length	Project Cost 2010 $'s (in millions)
Airport Access Road	Waldo Rd to Airport	New 2 lane road	0.5	$ 2.4
Archer Road	West of I-75 to Archer (city limits)	Add 2 lanes (2 to 4)	7.0	$ 45.4
Hull Road Extension	SW 34th St to SW 43rd St Ext	New 2 lane road	1.1	$ 4.8
Radio Road Extension	SW 34th St. to Hull Rd Extension	New 2 lane road	1.0	$ 4.5
Springhills Boulevard	NW 83rd St Ext to NW 115th St	New 2 lane road	2.3	$ 20.6
Tower Road	SW 8th Avenue to Archer Road	Reconstruct (2 lane upgrade)	3.2	$ 13.4
University Avenue	NW 34th St to Waldo Rd	Multimodal Emphasis	3.7	$ 20.0
Waldo Road Multiway Boulevard	University Avenue to NE 39th Street	New 2 lane road	2.6	$ 15.9
Williston Road	West of I-75 to SW 62nd Ave	Add 2 lanes (2 to 4)	0.8	$ 5.0
NE 39th Avenue (SR 222)	Gainesville Regional Airport to NE 27th Ave	Add 2 lanes (2 to 4)	1.7	$ 10.8
NW 122nd Street Extension	NW 46th Ave to Newbery Rd	New 2 lane road	2.2	$ 9.8

Facility/Location	From/To	Type	Length	Project Cost 2010 $'s (in millions)
NW 23rd Avenue	NW 55th St to NW 98th St	Add 2 lanes (2 to 4)	2.7	$ 17.6
NW 23rd Avenue Extension	NW 98th St to NW 143rd St (CR 241)	New 2 lane road	3.1	$ 24.1
NW 34th Street	NW 16th Ave to US 441	Add turn lanes	3.7	$ 6.0
NW 34th Street/SR121	NW 58th Ave to NW 67th Place	Add 2 lanes (2 to 4)	0.7	$ 4.5
NW 76th Boulevard Extension	NW 76th Blvd to Ft Clarke Blvd.	New 2 lane road	0.6	$ 2.8
NW 83rd Street Extension	NW 39th St to Millhopper Rd	New 2 lane road	1.5	$ 6.7
NW/SW 13th Street	SW 16th Ave to NW 23rd Ave	Multimodal Emphasis	2.6	$ 10.0
SE 4th Avenue	Depot Ave to Williston Rd	Reconstruct (2 lane upgrade)	0.7	$ 0.8
SE 16th Avenue	Main St to Williston Rd	Add 2 lanes (2 to 4)	0.6	$ 12.5
SW 8th Avenue Extension	SW 122nd St to SW 143rd (CR 241)	New 2 lane road	1.4	$ 6.4
SW 20th Avenue	SW 34th Ave to SW 43rd St	Add turn lanes	1.0	$ 1.5
SW 20th Avenue	SW 43rd St to SW 62nd Blvd	Add 2 lanes (2 to 4)	0.6	$ 4.0
SW 23rd Terrace Extension to University of Florida campus	Hull Rd to Archer Rd	New 2 lane road	0.3	$ 1.1
SW 45th Street	Archer Rd to I-75	New 2 lane road	0.6	$ 2.7
SW 47th Street Extension	SW 47th St to SW 40th Place	New 2 lane road	0.45	$ 2.0
SW 57th Road	SW 75th Street to SW 63rd Boulevard	New 2 lane road	2.24	$ 10.1

Facility/Location	From/To	Type	Length	Project Cost 2010 $'s (in millions)
SW 62nd Boulevard*	Newberry Rd to SW 20th Ave	Add 2 lanes (2 to 4)	1.7	$ 15.9
SW 62nd Boulevard Extension*	SW 20th Ave to Windmeadows Blvd	New 4 lane road	1.0	$ 75.1
SW 63rd/SW 67th Avenue	SW 24th Ave to Archer Road	New 2 lane road	1.9	$ 15.9
I-75 @ SR 222/39th Avenue		SIS Interchange Modification		$ 1.6
I-75 @ SR 24/Archer Road		SIS Interchange Modification		$ 1.6
I-75 @ SR 26/Newberry Road		SIS Interchange Modification		$ 1.6
I-75 @ SR 331/Williston Road		SIS Interchange Modification		$ 1.6
Total Roadway Needs				$ 372.3

Table 3: Year 2035 Bicycle and Pedestrian Needs Plan Projects

Braid	Segment/Description
ARCHER[2]	University of Florida Cross Campus Greenway Trail
	SW 34th Street Grade Separated Crossing[3]
	Hull Road Parking Area to SW 34th Street
	SW 38th Terrace (north of SW 20th Avenue to Hull Road Parking Area)
	Butler Plaza Planned Development
	Interstate 75 Grade Separated Crossing[3]
	Tower Road east to Interstate 75
	Tower Road north of Haile Boulevard
	Tower Road south of Haile Boulevard
	Enhance pedestrian crossing between Shands Hospital and Cancer Center
	Waldo Road Bicycle/Pedestrian Overpass at or near NE 8th Avenue
	SW 91st Street from Archer Road to Haile/SW 46th Boulevard
	Haile/SW 46th Boulevard from SW 91st Street to Tower Road[1]
	SW 41st Place from Tower Road to SW 63rd Boulevard
	Archer Braid Trail from SW 41st Place to SW 45th Street Bridge
	SW 45th Street Bridge from SW 45th Street to SW 42nd Street
ALACHUA	US 441 Bike Lanes (NW 23rd A venue to Archer Road)
UNIVERSITY	Enhance bike trail crossing at E. University/Waldo/Williston Road Intersection
HAWTHORNE	(Bicycle/pedestrian trail has been completed)
BIVENS	SW 23rd Street Trail from Archer Road to SW 23rd Terrace
WESTSIDE	Enhance pedestrian crossing at SW 34th Street and Archer Road
	Bike Lanes on NW 34th Street between NW 23rd A venue and SW 2nd A venue
MILLHOPPER	Bike Lanes & Sidewalks as part of NW 23rd Avenue 4-laning from NW 55th Street to NW 98th Street

Braid	Segment/Description
	NW 83rd Street from NW 23rd Avenue to NW 39th Avenue
GLEN SPRINGS	Enhance pedestrian crossing at US 441 and NW 23rd Avenue
INDIVIDUAL PROJECTS (NOT PART OF A BRAID)	Bike Lane/Shoulder on E. University A venue from NE 15th Street to State Road 26
	Bike lane/Shoulder on Kincaid Road from SE 22nd A venue to Hawthorne Road
	Bike Lane/Shoulder on Newberry Road from NW 115th Street to Tower Road/SW 75th Street
	Bike Lane/Shoulder on NW 16th/23rd Avenue from NW 43rd Street to NW 13th Street
	Bike Lane/Shoulder on NW 98th Street from Newberry Road to NW 23rd Avenue
	Bike Lane/Shoulder on SW 122nd Street from Archer Road to Diamond Sports Complex
	Multi-Use Path on Archer Road from SW 75th Terrace to SW 45th Street
	Multi-Use Path on Archer Road from State Road 45 to SW 91st Street
	Multi-Use Path on Downtown East Central Trail from Depot Avenue Rail/Trail to NE 39th Avenue
	Multi-Use Path on Fort Clarke Boulevard from Newberry Road to NW 23rd Avenue
	Multi-Use Path on NE 27th Avenue from NE 39th Boulevard to NE 55th Boulevard
	Multi-Use Path on NW 23rd/32nd Avenue from NW 143rd Street to NW 98th Street
	Multi-Use Path on NW 39th Avenue from NW 143rd Street to Interstate 75
	Multi-Use Path on NW 83rd Street from NW 39th Avenue to Millhopper Road
	Multi-Use Path on NW 98th Street from NW 23rd Avenue to NW 98th Street
	Multi-Use Path on SE 15th Street from SE 32nd Place to SE 22nd Avenue
	Multi-Use Path on SE 41st Avenue/27th Street from SE 15th Street to Hawthorne Road
	Multi-Use Path on SE 43rd Street from Hawthorne Road to E University Avenue
	Multi-Use Path on SW 8th Avenue from SW 143rd Street to SW 24th Avenue
	Multi-Use Path on SW 20th/24th Avenue from SW 91st Street to SW 34th Street
	Multi-Use Path on SW 45th Street from Archer Road to SW 45th Street Bridge
	Multi-Use Path on SW 62nd Avenue/Williston Road from Archer Road to Interstate 75

Braid	Segment/Description
	Multi-Use Path on SW 91st Street from SW 46th Boulevard to Newberry Road
	Multi-Use Path on Sweetwater Preserve from Williston Road to SE 15th Street
	Multi-Use Path on Tower Road/SW 75th Street from SW 41st Place to SW 8th Avenue
	Multi-Use Path on Tower Road/SW 75th Street from SW 57th Avenue to Archer Road
	Multi-Use Path on W 122nd Street from Diamond Sports Complex to NW 39th Avenue
	Multi-Use Path on W 143rd Street from SW 8th Avenue to NW 44th Avenue
	Sidewalk on SW 35th Place from SW 23rd Terrace to SW 34th Street
	Proposed I-75 Crossing from NW 115th Terrace to NW 83rd St
	Trail corridor on east side of Interstate 75 from Newberry Road north to Millhopper Road

Notes

1 The Archer Braid from SW 91st Street to Tower Road is a committed project.

2 The Archer Braid from SW 24th Avenue to SW 20th Avenue is constructed.

3 Grade-separated crossing size and cost to be determined by Renaissance Planning Group.

**MTPO staff developed costs for priority Cost Feasible Plan projects only.*

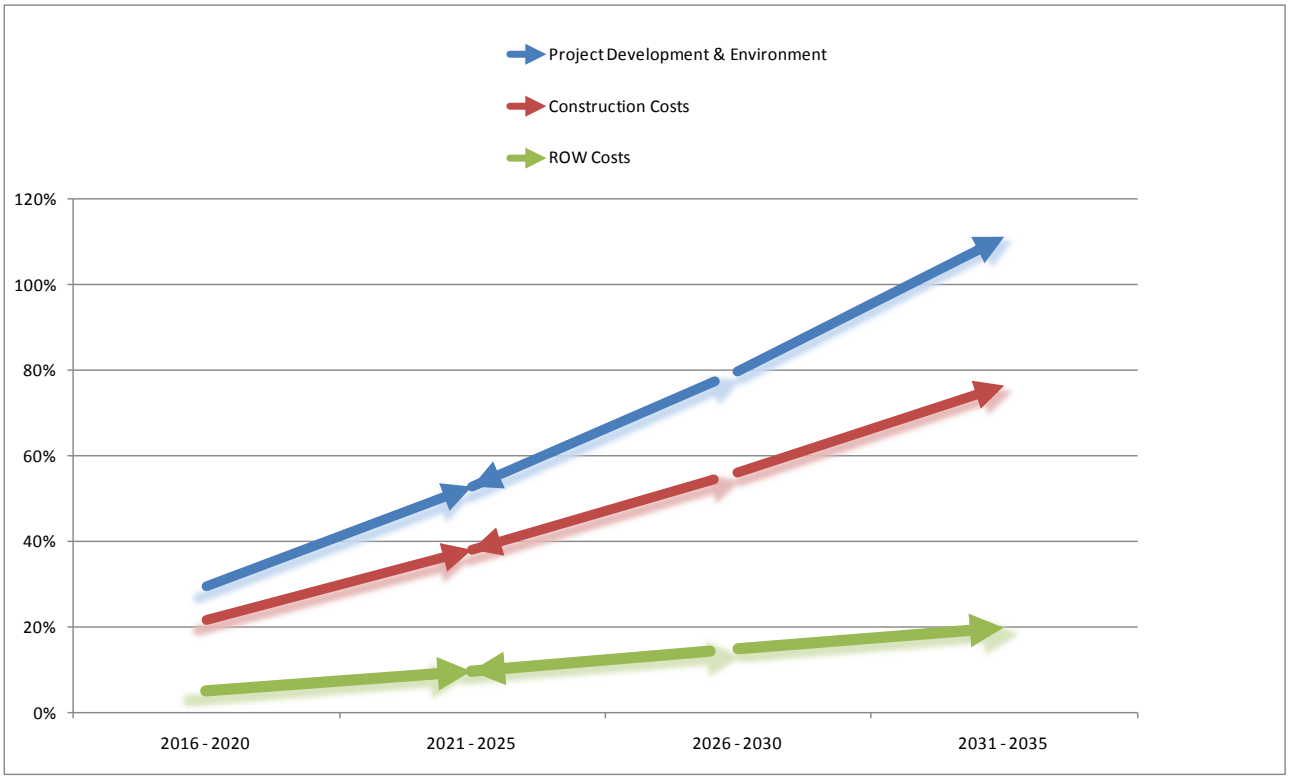
Developing costs for the planned Bus Rapid Transit (BRT) network proved to be somewhat of a challenge due to the uncertain nature of the planned service, portions of which would operate in mixed traffic with automobiles and trucks while other sections would have the buses operate within their own dedicated travel lane, or running way. In addition, the national experience with BRT entails a very wide range of costs, which vary considerably by type of BRT treatment, corridor conditions and the age of the system. Alachua County provided some basic cost estimates from their initial planning studies of a little over $2 million per mile, but the estimate seemed very low in comparison with the low end of BRT costs from projects completed elsewhere in the country. Based on research of other comparable systems, a per lane mile cost of $6 million was developed for the planned BRT network in the Gainesville Urbanized Area. This estimate seemed to be a reasonable amount for construction given the likely characteristics of the proposed network. However, the $2 million per mile figure was used in development of the costs based on right-of-way dedications provided by the developers along the planned network. Of course, more detailed project costs will be further defined through subsequent study.

For the bicycle and pedestrian projects defined in the Needs Plan, costs were initially developed from data contained in the Capital Improvements Element supporting the Alachua County Mobility Plan to derive per mile costs for bike lanes, sidewalks and shared use paths (multi-use trails). MTPO staff worked with the Bicycle/Pedestrian Advisory Board (BPAB) to develop cost estimates for the priority bicycle and pedestrian projects included in the Cost Feasible Plan, with the exception of the grade separated crossing of SW 34th Street at Hull Road, which was based on the County's Mobility Plan and compared with statewide average costs for similar projects.

Year of Expenditure Cost Estimates

As the Cost Feasible Plan was developed, inflation factors provided by the State of Florida for various project phases were used to calculate Year of Expenditure costs by phase (PD&E, PE, ROW, CST) for the expected time period during which the various project phases would occur. The chart shown in **Figure 1** illustrates the general change in project costs depending on Year of Expenditure, indicating that the MTPO and its agency partners should anticipate project costs to increase by as much as 70 percent over the planning horizon due to inflation. Projects that are scheduled to take many years, particularly if they are begun in the outer years of the plan, will cost more than projects that can be completed sooner. For example, the road construction cost for the Archer Road widening is estimated at $13 million in 2010 dollars, and with inflation it would grow to $20 million if built in 2031-2035. This escalation is important for consistency with revenues provided by the Florida Department of Transportation to the MTPO, which are also projected by future year through 2035.

Figure 1: Change in Project Costs over Time



DEVELOPMENT OF TRANSPORTATION REVENUES

This section documents the financial resources and revenues available for consideration in developing the fiscally constrained 2035 Long Range Transportation Plan. A separate financial resources technical memorandum documented both committed and potential transportation revenues at the federal, state, and local level, including funding sources dedicated to existing maintenance and operations activities for various types of transportation facilities and services in the community. That memo served as the basis for defining the revenues available for capital transportation projects to be included in the Cost Feasible Plan. As described above, to meet federal requirements of the Safe Efficient Accountable Transportation Equity Act –Legacy for Users (SAFETEA-LU), all revenues are expressed in year of expenditure (YOE) dollars to reflect the rate of inflation. The use of YOE dollars may present an appearance of a greater availability of funds, but this is not necessarily the case.

Based on information provided by FDOT, the 2035 LRTP's 22-year total for state and federal revenue sources is $139.6 million for highways and some transit projects (Flex, Highway, Enhancements), in inflation-adjusted revenues, plus an additional $74.7 million for only transit, for a total of $214.3 million. This total covers the years from 2014 to 2035. The breakdown by five-year period and revenue source is shown in **Table 4** and **Figure 2**. These sources are those that have historically been considered by the MTPO during preparation of the LRTP.

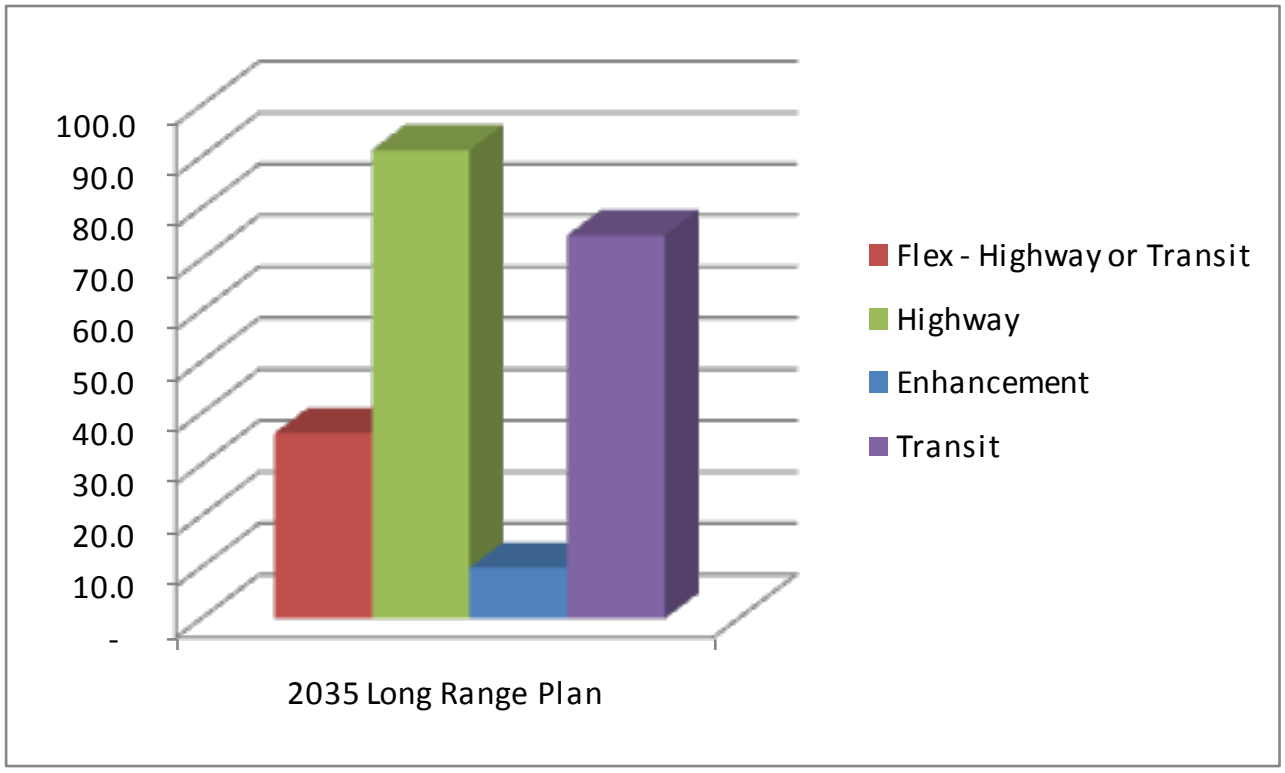
Table 4: State and Federal Program Revenues

(in millions, YOE)

Capacity Programs	FY 2014-2015 Subtotal	FY 2016-2020 Subtotal	FY 2021-2025 Subtotal	FY 2026-2030 Subtotal	FY 2031-2035 Subtotal	22 Year Total
Flex – Highway or Transit	2.3	7.1	8.1	8.8	9.8	36.1
Highway	6.0	18.5	20.8	22.4	24.3	92.0
Enhancement	0.9	2.5	2.6	2.7	2.7	11.5
Transit	5.6	14.5	16.4	18.3	19.9	74.7
Total	14.8	42.7	47.9	52.2	56.7	214.3

Source: Florida Department of Transportation (FDOT), 2009.

Figure 2: Total Revenues



Limitations on Use of Revenue

While the Gainesville Urbanized Area is projected to receive $74.7 million in federal transit operating assistance, the Gainesville Regional Transit System estimates that $71 million of that revenue will be needed to operate the existing bus network through the year 2035. The remaining amount of $3.7 million is available for minor service enhancements or transit capital expenses. This assumes that the Gainesville Urbanized Area will remain below the 200,000 population threshold that determines eligibility for this operating assistance. Future updates of the Long Range Transportation Plan will need to consider the continuation of this funding source as federal rules and the area's population changes.

In addition, one of the issues that arose in defining the Cost Feasible 2035 Transportation Plan was the use of some of the $92 million in state and federal highway funds for construction of Bus Rapid Transit running ways on federal aid-eligible highways. Alachua County is planning for BRT on several state roadways, such as Newberry Road (SR 26) and Archer Road (SR 24), along which the BRT may operate in mixed traffic or within exclusive transit lanes. Through discussions with FDOT during development of the Cost Feasible Plan about eligibility of these funds for BRT on these corridors, District 2 staff indicated that physically separated lanes for buses within an

exclusive right-of-way would increase the cost of maintenance and constitute a non-standard feature. The Department's position is that non-standard features require the local government to accept maintenance responsibility. While this issue did not alter the basic intent of the MTPO to use state and federal highway funds for BRT along these and other eligible roadways, it will require further discussion through subsequent studies for the development of the BRT network. Before the Department agrees to fund, or permits the construction of a physically-separated BRT facility, additional discussions must occur to reach agreements related to maintenance.

DEVELOPMENT OF THE COST FEASIBLE PLAN

The process of developing the adopted 2035 Cost Feasible Plan began with an evaluation of Needs Plan projects using criteria developed to reflect the adopted vision statement, goals and objectives. This initial ranking was used to help distinguish among projects competing for limited funding. The ranking outcome is described in a separate section of the plan documentation. In addition, the MTPO held a public workshop on September 21, 2010 to obtain input from the public on Needs Plan project priorities as a basis for guiding the development of recommendations. At the workshop, the public was given the opportunity to review maps and tables of transportation projects contained in the Needs Plan, including estimated current year construction costs. After a presentation, the workshop exercise entailed having the participants determine their priorities for funding by allocating a limited number of dots toward various types of transportation projects based on available revenues by source. This exercise, along with written comments on the projects and their relative priority, helped to assess the degree of support for certain projects in the Needs Plan as a gauge of how participants would allocate limited revenues.

With that understanding, the MTPO staff developed a preliminary list of Cost Feasible projects in current year 2010 dollars. The starting point was to build upon highly ranked projects from the 2025 LRTP, such as the center turn lane and operational modifications to NW 34th Street, SW 20th Avenue, and the four-laning of a portion of SE 16th Avenue. Bicycle and pedestrian projects recommended for the Cost Feasible Plan were developed from priorities already established by the MTPO's Bicycle/Pedestrian Advisory Board, with cost estimates in year 2007 dollars.

The draft list of Cost Feasible projects also included City of Gainesville and Alachua County projects funded through the financially feasible Transportation Elements (aka Mobility Plan) and Capital Improvement Programs in addition to the highway, transit and bicycle/pedestrian projects eligible for state and federal funds. While the financially feasible planning horizon for these local governments is different than the LRTP, it is important that the plan include the full picture of projects that are likely to be funded for construction through the planning period.

The draft lists were reviewed and refined by the Technical and Citizens Advisory Committees, as well as the B/PAB. The MTPO staff and advisory committees developed joint recommendations for the list of financially feasible bicycle/pedestrian and roadway projects, with the CAC developing an alternative recommendation for funding of transit projects. These recommendations were submitted to the MTPO for consideration at its October 4, 2010 meeting. Alachua County staff also submitted a separate recommendation for roadway projects in reaction to the Year of Expenditure cost adjustments, preferring to spend money planning more projects than allocating limited funding toward a smaller number of capital construction projects. The MTPO took no action following extensive discussion regarding Bus Rapid Transit on state roadways, the RTS

transit maintenance facility issue and the widening of Archer Road west of I-75. The public hearing and consideration of plan adoption were rescheduled for October 27, 2010.

The major issue to resolve for adoption of the Cost Feasible Plan entailed the challenge of keeping all of the priority projects recommended by the MTPO staff and advisory committees financially feasible when reflecting the lower amount of available funds with the escalation of costs with Year of Expenditure dollars. For example, lower priority projects, such as the widening of Archer Road from Tower Road to the SW 91st Street and Williston Road from SW 62nd Avenue to SW 35th Way would need to be dropped from the list.

In addition, there was considerable concern expressed about the lack of funding available to complete the new RTS maintenance facility, which is needed for additional bus service expansion, including the Bus Rapid Transit network that is the cornerstone of Alachua County's newly adopted Mobility Plan. This is a critical facility needed to maintain the existing bus fleet and serve future needs. Cost estimates for the new facility developed by RTS staff total $66 million allocated over three phases, with only a portion of that amount available.

ADOPTED YEAR 2035 COST FEASIBLE PLAN

The Year 2035 Cost Feasible Long Range Transportation Plan was adopted by the MTPO on October 27, 2010. **Tables 5 through 7** and **Map 1** present the adopted Year 2035 Cost Feasible Plan. The map references the type of projects and studies funded by their primary funding source. Given the escalation of project costs over time due to inflation, the MTPO chose to prioritize full funding for some projects and allocate partial funding to others.

Table 5: Year 2035 Bicycle/Pedestrian Cost Feasible Plan

Priority	Description	From/To	Length (In Miles)	Estimated Cost In Millions (In 2007 Dollars)
Surface Transportation Program (STP) Enhancements (Cost Feasible Plan Revenues = $11.5 million)				
1	Cross Campus Greenway	Archer Road to SW 34th Street	2.1	$1.9
2	Hull Road Parking Area	SW 34th Street to End of Hull Road Parking Area	0.2	$0.2
3	Hull Road Connector	Hull Road Parking Area/SW 20th Avenue	0.5	$0.5
4	Lake Kanapaha Trail	Tower Road west to Interstate 75	2.3	$2.1
5	SW 34th Street Grade Separated Crossing	SW 34th Street at Hull Road	0.2	$7.0
TOTAL STP ENHANCEMENT FUNDED PROJECTS				**$11.7**
LOCAL FUNDS Alachua County Projects (identified as Cost Feasible by Year 2020)				
NA	SW 8th Avenue multi-use offroad facility	SW 122nd Street to SW 91st Street	2.0	$0.4
NA	NW 98th Street multi-use offroad facility	NW 23rd Avenue to NW 39th Avenue	1.0	$0.3
TOTAL ALACHUA COUNTY PROJECTS				**$0.7**
LOCAL FUNDS City of Gainesville Projects (identified as Cost Feasible by Year 2015)				
NA	SW 35th Place sidewalk	SW 34th Street ot SW 23rd Terrace	1.1	$0.5
TOTAL CITY OF GAINESVILLE PROJECTS				**$0.5**
GRAND TOTAL BICYCLE/PEDESTRIAN PROJECTS				**$12.9**

NA – Not Applicable

Note – Priorities 1 through 5 are segments of the Archer Braid.

Table 6: Year 2035 Roadway Cost Feasible Plan

Priority	Description	From/To	Length (In Miles)	Estimated Cost In Millions (In 2010 Dollars)
STRATEGIC INTERMODAL SYSTEM (SIS) (Cost Feasible Plan Revenues = $6.4 Million)				
-	Interstate 75 Interchange Modifications	At Williston Road At Archer Road At Newberry Road At NW 39th Ave	-	$6.4
TOTAL STRATEGIC INTERMODAL SYSTEM				**$6.4**
STATE HIGHWAY SYSTEM (Cost Feasible Plan Revenues = $92.0 million year of expenditure dollars)				
1	State Road 226 (SE 16th Avenue) widen to four lanes	Main Street to Williston Road	0.6	$15.0
2	State Road 121 (NW 34th Street)- construction of turn lanes to improve safety and traffic flow	NW 16th Avenue to US 441	3.5	$6.0
3	State Road 26 (University Avenue) Multimodal Emphasis Corridor[a]	Gale Lemerand Drive to Waldo Road	1.5	$4.75
4	US 441 (W. 13th Street) Multimodal Emphasis Corridor Study [a]	NW 33rd Avenue to Archer Road	2.8	$4.75
5	Waldo Road Multiway Boulevard redesign to support bus rapid transit , multi-trail and corridor redevelopment study (PD&E) [b]	University Avenue to NE 39th Avenue	2.5	$3.0

Priority	Description	From/To	Length (In Miles)	Estimated Cost In Millions (In 2010 Dollars)
6	Bus Rapid Transit (BRT) Corridor Infrastructure-Partial	Santa Fe Village to Gainesville Regional Airport	14.0	$28.0
7	State Road 24 (Archer Road) BRT Dedicated Lane(s) design, additional roadway capacity and corridor management study (PD&E)	MTPO Boundary to SW 45th Street	3.5	$0.5
8	State Road 221 (Williston Road) additional roadway capacity and corridor management (PD&E)	SW 62nd Avenue to SW 35th Way	0.5	$0.5
TOTAL STATE HIGHWAY SYSTEM				**$62.5**
Alachua County Transit and Roadway Projects (local funds identified as Cost Feasible by the Year 2020)				
1	SW 20th Avenue, four laning and multi-use path	SW 52nd Blvd to SW 61st Blvd	0.5	$8.8
2	SW 8th Avenue-Phase 2, two lane roadway and multi-use path	SW 122nd Street to SW 143rd Street	0.7	$2.7
3	NW 23rd Avenue, four laning and resurfacing	NW 51st Street to NW 59th Terrace	0.7	$1.8
4	NW 23rd Avenue, four laning	NW 83rd Street to Ft. Clarke Blvd.	0.5	$12.0
5	SE 43rd Street, construction of two-way left turn lanes, multi-use path and signalization	SR 26 (University Avenue) to SR 20 (Hawthorne Road)	1.1	$0.9
6	SW 45th / 47th Street, new roadway with travel lanes, BRT Dedicated Transit Lanes	Archer Road to SW 30th Avenue	0.8	$4.5

Priority	Description	From/To	Length (In Miles)	Estimated Cost In Millions (In 2010 Dollars)
	and multi-use path			
7	SW 30th Avenue, new Interstate 75 overpass with travel lanes, BRT Dedicated Transit Lanes and the Archer Braid Trail	SW 43rd Street to SW 47th Street	0.5	$13.0
8	NW 83rd Street, new roadway with travel lanes, BRT Dedicated Transit Lanes and the Millhopper Greenway	NW 46th Avenue to NW 39th Avenue (SR 222)	0.4	$2.5
9	NW 83rd Street, BRT Dedicated Transit Lanes	NW 23rd Avenue to NW 39th Avenue	1.0	$7.8
10	Ft. Clarke/NW 83rd Street Corridor, BRT Dedicated Transit Lanes & new multimodal only Interstate 75 overpass	NW 23rd Avenue to Newberry Road (SR 26)	1.0	$14.0
11	NW 46th Avenue, new roadway with travel lanes, BRT Dedicated Transit Lanes, multi-use path and new Interstate 75 overpass	NW 83rd Street to NW 98th Street	1.3	$15.5
TOTAL ALACHUA COUNTY TRANSIT AND ROADWAY SYSTEM				**$83.5**

Priority	Description	From/To	Length (In Miles)	Estimated Cost In Millions (In 2010 Dollars)
City of Gainesville Projects (local funds identified as Cost Feasible by the Year 2020)				
N/A	SE 4th Street- Phase 2 reconstruction	Williston Road to Depot Avenue	0.7	$2.3
N/A	SW 62nd Boulevard-four lanes plus two additional BRT lanes in the middle	Newberry Road to Archer Road	3.2	$111.0
TOTAL CITY OF GAINESVILLE ROADWAY SYSTEM				**$113.3**
GRAND TOTAL COMBINED ROADWAY SYSTEMS				**$265.7**

[a]Multimodal corridors are defined as major transportation facilities which accommodate automobile, truck, bus, bicycle and pedestrian travel and link different modes together, such as bikes on buses, car and walk and/or park and ride. These projects employ policies and design elements that ensure that the safety and convenience of all users of a transportation system are considered in all phases of project planning and development. Typical elements of a multimodal corridor include sidewalks, bicycle lanes (or wide, paved shoulders), shared-use bicycle and pedestrian paths, designated bus lanes, safe and accessible transit stops and frequent and safe crossings for pedestrians, including median islands, accessible pedestrian signals, and curb extensions.

[b]Waldo Road Multiway Boulevard includes the reconstruction of the Waldo Road Corridor to support commercial and residential redevelopment and enhanced pedestrian crossings to the proposed Waldo Road Bus Rapid Transit line.

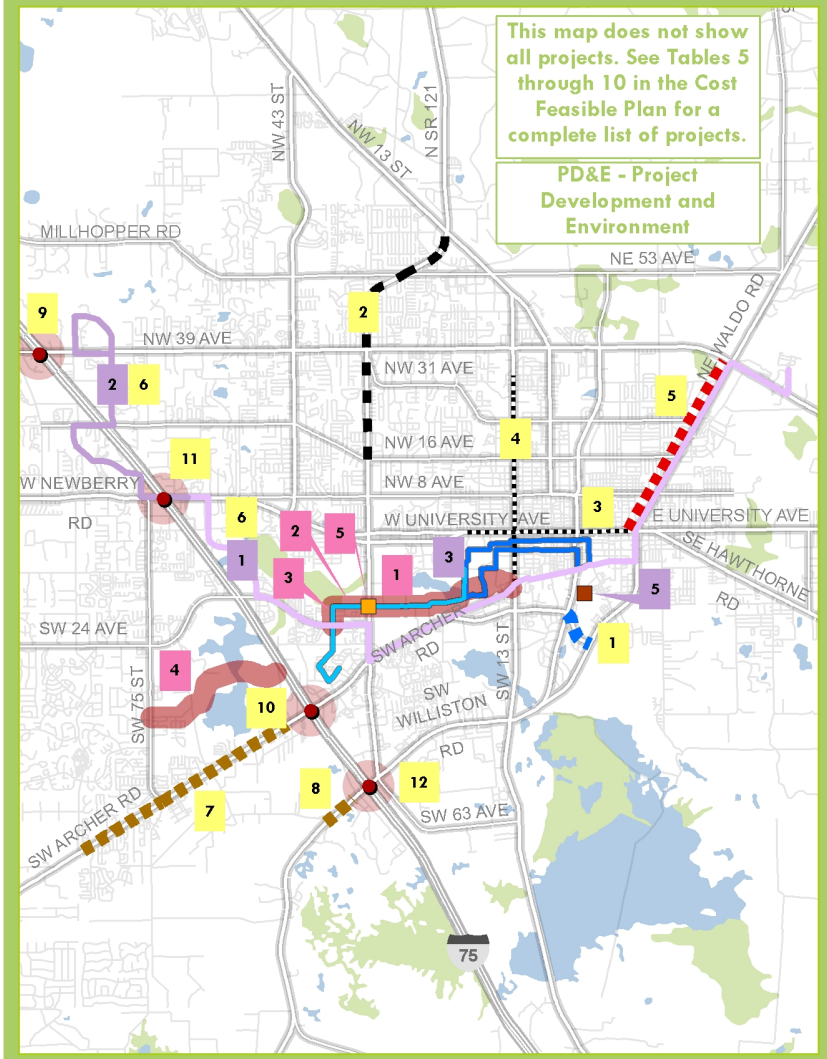
Note- Estimated costs are shown in Year 2010 dollars, except for the Strategic Intermodal System project that is shown in Year 2009 dollars.

Table 7: Year 2035 Transit Cost Feasible Plan

Priority	Description	From/To	Length (In Miles)	Estimated Cost In Millions (In 2010 Dollars)
Transit (Cost Feasible Plan Revenues = $3.7 million)				
1	Transit Maintenance Facility	Not Applicable (NA)	NA	$50.0
TOTAL				**$50.0**
Surface Transportation Program (Cost Feasible Plan Revenues = $36.1 million)				
1	Oaks Mall to Airport Bus Rapid Transit Alternatives Analysis	Oaks Mall to Airport (via Archer Road and Downtown)	NA	$0.4
2	Santa Fe to Oaks Mall Bus Rapid Transit Feasibility Study and Alternatives	Santa Fe to Oaks Mall	NA	$0.6
3	Streetcar Feasibility Study	Downtown to Butler Plaza via University of Florida	9.0 (One-way)	$1.0
4	Intermodal Center/Park and Ride Lot	(location to be determined)	NA	$1.4
5	Transit Maintenance	NA	NA	$50.0
TOTAL				**$53.4**

Map 1: Year 2035 Cost Feasible Plan

YEAR 2035 COST FEASIBLE PLAN



Year 2035 Long Range Transportation Plan Update
Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area

Priority		Description	Project	From / To:
State Highway System				
1		State Road 226 (SE 16th Avenue)	Widen to four lanes	Main Street to Williston Road
2		State Road 121 (NW 34th Street)	Construction of turn lanes to improve safety and traffic flow	NW 16th Avenue to US 441
3		State Road 26 (University Ave)	Multimodal Emphasis Corridor	Gale Lemerand Drive to Waldo Road
4		US 441 (W. 13th Street)	Multimodal Emphasis Corridor	NW 33rd Avenue to Archer Road
5		Waldo Road Multiway Boulevard	Redesign to support Bus Rapid Transit (BRT) and corridor redevelopment study (PD&E)	University Avenue to NE 39th Avenue
6		Bus Rapid Transit (BRT)*	Corridor Infrastructure	Santa Fe Village to Gainesville Regional Airport
7		State Road 24 (Archer Road)	BRT dedicated lanes design, additional roadway capacity and corridor study (PD&E)	MTPO Boundary to SW 45th Street
8		State Road 121 (Williston Road)	Additional roadway capacity and corridor management study (PD&E)	SW 62nd Avenue to SW 35th Way
9		I-75 @ SR 222/39th Avenue	SIS Interchange Modification	--
10		I-75 @ SR 24/Archer Road	SIS Interchange Modification	--
11		I-75 @ SR 26/Newberry Road	SIS Interchange Modification	--
12		I-75 @ SR 331/Williston Road	SIS Interchange Modification	--
Surface Transportation Program				
1 *		Oaks Mall to Airport Bus Rapid Transit Alternatives Analysis	Alternatives Analysis	Oaks Mall to Airport (via Archer Road and Downtown)
2 *		Santa Fe to Oaks Mall Bus Rapid Transit Alternatives Analysis	Alternatives Analysis	Sante Fe to Oaks Mall
3		Streetcar Feasibility Study	Feasibility Study	Downtown to Butler Plaza via University of Florida
4		Intermodal Center / Park and Ride Lot	Park and Ride Lot	TBD (not shown on map)
5		Transit Maintenance Facility	Facility Expansion	--
Surface Transportation Program Enhancements				
1		Cross Campus Greenway	Bicycle/Pedestrian Trail	Archer Road to SW 34th Street
2		Hull Road Parking Area	Bicycle/Pedestrian Trail	SW 34th Street to End of Hull Road Parking Area
3		Hull Road Connector	Bicycle/Pedestrian Trail	Hull Road Parking Area/ SW 20th Avenue
4		Lake Kanapaha Trail	Bicycle/Pedestrian Trail	Tower Road west to Interstate 75
5		SW 34th Street Grade Separated Crossing	Bicycle/Pedestrian Trail	SW 34th Street at Hull Road

*** Project alignment will be determined by feasibility studies and alternatives analysis.**

Tables 8 – 11 provide additional detail on the phasing and year of expenditure cost for these projects. The adopted Plan funds about 23 percent of Needs Plan projects, allocating $128 million in anticipated revenues from state and federal funding sources available to the MTPO. As shown in **Figure 3**, estimated year of expenditure project costs are aligned with projected revenues.

The policy direction of the MTPO in considering projects for financial feasibility focused on ensuring a multimodal approach to meeting the area's mobility needs. This policy is reflected in the 2035 LRTP as indicated in **Figures 4 and 5**. As shown in the first chart, there is an initial investment in roadway widening and operational modifications for priority projects, but the plan increasingly allocates future funding toward multimodal projects that support increasing transit service and bicycle/pedestrian connectivity. The plan assumes accumulation of funds over time to fund the RTS transit maintenance facility and the Bus Rapid Transit corridor infrastructure in the final five year planning period of the LRTP horizon. Funding sources for the RTS maintenance facility include a federal earmark, a grant from the Federal Transit Administration and use of the MTPO's allocation of Flex funds that can be spent on highway or transit projects. The second chart presents a summary of overall funding for roadway capacity and non-automobile projects, reflecting a nearly 4:1 ratio in favor of multimodal (non-auto) transportation projects.

The Strategic Intermodal System (SIS) projects included in the plan focus on interchange capacity projects along I-75 in the Gainesville Urbanized Area. These projects come from the I-75 Master Plan and have been identified in the state's adopted 2035 SIS Cost Feasible Plan, and are intended to help smooth the flow of traffic at the interchange ramps and reduce the potential for traffic to back up onto the I-75 mainline lanes.

Figure 3: Project Costs and Projected Revenues

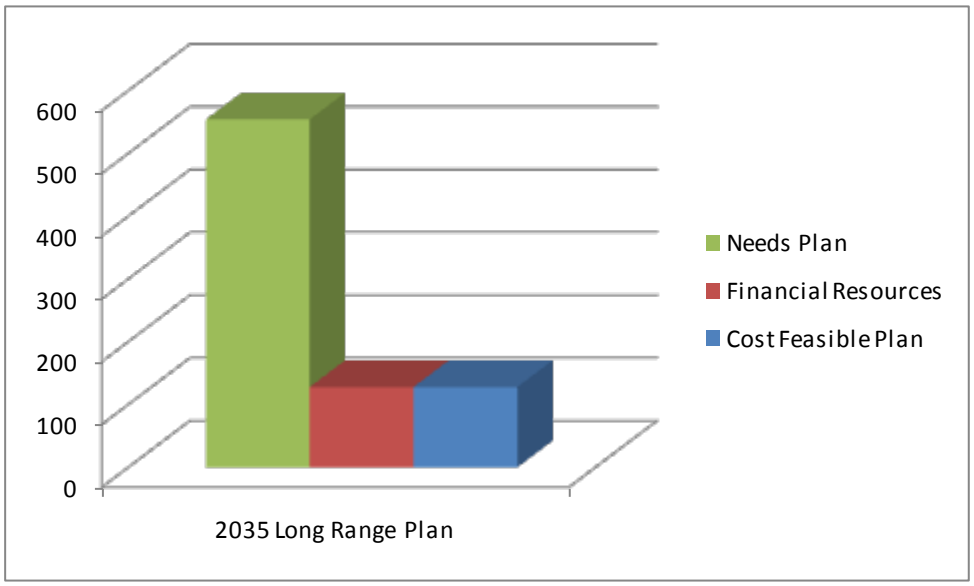


Figure 4: Allocation of Funds by Year of Expenditure

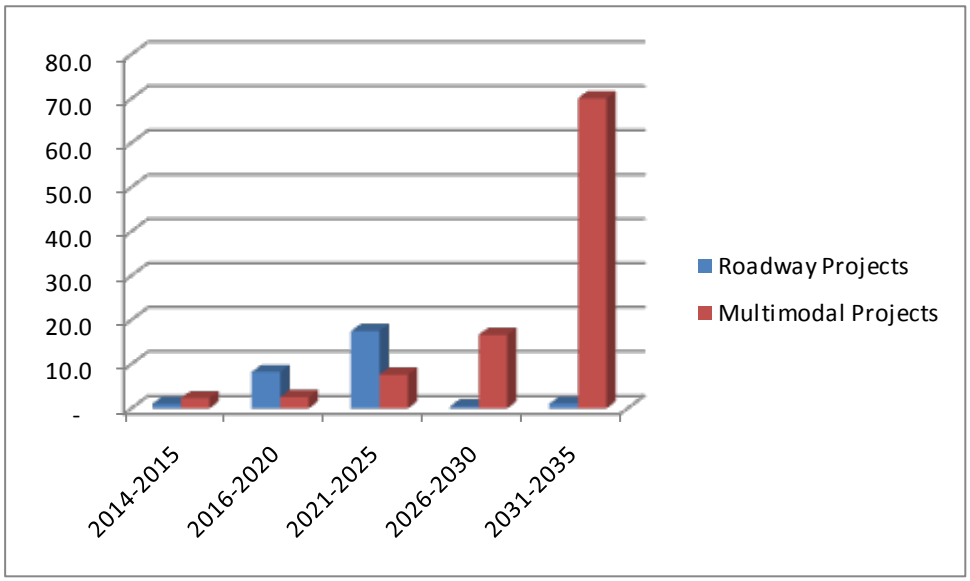
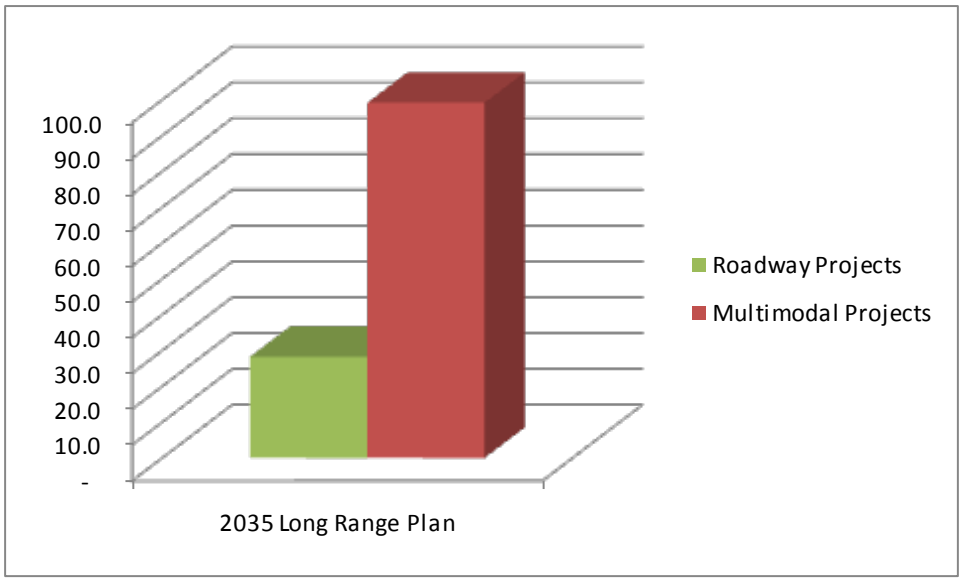


Figure 5: Overall Allocation of Funds



Priority projects using State Highway System funds entail long-standing priorities from the previously adopted Long Range Transportation Plan, including widening SE 16th Avenue from Main Street to Williston Road to support improved regional accessibility for freight and other traffic to connect with the SIS network, and operational enhancements through additional turn lanes on NW 34th Street, which has long been a source of congestion and travel delays. In addition, there is money allocated toward corridor infrastructure necessary to support Bus Rapid Transit service connecting Santa Fe College to the University of Florida, Downtown Gainesville and the Gainesville Regional Airport in East Gainesville. This so-called spine route for the BRT network is intended to operate in mixed traffic and within exclusive right of way. Details of its exact alignment and operating characteristics will be determined following additional study, but the funds allocated will support construction of such elements like the signals, running ways and platforms at stops that are critical to successful BRT service. Additional planning and design funds are allocated toward capacity and livability enhancements in the Waldo Road corridor and to enhance safety and mobility along Archer Road and Williston Road. The funding for those latter two projects is limited, and does not include sufficient amounts for full construction of the additional lanes. Aside from transit operating costs for additional service and construction of the downtown-UF-Butler Plaza streetcar network, other unfunded projects include substantial portions of the planned Bus Rapid Transit network. Partially funded projects represent the widening of Archer Road and Williston Road, which include money allocated for preliminary engineering and right-of-way, as well as some money for construction. In addition, the adopted Cost Feasible Plan includes funding for a feasibility study of the Downtown Gainesville-UF-Butler Plaza streetcar and alternatives analyses for the Bus Rapid Transit network. These projects are key components of the process required to secure federal and state funding support for transit capital projects, addressing critical issues such as cost effectiveness, supporting land use, and development of a sound financial plan.

Table 8: Strategic Intermodal System Year 2035 Cost Feasible Plan

Facility/Location	Type	Total Cost
Interstate 75 Interchange Modifications	At Williston Road At Archer Road At Newberry Road At NW 39th Ave	$6.4

Table 9: State Highway System Year 2035 Cost Feasible Plan (by Year of Expenditure)

Priority	Description	Project	From/To:	Length (miles)	Project Cost (in 2010 dollars)	2014-2015		2016-2020		2021-2025		2026-2030		2031-2035		Total Cost (YOE dollars)
1	State Road 226 (SE 16th Avenue)	Widen to four lanes	Main Street to Williston Road	0.6	$15.0	$0.8	PD&E		PD&E		PD&E		PD&E		PD&E	$19.0
							PE	$ 1.9	PE		PE		PE		PE	
							ROW	$3.9	ROW		ROW		ROW		ROW	
							CST		CST	$2.4	CST		CST		CST	
2	State Road 121 (NW 34th Street)	Construction of turn lanes to improve safety and traffic flow	NW 16th Avenue to US 441	3.5	$6.0	$0.3	PD&E		PD&E		PD&E		PD&E		PD&E	$7.6
							PE	$0.8	PE		PE		PE		PE	
							ROW	$ 1.6	ROW		ROW		ROW		ROW	
							CST		CST	$ 5.0	CST		CST		CST	
3	State Road 26 (University Ave)	Multimodal Emphasis Corridor	Gale Lemerand Drive to Waldo Road	1.5	$4.8	$0.2	PD&E		PD&E		PD&E		PD&E		PD&E	$6.0
							PE	$0.6	PE		PE		PE		PE	
							ROW	$1.2	ROW		ROW		ROW		ROW	
							CST		CST	$3.9	CST		CST		CST	
4	US 441 (W. 13th Street)	Multimodal Emphasis Corridor	NW 33rd Avenue to Archer Road	2.8	$4.8		PD&E	$0.3	PD&E		PD&E		PD&E		PD&E	$7.4
							PE		PE	$ 0.7	PE		PE		PE	
							ROW		ROW		ROW	$ 1.4	ROW		ROW	
							CST		CST		CST		CST	$ 5.0	CST	

Priority	Description	Project	From/To:	Length (miles)	Project Cost (in 2010 dollars)	2014-2015	2016-2020	2021-2025	2026-2030	2031-2035	Total Cost (YOE dollars)
5	Waldo Road Multiway Boulevard	Redesign to support BRT , multi-trail and corridor redevelopment study (PD&E)	University Avenue to NE 39th Avenue	2.5	$3.0	PD&E PE ROW CST	$ 0.2 	PD&E PE ROW CST	PD&E PE $ 0.5 	PD&E PE ROW CST	PD&E PE $0.9 $ 3.2	PD&E PE ROW CST	$4.7
6	Bus Rapid Transit (BRT)	Corridor Infrastructure	Santa Fe Village to Gainesville Regional Airport	14	$ 28.0	PD&E PE ROW CST	 	PD&E PE ROW CST	$ 2.1 	PD&E PE $ 5.0 $ 8.1	PD&E PE ROW $29.7	PD&E PE ROW CST	$44.9
7	State Road 24 (Archer Road)	BRT dedicated lanes design, additional roadway capacity and corridor management study (PD&E)	MTPO Boundary to SW 45th Street	3.5	$0.5	PD&E PE ROW CST	 	PD&E PE ROW CST	$0.0 	PD&E PE $ 0.1 	PD&E PE ROW $ 0.5	PD&E PE ROW CST	$0.8
8	State Road 121 (Williston Road)	Additional roadway capacity and corridor management study (PD&E)	SW 62nd Avenue to SW 35th Way	0.5	$0.5	PD&E PE ROW CST	 	PD&E PE ROW CST	$0.0 	PD&E PE $0.1 $0.1	PD&E PE ROW $0.5	PD&E PE ROW CST	$0.8

Table 10: Surface Transportation Program Enhancements Year 2035 Cost Feasible Plan (by Year of Expenditure)

Priority	Description	Project	From / To:	Length (miles)	Project Cost (in 2010 dollars)	2014-2015		2016-2020		2021-2025		2026-2030		2031-2035		Total Cost (YOE dollars)
1	Cross Campus Greenway		Archer Road to SW 34th Street	2.1	$1.9	$ 0.1	PD&E		PD&E		PD&E		PD&E		PD&E	$2.6
							PE	$ 0.2	PE		PE		PE		PE	
							ROW		ROW	$ 0.5	ROW		ROW		ROW	
							CST		CST		CST	$ 1.8	CST		CST	
2	Hull Road Parking Area		SW 34th Street to End of Hull Road Parking Area	0.2	$0.2	$ 0.0	PD&E		PD&E		PD&E		PD&E		PD&E	$0.3
							PE	$ 0.0	PE		PE		PE		PE	
							ROW		ROW	$ 0.0	ROW		ROW		ROW	
							CST		CST		CST	$ 0.2	CST		CST	
3	Hull Road Connector		Hull Road Parking Area/ SW 20th Avenue	0.5	$0.5	$ 0.0	PD&E		PD&E		PD&E		PD&E		PD&E	$0.6
							PE	$ 0.1	PE		PE		PE		PE	
							ROW		ROW	$ 0.1	ROW		ROW		ROW	
							CST		CST		CST	$ 0.4	CST		CST	
4	Lake Kanapaha Trail		Tower Road west to Interstate 75	2.3	$2.1	$ 0.1	PD&E		PD&E		PD&E		PD&E		PD&E	$2.8
							PE	$ 0.3	PE		PE		PE		PE	
							ROW		ROW	$ 0.6	ROW		ROW		ROW	
							CST		CST		CST	$ 1.9	CST		CST	
5	SW 34th Street Grade Separated Crossing		SW 34th Street at Hull Road	0.2	$7.0		PD&E		PD&E	$ 0.5	PD&E		PD&E		PD&E	$3.6
							PE		PE		PE	$ 1.1	PE		PE	
							ROW		ROW		ROW		ROW	$ 2.0	ROW	
							CST		CST		CST		CST	7.4	CST*	

* Partially funded

Table 11: Surface Transportation Program Year 2035 Cost Feasible Plan (by Year of Expenditure)

Priority	Description	Project	From / To:	Length (miles)	Project Cost (in 2010 dollars)	2014-2015		2016-2020		2021-2025		2026-2030		2031-2035		Total Cost (YOE dollars)
1	Oaks Mall to Airport Bus Rapid Transit Alternatives Analysis	Alternatives Analysis	Oaks Mall to Airport (via Archer Road and Downtown)	n/a	$0.4	$0.4	PD&E		PD&E		PD&E		PD&E		PD&E	$0.4
							PE		PE		PE		PE		PE	
							ROW		ROW		ROW		ROW		ROW	
							CST		CST		CST		CST		CST	
2	Santa Fe to Oaks Mall Bus Rapid Transit Alternatives Analysis	Alternatives Analysis	Sante Fe to Oaks Mall	n/a	$0.6	$0.6	PD&E		PD&E		PD&E		PD&E		PD&E	$0.6
							PE		PE		PE		PE		PE	
							ROW		ROW		ROW		ROW		ROW	
							CST		CST		CST		CST		CST	
3	Streetcar Feasibility Study	Feasibility Study	Downtown to Butler Plaza via University of Florida	9.0	$1.0	$1.0	PD&E		PD&E		PD&E		PD&E		PD&E	$1.0
							PE		PE		PE		PE		PE	
							ROW		ROW		ROW		ROW		ROW	
							CST		CST		CST		CST		CST	
4	Intermodal Center / Park and Ride Lot	Park and Ride Lot	TBD	n/a	$1.4	$0.1	PD&E		PD&E		PD&E		PD&E		PD&E	$1.9
							PE	$ 0.2	PE		PE		PE		PE	
							ROW		ROW	$ 0.4	ROW		ROW		ROW	
							CST		CST		CST	$ 1.3	CST		CST	
5	Transit Maintenance Facility		n/a	n/a	$50.0		PD&E		PD&E		PD&E		PD&E		PD&E	$32.2
							PE		PE		PE		PE		PE	
							ROW		ROW		ROW		ROW		ROW	
							CST		CST		CST		CST	$53.0	CST	

West 13th Street (US 441) and University Avenue (SR 26) Multimodal Emphasis Corridors

The 2035 LRTP allocates a limited amount of funding for projects that support improved multimodal accessibility and mobility within segments of West 13th Street and University Avenue in the core part of the Gainesville Urbanized Area. There is nearly $5 million set aside in 2010 dollars ($7.4 million and $6 million in Year of Expenditure, respectively) for each roadway that would be allocated to roadway modifications to be determined that improve multimodal accessibility and mobility along these vital corridors. These "placeholder" funds may or may not fully fund the desired treatments for these two roadway segments, which will be determined following additional more detailed study and consultation with the Florida Department of Transportation.

The West 13th Street (US 441) and University Avenue (SR 26) Multimodal Emphasis Corridors are candidates for design elements that may include signage, pavement markings, medians, facility modifications or additions (including narrower or fewer lanes, wider sidewalks and bike lanes), operational strategies, curb extensions and other measures to enhance multimodal mobility and accessibility. At this time, the projects do not include lane reductions. In general, the intent for multimodal treatments on these major transportation facilities is to accommodate auto, bus, bicycle and pedestrian travel. These corridors provide for travel across town and connect with the regional transportation system. The objective is to support increased travel frequency of multiple modes and link land use destinations. In the future, these corridors will facilitate linking different modes together (i.e., bikes on buses, access to transit, walking or park and ride) by employing elements of "Complete Streets" policies and design elements that strive to accommodate the safety and convenience of all uses, including pedestrians, bicyclists, public transit users, children, older individuals, motorists and individuals with disabilities.

Intermodal Center/Park and Ride Lot

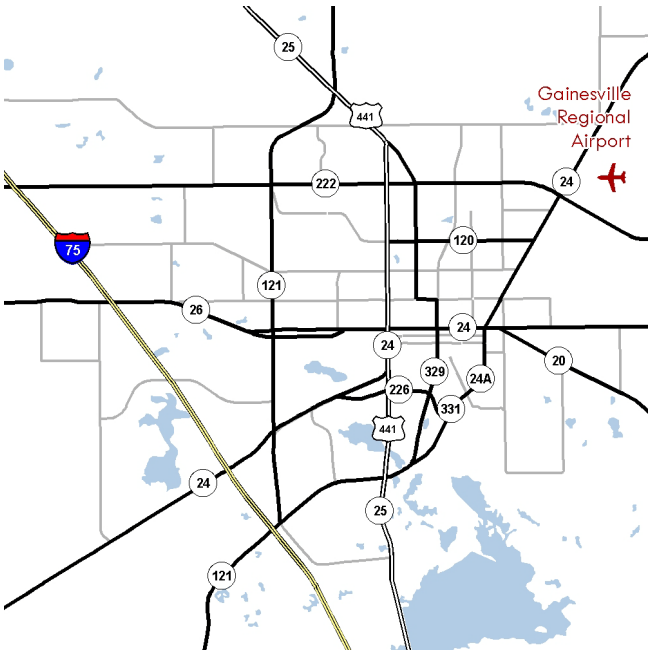
Working closely with the University of Florida, the MTPO has identified funding for a future intermodal center/park and ride lot that would help improve mobility and access to the University of Florida main campus via public transportation. The University's 2010-2020 Campus Master Plan included an analysis of park and ride lot opportunities to identify the best location for a future park and ride facility location. The analysis evaluated potential lot locations relative to residential locations of students, faculty and staff, and their travel time to campus. The analysis was not complete at the time of the public hearing adoption in October 2010, so a placeholder project was included in the Cost Feasible Plan with sufficient funding allocated to include both a park and ride lot and bus transfer facility for the interface of future Bus Rapid Transit networks and local fixed routes and/or express bus routes. Several priority locations emerged from the UF analysis, with a

location at Newberry Road and Fort Clarke Boulevard ranking the highest, pending final approval by UF staff.

Gainesville Regional Airport and Freight/Goods Movement

The Gainesville Regional Airport is an important intermodal and economic development hub for the Gainesville Urbanized Area and the North Central Florida region. The airport includes daily commercial and general aviation flights, and has a City of Gainesville industrial park located on the northeast side of the airport property, with access to SR 24, Waldo Road. Other institutions are also located near the airport, including the University of Florida's new eastside operations facility and correctional institutions. As a centerpiece element of the Plan East Gainesville project, the airport and an adjacent site formerly used as the Alachua County Fairgrounds are being repurposed into an attractive gateway to the community, with supporting commercial development consisting of offices, restaurants and hotel land uses. As shown in Figure 6, the Gainesville Regional Airport enjoys outstanding regional highway access via SR 24, SR 26, SR 222 and SR 20, which is part of Florida's Strategic Intermodal System. These roadways provide access to I-75 (SR 24, SR 26, and SR 222) and US 301 (SR 24 and SR 20), both of which are major freight/goods movement corridors, from the airport. The adopted Year 2035 Long Range Transportation Plan also advances plans for a future Bus Rapid Transit network that will connect the airport with downtown, the University of Florida and commercial and institutional destinations on the west side of the urbanized area. The Year 2035 LRTP recognizes the strategic importance of the airport and its supportive land uses as vital elements of the region's economic prosperity, as well as regional and interstate accessibility.

Figure 6: Gainesville Regional Airport Access



Congestion Management Process

One of the important aspects of the comprehensive, continuing and coordinated metropolitan transportation planning process under the SAFETEA-LU federal transportation legislative framework is the integration of the MPO Long Range Transportation Plan with the Congestion Management Process (CMP), which focuses on near term, lower cost strategies for mobility management and corridor or intersection congestion mitigation. The MTPO has an established Congestion Management Process, which defines the data sources, tools and analysis methods to monitor congestion issues, trends and the effectiveness of strategies over time. This is reflected in the Annual MTPO Multimodal Level of Service Report and MTPO Mobility Plan Status Report that help inform the project priority process and support other transportation analysis needs. One of the keys to an effective metropolitan planning process is to give information to decision-makers and advisory groups on the on-going operations of the transportation system, and reporting conditions and trends that may influence policy or project solutions in the future. Therefore, the linkage between the LRTP and CMP is an important one, where the long range vision and project needs established through the LRTP can guide the development of the five year Transportation Improvement Program and annual priorities through the lens of the CMP.

In that spirit, the MTPO will continue to monitor the transportation network in close coordination with FDOT District 2, Alachua County and the City of Gainesville to identify near term, lower cost mobility and accessibility strategies that are consistent with the framework and vision established through the 2035 Long Range Transportation Plan. Of particular importance, the MTPO will monitor progress toward achieving the goals of enhanced multimodal mobility and accessibility in the Gainesville Urbanized Area, and providing feedback on that progress to the public, advisory committees and elected officials.

Bicycle/Pedestrian Advisory Board

The MTPO has an established Bicycle/Pedestrian Advisory Board to address and plan for bicycle and pedestrian facility and program improvements in the community. The BPAB addresses the "Six Es" of education, encouragement, enforcement, engineering, equity and evaluation, and functions in complementary fashion to the MTPO's Citizens and Technical Advisory Committees on matters relating to bicycle, pedestrian and multimodal transportation mobility and access. The committee will continue to address both long term and short term bicycle and pedestrian needs and priorities, guiding implementation of priority projects consistent with the vision and direction of the MTPO's Long Range Transportation Plan. These priority projects funded in the Cost Feasible Plan include segments of the Alachua Countywide Bicycle Master Plan - designated "Archer Braid" network of shared use pathways that better connect residential areas in the Southwest Gainesville area to the University of Florida main campus.

Intelligent Transportation System

The MTPO, in partnership with Alachua County, FDOT District 2 and the City of Gainesville has identified a number of Intelligent Transportation System (ITS) projects for future funding that are included in the 2035 Long Range Transportation Plan for reference. While not cost feasible, these projects build upon the already funded traffic signal system project designed to improve operating efficiency of the area's roadways. The MTPO and its partners can use the list of planned ITS strategies to identify opportunities to implement the projects as part of other maintenance and development activities, and to find funding through various potential sources. **Table 11** describes the ITS priorities in Alachua County as jointly recommended by the MTPO staff, TAC, CAC and B/PAB, and approved by the MTPO on October 27, 2010. Given that the projects are not cost feasible, estimated costs are shown in 2010 dollars only.

Table 12: Intelligent Transportation System Priorities in Alachua County

Project Priority	Project Name	Description	Estimated Cost (2010 Dollars)
1	**Interstate 75 Intelligent Transportation System Corridor** Marion County Line to Columbia County Line	**A**. Add Dynamic Message Signs (DMS) to alert motorists of traffic conditions and travel times. **B**. Add pan-tilt-zoom traffic surveillance cameras for active traffic management of the freeway. This will allow operators at the Gainesville Traffic Management Center (TMC) to alert motorists of existing conditions using the Dynamic Message Signs and the 511 information hotline. **C**. Add traffic detection technology so automated alerts can be sent to Gainesville Traffic Management Center (TMC) operators when highway speeds drop below a certain threshold as well as for highway traffic studies and travel time collection.	$9,900,000
2	**Regional Transportation System Bus Priority System** Adding signal priority to heavily used bus routes for University of Florida students will make those routes more reliable, thus resulting in higher passenger capacity and fewer vehicles on the road.	**A. Route #9** State Road 24 (Archer Road} from SW 23rd Terrace to SW 23rd Drive State Road 331 (Williston Road} from SW 25th Terrace to SW 23rd Street **B. Route #20** State Road 121 (SW 34th Street} from Hull Road to SW 20th Avenue **C. Route #21** State Road 121 (SW 34th Street) from Hull Road to SW 20th Avenue	$600,000
3	**Dynamic Message Signs on State Highways~ Arterials** Dynamic message on the arterials will alert drivers of existing traffic conditions, alternate routes, detour routes in the event Interstate 75 is shut down, and travel times.	**A**. State Road 121 (SW 34th Street) @ SW 20th Avenue (Southbound) **B**. State Road 121 (SW 34th Street) @ State Road 331 (Eastbound) **C**. State Road 25 (W 13th Street) @ State Road 26 (W University Avenue) **D.** State Road 25 (NW 13th Street) @ State Road 222 (NW 39th Avenue) (Westbound) **E.** Road 25 (NW 13th Street) @ State Road 222 (NW 39th Avenue) (Northbound) **F.** State Road 222 (NW 39th Avenue(@ State	$700,000

Project Priority	Project Name	Description	Estimated Cost (2010 Dollars)
		Road 93 (Eastbound)	
4	**Expand Automated Arterial Travel Time System** Expanding the Arterial Travel Time System will provide motorists with more real time information via Google maps or Dynamic Message Signs for actual travel times to various spots in the urban area. Motorists may be able to make a different route choice based on the information they receive. The travel times can be also be used for traffic studies to measure development related impacts.	**A.** State Road 25 (NW 13th Avenue) **B.** State Road 222 (NW 39th Avenue) to State Road 331 (Williston Road) **C.** State Road 121 (SW 34th Street} NW 16th Avenue to State Road 93 (Interstate 75) Southbound Ramp	$600,000
5	**Travel Demand Management** Information technologies project that addresses travel demand strategies, such as high occupancy vehicle (HOV) lanes, high occupancy toll (HOT) lanes and other travel demand management technologies.	Gainesville Metropolitan Areawide	(to be determined)
Grand Total Intelligent Transportation System Projects			**$11,800,000**

Safety Element

SAFETEA-LU mandates that MPOs develop a Safety Element as part of their Long Range Transportation Plan to provide planning guidance on ways to improve safety in all aspects of transportation mobility. This legislation recognizes safety as a separate planning factor, and it is indeed a crucial ongoing issue affecting all modes and users. Statistics bear this out. The Florida Department of Transportation's Safety Office developed the Strategic Highway Safety Plan to improve the safety of Florida's surface transportation system for residents and visitors through focusing funding and other resources strategically on those problem areas where the opportunity for improvement is greatest, as measured by reductions in fatalities and serious injuries.

This Safety Element of the Year 2035 LRTP begins with a discussion of the policy framework provided by the State of Florida Strategic Highway Safety Plan (SHSP) followed by an assessment of how the Gainesville Urbanized Area has fared in comparison with other areas of the state and country regarding safety, based on the priority areas in the SHSP. Results show that crash rates in Alachua County are slightly lower than the majority of other counties nationwide, but safety (based on crash rates) is still a major concern, especially for vulnerable road users such as bicyclists, pedestrians, motorcyclists, and elderly users. The second section identifies safety goals and objectives adopted by the MTPO to guide how the agency intends to address safety in future years. The third section identifies the strategies the MTPO will use to monitor safety indicators, allocate resources most effectively to priority safety projects and programs, and coordinate with various agencies to improve overall safety on the Gainesville Urbanized Area's transportation network.

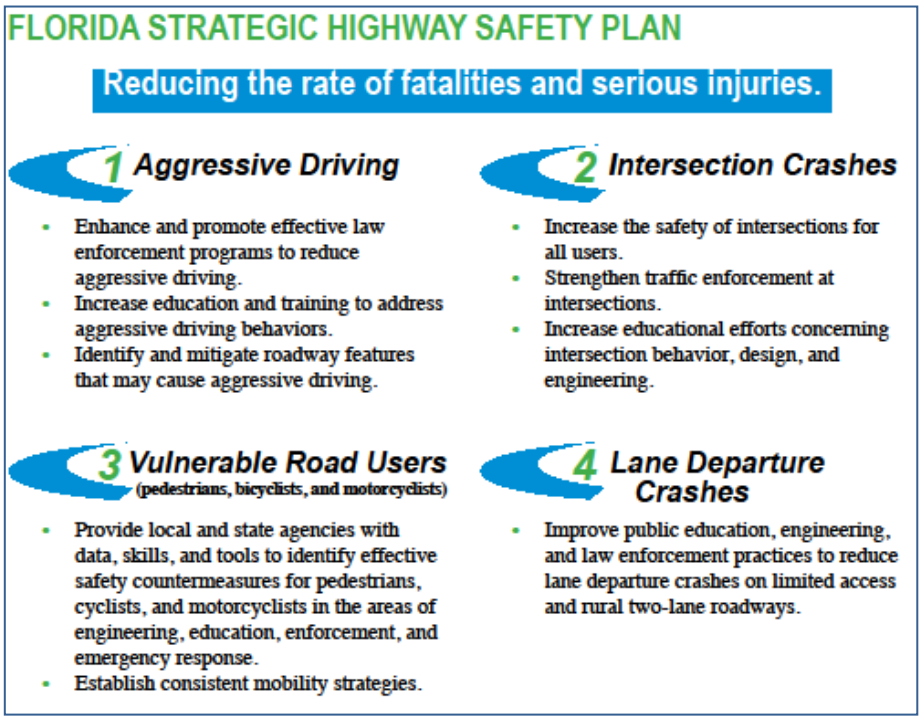
Safety Issues and Conditions

FDOT's Strategic Highway Safety Plan provides a framework for addressing local safety issues and identifying funding sources for implementation. The State Office of Safety continually reviews statewide crash statistics. This agency has identified four types of emphasis areas on which to focus efforts and resources, based on an analysis of safety problems and current resource allocation in Florida:

- Aggressive Driving
- Intersection Crashes
- Vulnerable Road Users (pedestrians, bicyclists, and motorcyclists)
- Lane Departure Crashes

Figure 6 below outlines main objectives under each of the four emphasis areas in the Florida Strategic Highway Safety Plan.

Figure 7: Florida's Traffic Safety Target Areas



The Alachua County Community Traffic Safety Team (CTST) maintains a list of safety issues in the County that forms the basis for the MTPO's annual priority lists for Safe Routes to Schools and other safety funding. Participants at community workshops for the Year 2035 LRTP were asked to identify safety concerns in the region. Most issues raised related to bicycle and pedestrian safety at specific locations, often focused on pedestrian crossings and high traffic speeds. This information will be provided to the Alachua County CTST for incorporation into its process for addressing safety issues.

National and Statewide Assessments

In addition to the data collected and summarized by the counties, the National Highway Traffic Safety Administration (NHTSA) summarizes traffic fatality data nationally using a number of measures. Information from the most recent NHTSA reports is summarized below in **Table 13**.

Generally, Alachua County compares favorably to other counties across the country in regards to the four emphasis areas identified by the State of Florida's Strategy Highway Safety Plan. The rankings place the County in the lower third of all US counties for overall fatal crash rates, aggressive driving and lane departure fatalities and the middle third for fatalities in intersection

crashes and those involving vulnerable road users. **Table 13** shows the ranking of crash rates in Alachua County compared to nationwide rates.

Table 13: Alachua County Crash Rates Compared to all U.S. Counties

FSHSP TARGET AREA	NHTSA MEASURE	PLACEMENT WITHIN RANKINGS OF ALL US COUNTIES
Overall safety	Fatal crashes	Lower third
Aggressive driving	Fatalities in crashes involving speeding	Lower third
Intersection crashes	Fatalities in crashes involving intersections	Middle third
Vulnerable road users	Motorcyclist fatalities	Middle third
	Pedestrian fatalities	Middle third
	Pedalcyclist fatalities	Middle third
Lane departure crashes	Fatalities in crashes involving roadway departure	Lower third

Source; National Highway Traffic Safety Administration, http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/12_FL/2009/12_FL_2009.htm#MAPS_1

System Safety Objectives and Strategies

Increasing safety for mobility and accessibility in the Gainesville Urbanized Area is one of the MTPO's major goals for the LRTP. The key objectives to meet this goal are as follows:

- **Address existing and potential safety problems** on or adjacent to transportation corridors through an interagency planning and prioritization process.
- Implement techniques to **calm traffic** in residential, educational and commercial areas where walking and bicycling are common.
- Implement a comprehensive **Safe Routes to School Program** to increase the percentage of children walking or bicycling to school.
- Implement additional sidewalks, bike lanes and bike paths for vulnerable road users to improve safety in all aspects of transportation.
- **Increase safety for vulnerable road users**, including the elderly, children, pedestrians, bicyclists, motorcyclists and motorscooter riders.
- Implement techniques and **roadway design to reduce fatalities and serious injuries** from common intersection crashes, lane departure crashes, and aggressive driving.

- **Coordinate with the Florida Department of Transportation** to implement the Florida Strategic Highway Safety Plan.
- Incorporate safety-related strategies, plans and activities (including transit safety) in the Safety Element of the long range transportation plan.

These objectives are designed to help the MTPO target its safety programs and its funding priorities. Performance measures and targets for each objective are identified below to enable the MTPO to track progress on meeting these safety goals and objectives. They will be incorporated to guide MTPO annual priorities and work programs, as well as future updates of the LRTP.

System Safety Recommendations

Goals, Objectives, Performance Measures and Targets

The MTPO will rely on the following performance measures and targets to evaluate progress towards achieving its system safety objectives. To ensure consistency of measurements over time, the MTPO works with the Alachua County Community Traffic Safety Team to set a current baseline data point for each measurement and update the measures and track progress through development of its Priority Projects Lists and through updates to the LRTP.

System Safety Improvements

With its ability to direct state and federal transportation funding, the MTPO can directly influence how and where safety improvements are made in the Gainesville Urbanized Area. The MTPO has a range of funding available for safety projects each year from various sources. The MTPO works closely with the Alachua County Community Traffic Safety Team (CTST) to identify specific safety improvement needs, projects and programs for inclusion in the TIP. The Year 2035 LRTP reflects an increased emphasis on transforming the transportation network in the Gainesville Urbanized Area to a multimodal system, designating Multimodal Emphasis Corridors on University Avenue and 13th Street and allocating funds toward increased transit options (including Bus Rapid Transit and streetcar) and bicycle/pedestrian projects. Safety strategies are part and parcel of many complete street and multimodal projects, ranging from dedicated bike lanes and sidewalk/street buffers to access management strategies and enhanced pedestrian crossings. As part of the development of transportation projects, the MTPO and its partners will collect baseline data regarding safety issues and other travel information. This will allow for before-and-after comparisons of the benefits of the implemented transportation projects.

SELECTED SAFETY OBJECTIVES AND STRATEGIES

Objective: Address existing and potential safety issues.

- Physical modifications (sidewalks, clearance zones, narrowing roadways, etc.)
- Education programs to make travelers more aware of safety risks and rules (defensive driving, sharing the road, "slow down/move over," etc.)
- Education and enforcement programs to reduce risky behaviors (drunk driving, seat belt use, etc.)
- Coordinate with CTST to identify projects for funding from various safety programs

Objective: Increase safety, mobility, accessibility for vulnerable road users

- Construct new sidewalks, bicycle facilities, and trails
- Increase outreach and education with law enforcement, prosecutors, and judges for enforcing traffic laws relating to pedestrians, cyclists, and motorcyclists
- Adopt a Complete Streets policy to ensure the needs of all users are considered/met in roadway design

Objective: Implement techniques to calm traffic and improve performance

- Implement access management strategies to encourage trucks to use alternate routes
- Review preferred truck routes through the region

Objective: Improve pedestrian and bicyclist safety

- Implement a 6 Es (Engineering, Education, Enforcement, Encouragement, Evaluation & Planning, and Equity) approach to bicycle and pedestrian planning
- Provide education for both motorists and cyclists regarding rules of the road and reducing conflicts
- Support Safe Routes to Schools programs and projects to encourage children to walk to school

Policy and Coordination Recommendations

Alachua County has an active Community Traffic Safety Team, which includes individuals representing law enforcement, emergency management, transportation planning and traffic engineering, medical services and others. The CTST reviews safety concerns, promotes traffic safety programs, and maintains a list of safety concerns needing some sort of action. The CTST provides a forum for discussing safety issues and resolving them effectively through interagency coordination and/or funding resources from safety programs. The CTST also participates in the State CTST Coalition, which meets quarterly to share best practices among CTSTs.

Security Element

System Security Objectives and Strategies

Large scale terrorist attacks, such as the 9/11 attacks on New York and Washington, D.C. and natural disasters, such as Hurricane Katrina's flooding of New Orleans, have raised our awareness about the need to prevent, protect and recover from such calamities. Transportation systems and services are impacted directly and indirectly by such events, particularly terrorist attacks. NCHRP Report 525, c3, p13 highlights the following points:

Transportation infrastructure's vulnerability to terrorist acts can be attributed to several features. First, transportation infrastructure (stations, vehicles, and networks) serve high concentrations of people, thereby increasing the potential number of casualties. Second, transportation systems provide essential services to the public, thereby threatening their way of life. Third, transportation systems can be used as both the delivery and escape mechanisms of terrorists. These features make transportation infrastructure a target of choice for those wanting to spread fear to the widest segment of society. They also make transportation infrastructure harder to secure from terrorist actions.

Transportation security and safety are closely related. Safety-related plans, policies, programs, and projects generally focus upon protection from injuries and fatalities among the traveling public. Security-related plans, policies, programs, and projects address protection and recovery from manmade and natural disasters. Whatever the cause, disruption of the transportation system undermines the safe and energy-efficient movement of people and goods.

In recognition of the need to properly plan for the security of the nation's transportation systems for motorized and non-motorized travelers, the Federal Transportation Bill of 2005, SAFETEA-LU, specifies the following considerations that must be included in a long-range transportation planning process:

- Federal requirements for security planning for the transportation system;
- The MPO's role in local and regional security planning activities;
- Protection of, and recovery planning for, critical transportation infrastructures including airports, railroads, intermodal terminals, and transit facilities;
- Coordination of regional freight security planning policies and procedures with those of FDOT and the Federal Highway Administration; and

- Policies relevant to transportation security planning, coordination and communications; project programming and prioritization; and green transportation initiatives that support national security.

Goal Statement 4 of the Year 2035 LRTP states that that MTPO will improve the security and resilience of the transportation system. Key objectives for achieving this goal include the following:

- Increase the ability of the transportation network to accommodate variable and unexpected conditions without catastrophic failure.
- Compile existing plans and protocols into a transportation security plan that protects lives and coordinates the use of resources.
- Increase personal security of users by implementing appropriate design strategies, such as improved lighting and visibility measures, at appropriate locations such as transit stops and intermodal facilities where people are waiting.
- Review and update the Continuity of Operations Plan on a regular basis to ensure the continuity of essential office functions if a major event/emergency/disaster occurs.
- Support development of alternative fuel sources and infrastructure to provide continuing transportation services in the event of scarcity.
- Coordinate with appropriate agencies to protect the critical transportation infrastructure against disaster by identifying vulnerable assets and possible threats to these assets, developing prevention strategies, and planning for recovery and redevelopment after disaster (in coordination with the Local Mitigation Strategy).
- Incorporate security-related strategies, plans and activities (including transit security) in the Security Element of the long range transportation plan.

System Security Issues and Conditions

Based upon recommendations from national research on transportation safety and security planning, the assessment of issues and conditions in the Gainesville Urbanized Area incorporates the following steps:

- Step 1: Identify the high value transportation assets in the Gainesville Urbanized Area.
- Step 2: Consider security-related threats to these assets under the two most likely types of incidents: a terrorist attack or a hurricane/evacuation.
- Step 3: Identify the MTPO's potential role in mitigating the impacts of each scenario.

High-Value Transportation Assets

Key transportation assets in the Gainesville Urbanized Area that may be particularly vulnerable to security threats include the following facilities:

- **Gainesville Regional Airport:** Many airports are attractive targets for terrorists due to the access to freight and passengers within the airport grounds and on board aircraft served by this facility.
- **Transit System Facilities/Routes:** Key transit routes may be vulnerable to security risks, such as terrorist attacks or other situations that may disrupt public transportation services in the Gainesville Urbanized Area. The high-ridership routes serving the University of Florida campus, and facilities, such as the Gainesville Regional Transit System's Maintenance Facility and Rosa Parks RTS Downtown Station, would be of special concern.
- **University of Florida:** While not a transportation facility, the University of Florida (UF) serves as a key destination for both people and goods within the Gainesville Urbanized Area, and emergency situations could profoundly affect transportation access to and around the University.
- **I-75, SR 24 (Archer Road), US 441, SR 26 (Newberry Road), SR 20 (Hawthorne Road) and other major state roadways:** These major roadways handle a large majority of the freight and goods movement through and into the region making them attractive targets for terrorist attacks. In addition, these roads are the region's primary hurricane evacuation routes, and while not a coastal community, wind from hurricanes and other storms can cause major disruption to the transportation network, as seen in other inland counties. It is very important to ensure that plans and strategies are in place to manage and redirect traffic to other routes and/or travel modes in the event of disruptions or route closures along these corridors.
- **Hurricane Evacuation Routes:** State, regional and local emergency operations and management teams develop hurricane preparedness plans. As an inland county, Alachua County serves as a major destination and shelter location for persons evacuating from Florida's coast in the event of an impending hurricane. Therefore, hurricane evacuation is a particularly important factor in the Gainesville Urbanized Area's transportation system performance evaluation and planning. Key issues include providing adequate evacuation routes for traffic from the coastal areas travelling both through the County on I-75, SR 20, and SR 24 as well as those seeking to stay at area hotels and shelters. Application of Advanced Traffic Management System information on these and other regionally significant roadways is a key aspect for improving emergency evacuation.

Security Threat Scenarios

The primary large-scale security threats to the Gainesville Urbanized Area's transportation system are terrorist attacks and hurricane evacuation/storm-related issues. Key transportation-related strategies for these types of events include coordinating with state and local officials regarding quick and efficient evacuation, rerouting traffic away from impacted areas and corridors, and maintaining operations of critical facilities such as the transit system, the University, and the Airport. The development of scenarios reveals several key threats to major transportation assets

in the Gainesville Urbanized Area. The County's Emergency Management Plans and Local Mitigation Strategy provide further detail on the hazards affecting the region's critical infrastructure, including transportation facilities.

System Security Recommendations

Goals, Objectives, Performance Measures and Targets

The MTPO will rely on the following performance measures and targets to evaluate progress towards achieving its system security objectives. To ensure consistency of measurements over time, the MTPO will begin by setting a current baseline data point for each measurement. Once that baseline is established, the MTPO will update the measures and track progress as part of its program evaluations and future LRTP updates.

System Security Improvements, Policies and Coordinating Strategies

Based upon guidance from the National Cooperative Highway Research Program, transportation system security plans should address the following issues and strategies:

- Prevention, including strategies such as surveillance (CCTV) and communication infrastructure technologies, and processes such as continual communication, coordination and planning;
- Protection, including physical access barriers and design features that limit access to a facility, such as blast-resistant fences and concrete pilings;
- Redundancy, which provides the ability to recover quickly in case of an attack or a hurricane event. Strategies include backup plans and infrastructure to ensure uninterrupted interagency communications, multiple transportation routes, and effective public information systems.
- Recovery, including plans and strategies that involve operational and communications technologies, as well as institutional coordination.

As noted earlier, security preparedness, response, and mitigation plans have been prepared for Alachua County and are incorporated into the Year 2035 LRTP by reference. Each of the plans addresses the threat responses listed above. The MTPO will stay apprised of those plans and any updates to them, and identify ways to supplement those plans through transportation-related modifications and strategies. In particular, the MTPO is in a key position to serve in a coordinating role both planning for and during recovery from a disaster based on its unique position of being an independent organization that crosses jurisdictional boundaries and works with staff and elected officials at various levels.

Operations and Maintenance of the Transportation System

The Year 2035 LRTP considered operating and maintenance costs for the transportation network in development of the plan. The financial resources memo, included as part of Technical Report 2, addressed existing and future revenues needed to operate and maintain the Gainesville Urbanized Area's transportation system. For roadways, maintenance is not included as part of the revenue estimates provided by the Florida Department of Transportation, so costs for new projects only included the cost to plan, design, acquire right-of-way and construct roadway projects. The FDOT assumes that it will accommodate the maintenance needs of the state highway system using revenues from the state's Transportation Trust Fund. For non-state roadways, the financial resources analysis revealed that Alachua County and the City of Gainesville use all of their local gas tax revenue for maintenance of the existing roadway network, as well as construction and repair of sidewalks, intersection signal operations, signage and pavement markings.

For transit, the Cost Feasible LRTP addresses the future operating expenses needed to maintain and operate the existing RTS bus fleet. The revenue projections include $74.7 million in transit funding through 2035 that is mostly needed to cover operating costs. Only a very small portion of that funding – about $3.7 million – is available for non-operating costs for the existing bus fleet into the future. Other sources of existing and projected funding were identified and applied to cover the costs of the new RTS bus maintenance facility, which is necessary to maintain the current fleet and expand service into the future.

Effectiveness of the Year 2035 Cost Feasible Plan

The Year 2035 Cost Feasible LRTP is a financially constrained plan that does not achieve all of the identified transportation needs to support the goals and objectives identified for the Gainesville Urbanized Area. The principal limitation is the lack of financial support for an expansion of transit service to cover additional operating costs. The 2035 Needs Plan includes a spine Bus Rapid Transit corridor along with several feeder BRT routes and expanded local fixed route bus service to help meet the needs associated with future growth and support community redevelopment objectives. Most of these BRT projects are located along congested and constrained roadways, such as Newberry Road, NW 13th Street, Archer Road, NW 39th Avenue and parallel to SW 20th Avenue. While some of the capital and maintenance needs are being accomplished for this transit expansion through funding of the new RTS maintenance facility and acquisition of rights-of-way for the BRT through the County's policies, the major challenge is the operating cost of new service.

The project evaluation criteria developed for ranking of Needs Plan projects in Technical Report 6 addressed the following factors: On or parallel to an existing or future congested roadway; extending existing transit service to high population and employment density areas; located in highly accessible area; connects two or more collector or arterial roads; and increases frequency of transit service to less than 30 minutes or expand operating hours. The Cost Feasible Plan

accomplishes many of those criteria by funding the initial phases of the BRT and streetcar network, a new park and ride lot, and improving operations along several congested corridors. In addition, locally funded projects, such as widening NW 23rd Avenue, support the criteria and help achieve the objectives of the Needs Plan. However, the lack of transit operating funds to add service along these corridors means the Cost Feasible Plan fails to fully provide the anticipated full array of viable travel choices along congested or constrained corridors that would better connect trip origins with key employment, educational and commercial destinations. In addition, by failing to fund the Archer Road widening project or viable express bus service, the Cost Feasible Plan does not resolve projected roadway capacity problems along this major commuting route. Without supplemental funding to support the initial transit service development efforts (including BRT, express bus and local fixed route service expansion), the primary impact of the financially constrained LRTP is to only marginally reduce anticipated travel delays by 2035 while not providing adequate transit alternatives to meet the expected demand. Long term, this funding situation must be addressed with additional revenues to make the vision of a highly transit accessible community a reality for the entire urbanized area.

Year 2035 Needs Plan Unfunded Projects

As stated above, full funding of the identified transit projects included in the Needs Plan is the major limitation of the Year 2035 Cost Feasible Plan in achieving the adopted vision, goals and objectives of the Livable Community Reinvestment Plan. The Cost Feasible Plan lays a strong foundation for achieving the adoption vision of the 2035 LRTP with funding of the RTS maintenance facility, and the initial steps toward development of the Bus Rapid Transit network; however, that foundation does not put transit service into operation. A lack of sufficient revenue sources to fund the construction of the BRT network by 2035, as well as the lack of defined revenue sources to fund the associated operating costs of BRT, streetcar, express bus and fixed route service, means that a central element of the plan is not achievable without new additional funding sources. The unfunded BRT network would connect the east and west areas of Gainesville, providing improved connectivity and an alternative within congested and constrained corridors.

There are a number of other unfunded transportation projects in the Needs Plan that failed to be included in the Cost Feasible Plan. Some of those include widening of SW 62nd Boulevard and Archer Road, which would help facilitate the BRT network as well as reduce congestion and delay on key east-west corridors on the west side of the community.

Securing Alternative Funding Sources

The 2035 LRTP considered potential additional revenue sources early in the planning process as part of the documentation of the revenue available for transportation projects in the Gainesville Urbanized Area. However, the adopted Cost Feasible Plan does not include any transportation projects that are assumed to be funded using new or alternative revenue sources. The plan

assumes only those revenues identified from conventional state and federal sources that were provided to the MTPO by FDOT District Two for use in developing the LRTP. Therefore, it is not necessary to document steps toward ensuring the availability of alternative revenue sources for the MTPO's adopted 2035 Cost Feasible LRTP.

On the local government side, one of the alternative revenue sources listed in the financial resources documentation is a mobility fee. Authorized by the Florida Legislature in 2009, mobility fees provide a way to fund multimodal transportation projects identified as part of a local governments' mobility plan to address transportation concurrency needs. Alachua County has moved forward with the adoption of a mobility plan that is largely based on development of a Bus Rapid Transit network. A mobility fee was also under development to support the County's mobility plan at the time of the LRTP adoption in October 2010. The list of Alachua County Cost Feasible projects was taken from the adopted mobility plan, and is based on the assumption that the mobility fee would be in place.

A more significant issue is how the community will fund ongoing expansion of fixed route and premium bus service into the future. The adopted 2035 LRTP only shows enough transit revenue to pay for existing bus service, although there is a substantial amount of new bus service included in the 2035 Needs Plan. Due to the lack of revenues, this additional bus service was not included in the Cost Feasible Plan. The City of Gainesville and Alachua County, in partnership with the MTPO, will need to address future funding for expanded bus operations if additional service is to be implemented in the future. The financial resources document identified several potential sources of revenue for that purpose, such as a discretionary sales tax, a Charter County Transportation Surtax, or a Municipal Services Taxing Unit (MSTU). These and other options should be explored if the transit service adopted as part of the 2035 Needs Plan is to become financially feasible.

Coordinating Transportation Planning and Land Use/Economic Development

A major consideration in the 2035 LRTP is the influence of land use, urban form and economic development on the transportation network needs within the Gainesville Urbanized Area. In developing the draft Needs Plan for approval by the MTPO, a primary driver of the technical analysis entailed an evaluation of multimodal network accessibility relative to key destinations, such as centers of education, medical institutions and places of business and retail centers. The objective of the analysis was to demonstrate how the transportation plan can improve accessibility of both households and employment locations in the urbanized area from existing conditions to 2035. The analysis revealed that the trend, or status quo, shows an increasing number of households and jobs will be located in less accessible areas in the future unless specific transportation strategies are chosen to alter that trend. This analysis was also tied to the peak oil analysis that looked at the increasing scarcity and price volatility of oil supplies. These analysis

steps provided a technical and policy basis for the MTPO and its local government partners to adopt 2035 Needs and Cost Feasible Plans that improve accessibility and will support future economic growth and greater development intensity along core transit routes, including planned Bus Rapid Transit corridors.

Strategic Environmental Mitigation

As part of the 2035 LRTP, the MTPO worked with FDOT District 2 to perform an environmental screening of all projects included in the adopted Needs Plan. The planning level screen followed Florida's Efficient Decision Making Process (ETDM) to evaluate community, cultural and natural effects for 36 separate projects. A geographic information systems (GIS) analysis examined each project in terms of a 100', 200' and 300' buffer to determine whether potential socio-cultural and environmental effects would be significant. These results were converted into a numeric value (e.g. Low = 1; Moderate = 2; High = 3). The numeric values were added together to create a consolidated or "final" score for each Needs Plan project. Low scores indicate lower overall environmental impacts and less estimated costs associated with potential mitigation, and high scores indicate potentially greater environmental impacts and higher estimated costs associated with mitigation. These findings are documented in the Needs Plan narrative and appendix of Technical Report 6.

As a result of that analysis, all Needs Plan projects scored low in terms of environmental effects, with the exception of the Bus Rapid Transit and streetcar projects, which scored in the moderate category. There were no projects that rated in the high category. This indicates that none of the projects in the Needs Plan identified major environmental issues or "red flags" that would require mitigation. For the transit needs plan projects with moderate environmental effects, each will go through a federal Alternatives Analysis process to help evaluate a preferred alignment and develop more detailed cost estimates, which will include any necessary environmental mitigation.

Development of the Coordinated Public Transit-Human Services Transportation Plan

During the development of the 2035 LRTP, one of the initial meetings involved a presentation and dialogue with the Alachua County Transportation Disadvantaged Coordinating Board (TDCB). The purpose of the meeting was to invite input from the public and the Board members on public transportation issues, opportunities and needs, including fixed route and paratransit, or demand-response, service in the community. The comments are summarized in Technical Report 1, and essentially addressed issues related to expanded fixed route bus service into certain areas of Alachua County, the need for additional park and ride lots with transit service, and the desire to shift more demand-response riders to the fixed route bus system at a lower cost per rider. In addition, there was discussion of improved service coordination to create gathering points, or

hubs, for improved integration of public and human services transportation. Ultimately, the adopted Needs and Cost Feasible Plans included projects to expand public transportation service within the urbanized area, with funding focused on an expanded transit maintenance facility to support expanded service levels for all types of service in the future.

Projected Transportation Demand

The 2035 LRTP was based on population and employment projections to 2035 that show an additional 70,000 people and 50,000 jobs over current totals for all of Alachua County. This increase in population and employment, as well as the growth in surrounding counties, was used with the Alachua Countywide Travel Demand Model to project future traffic levels and areas of anticipated congestion. In addition, the model and associated socioeconomic data projections was used to estimate increases in Vehicle Miles of Travel and Vehicle Hours of Travel, two key performance measures associated with air pollution and sprawl development patterns. The analysis showed nearly 12 million VMT and 380,000 VHT by 2035, as reflected in some 300 congested lane miles of roadway. An accessibility analysis also evaluated the relative accessibility of housing and employment based on available transportation options and land development patterns. Various alternative networks were developed to reduce the VMT and VHT trends, and to increase the area's overall accessibility for both people and goods. Ultimately, the adopted Needs and Cost Feasible Plan networks included projects that result in a lowering of VMT and VHT, and help improve overall accessibility. Several projects, such as I-75 access ramp modifications and widening SE 16th Avenue, were specifically identified to improve goods movement in the region.

Operational and Management Strategies

The Gainesville Urbanized Area has a strong transportation policy framework in place that focuses efforts on development of multimodal transportation networks, primarily within existing rights of way, to reduce environmental effects, limit adverse impacts to established neighborhoods and provide for more travel options. Much of this policy framework stems from the desire to protect and revitalize the historic areas within the City of Gainesville and on the main campus of the University of Florida, but also from interests to create a more livable and sustainable community throughout the Urbanized Area, by fostering more compact development patterns, greater use of public transportation, and increasing accessibility, mobility and safety of non-motorized transportation modes.

The 2035 LRTP features operational and management strategies to improve the performance of the transportation system, help reduce congestion at critical points in the network, and increase safety and mobility. The following are examples of the types of operational and management strategies included in the adopted plan:

- Development of the RTS bus maintenance facility. Management of an expanded bus fleet to achieve higher levels of transit service requires an up-to-date facility to maintain vehicle and passenger safety. RTS has acquired the land for a new maintenance facility designed to accommodate future growth of the service, including Bus Rapid Transit, and the LRTP provides funding through 2035 to construct the maintenance facility in phases.
- Development of future BRT corridors through feasibility studies and dedication of rights-of-way as part of Alachua County's growth management strategy. Management of an efficient and effective transportation system requires forethought about possible corridor transformations and acquisition of rights-of-way early in the process to reduce costs and reach agreements from appropriate maintenance and operating entities, such as FDOT and RTS. The 2035 LRTP lays this foundation.
- Operational improvements along key corridors to reduce congestion, such as through turn lane additions on NW 34th Street, which has long experienced traffic congestion from left-turning vehicles during peak periods.
- Identification of Intelligent Transportation Systems (ITS) applications throughout the region that build upon the City of Gainesville's Advanced Traffic Management System (ATMS) and associated traffic signal system modifications to ensure a more adaptive and dynamic response to recurring and non-recurring congestion, such as delays caused by incidents. This will provide better and more timely information for travelers to avoid congestion, take alternative routes or use other travel modes to reach their destinations.
- Interchange ramp modifications along I-75 as part of the state's Strategic Intermodal System, which addresses key congestion hot spots in the Gainesville area. These access ramp modifications were identified initially in the I-75 Master Plan, and have been advanced through the Year 2035 LRTP to improve safety along the I-75 mainline, its ramps, and along the intersecting state arterial roadways.
- Development of a network of shared use paths for safe non-motorized access within one of the more congested corridors of the Gainesville Urbanized Area. The Year 2035 LRTP advances priority bicycle and pedestrian projects that help to create another travel option that gives users the ability to avoid higher speed congested roadways, cross major barriers like I-75 and NW 34th Street, and reach their destination without using gas or taking up a parking space. These network enhancements complement the on-road bicycle and pedestrian facilities by improving accessibility for users of all ages and abilities.

The measures of accessibility, defined in Technical Report 5, should provide a good basis for guidance in the future about transportation management and operations to improve the overall efficiency and effectiveness. The MTPO and its partners should evaluate the relative accessibility of households and jobs based on the available transportation options and networks serving them. Along with measures of VMT and VHT, transit ridership and roadway level of service, accessibility

provides a valid and operationally-focused basis for guiding decision-making on management and operations of the transportation system,

Regional Priorities and Needs: Capital Investment and Other Strategies to Preserve Infrastructure and Increase Multimodal Capacity

The entire Year 2035 LRTP addresses capital investments and a variety of other strategies to preserve existing infrastructure and increase multimodal capacity. The basic premise of the Year 2035 update of the Livable Community Reinvestment Plan is to focus on preservation of the existing roadway network and expand multimodal options to enhance quality of life and reduce negative effects of transportation, such as greenhouse gas emissions and environmental or community impacts. The planning analysis included land use and transportation strategies that address key factors like proximity and availability of travel options as ways to preserve existing infrastructure and increase overall system capacity by increasing the viability of non-auto modes. Chief among these strategies is the Bus Rapid Transit network, which largely would operate within the rights-of-way of existing roadways, sometimes in mixed traffic and in other times running on dedicated lanes. The BRT would expand multimodal capacity within existing roadway corridors, helping to reduce congestion and improve overall efficiency for transit and non-transit users.

Through adoption of the Cost Feasible Plan, the MTPO identified key priorities that will advance regional transportation needs and substantially preserve existing infrastructure and increase multimodal capacity. The RTS maintenance facility is a central component of this regional strategy, because it would enable a much broader expansion of bus service of all kinds throughout the Gainesville Urbanized Area. The plan also identifies funding needed to replace the existing transit stock, and develop multimodal strategies on two primary corridors – University Avenue and West 13th Street. The Archer Braid network of shared use paths and roadway crossings is included in the adopted plan to provide a critical east-west connection for non-motorized transportation in an increasingly congested area where additional growth is expected. In addition, projects like the SE 16th Avenue widening provide system continuity to connect east and west Gainesville with four lane roadways that will facilitate truck traffic between commercial and institutional areas west of downtown with the Strategic Intermodal System and the airport industrial area on the east side of the community. Finally, the plan identified a series of Intelligent Transportation System projects that, although not fully funded, will support the more efficient use of the existing transportation network.

Peak Oil Land Use and Transportation Mitigation Strategies

Potential Future Land Use and Transportation Scenarios to Mitigate Effects of Peak Oil

Introduction

According to various sources, peak oil theory states that any finite resource (including oil) will have a beginning, middle and an end of production, and at some point it will reach a level of maximum output. Oil production typically follows a bell shaped curve when charted on a graph, with the peak of production occurring when about half of the oil has been extracted. With some exceptions, this holds true for a single well, a whole field, an entire region, and presumably the world. In the US for example, oil production grew steadily until 1970 and declined thereafter, regardless of market price or improved technologies. World discovery of oil peaked in the 1960s, and has declined since then. If the 40 year cycle seen in the US holds true for world oil production, that puts global peak oil production right about now; after which oil becomes less available, and more expensive.

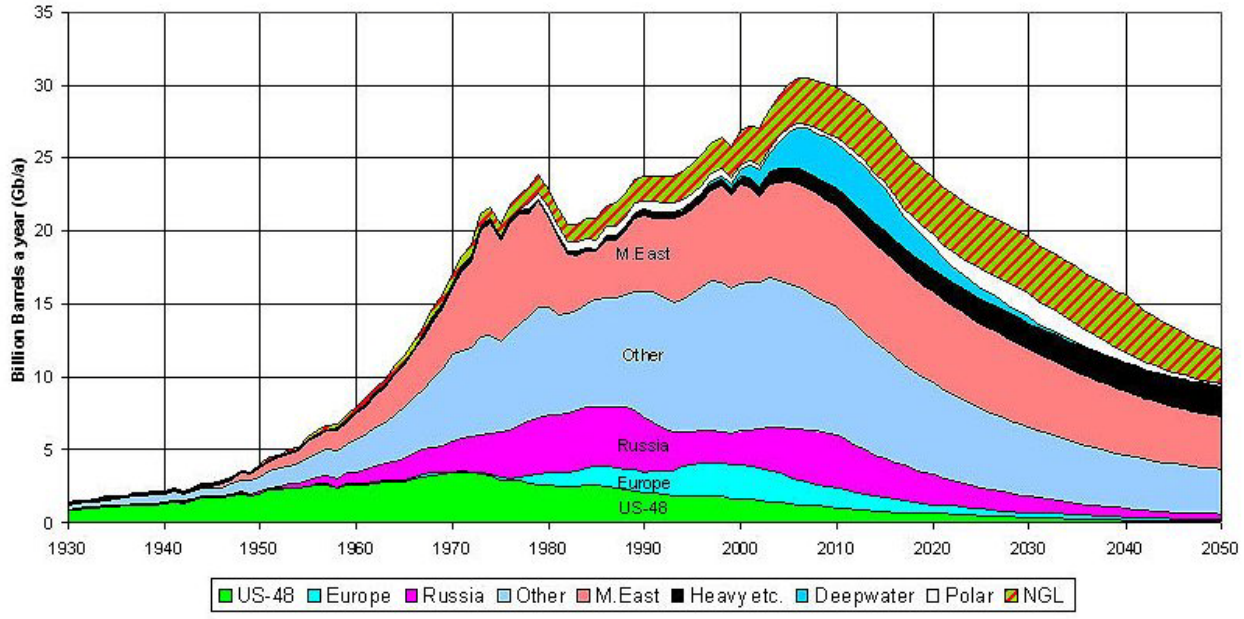


Figure 8: Bell-shaped curve of world's oil production

Numerous respected authorities, including the International Energy Agency, predict rising demand for oil as global industrialization occurs, particularly in rapidly developing countries like China. This increasing demand, combined with harder to reach oil production sites and declining production levels, has significant environmental and geo-political implications. This confluence of factors is already leading to rising costs and greater price volatility, which is predicted to increase sharply as the world economy rebounds. This is expected to result in a chain of events that threatens to dramatically affect how people live, work and reach their destinations. Fuel prices will spike, then fall, but will generally trend upward, making many activities we now take for granted cost prohibitive. From review of the literature, at a minimum, transportation impacts may include dramatic changes in personal mobility as private automobiles become too expensive for the average citizen, and changes in freight mobility as the economic advantages of mass production, consolidated processing and truck distribution evaporate. Land use impacts are likely to mean the urban footprint contracts, agricultural production requires increased human labor, and employment is more labor-intensive and focused in centers of economic activity.

While better technology and renewable energy sources are becoming increasingly important, many sources dismiss their ability to prevent major changes to industrial society. Hydroelectricity aside, renewable sources of energy provide only about one percent of world energy production. For instance, a report prepared for the US Department of Energy analyzed what would be needed to mitigate the effect of a peak in oil production and found that a crash program of renewable energy measures would need to be begun 20 years before the peak occurred. Instead, we may have arrived at the peak with only tentative steps toward effectively developing solar, wind and other alternative energy sources for mass worldwide production.

Peak Oil in the Year 2035 Long Range Transportation Plan

The MTPO's 2035 Long Range Transportation Plan is evaluating transportation and land use strategies associated with peak oil. The approach taken for the Plan is to test each of the transportation alternative networks under a "peak oil scenario" and then develop recommendations for incorporation into the plan. An accessibility analysis examined the availability of various land use and transportation factors that support use of non-auto travel modes, and indicated that the core area around downtown Gainesville and the University of Florida provided a relatively high level of accessibility. A moderate level of accessibility was observed generally consistent with the city limits and portions of the unincorporated area, primarily east of I-75 and south of NW 39th Avenue, and the smaller cities outside of the urbanized area. The remainder of Alachua County was classified as having low accessibility, including much of the rapidly growing western areas of the county.

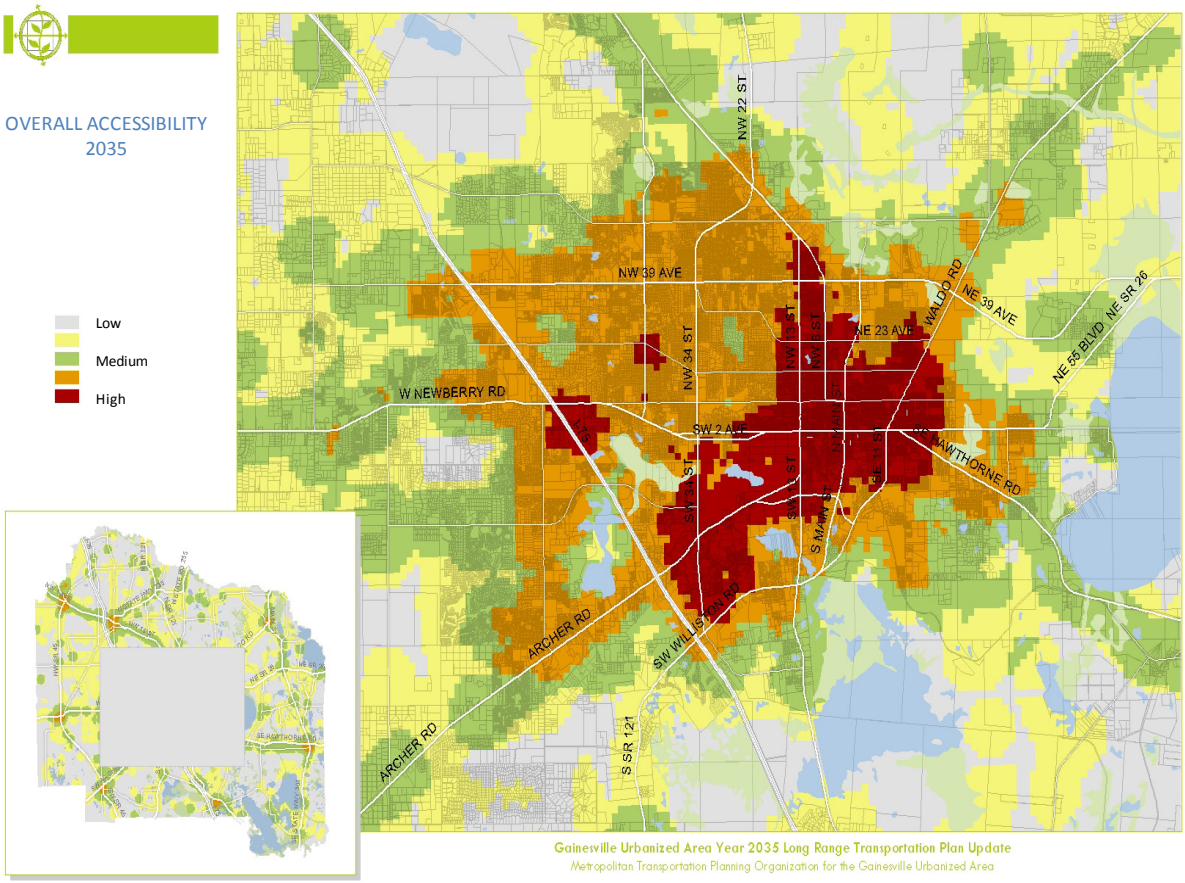


Figure 9: Results of Year 2035 LRTP Accessibility Analysis

An important statewide context for this analysis is HB 697, which the Florida Legislature passed in 2008 to reduce energy consumption and lower greenhouse gas emissions. Among other things, HB 697 requires local governments to adopt greenhouse gas emission reduction and energy conservation strategies in the land use and transportation elements of Comprehensive Plans. A similar bill was passed requiring MPOs to consider strategies to reduce greenhouse gas emissions in their Long Range Transportation Plans. HB 697 also commits the state to address energy demand and supply, develop new technologies and promote clean energy economic zones. Two pilot programs have been established in Miami and Sarasota.

Locally, the Alachua County Energy Conservation Strategies Commission (ECSC) addressed issues related to peak oil as part of a comprehensive report aimed at reducing energy consumption and saving money. In its report released last year, the ECSC identified transportation and land development imperatives to respond to the challenges of peak oil. For transportation, these

strategies include maximizing modal choices available to people, emphasizing walkability, discouraging large-scale parking lots that create barriers for pedestrian and transit accessibility, and requiring Bus Rapid Transit or other forms of premium transit in developing or redeveloping corridors. From a land development perspective, the ECSC recommended encouraging infill development and redevelopment, oriented to transit facilities along corridors, restricting new development to areas served by rapid transit, and incorporating a variety of uses and densities to form walkable centers or transit villages.

The MTPO's Year 2035 Long Range Transportation Plan seeks to address these key issues and build on complementary statewide and local efforts with development of the Needs and Financially Feasible Plans, and a policy framework that reflects strategies outlined in this memo.

Peak Oil Scenarios

The peak oil analysis conducted for the MTPO network alternatives included adjustments to the travel demand model to estimate the impacts of rising fuel prices on travel demand. Each network alternative entailed a set of similar peak oil adjustment factors to determine effects on travel behavior and implications for future transportation investments. While this is just one of many aspects of how peak oil may influence life in the future, the results were notable.

Volatile and generally rising fuel prices are likely to curtail automobile use and ownership. It is expected that more carpooling and ridesharing will take place for essential trips, and people will shift to other modes where practical, particularly for shorter trips, and reduce their non-essential auto trips. Eventually, people will lower their automobile ownership. Highways become less congested as workers telecommute and people use other modes and reduce trip-making. This likely would free up roadway space for other purposes, such as dedicated bus lanes, bike paths and wider paths for smaller electric vehicles, similar to golf carts.

Testing peak oil adjustments for the Needs Plan evaluation in the development of the Year 2035 LRTP entailed two primary factors: 1) adjusting automobile ownership, and 2) increasing vehicle operating costs. The accessibility analysis completed in the first phase of the study was the basis for the automobile ownership adjustments. As described above, the accessibility analysis employed various modal and land use factors to identity the relative accessibility of the entire county, based on 10-acre grid cells. For auto ownership, in traffic analysis zones (TAZs) rated as High for accessibility, the scenario assumes an increase in 0- and 1-auto households (10 percent and 15 percent, respectively) and a reduction of similar magnitude in 2- and 3+- auto households (10 and 15 percent, respectively) in those same TAZs. This adjustment represents changes in travel habits of residents due to availability of multiple transportation options, jobs, housing, and retail/services. For Medium accessibility, the scenario adjusted these same percentages by three and seven percent (10 percent total). No adjustments were made to TAZs in the Low accessibility areas.

For vehicle operating costs, the peak oil analysis quadrupled these costs, with the basis of $2.50 per gallon fuel price to roughly approximate a $10 per gallon fuel price. While this may be low from a real-world perspective in 2035, this increase is a reasonable adjustment within the context of the 2007 validated model. The vehicle operating cost adjustments were made countywide, regardless of accessibility rating. There is little precedent regarding peak oil analyses for use as a guide for these adjustments. In the case of the auto ownership, the data used in the validated countywide travel demand model for the 2007 base year served as the basis for the percentage adjustments.

The results of the peak oil adjustment show substantial increases in transit ridership and significant decreases in the hours of travel and delay measures. Countywide, there were relatively modest changes in walking and bicycling, primarily due to how the pedestrian environment model is calibrated and the fact that the automobile ownership variable is primarily influencing transit propensity. On the whole, the peak oil adjustment shifts substantial trip-making from auto to transit, reflecting the more robust transit networks and limitations in auto availability (and operating cost) incorporated into the modeling. Congestion was essentially eliminated in the analysis, even for persistently congested corridors like Archer Road and Newberry Road.

Overall, the peak oil scenario reduces vehicle miles traveled by nearly 20 percent across all network alternatives, and reduces hours of travel by an even greater number, along with delay. In the corridors where premium transit investments are assumed, the peak oil adjustment has a significant impact on ridership and reduction in VMT. Within the Archer and Newberry corridors, for example, transit use increased by about 800 percent for the streetcar scenario (60 to 100% for the highway emphasis scenario) and bicycle/pedestrian travel increased by roughly 40 percent. There were substantial increases in mode share in other corridors, such as US 441 and East Gainesville.

Although they were not modeled, it is also expected that peak oil will have significant impacts on freight distribution, which could lead to substantial increases in price and reducing the availability of goods, as the manufacturing, shipping and agricultural industries pass along their rising costs to suppliers and consumers. This could mean a shift to rail freight from trucking, and could also isolate a community like Gainesville that is not closely located to a major port or rail facility, such as Jacksonville or Tampa. Recognizing these threats to their economic security, people will begin making decisions to change their behavior. Those who can will move into the urban core, where supplies are more available and travel is more convenient without automobiles. Those who cannot move will need to develop options for travel and access to goods and services.

Peak Oil Strategies

There are two primary ways to address transportation needs: through speed and proximity. Speed addresses the ability to cover relatively longer distances in a reasonable amount of time, reducing the cost of travel (time and money) to a point where the trip makes economic sense. Proximity enables shorter trips to occur that are less dependent on speed because the travel time, and the resulting cost, is less. Both are important parts of an urbanized area's transportation network, but under peak oil, proximity and the accessibility of destinations by more energy-efficient travel modes becomes an increasingly important factor. As the urban footprint contracts, speed is less critical to mobility. This is an important consideration in developing policies and strategies for a peak oil condition in the future.

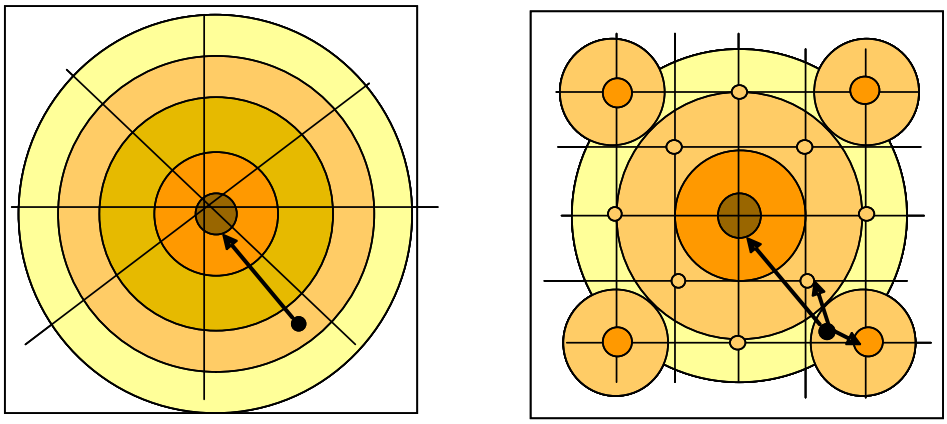
Land Use Strategies

Land use strategies related to peak oil relate to location efficiency and modifying existing land use patterns to expand the types of uses that will be more in demand with higher energy prices and scarcity of supplies. *Location efficiency* means creating more affordable housing choices close to public facilities and services, establishing better linkages of housing, jobs and other destinations in close proximity, ensuring that community services and facilities are located along public transportation corridors, and that convenient transit, bicycle and pedestrian networks exist to serve new development. *Modifying land use patterns* means adaptive re-use of existing sites, such as automobile dealerships and other auto-oriented uses into higher density transit-supportive uses or clean energy uses, such as solar energy catchment and distribution areas. Similarly, these existing uses can be converted into urban agricultural gardens that would provide locally-grown fresh food products.

In the context of the Year 2035 Needs Plan and peak oil, the MTPO should consider the following strategies:

Compact Urban Form

Create clusters of mixed-use development focal points that provide a high level of transportation accessibility with relatively intense complementary land uses. These should be located strategically in the Gainesville and Alachua County region to reduce trip lengths from the surrounding areas they serve, such as development within a 1-3 mile radius, which would encourage bicycling and walking. As the graphic illustrates below, a hierarchy of mixed use centers that can capture a share of home-based work and non-work trips can reduce the overall average trip length substantially, reducing vehicle miles of travel and creating better opportunities for trips to be made through less energy-dependent modes like bicycling, walking and shuttles.



There are several ways that compact urban form can be accomplished, including substantial increases in density within the core area of Gainesville, East Gainesville, and areas surrounding the University of Florida where many services and a good transportation grid network exist. However, with numerous well-established residential areas and sensitive natural systems, this may pose some conflicts that may limit the amount of higher density development in these areas.

Transit Oriented Development

The planned Bus Rapid Transit and streetcar network in the Year 2035 LRTP depends on higher density station areas that support use of the system, and provide convenient intermodal connections and transfers between lines. Under the principles of Transit Oriented Development (TOD), the land within the first quarter mile of the station should provide the highest density land uses, ideally with a strong vertical and horizontal mix of land uses with an employment base, civic space, and complementary residential and retail land uses. The core depends on short block sizes (400'-600') to increase walkability, minimum densities and limited parking. The next quarter mile, ½ mile from the station, is generally less intensely developed than the core, but retains a high degree of mixed uses and network connectivity. Land uses shift toward diverse residential development at higher densities, with complementary office and retail uses. Each of the BRT station areas should have a TOD framework plan in place, with planned intermodal stations having relatively more intense mixed-use development activity. Components should include the transit station as the centerpiece of development, minimum densities, maximum parking limits and pedestrian-oriented design standards.

The local governments should consider development or expansion of a program for Transfer of Development Rights (TDR) that would incentivize future development toward public transit corridors and provide financial return for landowners in the rural and suburban areas in exchange for giving up development rights. So-called "sending zones" could be defined as areas more than ½ mile from an existing or planned transit corridor, park-and-ride location or station area. "Receiving zones" targeted for future higher density development would include land along the

transit corridor (within ¼ to ½ mile distance), in mixed-use centers and transit station areas. The goal would be to capture 75 to 80 percent of Alachua County's future growth in designated transit corridors or places that are pedestrian-oriented.

Schools

Schools are important community focal points and a source of much trip-making. Peak oil is likely to auger a shift toward neighborhood schools that reduce reliance on automobile travel, enabling more elementary, middle and high school students to walk or bicycle to class. With changes in population patterns over time in response to energy demand, there may be fewer schools needed in suburban areas and more demand in the urban focal points. Schools should be sited in efficient locations with services and facilities in place. Strategies should support adaptive reuse of auto-oriented land uses for schools along transit lines and in targeted mixed-use areas, with the school forming a key activity destination at the core area with higher density residential land uses. Transportation networks supporting safe bicycle and pedestrian access should be developed to link schools with surrounding areas, reducing reliance on automobiles and school buses.

Urban and Suburban Agriculture

As peak oil threatens to affect the food supply due to shipping costs, it is important to preserve farmland and expand local food production to adequately serve the existing and future population of the area. Since American cities now import a substantial amount of food from long distances and the county is expected to add nearly 70,000 more people by 2035, Gainesville and Alachua County should create more agricultural land in proximity to development through the provision of community gardens and agricultural areas of varying sizes. Where practical, policies should enable the conversion of large surface parking lots or suburban auto-oriented land uses into larger farming tracts through a Transfer of Development Rights program working in a complementary manner with development of the BRT network.

Development in East Gainesville

East Gainesville already has a strong grid street network, and its proximity to downtown, the University and targeted development areas makes it a relatively accessible part of the county. The area also is in close proximity to agricultural lands and community gardens that already supply local produce for consumption. Under peak oil, East Gainesville is likely to become an even more attractive area for future growth, despite the likely impacts on the Gainesville Regional Airport and related industry. The mixed-use areas defined through the Plan East Gainesville process should be supported with investments in better multimodal transportation networks and greenways, which serve the dual purpose of improving connectivity while buffering more intense development from lower density areas and natural lands.

Create Alternative Energy Generation Systems in Rural Areas

Similar to the agricultural strategy, local governments and Gainesville Regional Utilities should use the TDR program defined above to establish economic value for rural and suburban area land for

the development of solar and wind energy platforms that supply energy and tie to the electric grid. Existing parking areas that may not be needed in future may also be candidates for these modifications, as well as the rooftops of buildings in the urban area.

Transportation Strategies

There are a wide range of transportation strategies that would support efforts to respond to peak oil. In general, the transportation strategies are linked directly with land use strategies to reduce vehicle miles of travel and increase the ability of people to use human-powered transportation options for more of their trips. The following are suggested as ways to reduce energy demand and support both accessibility and mobility within the urbanized area and Alachua County.

Transit Priority Corridors

In conjunction with the planned Bus Rapid Transit network and rising prices of fuel, reduce the number of travel lanes for autos and provide dedicated lanes that make using transit more efficient on the major corridors serving the University of Florida, the Shands/VA medical district and downtown Gainesville. Establish park and ride spaces in garages in outlying mixed-use districts (e.g., smaller towns and in educational and commercial nodes).

Parking

Establish parking maximums for mixed-use and non-residential development areas, and substantially lower parking requirements for all other new development and redevelopment occurring within transit accessible areas (within ¼ mile of transit service). This would reduce on-site parking. Parking ratios for multi-family residential developments should be lowered to 1 or perhaps even .5 spaces per residential unit, and non-residential developments should have no more than 3 spaces per 1000 square feet. Structured parking with retail and residential components should be encouraged in mixed use districts to promote walkability. Additional parking should be discouraged and, as peak oil effects begin to occur, conversion of existing parking garages and lots should occur to reflect lower demand for auto travel and the need to adapt these uses for other needs (e.g., agriculture, housing, manufacturing).

Pricing

In preparation for peak oil changes, the MTPO and state and local agencies should consider some form of transportation pricing to induce shifts in travel behavior and generate revenue for the development of the BRT, streetcar and multi-use trail networks defined in the LRTP. There are various ways in which technology can be used to charge a fee for automobile travel on major corridors leading into the Gainesville urbanized areas, such as by time of day (peak period pricing), by occupancy or by simply crossing a cordon line. In the short-term, this would discourage single-occupant vehicle travel for discretionary trips and encourage use of non-auto or non-SOV modes. In the longer term, it could generate substantial local revenue to support improved public transportation services and redesign of facilities for walking and bicycling.

Complete Streets and Complete Corridors

Adapt existing roadways, where practical, to incorporate a full complement of pedestrian, bicycle and transit facilities to improve the accessibility, comfort, convenience and safety for people of all ages and abilities. This includes a range of strategies, such as wider sidewalks with adequate separation (buffer) from the travel way, clearly defined and marked crossing areas using pedestrian countdown signals and bicycle-actuated signals at intersections, lighting, bus shelters and various amenities to support use of these modes. Because not every street can or should undergo such a conversion due to cost and physical constraints, the concept of complete corridors is a way to make sure that good parallel and connecting networks for non-auto modes exist between logical origins and destinations. Complete corridors can take advantage of parallel local street networks, which are generally lower in speed and traffic volume, to strengthen the multimodal network.

Enable Alternative Fuel Vehicles

There are emerging technologies involving solar- and electric-powered vehicles that can help provide carbon-free connectivity within and to highly developed mixed use activity centers in the Gainesville Urbanized Area. Low Speed Vehicles (LSV) or Neighborhood Electric Vehicles (NEV) should be considered as modes in the multimodal transportation network. LSVs, with a speed of at least 20 but not more than 25 mph, are used primarily for short trips and recreational purposes, and have some safety equipment such as lights, reflectors, mirrors, parking brake, windshield, and safety belts. LSV operation should be included in complete street design.

Establish and encourage Solar Electric Trolley (SET) zones, where solar electric transporters, known as Micro Transit Vehicles (MTV), weighing more than 3000 pounds, would legally provide transportation in certain zones, such as downtown Gainesville, the University of Florida, and mixed-use districts, etc.

Establish preferred routes for LSV/NEV and MTV, including marking certain roads as LSV-friendly. Establish mapped routes in communities similar to bicycle routes. Begin with streets that have traffic calming already; the key is to provide continuous routes that are 35 mph or less for street legal vehicles. Design new and retrofit existing parking lots to provide LSV-size spaces and electric plug-in capabilities. Require or encourage at least one fast charger in parking lots of new developments.

Foothill Transit in California is about to debut a new ecology bus electric vehicle. Known as the "Ecoliner," it is the nation's first heavy-duty, electric-powered bus to operate in revenue service. It can carry 68 passengers, drive 30-miles without charging, and can recharge in less than 10 minutes at an in-route docking station. By using quick charging lithium ion batteries and light-weight fiberglass, the Ecoliner is the world's only vehicle that does not emit gas. Foothill Transit will begin testing the Ecoliner on routes in San Gabriel and Pomona. These preliminary tests will help the city decide whether to continue with the project. Each prototype costs around $1 million — twice

the amount of a regular bus. According to the manufacturer, companies will save more than $400,000 per vehicle in fuel costs over a 12-year period, along with savings due to less maintenance.

Bicycle and Pedestrian Networks

The Year 2035 LRTP calls for development of a stronger off-road network of trails ("braids") to complement on-street networks that exist and are planned. Under peak oil, this network will need to be developed and expanded to reflect the increasing importance of human-powered transportation. Among the key strategies to consider is the completion of road diets along major corridors to accommodate both transit and a continuous network of bikeways and pedestrian facilities. These defined bikeways should include bike stations strategically located at network connecting points (trailheads or hubs), which offer services for maintenance, sustenance (food/beverage), changing clothes and storage.

Efforts should be made to better define the bicycle network for safety and visibility through use of brightly-hued bike lanes and establishment of bicycle boulevards, where efficient bicycle travel is given priority. In addition, efforts should be made to increase bicycle and pedestrian access through cul-de-sacs to connect adjacent residential areas to larger regional networks and mixed-use destinations. This could be part of the complete corridors program. Expansion of bike sharing programs should be considered that enables use of bicycles at different locations for various time periods through a credit card reservation system.

Performance Monitoring

One of the important things the MTPO can do in partnership with state and local government is link on-going transportation performance monitoring of transportation outcomes identified in the Long Range Transportation Plan with energy and pollution levels. Plans developed by other communities, such as Portland, OR and San Buenaventura, CA, establish goals for reducing oil and natural gas consumption (50% by 2032 per the City of Portland's plan). The MTPO should work with the Florida Department of Transportation, Alachua County, City of Gainesville, other municipalities, the University of Florida and other appropriate entities to establish goals to reduce non-renewable energy consumption by the transportation sector. In addition to tracking trends of transit ridership, bicycling and mode share, consideration should be given to the following performance measures as indicators of reduced energy demand:

- Vehicle miles of travel by corridor, sub-area (district) and overall
- Development activity occurring within ¼ mile of planned major transit corridors (BRT, streetcar) relative to development occurring elsewhere
- Development activity occurring within planned BRT station areas versus other development areas
- Miles of bicycle and pedestrian facilities established or retrofitted to enhance walking and cycling

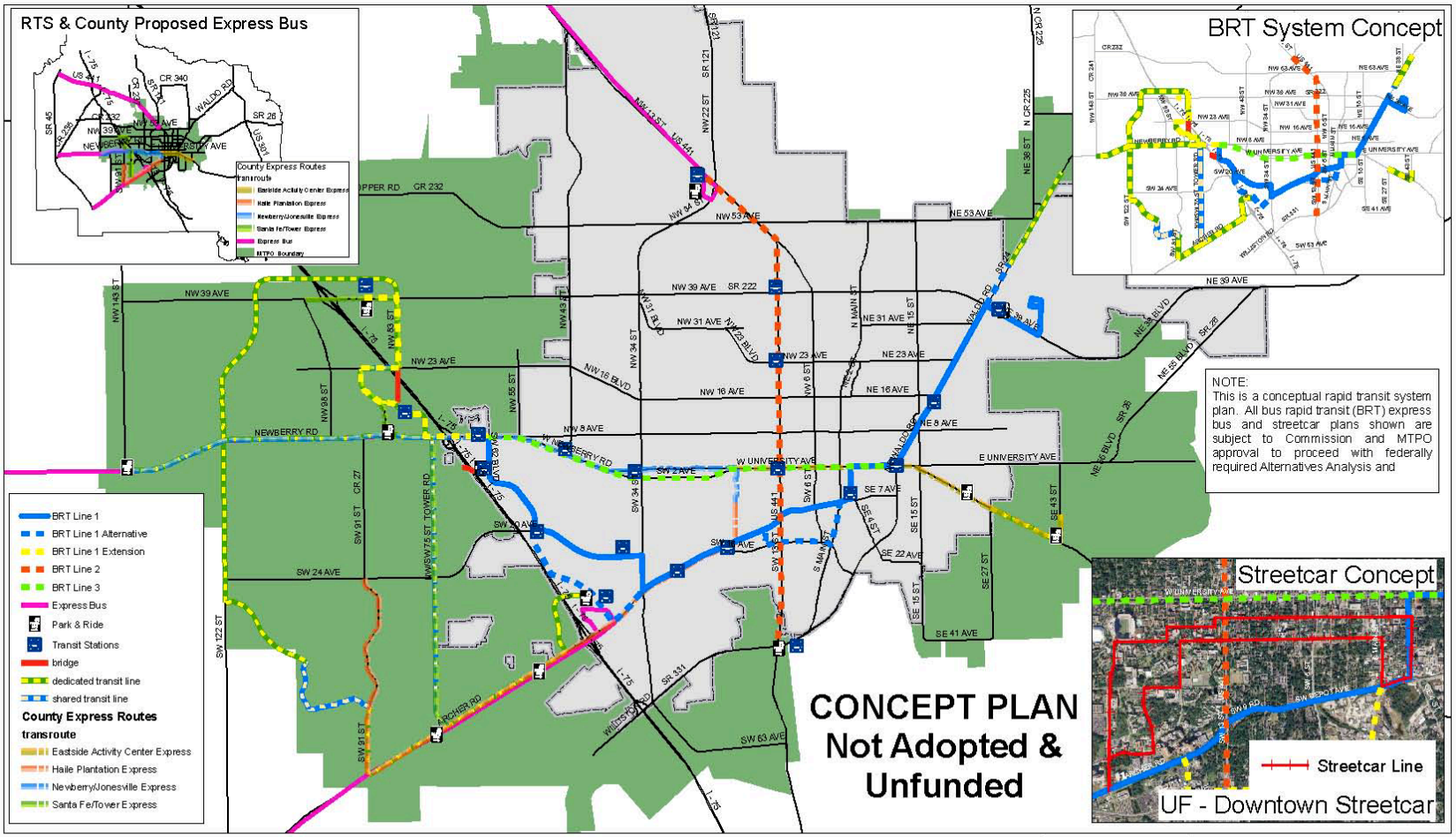
Other performance measures and a monitoring program should be defined to reflect broadly defined goals and benchmarks (performance targets) that are consistent with local government comprehensive plans and the MTPO Long Range Transportation Plan.

SUMMARY

The development of the Year 2035 Cost Feasible Plan occurred through a planning process that focused on a desired vision for how transportation access and mobility shapes development and quality of life. The MTPO chose to allocate available transportation revenues in two primary ways: funding long-standing project priorities and ensuring a long-term multimodal planning focus by investing in the RTS maintenance facility to enable service expansion and development of a network of Bus Rapid Transit routes within the Gainesville Urbanized Area. The outcome is a 4:1 ratio of spending on multimodal projects versus increased capacity for automobiles; however, it is ultimately a balanced transportation plan because several of the road capacity projects will support the BRT network or help divert regional traffic away from corridors with a stronger non-auto focus.

The 2035 Long Range Transportation Plan is fiscally constrained based on the projected revenues available to the MTPO, FDOT and local governments through the planning horizon. Project costs are shown by estimated year of expenditure, reflecting the anticipated timing of future revenues from state and federal funding sources. In developing the list of priority projects to receive funding, the MTPO relied on public input, the work of the MTPO's advisory committees and technical analysis to show how the projects can help reduce vehicle miles of travel and support compact, walkable, mixed-use developments with access to premium transit service. The MTPO's vision for transportation depends on the expansion of the RTS maintenance capacity and continued development of a multimodal network of transportation facilities and services that provide connectivity and access to economic destinations like the University of Florida, Downtown Gainesville, Santa Fe College and commercial uses along major corridors.

APPENDIX


RTS & County Proposed Express Bus
BRT System Concept
Streetcar Concept
Streetcar Line
UF - Downtown Streetcar
NOTE:
This is a conceptual rapid transit system plan. All bus rapid transit (BRT) express bus and streetcar plans shown are subject to Commission and MTPO approval to proceed with federally required Alternatives Analysis and
CONCEPT PLAN
Not Adopted &
Unfunded
BRT Line 1
BRT Line 1 Alternative
BRT Line 1 Extension
BRT Line 2
BRT Line 3
Express Bus
Park & Ride
Transit Stations
bridge
dedicated transit line
shared transit line
County Express Routes
transroute
Eastside Activity Center Express
Haile Plantation Express
Newberry/Jonesville Express
Santa Fe/Tower Express
Conceptual Rapid Transit System Plan (Draft)
Prepared by:
Gainesville-RTS
March 2010
0 1.5 3 6 Miles
NORTH
Blue Line = 10 miles
Orange Line = 7.5 miles
Green Line = 6.0 miles
Streetcar = 5.4 miles
Proposed Transit Development Plan Bus Service Enhancements not included on map. See Planned Local Service Map.

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