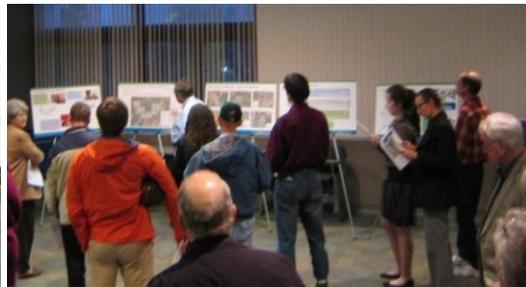




GO ENHANCE RTS STUDY PROJECT BRIEFING



April 2013



PROJECT BRIEFING DOCUMENT

Prepared for:

RTS/City of Gainesville

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1.0 INTRODUCTION

1.1 Overview

This *Project Briefing Document* summarizes the purpose and need for premium transit improvements in Gainesville, Florida. It also provides an overall framework and measures for evaluating mode and alignment alternatives and selecting a locally preferred alternative. The framework presented in this report is consistent with Moving Ahead for Progress in the 21st Century (MAP-21) and Federal Transit Administration (FTA) guidance for the evaluation of alternatives presented in FTA's *Procedures and Technical Methods for Transit Planning*. This report includes:

- Project background including a description of the Study Area and the Purpose and Need
- Evaluation framework
- Alternative screening methodology
- Goals, objectives and evaluation measures to be applied during the screening and evaluation of alternatives

This document is intended to summarize key components of the analysis for the Technical Advisory Committee, Project Advisory Working Group and Federal Transit Administration (FTA) in the initial stages of the study. An evaluation framework has been developed with three steps that incorporate various qualitative and quantitative screening criteria. Screening criteria, as described in the methodology presented in Section 6.0. Ultimately, the screening process would result in a narrow range of Refined Build Alternatives that would be evaluated in-depth. Information presented in this document will be updated during the course of the *GO Enhance RTS Study* to reflect the information regarding study area conditions, transportation issues and project need based upon insights offered by the community.

1.2 Study Partners

The Regional Transit System (RTS), a department within the City of Gainesville, is sponsoring this study to evaluate premium transit alternatives in Gainesville. RTS is collaborating in this endeavor with other departments in the City, the Florida Department of Transportation (FDOT), Alachua County, the University of Florida (UF), Santa Fe College and the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area (MTPO).

1.3 Background

During the *Go Enhance RTS Study*, the study partners will be re-examining the previously-identified Bus/BRT corridor (see Figure 1-1) from the *RTS 2010 Rapid Transit Feasibility Study*. This *Go Enhance RTS Study* goes beyond the high-level feasibility analysis presented in 2010 to conduct a local alternatives analysis of premium transit options. For example, a full range of transit alternatives will be considered during this new study including peripheral segments to enhance community connectivity in the northwest and southwest. This study will include a full examination of alternatives, service plans, ridership, costs, impacts and possible funding strategies. The purpose of this *Go Enhance RTS Study* is to identify the most promising public transportation solution to address local transit problems and needs in a cost-effective manner.

The *GO Enhance RTS Study* will provide detailed analyses for RTS and other study partners to review as they make decisions through the MTPO planning process for the Gainesville Urbanized Area on the best mode and alignment within the study area (Figure 1-2). Mode refers to the particular transit technology to be implemented. Alignment refers to the streets or other rights-of-way where the transit project would operate and the termini.



Figure 1-1: 2010 Rapid Transit Feasibility Study BRT Preferred Alignment

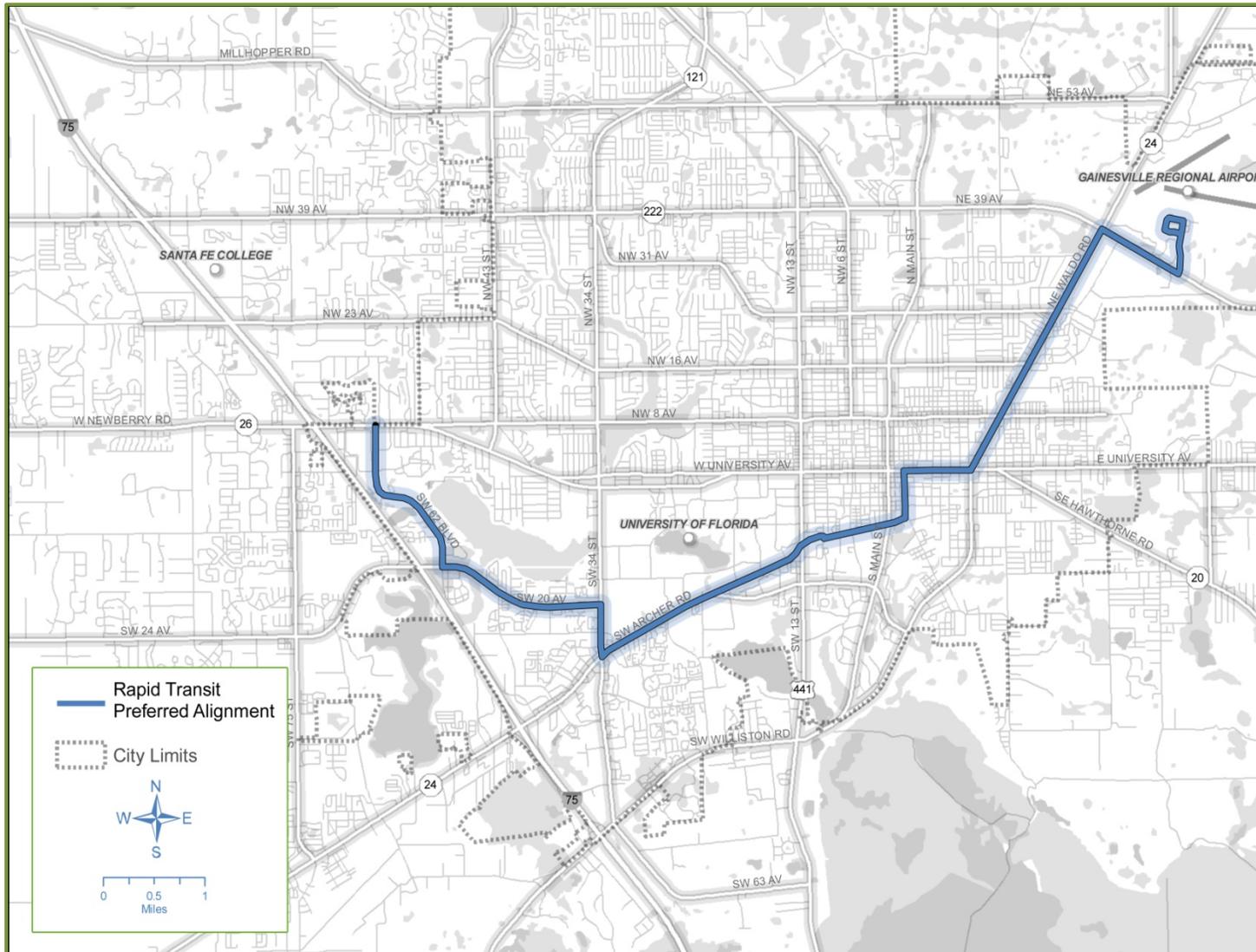
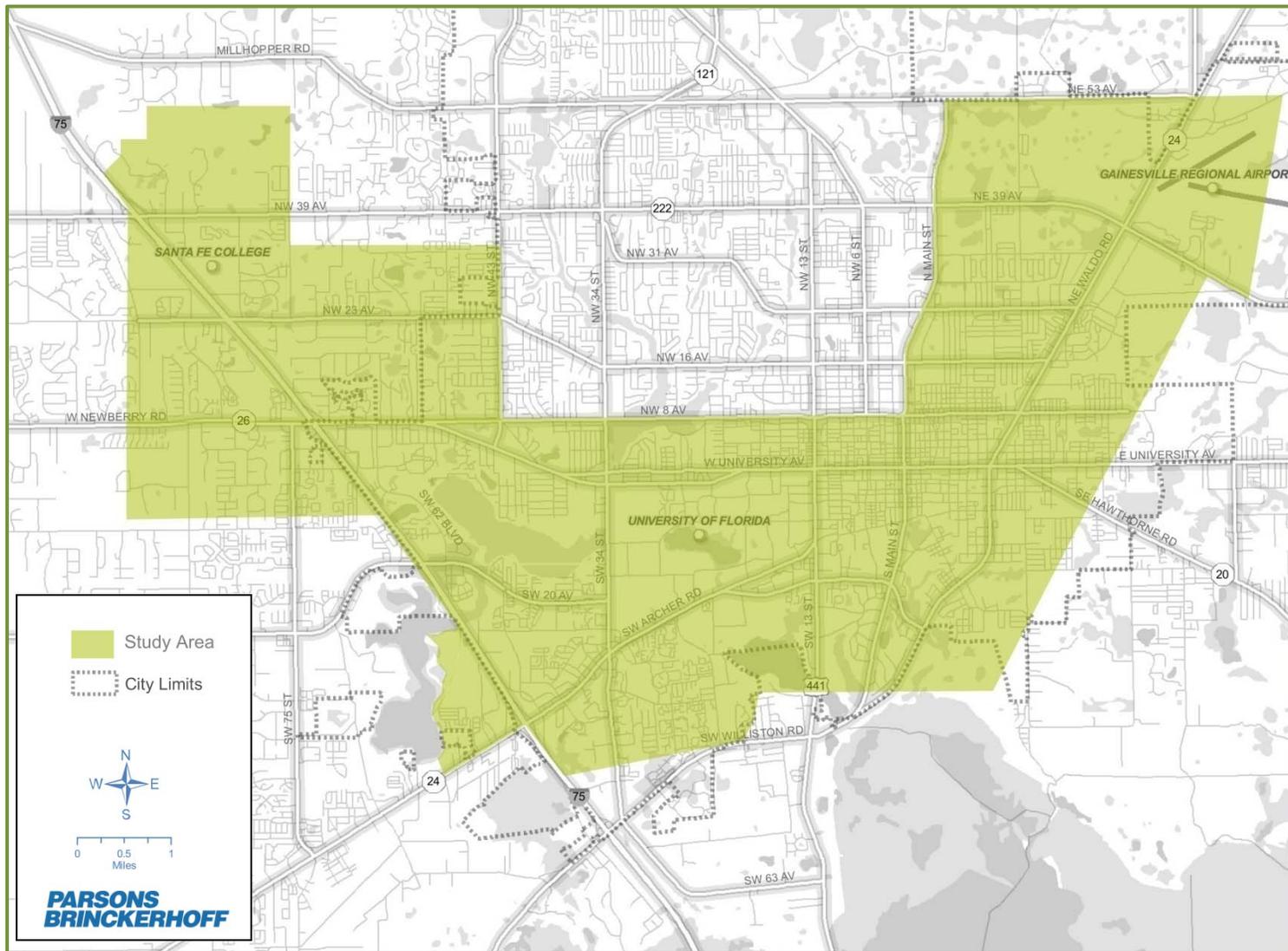


Figure 1-2: GO Enhance RTS Study Area



The study would also reach decisions on whether all or portions of the alignment would be exclusive to transit during all or part of the day, when exclusive lanes would be phased in, whether transit would operate in the center or to the side of a street or in a curb lane, and the approximate location and concept design of stations. These details would be used to develop planning level cost estimates and anticipated benefits of the project. Subsequent phases of study would include environmental documentation and detailed engineering that could lead to construction of the project (i.e.: project development). The goal of this *GO Enhance RTS Study* is to reach decisions on mode and alignment that will be sustainable as the project advances from planning into project development.

1.4 Study Area

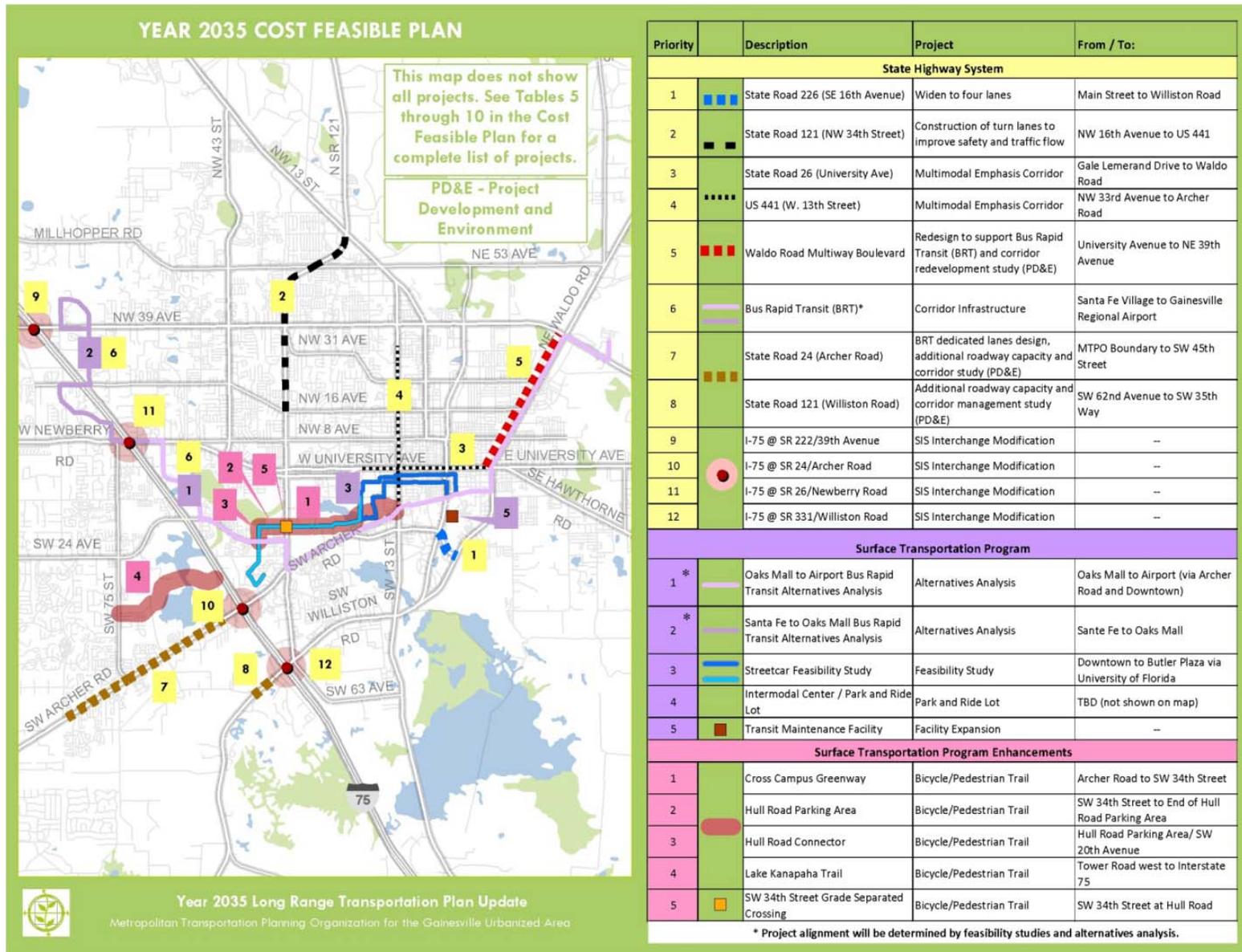
The *GO Enhance RTS* study area illustrated in Figure 1-2 is slightly larger than the area studied in the *RTS 2010 Rapid Transit Feasibility Study*. The study area was extended to the northwest after the 2010 Preferred Alignment was adopted to be consistent with the *Adopted Metropolitan Transportation Planning Organization Year 2035 Cost Feasible Plan* because the community expressed interest during the development of the *Long-Range Transportation Plan (LRTP)* to connect Santa Fe College and proposed developments located along NW 39th Avenue (See Figure 1-3). More recently, the study area was also extended to the southwest to include Celebration Pointe and student housing areas south of Archer Road by the *GO Enhance RTS* stakeholders, Technical Advisory Committee and Project Advisory Working Group. Much of the expanded study area is located in unincorporated Alachua County, as illustrated in Figure 1-2. In particular, several new developments, located north of NW 39th Avenue and west of I-75, have been identified in the *Alachua County Comprehensive Plan* as future mixed use projects, including Celebration Pointe.

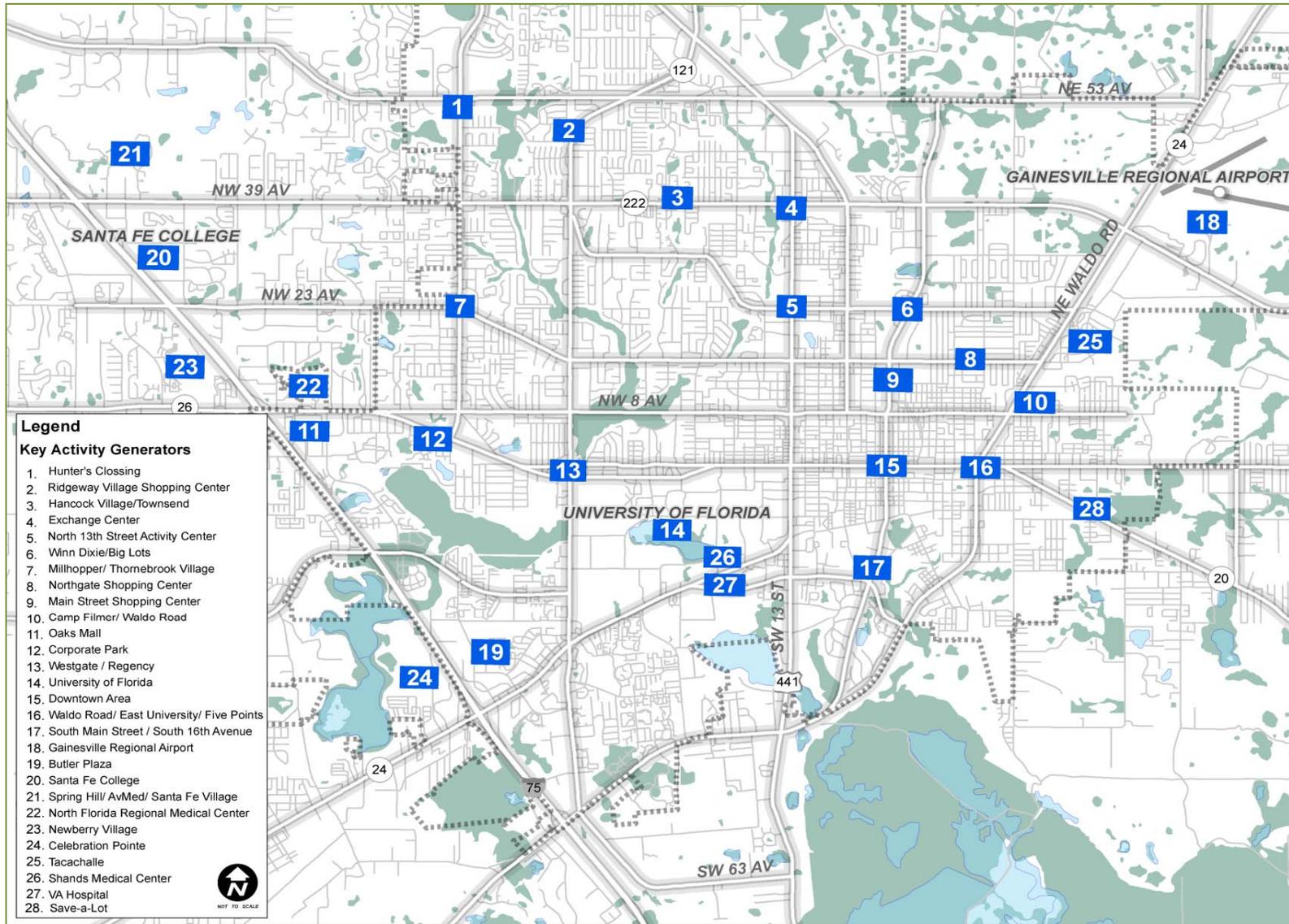
Historically, the Gainesville City Commission has been concerned about suburban sprawl leading to the adoption of a *Multimodal Mobility Plan* within the *Gainesville Comprehensive Plan*. Downtown redevelopment has also been a key concern. Several mixed used developments have been planned for the area between downtown and UF with apartments, technology (Innovation District) and industrial areas. Infill development and preservation of historic structures (Hippodrome State Theatre) are key components of the *Downtown Gainesville Redevelopment Plan*. Another key focus in the City has been redevelopment of the east side where many African-American residents live. *Plan East Gainesville* identified a variety of improvements including BRT and the Five Points Station at the intersection of University Avenue and Waldo Road as key transportation linkages. Many of the community's college students live on the west side and several large-scale planned communities are also planned including Newberry Village, Butler Plaza and Celebration Pointe.

The study area includes key employment centers and significant population concentrations. Key activity generators located in the study area are shown in Figure 1-4 and include the following (listed from west to east): Spring Hill Development of Regional Impact (DRI), AvMed DRI, Santa Fe College, Newberry Village, the Oaks Mall, Celebration Pointe, Butler Plaza, University of Florida (UF), the Veteran's Affairs (VA) Hospital, Shands Hospital, downtown Gainesville (including Innovation Square, and iDistrict), East Gainesville, Tacachale and the Gainesville Regional Airport.



Figure 1-3: Adopted Metropolitan Transportation Planning Organization Year 2035 Cost Feasible Plan Livable Community Reinvestment Plan





The University of Florida and Santa Fe College are both strong regional destinations that provide financial support through student activity fees. The presence of some 70,000 college students and thousands more staff and faculty living in the study corridor represents a significant market to capture.

UF is the seventh largest university campus by enrollment in the country. The campus involves roughly 2,000 acres and 50,000 students as of 2011. With parking constraints around campus, UF depends on public transportation to get students, faculty and staff to their destinations on time. The UF Campus Layout is shown in Figure 1-5.

Santa Fe College has developed strong ties with UF sending more transfer students to UF than any other college. Annual enrollment is roughly 24,000 students with 9,000 enrichment, continuing and workforce education students². The Santa Fe College Campus existing layout is shown in Figure 1-6. As indicated in the Campus Master Plan, the Northwest Campus includes 187 acres, 1,000,000 gross square feet, and 4,400 parking spaces

The built environment sets an important context for the consideration of mobility needs in the GO Enhance RTS study area. In particular, UF and Santa Fe College have heavily influenced RTS service. Seventy percent of RTS passenger trips are being made by college students and thousands more staff and faculty. With parking constraints around the campuses, public transportation will be an integral component of transportation and mobility planning for these confined campuses.

During the development of the MTPO 2035 Long Range Transportation Plan, project stakeholders recognized an emerging trend of greater student and faculty interaction between Santa Fe College and the University of Florida. With Santa Fe becoming a four year college, enrollment limitations at the University of Florida and other factors, this interaction is growing and is expected to continue into the future. Transit service between the two main campuses is expected to support that increasing trip interaction. In addition, Santa Fe College has a campus in downtown Gainesville. Many students living around these campuses travel between them on a weekly basis.

Another unusual study area condition is local land development patterns. Key activity generators have been developed in a linear manner that could enable RTS to create a cost-effective transit corridor that serves the identified major activity centers without substantial circumnavigation. Other urbanized areas in Florida have development patterns that require substantial out-of-direction travel to connect with their multiple activity centers; however, the study area appears to offer a more efficient route alignment that could reduce transit travel time for a significant percentage of the existing and potential transit passengers.

¹ University of Florida, Office of Institutional Planning and Research, University of Florida - Common Data Set (CDS): Enrollment (IPEDS) and Degree Awards.

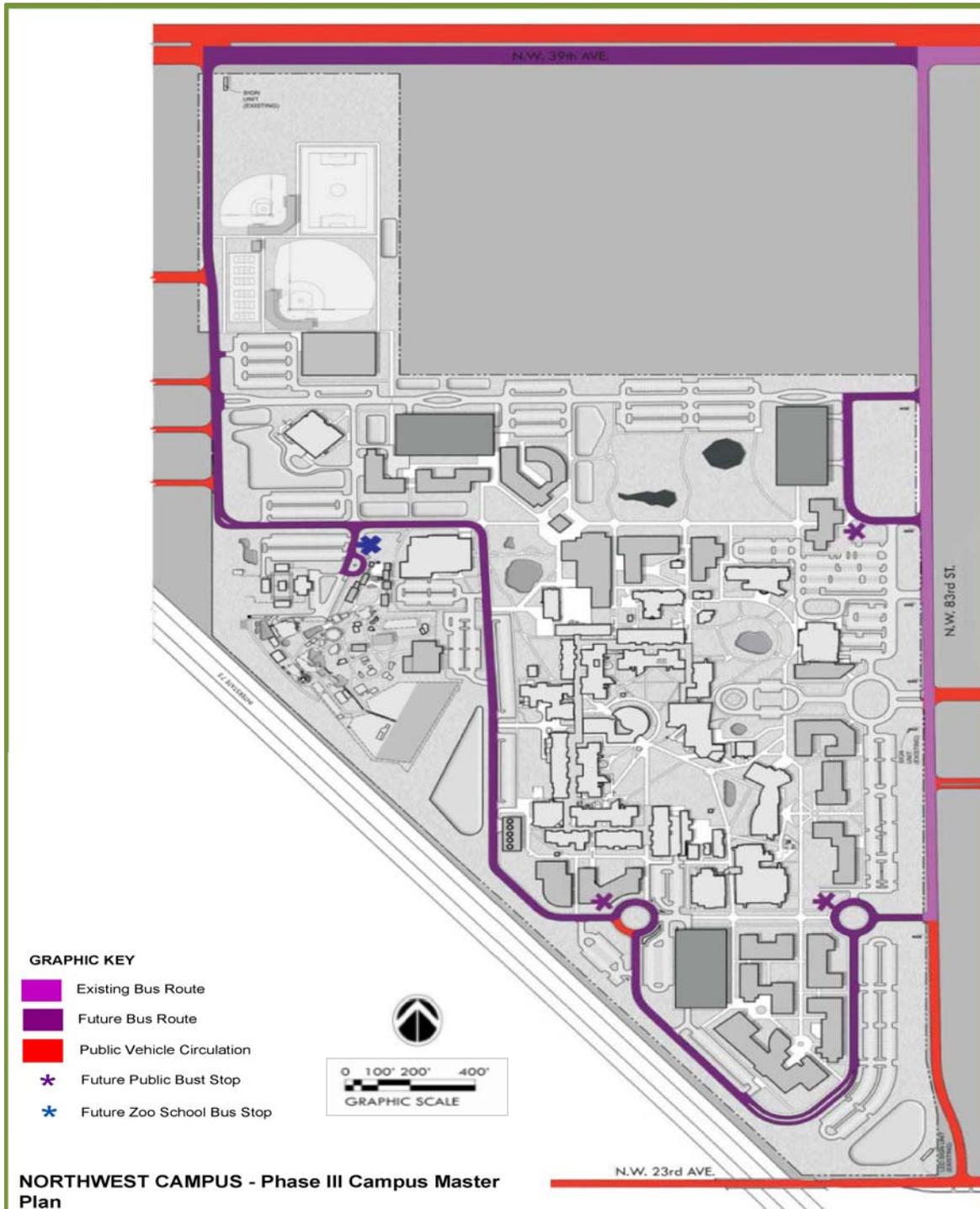
² Source: <http://www.sfcollege.edu>



Figure 1-5: University of Florida Campus



Figure 1-6: Santa Fe College Northwest Campus Map



2.0 PURPOSE AND NEED

This statement of Purpose and Need is based on conditions and trends as identified in the *GO Enhance RTS Existing and Future Conditions Report*, December 2012. Defining the Purpose and Need is a critical step in the Alternatives Analysis (AA) process. A sound Purpose and Need statement, based on locally adopted goals and objectives, guides the development and evaluation of alternatives. It also lays the foundation for future federal review of the project in accordance with the National Environmental Policy Act (NEPA).

2.1 Overview

Beginning with the MTPO's *Livable Community Reinvestment Plan - Year 2035*, the study partners developed a vision for Gainesville to make transportation investment decisions that:

- Promote a balanced and accessible transportation system that fosters economic vitality;
- Support livable community centers and protects neighborhood cohesion;
- Expand transportation choices to include walking, cycling and convenient transit; and
- Ensure high quality, compact growth that preserves natural resources and efficiently uses existing infrastructure.

Various public transportation improvements considered during this study will be evaluated for improvements to accessibility, mobility and travel time. The Purpose and Need Statement is presented in a draft form in this Section so that it can be further refined based upon community input and as more robust data is collected.

The City of Gainesville seeks to identify a strategy to significantly improve mobility to accommodate existing and future travel demands resulting from growth in population and employment. Their strategy will address problems related to limited transportation choices and provision of transit services between and within activity centers. Substantial travel to, from, and within the Archer Road Corridor, University Avenue, Newberry Road, 34th Street, Downtown, and the UF and Santa Fe College campuses occurs not only in peak commuting periods but also throughout the day, in the evening and on weekends. The University and Healthcare Facilities are by far the dominant employment and activity center in the metropolitan area and most impacted by congestion and limited parking supply. The most significant transit ridership is focused in these areas and along SW 20th Avenue. Other problems relate to the provision of alternative transportation choices, facilities to support economic development, and preservation of natural areas. All of these problems can be expressed in terms of the need for premium public transportation improvements.

The region has unique mobility needs because it is a regional educational and healthcare destination that attracts students, healthcare providers, and employees from surrounding parts of the state. Future transit service will need to address community aspirations such as extending transit service beyond serving the needs of UF and Santa Fe College students. There is an increasing need to offer transportation choices for employees bound for Spring Hill, AvMed Medical Facility, Oaks Mall, North Florida Regional Medical Center, Newberry Village, Butler Plaza, Innovation Square, Shands Medical Center/ Veterans Administration (VA) Hospital, UF main campus, UF East Side Campus, downtown and the Gainesville Regional Airport.



2.2 Policy Context

During the development of the *RTS 2010 Rapid Transit Feasibility Study*, stakeholders recognized the need to serve area college students but were simultaneously seeking better transit service for:

- Employees of major destinations such as the Oaks Mall and Airport;
- Transportation disadvantaged residents including residents at Tacachale;
- Passengers seeking cross-town service in both east and west Gainesville; and
- Employees of Shands Hospital and the VA Hospital.

In addition, the adopted Gainesville Comprehensive Plan delineates a vision to re-shape the physical development of the City. This plan focused on creating a more balanced transportation system and development plan that promotes:

- A multimodal transportation system that integrates land use and transportation;
- Transportation investments that promote community well-being;
- Economic growth, stability and sustainability;
- A high quality of life and enhanced work environment for residents of Gainesville;
- Transit usage by a broader spectrum of passengers; and
- A wider array of transportation choices for transit passengers, cyclists, and pedestrians.

The adopted Alachua Comprehensive Plan delineates a multimodal vision to provide a comprehensive transportation network that offers mobility options for pedestrians, cyclists, transit users, drivers, and users of rail and aviation facilities that is sensitive to the cultural and environmental amenities of Alachua County. The Alachua County Comprehensive Plan aspires to create a safe, convenient, and efficient transportation system that promotes:

- Automobile, transit, bicycle, and pedestrian mobility;
- Rapid and convenient movement of people and goods throughout the County;
- Compact, mixed-use, interconnected developments that support walking, cycling, transit use, and internal capture of vehicular trips;
- Transit-supportive densities and intensities;
- Directing new development and infrastructure to areas where multiple modes of transportation are provided; and
- Acceptance of congestion in urban clusters as long as viable alternative transportation modes are provided to serve travel demand.

Improved transit service is necessary to address congested roads, tackle parking shortages, improve pedestrian safety and provide better commuter connections. Without the proposed premium transit options, the balanced land use, economic development and transportation vision reflected in the City's Mobility Plan and Transit Development Plan will be difficult to achieve.



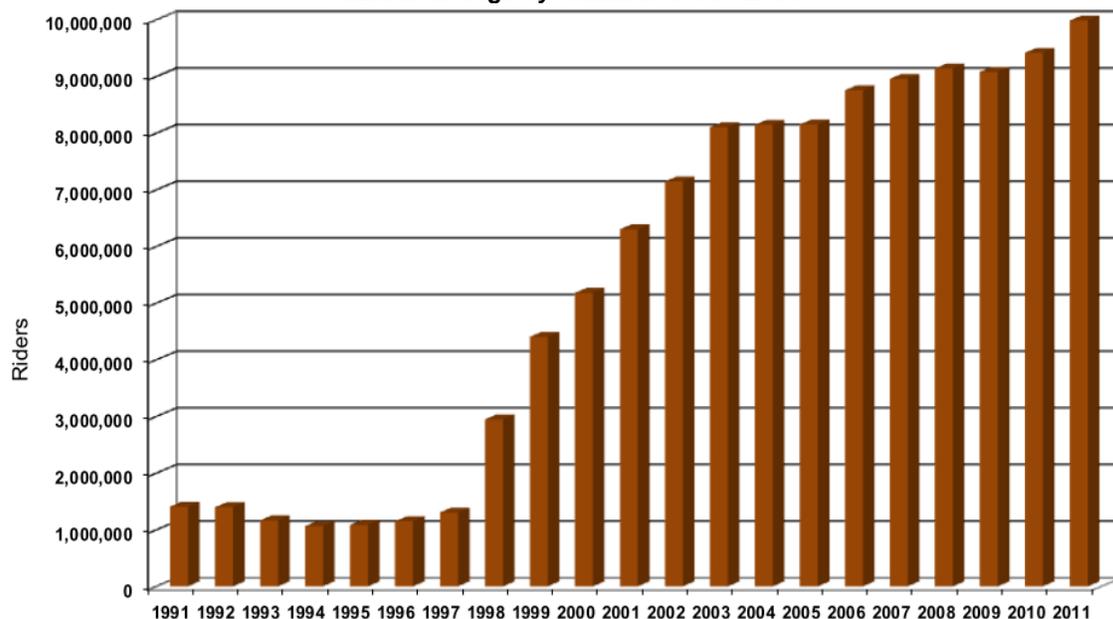
2.3 Previous Studies

The idea of creating a premium transit system in Gainesville began with a 1989 FDOT sponsored light rail transit feasibility study. The UF, FDOT, City of Gainesville and Alachua County developed a partnership in 1997 to enhance transit services around the University resulting in an RTS/UF unlimited prepaid transit access program. In March 2010, the *RTS 2010 Rapid Transit Feasibility Study* recommended a conceptual alignment which has been incorporated into the 2035 Long Range Transportation Plan (LRTP) and adopted by the MTPO (see Figure 1-1). The 2010 study identified Bus Rapid Transit (BRT) as the technology that should be operated on these corridors and described peripheral segments to be considered during subsequent studies.

2.4 Transit Service

In 2012, RTS had a service area that included more than ten million passenger trips annually. The RTS serves over 70,000 students per year and approximately 70 percent of the RTS passengers are college students and staff from either UF or Santa Fe College. RTS operates routes seven days per week operating from 6:00 a.m. to 3:00 a.m. Service frequencies range from 10 to 60 minutes in peak periods and 15 to 90 minutes during off peak hours. RTS is one of the most productive transit providers in the state. Transit ridership is strong with highest ridership occurring along the SW 20th Avenue corridor.

**Figure 2-1: RTS Ridership 20-Year Growth
Annual Average Systemwide 1991 – 2011**



The region has done extensive planning to serve residential, employment and student growth. For example, the *RTS Annual Transit Ridership Monitoring Report Fiscal Year 2011-12* includes an analysis of the annual average Systemwide Ridership between 1991 and 2012 (see Figure 2-1).

The highest ridership routes had annual average ridership, ranging from 400,000 riders per day to 925,000 riders per day. Transit ridership is high along routes serving Archer Road, University Avenue, and SW 20th Avenue. The highest ridership segments are located near downtown and UF/Shands. In the *RTS Annual Transit Ridership Monitoring Report*, RTS has analyzed the distribution of annual average ridership between 2007 and 2011. Figure 2-2 illustrates historical growth over the past 20 years.

Figure 2-3 is a map of the 2012 RTS routes and the American's with Disabilities Act (ADA) service area for weekdays and late nights. An analysis of existing transit service indicates that RTS is already operating multiple bus routes on certain roadway segments during peak travel demand periods. Figure 2-4 identifies the total number of weekday peak hour bus trips being operated along various roadway segments. For example, routes operating on Archer Road, one of the most congested and highest demand corridors, has an effective headway of one bus every three and half minutes between SW 34th Street and SW 13th Street (60 divided by the number of peak hour buses per segment). Similarly, the effective headway for bus service near Rietz Union (Number 12 in Figure 1-5) is less than three minutes. Figures 2-5 and 2-6 illustrate that RTS is operating multiple high demand bus routes along SW 20th Avenue. SW 20th Avenue is the highest demand transit corridor in the system and demand is still growing. Major daily boarding and alighting locations in the study area are shown in Figure 2-6. Six of the seven highest ridership locations in the entire RTS system are located in the study area. Traffic analysis zone data for the regional model illustrates areas where high concentrations of students lived in 2007. Data was provided to the MTPO by UF for transportation planning purposes and that data is shown in Figure 2-7 along with routes with high student and faculty ridership. Figure 2-8 shows where Santa Fe College students live in the study area.

Although the average trip length for RTS passengers is 2.54 miles, these numbers are reflective of the significant student travel within the system. The average commute time identified in the 2010 Census was 16 minutes for City residents and 20 minutes for County residents. Non-student passenger travel patterns reflect the need to provide enhanced mobility options for a wider passenger base to support economic development downtown and in the rapidly growing area around the Oaks Mall for the benefit of its residents and workers. Consistent with these needs, the key access points in the study area are the Newberry Road Park-n-Ride lot located near the Oaks Mall and the Rosa Parks Downtown Station.



Figure 2-2: 2012 High Ridership RTS Routes

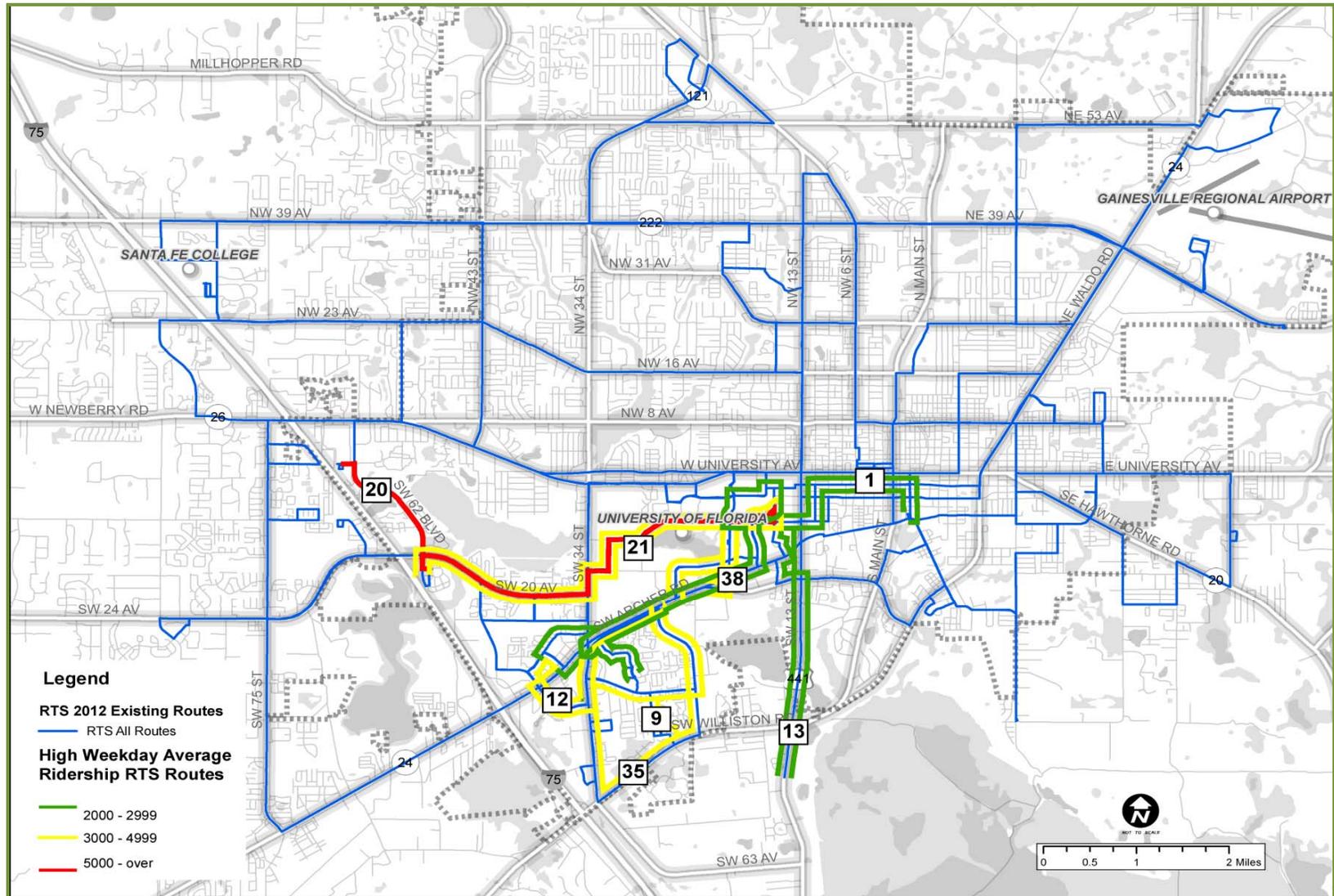
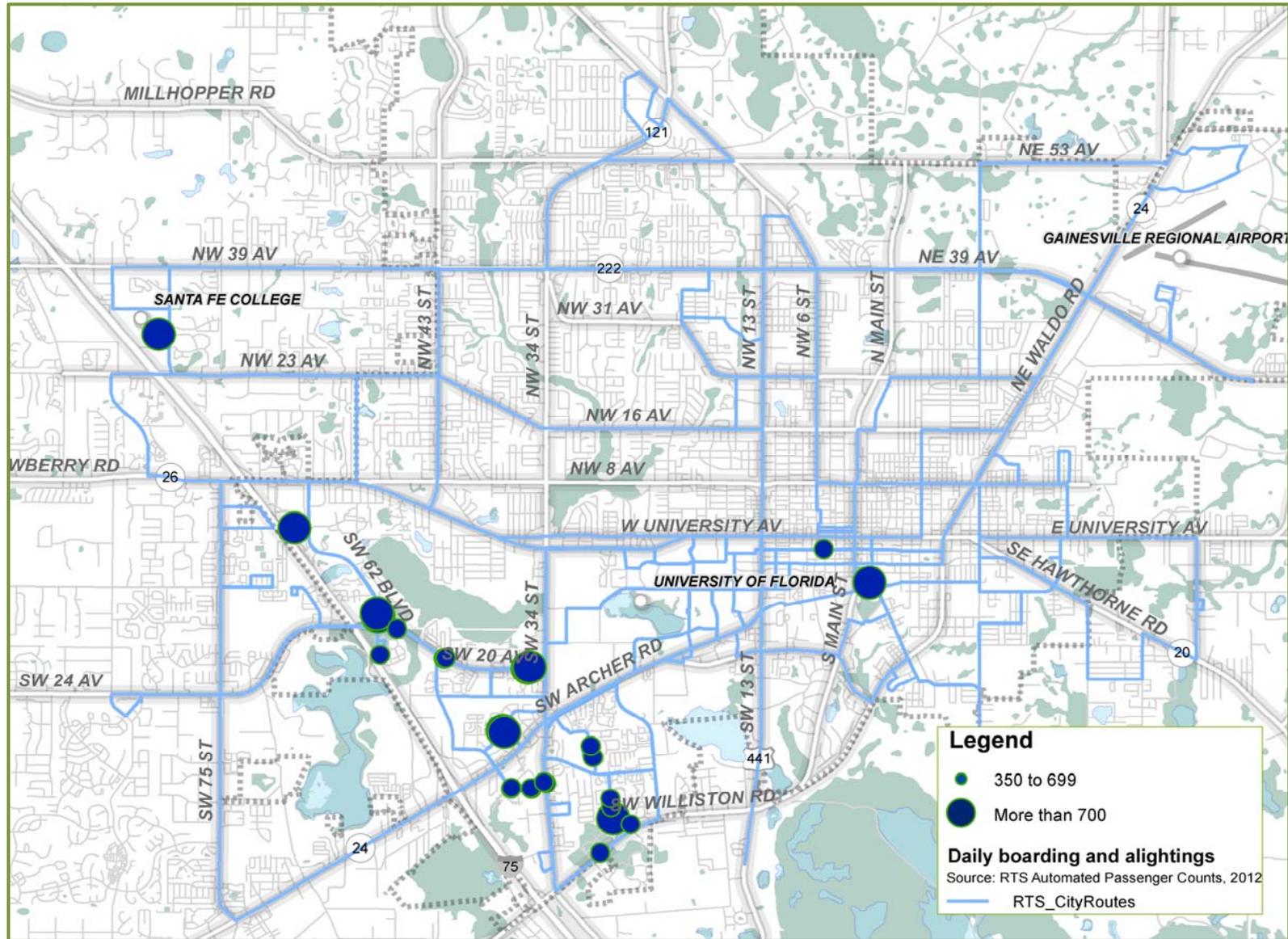


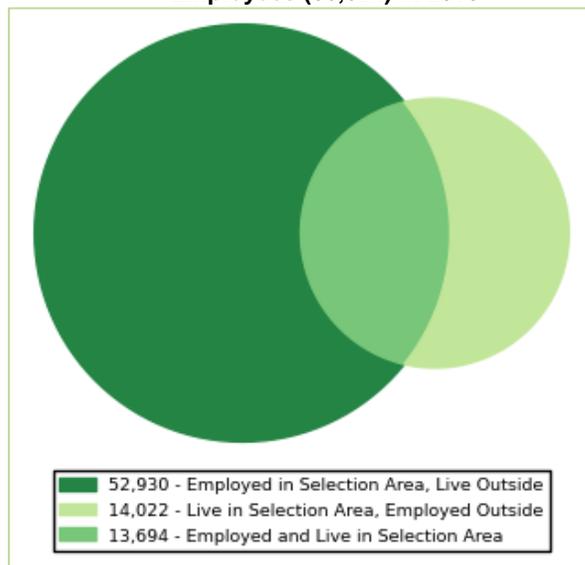
Figure 2-5: Highest Daily Boardings and Alighting Based Upon RTS 2012 Automated Passenger Counts



2.5 Study Area Demographic Analysis

An analysis of persons living and working in Alachua County, Gainesville and the study area was completed using the Local Employment Dynamics (LED) dataset³. The 2010 population and employment numbers presented here for the study area were compiled from the LED dataset⁴. The study area is approximately 36.5 square miles and includes 1,743 Census Blocks. In 2010, there were 27,716 persons living in the study area and 66,624 persons employed at their primary job in the study area⁵. Figure 2-9, illustrates where these two groups overlap with 13,692 or about 20% both living and working in the study area. Of those residents, about 49 percent worked in the study area and more than half of the workers were between the ages of 30 and 54⁶. Most residents were commuting less than ten miles (65.3 percent) and principally in an east to west orientation⁷. About 78 percent of workers earned more than \$15,000 per year and the four highest industry sectors represented were Healthcare (26.1 percent), Education (23.6 percent), Public Administration (9.6 percent) and Retail (7.1 percent)⁸. Analysis of the travel direction and distance between the home census tract and the work census tract was also completed to assess the strongest travel demand in the study area. The analysis is summarized in Table 2-1 below. In the study area, the LED data identifies nearly 28,000 residents who travel less than ten miles to their place of employment. Of those, about 50% live and work in the study area (13,694) and the other half live in the study area but work outside of it (14,022). Of those who live and work in the study area about one-third are aged 29 or younger (4,360) and 18 percent are aged 55 or older (2,450). About one-quarter earn less than \$15,000 per year. As anticipated, the primary direction of travel for these residents is east, northeast, and southeast with key destinations centered on the University of Florida, Shands Hospital, downtown Gainesville, Archer Road, the Oaks Mall, and Santa Fe College.

Figure 2-9: Study Area Residents (27,716) and Employees (66,624) in 2010



Inflow/Outflow Job Counts (Primary Jobs)

	2010	
	Count	Share
Employed in the Selection Area	66,624	100.0%
Employed in the Selection Area but Living Outside	52,930	79.4%
Employed and Living in the Selection Area	13,694	20.6%
Living in the Selection Area	27,716	100.0%
Living in the Selection Area but Employed Outside	14,022	50.6%
Living and Employed in the Selection Area	13,694	49.4%

³ Data source: <http://lehd.ces.census.gov/led/led.html>

⁴ Ibid.

⁵ Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010).

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

Table 2-1: LED Distance/Direction Report
(Source: U.S. Census, 2010)

Distance/Direction Report - Home Census Block to Work Census Block

Job Counts in Work Blocks by Distance Only

	2010	
	Count	Share
Total Primary Jobs	27,716	100.0%
Less than 10 miles	18,089	65.3%
10 to 24 miles	1,406	5.1%
25 to 50 miles	1,338	4.8%
Greater than 50 miles	6,883	24.8%

Job Counts in Work Blocks to the East of Home Blocks by Distance

	2010	
	Count	Share
Total Primary Jobs	4,581	100.0%
Less than 10 miles	4,128	90.1%
10 to 24 miles	71	1.5%
25 to 50 miles	156	3.4%
Greater than 50 miles	226	4.9%

Job Counts in Work Blocks to the North East of Home Blocks by Distance

	2010	
	Count	Share
Total Primary Jobs	4,212	100.0%
Less than 10 miles	2,343	55.6%
10 to 24 miles	120	2.8%
25 to 50 miles	149	3.5%
Greater than 50 miles	1,600	38.0%

Job Counts in Work Blocks to the South East of Home Blocks by Distance

	2010	
	Count	Share
Total Primary Jobs	4,188	100.0%
Less than 10 miles	1,849	44.1%
10 to 24 miles	57	1.4%
25 to 50 miles	283	6.8%
Greater than 50 miles	1,999	47.7%

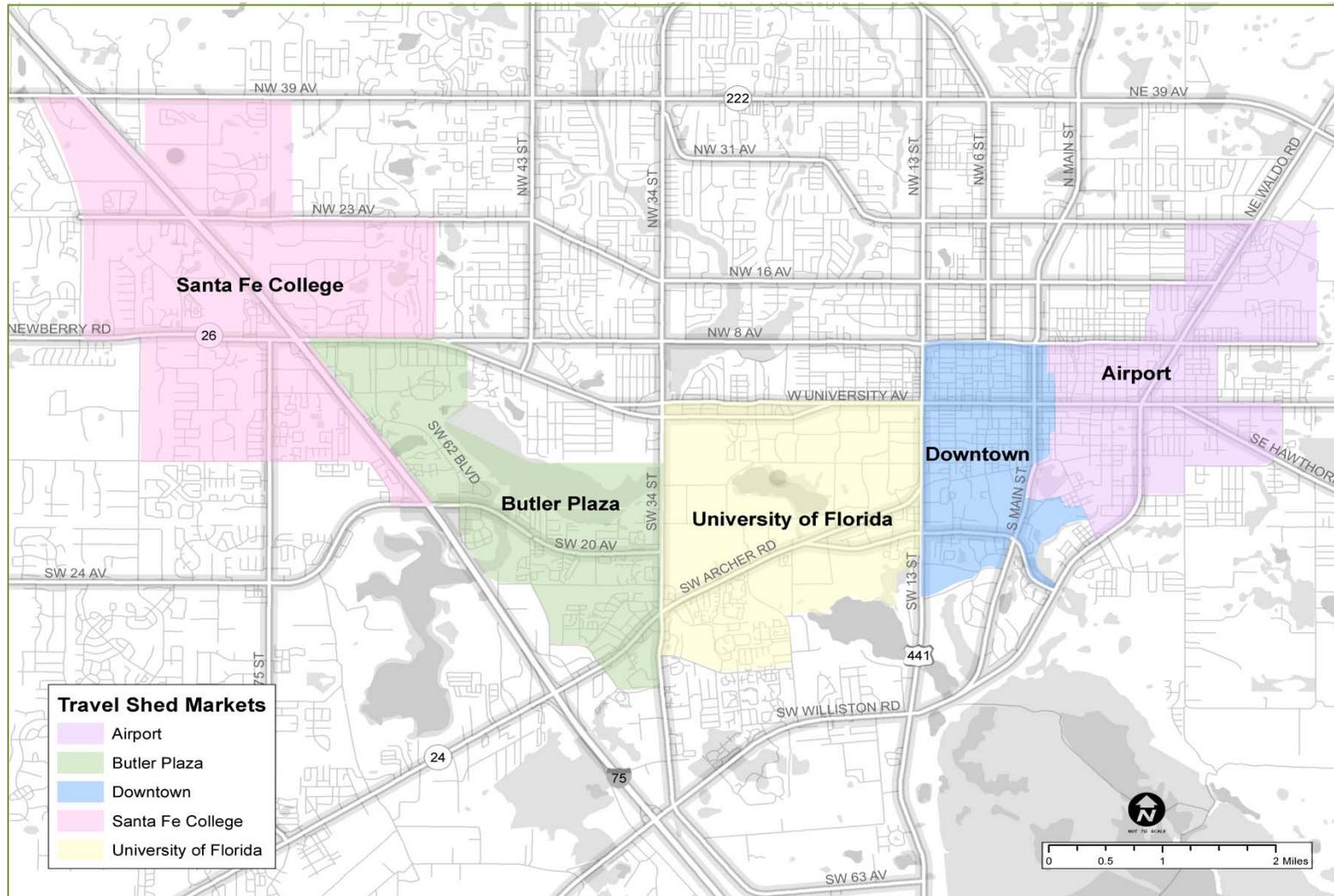
2.6 Market Assessment

This market assessment is a comprehensive travel analysis based on an evaluation of existing ridership data, study area characteristics, residential and employment density, demographic data, student population, transportation plans, future development, and traffic data collection. This analysis builds upon data from previous studies including the 2009 RTS Transit Rider Survey and 2009 data from the UF Campus Master Plan. Those studies provided key inputs into the assessment of potential markets for new premium transit service. This overview of origin and destination trip making characteristics is addressed within each of the five travel sheds developed to characterize the journey to work, shopping and UF-related travel. For market analysis purposes, the study area has been divided into the following five areas (Figure 2-9):

- Santa Fe College / Newberry Village;
- Oaks Mall / Student Village / Butler Plaza;
- University of Florida / Shands & Veterans Administration Hospitals;
- Downtown Gainesville; and
- East Gainesville / Airport Area.

The following summaries provide an overview of forecasted travel patterns within travel sheds (intra trips), forecasted trips with destinations in the study area (internal trips), and trips with destinations outside the study area (internal to external). The networks and data used for the analysis are from the MTPO's validated 2007 travel demand model and the 2035 Cost Feasible Plan model.

Figure 2-10: Travel Shed Markets



2.6.1 Santa Fe College/Newberry Village Travel Shed

The Santa Fe College/Newberry Village College travel shed (see Figures 2-11 and 2-12) includes development located east and west of I-75 including Santa Fe Village (AvMed), Spring Hill DRI and Newberry Village. The Traffic Analysis Zones (TAZs) located within a quarter mile of the following corridor's area are included: (1) NW 83rd Street; (2) NW 23rd Avenue; (3) Fort Clarke Boulevard; and (4) Newberry Road. The MTPO's validated model was used to prepare this analysis and it includes maps and summary data for both the 2007 base year transportation network and forecasted travel demand based on the adopted 2035 Long Range Transportation Plan network and socioeconomic data projections.

In 2010, according to the 2010 Census, median home values were mostly above \$200,000, average household size was above 3.0 and median household incomes were above average. In addition, the Santa Fe travel shed had the highest percentage of persons aged 65 or older.

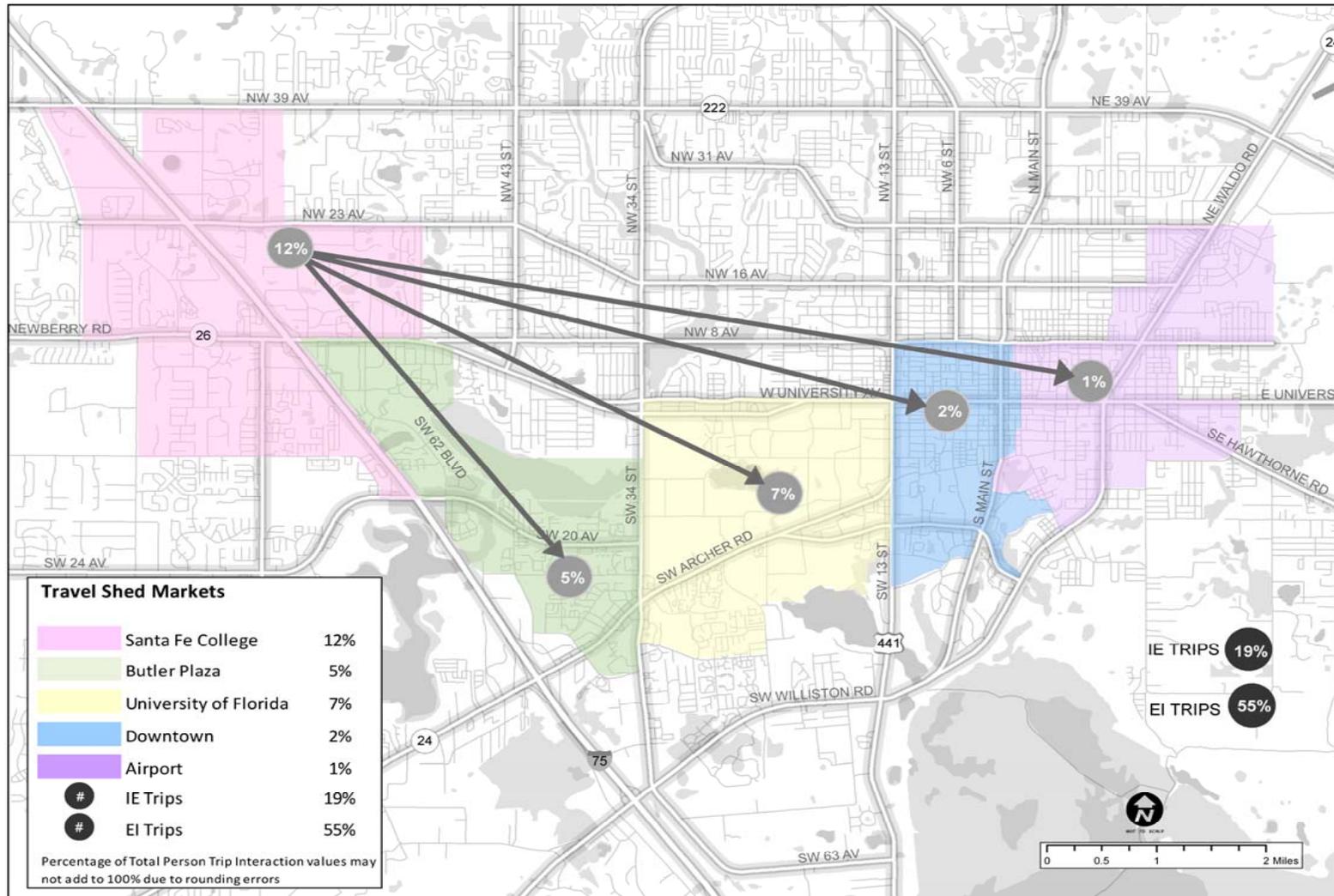
An average daily total of 85,688 person trips currently begin or end in the Santa Fe College travel shed. This number is roughly equivalent to demand associated with the Butler Plaza and downtown Gainesville travel shed. The following summarizes trip characteristics for the Santa Fe College area:

- Most trips in this travel shed originate outside of the Santa Fe College area;
- Only 27 percent of the trips starting in this area have destinations within the travel shed or *Go Enhance RTS* study area;
- Travel patterns within the travel shed for both Year 2007 and Year 2035 (see Figure 2-11 and 2-12) include:
 - 12 percent of all trips stay internal to the travel shed;
 - 5 percent of all trips are going to the Oaks Mall/Student Village travel shed;
 - 7 percent of all trips are going to the University of Florida/Shands/VA travel shed;
 - 2 percent of all trips are going to downtown Gainesville; and
 - 1 percent of all trips are bound for the Airport and East Gainesville.
- Total trips are projected to increase by 31 percent between 2007 to 2035 reflecting the anticipated level of development in this area; and
- Many trips within the *Go Enhance RTS* study area (76 percent) begin or end in this travel shed (Santa Fe College area). This is consistent with the residential dispersion of Santa Fe College students shown in Figure 2-8 above.

Trips in the western part of the study area are projected to increase significantly between 2007 and 2035. In 2035, the total trips are projected to increase to 112,346, with the increase primarily taking place in external "other" trips. That growth threatens to further congest an already constrained network that does not have the ability or roadway capacity to accommodate future travel demands. A potential rapid transit system could capture a significant portion of trips within the study area.



Figure 2-11: Santa Fe College/Newberry Village O-D Patterns (2035)



Note: IE Trips: The Percentage of Total Person Trips Ending Outside the Corridor
 EI Trips: The Percentage of Total Person Trips Starting Outside the Corridor

2.6.2 Oaks Mall/ Student Village/ Butler Plaza Travel Shed

The Oaks Mall/ Student Village/ Butler Plaza travel shed (see Figures 2-13 and 2-14) includes development located east of I-75 between Newberry Road and Archer Road. It does not include Celebration Pointe as this area was added after the travel market analysis was complete. The TAZs located within a quarter mile of the following corridors area are included: (1) SW 62nd Boulevard; (2) SW 20th Avenue; (3) SW 24th Avenue; and (4) SW 34th Street. The MTPO's validated model was used to prepare this analysis and it includes maps and summary data for both the 2007 base year transportation network and forecasted travel demand based on the adopted 2035 Long Range Transportation Plan network and socioeconomic data projections.

In 2010, according to the 2010 Census, median home values were \$145,000 near the Oaks Mall and lower closer to Archer Road. Household size was between 1.3 and 1.8 and median household incomes were below \$27,000 in this market. In addition, the Oaks Mall market had the lowest percentage of owner-occupied housing.

The largest concentrations of UF students are found in the vicinity of the main campus and along West University Avenue (see Figure 2-7). Student housing concentrations are also located along SW 20th Avenue west of SW 34th Street and southwest and southeast of the intersection of SW 34th Street and Archer Road. In east Gainesville, students are living both east and west of US 441 near Archer Road. Another popular location for student housing is located along Williston Road. Based upon the 2007 base year TAZ data, the highest density residential areas were clustered around downtown Gainesville, the UF campus and the Oaks Mall. High density residential areas near Archer Road, Williston Road, SW 34th Street and SW 23rd Street include student-oriented housing complexes.

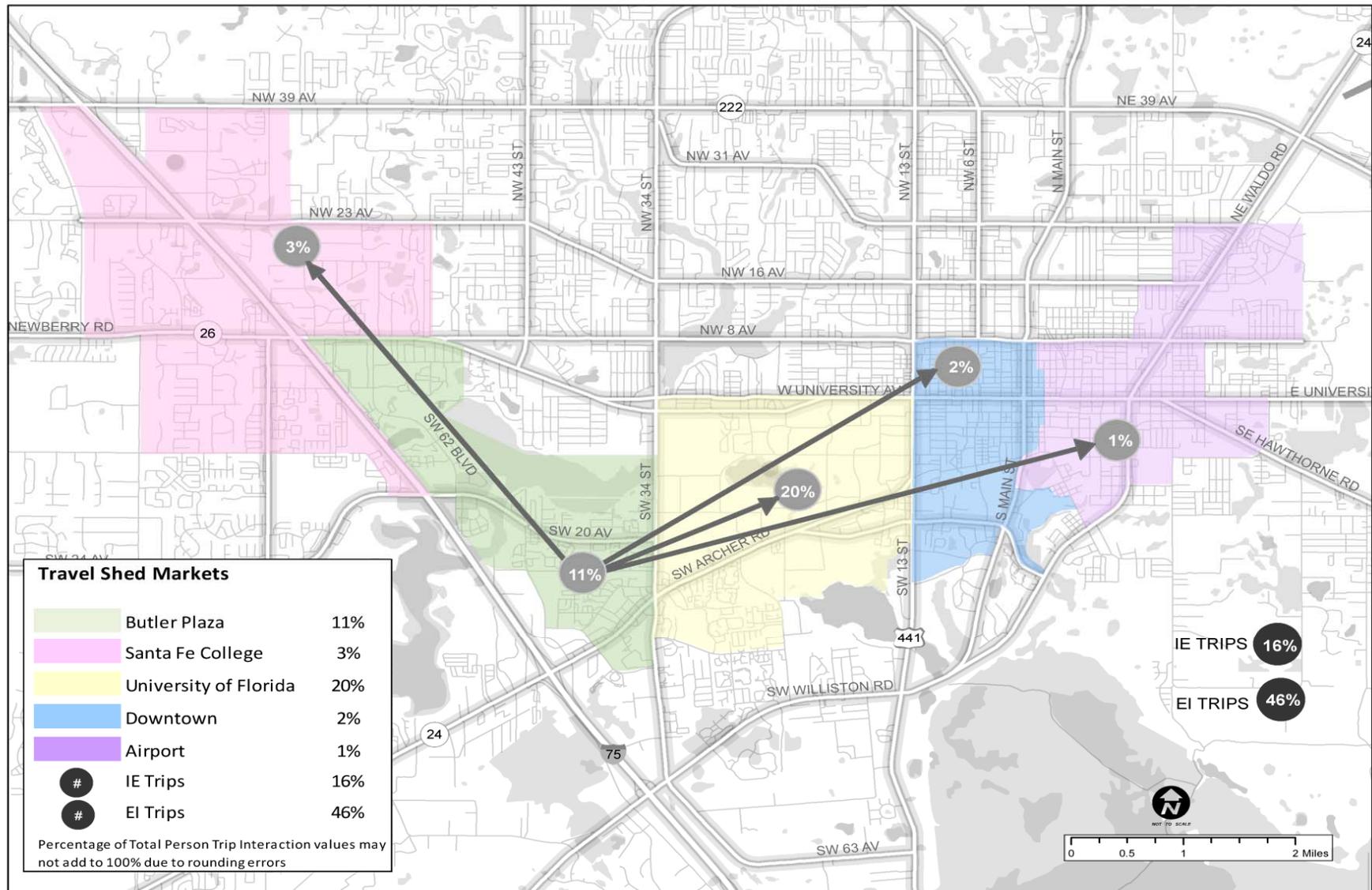
The following summarizes trip characteristics for the Oaks Mall/ Student Village/ Butler Plaza travel shed for the Year 2007 and Year 2035:

- Nearly 40 percent of the trips generated in the study area have destinations within the University travel shed or the *Go Enhance RTS* study area.
- The Oaks Mall/Student Village/Butler Plaza area travel distributions do not change between Year 2007 and 2035 (see Figures 2-15 and 2016):
 - About 10 percent of all trips stay internal to the Student Village travel shed;
 - About 25 percent of all trips are going to the University of Florida/Shands travel shed in 2007; and
 - The percentage of trips destined for the University of Florida/Shands travel shed decreases to 20 percent of all trips in 2035. The reason for the decline is not clear but it may be associated with the number of students projected to begin taking college classes at a local college or online for their first and second year.
- Total trips are projected to increase by 46 percent between 2007 and 2035.

In 2035, the total trips are projected to increase to 129,300. Trips in the western part of the study area are projected to increase by up to three times between 2007 and 2035. That growth threatens to further degrade travel along an already constrained network. For example, 35 percent of the trips associated with the Oaks Mall/ Student Village/Butler Plaza travel shed are projected to stay within the study area. This means that a potential new service could capture a significant portion of trips between this travel shed and other travel sheds within the study area.



Figure 2-12: Oaks Mall/Student Village/Butler Plaza O-D Patterns (2035)



Note: IE Trips: The Percentage of Total Person Trips Ending Outside the Corridor
 EI Trips: The Percentage of Total Person Trips Starting Outside the Corridor



2.6.3 UF/Shands Hospital/ Veteran’s Administration Travel Shed

The travel shed for the UF/Shands/VA Hospital market area (see Figure 2-15 and 2-16) includes the University of Florida main campus. The TAZs located within a quarter mile of the following corridors area are included: (1) Archer Road; (2) SW 13th Street; (3) SW 16th Avenue; and (4) University Avenue. The MTPO’s validated model was used to prepare this analysis and it includes maps and summary data for both the 2007 base year transportation network and forecasted travel demand based on the adopted 2035 Long Range Transportation Plan network and socioeconomic data projections.

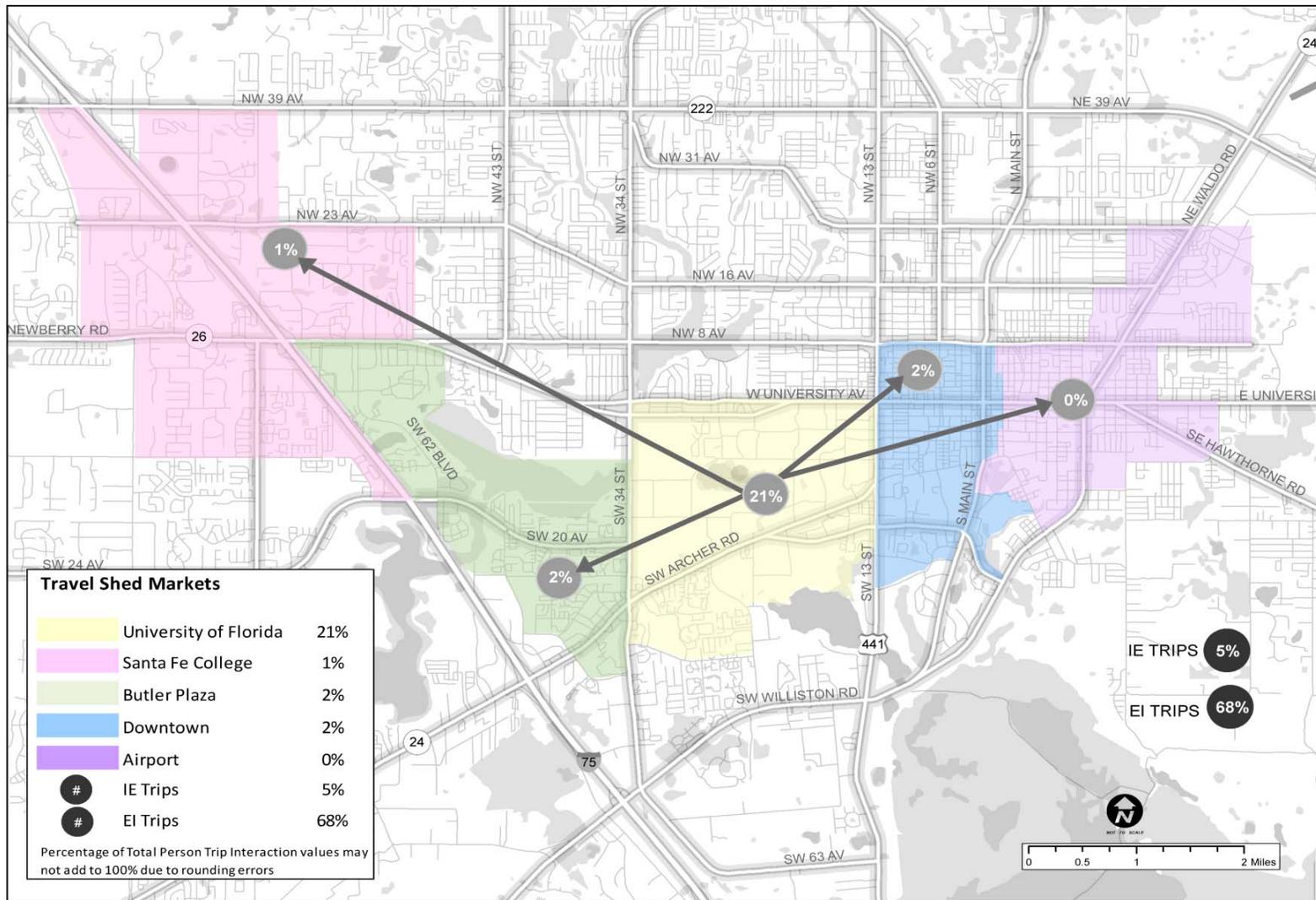
According to the 2010 Census, median home values were over \$100,000 near Shands Hospital and lower closer to US 441. Household size was between 1.3 and 1.8 and median household incomes were below \$27,000 in this market. In addition, less than 50 percent of the housing units in the Shands Hospital travel shed were owner-occupied. These statistics are consistent with the high numbers of student households in this area. More expensive housing units are likely affiliated with medical professionals living and working in the area.

Almost 179,000 average daily person trips currently begin or end in this travel market, making it the single largest travel market being analyzed. The following summarizes trip characteristics in the Shands Hospital travel shed:

- In 2007, 26 percent of the trips generated have destinations within the UF area travel shed or *Go Enhance RTS* study area;
- In 2035, 26 percent of the trips generated have destinations within the Shands Hospital area travel shed or *Go Enhance RTS* study area;
- The travel patterns do not change between 2007 and 2035 because the University, Shands and the VA Hospital will continue to be the largest employment and student destinations in the region with 21 percent of all trips staying internal to the travel shed
- Less than 5 percent of all trips originating in this travel shed extend to the other four travel sheds in 2007 and 2035.
- Total trips are projected to increase by 11 percent by 2035.
- A high percentage of trips associated with this travel shed are originating in the study area and destined to this travel market. Additionally, the LEHD evaluation of travel patterns indicated that many trips destined for this travel shed originate from far outside the *Go Enhance RTS* study area.

Almost 33,000 of those externally originating trips are university-related work trips, 36,000 are non-university related work trips, and almost 56,000 are for “other” purposes. As such, a substantial number of trips are not being directly generated by the university. A significant number of trips are destined for nearby businesses, medical offices and hospitals. In 2035, the total trips are projected to increase to 198,688, with the increase being fairly evenly spread between the different trip purposes and types. This represents an 11 percent increase in trips, the smallest increase of the travel markets being analyzed. This reflects the built-out nature of the campus.

Figure 2-13: UF/Shands Hospital/Veteran’s Administration O-D Patterns (2035)



Note: IE Trips: The Percentage of Total Person Trips Ending Outside the Corridor
 EI Trips: The Percentage of Total Person Trips Starting Outside the Corridor

2.6.4 Downtown Travel Market

The travel shed for the Downtown travel market area (see Figure 2-17 and 2-18) includes the downtown Gainesville Community Redevelopment Area. The TAZs located within a quarter mile of the following corridors in this area are included: (1) SW 13th Street; (2) Main Street; (3) University Avenue; and (4) Depot Avenue. The MTPO's validated model was used to prepare this analysis and it includes maps and summary data for both the 2007 base year transportation network and forecasted travel demand based on the adopted 2035 Long Range Transportation Plan network and socioeconomic data projections.

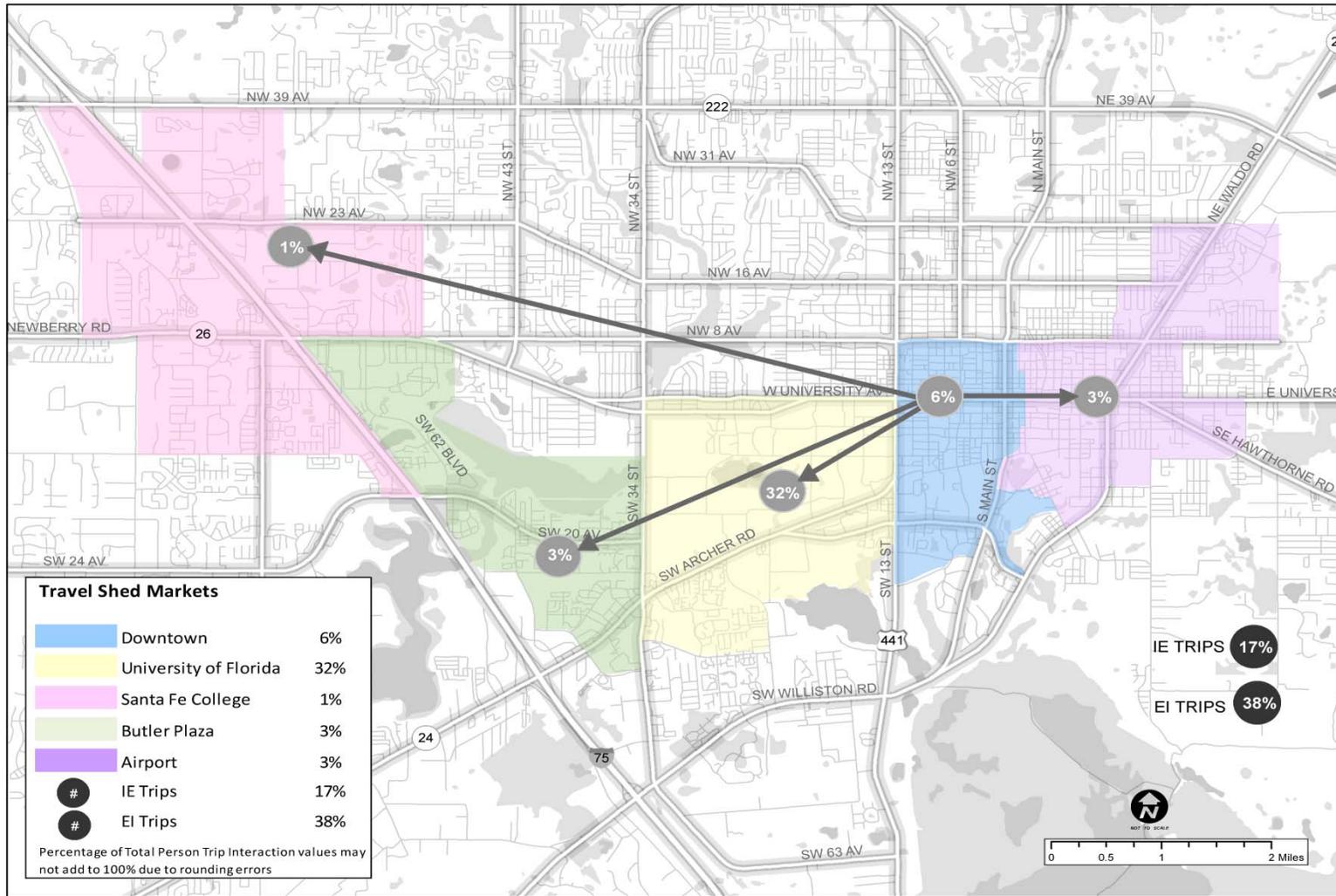
An average daily total of 82,870 person trips currently begin or end in the downtown Gainesville area. The largest number (32,412) occurs from outside of the study corridor, but a similar number (32,075) come from within the study corridor but outside of the downtown area. The following summarizes trip characteristics of the downtown travel shed:

- In both 2007 and 2035, 45 percent of the trips generated have destinations within the downtown travel shed or *Go Enhance RTS* study area;
- In both 2007 and 2035, 6 percent of all trips stay internal to the downtown travel shed;
- In 2007, 33 percent of all trips are going to the University of Florida travel shed;
- In 2035, 32 percent of all trips are going to the University of Florida travel shed. This decline is reflective of the built out nature of the UF campus and growth in the overall traffic in the study area; and
- Total trips are projected to increase by 16 percent by 2035.

In 2035, the total trips are projected to increase to 96,529, with the increase primarily taking place in external "other" trips.



Figure 2-14: Downtown Travel Market O-D Patterns (2035)



Note: IE Trips: The Percentage of Total Person Trips Ending Outside the Corridor
 EI Trips: The Percentage of Total Person Trips Starting Outside the Corridor

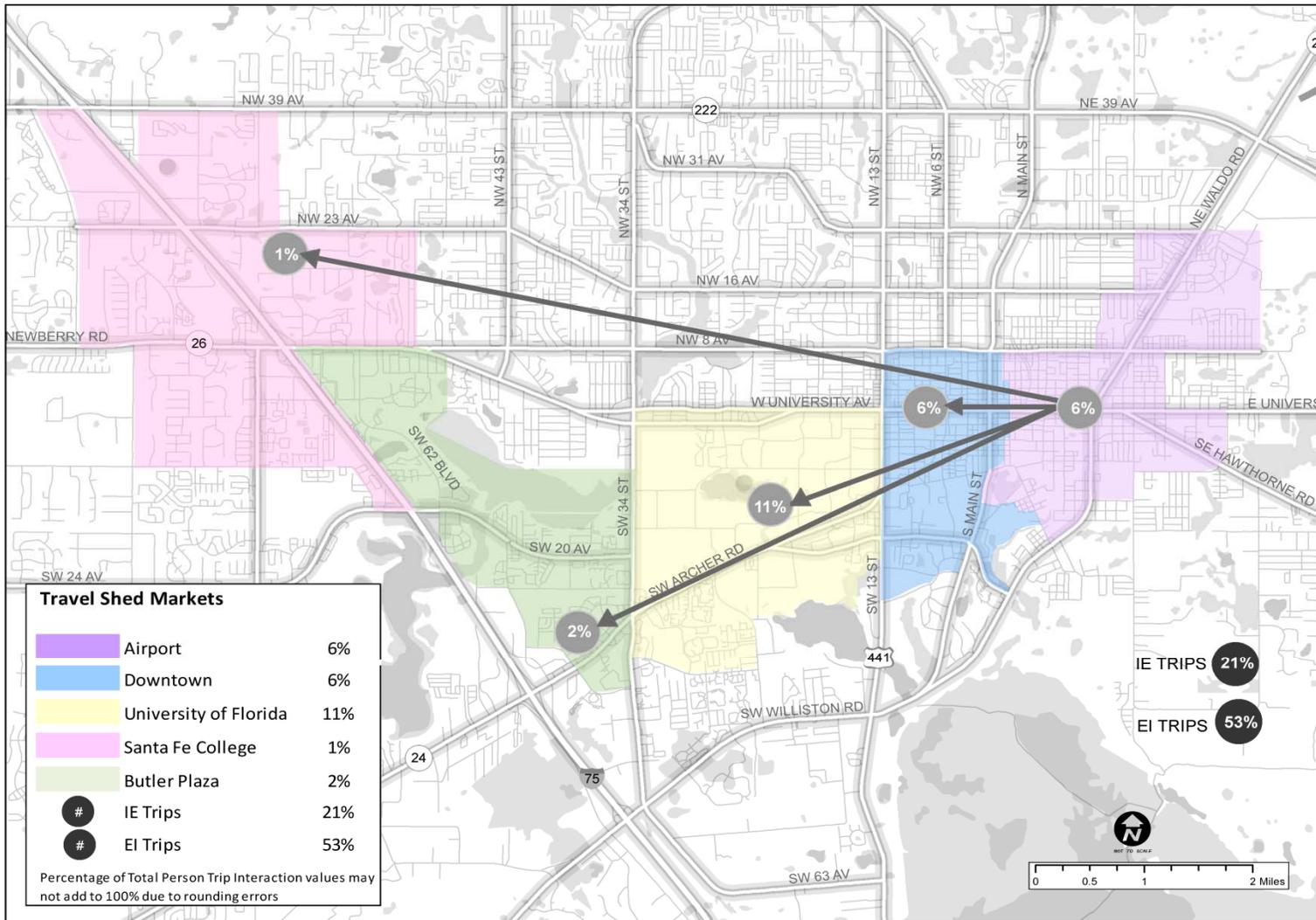
2.6.5 East Gainesville/Regional Airport Area

The travel shed for the East Gainesville/ Regional Airport market area (see Figure 2-17 and 2-18) includes East Gainesville and the Gainesville Regional Airport. The TAZs located within a quarter mile of the following corridors area are included: (1) East University Avenue; and (2) Waldo Road/Williston Road. An average daily total of 38,246 person trips currently begin or end in the East Gainesville travel shed. The following summarizes trip characteristics:

- In 2007, 29 percent of the trips generated have destinations within the East Gainesville travel shed or study area;
- In both 2035, 27 percent of the trips generated have destinations within the travel shed or study area;
- In both 2007 and 2035, 6 percent of all trips stay internal to the travel shed;
- In 2007, 13 percent of all trips are going to the UF travel shed;
- In 2035, 11 percent of all trips are going to the UF travel shed;
- Total trips are projected to increase by 14 percent by 2035; and
- A high percentage of trips associated with this travel shed are shopping or service trips coming in from areas outside the study area.



Figure 2-15: East Gainesville/Airport Area O-D Patterns (2035)



Note: IE Trips: The Percentage of Total Person Trips Ending Outside the Corridor
 EI Trips: The Percentage of Total Person Trips Starting Outside the Corridor

2.7 Purpose

The City of Gainesville's RTS has worked with their study partners and the community to identify a shared vision for land use and transportation that will lead to a safer multimodal environment that offers transportation choices for employees and residents as well as students and promotes a sustainable compact urban form that will support local environmental conservation efforts. The statement of purpose addresses the goals outlined by the community, as well as the current and anticipated transit problems and challenges in the study area:

- To implement this shared vision in a cost effective manner, the *Go Enhance RTS Study* will examine a variety of transit improvements and their ability to improve mobility for the travel markets that converge within the study area. The most significant markets have been described previously in Section 2.6. Local interest in premium transit includes the desire to create a *more pedestrian-oriented* environment designed for alternative modes of travel including carpooling, vanpooling, riding buses and bicycles.
- As the community seeks a more compact development pattern, the City of Gainesville, University of Florida and Alachua County are increasingly identifying strategies to pursue higher density residential development, high intensity commercial projects, mixed use activity centers and a more attractive and safer pedestrian environment.

The purpose of the *Go Enhance RTS Study* is to develop a range of premium transit improvements for the study area that respond to the community's vision, enhance the passenger experience, promote economic development, reduce demand for parking, and offer passengers an attractive, convenient, reliable, safe and effective transportation alternative to driving.

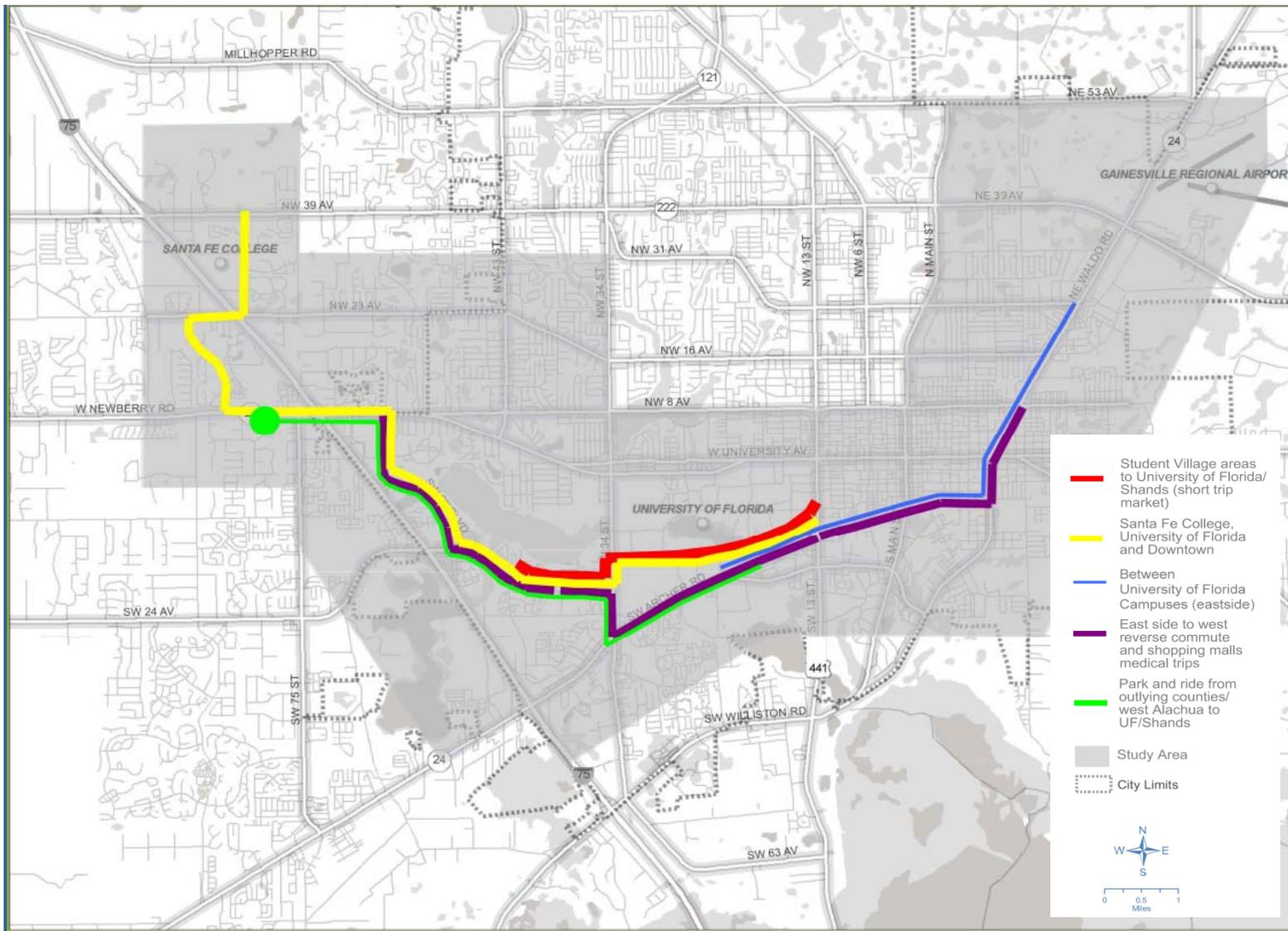
2.8 Project Need

Newberry Road, University Avenue, Archer Road, NW 13th Street, NW 23rd Avenue, SW 20th Avenue and SW 34th Street are all currently at or are projected to exceed accepted levels of traffic congestion. The capacity projects planned for these roadways will not substantially reduce the projected levels of travel delay. The combination of rising levels of traffic congestion along with policy and physical constraints that limit roadway expansion projects puts a greater strain on the regional roadway network than it can be expected to handle. As a regional destination of statewide significance, transportation is a critical issue for Gainesville, its hospitals and schools. Congestion on principal arterial roadways between I-75 and UF/Shands will have an adverse impact on air quality, livability, commute times and community cohesiveness. Adverse impacts in Gainesville will likely ripple through the region and could reduce the area's economic and community competitiveness as an educational and research center.

Beyond that, City, County and UF policies and priorities favor multimodal strategies that reduce travel demand and emphasize a more balanced approach to accessibility, mobility and livability. A summary of major transit markets identified in the origin-destination analysis is depicted in Figure 2-19. The most dominant travel extends between the Oaks Mall/Butler Plaza/Student Village area and the University of Florida (see the area where the red, yellow, purple, and green lines converge). It has the largest trip interaction in 2035, and represents nearly half of the total trip interaction occurring within the entire study area.



Figure 2-21: Summary of Major Transit Markets



2.9 Problem Statement

Based on the assessment of current conditions in the study area and considering the ramifications of future development and growth, the following GO Enhance RTS Problem Statement was developed to devise alternatives and evaluation criteria for the selection of a preferred alternative. Through previous studies conducted by the study partners, seven key transportation-related problems have been identified in Gainesville. For example:

- Archer Road is the core east-west corridor in Gainesville. The most significant commercial, healthcare, cultural, educational, government, high density residential and employment destinations are situated along the corridor within a few blocks of Archer Road. The continued economic viability of this corridor depends on a high level of mobility.
- Traffic congestion along key travel corridors in the study area is being experienced with existing weekday peak hour level of service (LOS) E and F LOS (Newberry Road, University Avenue, Archer Road, NW 13th Street, NW 23rd Avenue, SW 20th Avenue and SW 34th Street). SW 20th Avenue cannot be widened to add capacity without major impacts and experiences the highest ridership in the RTS system. Pedestrian safety concerns and conflicts arising from congestion preclude future capacity projects along University Avenue. Segments of Archer Road (near Shands Hospital), NW 23rd Avenue, SW 34th Street and NW 13th Street are failing and constrained from further widening due to relocation costs and adverse impacts from removing businesses and homes. Two new grade separations of I-75 north and south of Newberry Road have been identified in the LRTP to alleviate congestion along Newberry Road. As Gainesville grows, traffic congestion along these corridors and the lack of mobility options will increasingly threaten the viability of the community.
- Mobility for students, employees and area residents is decreasing as the RTS system is adversely impacted by traffic congestion, the need for transfers and the lack of alternative transit routes that are accessible, safe and convenient for passengers.
- There is inadequate multimodal connectivity to support compact urban form and promote the development of neighborhood centers. Sustainable development, premium transit and neighborhood centers rely on walkability and convenient access. Continuous sidewalk and bicycle connections are needed to support transit investments, address safety concerns identified in the *Go Enhance RT Study Existing and Future Conditions Report* (December 2012) and to reduce pedestrian and cyclist conflicts with vehicles.
- There is currently no safe and convenient transportation corridor dedicated to fast, convenient and effective multimodal transportation. Transit, bicycle and pedestrian mode shares in Gainesville are very high and many study area residents are destined for key activity centers located along Newberry Road, University Avenue, Archer Road, NW 13th Street, NW 23rd Avenue, SW 20th Avenue and SW 34th Street. Bus transit is not heavily used by choice riders because travel times are not convenient and arrival times can be



unreliable due to congestion. In addition, pedestrian access is not convenient. Integration and better connections are needed in general.

- The travel market summary indicates that the combination of rising levels of traffic congestion, along with policy and physical constraints on roadway expansion, puts greater strain on the regional roadway network than it can be expected to handle. Trips within travel sheds in the western part of the corridor study area are projected to increase by up to three times between 2007 and 2035. That growth threatens to further delay RTS buses as they are operated in mixed traffic and reduce travel time reliability.
- Trips associated with downtown and the University of Florida are projected to have nearly a 40 percent capture between the two markets. This represents the growth anticipated with the emerging activity center of Innovation Square and other new developments planned in downtown Gainesville. From an economic development standpoint, there is a need to better integrate travel between multiple activity centers with demonstrated trip interactions that are expected to increase in the future.
- The University of Florida and Shands Hospital are regional destinations of statewide significance and transportation is a critical issue for these institutions to ensure job access, safety and evacuation capacity.
- Transportation options are needed to improve connections between key travel markets described above. In particular, convenient connections are increasingly needed between Santa Fe College and UF for students, faculty and staff. Healthcare employees need convenient service serving all work shifts extending to East Gainesville and other residential areas. Transit investments are necessary to support the rebirth of the urban core, revitalize the public investment and encourage additional CRA investments.

Without the appropriate mobility options, the community's vision for a sustainable and balanced transportation system that supports land use objectives, protects the environment and increases economic vitality will not be achievable. The development of a premium transit option represents a rare opportunity to ensure the long-term viability, livability and functionality of Gainesville.



3.0 GOALS AND OBJECTIVES

Goals and objectives provide a starting point for examining various alternatives. As part of the *GO Enhance RTS Study*, goals and objectives were developed based on previous community outreach efforts and community aspirations delineated in the RTS Transit Development Plan, local government comprehensive plans, regional transportation plans and needs identified in the study area by stakeholders. Specifically, they will be used in determining how effectively an alternative addresses the mobility and accessibility needs of the community.

Based on the input from the advisory committees, five major goals were identified with supporting objectives. These are presented as follows:

Goal #1: Improve Mobility and Transit Accessibility in Study Area

Objectives:

1. Improve travel circulation by connecting major activity centers in the study area.
2. Provide an effective connection to existing and future regional transit services.
3. Improve transit travel time between existing and future major trip destinations.
4. Accommodate the variable travel demand associated with UF, Santa Fe College, and special events.

Goal #2: Assure Equitable Transportation Options for the Community

Objectives:

1. Provide additional services for the transit dependent population.
2. Provide equitable transportation services and benefits.
3. Provide equitable sharing of costs for transportation improvements among those who benefit from them.

Goal #3: Enhance the Quality of the Environment

Objectives:

1. Improve transportation mobility while achieving a balance of environmental preservation and compact development in transit supportive areas.
2. Provide an alternative to single occupant automobile use that serves the University of Florida and Santa Fe College campuses, downtown and other major activity centers such that mode shares are shifted.
3. Minimize encroachment on environmentally-sensitive lands and parklands.
4. Improve air quality by reducing automobile emissions and pollutants.



Goal #4: Enhance Community CohesionObjectives:

1. Support development of a pedestrian environment with increased transit use and promote more walking.
2. Serve existing and support future high-density land uses (e.g. mixed-use, residential, commercial, office, and institutional use).
3. Provide transit investments supportive of City and County redevelopment/ development and land use plans.

Goal #5: Develop Transportation Options that are Cost Effective, Promote Private Investment and Financially ViableObjectives:

1. Identify a strategy for local agencies to fund the estimated local share of capital costs.
2. Identify a strategy for local agencies and the private sector to fund estimated operating and maintenance (O&M) costs.
3. Develop transit improvements in the most cost-effective manner.
4. Maximize the economic benefits gained from transit capital investments.
5. Implement transit improvements in a timely manner.

The five goals identified above were designed to be reflective of the community's vision for transit as reflected in the RTS Transit Development Plan. Specific objectives have been defined for each goal. These goals and objectives will assist in the evaluation to determine how well each of the proposed premium transit alternatives performs to advance the community's vision.

4.0 INITIAL ALTERNATIVES

4.1 Range of Alternatives

Initially, a wide range of routing alternatives will be considered for BRT, and low cost bus service enhancements [also called the Transportation System Management (TSM) Alternative]. Different service strategies and termini will also be considered. A basic capital cost comparison of BRT to streetcar will also be conducted. Further discussion with local agency staff and the general public will be held to help define the desired elements for BRT such as dedicated lanes, signal priority and fare collection methodology. However, special attention will be paid to the FTA eligibility criteria for BRT (either fixed guideway BRT or corridor based BRT) under MAP-21. Further information on the initial range of routing alternatives is described below.

4.2 No-Build

This alternative includes only funded and programmed transit and roadway improvements identified in the 2035 LRTP. The 2010 BRT preferred alignment for the east-west corridor and downtown streetcar project would not be included in the No-Build Alternative for this study. These projects would not be included in the No-Build Alternative because this alternative forms the basis for comparison. The ability of the No-Build Alternative to address travel needs is compared to the Baseline/TSM and Build Alternatives for performance. All existing RTS bus service and other funded transit improvements described in the RTS Transit Development Plan will be considered part of the No-Build Alternative along with proposed bicycle, pedestrian, roadway and transportation demand management improvements funded in the 2035 LRTP.

4.3 Transportation System Management (TSM)

Analysis of a TSM alternative is no longer required based upon MAP-21, the new federal transportation reauthorization. Typically, this alternative provides a “best bus” system, including improving service frequency and span of service for local bus service. Since one of the community’s goals is to enhance existing transit service, a TSM Alternative will be developed for the *GO Enhance RTS Study*, integrating a Rapid Bus or “BRT Lite” service concept. This alternative will serve the study area with premium bus service meeting the identified travel needs and markets, with limited facility improvements that may pave the way for developing a phased program of improvements. This ‘BRT Lite’ alternative will include limited stop service, transit signal priority, real-time passenger information and enhanced stops (no fixed guideway or specialized vehicles). The TSM Alternative will be used for comparison with the Build Alternatives to demonstrate the value associated with an added investment in dedicated lanes, specialized vehicles and significant stations in terms of access and mobility for the community. In addition, the TSM Alternative may serve to define a potential interim improvement that could be implemented to build transit ridership in the study corridor.

4.4 Build - Premium Transit Mode Options

The RTS *2010 Rapid Transit Feasibility Study* identified BRT as a preferred premium transit mode for the east-west corridor. In compliance with the guidance for the evaluation of alternatives presented in FTA’s *Procedures and Technical Methods for Transit Planning*, the applicability of a variety of transit modes for the extended east-west corridor will be assessed in the current study to verify the most suitable transit mode, building on the mode assessment from the 2010 study. The intent of this evaluation is to inform the community regarding the costs and benefits associated with various premium transit mode options considered for use in this corridor.



The City of Gainesville is planning to conduct a more limited, separate streetcar feasibility assessment in the central city area, oriented to providing a local circulator function (potentially tying the downtown area with UF), which would need to tie into the refined BRT corridor alternative. The evaluation measures that will be used for the comparison in the current study will include capital costs, operating costs, maintenance facility costs, and maintenance staffing costs.

4.4.1 Bus Rapid Transit

A “full” BRT system would expand upon the existing RTS local bus service that is currently in operation throughout the study area. The main elements of this type of transit service include extensive fixed guideway and specialized stations and vehicles.

Passenger stations would include amenities such as a canopy or shelter, benches, lighting, fare collection and information kiosks that are of uniform design along the alignment. BRT stations would utilize platforms that are level with the vehicle doorways, and extended pedestrian waiting areas through curb extensions where possible.

New low-floor stylized BRT vehicles could be purchased for transit operations and painted with a color scheme and graphics that are easily recognizable to riders in the downtown area as the service provides distribution and connections to regional services. The vehicles used in operation may be similar in size to a standard 40-foot bus with multiple entry/exit doors to facilitate passenger loading and unloading or they may be longer, articulated buses. The vehicles will generally be about 12'-0 high and approximately 8'-6 in width.

BRT also utilizes intelligent transportation systems technology, traffic signal priority, rapid and convenient fare collection, and integration with existing and future land use to optimize system performance. An overview of typical BRT system characteristics is provided below:

- Serves moderate passenger volume
- Low to medium speed (15 to 45 mph)
- May service short to medium distance trips
- Stops/stations spaces from a few blocks to miles apart
- Stations can be elaborate or simple; low or high platforms, or both
- Numerous vehicle suppliers
- Maximum Passenger Capacity: ~55 – 100 passengers



BRT (EmX) in Eugene, Oregon

4.4.2 Streetcar

Streetcars are the modern technological descendent of the historic streetcar or trolley. A distinctive feature of streetcars is that the vehicles draw power from an overhead catenary system which allows the vehicles to operate in mixed traffic and pedestrian areas. Streetcars provide the same level of flexibility and have similar operating characteristics as the larger Light Rail Transit systems. The main streetcar system elements include stations, stops, low-floor streetcar vehicles, and other improvements.

The stations would consist of a platform level with the streetcar to facilitate passenger boarding and alignment, a canopy or shelter, benches, fare collection equipment, lighting, and information kiosks that are of uniform design along the alignment.

In addition to the stations, other fixed facilities include the installation of trackwork, an overhead catenary system for the distribution of electricity to the vehicles, traction power substations located about one mile apart, and signaling and communication systems. The fixed guideway would consist of tracks formed of continuously welded rails and embedded at-grade in a concrete slab. The vehicles would operate along a new fixed guideway located primarily within existing rights of way. The guideway would be either single or double-tracked and located within traffic lanes that would be shared with other vehicular traffic.

A new vehicle maintenance and storage facility could be required to accommodate the new streetcar fleet, if not integrated into the existing bus maintenance facility. The facility would be located on a site off the streetcar alignment and would be connected by a lead track.

Streetcars are typically 65' to 70' long and 8'-1" to 8'-6" wide. The smaller vehicle size enables streetcars to operate in a number of urbanized settings. Operator cabs at both ends of the vehicle allow bi-directional operation. Streetcars can operate either as a single or two car train. The following provides the general characteristics of a typical streetcar system:



Tacoma Streetcar

- Serves moderate to high passenger volume
- Low to medium speed (depending on degree of separation of right-of-way and distance between stops) – 30 to 45 mph
- May serve short to medium distance trips
- Stations spaced 0.5 to 1 miles apart
- Uses overhead power collection
- May operate in traffic, with cross-traffic, or on exclusive right-of-way
- Stations may be elaborate or simple. May use low platforms, high platforms, or both
- Vehicles may operate alone or in trains of up to two vehicles
- Numerous vehicle suppliers
- Cannot operate jointly with freight trains or other railroad equipment
- Maximum Passenger Capacity: ~130 passengers

4.5 Build – Routing Options

The Gainesville premium transit corridor has been divided into six subareas between Santa Fe College on the west and Gainesville Airport on the east. The six subareas are illustrated in Figure 4-1 with white rectangles. The subareas are designed as follows:

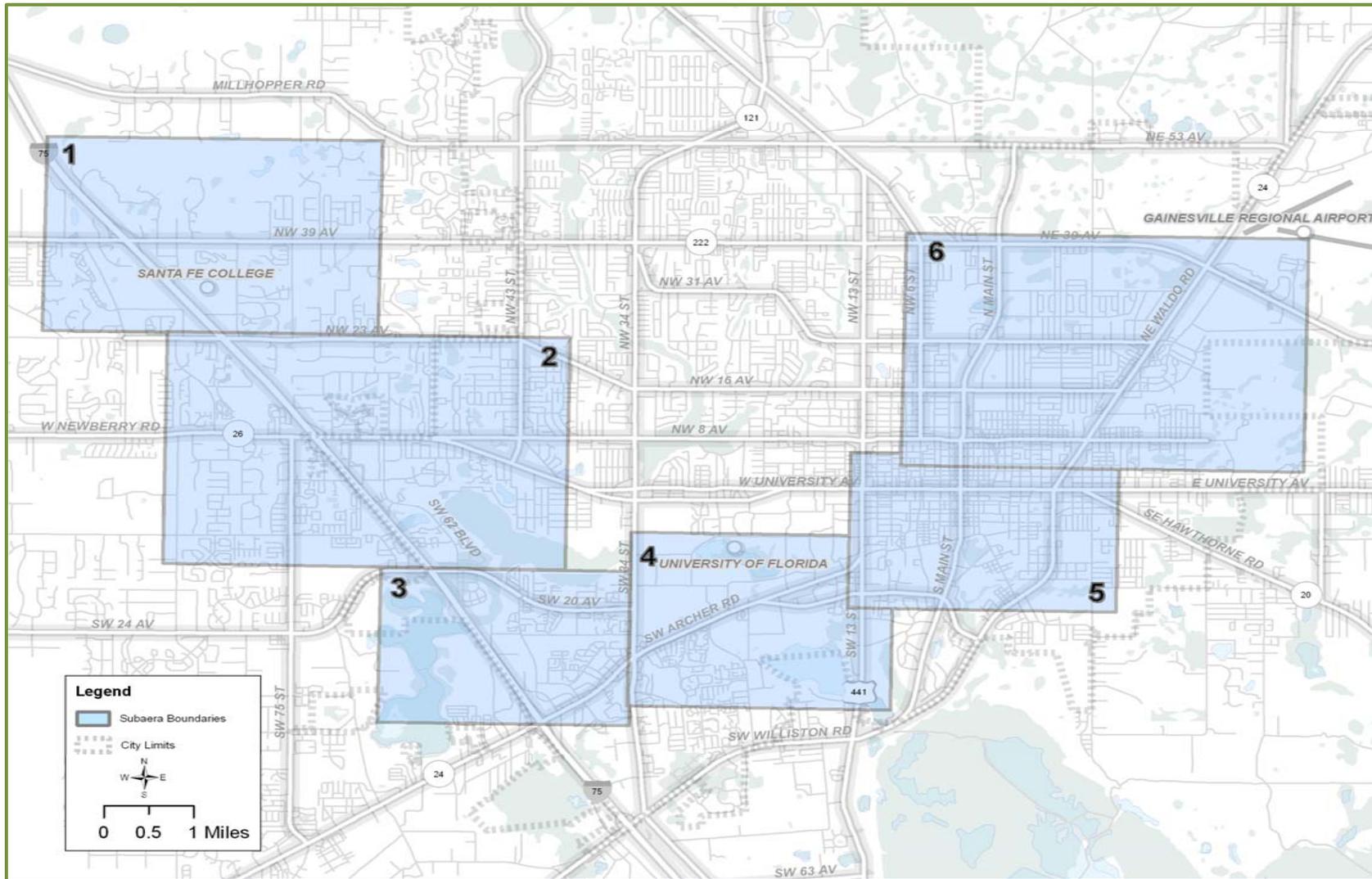
1. Spring Hill/Santa Fe College
2. Santa Fe College to Oaks Mall
3. Student Village Area
4. University of Florida
5. Downtown Gainesville
6. East Gainesville

In each subarea, segments of existing or planned streets where routing options for premium transit service could be developed have been identified, based on input from previous studies and current study stakeholders. This includes some of the refined route options evaluated in the *RTS 2010 Rapid Transit Feasibility Study* as well as some new routing options within each subarea. Segment options are denoted by letter. Segment Alternative A on each sheet denotes the recommended BRT routing from the adopted 2035 LRTP. Figures 4-2 through 4-7 show enlarged aerial maps of the routing options in each subarea. Where available, the aerial base maps have been enhanced with an illustration of proposed development plans for context. Operations for these routing alternatives would focus on bi-directional transit service. The intent is to evaluate different routing options to understand the potential for transit service in each subarea so that the best possible subarea options could be combined into the Refined Build Alternatives. The final tier of the transit evaluation would compare the effectiveness of a limited number of 15 to 17-mile Refined Build Alternatives across the entire study area, packaging the best of the subarea alternatives.

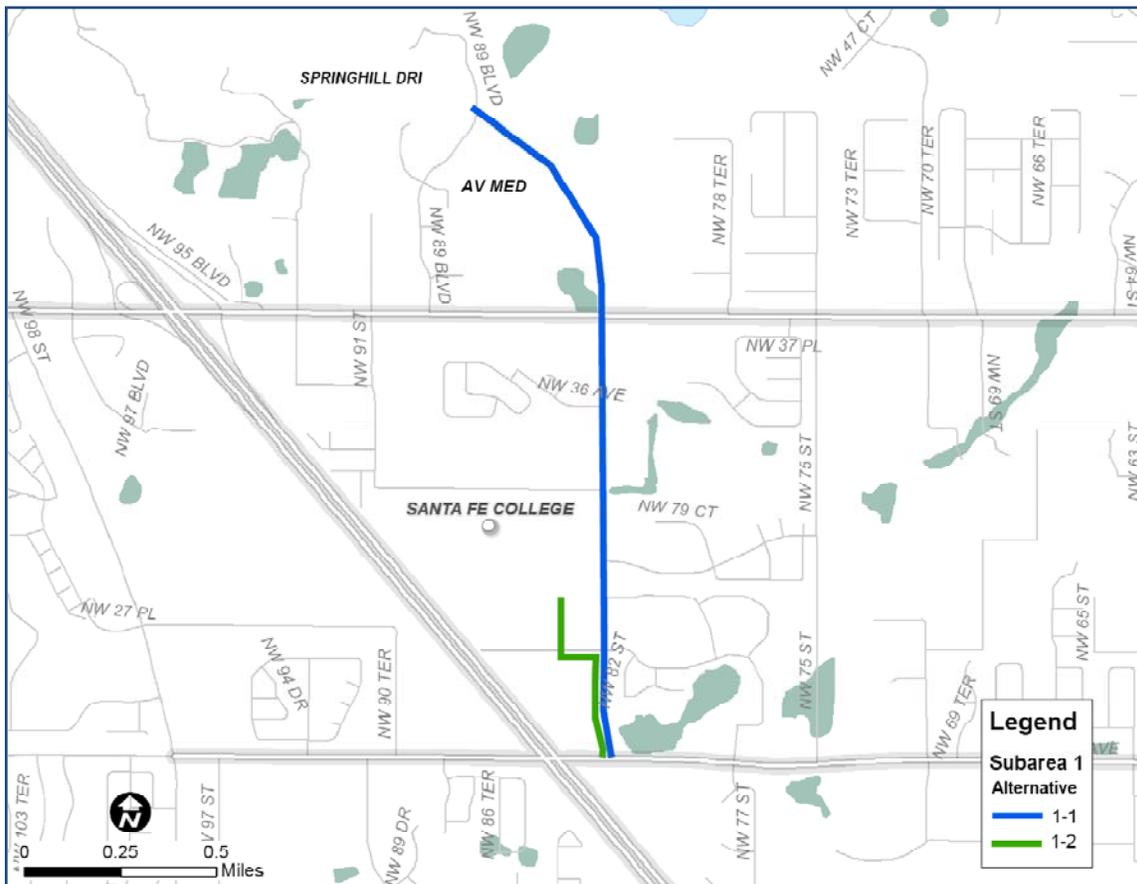
For each corridor subarea, complete routing options across the entire subarea have been identified based upon different combinations of the segment options shown in Figures 4-1 through 4-7. Immediately following Figure 4-7, the detailed subarea options are described and illustrated with vignette maps in Sections 4.5.1 through 4.5.6. Complete subarea alternatives are designated by number.



Figure 4-1: Initial Segment Routing Options Considered by Subarea



4.5.1 Subarea 1 – Spring Hill/Santa Fe College

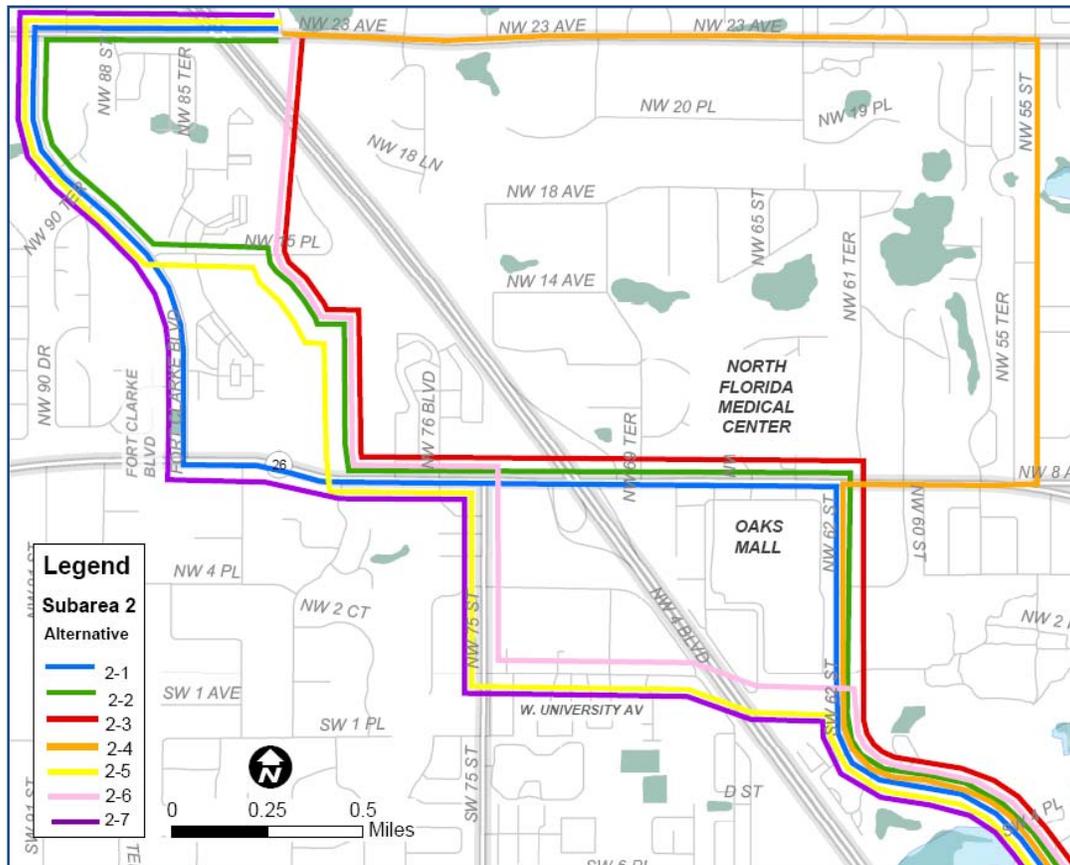


Alternative Number and Description

Alternative 1-1 would originate within the Spring Hill development, north of the Shands Medical Office Building. A planned bus transit station (located near the AvMed development) has been identified in the development plans. This route would extend south along NW 83rd Street to the Santa Fe College campus. The route would stop adjacent to the Santa Fe College campus at the existing bus stop along NW 83rd Street. As an alternative, the route could serve another designated location at the edge of the Santa Fe campus. The route would then continue south to NW 23rd Avenue, as indicated with a blue line in the map above.

Alternative 1-2 would originate on campus at Santa Fe College from an existing on-campus bus stop. The route would extend east along NW South Road and exit campus to continue south along NW 83rd Street to NW 23rd Avenue, as shown with a green line in the map above.

4.5.2 Subarea 2 – Santa Fe College to Oaks Mall



Alternative Number and Description

Alternative 2-1 would head west on NW 23rd Avenue across I-75 to Fort Clarke Boulevard. The route would then continue south on Fort Clarke Boulevard, and east on West Newberry Road under I-75 to SW 62nd Street at the Oaks Mall. The route would then extend south on SW 62nd Street and stop at the existing RTS stop on the south side of Oaks Mall. The route would continue along SW 62nd Boulevard to SW 20th Avenue. Alternative 2-1 is shown with a blue line in the map.

Alternative 2-2 would extend west across I-75 and would head south on Fort Clarke Boulevard, east on NW 15th Place through the proposed Newberry Village Development, and south on NW 80th Boulevard. At Newberry Road the route would extend east over I-75 to SW 62nd Street at the Oaks Mall. The route would extend south on SW 62nd Boulevard to SW 20th Avenue. Alternative 2-2 is shown with a green line in the map above.

Alternative 2-3 would head south on an extension of NW 83rd Street and across I-75 on a proposed bridge to a power line easement and NW 15th Place. From this point, the route would continue south through the Newberry Village Development. It would extend east on West Newberry Road to SW 62nd Street, then south on SW 62nd Street and stop at the existing RTS stop at Oaks Mall. After stopping at the Mall, it would continue south along SW 62nd Boulevard to SW 20th Avenue. Alternative 2-3 is shown with a red line in the map above.

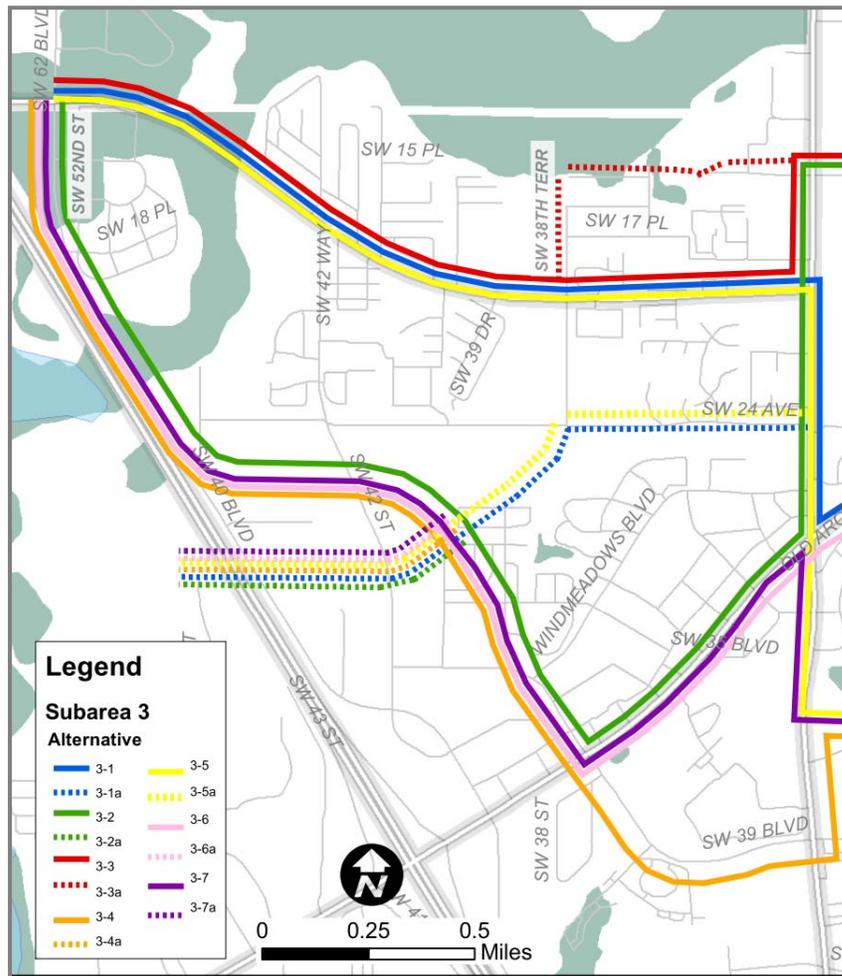
Alternative 2-4 would extend east along NW 23rd Avenue and then turn south along NW 55th Street. At Newberry Road and NW 55th Street it would extend west to SW 62nd Street. The route would then continue south on SW 62nd Street to serve the RTS stop at Oaks Mall. From Oaks Mall, it would continue south along SW 62nd Boulevard to SW 20th Avenue. Alternative 2-4 is shown with an orange line in the map above.

Alternative 2-5 would extend west across I-75 and head south on Fort Clarke Boulevard, east on NW 15th Place through the Newberry Village Development, and south on NW 80th Boulevard. At Newberry Road the route would extend east and then south on Tower Road. This route would extend over I-75 on a new proposed bridge to SW 62nd Street at the Oaks Mall. It would then extend south on SW 62nd Boulevard to SW 20th Avenue. Alternative 2-5 is shown with a yellow line in the map above.

Alternative 2-6 would continue south on an extension of NW 83rd Street and across I-75 on a proposed bridge to a power line easement and NW 15th Place. The route would extend south through the Newberry Village Development. At Newberry Road the route would extend east and then south on Tower Road and would extend on West University Avenue over I-75 on a new proposed bridge to SW 62nd Street at the Oaks Mall. It would then extend south on SW 62nd Boulevard to SW 20th Avenue. Alternative 2-6 is shown with a pink line in the map above.

Alternative 2-7 would extend west across I-75 and would head south on Fort Clarke Boulevard. The route would then head east on West Newberry Road and then south on Tower Road. This route would extend on West University Avenue over I-75 on a new proposed bridge to SW 62nd Street at the Oaks Mall. It would then extend south on SW 62nd Boulevard to SW 20th Avenue. Alternative 2-7 is shown with a purple line in the map above.

4.5.3 Subarea 3 – Student Village Area



Alternative Number and Description

Alternative 3-1 would head southeast along SW 20th Avenue to SW 34th Street. The route would continue south to the intersection of Archer Road and SW 34th Street. The route would extend east along Archer Road. This route is depicted with a blue line in the above map.

Alternative 3-1(a) would extend west along SW 24th Avenue off the Alternative 3-1 route through the proposed Butler Plaza development and across I-75 to the planned Celebration Pointe development. Alternative 3-1(a) is shown with a dashed blue line in the above map.

Alternative 3-2 includes the proposed LPA from the proposed SW 62nd Boulevard Connector PD&E study. From SW 20th Avenue, it would head south through the planned Butler Plaza North property until it intersects with SW 37th Boulevard and would continue east along Archer Road and north on SW 34th Street to Hull Road. This route is shown with a green line in the map.

Alternative 3-2 (a) would extend west off the Alternative 3-2 route across I-75 to the planned Celebration Pointe project. Alternative 3-2(a) is shown with a dashed green line on the map above.

Alternative 3-3 would turn east along SW 20th Street to serve the student housing concentrations north of Archer Road. This route would remain on SW 20th Street until it intersects with SW 34th Street. At SW 34th Street, it would extend north to Hull Road and then extend east along Hull Road. Alternative 3-3 is shown with a red line in the map.

Alternative 3-3(a) would extend north along SW 38th Terrace and then extend east along Hull Road from the intersection of SW 20th Avenue and SW 38th Terrace. Alternative 3-3(a) is shown with a dashed red line in the map above. This alternative would not serve Celebration Pointe.

Alternative 3-4 would head south from SW 20th Avenue through the Butler Plaza North property until it intersects with SW 37th Boulevard. From SW 37th Boulevard and Archer Road, this route would extend south along SW 37th Boulevard and north on SW 34th Street to SW 35th Place to serve the existing student housing concentration. The route would continue east on SW 35th Place to its intersection with SW 23rd Street and then extend north along SW 23rd Terrace (in subarea 4). Alternative 3-4 is shown with an orange line in the map above.

Alternative 3-4(a) would extend west off the Alternative 3-4 route across I-75 to a new project named Celebration Pointe. Alternative 3-4(a) is shown with a dashed orange line in the map above.

Alternative 3-5 would extend east along SW 20th Avenue to serve the student housing concentrations. This route would remain on SW 20th Avenue until it intersects with SW 34th Street. At SW 34th Street, it would extend south past Archer Road to SW 35th Place. It would extend east along SW 35th Place and north on SW 23rd Terrace to SW Archer Road. Alternative 3-5 is shown with a yellow line in the map above.

Alternative 3-5(a) would extend west along SW 24th Avenue off the Alternative 3-5 route from the intersection of SW 34th Street, through the planned Butler Plaza project and across I-75 to Celebration Pointe. Alternative 3-5(a) is shown with a dashed yellow line in the map above.

Alternative 3-6 would head south along the proposed SW 62nd Blvd. extension through the planned Butler Plaza North project until it intersects with SW 37th Boulevard and connects to SW Archer Road, then continue east along Archer Road.

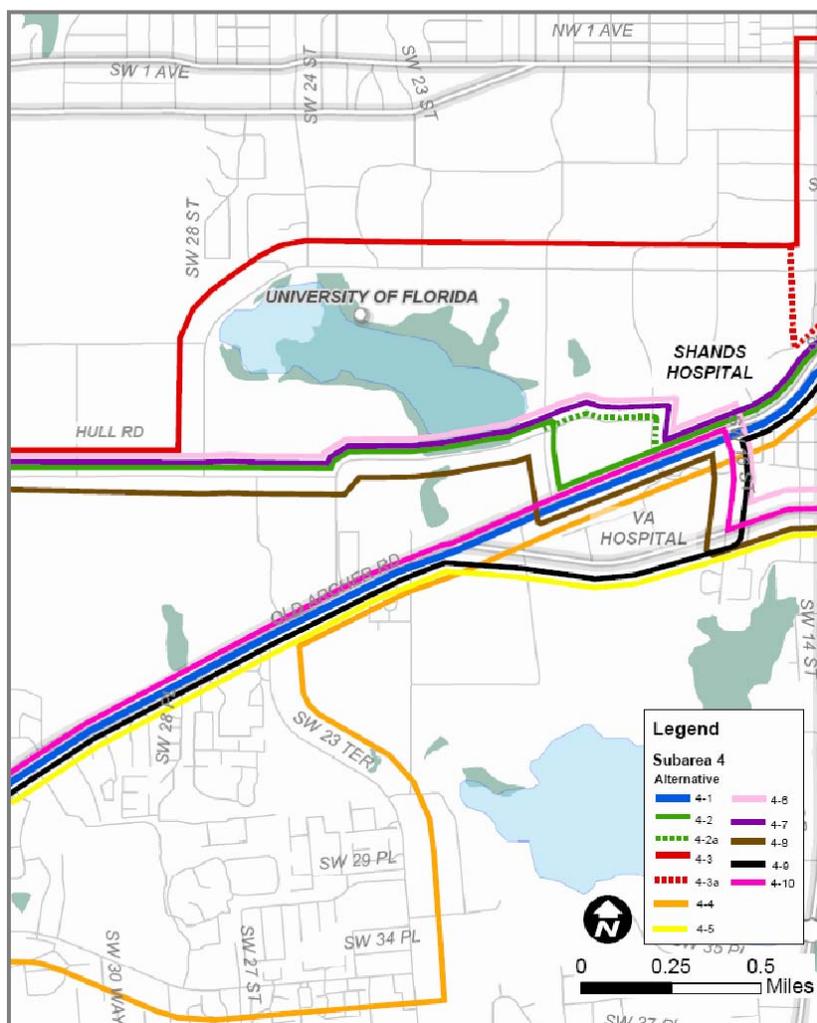
Alternative 3-6(a) would extend west across I-75 off the Alternative 3-6 route to Celebration Pointe. Alternative 3-6(a) is shown with a dashed pink line in the map.

Alternative 3-7 would extend south along the proposed SW 62nd Boulevard extension to SW 37th Avenue to SW Archer Road. The route would continue east to SW 34th Street, south to SW 35th Place, then east to SW 23rd Street to extend north along SW 23rd Terrace (in subarea 4). Alternative 3-7 is shown with a purple line in the map above

Alternative 3-7(a) From the intersection of SW 20th Avenue, this route could extend west off the Alternative 3-7 route west of I-75 to Celebration Pointe. Alternative 3-7(a) is shown with a dashed purple line in the map above.



4.5.4 Subarea 4 – University of Florida Campus



Alternative Number and Description

Alternative 4-1 would head south on SW 34th Street from either SW 20th Avenue or the Hull Road extension and SW 34th Street, and east along Archer Road. Alternative 4-1 is shown with a blue line in the map above.

Alternative 4-2 would extend from either SW 20th Avenue or the Hull Road Extension east on Hull Road, and would extend east along Mowry Road to Gale Lemerand Drive. The route then would head south on Gale Lemerand Drive to intersect with Archer Road and continue east. Alternative 4-2 is shown with a green line in the map above.

Alternative 4-2(a) would be a slight modification of the Alternative 4-2 route but continue on Mowry Road to Center Drive, then turn south on Center Drive to intersect with Archer Road. Alternative 4-2(a) is shown with a green dashed line in the map above.

Alternative 4-3 would extend from SW 34th Street and Archer Road north on SW 34th Street, then east along Hull Road to Museum Road, and would continue east on Museum Road to SW 13th Street. Alternative 4-3 is shown with a red line in the map above.

Alternative 4-3(a) would be a modification of Alternative 4-3 and continue south along SW 13th Street to intersect with Archer Road and then continue east along SW Depot Avenue. Alternative 4-3(a) is shown with a red dashed line in the map above.

Alternative 4-4 would represent a continuation of the route through the student village area south of Archer Road by extending north on SW 23rd Terrace to Archer Road and then east to SW 13th Street. This alternative represents a merger of the three alternatives south of Archer Road shown in subarea 3. Alternative 4-4 is shown with an orange line in the map above.

Alternative 4-5 would continue east along Archer Road from SW 34th Street, then divert to SW 16th Avenue. Alternative 4-5 is shown with a yellow line in the map above.

Alternative 4-6 would head east from Hull Road and extend along Mowry Road to Center Drive. The route then would head south on Center Drive to intersect with Archer Road before turning south on to SW 16th Street. It would continue along SW 16th Street until it intersects with SW 16th Avenue and then continue east along SW 16th Avenue. Alternative 4-6 is shown with a pink line.

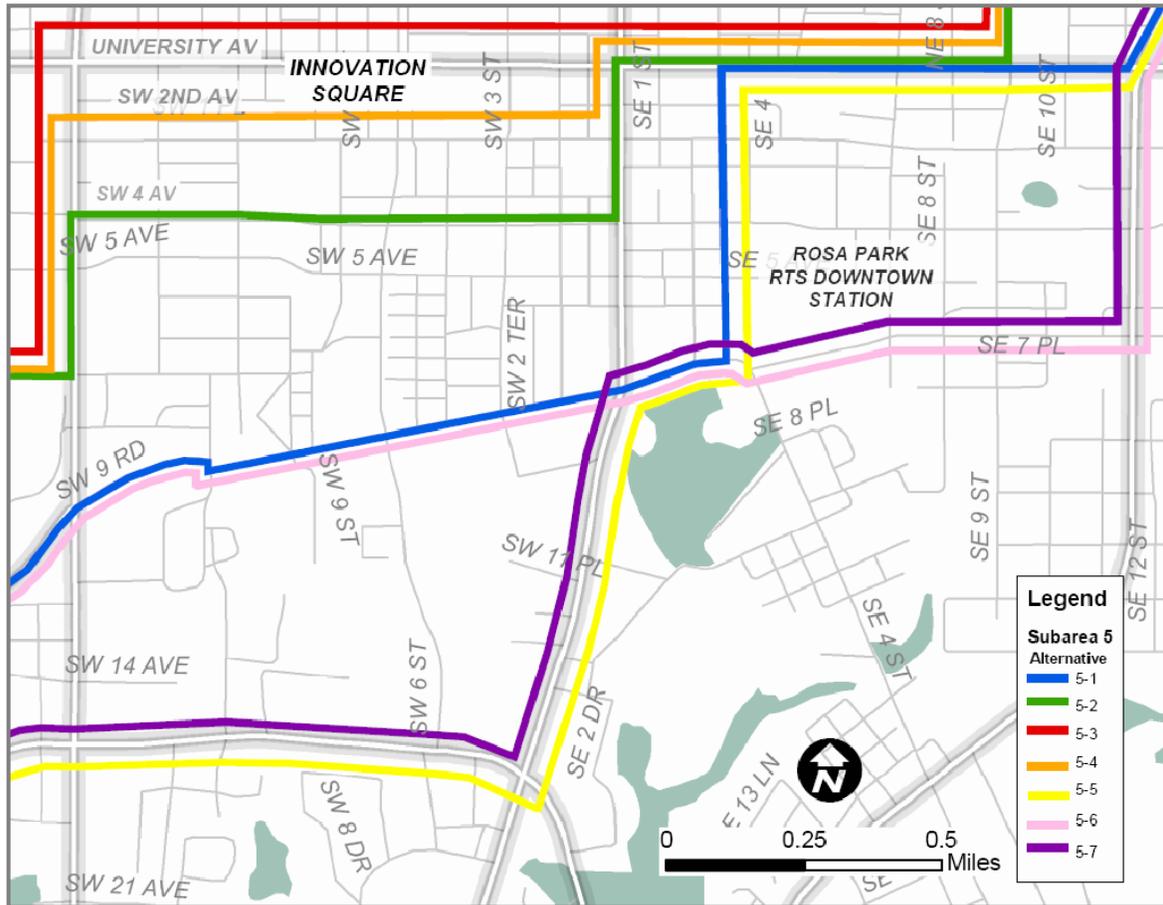
Alternative 4-7 would head east from Hull Road and extend along Mowry Road to Center Drive. The route then would head south on Center Drive to intersect with Archer Road and continue east along Archer Road. Alternative 4-7 is shown with a purple line in the map above.

Alternative 4-8 would head east from Hull Road and extend along Mowry Road to Gale Lemerand Drive. The route then would head south on Gale Lemerand Drive to intersect with Archer Road and continue east. Alternative 4-8 would turn south on SW 16th Street and then continue east along SW 16th Avenue. Alternative 4-8 is shown with a brown line in the map above.

Alternative 4-9 would continue east along Archer Road from SW 34th Street to SW 16th Avenue then east on SW 16th Street. The route would then go north on SW 16th Street back to Archer Road, and east on Archer Road. Alternative 4-9 is shown with a black line in the above map.

Alternative 4-10 would continue east along Archer Road to SW 16th Street, then head south on the east side of the VA Hospital to connect to SW 16th Avenue, and east on SW 16th Avenue. Alternative 4-10 is shown with a dark pink line in the map above.

4.5.5 Subarea 5 – Downtown Gainesville



Alternative Number and Description

Alternative 5-1 would head east along SW Depot Avenue to SE 3rd Street (serving the Rosa Parks Station). The route then would head north on SE 3rd Street, then east on East University Avenue to Waldo Road. Alternative 5-1 is shown with a blue line in the above map.

Alternative 5-2 would head north on NW 13th Street from Museum Road to SE 4th Avenue. The route would then head east on SW 4th Avenue before turning north along South Main Street to intersect with East University Avenue. The route would go east to NE 9th Street. Alternative 5-2 is shown with a green line in the above map.

Alternative 5-3 would head from Museum Road north on SW 13th Street to East University Avenue. The route then would extend east along East University Avenue to NE 9th Street. Alternative 5-3 is shown with a red line in the above map.

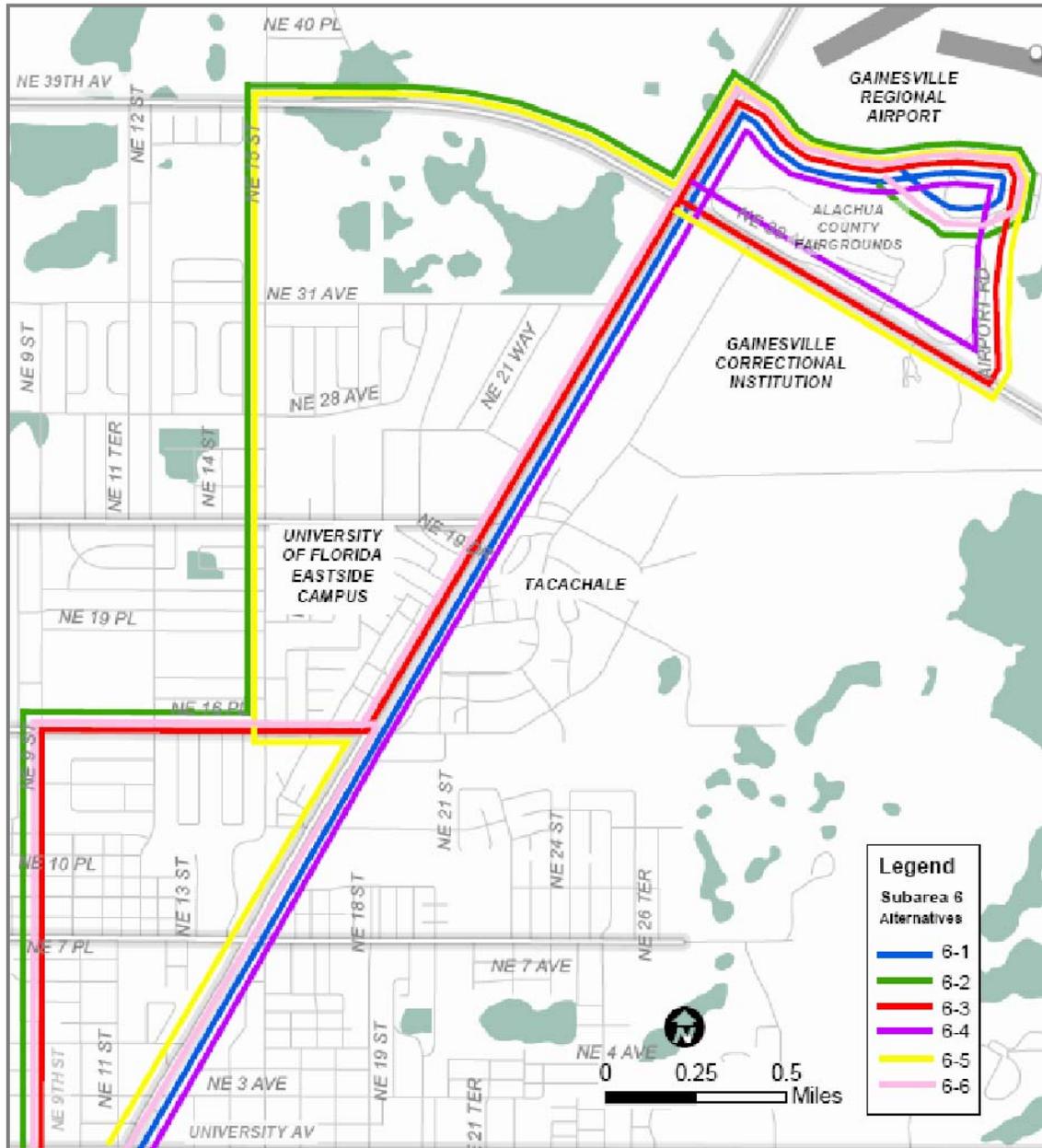
Alternative 5-4 would head north on SW 13th Street from Museum Road, then east on SW 2nd Avenue. The route then would extend north along South Main Street to intersect with East University Avenue, then east on University to NE 9th Street. Alternative 5-4 is shown with an orange line in the above map.

Alternative 5-5 would head east on SW 16th Avenue from SE 13th Street to South Main Street, then north on Main Street to SW Depot Avenue. The route would head east along Depot Avenue to SE 3rd Street (serving the Rosa Parks Station), then continue north along SE 3rd Street to intersect with East University Avenue, then east on University Avenue to Waldo Road. Alternative 5-5 is shown with a yellow line in the map above.

Alternative 5-6 would head east on SW Depot Avenue from SW 13 Street to SE 3rd Street, serving the Rosa Parks Station. The route would then continue east along SE 7th Avenue to SE 11th Street, then north on SW 11th Street to East University Avenue/Waldo Road. Alternative 5-6 is shown with a pink line.

Alternative 5-7 would head east on SW 16th Avenue from SW 13th Street to South Main Street, then north on Main Street to SW Depot Avenue. The route would then head east on Depot to SE 3rd Street (serving the Rosa Parks Station), then extend east on SE 7th Street to SW 11th Street. The route would then extend north on SW 11th Street to University Avenue/Waldo Road. Alternative 5-7 is shown with a purple line.

4.5.6 Subarea 6 - East Gainesville



Alternative Number and Description

Alternative 6-1 would continue along NE Waldo Road to the new airport entrance alignment and loop around the Gainesville Regional Airport. Alternative 6-1 is shown with a blue line in the above map.

Alternative 6-2 would extend north along NE 9th Street extending east along NE 16th Avenue to NE 15th Street before extending further north up to NE 39th Avenue and north on NE Waldo Road to the new airport entrance alignment. The route then would loop around the Gainesville Regional Airport. Alternative 6-2 is shown with a green line in the map above.

Alternative 6-3 would extend north along NE 9th Street extending east along NE 16th Avenue to NE Waldo Road. The route would then continue heading along NE Waldo Road to the new airport entrance alignment. The route then would loop around the Alachua County Fairgrounds using Airport Road. Alternative 6-3 is shown with a red line in the map above.

Alternative 6-4 would head northeast along NE Waldo Road to the new airport entrance alignment. The route then would loop around the Alachua County Fairgrounds using Airport Road. Alternative 6-4 is shown with a purple line in the map above.

Alternative 6-5 would head northeast along NE Waldo Road and then west on NE 16th Avenue to intersect with NE 15th Street before extending further north up to NE 39th Avenue and north on NE Waldo Road to the new airport entrance alignment. The route then would loop around the Alachua County Fairgrounds using Airport Road. Alternative 6-5 is shown with a yellow line in the map above.

Alternative 6-6 would head northeast along NE Waldo Road to the new airport entrance alignment. The route then would loop around the Gainesville Regional Airport. The route would then head south along NE Waldo Road to NE 16th Avenue. Alternative 6-6 would continue east along NE 16th Avenue to connect with NE 9th Street and extend south along NE 9th Street. Alternative 6-6 is shown with a pink line in the map above.

5.0 EVALUATION FRAMEWORK

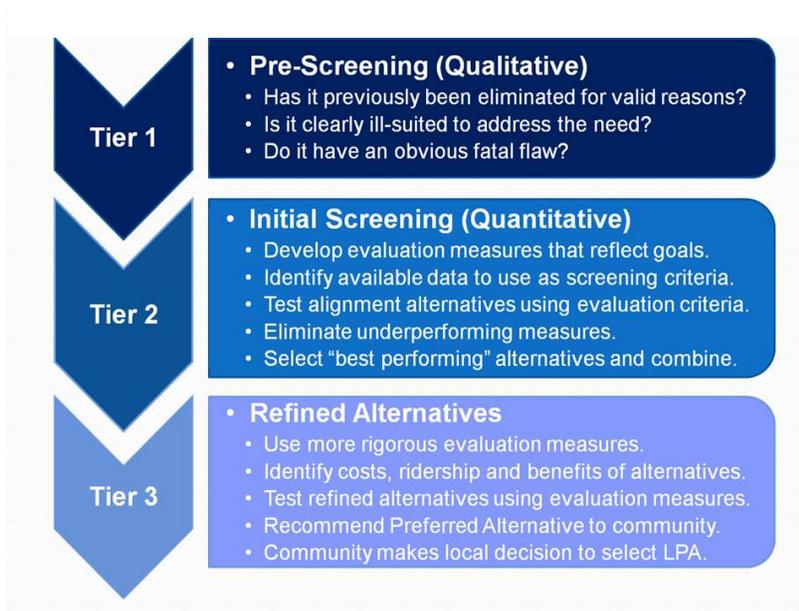
5.1 Overview

This evaluation methodology is designed to help the RTS, in collaboration with FDOT, Alachua County, UF, Santa Fe College and the Gainesville MTPO, select a transit mode and alignment that will improve transit speeds, enhance system reliability, increase the competitiveness of transit for commuting and other trip-making purposes, while supporting regional goals for sustainability, livability, mobility, and economic development.

The evaluation of alternatives is a critical part of alternatives analysis, and of the environmental documentation, in which the information regarding the alternatives is presented, and key differences between the alternatives are highlighted. As described in the *FTA Procedures and Technical Methods for Transit Project Planning*, the evaluation of alternatives is a continuous and comprehensive process within which a series of decisions that must be made throughout the analysis regarding modal options, alignment variations, operating policies and design standards. The intent of this evaluation is to facilitate the decision-making process leading to selection of a refined set of alternatives for detailed analysis and, subsequently, selection of the Locally Preferred Alternative (LPA).

The evaluation framework to be used in this *GO Enhance RTS Study* consists of a three-tiered screening process (see Figure 5-1) detailed further below. Initially, a Tier 1 Pre-Screening phase will be conducted to identify by segment a long list of routing alternatives to be evaluated in the remainder of the study, including a verification of the most appropriate premium transit mode. In Tier 2, alternatives will be tested using a set of evaluation measures derived from the goals, purpose, and need. This initial screening will use geospatial and transportation data in a quantitative analysis of the long list of alternatives to determine effectiveness in addressing community goals and project need. The end result of the Tier 2 screening will be to identify a short list of the most promising Refined Alternatives packaged over the entire study area for evaluation in the Tier 3 screening.

Figure 5-1: Three-Tiered Screening Process



The Tier 3 screening is a more detailed analysis made possible due to the development of conceptual operations, running-way designs, and station details. The Tier 3 screening will provide details from the technical analysis to inform the community for the purposes of evaluating Refined Alternatives against community goals, objectives and the purpose and need for the project. Ultimately, a recommendation is made to the community defined in terms of mode, general alignment and logical termini. At the study's conclusion, the community selects a single Locally

Preferred Alternative (LPA) for the study corridor.

5.2 Tier 1 Screening

The initial screening step will result in a “long list” of routing alternatives to be carried into the *GO Enhance RTS Study*. For the Tier 1 screening, the study area has been divided into six separate subareas for the purpose of analyzing potential routing options. The potential routing options under consideration for transit improvements within the study area for the component subareas are detailed in Section 4.0. The Tier 1 alignment options were identified based on previous planning studies including the *RTS 2010 Rapid Transit Feasibility Study*, feedback received in early stakeholder interviews, and initial project team observations.

Three questions were used to initially identify the routing alternatives:

- Has the alternative been eliminated in previous studies/discussions for reasons that are still considered valid?
- Is a route clearly ill-suited to address the purpose and need in these corridors?
- Does the route have an obvious fatal flaw considering the market to be served, the environment within which it would operate, or the amount of funding likely to be available?

If the answer to one or more of these questions is “yes” for a given alternative, the study team is likely to recommend that a routing alternative be dropped from further consideration.

Another major issue to be considered in the Tier 1 screening is the financial feasibility of potential premium transit technologies (assumed to be BRT and Streetcar in this study). BRT was identified as the preferred premium transit mode in the study corridor in the *RTS 2010 Rapid Transit Feasibility Study*. Streetcar in the 2010 study was identified as an appropriate circulator mode for the downtown to UF connection, and not as an extended line-haul mode in the longer east-west corridor. To verify this, and provide some comparison of premium transit mode options in the current study, the capital cost of developing streetcar over the longer corridor will be estimated and compared to available financial resources.

The *RTS Transit Development Plan*, *RTS 2010 Rapid Transit Feasibility Study* and *Long-Range Transportation Plan* illustrate a range of financial capacity that may be within reach for RTS. While not providing an absolute ceiling, they provide a general guideline on the kinds of resources that may be available for an investment in the study corridor, considering the region’s other transit needs. The outcome of this cost/financial resource assessment will be a verification of BRT as the continued “build” alternative to be addressed for premium transit service in the east/west corridor.



5.3 Tier 2 Screening

5.3.1 Overview

The Tier 2 screening will evaluate each routing alternative advanced from the Tier 1 screening to help recommend a small set of the most promising transit alternatives to the Technical Committee and the Project Advisory Working Group. For the Tier 2 screening, a potential refined routing alternative is defined as an entire or hybrid alternative serving from the Tier 1 screening. For the routing alternatives identified, the Tier 2 screening will be conducted to compare the routing alternatives within each of the six subareas along the study corridor against the 22 evaluation measures summarized in Table 5-1. The end result of the Tier 2 screening will identify a short list of the most promising routing alternatives for each of the six corridor subareas. The routing alternatives will then be packaged into a small set of complete corridor alternatives for evaluation in the Tier 3 screening.

5.3.2 Tier 2 Screening Measures

Twenty-two measures have been identified for the Tier 2 screening evaluation (Table 5-1). The Tier 2 screening will primarily use quantitative measures using readily available socioeconomic data, geospatial data maintained by federal, state and local agencies, local planning studies, field reconnaissance, and community comments.

The analyses to be performed will be calculated in terms of lengths, distances, dollars, quantities or counts, as described in Table 5-1. Geospatial buffers have been developed to calculate the area or quantity located proximate to the alternative. For example, a ½ mile buffer as measured from the centerline of the roadway will be used for population analysis. The ½ mile buffer is used to replicate average walking and cycling distances to stations. In Gainesville, the average bicycle mode share is five percent which is above national averages. For non-residential analyses, measures such as jobs are calculated using a buffer that measures ¼ mile from the centerline. For the various counts, the numbers reflect the instances where an alternative passes a given point. Most analysis will be completed in a geographic information systems (GIS) environment. The results will be used to identify the “most promising” routing alternatives in each subarea.

For each screening measure, the refined segment routing alternatives will be rated on a scale of Low, Medium, and High, with the “High” rating representing the most promising routing alternative and “Low” representing the least improvement over current conditions. If the differences are too small on one or more of the measures to differentiate among the alternatives in a meaningful way, then all of the alternatives may be given identical ratings. The project team will present a summary matrix of the data and ratings for each measure by corridor segment using a sample provided by RTS staff. The poorest performers will be recommended for elimination from further consideration. The best performing corridor segments would be packaged together into assembled alignments. These complete sets of corridor alternatives would be compared to each using a roll up of the data from the individual corridor segments. Because of the subjective nature of the rating scale, it is not expected that the evaluation criteria would be weighted or that the alternatives would be scored numerically.



5.3.3 Tier 2 Screening Outcomes

The outcome of the Tier 2 screening will be a relatively small set of the most promising routing alternatives along with the No-Build and TSM alternatives, for more detailed analysis in Tier 3. Specifically, segments that perform well will be combined into one or more “full-length alternatives” and the results on this Tier 2 screening will be aggregated. One constraint on this “short list” of alternatives is the scope, schedule and budget for the GO Enhance RTS Study as it will not allow for repeated consideration of segments/alignments that are eliminated.

Table 5-1 also summarizes those measures to be applied for the refined alternatives considered as part of the Tier 3 screening, including a repeat of some corridor Subarea measures as well as some new measures. In particular, project capital and operating costs will be detailed in the refined alternatives evaluation, as well as preparation of transit ridership projections, and an assessment of system and intersection operational impacts. A qualitative assessment of the local ability to fund capital and operating costs will also be undertaken for the refined corridor alternative(s).



Table 5-1: Alternatives Evaluation Framework (Tier 2 Screening)

GOAL	OBJECTIVE	TIER 2 SCREENING MEASURE (BY CORRIDOR SUBAREA)
1. Improve Mobility and Transit Accessibility In the Study Area	1. Improve travel circulation by connecting major activity centers in the study area	<ul style="list-style-type: none"> No. of existing/planned major activity centers served within ¼ mile
	2. Provide an effective connection to existing and future regional transit services	<ul style="list-style-type: none"> No. of connections to existing bus service No. of high ridership stop locations served
	3. Improve transit travel times between existing and future major trip destinations	<ul style="list-style-type: none"> Existing/year 2035 population within ½ mile buffer Existing/year 2035 employment within ¼ mile buffer No. of intersections traversed No. of railroad crossings No. of turns % of corridor with 20 MPH speed limit No. of traffic calming treatments
	4. Accommodate variable travel demand associated with UF, Santa Fe College, and special events	<ul style="list-style-type: none"> No. of campus buildings/venues within ¼ mile (only where applicable)
2. Assure Equitable Transportation Options for the Community	1. Provide additional services for the transit dependent population	<ul style="list-style-type: none"> Existing % transit dependent population within ½ mile buffer
	2. Provide equitable transportation services and benefits	<ul style="list-style-type: none"> Existing % of population in Title VI area within ½ mile buffer
	3. Provide equitable sharing of costs for transportation improvements among those who benefit from them	<ul style="list-style-type: none"> Not applied
3. Enhance the Quality of the Environment	1. Improve transportation mobility while achieving a balance of environmental preservation and compact development in transit supportive areas	<ul style="list-style-type: none"> No. of planned roadway/intersection improvements in corridor
	2. Provide a transit alternative to single occupant automobile use that serves the University of Florida and Santa Fe College campuses, downtown and other major activity centers such that mode shares are shifted	<ul style="list-style-type: none"> No. of student population within ½ mile buffer No. of major employers within ¼ mile buffer
	3. Minimize encroachment on environmentally-sensitive lands and parklands	<ul style="list-style-type: none"> No. of river/creek crossings along corridor No. of environmentally-sensitive features/parks No. of historic structures
	4. Improve air quality by reducing automobile emissions and pollutants	<ul style="list-style-type: none"> Length of corridor % of corridor with weekday peak LOS E or F



Table 5-1: Continued

GOAL	OBJECTIVE	TIER 2 SCREENING MEASURE (BY CORRIDOR SUBAREA)
4. Enhance Community Cohesion	1. Support development of a pedestrian environment around stations to increase transit use and promote more walking	<ul style="list-style-type: none"> • Sidewalk connections per segment mile • Bike facility miles per segment mile
	2. Serve existing and support future high-density land uses (e.g. mixed-use, residential, commercial, office, and institutional use)	<ul style="list-style-type: none"> • No. of existing/planned community facilities within ¼ mile buffer
	3. Provide transit investments supportive of City and County redevelopment/development and land use plans	<ul style="list-style-type: none"> • No. of high density residential land uses served in ½ mile buffer • % of corridor with transit supportive areas served
5. Develop Transportation Options that are Cost Effective, Promote Private Investment and Financially Viable	1. Identify a strategy for local agencies to fund the estimated local share of capital costs	<ul style="list-style-type: none"> • Not applied
	2. Identify a strategy for local agencies and the private sector to fund estimated operating and maintenance (O&M) costs	<ul style="list-style-type: none"> • Not applied
	3. Develop transit improvements in the most cost-effective manner	<ul style="list-style-type: none"> • Conceptual capital cost estimate based on length
	4. Maximize the economic benefits gained from transit capital investments	<ul style="list-style-type: none"> • Not applied
	5. Implement transit improvements in a timely manner	<ul style="list-style-type: none"> • Not applied



5.4 Tier 3 Screening

5.4.1 Overview

At the outset of the Tier 3 screening, the study team will present a relatively small set of the most promising alignment alternatives for more detailed analysis. The alternatives will be refined, by identifying conceptual station locations and conducting a limited level of conceptual engineering. These details will be needed to provide a basis for ridership forecasting, capital cost estimating, operations and maintenance costs estimating, and financial analyses.

5.4.2 Tier 3 Evaluation

The Tier 3 evaluation measures are identified in Table 5-1 and shown in the right column, including a repeat of some Tier 2 measures as well as new evaluation measures. The Tier 3 alternatives will first be refined to define station location and concepts, size and type of vehicles, and running-way details based on additional engineering and operational analysis to better define the Refined Alternatives.

To conduct the evaluation of the Refined Alternatives, project capital and operating costs will be estimated. In addition, transit ridership projections and an assessment of system and intersection operational impacts will be conducted. A qualitative assessment of the local ability to fund capital and operating costs will also be undertaken for the Refined Alternative(s).

The remaining Tier 3 evaluation measures will primarily use quantitative measures using readily available socioeconomic data, geospatial data maintained by federal, state and local agencies, local planning studies, field reconnaissance, and community comments. The analyses to be performed on the Refined Alternatives will be calculated in terms of lengths, distances, dollars, quantities or counts, as detailed in Table 5-1. For each evaluation measure, the alignment and technology alternatives will be rated on a scale of High, Medium, and Low, with the “High” rating representing the most promising routing alternative and “Low” representing the least promising. The poorest performers will be recommended for elimination from further consideration.

5.4.3 Tier 3 Outcome

The Tier 3 screening will rely on a more detailed analysis, using a more rigorous set of evaluation measures and reflective of conceptual design layouts of running way options and assumptions on station locations and degree of station development. The Tier 3 screening will lead to the recommendation of a single Locally Preferred Alternative (LPA) for the study corridor as a whole, defined in terms of mode, general alignment and logical termini. The Tier 3 screening will rely more heavily upon the results of ridership forecasts resulting from the travel demand forecasting efforts. More detailed environmental screening and impact studies will be performed as well in Tier 3. The project team will present a summary matrix of the data and ratings for each measure by corridor segment using a sample provided by RTS staff.



The Tier 3 screening will provide a relative comparison between the No Build Alternative, TSM and the Tier 3 Refined Build Alternatives. The project team will assign ratings on a scale of High, Medium and Low for each measure. In the Refined Alternatives Evaluation Report, the project team will document the ratings and summarize the important trade-offs such that the Technical Advisory Committee, the Project Advisory Working Group, and the public and local decision-makers can understand the choices, consider their relative advantages and disadvantages, and select the locally preferred mode and alignment alternative. As with Tier 2, numerical scoring of the alternatives is not anticipated. The outcome of the Tier 3 screening will be a single LPA selected by the community to be advanced for more detailed environmental and engineering studies in the future.



APPENDIX



