Prepared for:

Metropolitan Transportation Planning Organization

for the

Gainesville Urbanized Area

Year 2040 Long Range Transportation Plan

TECHNICAL REPORT 5
Needs Plan Development




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Metropolitan Transportation Planning Organization

For the Gainesville Urbanized Area

YEAR 2040 LONG RANGE TRANSPORTATION PLAN

Technical Report 5

Needs Plan Development

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5.0 Year 2040 Needs Plan

Introduction

The Year 2040 Long Range Transportation Plan Update identifies mobility projects needed over the coming twenty years. These projects will help shape not only the future transportation system, but the region's vision for the future as well. The development of a list of mobility needs without regard to funding availability is an important step in preparing a financially constrained Long Range Transportation Plan. The community can visualize and evaluate possible transportation solutions to anticipated travel demand in the Needs Plan. Later the community can select alternatives that work most effectively for funding. It also allows them to include the types of transportation projects that will help shape their communities and fulfill the region's vision for the future.

The rationale for developing a Needs Plan is twofold. First, transportation revenue allocations could change in future years, affecting the amount of financial resources available to fund needed modifications. Second, the Needs Plan allows the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area's partners to develop a future transportation vision that reflects social, environmental, and economic policy objectives and helps local governments see the effects of land use decisions.

The process followed in the development of the Year 2040 Needs Plan included public involvement, coordination with the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area and its advisory committees, and evaluation of various roadway and transit alternatives. This process included identifying potentially constrained corridors, committed mobility projects, 2040 mobility deficiencies, and mobility alternatives.

The first step in developing the Year 2040 Needs Plan was to conduct an assessment of projected traffic conditions based on the completion of currently-funded projects and growth in population

and employment throughout Alachua County and in surrounding parts of the region through the year 2040. In addition to a review of the Needs Plan projects in the adopted 2035 Long Range Transportation Plan, the most congested transportation facilities identified as a result of this analysis were considered to be the basis for developing a list of potential needs plan projects.

5.1 Network Coding, Editing and Debugging

In order to evaluate the 2040 forecasted conditions of the Existing-plus-Committed transportation network, those projects were coded into the Gainesville Urban Area Transportation Study travel demand model and run as the initial 2040 scenario. This effort included coding any capacity projects or new roadways built since 2010 plus any projects that would change roadway or transit capacity through the addition of travel lanes or additional service expected to be completed by 2020.

Three transportation network alternatives were developed and tested in the development of the Year 2040 Needs Plan: one that focused on existing roadway and transit corridors, one that focused on new roadway and transit corridors, and a hybrid alternative. The hybrid alternative sought to include the best elements of the first two alternatives and create a balanced multimodal scenario. A separate model was developed for each alternative allowing for comparison not only between each scenario, but to the Year 2010 validation and to the Year 2040 Existing-plus-Committed network as well. As each of these model scenarios was developed and coded, testing was done to ensure there were no issues and the model ran correctly. Any issues or problems found were addressed before moving forward.

The following sections present additional detail on each of the scenarios.

5.2 Development of Existing plus Committed Network

Existing plus Committed Network

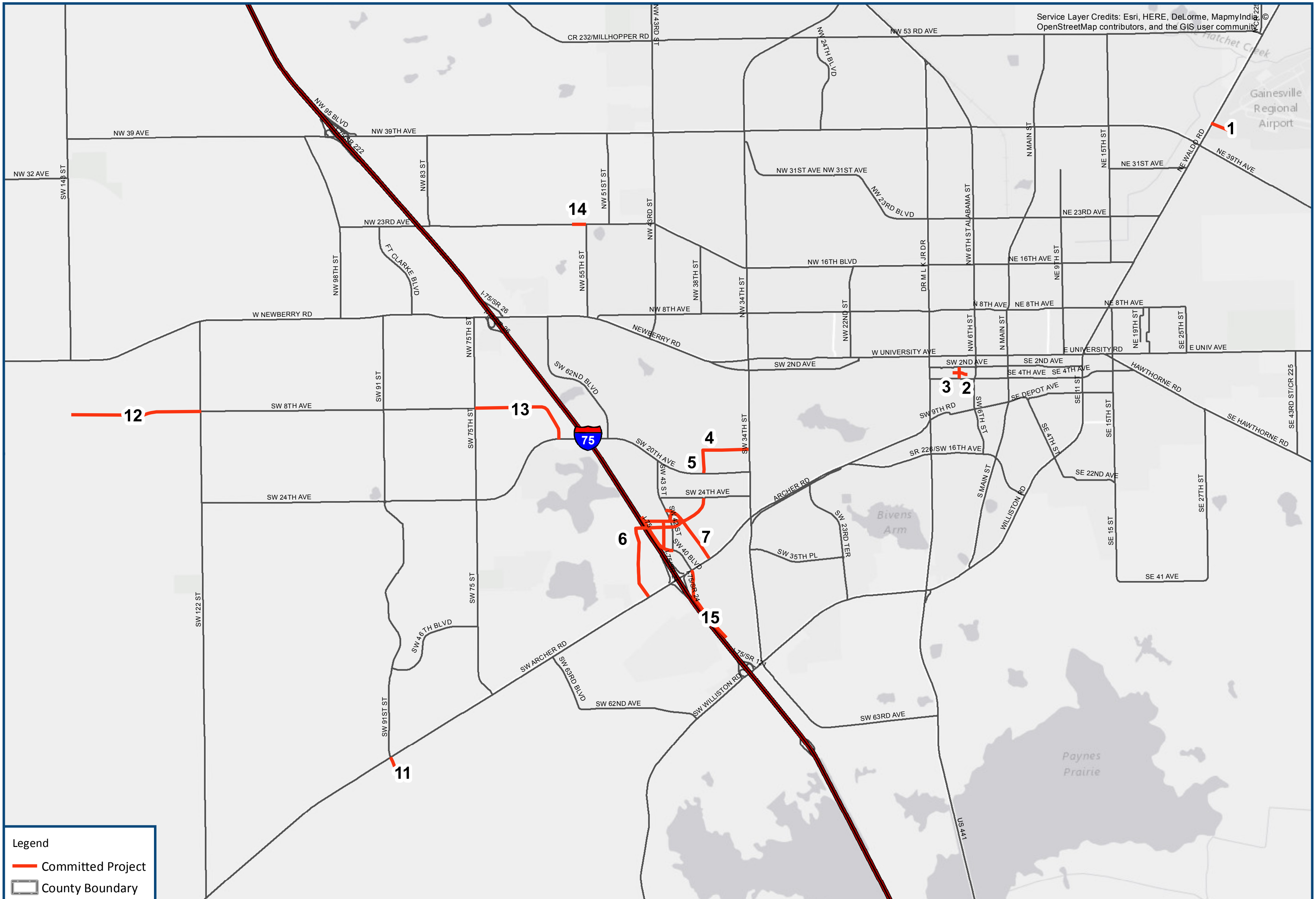
The Existing-plus-Committed Network consists of projects funded for construction through the Year 2019 in the Florida Department of Transportation Work Program, the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area's Transportation Improvement Program, the City of Gainesville and Alachua County current budgets/Capital Improvements Programs, and other sources of programmed construction funding, such as developer commitments. Projects that are considered to be committed are projects that have funding in place and that are scheduled to be constructed by the year 2019. Discussions were held with the Florida Department of Transportation and Public Works Directors and/or City and County staff to determine which projects should be considered committed.

The Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area's Transportation Improvement Program and the Florida Department of Transportation's Five-Year Work Program were also reviewed for capacity projects meeting the prescribed criteria to be considered committed. A comprehensive list of the projects that are considered committed are shown in Table 1. The committed projects for the Year 2040 Long Range Transportation Plan Update are depicted in Figure 1.

In order to evaluate the projected performance of the Existing-plus-Committed Network in the year 2040, the network was coded into the Gainesville Urbanized Area Transportation Study regional travel demand model and run as a transportation scenario. This entailed adding any capacity projects or new roadways built since the 2010 base year of the countywide model used in the validation process, plus those locations in the network where funding commitments would increase roadway capacity through the addition of travel lanes. Projected socioeconomic data for the year 2040 was also input into the model. Development of the socioeconomic data is described in the next section.

Table 1: Existing plus Committed Projects

Figure Location	Roadway	From	To	Type	Status
New Road Projects Completed Since 2010					
1	Gainesville Regional Airport Entrance	Waldo Road	Airport Terminal	New two-lane facility	Complete
2	SW 9th Street	SW 2nd Avenue	SW 4th Avenue	New two-lane facility	Complete
3	SW 3rd Avenue	SW 10th Street	SW 7th Terrace	New two-lane facility	Complete
4	Hull Road Extension	SW 34th Street	SW 38th Terrace	New two-lane facility	Complete
5	SW 38th Terrace	SW 20th Avenue	Hull Road	New two-lane facility	Complete
New Road Projects Funded Through Construction by 2019					
6	Celebration Pointe Boulevard/SW 30th Avenue Bridge	Archer Road	SW 42nd Way	New four-lane facility	Funded in FY2014-15
7	SW 62nd Boulevard	Archer Road	SW 43rd Street	New four-lane facility	Funded in FY 2016-17
8	Plaza Boulevard (SW 38th Terrace)	SW 24th Avenue	SW 42nd Street	New two-lane facility	Funded in FY 2016-17
9	SW 30th Avenue	SW 42nd Street	SW 40th Boulevard	New two-lane facility	Funded in FY 2016-17
10	SW 42nd Way Extension	SW 30th Place	SW 30th Avenue	New two-lane facility	Funded in FY 2016-17
11	SW 30th Place Extension	SW 42nd Way	SW 42nd Street	New two-lane facility	Funded in FY 2016-17
12	SW 8th Avenue	SW 143rd Street	SW 122nd Street	New two-lane facility	Funded in FY 2014-15
13	Road Connecting SW 8th Ave and SW 61st Street	SW 75th Street	SW 24th Avenue	New two-lane facility	Funded in FY 2014-15
14	NW 23rd Avenue	NW 55th Street	NW 58th Boulevard	Widen to four-lane facility	Funded in FY 2014-15
15	SW 40th Boulevard Extension	South of Archer Road	SW 47th Avenue	New two-lane facility	Funded in FY 2016-17
16	SW 91st Street	Archer Road	SW 73rd Avenue	New two-lane facility	Funded in FY 2017-18



N
W E
S

Figure 1

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Committed Projects

2040 Long Range Transportation Plan

5.3 Development of the Year 2040 Needs Plan

Vision Statement, Principles and Strategies

As with previous Long Range Transportation Plans, the vision statement and the supporting principles and strategies serve as the cornerstone and building blocks of the 2040 Needs and Cost Feasible Plans. The vision statement, principles and strategies are the policy statements of the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area and helped to guide the development of the plan update.

The Vision Statement for this plan update reads as follows: *A transportation system that is safe and efficient, serves the mobility needs of people and freight, and fosters economic prosperity while minimizing transportation-related fuel consumption and air pollution.*

This vision is supported by the following Principles and Strategies:

Principle 1: Support economic vitality

Strategy 1.1: Support transportation projects that promote economic development.

Strategy 1.2: Consider capacity enhancement projects that allow for the expansion of existing commercial centers.

Strategy 1.3: Support projects that improve connectivity to existing or planned economic centers.

Principle 2: Increase safety and security for motorized and non-motorized users

Strategy 2.1: Support projects that increase safety for all users, such as improved access management to reduce crashes, variable message signs to warn motorists of unsafe conditions, provision of sidewalks, transit bicycle facilities and late night transit services to deter drunk driving.

Strategy 2.2: Implement techniques and road design to reduce fatalities and serious injuries from common intersection crashes and lane departures.

Strategy 2.3: Support projects that increase security for all users of transit, such as adequate lighting at bus stops, equipment on buses and transit facilities to monitor/prevent harmful activity and adequate bicycle parking facilities.

Strategy 2.4: Encourage development of alternative fuel sources and multimodal infrastructure to provide continuing transportation services in the event of scarcity.

Strategy 2.5: Coordinate with appropriate agencies to accommodate incident management and emergency management.

Principle 3: Increase the accessibility and mobility of people and freight

Strategy 3.1: Improve the level of service for roads using transportation system management strategies (such as computerized traffic signal systems, motorist information systems and incident management systems) and transportation demand management strategies (such as carpools, transit, bicycling, walking, telecommuting and flexible work schedules).

Strategy 3.2: Encourage the construction of bus bays (turnouts) where possible.

Strategy 3.3: Preserve the intended function of roads on the Florida Strategic Intermodal System for intercity travel and freight movement.

Strategy 3.4: Expand transit service to improve accessibility, availability and competitiveness of transit as a viable travel option.

Principle 4: Protect and enhance the environment, promote energy conservation, improve the quality of life and promote consistency between transportation improvements and State and local planned growth and economic development patterns

Strategy 4.1: Support land use designations and encourage development plans that reduce vehicle miles traveled and are transit-supportive.

Strategy 4.2: Develop and expand a network that provides multi-modal transportation opportunities for bicyclists and pedestrians.

Strategy 4.3: Reduce adverse impacts of transportation on the environment, including habitat and ecosystem fragmentation, wildlife collisions and non-point source pollution.

Strategy 4.4: Coordinate transportation and future land use decisions to promote efficient development patterns and a choice of transportation modes, consistent with local comprehensive plans.

Principle 5: Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

Strategy 5.1: Construct park-and-ride lots, transit intermodal centers and freight intermodal centers at appropriate locations.

Strategy 5.2: Provide adequate sidewalks to all bus stops and bicycle racks on all buses.

Principle 6: Promote efficient system management and operation

Strategy 6.1: Develop a transportation system that disperses traffic throughout the local transportation grid rather than concentrating traffic on a few major roads.

Strategy 6.2: Encourage the development and location of employment and service centers that reduce travel distances from residential areas and to transit services.

Strategy 6.3: Continue to implement a coordinated traffic signal system plan to improve road efficiency and to maintain traffic flow.

Principle 7: Emphasize the preservation of the existing transportation system

Strategy 7.1: Direct sufficient resources to preserve existing transportation infrastructure.

Strategy 7.2: Protect existing and future road rights-of-way from building encroachment.

Long Range Transportation Plan Planning Factors

The Year 2040 Long Range Transportation Plan is required by Moving Ahead for Progress in the 21st Century Act (MAP-21), the current federal transportation legislation, to reflect consideration of the following eight planning areas:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety of the transportation system for motorized and non-motorized users.

- Increase the security of the transportation system for motorized and non-motorized users.
- Increase the accessibility and mobility of people and for freight.
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.

These eight planning areas, along with an increased emphasis on safety, security, and performance-based planning were used in developing the adopted Principles and Strategies for this plan update.

Year 2040 Growth Forecasts

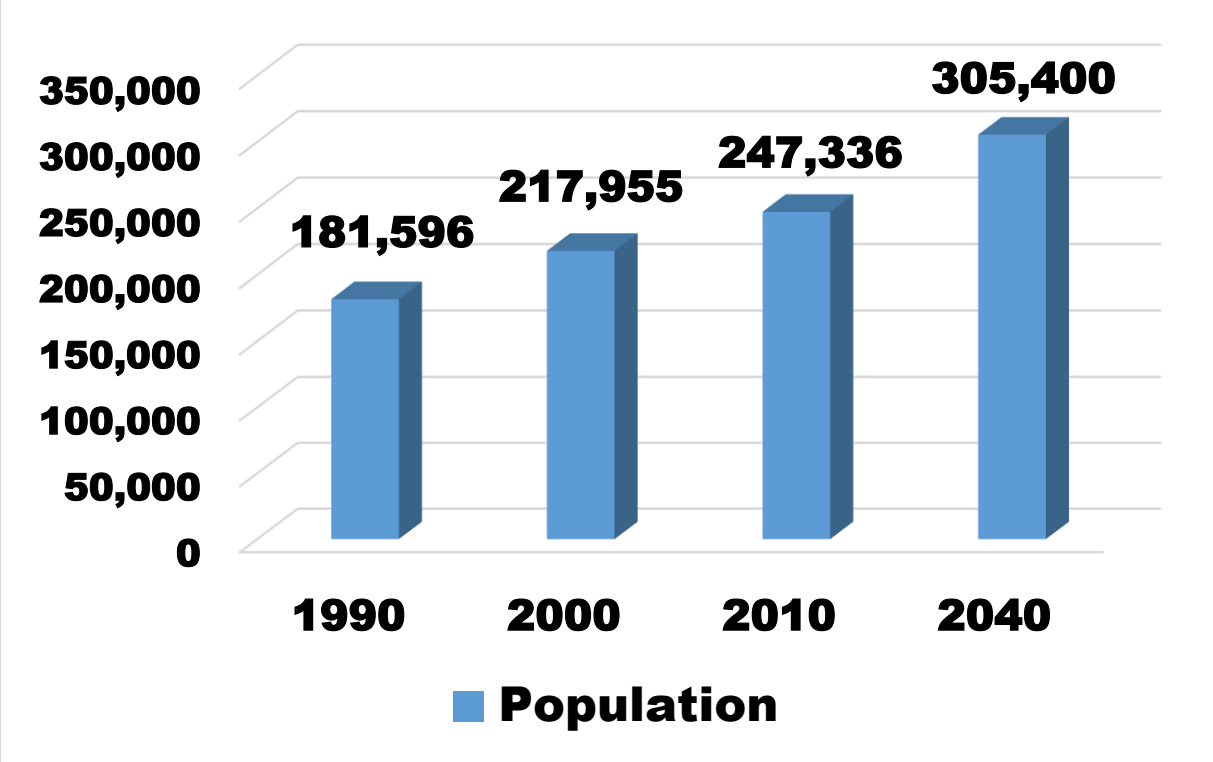
Land use and transportation are inextricably linked. How communities develop over time greatly influences transportation choices as well as the efficiency and the livability of transportation systems. Where and how the region grows sets the foundation for the type and location of future transportation investments. The base year for the Long Range Transportation Plan is 2010 and all base year data, including socioeconomic data and traffic counts, for the Year 2040 Long Range Transportation Plan is based on conditions on the ground in 2010. Forecast data for the year 2040 were developed for this plan update at the traffic analysis zone level by the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area and their local government partners and serves as inputs to the regional travel demand model. The data is used in the model to forecast mobility deficiencies expected by the year 2040, a key component used in development of the Year 2040 Needs Plan.

Population and Employment Control Totals

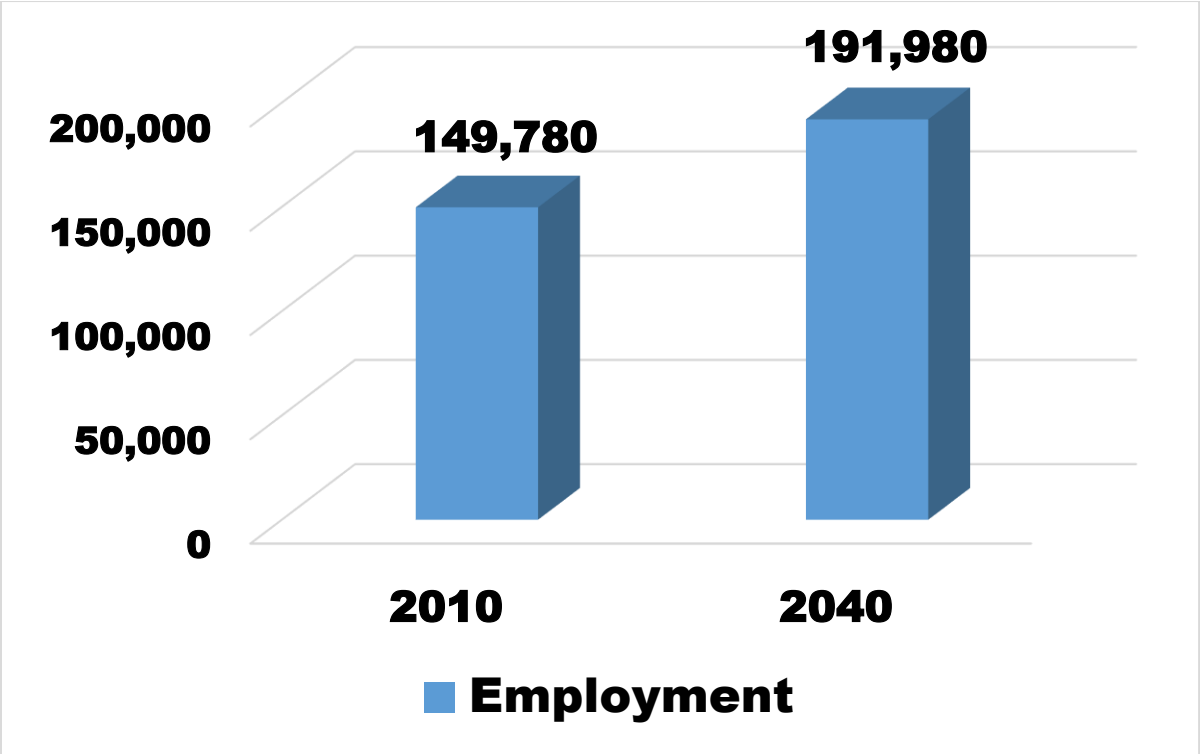
The Data Development task focused on socioeconomic data for the model and use in preparing the Long Range Transportation Plan. The Year 2010 and Year 2040 population and employment datasets were prepared by the Metropolitan Transportation Planning Organization for the

Gainesville Urbanized Area using University of Florida Bureau of Economic and Business Research population forecasts and extrapolated Florida Department of Economic Opportunity employment forecasts. While Alachua County's growth slowed some during the economic downturn, it appears that a reasonable level of growth is returning as depicted in the graphs below and on the next page.

Historical and Projected Population for Alachua County



Historical and Projected Employment for Alachua County



Staff from the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area provided population (ZDATA1) and employment (ZDATA2) datasets for the base year 2010 and the forecast year 2040. Figures 2 through 7, on the following pages, depict population and employment numbers for the base year (2010) and the forecast year, 2040. They also show growth in population and employment by traffic analysis zone. As described in Technical Memorandum 2.3, Internal/External (IE) and External/External (EE) trips were estimated for the Year 2010 using Year 2007 percent split and Year 2010 traffic counts. Those trips were then projected for the forecast year 2040 as part of the Year 2040 model development.

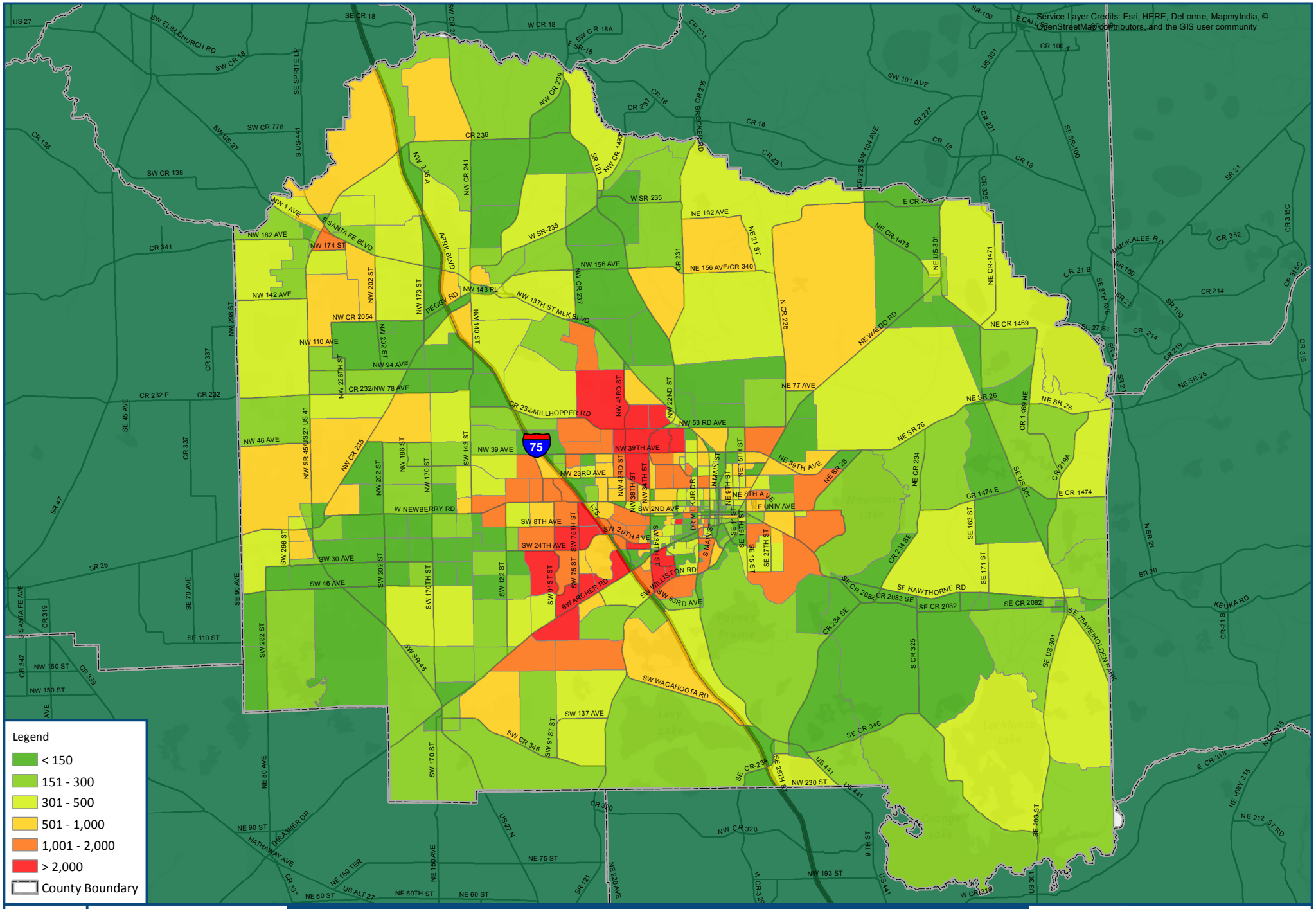


Figure 2

Year 2010 Population by Traffic Analysis Zones

2040 Long Range Transportation Plan

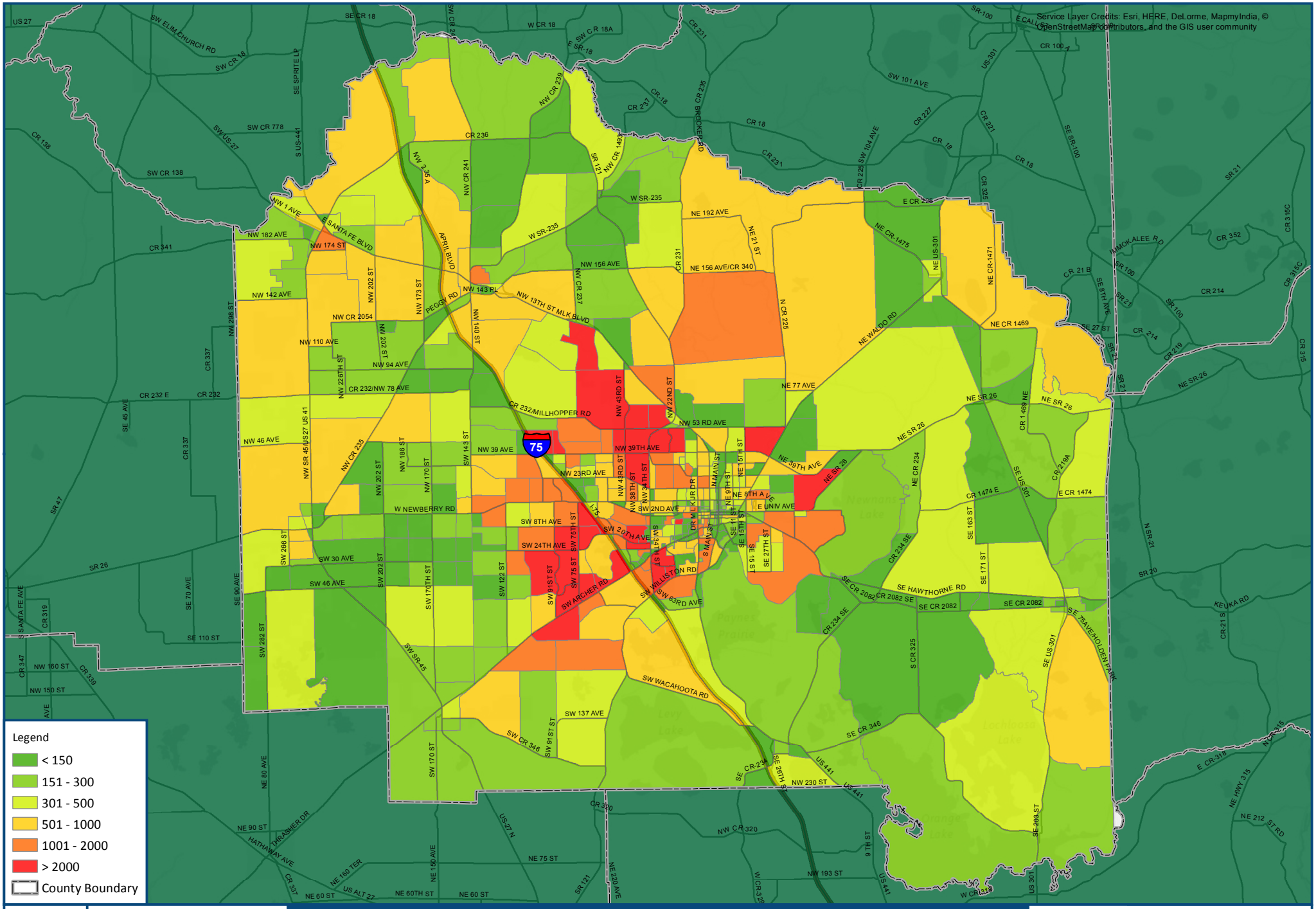


Figure 3

Year 2040 Population by Traffic Analysis Zones

2040 Long Range Transportation Plan

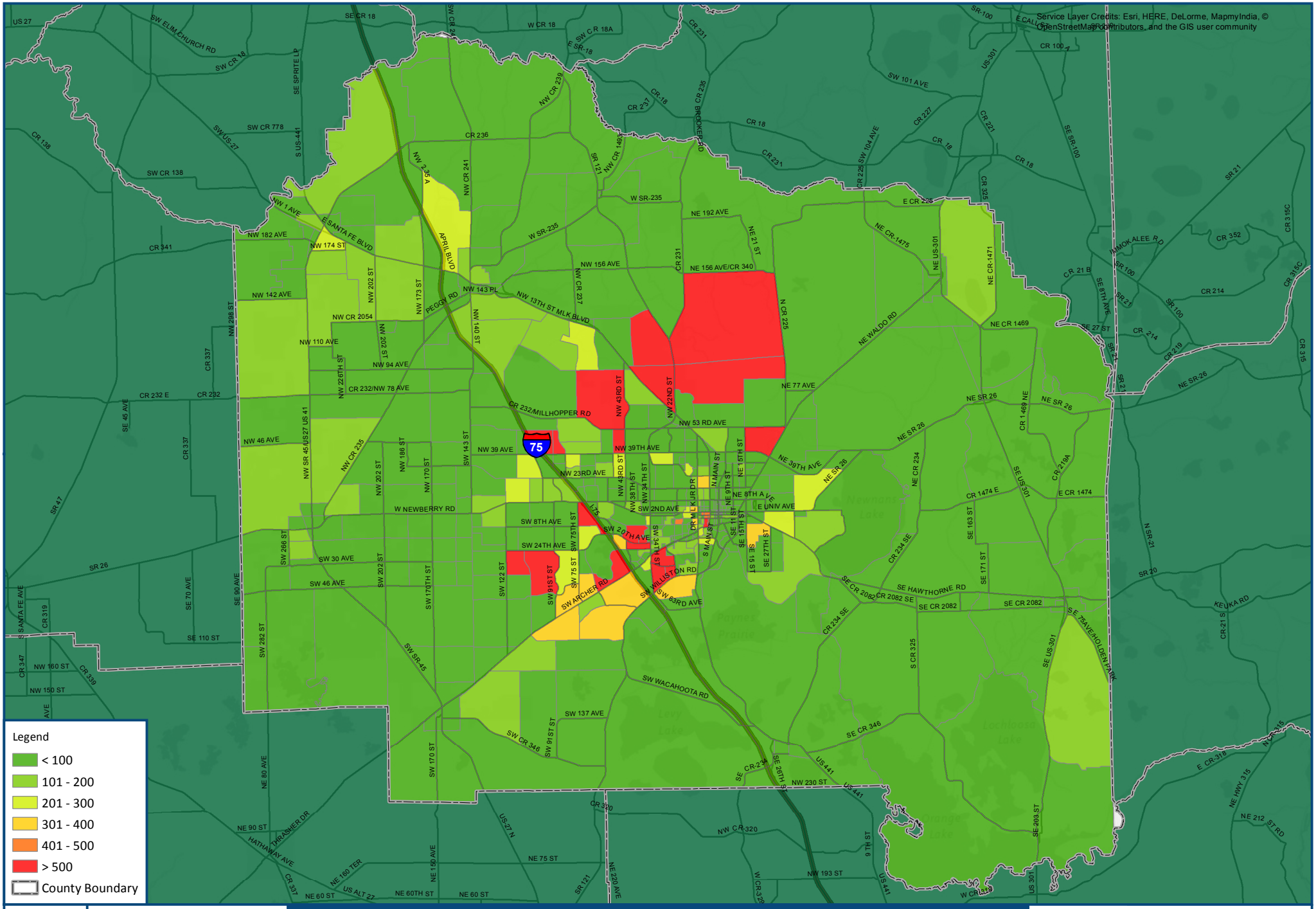


Figure 4

Population Growth 2010-2040 by Traffic Analysis Zones

2040 Long Range Transportation Plan

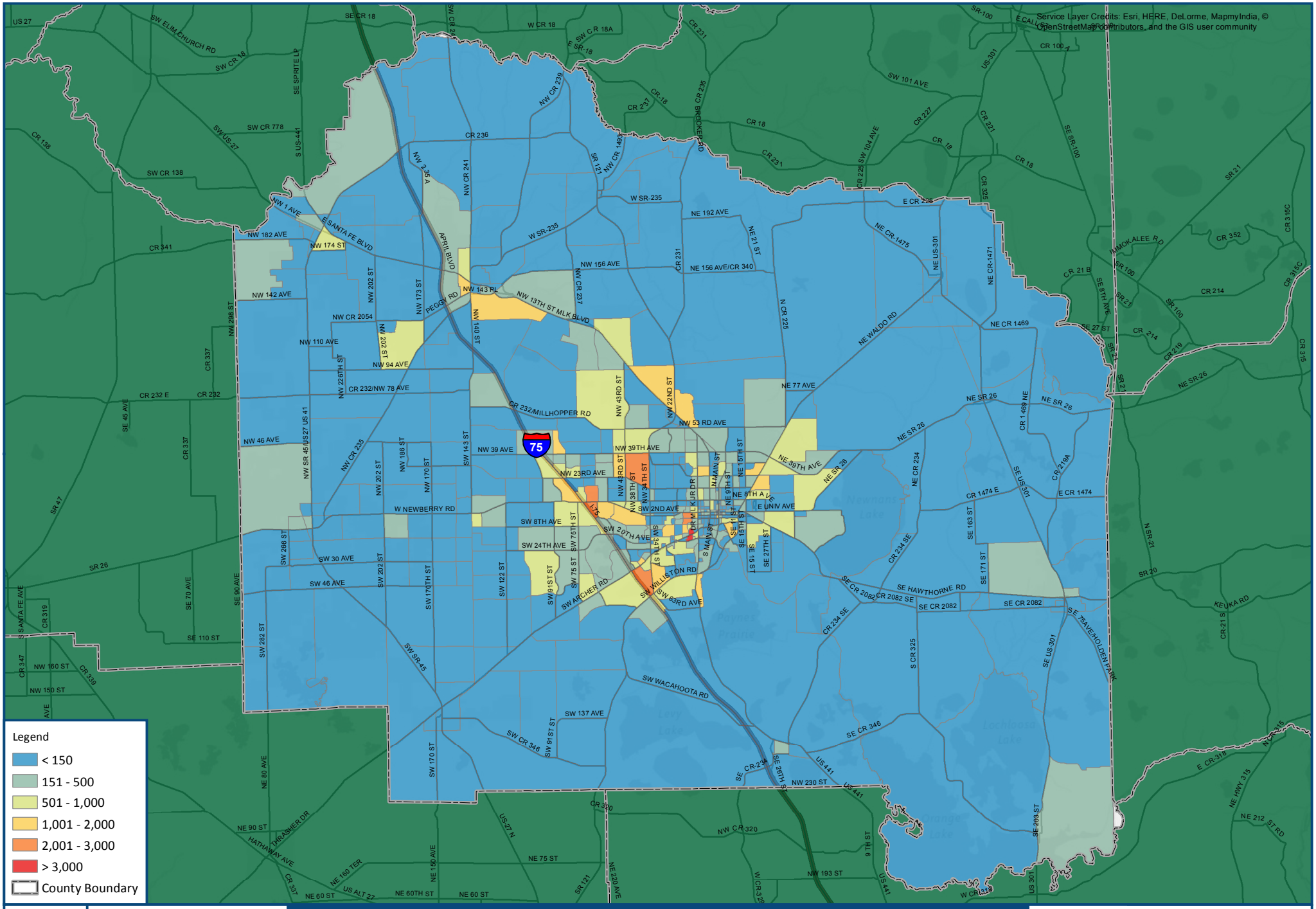


Figure 5

Year 2010 Employment by Traffic Analysis Zones

2040 Long Range Transportation Plan

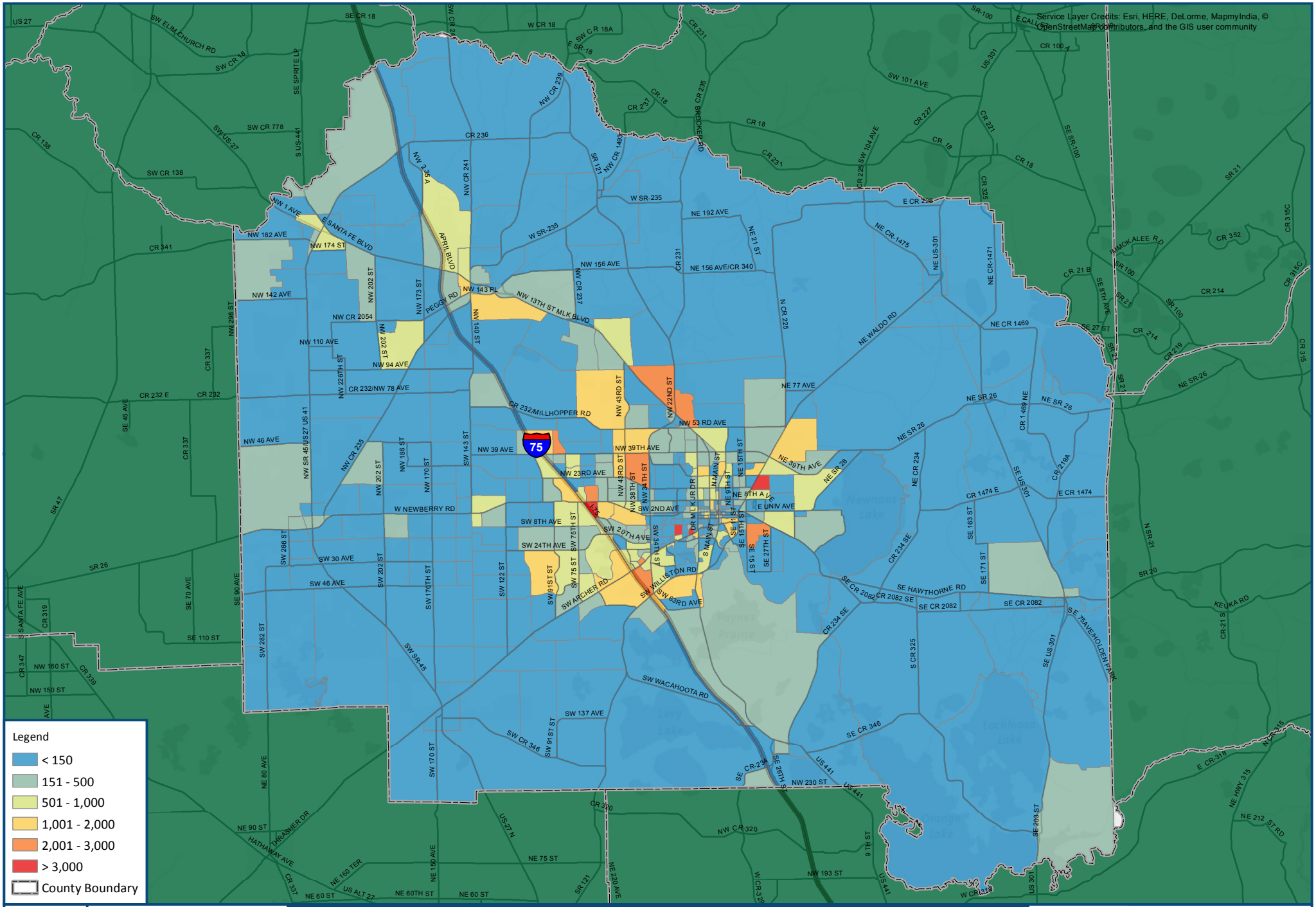


Figure 6

Year 2040 Employment by Traffic Analysis Zones

2040 Long Range Transportation Plan

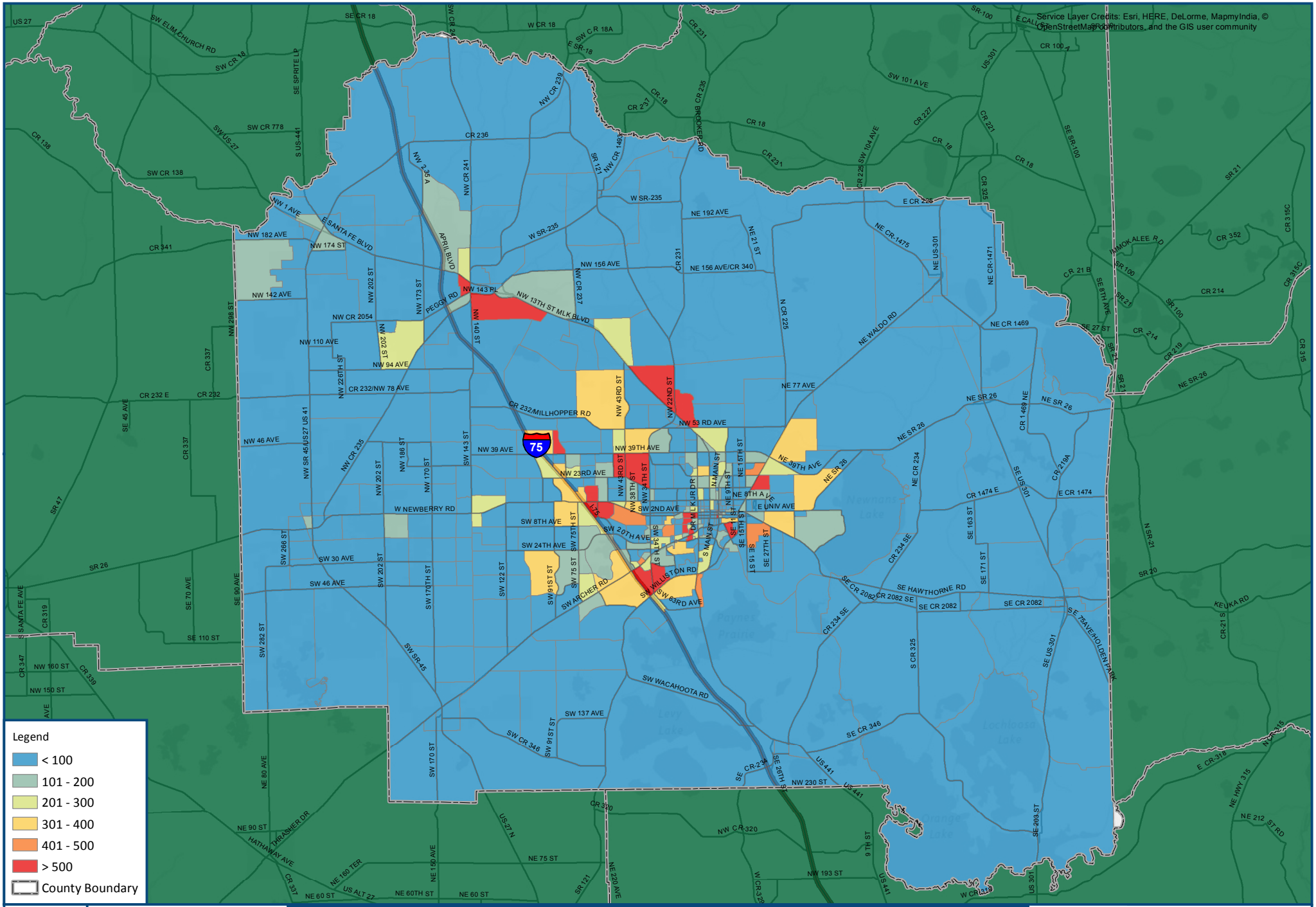


Figure 7

Employment Growth 2010-2040 by Traffic Analysis Zones

2040 Long Range Transportation Plan

Year 2040 Existing-plus-Committed Analysis

The forecasted Year 2040 socioeconomic data developed by the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area and the Existing-plus-Committed network were coded into the travel demand model in order to complete the deficiency analysis. The results of the Year 2040 deficiency analysis were ultimately used to develop the Year 2040 mobility needs alternatives.

The Year 2040 Existing-plus-Committed future year highway network edits were made using the project list shown earlier in Table 1. Many of the projects were minor changes to the network, only requiring changes to the number of lanes and facility types of existing roadways. In addition, there were several new roadways added; most being an extension of an existing road.

The next step in the Long Range Transportation Planning process was to forecast the Year 2040 roadway deficiencies. This was accomplished using the Gainesville Urbanized Area Transportation Study regional travel demand model with the Year 2040 socioeconomic data along with Existing-plus-Committed projects. Future mobility deficiencies were identified through an evaluation of anticipated levels of congestion on an average daily basis through calculated volume-to-capacity ratios. Table 2 presents the relationship of volume-to-capacity ratios to congestion levels used for this plan update.

Table 2: Relationship between Volume-to-Capacity Ratios and Congestion Levels

Daily Volume-to-Capacity Ratio	Congestion Level
0.9- 1.1	Borderline Congested
1.1 to 1.3	Congested
Higher than 1.3	Very Congested

The segment volume-to-capacity ratios were used as a basis for evaluating Needs Plan projects. A volume-to-capacity of 1.0 or above generally indicates a congested condition in which projected volume exceeds available capacity. For purposes of this Long Range Transportation Plan, roadways with a 0.9 to 1.1 volume-to-capacity were flagged as borderline congested, while roads having a volume-to-capacity of greater than 1.3 indicate a severe level of congestion.

The Year 2040 deficiency analysis yielded a number of roadways expected to experience some degree of congestion if no additional modifications are made through the year 2040. Below is a list of the roadways expected to experience some levels of congestion in the year 2040 based on the travel demand model.

Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area Year 2040 Long Range Transportation Plan – Year 2040 Forecasted Congested Roadways (based on Existing-plus-Committed Network)

NW 39th Ave – SW 143rd Street to NW 91st Street
SW 143rd Street – Newberry Road to NW 46th Avenue
NW 98th Street – Newberry Road to NW 39th Avenue
Ft. Clark Boulevard – Newberry Road to NW 23rd Avenue
NW 83rd Street – NW 23rd Avenue to SW 39th Avenue
NW 91st Street/N Road – NW 83rd Street to NW 39th Avenue
NW 23rd Avenue – NW 98th Street to NW 43rd Street
NW 16th Boulevard – NW 43rd Street to NW 34th Street
NW 55th Street – Newberry Road to NW 23rd Avenue
NW 51st Street – NW 23rd Avenue to NW 39th Avenue
NW 43rd Street – Newberry Road to NW 39th Avenue
NW 38th Street – NW 8th Avenue to NW 16th Boulevard
NW 8th Avenue – Newberry Road to NW 6th Street
NE 8th Avenue – NE 9th Street to Waldo Road

SW 91st Street – SW 46th Boulevard to Newberry Road
SW 46th Boulevard – SW 91st Street to SW 75th Street/Tower Road
SW 75th Street/Tower Road – SW 75th Court to SW 24th Avenue
SW 75th Street/Tower Road – University Avenue to Newberry Road
Newberry Road (SR 26) – NW 98th Street to NW 60th Street
Newberry Road (SR 26) – NW 39th Road to SW 2nd Avenue
SW 62nd Boulevard – Newberry Road to SW 24th Avenue
SW 24th Avenue – SW 91st Street to SW 62nd Boulevard
SW 20th Avenue – SW 62nd Boulevard to SW 34th Street
SW 43rd Street – SW 62nd Boulevard (new) to SW 20th Avenue
SW 38th Terrace Extension – SW 42nd St to Hull Road Extension
Hull Rd Extension – SW 38th Terrace to SW 34th Street
SW 24th Avenue – SW 38th Terrace to SW 34th Street
Windmeadows Boulevard – Lowe's to SW 34th Street
Archer Road (SR 24) – SW 122nd Street to SW 75th Street
Archer Road (SR 24) – I-75 to SW 13th Street
SW 16th Avenue (SR 226) – Shealy Drive to Main Street
SW 16th Street – SW 16th Avenue to Archer Road
Williston Road (SR 331) – SW 63rd Boulevard to SW 34th Street
Williston Road (SR 331) – SW 23rd Terrace to SW 13th Street
SW 23rd Terrace – Williston Road to Archer Road
SW 35th Place – SW 34th Street to SW 23rd Terrace
SW 39th Boulevard – Archer Road to SW 34th Street
SW 34th Street (SR 121) – SW 35th Place to SW 2nd Avenue
NW 34th Street (SR 121) – NW 1st Court to NW 16th Avenue
NW 34th Street (SR 121) – NW 31st Boulevard to NW 73rd Place
NW 39th Avenue – NW 34th Street to NW 13th Street
NW 23rd Boulevard – NW 22nd Street to NW 13th Street
NW 16th Terrace – NW 16th Avenue to NW 23rd Avenue
NW 16th Avenue – NW 34th Street to Main Street
NW 23rd Street – University Avenue to NW 8th Avenue
NW 22nd Street – University Avenue to NW 16th Avenue
NW 17th Street – University Avenue to NW 5th Avenue
NW 5th Avenue – NW 22nd Street to NW 13th Street
University Avenue (SR 26) – NW 34th Street to Waldo Road
SW 2nd Avenue – SW 34th Street to University Avenue
SW 2nd Avenue – SW 13th Street to SE 3rd Street
SW 4th Avenue – SW 13th Street to SE 3rd Street
SW/NW 13th Street (US 441) – SW 16th Avenue to NW 39th Avenue
NW 13th Street (US 441) – NW 6th Street to NW 34th Street
SW 12th Street – SW 8th Avenue to University Avenue
SW/NW 10th Street – SW 8th Avenue to NW 16th Avenue
SW/NW 6th Street – SW 4th Avenue to NW 19th Avenue
NW 6th Street – NW 39th Avenue to NW 13th Street

NW 2nd Street – NW 8th Avenue to NW 19th Avenue
Main Street (SR 329) – Depot Avenue to NE 16th Avenue
SE 3rd Street – Depot Avenue to University Avenue
SE 4th Street – Depot Avenue to Williston Road
NE 9th Street – NE 8th Avenue to NE 16th Avenue
Waldo Road – University Avenue to NE 16th Avenue
SE/NE 15th Street – SE 8th Avenue to NE 8th Avenue
SE 8th Avenue – SE 15th Street to Hawthorne Road

In addition, many of the roadways on the University of Florida campus are projected to be congested in the future. These include:

University of Florida Campus Roads
Radio Road – SW 34th Street to Museum Road
Museum Road – Hull Road to SW 13th Street
Hull Road – SW 34th Street to Mowry Road
SW 23rd Drive – Archer Road to Hull Road
Mowry Road – Hull Road to Center Drive
Center Drive – Archer Road to Museum Road
Village Drive – Museum Road to SW 2nd Avenue
Woodlawn Drive – Museum Road to Stadium Road
Stadium Road – Woodlawn Drive to Buckman Drive
Buckman Drive – Stadium Road to University Avenue
Union Road – Buckman Drive to SW 13th Street
Newell Drive – Archer Road to Union Road
Gale Lemerand Drive – Archer Road to University Avenue

Figure 8 depicts the projected congestion for the Existing-plus-Committed Network in the year 2040. Roadways with a volume to capacity ratio greater than 1.3 were considered to be "very congested." Much of the congestion is projected in the area north and west of downtown along the major corridors leading to the University of Florida and downtown Gainesville, such as US 441/W. 13th Street, Newberry Road, SW 20th Avenue, Archer Road, and NW 34th Street. Table 3 provides a model output summary of how the Existing-plus-Committed Network is projected to perform in the year 2040. This analysis provided a baseline for developing and testing of the three network alternatives during the next phase of Needs Plan development.

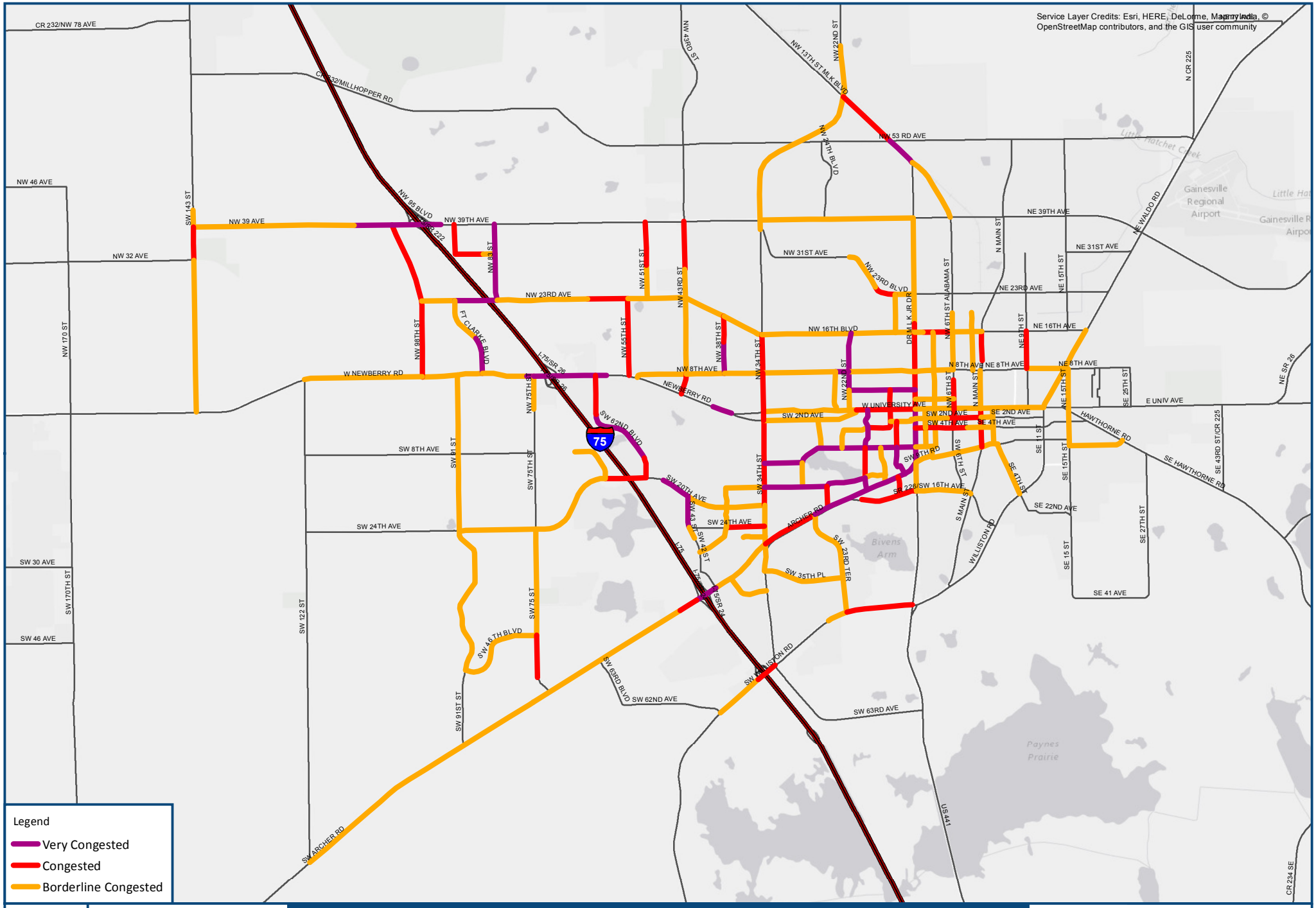


Figure 8

2040 Exiting + Committed Network Congestion

2040 Long Range Transportation Plan

Table 3: Performance Measures

Performance Measure	Year 2010 Base Network	Year 2040 Existing-plus-Committed Network
Total Daily Vehicle Miles Traveled	7,645,368	10,724,823
Daily Vehicle Miles Traveled Per Capita	30.91	35.12
Annual Hours of Delay Per Road Traveler- Alachua County	4.6	17.9
Daily Minutes of Delay Per Road Traveler- Major Corridors		
Archer Road/SR 24 (Tower Road to SW 13th St.)	NA	3.40
Newberry/University/SR 26 (NW 98th St. to NW 34th St.)	NA	1.57
University Avenue/SR 26 (NW 34th St. to Waldo Rd.)	NA	0.58
SW 34th Street/ SR 121 (Archer Rd. to University Av.)	NA	0.96
NW 34th Street/ SR 121 (University Ave. to NW 13th St.)	NA	1.36
SW/NW 13th Street/US 441 (Archer Rd. to NW 34th St.)	NA	1.72
Williston Road/SR 331 (SW 62nd to University Av.)	NA	1.47
Waldo Road/SR 24 (University Av. to NE 39th Av.)	NA	0.63
NW/NE 39th Avenue/SR 222 (NW 98th St. to Waldo Rd.)	NA	1.72
I-75 (NW 39th Av. to Williston Rd.)	NA	NA
Commute Mode Share - Drive Alone	71.8%	72.1%
Commute Mode Share - Car Pool	12.4%	12.5%
Commute Mode Share - Transit	7.2%	7.4%
Commute Mode Share - Non-Motorized	8.6%	8.0%
Total Transit Ridership	33,964	43,929

Year 2040 Needs Plan Alternatives

Similar to previous Long Range Transportation Plan updates, the Year 2040 Long Range Transportation Plan strived to create a balanced multi-modal plan in that there would not be an emphasis on one mode or another, but a mixture of all modes. The vision was to create a Needs Plan where roadway projects supported the transit projects and vice versa. In addition, projects from the Alachua Countywide Bicycle Master Plan, the 2015-2025 University of Florida Campus Master Plan, and other regional plans were incorporated into the Year 2040 Needs Plan alternatives.

Throughout the study area, there were opportunities to consider multiple mobility options. For example, the need to provide additional north/south capacity west of I-75 could be met by adding capacity to Tower Road or by building a new parallel road between Tower Road and I-75. The Advisory Committees considered these deficiencies and opportunities at several meetings in early 2015. Based on their feedback, adjustments were made to the project list prior to presenting the draft Year 2040 Needs Plan to the public at a workshop on February 23, 2015. The public workshop yielded support for many of the proposed roadway, transit, and bicycle / pedestrian projects. In general, projects that supported transit opportunities received higher marks and more support from the workshop participants.

Based on the feedback received, a series of network alternatives were developed and tested to determine how the future transportation network might function under various scenarios reflecting different strategies for improving mobility. Three (3) transportation network alternatives were developed for the Year 2040 Needs Plan, as follows: Alternative 1: New Corridors emphasis, Alternative 2: Existing Corridors emphasis, and Alternative 3: Hybrid Needs alternative. Each network alternative included a mix of roadway and transit projects that were identified from local plans, public input, the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area's advisory committees and the initial analysis of the Existing-plus-Committed network. The network alternatives provided a set of realistic options for relieving congestion and providing improved mobility and accessibility in the Gainesville

Urbanized Area. Alternative 3, the hybrid needs network, was developed based on the results of testing the first two alternatives. Alternative 3, described in Technical Report #6, blended the best elements from Alternatives 1 and 2, and was intended to serve as the basis for evaluation and selection of the final Year 2040 Needs Plan.

Year 2040 Needs Plan Alternative 1: New Corridors Emphasis

Alternative 1 includes a mix of highway and transit solutions, but primarily focuses on new roadways and new transit service. This includes modifications that expand the grid network of roadways and expansion of transit service to the west and northwest portions of the study area. Below is a list of the projects included in Alternative 1 and Figures 9 and 10 depict these projects graphically.

Roadway Capacity Projects

1. NW 122nd Street – Extend from Newberry Road to NW 39th Avenue
2. NW 23rd Avenue – Extend from NW 98th Street to NW 143rd Street
3. NW 76th Boulevard – Extend from terminus to NW 83rd Street Extension
4. NW 83rd Street – Extend from Newberry Road to NW 15th Place
5. NW 83rd Street – Extend from NW 15th Place to NW 23rd Avenue
6. NW 83rd Street – Extend from NW 39th Avenue to Springhills Boulevard
7. Springhills Boulevard – New roadway from NW 122nd Street to NW 83rd Street
8. NW 98th Street – extend from NW 39th Avenue to Springhills Boulevard
9. NW 91st Street – extend from terminus to Springhills Boulevard
10. Springhills Connector – New roadway from Springhills Boulevard to Millhopper Road
11. NW 23rd Avenue – Widen to 4 lanes from NW 98th Street to NW 83rd Street
12. NW 23rd Avenue – Widen to 4 lanes from NW 83rd Street to NW 58th Boulevard
13. Archer Road – Widen to 4 lanes from Tower Road to SW 122nd Street (Metropolitan Transportation Planning Organization boundary)
14. SW 20th/SW 24th Avenue – Widen to 4 lanes from SW 61st Street to SW 62nd Boulevard
15. SW 63rd Boulevard – Extend from Archer Road to SW 24th Avenue
16. SW 57th Avenue – New roadway from Tower Road to SW 41st Boulevard
17. SW Williston Road – Widen to 4 lanes from SW 62nd Avenue to I-75
18. SW 23rd Terrace Extension – Extend from Archer Road to Hull Road
19. NE 39th Avenue – Widen to 4 lanes from Airport Entrance to SR 26

Increase and Expand Existing Transit Service

Extend service to NW 53rd Street and US 441 area – planned for Fall 2015

Extend service to 34th Street / Glen Springs Road area – planned for Fall 2015

41. Increase weekday frequencies on City routes (at least 30 minute frequency)
42. Increase weekday operating hours on City routes (minimum 14 hours service)
43. Expand weekend service on City routes (at least 60 minute frequency & 10 hours of service)
44. Butler Plaza Transit Center / Park and Ride Facility
45. Oaks Mall Transit Center / Park & Ride Facility

<u>New Transit Service and Capital Projects</u>

46. Provide Premium Transit Service (10 minute headways) from Oaks Mall to Springhills area - *Dedicated lanes on Ft. Clarke Boulevard, NW 83rd St, and Springhills Boulevard*
47. Provide Premium Transit Service (10 minute headways) from Butler Plaza to Celebration Pointe - *Dedicated lanes from SW 42nd Way to Celebration Pointe Park & Ride*
48. Provide Premium Transit Service (10 minute headways) from Archer Road to SW 122nd Street - *Dedicated & Shared Lanes on SW 122nd, Haile Plantation, and Newberry Road*
49. Provide Premium Transit Service (10 minute headways) from Five Points to Eastside Activity Center Park & Ride - *Dedicated lanes on SE Hawthorne Road*
50. Extend service in southwest Gainesville (SW 40th Boulevard and SW 47th Avenue area)
51. Extend service in south Gainesville (South Main Street and Williston Road area)
52. Intercity Service to/from High Springs & Alachua
53. Intercity Service to/from Newberry
54. Intercity Service to/from Archer
55. Intercity Service to/from Hawthorne
56. Intercity Service to/from Waldo
57. University of Florida Transit Center
58. Santa Fe College Transit Center
59. Hawthorne Park & Ride Facility
60. Celebration Pointe Park and Ride
61. Springhills Area Park and Ride (North of 39th Ave)
62. Newberry Village Park and Ride (Newberry Road just east of Ft. Clarke Boulevard)
63. Eastside Activity Center Park and Ride (SE 43rd Street and Hawthorne Road)
64. Waldo Park & Ride Facility
65. Archer Park & Ride Facility

<u>Other Projects</u>

66. Hawthorne Braid – Extend CSX trail from NW 16th Avenue to NW 39th Avenue

67. University Braid – New trail on University Avenue from Waldo Road to NE 55th Boulevard
68. Bivens Braid – New trail following SW 23rd Terrace from SW 63rd Avenue to Williston Road
69. Archer Braid – Construct overpass of Hull Road / 34th Street intersection
70. SW 40th Boulevard – Construct trail from SW 34th Street to Archer Braid at SW 30th Avenue
71. ITS – Arterial Dynamic Message Signs
72. ITS – Transit Signal Priority
73. Miscellaneous sidewalk projects
74. Miscellaneous bicycle lanes and facilities
75. Miscellaneous bus shelters and amenities
76. Miscellaneous crosswalk projects, including auditory signals
77. Alachua Braid – Add bicycle facilities on NW/SW 13th Street from NW 23rd Avenue to Archer Road
78. Glen Springs Braid – Construct shared use path from NW 34th Street to NW 16th Terrace
79. Bivens Braid – Construct shared use path on SW 23rd Street from SW 23rd Terrace to Archer Road
80. NW/NE 23rd Avenue – Reconstruct with two lanes, center turn lane, and bicycle lanes from NW 13th Street to Waldo Road

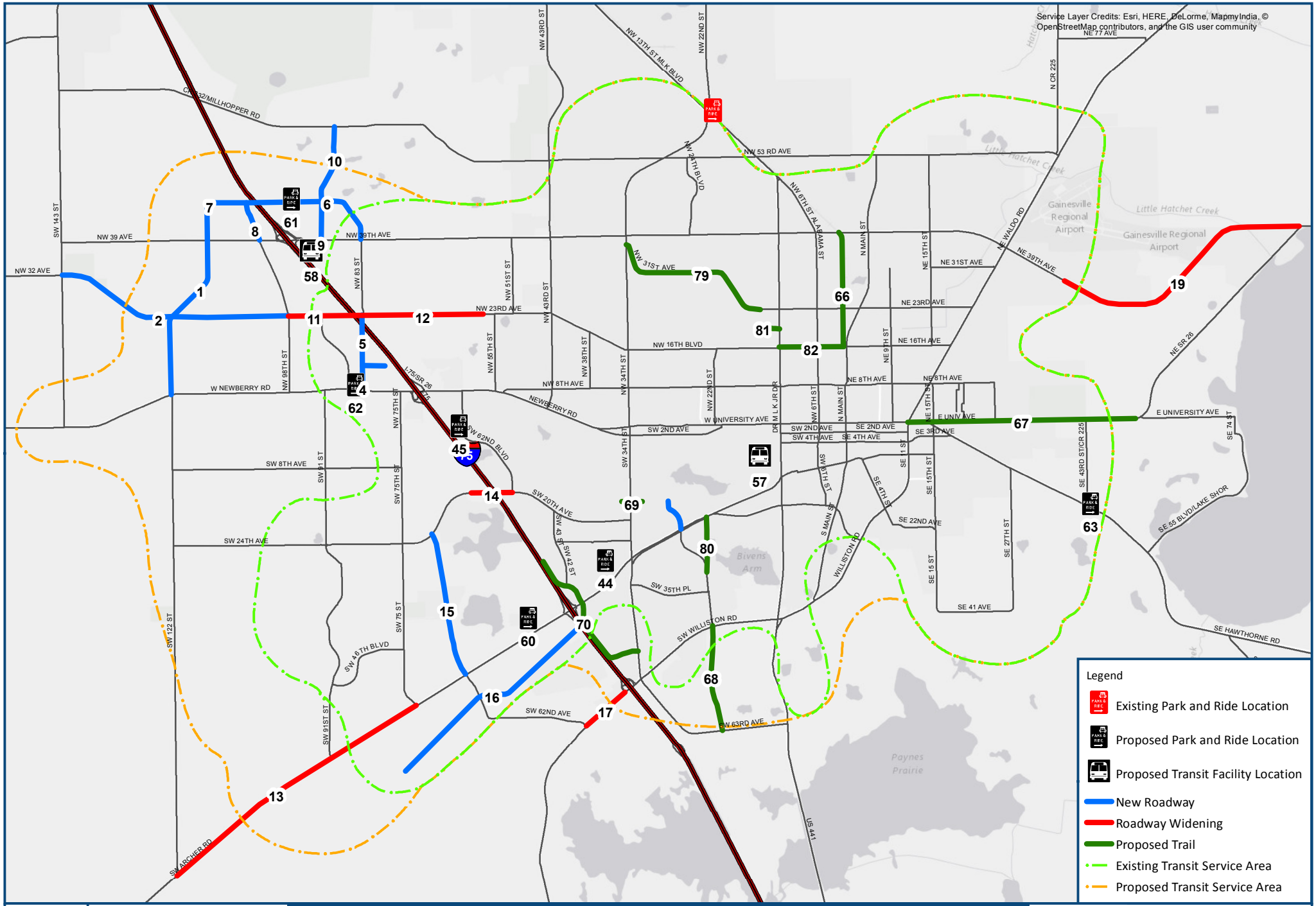


Figure 9

2040 Needs Plan - Alternative 1
New Corridors Emphasis

2040 Long Range Transportation Plan

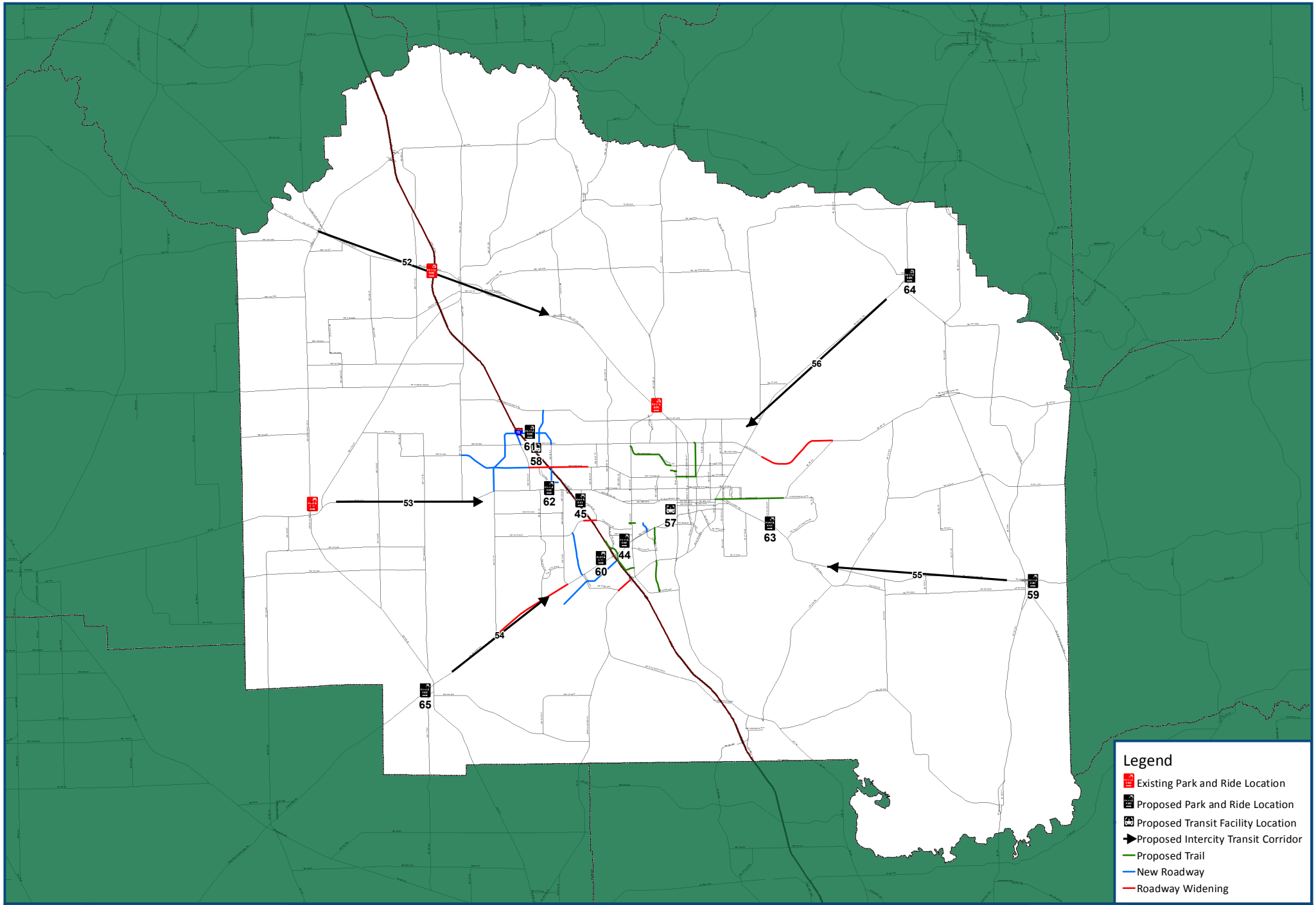


Figure 10

2040 Needs Plan - Alternative 1
New Corridors Emphasis

2040 Long Range Transportation Plan

Year 2040 Needs Plan Alternative 2: Existing Corridors Emphasis

Alternative 2 includes a mix of highway and transit solutions, but primarily focuses on widening existing roadways and providing additional service on existing transit routes. Below is a list of the projects included in Alternative 2 and Figure 11 depicts these projects graphically.

Roadway Capacity Projects

20. NW 98th Street – Widen to 4 lanes from Newberry Road to NW 23rd Avenue
21. NW 98th Street – Widen to 4 lanes from NW 23rd Avenue to NW 39th Avenue
22. NW 83rd Street – Widen to 4 lanes from NW 23rd Avenue to NW 39th Avenue
23. NW 39th Avenue – Widen to 4 lanes from NW 98th Street to NW 143rd Street
24. Oaks Mall Connector – New bridge over I-75 from University Avenue to SW 62nd Boulevard
25. Tower Road – Widen to 4 lanes from Archer Road to SW 24th Avenue
26. Tower Road – Widen to 4 lanes from SW 24th Avenue to SW 8th Avenue
27. SW 62nd Boulevard – Extend from Butler Plaza to SW 20th Avenue
28. SW 24th Avenue – Extend SW 40th Boulevard to SW 43rd Street
29. Hull Road – Extend from SW 38th Terrace to SW 43rd Street
30. Radio Road – Extend from SW 34th Street to Hull Road
31. SW 47th Avenue – Extend from SW 34th Street to Williston Road
32. SE 6th Street – New roadway from SE Depot Avenue to SE 4th/5th Avenue
33. SE 21st Street – Extend from SE 8th Avenue to SE Hawthorne Road
34. SW 20th Avenue – Widen to 4 lanes from SW 62nd Boulevard to SW 43rd Street
35. SW 23rd Drive – Widen to 4 lanes from Archer Road to Mowry Road
36. SW 62nd Boulevard – Widen to 4 lanes from SW 20th Avenue to Newberry Road
37. NW 34th Street – Widen to 4 lanes from University Avenue to NW 16th Avenue
38. NW 34th Street – Widen to 4 lanes from NW 16th Avenue to NW 39th Avenue
39. NW 34th Street – Widen to 4 lanes from NW 39th Avenue to US 441
40. SW 23rd Terrace – Widen to 4 lanes from SW Williston Road to Archer Road

Increase and Expand Existing Transit Service

Extend service to NW 53rd Street and US 441 area – planned for Fall 2015
Extend service to 34th Street / Glen Springs Road area – planned for Fall 2015

41. Increase weekday frequencies on City routes (at least 30 minute frequency)
42. Increase weekday operating hours on City routes (minimum 14 hours service)
43. Expand weekend service on City routes (at least 60 minute frequency & 10 hours of service)
44. Butler Plaza Transit Center / Park and Ride Facility
45. Oaks Mall Transit Center / Park & Ride Facility

Other Projects

66. Hawthorne Braid – Extend CSX trail from NW 16th Avenue to NW 39th Avenue
67. University Braid – New trail on University Avenue from Waldo Road to NE 55th Boulevard
68. Bivens Braid – New trail following SW 23rd Terrace from SW 63rd Ave to Williston Road
69. Archer Braid – Construct overpass of Hull Road / 34th Street intersection
70. SW 40th Blvd – Construct trail from SW 34th Street to Archer Braid at SW 30th Avenue
71. ITS – Arterial Dynamic Message Signs
72. ITS – Transit Signal Priority
73. Miscellaneous sidewalk projects
74. Miscellaneous bicycle lanes and facilities
75. Miscellaneous bus shelters and amenities
76. Miscellaneous crosswalk projects, including auditory signals
77. Alachua Braid – Add bicycle facilities on NW/SW 13th Street from NW 23rd Avenue to Archer Road
78. Glen Springs Braid – Construct shared use path from NW 34th Street to NW 16th Terrace
79. Bivens Braid – Construct shared use path on SW 23rd Street from SW 23rd Terrace to Archer Road

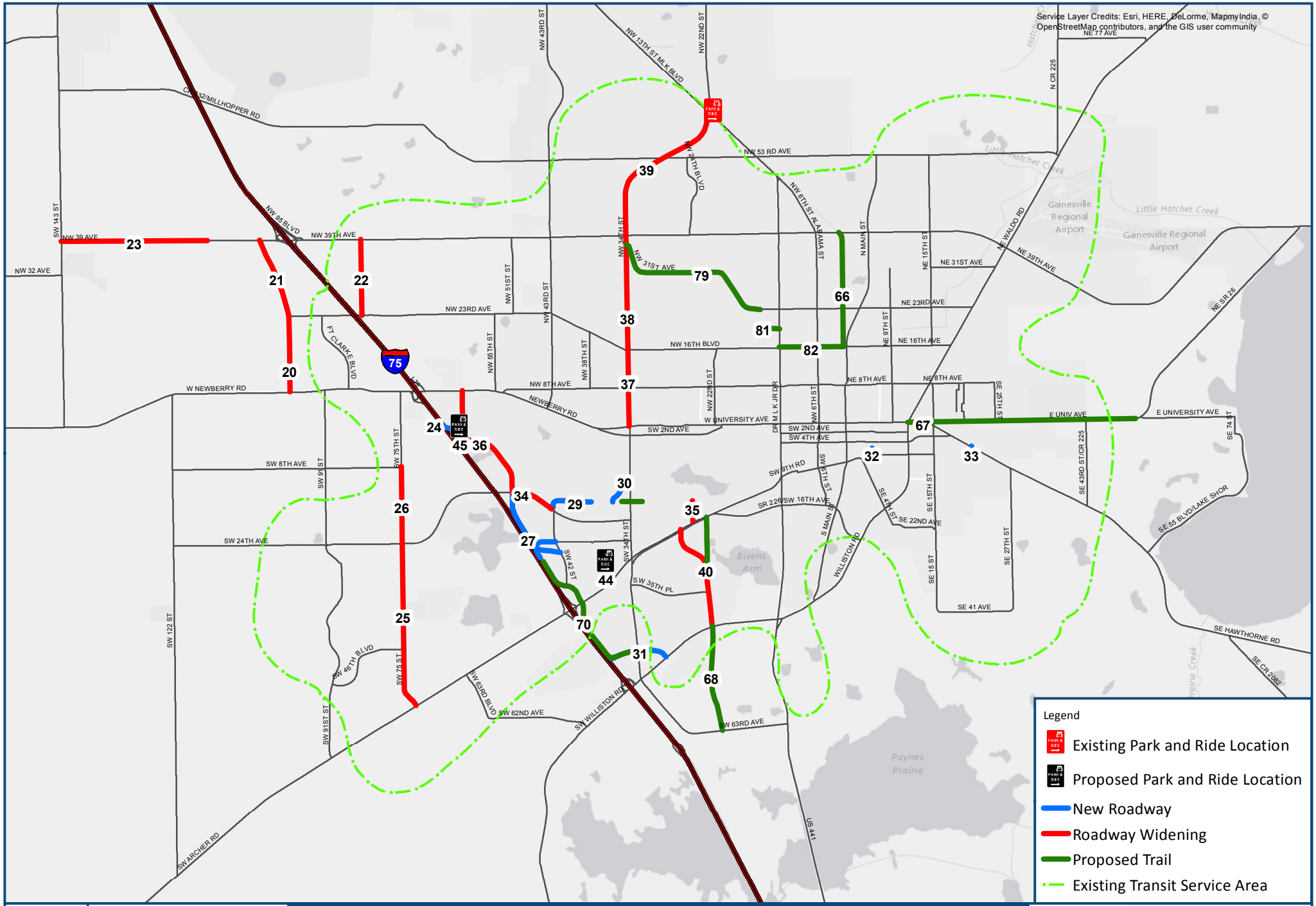


Figure 11

2040 Needs Plan - Alternative 2
Existing Corridors Emphasis

2040 Long Range Transportation Plan

Using the Gainesville Urban Area Transportation Study regional travel demand model, it was possible to create a summary of the results of testing Alternatives 1 and 2 in comparison with the Year 2040 Existing-plus-Committed and Year 2010 base validation model networks. Table 4 provides an overall summary of how each alternative network was projected to perform in the year 2040.

Table 4: Year 2040 Needs Alternatives Network Comparisons

Performance Measure	Year 2010 Base Network	Year 2040 Existing-plus-Committed Network	Year 2040 Needs Networks Tested/Evaluated	
			Existing Corridors Emphasis	New Corridors Emphasis
Total Daily Vehicle Miles Traveled	7,645,368	10,724,823	10,641,130	10,605,029
Daily Vehicle Miles Traveled Per Capita	30.91	35.12	34.84	34.73
Annual Hours of Delay Per Road Traveler- Alachua County	4.6	17.9	13.6	14.3
Daily Minutes of Delay Per Road Traveler- Major Corridors				
Archer Road (Tower Road to SW 13th)	NA	3.40	2.56	2.72
Newberry/University (NW 98th to NW 34th)	NA	1.57	1.02	1.36
University Avenue (NW 34th to Waldo Road)	NA	0.58	0.76	0.70
SW 34th Street (Archer to University)	NA	0.96	0.99	0.89
NW 34th Street (University to NW 13th)	NA	1.36	0.77	0.80
SW/NW 13th Street (Archer to NW 34th)	NA	1.72	1.27	1.75
Williston Road (SW 62nd to University)	NA	1.47	1.66	1.61
Waldo Road (University to NE 39th)	NA	0.63	0.51	0.60
NW/NE 39th Avenue (NW 98th to Waldo)	NA	1.72	1.83	1.24
I-75 (NW 39th to Williston)	NA	NA	NA	NA
Commute Mode Share - Drive Alone	71.8%	72.1%	71.8%	71.5%
Commute Mode Share - Car Pool	12.4%	12.5%	12.4%	12.3%
Commute Mode Share – Transit	7.2%	7.4%	8.0%	8.3%
Commute Mode Share - Non-Motorized	8.6%	8.0%	7.8%	7.9%
Total Transit Ridership	33,964	43,929	47,299	49,282

Legend- green (best) and red (worst)

Use the QR Reader App on your smart phone to visit our website!

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