



# Regional Northeast Corridor Concept Study

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## Existing Conditions Report

An existing conditions report in the area along the Aloma Spur from the Sanford SunRail station through Seminole County into the City of Winter Springs, the City of Oviedo and extending into Orange County to the UCF Campus.

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## INTRODUCTION

### PROJECT OVERVIEW

MetroPlan Orlando, in collaboration with the Cities of Sanford, Winter Springs, and Oviedo and Seminole County, has conducted the Regional Northeast Corridor Concept Study to evaluate the existing conditions along the Aloma Spur. This report explores the existing conditions, opportunities, and challenges in the corridor, which runs from downtown Sanford through Seminole County into the City of Winter Springs, the City of Oviedo and extends into Orange County to the University of Central Florida campus. Figure 1 displays the Study Area.

This study addresses six topics: socio-demographic characteristics, economic vitality, land use, mobility, travel demand, and environmental constraints. It should be seen as an “Existing Conditions Analysis,” and it should serve as the basis for future corridor analysis. Each chapter opens with an introduction to the issue area and a discussion of data sources and limitations. The report ends with a summary of multi-modal opportunities that are available along with a recap of limitations for each opportunity.

### BACKGROUND AND PROJECT STUDY AREA

Seminole County is one of the fastest growing counties in the State of Florida. Its central location to the Space Coast, the University of Central Florida (UCF), and the Orlando-Sanford International Airport makes it an attractive location for business and residential development. Seminole County and the City of Sanford were interested in exploring the corridor opportunities particularly as they relate to the possibility of the Florida Department of Transportation (FDOT) exercising their right to purchase the Aloma Spur from CSX Corporation. Multi-modal corridor projects are seen as essential to network efficiency, safety, and livability within the context of future transportation needs. This corridor was selected to evaluate the merits of multi-modal connectivity in the northeast portion of Seminole County.

The Regional Northeast Corridor Concept Study area is around 84.06 square miles. The Study consists of two corridors: the north section of the corridor centered on the area between U.S. 17-92 and the Aloma Spur rail line, referred to as the Aloma Spur Section; and a south section centered between S.R. 434, S.R. 417 and UCF, referred to as the S.R. 434 Section. The boundaries of the Study Area were chosen to closely match U.S. Census Block Groups to the Traffic Analysis Zones (TAZ) which MetroPlan Orlando uses in their Travel Demand Model. The jurisdictions of Sanford, Winter Springs, and Oviedo fall within the study area. Figure 2 shows the Study Area and delineates the jurisdictions in or near the Study Area.

#### ALOMA SPUR SECTION

The Aloma Spur Section is centered on the Aloma Spur rail line. The rail line is 11.32 miles long, and it begins from the north at the Sanford SunRail station, navigates south next to the Orlando Sanford International Airport, continues west of Lake Jesup, and terminates at Wade Street, 700 feet west of the Cross-Seminole Trail, in the City of Winter Springs.

#### S.R. 434 SECTION

The S.R. 434 Section is centered on the area between S.R. 417 and the UCF main campus. From the north, the section initiates at Layer Elementary School, where the Cross-Seminole Trail picks back up, heads east on S.R. 434, then travels south on S.R. 417, and terminates in the area between the S.R. 417 University Boulevard exit and UCF Research Parkway.

FIGURE 1 - REGIONAL NORTHEAST CORRIDOR CONCEPT STUDY AREA

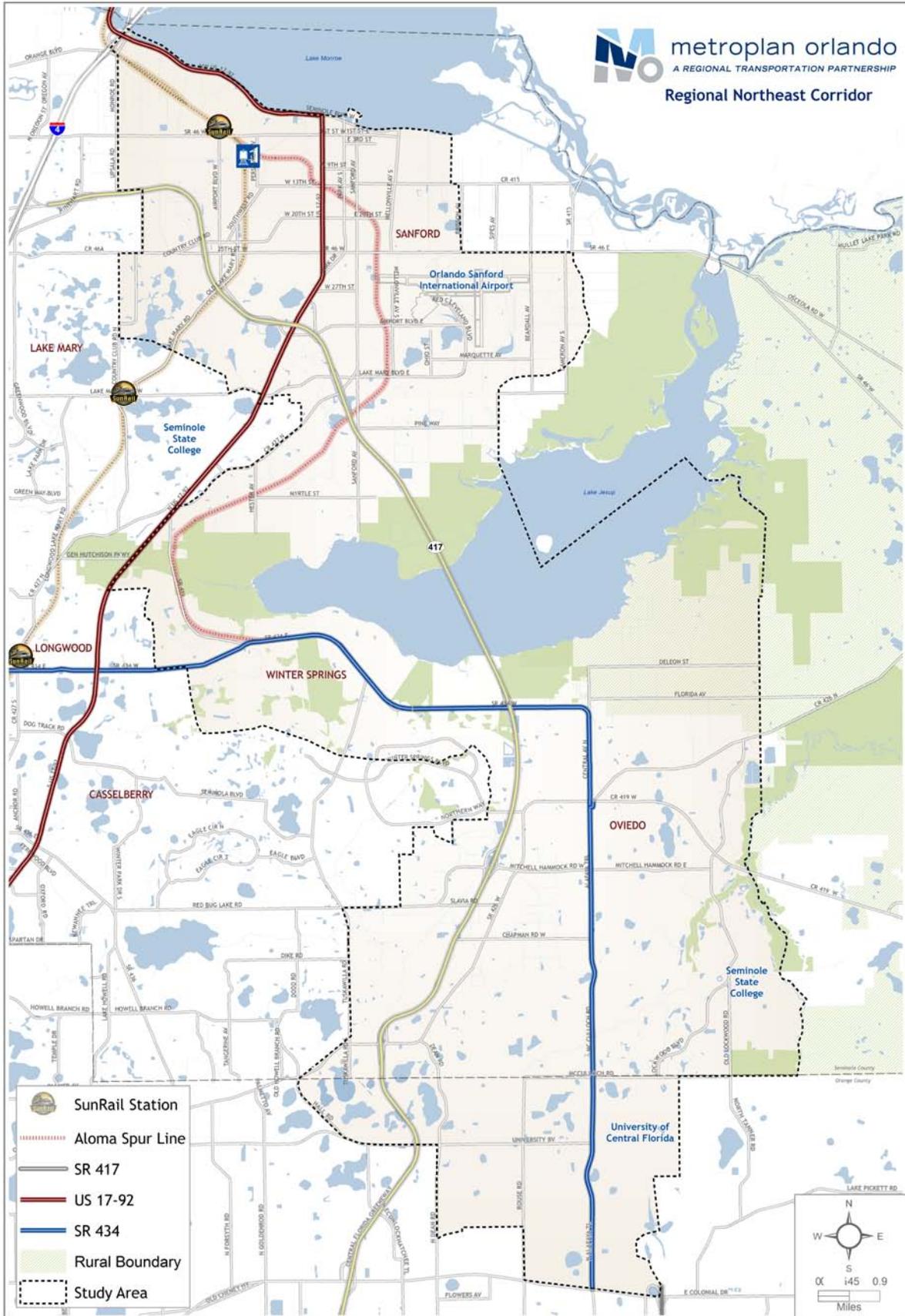


FIGURE 2 - STUDY AREA CITIES

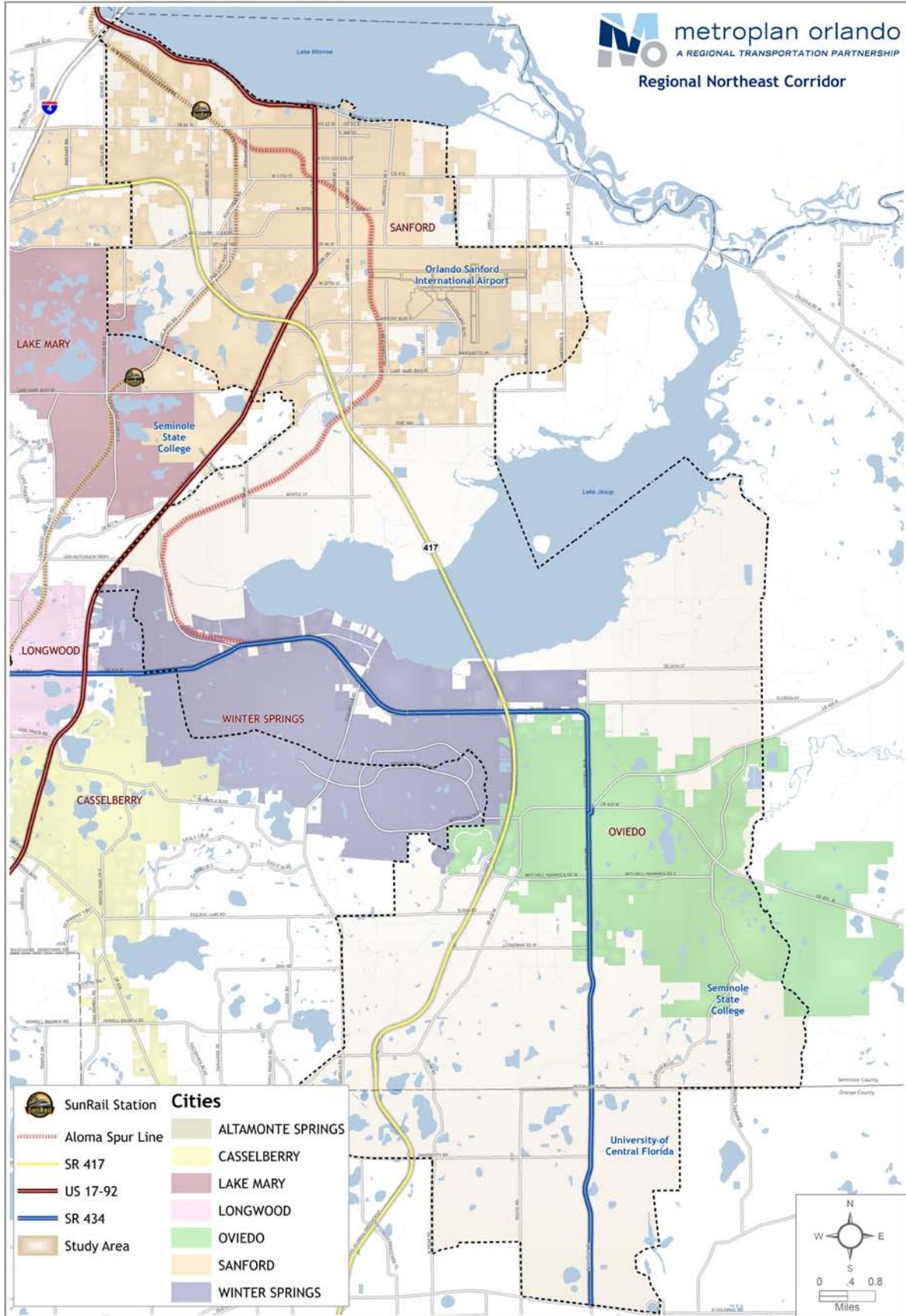
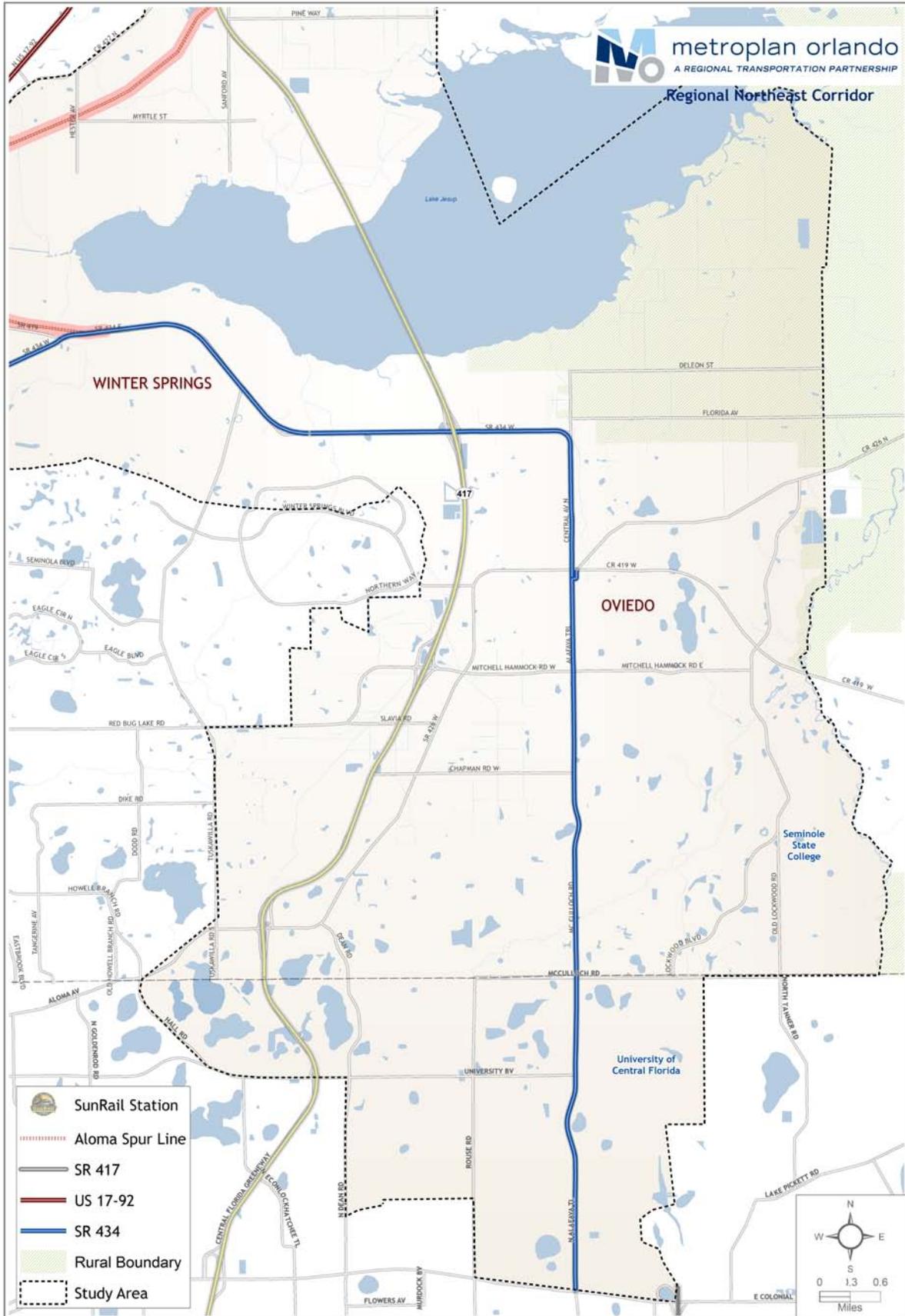


FIGURE 3 - ALOMA SPUR SECTION



FIGURE 4 - S.R. 434 SECTION



## PREVIOUS & CURRENT STUDIES

While the focus of the Regional Northeast Corridor Concept Study is to analyze existing conditions, opportunities, and challenges in the corridor, the Study must also consider current policies and previous studies that reflect the community's values. This section summarizes existing initiatives, programs, and reports that affect the study area.

### SEMINOLEWAY ECONOMIC DEVELOPMENT CORRIDOR

SeminoleWAY is a strategic land use and economic development plan focused on attracting high-wage jobs and businesses to Seminole County. The SeminoleWAY district which spans from the City of Oviedo to the City of Sanford, along the S.R. 417 Corridor and across I-4 to the Port of Sanford.

SeminoleWAY is a forward-looking plan that involves a targeted approach to economic development in partnership with the cities of Sanford, Winter Springs, Oviedo, and area Chambers of Commerce. Building upon Seminole County's solid economic foundation and technology-driven corporate base, SeminoleWAY targets the relocation of high impact industries such as financial services, digital media, biotechnology, and technical research services to the SeminoleWAY district.

### LYNX VISION 2030 TRANSIT MASTER PLAN

The LYNX Vision 2030 study was a joint venture between LYNX and MetroPlan Orlando to undertake a comprehensive examination of twenty-two corridors in Orange, Osceola, and Seminole Counties. The purpose of the study was to determine potential transit modal improvements along the selected high-traffic corridors. The study utilized MetroPlan's 2030 Long Range Transportation Plan (LRTP) to evaluate the areas in the metro area with the highest population and transportation demand. MetroPlan's 2040 LRTP will include an updated version of the LYNX 2030 Vision corridors.

### FDOT DISTRICT 5 MULTI-MODAL CORRIDOR PLANNING GUIDEBOOK

The Florida Department of Transportation (FDOT) prepared the Multi-Modal Planning Guidebook to provide direction in how to plan for multi-modal transportation investments. Its focus is to guide the development of all transportation planning facilities, with the goal of investing in transportation facilities that work well for all users, are affordable, and that support community planning, economic development, and mobility goals.

### ORLANDO SANFORD INTERNATIONAL AIRPORT MASTER PLAN UPDATE

Orlando Sanford International Airport (SFB) continues to play an important role in the economic climate of Central Florida. To maintain a steady pace of sustainable growth, the Sanford Airport Authority (SAA) initiated a Master Plan Update to analyze the trends in aviation activity, assess the future facility needs, and provide management a guide for phased implementation of necessary improvements to meet expected growth.

### S.R. 50 / UCF CONNECTOR ALTERNATIVE ANALYSIS

The S.R. 50 corridor from West Oaks Mall to the University of Central Florida (UCF) was one of the primary corridors identified in the LYNX Vision 2030 Transit Master Plan. The SR50 / UCF Connector Alternatives Analysis Study is currently underway and is focused on identifying the issues, opportunities, and recommended improvements related to transportation in the S.R. 50 Corridor, with a particular focus on transit. When complete, this study will provide a clear understanding of the transit needs, the range of potential solutions, and the locally preferred alternative solutions for addressing the corridor's transit needs.

## OTHER REPORTS AND STUDIES

A variety of other reports and studies were also reviewed as part of the data collection efforts. These included MetroPlan Orlando's Transportation Improvement Program and Prioritized Project List.

## DATA COLLECTION

Data pertinent to this study was collected in a variety of ways. The following data was reviewed and incorporated into the report:

- Future Land Use Maps
- LYNX schedules and ridership information
- Comprehensive Plans
- Geographic Information System (GIS) data
- U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD)
- FDOT's ETDM Environmental Screening Tool
- U.S. Census Bureau American Community Survey
- FDOT's Transit Oriented Development Handbook

## SOCIO-DEMOGRAPHIC CONDITIONS

This chapter summarizes existing socio-economic and demographic conditions in the Regional Northeast Corridor (RNC) Study Area. In order to fully understand the demographic character of the RNC community, data was gathered from the U.S. Census. The data in this section are from the 2010 Census, and the 2008-2012 American Community Survey.

### POPULATION

Seminole County continues to grow at a steady pace. Between 2000 and 2010, Seminole County’s population grew by 15.7 percent. Table 2-1 provides a comparison of the statistics between these two areas.

Table 2-1: Population Overview

	Study Area	Seminole County
Population	184,084	430,838
Household Units (2012)	876	182,910
Average Household Size	2.67	2.82
<b>Population by Age</b>		
Median Age	35.5	38.3
Under 18 (%)	22.9%	22%
Age 65 (%)	10.7%	13.3%
<b>Population by Sex</b>		
Male (%)	48.95%	48.4%
Female (%)	51.05%	51.6%

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

### POPULATION & HOUSEHOLD DENSITY

Figure 3 shows the geographic distribution of the Study Area residential population density in 2010. For the purposes of this report, population density is expressed as a function of population per acre and is based on Census 2010 block group data.

As shown in the map, the highest population densities in the Study Area are west of UCF, the Alafaya Woods neighborhood in Oviedo, and in Sanford east of the Amtrak Auto Train Station. The areas surrounding the UCF campus, the old Winter Springs downtown, and downtown Sanford reflect the second highest population density. Nonetheless, the majority of the Study Area has relatively low density.

In addition, population and household density must exist in the corridor in order to operate a successful transit service. Florida Transit Oriented Development (TOD) Handbook states that an area with less than 5 dwelling units per acre can support hourly bus service (local bus service), 6 to 7 can support 30 minute service (intermediate bus service), 8 to 15 units can support 10 minute service (premium bus service), and anything above can support light rail service. The 2010 Census data indicates that the Study Area has an average of 1.6 household units per acre, with the highest accumulation in UCF and the City of Oviedo. Table 2-2 provides the population and household density breakdown by municipality and

county. Orange County and Oviedo have the highest population density, while Sanford and Oviedo has the highest household unit density in the Study Area.

**Table 2-2: Density Overview**

	<b>Population Density</b>	<b>Household Density</b>
<b>Sanford</b>	4.5	1.8
<b>Winter Springs</b>	3.5	1.5
<b>Oviedo</b>	4.8	1.8
<b>Seminole County</b>	3.4	1.4
<b>Orange County</b>	5.4	1.7

Source: U.S. Census Bureau, 2010 American Community Survey

FIGURE 5 - POPULATION DENSITY

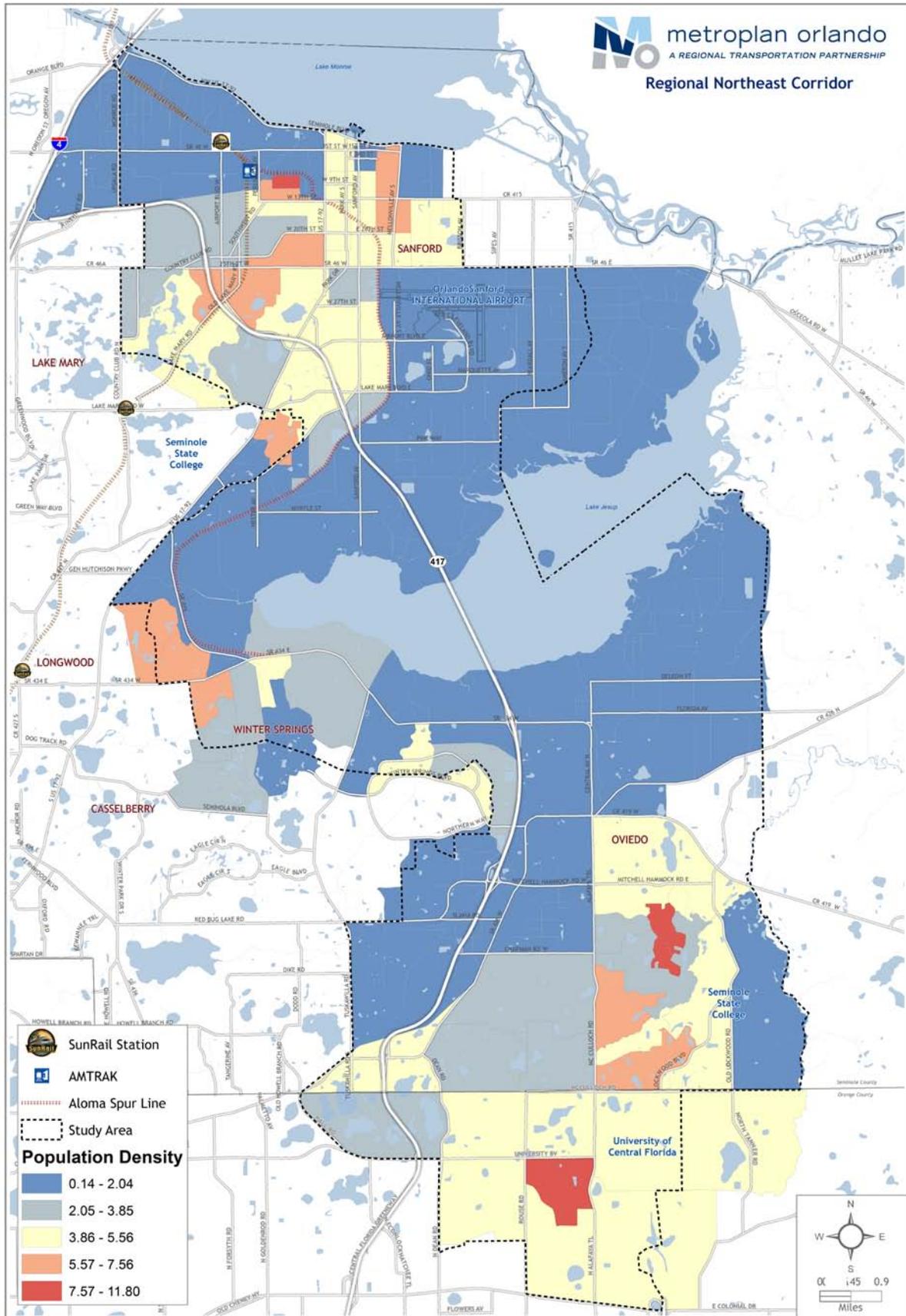
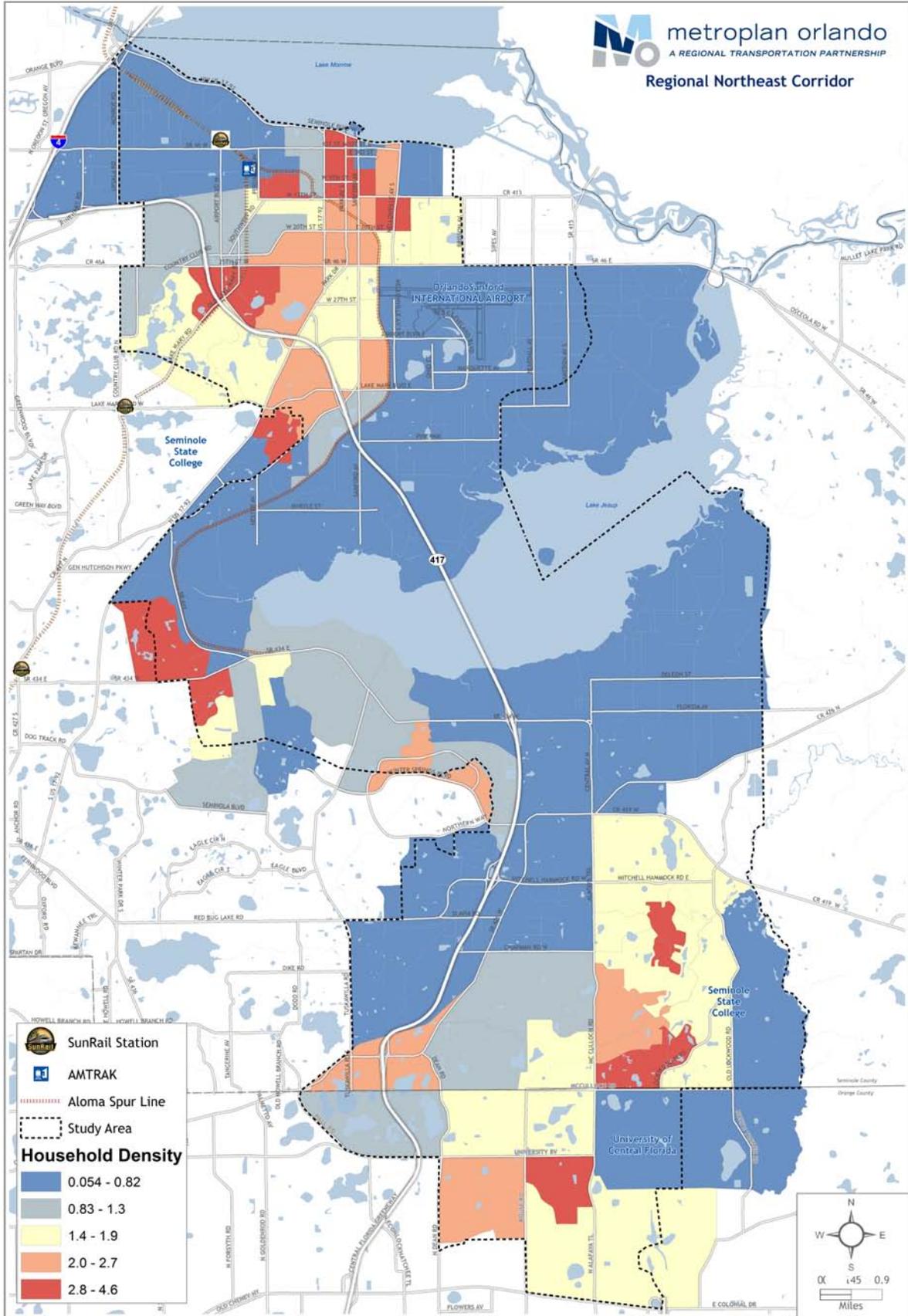


FIGURE 6 - HOUSEHOLD UNIT DENSITY



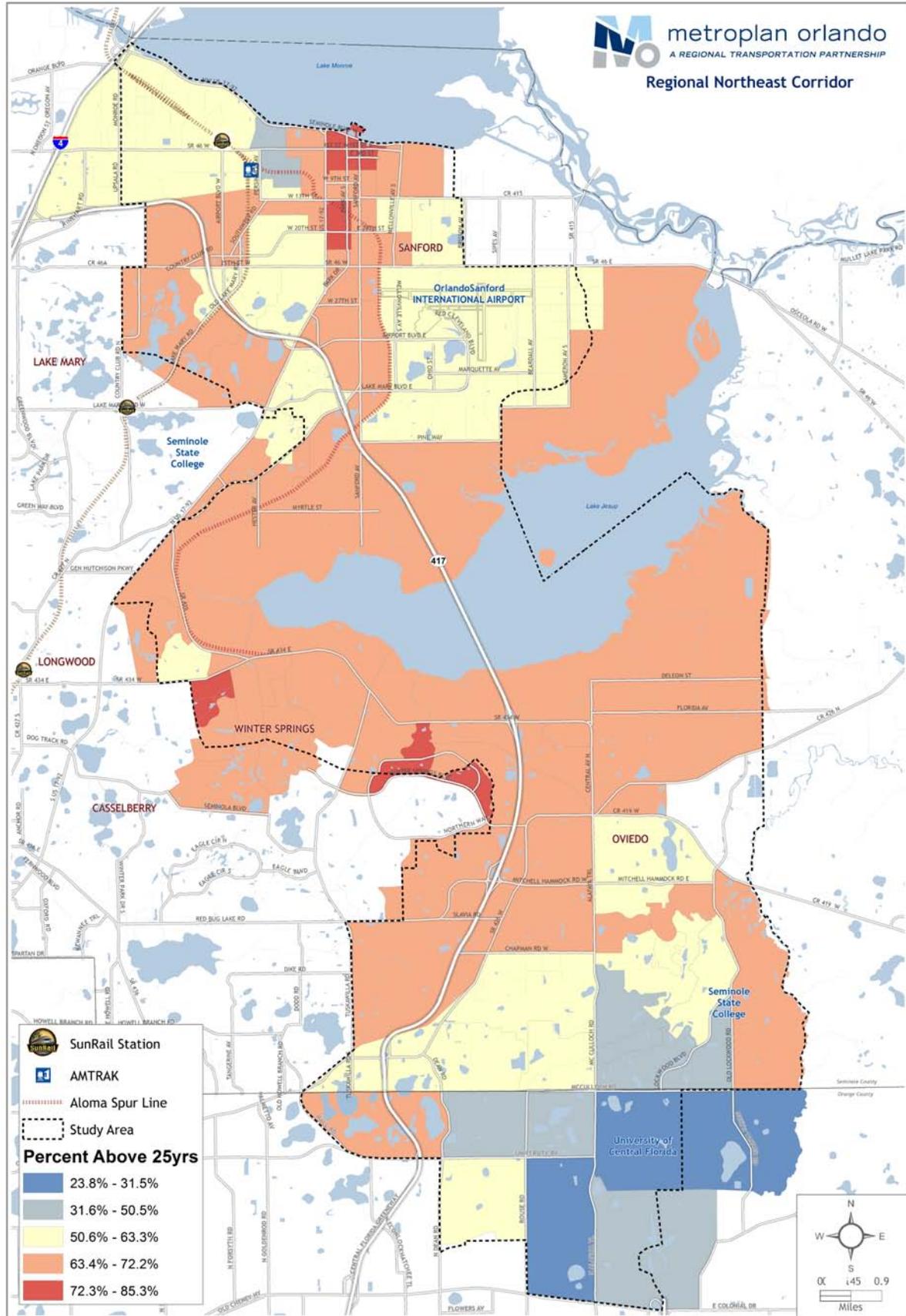
## AGE

The Study Area showcases a wide range of age groups; however, for the purpose of this study, emphasis has been given to young adults (individuals between 18 and 24), working adults (individuals 25 years and older) and older adults (65 and above). As expected, there is a high concentration of young adults in the areas surrounding UCF and Seminole State College. There are also small pockets of young adults in Sanford near the Sanford SunRail Station.

The vast majority of the Study Area is composed of working adults. Over 50 percent of the residents of the cities of Sanford, Winter Springs, and Oviedo are between the ages of 25 and 64. The highest intensities occur east of downtown Sanford, at the intersection of S.R. 417 and North Ronald Reagan Boulevard, and in Winter Springs near the Wagner neighborhood.

A little over 10 percent of our Study Area population is over the age of 65. These individuals are primarily located in the central portions of downtown Sanford, in the south portion of the new Winter Springs downtown, and in the unincorporated sections of Seminole County near S.R. 417 and S.R. 426, in Oviedo, and just north of UCF. Figures 7 and 8 provide a perspective of the population distribution in the Study Area.

FIGURE 7 - PERCENT OF POPULATION ABOVE 25 YEARS OF AGE





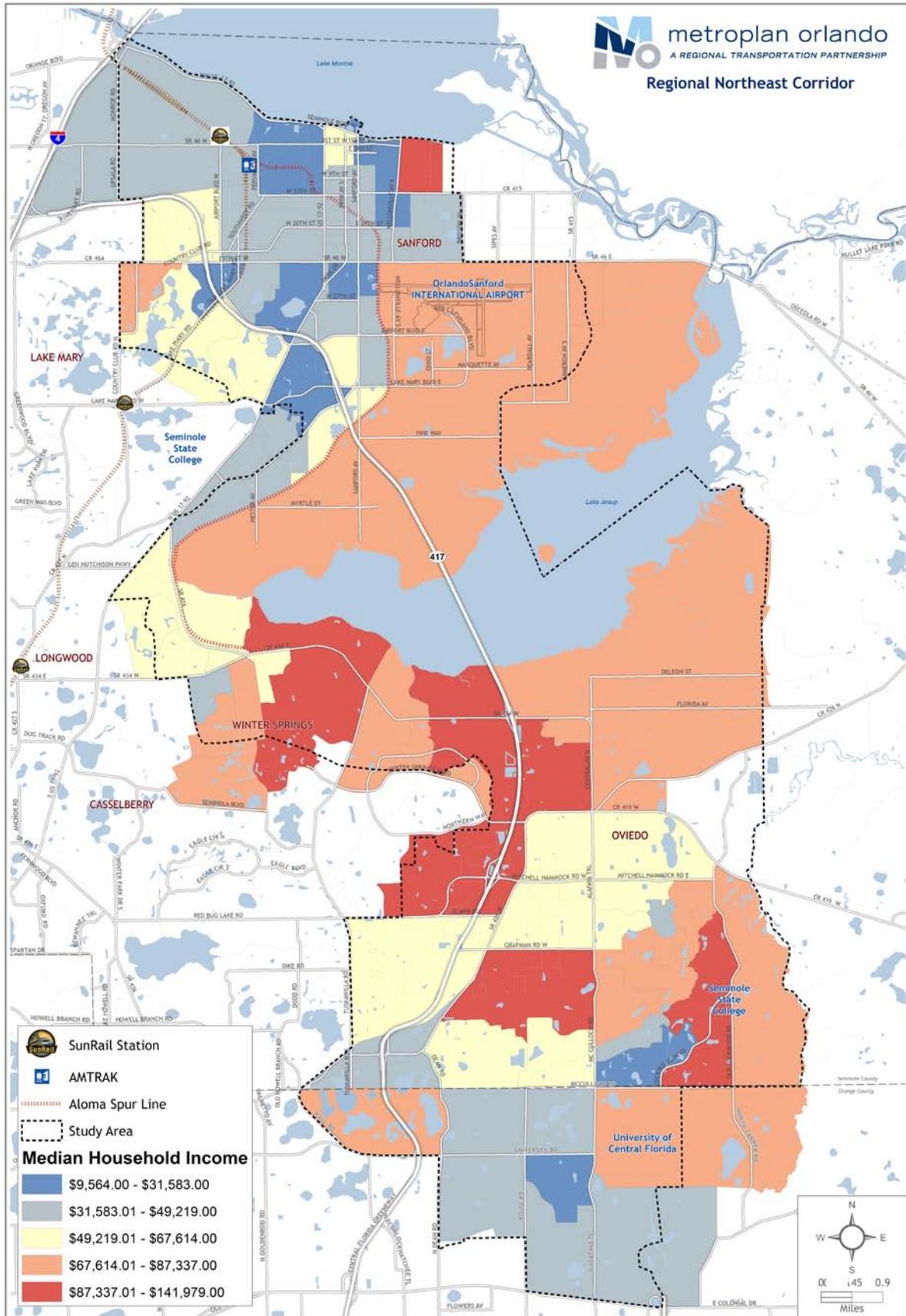
## HOUSEHOLD INCOME

The median household income in the Study Area in 2012 was \$52,869, compared to \$58,971 for Seminole County as a whole. While the median household income in the Study Area was lower than the County figure, the median income was on par with the Orlando-Kissimmee Metropolitan Statistical Area (MSA) median income.

The areas with the highest median income levels are throughout Winter Springs and Oviedo. In 2012, Winter Springs' median household income was estimated at \$68,239, while Oviedo's was \$82,168. Both municipalities had poverty rates of less than 8 percent. On the other hand, the City of Sanford and the areas surrounding UCF reflected the lowest levels of median household income. In 2012, Sanford's estimated median income was at \$43,514, almost half of Oviedo's median income.

However, not all areas provide accurate information. Because of the low density near the Orlando-Sanford International Airport and the transient college community near UCF and Seminole State College, these block groups are featured as having high income levels. Figure 6 shows the median household income across the Study Area.

FIGURE 9 - MEDIAN HOUSEHOLD INCOME



## VEHICLE AVAILABILITY

One of the most influential indicators of multi-modal demand is whether a household has access to a personal motor vehicle. This indicator may represent households without the economic means of owning a car, as well as households with individuals who choose not to own a car or are unable to drive, such as college students, senior citizens, or persons with disabilities.

Figure 7 showcases the percentage of households without access to a personal motor vehicle. As shown, a few block groups stand out as having the highest concentration. These are near downtown Sanford, along S.R. 426 in unincorporated Seminole County, and south of UCF. These block groups with low vehicle availability line up with the block groups having the lowest median household income.



## ECONOMIC VITALITY

Seminole County has a diversified economy that includes health care, technical, retail trade, finance and real estate, educational services, and other public sector jobs. Thanks to a proactive approach to economic development, the County has a tremendous track record of success with its economic base and targeted efforts at bringing high-tech companies within its boundaries. Within the Study Area, though, each municipality has a different employment focus.

This chapter focuses on the types and locations of the predominant industry sectors by stakeholder municipalities. Data in this chapter was gathered from the 2011 Longitudinal Employer-Household Dynamics (LEHD) Work Area Profile Analysis Tool which provides heat maps and points that represent the employment area intensity.

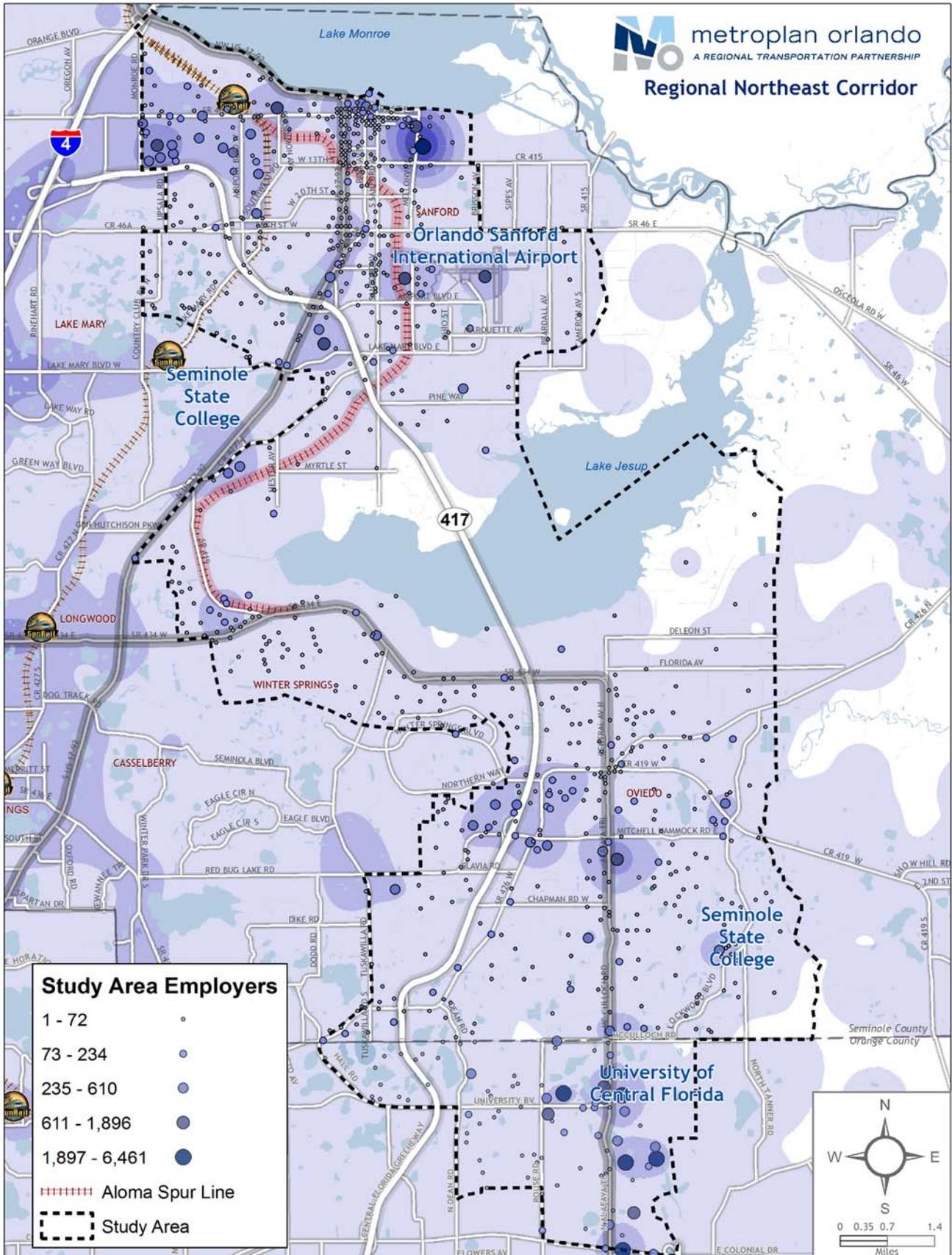
## UNINCORPORATED SEMINOLE AND ORANGE COUNTY

Significant portions of the Study Area are unincorporated Seminole and Orange County parcels. In Seminole County, the majority of these parcels are zoned industrial or commercial. In Orange County, the parcels are zoned residential, planned development, and industrial.

Figure 8 shows a geographical overview of employment centers within the Study Area. On the Aloma Spur section of the Study Area, large employer commercial parcels are located on the western portions of Sanford. In addition, industrial employers are located near the Orlando-Sanford International Airport and on the south end of the Aloma Spur. On the S.R. 434 section, larger commercial and industrial employers are along S.R. 417 and on McCulloch Road, near UCF.

In the unincorporated section of Orange County, there is a high employment density in the areas surrounding the University of Central Florida (UCF). In addition to UCF, there are areas of employment density by Research Parkway and near the university housing centers. There are pockets of employment occurring by the intersection of S.R. 434 and S.R. 50.

FIGURE 11 - STUDY AREA EMPLOYER HEAT MAP



## CITY OF SANFORD

Since its inception in 1870, the City of Sanford has been a major business and transportation hub of Central Florida. The Orlando-Sanford International Airport is the largest private employer in the City, and has ranked as the fastest growing airport in the country since 2000. Its 350-acre industrial park is one of six located within the City that is categorized as a Foreign Trade Zone. Industrial Park tenants include construction, aviation maintenance, and manufacturing companies.

LEHD places approximately 33,090 primary jobs within the city limits. Table 3-1 indicates the percentage share of industry sectors found in Sanford. Educational services, retail trade, and public administration account for the majority of jobs in the city. Within its municipal boundaries, Sanford has several education facilities that have pushed “educational services” as their primary employment industry. In addition, the County has several administrative centers within Sanford’s boundaries that have influenced their share of industry employment.

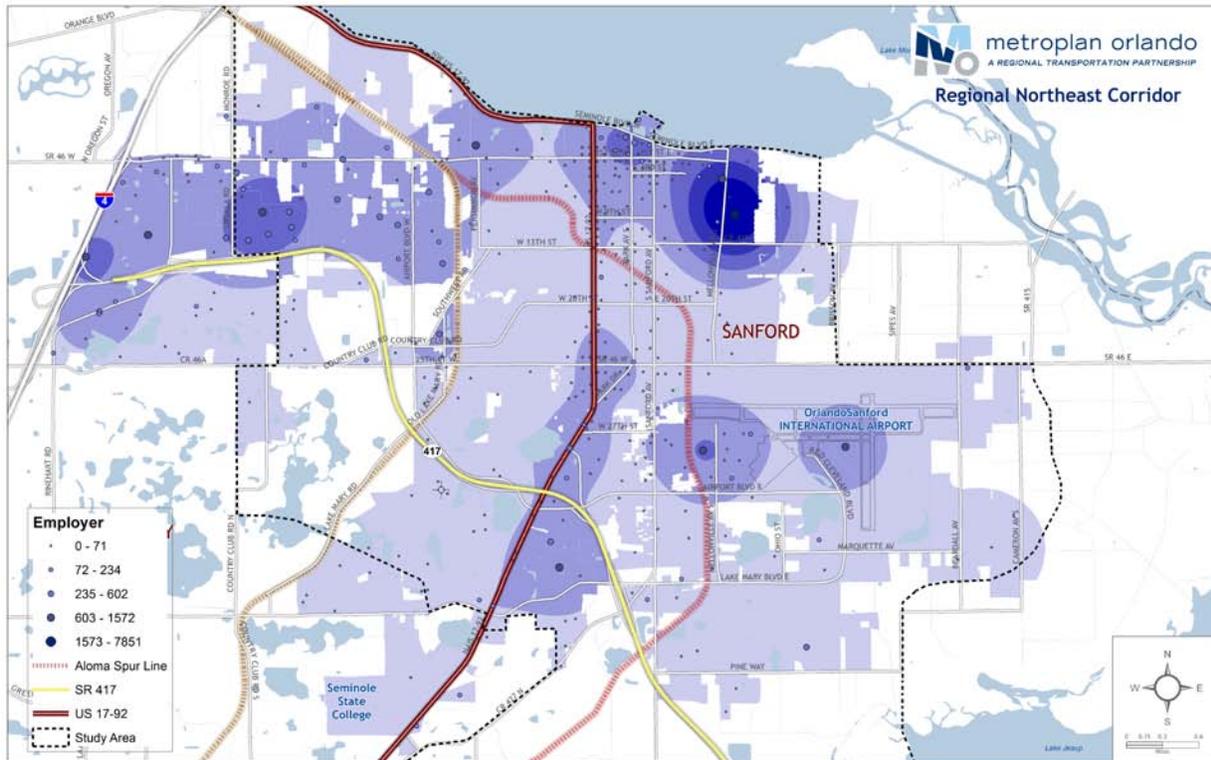
**Table 3-1: City of Sanford Industry Overview**

Jobs by NAICS code	2011	
	Count	Share
Educational Services	7,945	24.0%
Retail Trade	4,752	14.4%
Public Administration	4,183	12.6%
Construction	2,311	7.0%
Manufacturing	2,017	6.1%
Health Care and Social Assistance	1,883	5.7%
Accommodation and Food Services	1,881	5.7%
Administration & Support, Waste Management and Remediation	1,585	4.8%
Wholesale Trade	1,571	4.7%
Professional, Scientific, and Technical Services	1,484	4.5%
Transportation and Warehousing	1,095	3.3%
Other Services (excluding Public Administration)	666	2.0%
Finance and Insurance	598	1.8%
Real Estate and Rental and Leasing	521	1.6%
Information	212	0.6%
Arts, Entertainment, and Recreation	155	0.5%
Utilities	148	0.4%
Management of Companies and Enterprises	76	0.2%

*Source: U.S. Census Bureau, 2011 Longitudinal Employer-Household Dynamics*

A geographical overview of employment centers within Sanford's municipal boundaries is shown on Figure 9. The most dense areas of employment are near downtown Sanford, at SFB, along U.S.17-92, and near the Seminole Towne Center Mall.

FIGURE 12 - SANFORD EMPLOYER HEAT MAP



## CITY OF WINTER SPRINGS

Winter Springs is a sought-after location for families and young professionals because of its exceptional schools, nationally recognized parks, and low crime rates. Primarily a residential community, Winter Springs has begun to provide an array of incentives designed to encourage quality investment in designated districts. Its largest development opportunity is the Greenway Interchange District (GID). The GID is expected to become a premier employment center with professional office buildings, conference facility and hotel. There are about 3,062 primary jobs within city limits. Table 3-2 below indicates the percentage share of industry sectors found in Winter Springs.

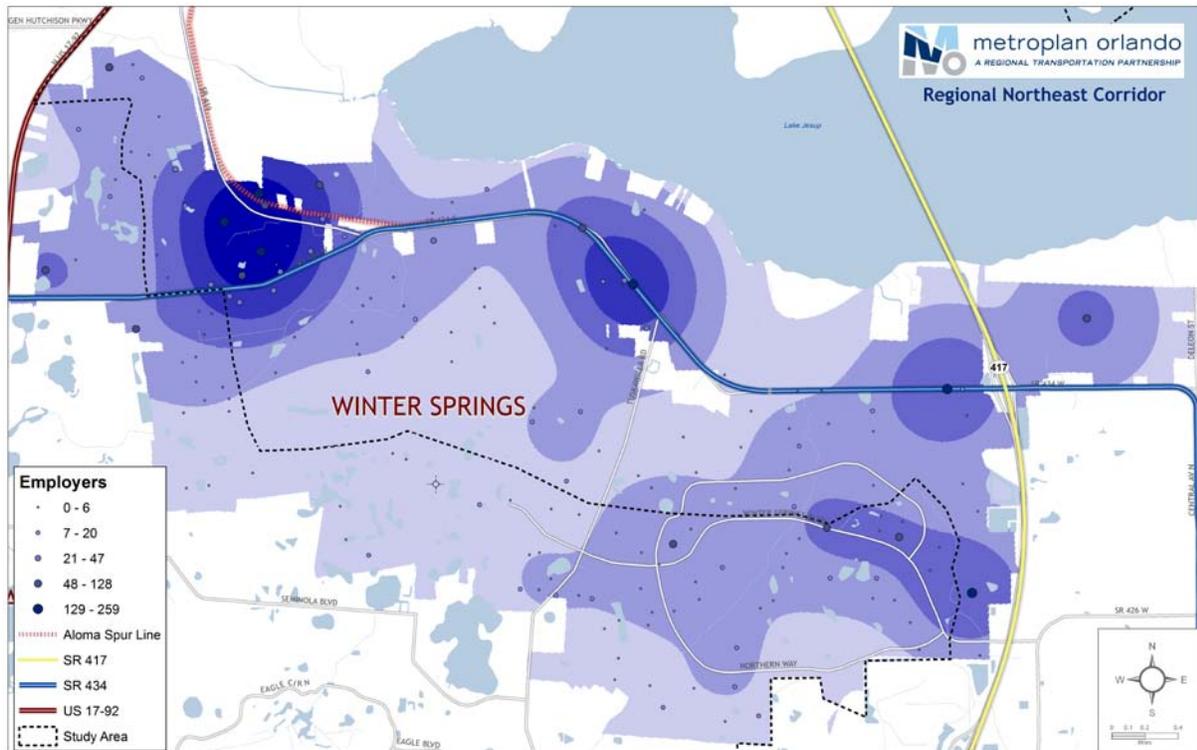
**Table 3-2: City of Winter Springs Industry Overview**

Jobs by NAICS code	2011	
	Count	Share
Retail Trade	466	15.2%
Professional, Scientific, and Technical Services	438	14.3%
Administration & Support, Waste Management and Remediation	387	12.6%
Construction	382	12.5%
Public Administration	216	7.1%
Wholesale Trade	181	5.9%
Manufacturing	170	5.6%
Accommodation and Food Services	166	5.4%
Health Care and Social Assistance	140	4.6%
Arts, Entertainment, and Recreation	115	3.8%
Finance and Insurance	97	3.2%
Other Services (excluding Public Administration)	95	3.1%
Real Estate and Rental and Leasing	65	2.1%
Educational Services	59	1.9%
Information	49	1.6%
Transportation and Warehousing	30	1.0%
Management of Companies and Enterprises	6	0.2%

*Source: U.S. Census Bureau, 2011 Longitudinal Employer-Household Dynamics*

Figure 10 shows the employment distribution within the City. The city's old downtown area, near the intersection of S.R. 419 and S.R. 434, shows the highest employment density. The Town Center, at S.R. 434 and Tuskawilla Road, is the second highest. At build-out, the Town Center will include 800,000 SF retail, 600,000 SF office, 700 hotel units, and 4,000 residential units. Lastly, the GID area also shows high levels of employment density.

FIGURE 13 - WINTER SPRINGS EMPLOYER HEAT MAP



## CITY OF OVIEDO

Oviedo is nationally recognized as one of the top ten places for families because of its schools, parks, and low crime rate. Additionally, Oviedo’s proactive approach to economic development has helped it become a prime area for business development. The rapidly growing city is currently revitalizing the existing downtown area, as well as creating a new town center. The city has identified 12 opportunity sites for targeted industry development. In addition, the City Council has also established an Impact Fee Assistance Program for the purpose of assisting eligible land uses with the payment of certain required impact fees. LEHD has identified approximately 8,217 primary jobs within City limits. Table 3-3 indicates the percentage share of industry sectors found within city limits.

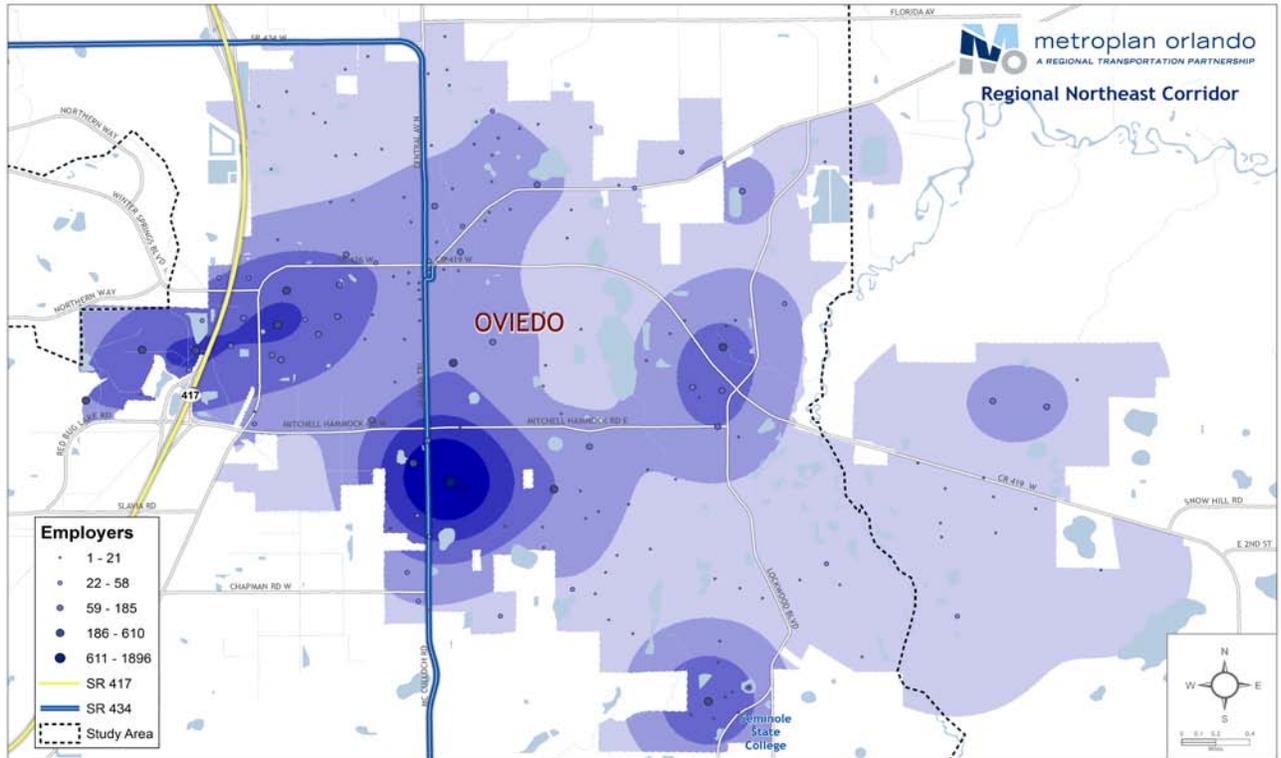
**Table 3-3: City of Oviedo Industry Overview**

Jobs by NAICS code	2011	
	Count	Share
Retail Trade	1,741	21.2%
Administration & Support, Waste Management and Remediation	1,072	13.0%
Accommodation and Food Services	934	11.4%
Health Care and Social Assistance	872	10.6%
Utilities	635	7.7%
Professional, Scientific, and Technical Services	631	7.7%
Construction	505	6.1%
Public Administration	373	4.5%
Finance and Insurance	302	3.7%
Other Services (excluding Public Administration)	294	3.6%
Wholesale Trade	218	2.7%
Information	161	2.0%
Arts, Entertainment, and Recreation	127	1.5%
Educational Services	88	1.1%
Transportation and Warehousing	75	0.9%
Real Estate and Rental and Leasing	74	0.9%
Manufacturing	70	0.9%
Management of Companies and Enterprises	30	0.4%
Agriculture, Forestry, Fishing and Hunting	15	0.2%

Source: U.S. Census Bureau, 2011 Longitudinal Employer-Household Dynamics

As expected, the employment density heat map presents pockets of employment centers along S.R. 434, just south of Mitchell Hammock Road, by the Oviedo Marketplace, and by Seminole State College. A geographical overview of employment centers within Oviedo's municipal boundaries is shown in Figure 11.

FIGURE 14 - OVIEDO EMPLOYER HEAT MAP



## LAND USE

The Study Area is composed of a range of land uses as shown in Figure 15 and 16. The Study Area exemplifies a multiple use pattern, with single-family homes, auto repair shops, retail stores, and industrial uses near or adjacent to each other. Commercial and residential uses are predominant along S.R. 434 in Winter Springs and Oviedo, while industrial uses dominate eastern portions of Sanford near the Orlando Sanford International Airport.

FIGURE 15 - EXISTING LAND USE BY ACRES AND PERCENT SHARE

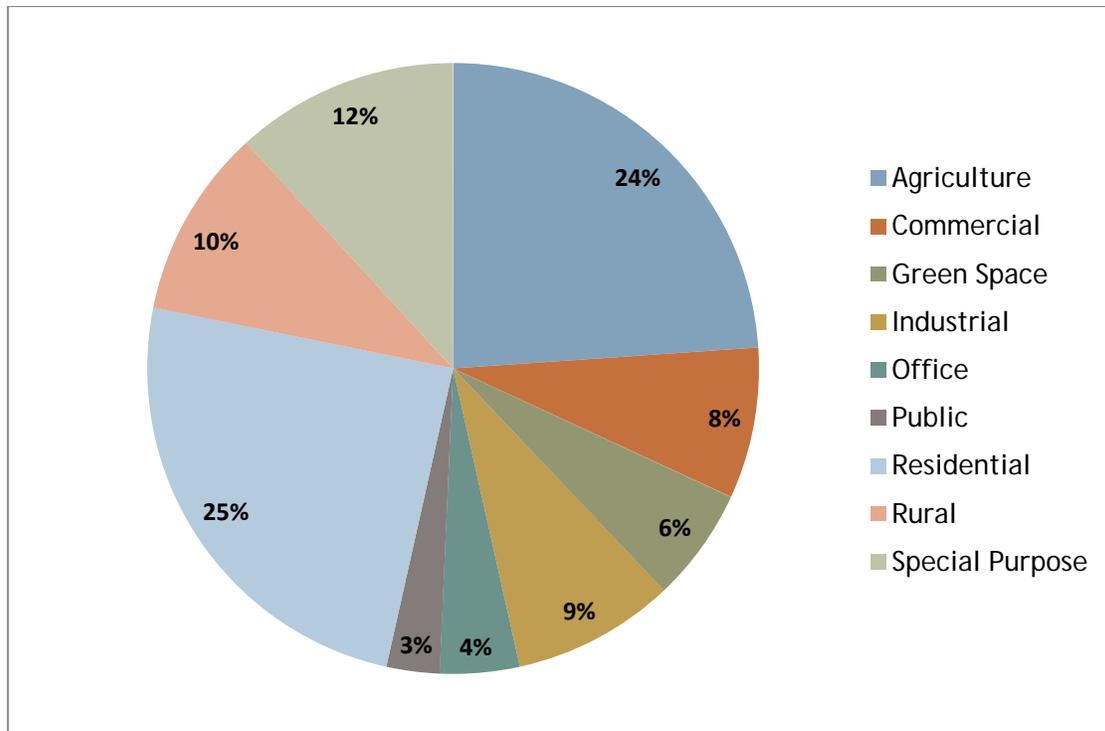
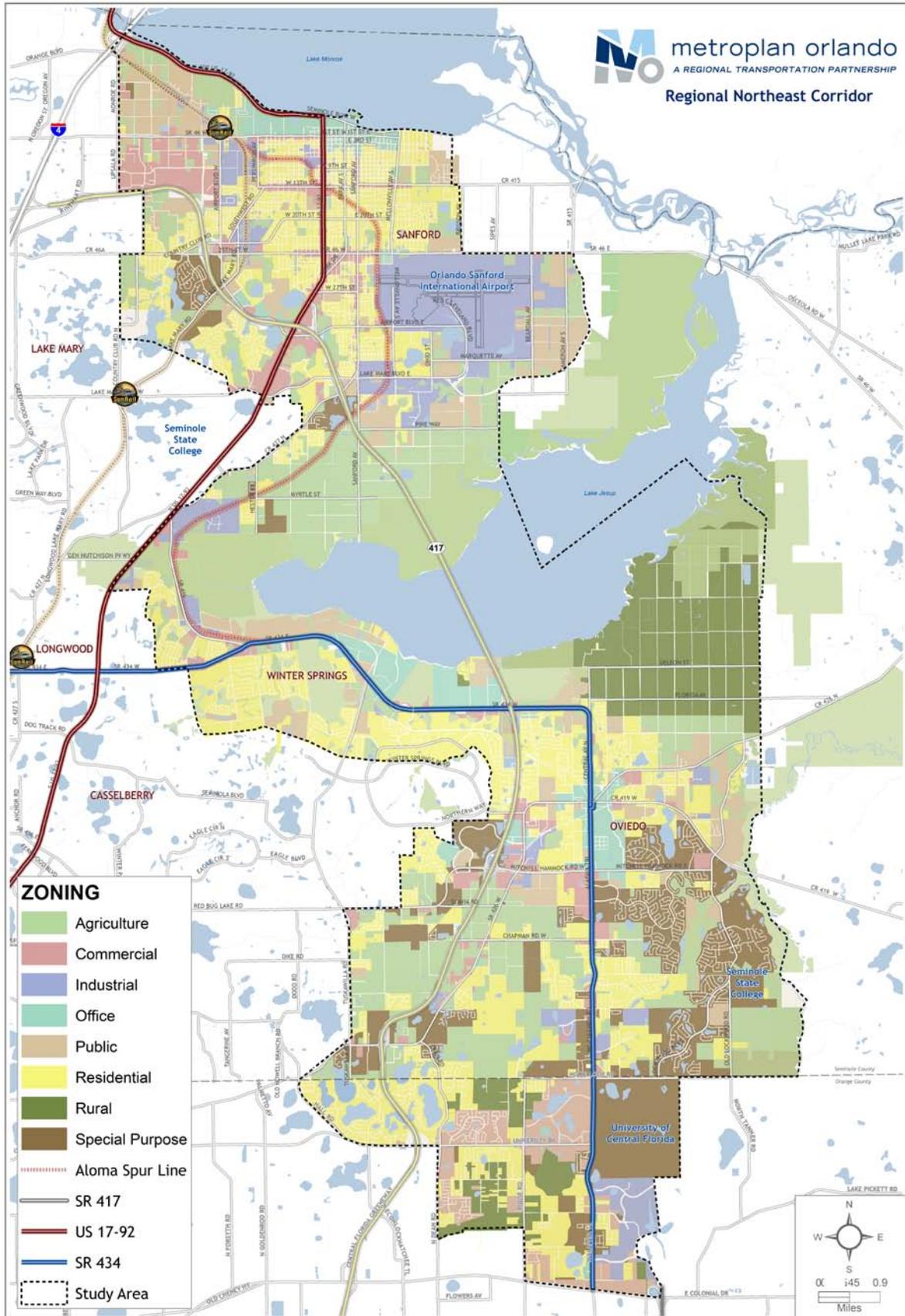


Table 4-1 lists the predominant land uses in the Study Area, by acres. There are about 53,804 acres of land in the Study Area. Residential and agriculture uses represent the largest share: 24.7 and 23.9 percent of land area, respectively. Special purpose, which constitutes universities and planned unit developments, make up 11.8 percent of the area. Rural uses, which include Seminole County's rural boundary charter land, account for 10 percent of the area. Industrial uses, which include Orlando Sanford International Airport and surrounding businesses, and commercial uses, which include auto repair shops, restaurants, grocery stores, account for 8.6 and 8 percent of land share, respectively.

FIGURE 16 - STUDY AREA LAND USE



**Table 4-1: Study Area Land Use Overview**

Land Use	Acres	Share
Residential	13,298	24.7%
Agriculture	12,867	23.9%
Special Purpose	6,344	11.8%
Rural	5,375	10.0%
Industrial	4,649	8.6%
Commercial	4,288	8.0%
Green Space	3,238	6.0%
Office	2,258	4.2%
Public	1,486	2.8%
<b>TOTAL</b>	<b>53,804</b>	<b>100%</b>

**RESIDENTIAL**

Residential zoning makes up over twenty percent of the Study Area acreage. This percentage is consistent with the residential breakdown within the Study Area’s jurisdiction. All of the Study Area municipalities, Sanford, Winter Springs, and Oviedo, are mainly composed of residential development. Winter Springs and Oviedo have the highest share with 58 and 59 percent, respectively. Sanford has the most diverse distribution with just 31 percent of their acreage being residential.

The share of residential development for the unincorporated portions of Orange and Seminole Counties that lie within our Study Area is also high; 45.5 percent of Seminole County’s Study Area acreage (9,215 acres); and 33.6 percent of Orange County’s Study Area acreage (2,208 acres) is zoned residential. Low density residential makeup the majority of these residential acres. The exceptions are the development around UCF and the new mixed-used Towne Center District in Winter Springs.

**AGRICULTURE, RURAL, & GREEN SPACES**

Close to 40 percent of the Study Area has an agricultural, rural, or green space zoning code. For the purpose of this study, green spaces are considered land conservation areas as well as designated parks, recreation, and open spaces by local jurisdictions. Wetland conservation surrounds Lake Jessup with Spring Hammock Preserve lying in the center of the Study Area. The City of Winter Springs also has several conservation areas within its boundaries, which make up about 21 percent of its land area.

As previously mentioned, the rural land use code includes Seminole County’s rural boundary. In November 2004 Seminole County residents approved the formal creation of the Charter Amendment Rural Area. The Charter Amendment controls the density and intensity of development on the designated rural lands by using land use designations regardless of whether the area or parcel is located in unincorporated Seminole County or within any of the cities’ boundaries. Due to its designation, the Charter Amendment Rural Area is intended for large lot rural residential and agricultural uses, protected environmental sensitive lands, with limited service and transportation infrastructure improvements, and limited commercial and industrial development. No new development or infrastructure

improvements could occur within this Boundary, including in the Black Hammock Wilderness Area, the Little Big Econ State Forest, and new crossings over the Econlockhatchee River.

## MAJOR GENERATORS AND ATTRACTORS

The Study Area contains a number of trip generators and attractors. These parcels can vary in size and zoning designation; however, they draw a significant number of users to their locations. An up-close look of the Study Area's major generators and attractors can be seen in Figures 17 to 19.

### ORLANDO SANFORD INTERNATIONAL AIRPORT

The Orlando Sanford International Airport (SFB) has grown rapidly in recent years. What began as a facility primarily for international chartered flights to and from Europe has developed into an alternative to Orlando International Airport for many metropolitan area residents. SFB handles international service, as well as flights to a growing number of U.S. cities. In 2012, it saw a total of 1.8 million passengers, 49 percent of whom were enplanement passengers.

SFB's property consists of approximately 2,700 acres and is located in the south-eastern portion of the City of Sanford. The City of Sanford manages SFB which has designated the entire airport parcel and its surrounding businesses as industrial. SFB generates around 18,025 jobs and earnings of approximately \$522 million.

A survey conducted by SFB management shows that the majority of SFB and SFB Industrial Park employees live on the north section of Seminole County and in Volusia County. The strongest density lies in the zip codes of 32771, 32773, 32746, 32725, and 32738. A detailed map showing the number of survey respondents by zip code can be found on Appendix A.

### HIGHER EDUCATION

Within the Study Area there are two major higher education facilities that generate and attract large numbers of trips: the University of Central Florida and Seminole State College.

#### University of Central Florida

UCF is the nation's second-largest university with an enrollment of nearly 60,000 students. The main campus is located in the eastern portion of Orange County, but it has regional campuses in Daytona Beach, Palm Bay, Clermont, Cocoa, Kissimmee, Ocala, and Sanford. The University offers more than 200 degree programs at its main campus, the new College of Medicine near Lake Nona, and online. Over 47,000 students attend classes at UCF's main campus.

The on-campus and campus-affiliated housing facilities include traditional residence halls, apartment-style options, and sorority and fraternity housing. The campus housing accommodates approximately 10,000 students. Several thousand students live in housing units located near the campus in zip codes 32765, 32816, 32817, 32826, and 32828.

The University is also the Study Area's largest employer. Based on data provided by UCF, a majority of UCF main campus faculty and staff live in zip codes 32765, 32708, 32792, 32817, 32816, 32828, and 32825. An up-close map showing the number of UCF students and employees location by zip code can be found on Appendix B.

## **Seminole State College**

Seminole State College (SSC) is a four-year college with four campuses throughout Seminole County. SSC offers two-year and four-year college degrees, specialized career certificates, continuing professional education, customized workplace training, and adult education.

SSC Oviedo campus lies inside the Study Area, while the Lake Mary campus borders it. Approximately 6,000 students attend the Oviedo campus, while 20,000 attend the main campus in Lake Mary. SSC does not have affiliated housing; however, a large portion of students live near their campus. SSC faculty and staff also tend to live near their employment campus; however, some faculty may be required to travel between campuses.

## **ACTIVITY CENTERS**

### **Central Florida Research Park**

Located directly south of the UCF main campus is Central Florida Research Park. The Central Florida Research Park is the seventh-largest research park in the nation and the largest in Florida. Composed of 1,027 acres, it houses over 125 companies providing more than 9,500 jobs to Central Florida.

Primarily known for hosting military training simulation companies, Research Park now has a diversified tenant roster adding educational institutions such as Florida Technical College and Kaplan University and a teaching campus for United Cerebral Palsy of Central Florida. Also new to the mix are tenants such as VaxDesign Corp. (human immune system research) and Qualcomm Inc. (telecom electronics).

Research Park also hosts the Central Florida Technology Incubator. The 48,000 square-foot incubator assists emerging high technology companies to become financially stable stand-alone business enterprises by offering tools, training, and infrastructure. This facility currently houses 38 small high-tech businesses that use from 1,000-7,000 square feet of office space.

### **Oviedo on the Park**

The City of Oviedo's Comprehensive Plan includes the expansion of its downtown on approximately 50 acres along Oviedo Boulevard between Broadway Street and Mitchell Hammock Road. The new mixed use development will feature a residential component of single-family homes, town homes and apartments, a commercial business district and retail uses. The development will also include urban public amenities such as an amphitheater, entertainment areas, and park spaces all within walking or bicycling distance to the historic downtown. Oviedo on the Park has an expected completion date of 2015.

### **Central Florida Regional Hospital**

With two medical facilities in Seminole County, Central Florida Regional Hospital offers a wide range of state-of-the-art medical services designed for prevention, early detection, and emergency services. Central Florida Regional Hospital is a 226-bed acute care hospital in Sanford that serves the communities of Seminole and West Volusia counties. A Certified Primary Stroke Center and Accredited Chest Pain Center, the hospital provides the only full-service cardiovascular program in Seminole and West Volusia, including open heart surgery, interventional cardiology, electrophysiology, cardiac rehabilitation and comprehensive

diagnostic services. Other specialized services include Emergency Services, Neurohealth Sciences and Spine Care, Hyperbaric Medicine and Wound Care, The Baby Suites and Women's Imaging Services.

The Oviedo ER is an 11,000-square-foot facility that brings comprehensive emergency services to the residents of East Seminole County. The facility features 24/7 adult and pediatric emergency care, 12 private patient care beds, dedicated trauma room, diagnostic imaging including CT Scan, Ultrasound and X-ray, and laboratory services. Central Florida Regional Hospital plans to expand the ER into a three-story, 80-bed acute-care hospital.

### **Sanford Waterfront Downtown Business District**

With spectacular views of Lake Monroe, Sanford's Downtown Business District (DBD) offers visitors numerous restaurants, offices, art galleries, historic museums, multi-use trails and unique architecture. Within its boundaries lies the Gateway at Riverwalk. This mixed-use complex includes 250 luxury condominiums and townhouses and 25,000 square feet of commercial space developed along the shores of Lake Monroe. In addition, the DBD offers a 1.2-mile paved multi-use trail. When completed, the Riverwalk Trail will be 5 miles long, connecting the downtown to the Central Florida Zoological Park and the Coast to Coast Cross-State Trail. Sanford's DBD is an example of an up-and-coming business district where constant improvements go hand-in-hand with historic preservation and economic development.

### **Winter Springs Town Center**

The Winter Springs' Town Center is a 10-acre parcel located at S.R. 434 and Tuskawilla Road, in the heart of the City. The vision for the Town Center is to establish a high quality, vibrant "downtown" with a mix of urban services. It is the premier destination for shopping, dining, entertainment, working and living for surrounding residents.

Currently, Town Center includes a 54,000 SF Publix grocery store, 250 residential units, 84,000 SF of office space, and 165,000 SF of retail space. At build-out, the Town Center will include over 800,000 SF of retail space, 600,000 SF of office space, 500 hotel units, and over 3,500 residential units.

FIGURE 17 - STUDY AREA POINTS OF INTEREST

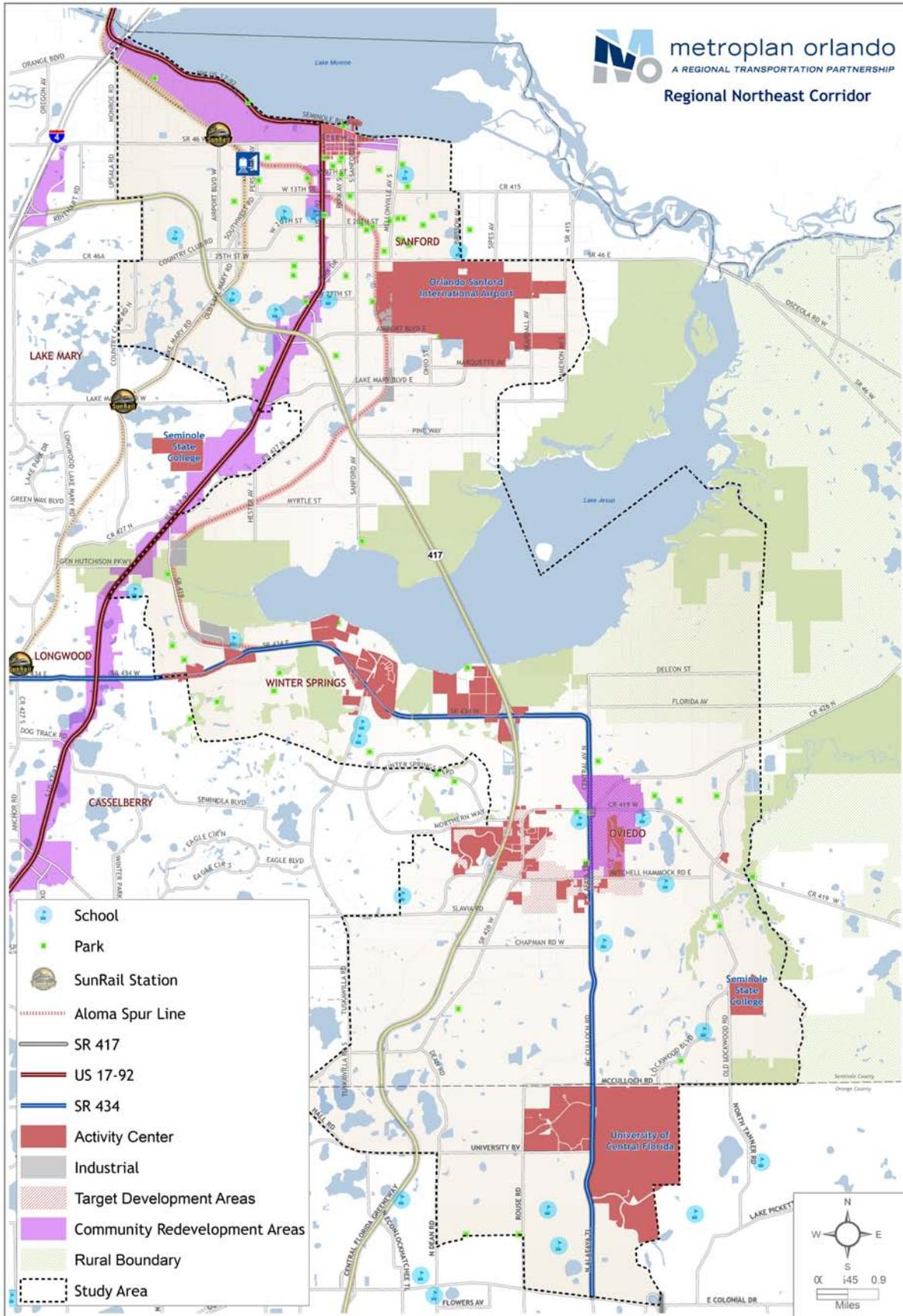


FIGURE 18 - ALOMA SPUR SECTION POINTS OF INTEREST

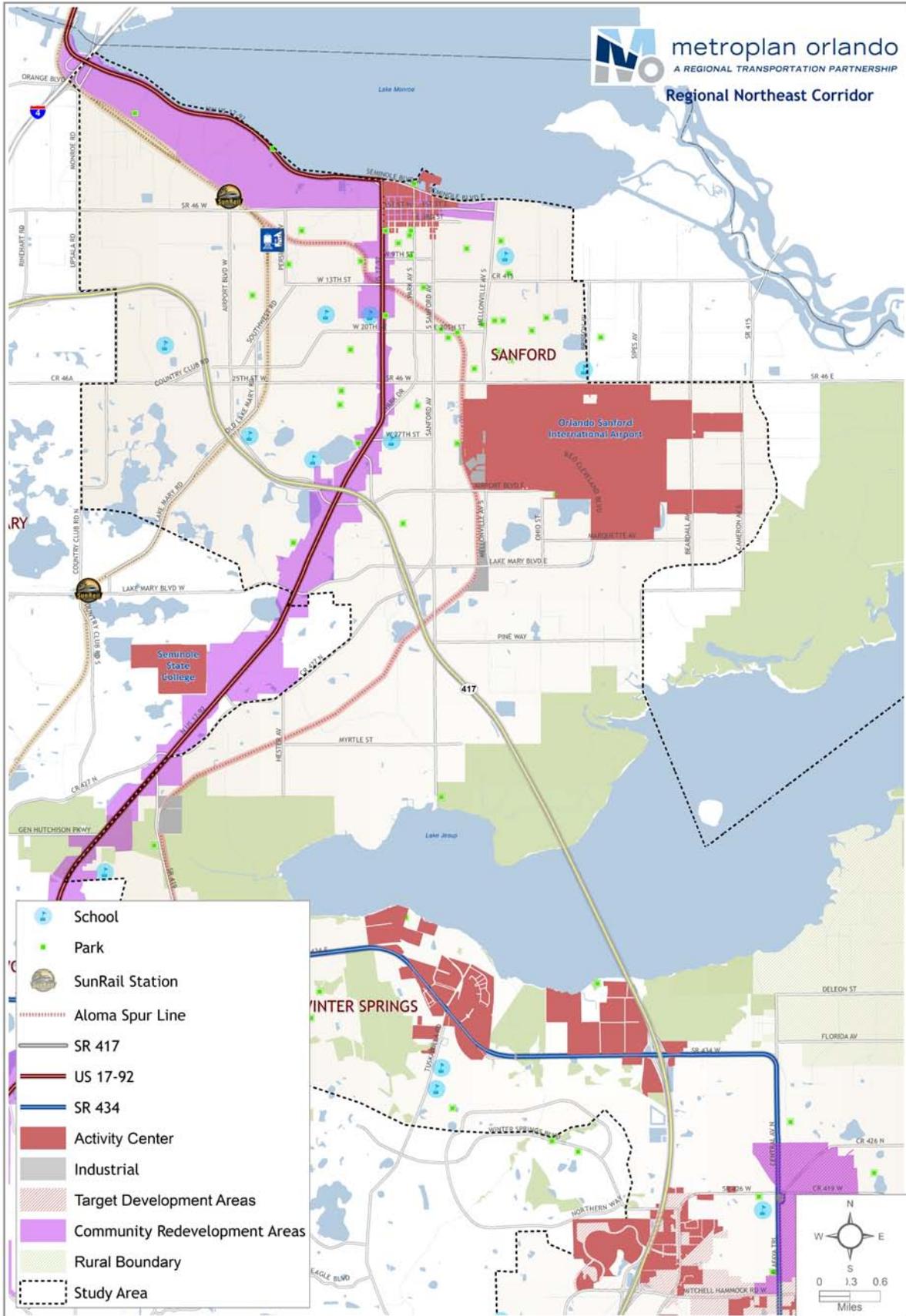
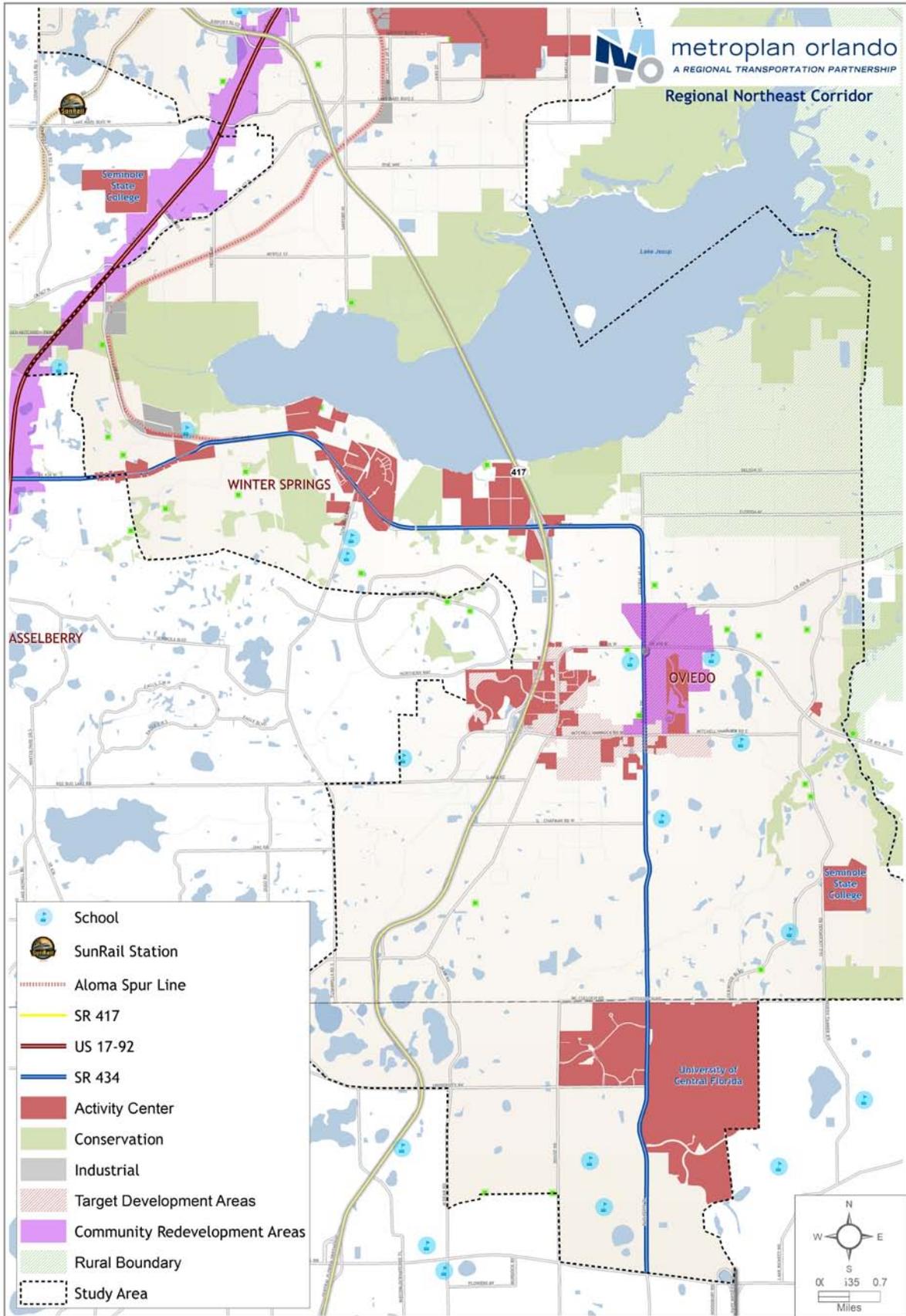


FIGURE 19 - S.R. 434 SECTION POINTS OF INTEREST





## MOBILITY

This chapter presents the physical and operational conditions of the existing transportation network in the Study Area, including an evaluation of streets, non-motorized shared-used facilities, and public transit. In addition, this section examines the operational components and limitations of the Aloma Spur rail line.

Options are limited for individuals needing to travel from the City of Sanford to UCF. Individuals using private vehicles have the options of utilizing S.R. 417, a toll road, or local roads. With moderate traffic, S.R. 417 will take about 27 minutes, and it costs about \$2.59 in tolls. Non-toll state and local roads are also available; however, it takes at least 37 minutes to travel the length of the Study Area. For those individuals who do not have access to a private vehicle and/or want to utilize public transit, the trip takes about two and a half hours and requires the use of three bus transfers.

## PUBLIC TRANSIT SYSTEM

Public transit for the Study Area is provided by the Central Florida Regional Transit Authority (LYNX) and consists of fixed-route, NeighborLink, and ACCESS LYNX services. Figure 17 displays the transit routes in the Service Area. Descriptions of the routes that run inside the Study Area are given below. The span of service and headways for these routes can be seen in Table 5-1.

**LINK 13** - Serves the UCF area and provides connectivity along S.R. 50, stopping at Fashion Square Mall and continuing into downtown Orlando to LYNX Central Station.

**LINK 17-92** - Service along U.S. 17-92 between Seminole Centre and LYNX Central Station. The express bus stops at Florida Hospital, Webster Avenue, Denning Drive, Fernwood Boulevard and Oxford Road, and U.S. 17-92 and S.R. 434.

**LINK 34** - Operates from the Seminole Centre north along Airport Boulevard into downtown Sanford to the Central Florida Regional Hospital.

**LINK 45** - Serves the Lake Mary Boulevard corridor. It operates at Seminole Centre heading west into International Parkway and to Seminole State College.

**LINK 46E** - Provides service to east Sanford from the Seminole Centre along U.S. 17-92 into downtown Sanford.

**LINK 46W** - Provides service to west Sanford from the Seminole Centre along First Street into the Seminole Towne Center Mall.

**LINK 103** - Service begins at Fernwood Boulevard running north on U.S. 17-92 ending at Seminole Centre.

**LINK 104** - Service begins at LYNX central Station running east on S.R. 50 to the UCF.

**LINK 210** - The "blue line" offers UCF students transportation around campus and the Waterford Lakes Town Center.

**LINK 211** - The "green line" offers UCF students transportation around campus, the areas immediately surrounding it on University Boulevard and McCulloch Road.

**LINK 212** - The "red line" offers UCF students transportation from the campus to downtown Orlando on weekends.

**LINK 434** - Service begins at Seminole State College - Altamonte Springs campus, across the cities of Altamonte Springs, Winter Springs and Oviedo, servicing the Oviedo Market Place and ending at the UCF Superstop. Link 434 is also known as the Crosstown.

**LINK 505** - Enhanced service for the Longwood SunRail station. Service begins at South Seminole Hospital, along S.R. 434, and ending at the Winter Springs Town Center.

**NeighborLink 622** - Serves the city of Oviedo. The NeighborLink 622 provides transportation anywhere within the designated service area or to a LYNX local bus stop.

**NeighborLink 651** - Serves the city of Sanford. The NeighborLink 651 provides transportation anywhere within the Goldsborough area of Sanford. This NeighborLink serves the Sanford SunRail Station by appointment only.

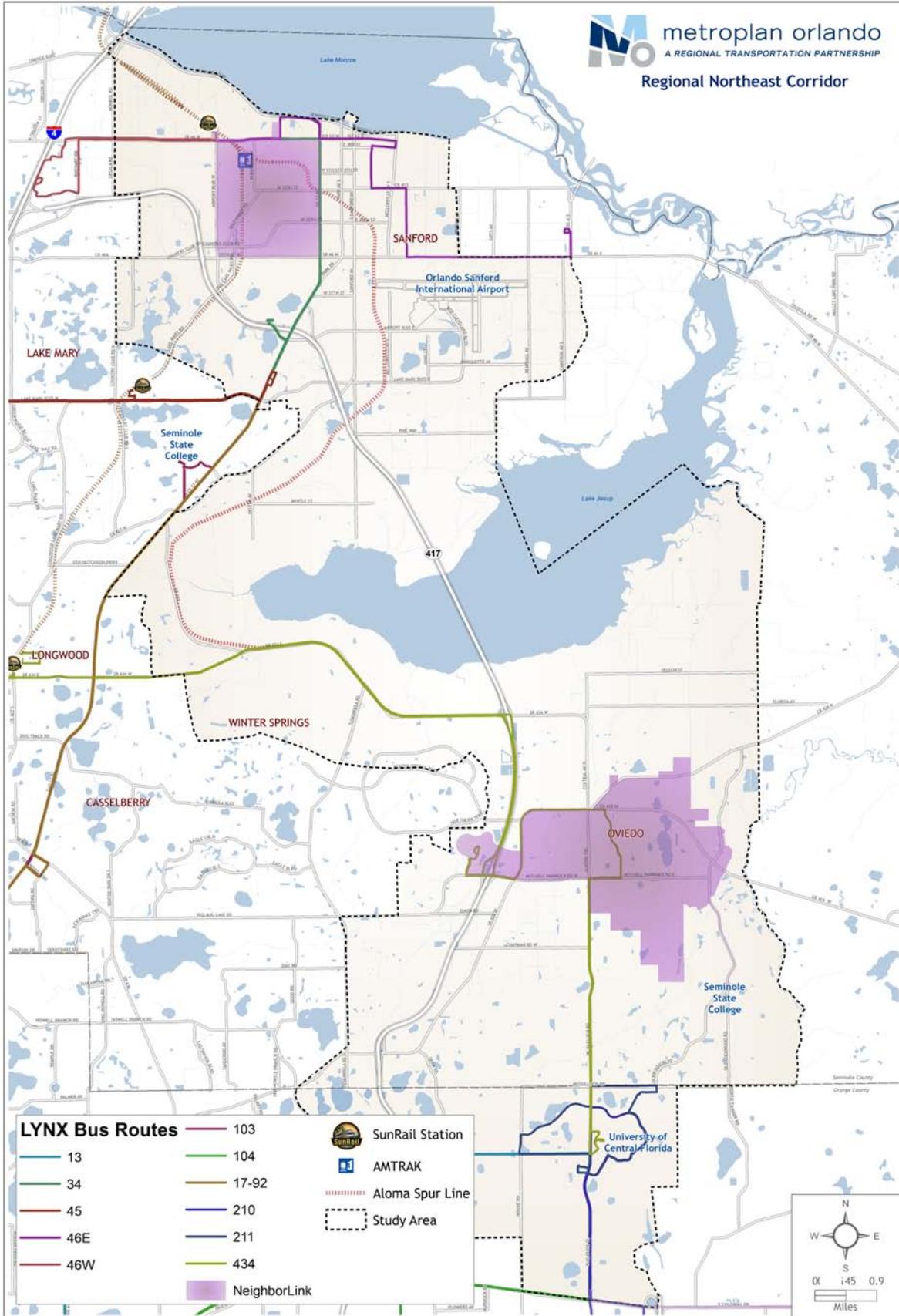
**Table 5-1: Study Area Transit Routes Span of Service and Frequency**

Route	Monday-Friday		Saturday		Sunday & Holidays	
	Service Span	Frequency	Service Span	Frequency	Service Span	Frequency
13	5:53a-11:00p	60 minutes	5:53a-11:00p	60 minutes	5:57a-9:04p	60 minutes
34	5:20a-8:21p	30 minutes* 60 minutes	6:10a-8:10p	60 minutes	6:50a-7:50p	60 minutes
45	5:45a-8:13p	30 minutes* 60 minutes	5:27a-7:27p	60 minutes	No Service	
46E	6:00a-6:00p	30 minutes* 60 minutes	6:45a-6:45p	60 minutes	No Service	
46W	5:19a-8:19p	30 minutes* 60 minutes	6:06a-9:06p	60 minutes	6:39a-7:39p	60 minutes
103	5:05a-9:35p	Day: 30mins Night: 60mins	5:34a-10:05p	Day: 30mins Night: 60mins	6:15a-7:45p	60 minutes
104	5:04a-10:11p	Day: 30mins Night: 60mins	5:03a-10:07p	Day: 30mins Night: 60mins	6:12a-8:17p	60 minutes
17-92	5:30a-6:40a 4:15p-5:45p	3 trips during peak hours	No Service		No Service	
210	8:00p-2:15a Friday only	30 minutes	8:00p-2:15a	30 minutes	No Service	
211	8:00p-2:30a	30 minutes	8:00p-2:30a	30 minutes	No Service	
212	10:45p-2:45a	75 minutes	10:45p-2:45a	75 minutes	No Service	
434	5:30a-8:30p	60 minutes	5:30a-8:30p	60 minutes	No Service	
622	6:20a-7:30p	As Requested	5:00a-8:55p	As Requested	No Service	
651	5:00a-8:55p	As Requested	5:00a-8:55p	As Requested	No Service	

Source: LYNX, Route schedule effective as of April 13, 2014

\* Note: SunRail feeder bus service

FIGURE 21 - LYNX BUS ROUTES



## UNIVERSITY OF CENTRAL FLORIDA SHUTTLE FACILITIES

In order to provide UCF students, faculty, and staff an alternative and efficient mode of transportation, UCF's Parking & Transportation Services provides free shuttle system service throughout campus and to certain locations off-campus. The shuttles are a safe and convenient alternative to parking on campus.

The Black and Gold line is an on-campus only shuttle system that has two routes and makes various stops at eight strategic and convenient locations. In addition, there are 13 regular, fixed routes between the UCF campus and 19 off-campus apartment complexes and the UCF Research Park. The shuttles run continuously every class day Monday through Friday, excluding state and federal holidays. UCF's off-campus shuttles complement LYNX's Link 210 and 211 fixed-route shuttles.

## SEMINOLE WAY: SANFORD TO UCF

The LYNX Vision 2030 study identified 22 transit corridors in the tri-county service area. Seminole Way was selected as one the corridors with potential transit modal improvements. The corridor goes from Sanford to UCF along French Avenue, the Seminole Expressway (S.R. 417), and Alafaya Trail (S.R. 434). According to the LYNX Vision 2030 study, this corridor has the largest total population but the third lowest employment densities of all the LYNX Vision 2030 corridors.

The Study, completed on October 2011, evaluated the corridor based on population density, employment density, transit propensity index, land use, ridership, and activity centers. The evaluation process was undertaken using existing land use conditions as a baseline and the 2030 land use projections included in MetroPlan Orlando's Long Range Transportation Plan. Based on these factors, LYNX assigned the Seminole Way corridor as an "enhanced express bus" and prioritized it for implementation in 2030. MetroPlan Orlando is re-evaluating the status of these corridors for the 2040 LRTP. The 2040 LRTP will be adopted by the MetroPlan Orlando Board in the summer 2014.

## S.R. 50 / UCF CONNECTOR ALTERNATIVE ANALYSIS

The S.R. 50 corridor was one of the primary corridors identified in the LYNX Vision 2030 Transit Master Plan for implementation of Premium Transit Service. The Study is currently underway and is focused on identifying the issues, opportunities, and recommended improvements related to transportation along the corridor, with a particular focus on transit. The Study covers a two-mile wide east-west corridor following S.R. 50, bound by the Orange County/Lake County line on the west side and stretching to Alafaya Trail (State Road 434) to the east. The study area also includes a two-mile wide north-south corridor along Alafaya Trail north of S.R. 50, extending up to UCF and ending at the Seminole County Line. The Study has been funded through a grant administered by the Federal Transportation Administration (FTA) for the Alternatives Analysis (AA) Program.

The S.R. 50 corridor is a dynamic, diverse area that includes several existing activity centers, such as UCF, Downtown Orlando, Health Central Hospital, and Fashion Square Mall, along with opportunities for redevelopment immediately adjacent to the corridor. When complete, this study will provide a clear understanding of the transit needs, the range of potential transit service alternatives to serve existing activity centers while also considering the potential for transit-oriented development/redevelopment in the study area. This study is set to be completed in the spring of 2014.

## STATE ROAD 434 (ALAFAYA TRAIL)

State Road 434 is a major transportation corridor with important commercial activity. It begins at S.R. 424 (Edgewater Drive) runs north and east through Forest City, Altamonte Springs and Longwood before turning south and east through Winter Springs and Oviedo. Beyond downtown Oviedo, S.R. 434 is called Alafaya Trail, from its intersection with Mitchell Hammock Road south to the Orange County line to its end at S.R. 50 (Colonial Drive). The road continues south as Alafaya Trail, only without the state road designation.

Within the Study Area, S.R. 434 begins at Sheoah Boulevard, near old downtown Winter Springs, runs east through Winter Springs and Oviedo, and ends at S.R. 50. Major crossings include S.R. 419, Tuskawilla Road, S.R. 417 interchange, S.R. 426 (Broadway Street), Mitchell Hammock Road, McCulloch Road, University Boulevard, and Challenger Parkway.

FDOT has classified S.R. 434 as an urban principal arterial. Between S.R. 419 and S.R. 417, S.R. 434 is a four-lane divided arterial. South of S.R. 417, the road narrows to two lanes until approaching Mitchell Hammock Road at which point it turns into a six-lane divided arterial. From Sheoah Boulevard, S.R. 434's major intersections have separated left-turn lanes for movements onto intersecting public streets. As the road narrows down to three lanes, motorists can make left turns through a center turn lane.

### SPEED LIMITS

FDOT designates speed limits as a means of managing traffic at safe and appropriate travel speeds. Most of the corridor adheres to a 45 mph limit, with the lowest speed limit posted between Winter Springs and Oviedo where S.R. 434 takes a southbound turn. Table 5-2 presents the speed limits along the S.R. 434.

**Table 5-2: S.R. 434 Speed Limits**

From	To	Posted Speed Limit
U.S. 179-92	S.R. 419	45
S.R. 419	Central Winds Drive	50
Central Winds Drive	Tuskawilla Road	45
Tuskawilla Road	S.R. 417	50
S.R. 417	Calypso Way	45
Calypso Way	Franklin Street	40
Franklin Street	Garden Street	30
Garden Street	East High Street	35
East High Street	Alafaya Woods Boulevard	45
Alafaya Woods Boulevard	Gemini Boulevard	50
Gemini Boulevard	Challenger Parkway	45
Challenger Parkway	S.R. 50	45

## TRAFFIC VOLUMES

When traffic flows smoothly, trips can be predictable and efficient, and congestion is minimal. However, when the roads are crowded and congested, travelers get frustrated as the travel time increases. Table 5-2 shows S.R. 434's average annual daily traffic within the Study Area.

**Table 5-3: S.R. 434 Annual Average Daily Traffic**

From	To	AADT	No. of Lanes	Level of Service
U.S. 17-92	Timberlane Trail	36,500	4	C
Timberlane Trail	Moss Road	27,000	4	C
Moss Road	S.R. 419	23,000	4	C
S.R. 419	Willow Hollow Boulevard	30,500	4	C
Willow Hollow Boulevard	Tuskawilla Road	32,000	4	C
Tuskawilla Road	Tuscora Drive	23,500	4	C
Tuscora Drive	S.R. 417	24,500	4	C
S.R. 417	Hammock Lane	24,500	2	F
Hammock Lane	Magnolia Street	18,000	2	F
Magnolia Street	Broadway	12,200	2	D
Broadway	Mitchell Hammock Road	15,100	2	F
Mitchell Hammock Road	McCulloch Road	38,000	6	C
McCulloch Road	University Boulevard	47,500	6	C
University Boulevard	S.R. 50	60,500	6	C

## SAFETY

There were 4,999 reported crashes within the Study Area between 2008 and 2013, including 12 fatalities. There were 61 reported crashes involving pedestrians, two of which resulted in pedestrian fatalities. There were 103 crashes involving cyclists; with no fatalities. Most of the crashes were motor vehicle to motor vehicle. Fifty percent of these were rear-ends, followed by turning movements (10%). Most crashes took place at intersections (62%), and 33% (858) involved some type of personal injury. Tables 5-3 and 5-4 examine the corridor's crash data.

Table 5-4: S.R. 434 Crash Data 5-Year Summary

Types of Crashes	Number	Share
Angle	175	3.5%
Animal	14	0.2%
Bicycle	103	2%
Head On	50	1%
Left Turn	425	8.5%
Off Road	203	4%
Other	600	12%
Pedestrian	61	1.2%
Rear End	2,509	50.2%
Right Turn	109	2.2%
Rollover	18	0.3%
Sideswipe	276	5.8%
Unknown	456	9.1%
<b>Total</b>	<b>4,999</b>	<b>100%</b>

Table 5-5: S.R. 434 Injury Data 5-Year Summary

Types of Crashes	Number	Share
Angle	70	6.1%
Bicycle	83	7.3%
Head On	19	1.6%
Left Turn	141	12.4%
Off Road	49	4.3%
Other	88	7.7%
Pedestrian	53	4.6%
Rear End	574	50.3%
Right Turn	20	1.7%
Rollover	11	1%
Sideswipe	23	2%
Unknown	10	1%
<b>Total</b>	<b>1,141</b>	<b>100%</b>

## STATE ROAD 417 (CENTRAL FLORIDA GREENWAY/SEMINOLE EXPRESSWAY)

State Road 417 is a 55-mile, tolled, limited-access corridor serving Osceola, Orange and Seminole Counties, and is a joint project of the Orlando-Orange County Expressway Authority (OOCEA) and Florida's Turnpike Enterprise.

Florida's Turnpike operates the northern 17 miles of S.R. 417 as the Seminole Expressway, beginning at the Seminole County line (mile post 37.5) and terminating at Interstate 4 in Sanford. The OOCEA operates the middle section of S.R. 417, from Milepost 6 in Orange County to Milepost 37.5 at the Seminole County line. This section is known as the Central Florida GreeneWay. The Turnpike also operates the southern end of the state road, from Milepost 1 at Interstate 4 to Milepost 6 in Orange County.

Within the Study Area, S.R. 417 begins on Upsala Road, just east of Rinehart Road, runs southeast through Seminole County, and ends at University Boulevard. The facility has six interchanges including S.R. 426/Aloma Avenue, Red Bug Lake Road, S.R. 434, C.R. 427/Lake Mary Boulevard, U.S. 17-92, and C.R. 46A. It also includes the Lake Jesup toll plaza between the S.R. 434 and C.R. 427 interchanges.

FDOT has classified S.R. 417 as an urban principal arterial - freeway/expressway. Throughout the Study Area section, S.R. 417 is a four-lane divided expressway. The Seminole Expressway portion of S.R. 417 is listed on the draft version of MetroPlan's 2040 Long Range Transportation Plan as going from four to six lanes between the County Line to S.R. 434 by 2025. Florida's Turnpike Enterprise continue to show demand as they wish to continue to widen the road from six lanes to eight between the County Line and Red Bug Lake Road by 2035. MetroPlan's 2040 LRTP was adopted in June 2014.

### TRAFFIC VOLUMES

When traffic flows smoothly, trips can be predictable and efficient, and congestion is minimal. However, when the roads are crowded and congested, travelers get frustrated as the travel time increases. Table 5-2 shows S.R. 434's average annual daily traffic within the Study Area.

**Table 5-6: S.R. 417 Conditions**

From	To	AADT	No. of Lanes	Level of Service
I-4	Rinehart Road	24,000	5	B
Rinehart Road	U.S. 17-92	31,000	4	B
U.S. 17-92	Airport Rd	32,000	4	B
Airport Rd.	Lake Mary Blvd.	32,000	6	B
Lake Mary Blvd.	S.R. 434	39,000	4	B
S.R. 434	Mitchell Hammock Rd.	43,000	4	B
Mitchell Hammock rd.	S.R. 426	44,000	4	B
S.R. 426	University Blvd.	43,500	4	B

## SAFETY

There were 224 reported crashes on the Study Area portions of S.R. 417 between 2008 and 2013, including 4 fatalities. There were only two pedestrian crashes that lead to injuries, but no fatalities. Thirty-seven percent of crashes were off-road, followed by rear end (23.7%). These same types of crashes caused the largest percentage of injuries. Tables 5-7 and 5-8 examine the expressway's crash data.

**Table 5-7: S.R. 417 Crash Data 5-Year Summary**

Types of Crashes	Number	Share
Angle	2	0.9%
Head On	7	3.1%
Left Turn	3	1.3%
Off Road	84	37.5%
Other	14	6.3%
Pedestrian	2	0.9%
Rear End	53	23.7%
Right Turn	2	0.9%
Rollover	23	10.3%
Sideswipe	26	11.6%
Unknown	8	3.6%
<b>Total</b>	<b>224</b>	<b>100%</b>

**Table 5-8: S.R. 417 Injury Data 5-Year Summary**

Types of Crashes	Number	Share
Angle	2	1.2%
Head On	10	6.0%
Left Turn	3	1.8%
Off Road	58	34.7%
Other	8	4.8%
Pedestrian	2	1.2%
Rear End	41	24.6%
Right Turn	2	1.2
Rollover	28	16.8%
Sideswipe	8	4.8%
Unknown	5	3.0%
<b>Total</b>	<b>125</b>	<b>100%</b>

## SHARED-USE FACILITIES

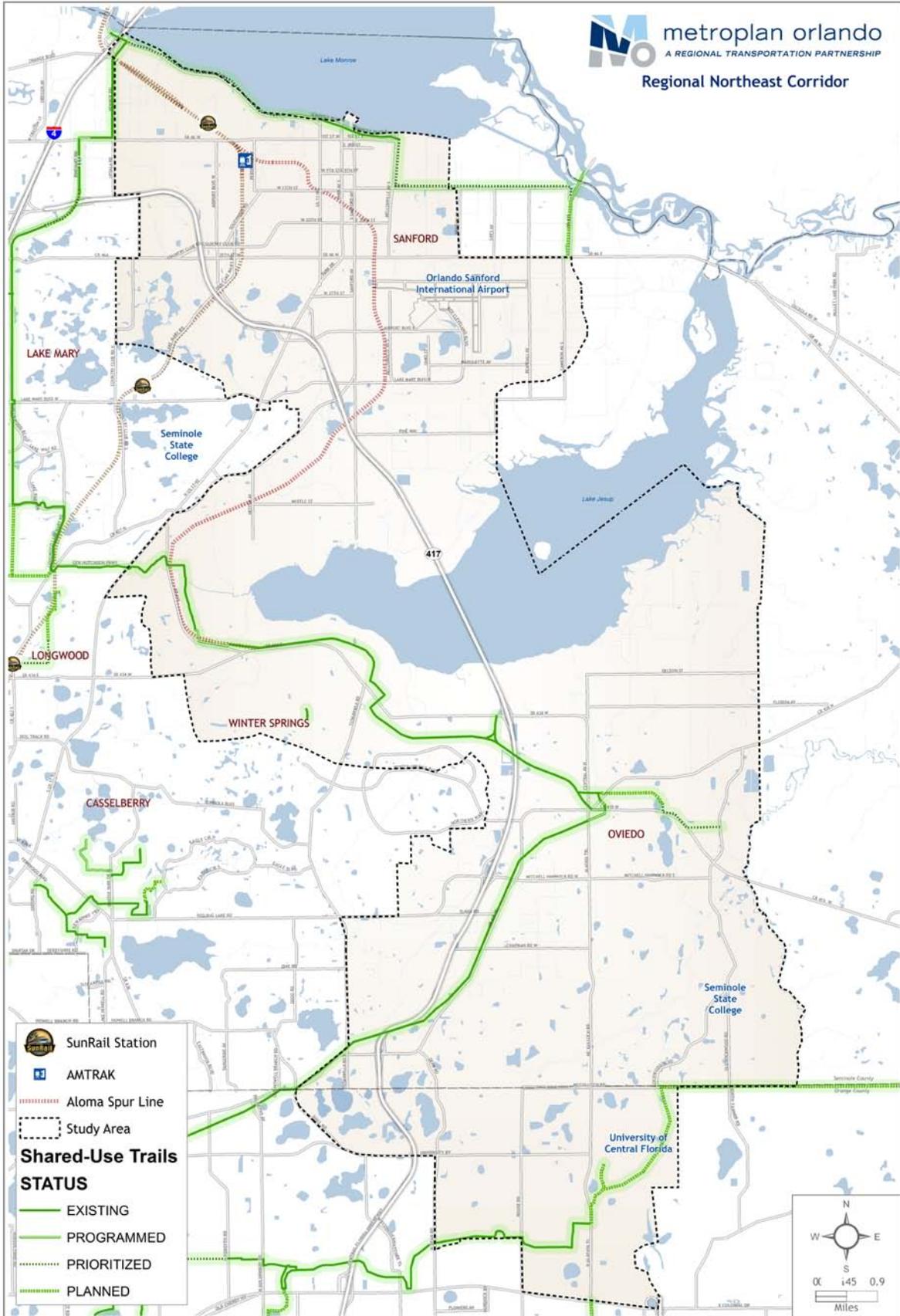
Shared-use facilities are considered an environmentally friendly mode of transportation that brings public access, health and economic benefits. Bicycling, in particular, is recognized as an integral component of FDOT's Multi-Modal Corridor Planning Guidebook. It is an important travel mode and a key component of a seamless multi-modal transportation system.

Figure 18 shows the existing and planned Shared-Use Trail infrastructure. "Existing" are trails that are currently in place; "programmed" represent trails that have funds assigned to the project, whether that is MetroPlan Orlando or local funds; "prioritized" are trails that are on MetroPlan Orlando's Prioritized Project List, but funds have not been allocated, and "planned" are trails which are listed in a local municipality's plan, but are not on MetroPlan Orlando's Prioritized Project List.

Shared-use facilities within the Study Area vary widely between the Aloma Spur and the S.R. 434 sections. The Aloma Spur Section has few existing shared-use facilities and even fewer planned or prioritized facilities. The only existing trail lies in downtown Sanford, along the boardwalk. Connection to this existing facility is part of MetroPlan Orlando's Bicycle & Pedestrian priority list, but has yet to be funded.

The picture is very different on the S.R. 434 Section of the study. The Cross-Seminole Trail runs throughout the majority of the Section. Beginning at Soldier's Creek, the Cross-Seminole Trail runs through Winter Springs, Oviedo, unincorporated Seminole County, and down into Orange County. There is a small gap in old downtown Oviedo; however, the City is currently studying that gap. At the south end, the Little Econ Greenway runs parallel to S.R. 50 into Research Parkway. The extension of this trail is currently being studied by FDOT.

FIGURE 22 - SHARED-USE TRAILS



## ALOMA SPUR

On November 3, 2011, FDOT purchased the 61.5 mile long A-Line railroad right-of-way from CSX Transportation (CSXT) for the primary purpose of establishing the SunRail commuter rail system. Through the purchase of the main line, FDOT also obtained the option to acquire CSXT's Aloma Spur for ten dollars (\$10.00). Figure 19 shows an up-close map of the Spur. The conveyance of the Aloma Spur rights-of-way are optional and are yet to be exercised by FDOT.

One of the main concerns is the legal boundaries of the Spur. The Aloma Spur rail line runs from the City of Sanford down to the City of Winter Springs. However, the Contract for Sale and Purchase signed between CSX and FDOT in November 2007 states that the section of the Aloma Spur that is available for purchase runs only to the Orlando Sanford International Airport. A boundary survey completed by FDOT in October 2009 also defines the Aloma Spur running from the Sanford SunRail Station to the airport. The mile posts describing the Spur listed in these documents do not match. It seems that the remaining Aloma Spur rail line, which terminates at Wade Street about 700 feet west of the Cross-Seminole Trail, is not contemplated under the original Contract for Sale and Purchase.

A legal analysis of the Contract for Sale determined that the Contract generally contemplates that the Aloma Spur line is located wholly within Seminole County, beginning in Sanford and terminating at the Orlando Sanford International Airport. Without a legal description for the line or reference to specific mile posts in the Contract, it is not possible to determine the exact length and location of the Spur. However, because the Option Agreement allows the parties to amend the Exhibits which can determine the exact location and description of the Spur upon mutual agreement, such lack of clarity is not fatal to the FDOT's exercise of the option. The complete legal option can be found in Appendix D.

There are additional concerns with the Spur. The Aloma Spur rail line, in its entirety, is considered an "excepted track" by the Federal Railroad Administration (FRA). This designation places several limitations on the line. Most importantly, it states that no occupied passenger rail can be operated on the tracks and that no trains shall be operated at speeds in excess of 10 mph. In order to run passenger rail, a rail line needs to be designated at least a Class 1, though most national passenger rail lines are designated Class 4 or above. In addition, the majority of the line is composed of single track lines, with limited passing sidings.

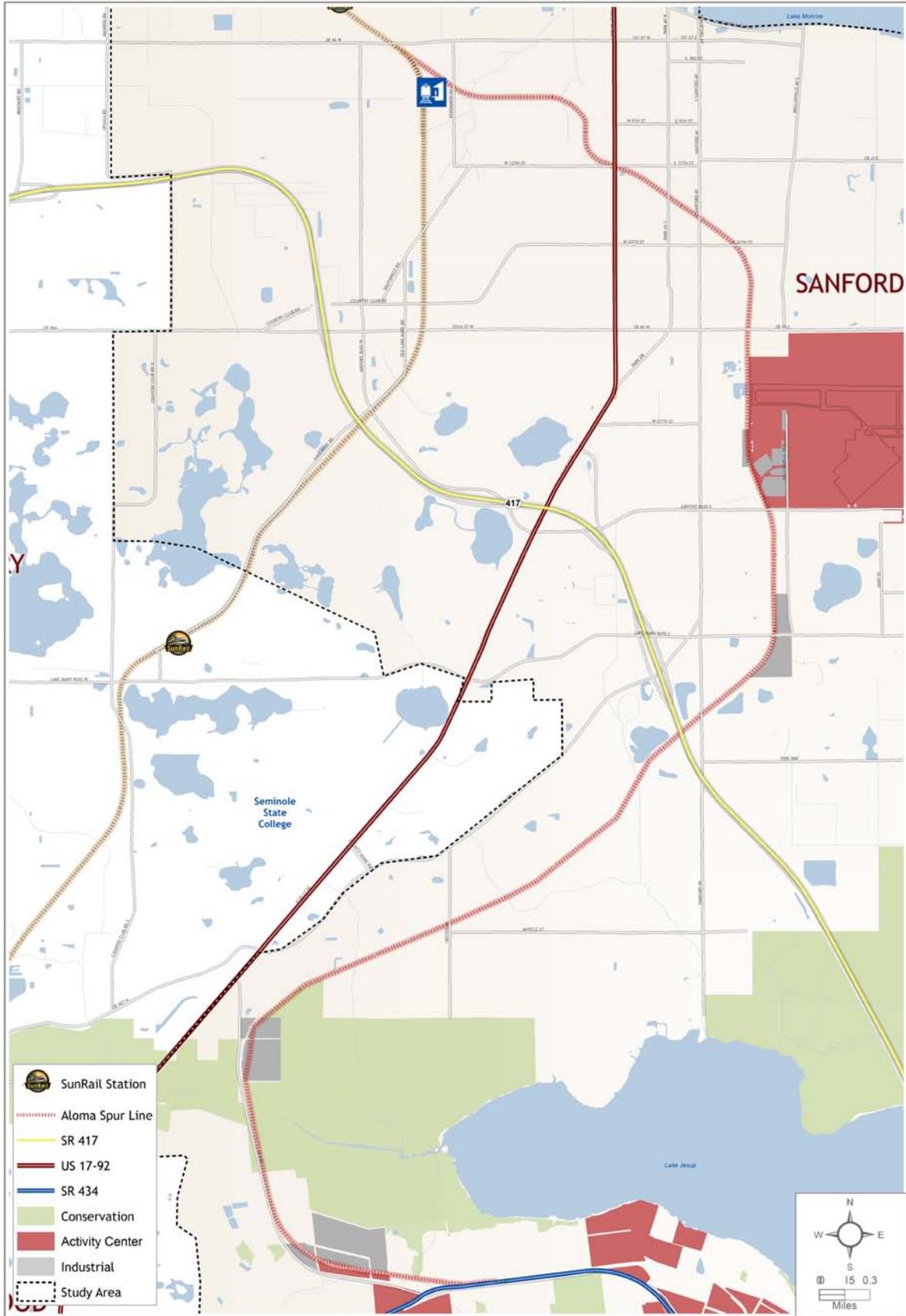
It will take a significant financial investment to bring the Aloma Spur rail line up to a Class 4. FDOT spent around \$355 million to improve the SunRail main line; about \$5.7 million per mile. Due to its FRA "excepted" classification, it can be assumed that the Aloma Spur rail line would need more infrastructure improvements than the main line did for SunRail, thus, it is expected that the per mile improvement costs will be greater than \$5.7 million, for a total improvement cost of at least \$65,227,642 for the entire length of the Spur.

CSXT also has established policies that limit multi-modal opportunities near the Spur. CSXT requires a natural separation of 50 feet from the center line, between the rail line and the possible development. This means that any dedicated bus lane or shared-use trail must be 50 feet away from the rail line. Residential and commercial development has already occurred on the north section of the Spur, acquiring this land may incur additional costs. Conversely, the south section of the Spur, after the airport, has low density residential and industrial sites, which may be less expensive to acquire. To alleviate the natural separation issue, CSXT traditionally acquires between 60 to 100 feet of right-of-way from the center

line. Another deterrent to multi-modal transportation development is that FDOT, due to safety issues, does not allow transit or shared-use trails running next to their rail lines.

In addition, the Contract for Sale and Purchase also states that any future uses on the Aloma Spur shall be compatible with the existent rail freight service usage on the corridor. Existing freight conditions show that there are several industrial businesses, primarily along SFB, that utilize the Aloma Spur. In total, the Aloma Spur freight service runs about four to five freight train cars per week. Any improvements on the Spur must accommodate and not unreasonable interfere with the current levels of freight usage.

FIGURE 23 - ALOMA SPUR RAIL LINE



## TRAVEL DEMAND

Travel to, from, within, and through the Study Area comprises many overlapping travel patterns. The process used an aggregation of Orlando Area Transportation Study (OUATS) Model Traffic Analysis Zones (TAZ) into a structure defined as a “travel shed.” For the purpose of defining potential demand within the Study Area we aggregated TAZs into 7 travel sheds. Aggregating the data to travelsheds quickly ascertains the forecasted travel patterns between the travelsheds in the Study Area. Figure 20 shows a map of the TAZs for the Study Area.

**Table 6-1: Identification of Travel Sheds - TAZ Groups**

ID	Travelshed	2040 OUATS TAZ Numbers
1	Sanford	N = 4-9,18-23,31-34,42-44,226-227
2	Orlando Sanford Int'l	N = 24-26,35,45-48, 54-57,69
3	Lake Mary	N = 41,51-53,65-68,75-76,225
4	Longwood	N = 79-80,92-96,223-224,106-107
5	Winter Springs	N = 81,97-99,111-113,115-116,141-142
6	Oviedo	N = 117,143,188,206-211,213,230
7	UCF/Research Park	N = 496-500,1066-1067

This process provides an assessment of corridor-level person trips inside and outside of the Study Area and develops desire lines showing the high demand origin and destination pairs. Tables 6-2 and 6-3 identify and exhibit the dispersed desire for person-travel in the study area between travelsheds. A map of the daily trips can be seen in Figure 21.

Interactions between travel sheds 6 and 7 represents over 25% of the origin and destination pairs in the corridor. Travel between travel sheds 1 and 2 and 1 and 3 combined also make up over 25% of the trip interactions. The Northern and Southern ends of the corridor make up for more than half of the trip interactions and have relatively short trips between adjacent travel sheds.

**Table 6-2: Daily Two-Way Trips**

		1	2	3	4	5	6	7	EXT
	<b>SUM</b>	84,894	37,999	57,417	45,515	29,660	71,873	215,616	6,308,403
1	58,106	23,905	4,364	3,399	749	487	332	376	24,494
2	39,993	7,059	11,198	4,612	926	577	356	369	14,896
3	48,679	4,922	3,079	14,192	1,721	956	335	346	23,128
4	34,593	713	603	1,788	8,135	889	226	341	21,898
5	45,395	1,016	798	2,184	2,357	9,814	2,652	1,461	25,113
6	81,516	761	527	622	503	1,205	30,042	14,767	33,089
7	150,161	417	308	309	335	509	5,576	89,522	53,185
EXT	6,392,934	46,101	17,122	30,311	30,789	15,223	32,354	108,434	6,112,600

Table 6-3: Daily Trip Interactions Between Travelsheds

From	To	One Way	From	To	One Way	Two Way
1	2	4,364	2	1	7,059	11,423
1	3	3,399	3	1	4,922	8,321
1	4	749	4	1	713	1,462
1	5	487	5	1	1,016	1,503
1	6	332	6	1	761	1,093
1	7	376	7	1	417	793
2	3	4,612	3	2	3,079	7,691
2	4	926	4	2	603	1,529
2	5	577	5	2	798	1,375
2	6	356	6	2	527	883
2	7	369	7	2	308	677
3	4	1,721	4	3	1,788	3,509
3	5	956	5	3	2,184	3,140
3	6	335	6	3	622	957
3	7	346	7	3	309	655
4	5	889	5	4	2,357	3,246
4	6	226	6	4	503	729
4	7	341	7	4	335	676
5	6	2,652	6	5	1,205	3,857
6	7	14,767	7	6	5,576	20,343

FIGURE 24 - STUDY AREA TAZ

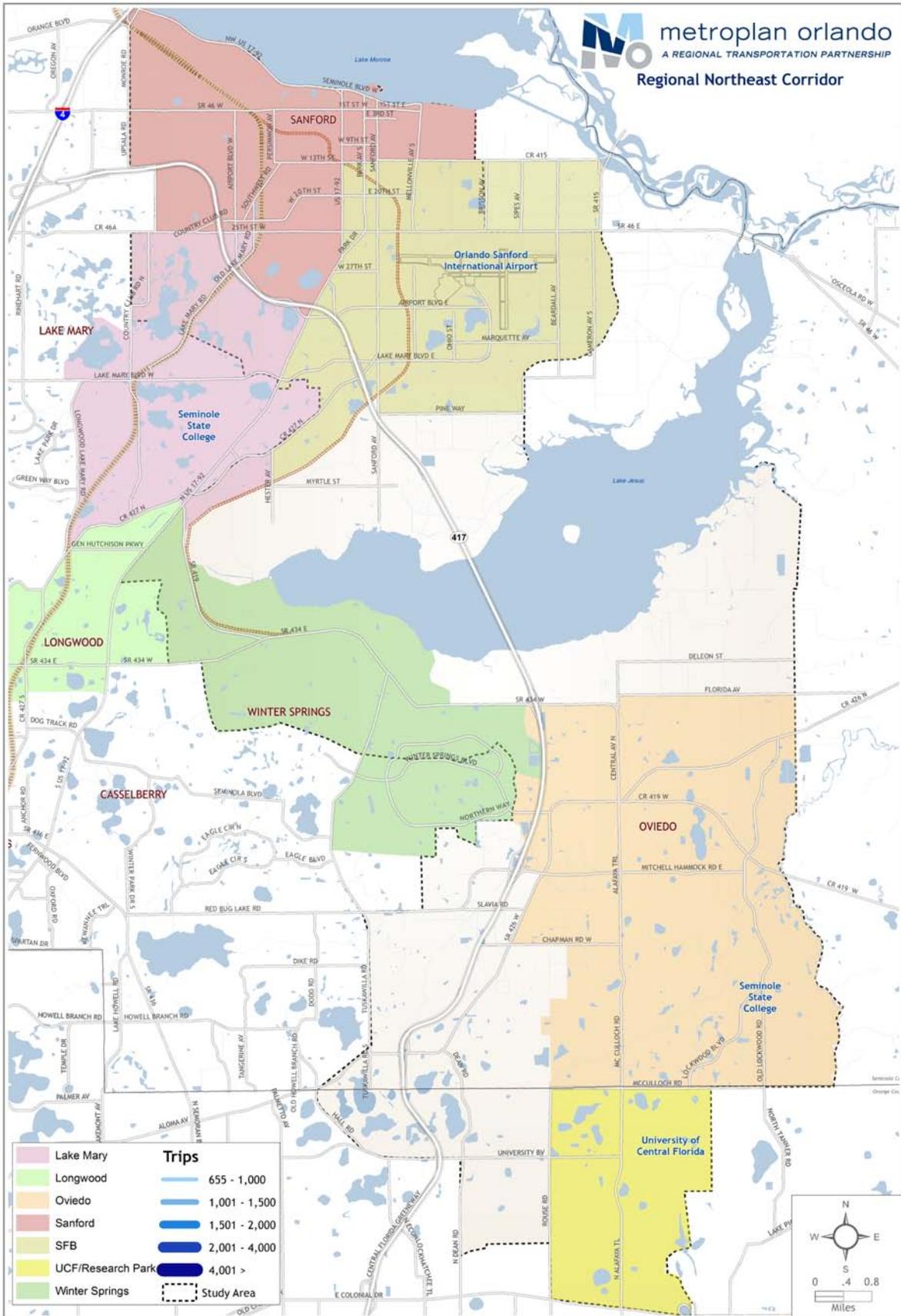
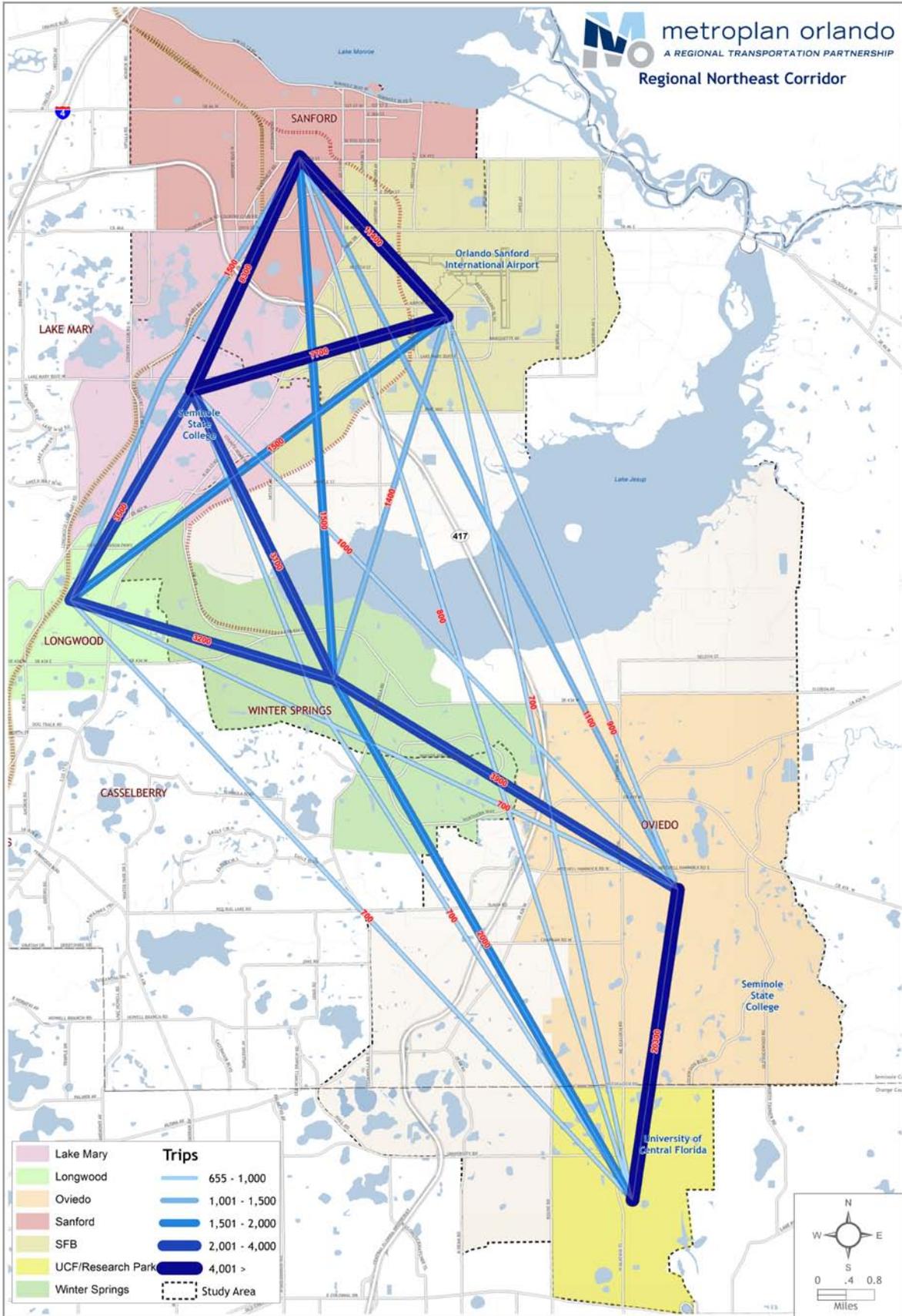


FIGURE 25 - FORECASTED DAILY TRIPS



## ENVIRONMENTAL

Given the mix of industrial, auto repair, and residential uses in the Study Area, a preliminary environmental analysis seemed necessary. This chapter analyzes critical environmental conditions within the Study Area, specifically wetland preservation, noise, and hazardous materials.

The information presented herein is based on the use of FDOT's ETDM Environmental Screening Tool (EST) and is presented by Study Area sections. This is a preliminary review of potential effects to natural, cultural, and environmental resources. A complete ETDM Programming Screen Summary Report can only be presented after the selection of a particular transportation project. Any further studies of the Study Area should address issues of collocation and potential environmental impacts that are more project specific. GIS maps of the ETDM EST report can be found in Appendix E.

### ALOMA SPUR SECTION

#### WETLANDS

Due to its proximity to Lake Jesup and Lake Monroe, soil conditions within 500 feet of the Aloma Spur rail line are palustrine wetlands. According to the St. Johns River Water Management District (SJRWMD), out of the 168.1 wetland acres: 111 are wetland forested mixed, 32.8 are mixed wetland hardwoods, 18.9 are mixed scrub-shrub wetland, 3.2 are freshwater marshes, and 2.2 are wet prairies.

#### FLOODPLAIN

A review of the EST GIS analysis data indicated that 49.98 acres are within a 100-year flood boundary. Of this total acreage, 43.2 acres are designated as "AE". "A" zones are the second most volatile Special Flood Hazard Area. "AE" zones are base floodplain where base flood elevations are provided. In addition, 51.85 acres are also considered Special Flood Hazard Areas.

#### HAZARDOUS MATERIALS

This section identifies sites with potential hazardous material impacts that may affect residential dwellings and other sensitive receptors. The EST analysis for the Study Area identified 21 hazardous waste facilities, 6 solid waste facilities, 14 petroleum contamination monitoring sites, and 4 toxic release inventory sites within 500 feet of the Aloma Spur rail line.

The EST analysis also reports that there are 13 EPA National Pollutant Elimination System sites, 6 EPA Regulated Air Emissions Facilities, and 26 EPA Resource Conservation and Recovery Act regulated facilities within 500 feet of the Aloma Spur. All hazardous materials sites are located in either poorly or very poorly drained soil.

### S.R. 434 SECTION

#### NOISE

This section of the Study Area generally can be described as an already developed community with residential uses interspersed within commercial areas which can create noise conflicts. The EST GIS analysis data indicates that the S.R. 434 section is primarily exposed to noise from roads and stationary noise sources. There are 12 group care facilities, 7 school boundaries, 6 religious centers, and 2 community centers within 500 feet that could be affected by noise.

Transportation noise refers to noise from vehicles on roads, airport operations, and rail activity. Stationary noise sources include machinery, fabrication, construction, air conditioning systems, compressors, landscape maintenance equipment, and a range of other activities.

#### FLOODPLAINS

A review of the EST GIS analysis data indicates that 137.84 acres are considered Special Flood Hazard Areas. These areas primarily run on the shores of Lake Jesup in Winter Springs, and through the Oviedo Econolockhatchee river system. In addition, 129.45 acres are within a 100-year flood boundary. Similar to the Aloma Spur section, the majority of these acres are designated "AE". "A" zones are the second most volatile Special Flood Hazard Area. "AE" zones are base floodplains where base flood elevations are provided.

## CORRIDOR FINDINGS & REGIONAL OPPORTUNITIES

Existing conditions of the Regional Northeast Corridor Concept Study have been identified and analyzed to provide insight into the challenges and opportunities for future transportation enhancements. The following matrix presents:

- Key gaps and issues with Study Area mobility and access
- Opportunities to improve mobility and economic development potential along the Study Area (corresponding with key gaps)
- Trade-offs and/or constraints that weigh the financial implications, modal impacts, and coordination efforts required for implementing specific opportunities

The Regional Northeast Corridor gaps and opportunities matrix is not meant to be a final determination of opportunities. Additional opportunities should be explored in a more detailed study to maximize potential corridor enhancements. Each opportunity in the matrix highlights general multi-modal benefits on the basis of connectivity, accommodation/comfort, and travel time.

### FINDINGS

#### **Current transportation infrastructure focuses primarily on auto access, contributing to long travel distances and congestion**

There are no other convenient methods of transportation between Sanford and UCF. Users must either travel through local or toll roads. With moderate traffic, it can take approximately 37 minutes to reach UCF. Using S.R. 417 can shed 10 minutes but it can cost up to \$3 each way.

It can be more convenient for Winter Springs and Oviedo residents to utilize local roads (S.R. 434 and Tuskawilla Road) to reach UCF. However, there are also no convenient alternative modes of transportation for these users.

#### **Current density levels throughout the Study Area do not support sustainable transit service**

Land use patterns and the resulting density play an integral role in establishing the need for particular type of multi-modal transportation infrastructure. An analysis of the existing land uses and 2010 U.S. Census survey data concludes that current density levels throughout the Study Area are not conducive to high levels of transit service. Due to the large number of low-density residential units and agricultural land, the Study Area only holds about 3.4 individuals per acre. Although many factors influence service levels, a good rule of thumb is that an area with a population density above five dwelling units per acre can support hourly bus service, and an area with a population density above 10 people per acre can support bus service with a frequency of 15-30 minutes.

#### **Aloma Spur boundaries may only extend to the SFB**

According to the legal opinion obtained by MetroPlan, the boundaries of the Aloma Spur only extend to SFB. It does not extend the full length of the Spur rail line, which terminates by Winter Springs. In order to acquire the full length of the Spur, FDOT would have to negotiate a purchase price for the remaining portion of the line.

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### **Aloma Spur “excepted” rail classification does not allow passenger rail**

The FRA classification places an extreme hindrance on utilizing the Spur for some form of passenger rail. This classification states, “no occupied passenger rail can be operated on the track”. It would require an extreme amount of rehabilitation work to bring the Aloma Spur line up to a class that allows passenger rail.

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### **Existing transit level of service along S.R. 434 is minimal**

Link 434 and 505 runs on 60-minute headways. This level of service is not very convenient for current riders and does not attract choice riders, especially along the Oviedo and UCF portions where population densities increase. The current level of service places public transit as a non-viable mode of transportation.

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### **There is no multi-use trail infrastructure on the east portion of Seminole County**

There are no shared-use trails that connect the cities of Sanford and Winter Springs. In Sanford, a shared-use trail is prioritized along 13<sup>th</sup> Street, but it terminates at S.R. 46 East. In Winter Springs, the Cross-Seminole Trail travels east to west across the city into Longwood. There is no north-to-south trail connection in this portion of Seminole County.

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### **Travel demand model findings identify significant travel patterns between:**

1. Oviedo Travelshed (TS 6) and UCF/Research Park Travelshed (TS 7) with approximately 20,343 daily trips, representing over 25% of origin and destination pairs; and
2. Sanford Travelshed (TS 1) and the SFB Travelshed (TS 2) with approximately 11,423 daily trips and Sanford Travelshed (TS 1) and the Lake Mary Travelshed (TS 3) with approximately 8,321 daily trips, combined 19,744 daily trips.

More than half of the trip interactions within the Study Area occur in these three patterns and with relatively short trips between adjacent travelsheds.

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### **Seminole County’s Rural Boundary designation places limits on land use changes**

The Charter Amendment Rural Area controls the density and intensity of development on the designated lands by using land use designations regardless of whether the area or parcel is located in unincorporated Seminole County or within any of the cities’ boundaries. Due to its designation, the Charter Amendment Rural Area places a limit on urban services, land uses, and designs standards within its boundaries. The Rural Area is intended for large lot rural residential and agricultural uses, protected environmental sensitive lands, with limited service and transportation infrastructure improvements, and limited commercial and industrial development. No new development or infrastructure improvements could occur within this Boundary.

## REGIONAL OPPORTUNITIES

### **Extend the S.R. 50 / UCF Connector Alternative Analysis Study Area to City of Oviedo**

The current boundaries of the S.R. 50 / UCF Connector Alternative Analysis extend from the Lake County line, near West Oaks Mall, extending north to UCF and ending at the Seminole County Line. The forecasted daily trips demand show that there is a high number of trips occurring between the Oviedo travel shed and the UCF/Research Park travel shed.

Extending the S.R. 50 Alternative Analysis study area to Mitchell Hammock Road in Oviedo will capture the travel demand mentioned above. This extension could provide premium transit opportunities to a larger number of individuals already traveling within the S.R. 434 corridor.

### **Analyze multi-modal alternatives between UCF and southeastern portions on Seminole County**

UCF employment data show that the majority of UCF employees live near the main campus, particularly in the 32765 zip code (Oviedo). Although the university already provides an excellent internal transportation system for its students and staff, local governments and UCF leaders should analyze what additional modes of transportation could be provided to those employees. Establishing alternative modes can potentially reduce traffic congestion on S.R.434 and decrease parking costs for UCF.

### **Continue to research the legal boundaries of the Aloma Spur rail line**

Although several documents describe the Aloma Spur line as only running south to SFB, there is still a need for conducting additional boundary research. The Contract of Sale and Purchase acquired by MetroPlan Orlando did not include 'Exhibit 2 - Description of Subject Property', which could define more clearly the mile post boundaries of the Spur.

In addition, the contract language implies that in order to acquire the \$10.00 segment of the Aloma Spur (from the Amtrak Auto Train Station to SFB), FDOT might be required to acquire the entire length of the Spur (from Amtrak Auto Train Station to Winter Springs). This interpretation needs additional legal research and analysis.

### **Study the possible SIS Connector designation between Amtrak Auto Train & SFB**

Both, the Sanford Amtrak Auto Train Station and the Orlando-Sanford International Airport, have been designated as a Strategic Intermodal System (SIS) facility by FDOT. Florida's SIS facilities were established to enhance the state's economic competitiveness. If passenger rail is established between the Amtrak Auto Train and SFB, then that section of the Aloma Spur may be eligible for designation as a SIS Passenger Rail Connector. SIS Connectors provide safe and efficient transfers for both people and freight and may be eligible for FDOT SIS funding. Further studies and coordination with FDOT's Central office will be required to achieve this designation.

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### **Implement land use policies that will increase density**

In order to implement a successful premium transit service, cities within the Study Area must put in place policies that support the transit investment. Florida TOD Handbook states that an area with less than 5 dwelling units per acre can support hourly bus service (local bus service), 6 to 7 can support 30 minute service (intermediate bus service), 8 to 15 units can support 10 minute service (premium bus service), and anything above can support light rail service. 2010 Census data indicates that the Study Area holds an average of 1.6 household units per acre, with the highest accumulation in UCF and the City of Oviedo.

### **Research the potential rail capabilities between the City of Sanford and SFB**

Under the Contract for Sale and Purchase FDOT has the ability to purchase the Aloma Spur for ten dollars (\$10.00). Although the Spur might require a significant financial investment to upgrade in order to allow passenger rail, local government agencies should consider conducting additional studies to analyze the possible land use changes required to establish a sustainable rapid transit system.

### **Analyze potential travel demand between Lake Mary and SFB**

There is a high trip interaction between the Lake Mary travelshed to the SFB travelshed. Local government agencies should consider conducting travel demand study to analyze the existing transportation conditions between the Lake Mary TAZs to Orlando-Sanford International Airport and analyze what additional alternative mode of transportation could be established to meet demand.

### **Research the potential rail capabilities between Sanford and UCF**

Future land-use, population density, and travel demand conditions may lead to potential rail demand in the Study Area. The Option Agreement on the Contract for Sale and Purchase allows FDOT and CSX to amend the purchasing parameters of the Aloma Spur. This may lead to a possible rail connection between the cities of Sanford and Winter Springs.

In addition, Florida's Turnpike Enterprise allows multi-modal transportation projects to be built parallel to their facilities. The combination of the Aloma Spur rail line and Florida's Turnpike multi-modal policy opens the opportunity of a rail corridor to run through S.R.417, the most dense sections of the Study Area.

### **Explore the development of a shared-use trail between Sanford and Winter Springs**

Current conditions show lack of a shared-use path on the eastern portion of Seminole County between the cities of Sanford and Winter Springs. Seminole County should consider exploring the development of such a path through the next Parks + Recreation + Natural Land + Trails Master Plan update. Shared-use paths have proven to bring economic development to underutilized areas.

### **Explore the development of a shared-use trail corridor between Oviedo and UCF**

Travel demand levels show there are a high numbers of trips occurring between the Oviedo TAZs and the UCF TAZs. Because of the short distance, some of these trips could be made by bicycle. In addition, current conditions show lack of a shared-use path or bicycle boulevard between downtown Oviedo and UCF. Seminole County, Orange County, City of Oviedo, and UCF should analyze the implementation of a share-use path between these points of interests. Shared-use paths have proven to bring increase multi-modal opportunities for the area's residents.