TRANSIT DEVELOPMENT PLAN

Major Update

September 2022

Prepared by:

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Prepared for:

Central Florida Regional Transportation Authority d.b.a. LYNX

LYNX

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1. Introduction

This Transit Development Plan (TDP) Major Update builds upon LYNX's FY 2018 TDP Major Update that was completed in coordination with a Route Optimization Study (ROS). The ROS was a reimagining of the LYNX fixed-route transit network and consisted of an evaluation of existing transit services; a travel market assessment and market segmentation; identification of passenger facility and vehicle needs; and proposed service requirements and costs. That study resulted in a transit network composed of a multi-tier system of service types that meet local and regional transportation needs. The transit network is designed to provide higher frequency service, faster travel times, direct service connecting the region and its affordable housing to major activity and employment centers, on-demand and flexibles services to meet first and last mile connections, and improve reliability.

The ROS was recently updated as county specific Transit Plans for Orange, Osceola and Seminole Counties. Recommendations from the county specific Transit Plans were reviewed and serve as the basis for this TDP Major Update. The TDP Major Update builds upon LYNX's recent work to identify how best to serve essential riders and assess the equity of proposed route restructures or modifications.

State Requirements

The State of Florida Public Transit Block (PTBG) Grant Program was enacted by the Florida Legislature to provide a stable source of funding for public transit. The Block Grant Program requires public transit service providers to develop, adopt, and annually update a Ten-Year TDP. According to Florida Administrative Code (FAC), Rule 14-73.001, "The TDP shall be the applicant's planning, development and operational guidance document to be used in developing the Transportation Improvement Program and the FDOT's Five Year Work Program."

Under legislation that became effective February 20, 2007, the TDP must undergo a Major Update every five years. In the interim years, an update is to be submitted in the form of a progress report on the ten-year implementation program of the TDP. Major updates involve more substantial reporting requirements than annual progress reports. Each update must be submitted to the appropriate Florida Department of Transportation (FDOT) District Office by September 1st.

This TDP is a Major Update to LYNX's Transit Development Plan and was reviewed for submission by the LYNX Board of Directors on August 25, 2022. This plan meets the TDP requirements in accordance with Rule Chapter 14-73.001 of F.A.C.

TDP Checklist

Table 1 includes a list of TDP requirements from Rule 14-73.001 and indicates where each requirement has been addressed in this TDP document. The checklist is consistent with the TDP Requirements Compliance Checklist published in the latest FDOT TDP Handbook, Version III (2022).

Table 1: TDP Requirements Checklist

TDP Checklist Item		TDP Section
Public Participation Process		
	Public Involvement Plan (PIP) Prepared	Appendix D
	PIP approved by FDOT	Appendix D
	Comments solicited from the Regional Workforce Board	Section 4
	Advised FDOT, RWG, and MPO of public meetings	Section 4
	Established time limits for receipt of comments	Section 4
	Documented summary of activities	Section 4
Situation Appraisal		
	Land use	Sections 3 and 5
	Consistency with state, regional, and local transportation plans	Sections 2 and 5
	Other government actions and policies (parking, transit-supportive guidelines, economic development, etc.)	Sections 2 and 5
	Organizational Factors	Sections 4 and 5
	Technology	Sections 4 and 5
	Ridership demand forecasts using TBEST	Section 7
	Performance analysis (Peer and Trend analyses)	Section 3 and Appendices B and C
Agency Vision, Mission, Goals, and Objectives		
	Vision and mission	Section 6
	Goals and objectives	Section 6
	Approach for monitoring achievement	Section 6
	Opportunity for review by decision-makers, TAC, FDOT, and MPO	Section 4
Alternatives Development and Evaluation		
	Development and evaluation of transit alternatives	Section 7
	Opportunity for review by decision-makers, TAC, FDOT, and MPO	Section 4
10-Year Implementation Plan		
	10-Year program of strategies and policies	Section 7 and 8
	Maps indicating areas to be served and types and levels of service	Section 7
	Performance monitoring program	Appendix A
	10-Year financial plan showing funding sources and expenditures	Section 8
	10-Year implementation plan	Section 8
	Unfunded needs	Appendix H
	Farebox recovery summary report	Appendix I
	Opportunity for review by decision-makers, TAC, FDOT, and MPO	Section 4

Report Content

This LYNX TDP Major Update is organized based on the outline of TDP activities defined in the FDOT TDP Handbook, Version III (2022). Sections include the following:

Section 2 summarizes the **Baseline Conditions** for the LYNX service area. The evaluation of baseline conditions establishes a benchmark of demographic, land use, and other important socioeconomic trends within the operating environment.

Section 3 includes the **Existing Services Evaluation** of the LYNX network of public transportation services. An evaluation of key operating characteristics and performance indicators is provided. In addition, a peer review and trend analysis allow for the evaluation of services against peer agencies and performance over time. This review helps identify areas for improvement.

Section 4 summarizes the **Public Involvement** activities undertaken for the TDP. This includes a review of all outreach efforts completed and summaries of key themes and needs identified through the outreach process. The priorities of the community with respect to LYNX's array of services are reviewed and presented.

Section 5 presents the **Situation Appraisal.** The situation appraisal is a synthesis of how baseline conditions along with land use, other planning efforts, governmental policies, organizational challenges, and technology impact how the transit agency should plan for the future. The appraisal helps in understanding the opportunities and challenges for the transit system within the current operating environment.

Section 6 identifies **Goals and Objectives** to serve as a policy guide for implementation of the TDP. A review and update of the goals and objectives in the 2018 TDP major update was completed to match the current desires of the local community with respect to public transportation service provision.

Section 7 presents the **Transit Demand and Mobility Needs.** This section presents the Vision Plans developed for each county in the LYNX service area and documented within each respective County Transit Plan. The effort to develop those 20-year service plans serves as the basis for the needs identified in this TDP Major Update. In addition, a market assessment and ridership forecasts are presented that inform the final list of 10-year funded and unfunded needs included in the TDP implementation plan.

Section 8 presents the LYNX **10-Year TDP Major Update Financial and Implementation Plan**. The Plan identifies the funded service and capital improvements, as well as the unfunded needs. This section also documents capital and operating cost and revenue assumptions. A phased implementation plan is also presented to support implementation of service and capital priorities and also to identify staff resources and potential partnerships over the horizon year of the plan, FY 2032.

2. Baseline Conditions

Service Area

LYNX transportation services began operation in the Central Florida region in May of 1972 under the title of Orange Seminole Osceola Transportation Authority (OSOTA). The bus service became Tri-County Transit in 1984 and began doing business as LYNX in 1992. The official name was changed to Central Florida Regional Transportation Authority (CFRTA) in March of 1994.

LYNX's current transit system includes fixed-route bus service, fare-free services in Downtown Orlando and Downtown Kissimmee, FastLink limited stop service, flex-route services (NeighborLink) in the outlying areas, complementary paratransit service throughout the LYNX service area, and commuter and agency vanpool programs. The LYNX service area includes Orange, Seminole, and Osceola Counties and provides regional connectivity to transit services in Lake and Polk Counties. LYNX's current transit system encompasses over 300 fixed-route buses, over 150 paratransit vehicles, and over 4,300 transit stops; one-third of which have bus shelters. Figure 1 shows the existing LYNX service area.

This baseline conditions section of the TDP provides an evaluation of demographic, land use, and other important socioeconomic trends within the LYNX service area. In addition, a review of relevant transportation, transit, and land use plans is also presented. The review of planning documents provides an understanding of the transportation planning context within which LYNX operates.

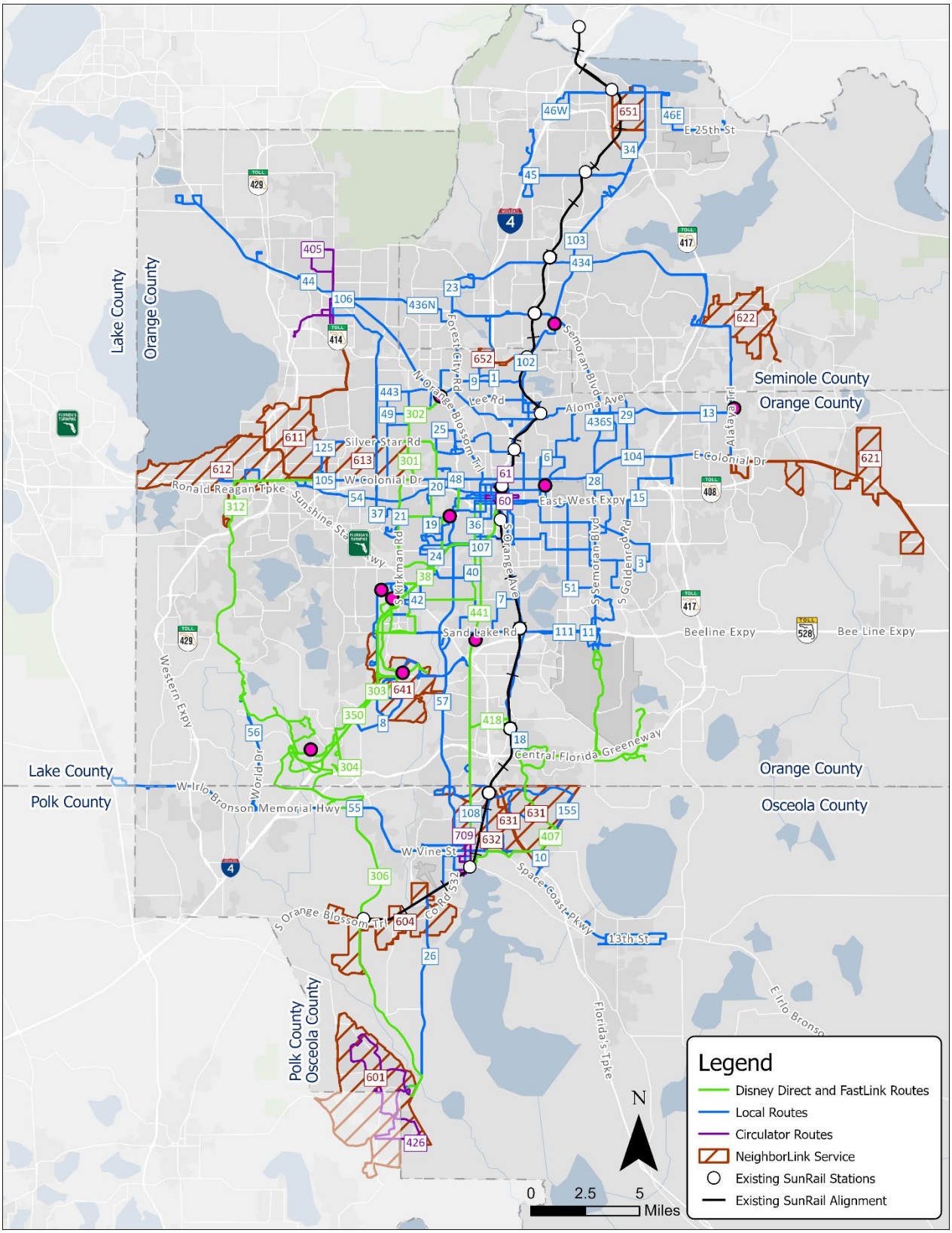


Figure 1: LYNX Service Area

Land Use

Land use and transportation are interconnected and influence each other. Some land uses and transportation modes support each other better than others. For example, increasing the mix and proximity of residential, retail, commercial/office, and recreational land uses fosters an integrated transportation network and makes it easier for the public to reach their destinations by non-auto modes (i.e., transit, walking, and biking). This in turn creates a balanced approach to transportation demand and strengthens the connection between communities and their neighborhoods. Furthermore, that balanced approach can contribute to a reduction in household expenses and can lower development costs by not having to construct as much transportation infrastructure.

In 2006, East Central Florida's residents came together to plan for a 2050 vision and published a regional strategic plan "How Shall We Grow?" The plan identified four themes: Conservation, Centers, Countryside and Corridors. Together, the four themes emphasized combating sprawl through increased settlement density in town centers and preserving outlying countryside. The plan described a transportation situation where journeys within cities and towns would be taken by non-auto modes. Residents would travel between cities and towns using an increasing share of bus and light rail trips according to a regional shared growth strategy that reflected a multi-modal transportation vision.

Since 2006, Florida has weathered the Great Recession and continues to grapple with the impacts of the COVID-19 pandemic. Though it could not have anticipated the latter event, in 2019, the East Central Florida Regional Planning Council published a follow-up report, "How Did We Grow?", which evaluated progress towards the previous plan's goals and made recommendations for achieving the 2050 plan's vision. The plan notes that while the Orlando metropolitan area grew rapidly between 2007-2017, land use and transportation consumption rates outside urban centers increased in patterns contrary to the plan's goals. Most new buildings are expected to be single-story, single-family detached homes and the auto-oriented travel from this sprawling land use pattern will continue to degrade the region's environmental resources and public health. Comprehensive and reliable public transit service, including planned service expansions across LYNX's service area, is essential to meeting the region's land use goals.

Figure 2 summarizes the existing and future regional land uses for the LYNX service area.

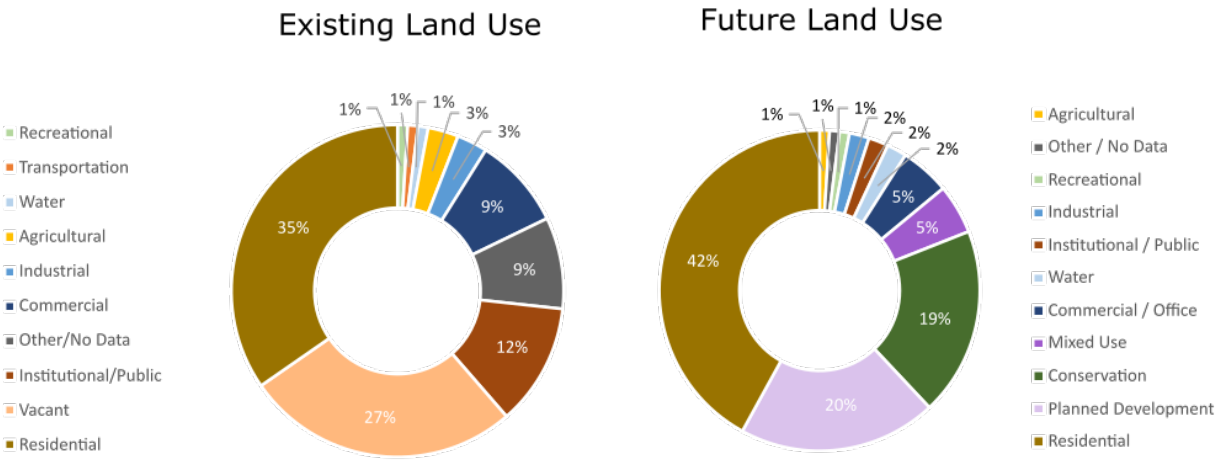


Figure 2: LYNX Service Area Existing and Future Land Use (2020 and 2050)
Source: MetroPlan Orlando

In general, the region's land use trends reflect a rapidly growing population caught between the two development impulses identified in the regional plan. Those two impulses include increasing general density and land use intensity and continued low-density residential development. As the regional plan notes, the plans and the reality seem to be mismatched, and the land use forecasts likely reflect this divergence (Figure 2). The increase in parcels categorized as "water" is a sharp reminder of the role of climate change and ecology in Florida. Development will continue to consume agricultural land, shrinking from three percent to one percent of total parcels. Likewise, industrial, commercial, and public land parcels will be converted to other uses, including conservation. However, residential parcels are expected to grow by seven percent. Parcels in non-residential categories are expected to convert to other uses at a higher rate than residential parcels, reflecting both the large number of parcels categorized as "planned development" (20 percent) and perhaps indicating that residential growth may also be occurring through densification. In other words, fewer parcels are needed to accommodate the expected population growth. This suggestion of growth in transit-oriented development highlights the potential value of transit in the coming decades to connect residents to non-work destinations (e.g., medical, education, recreation), workers to jobs, and tourists to ecological and human-made destinations.

Figure 3 and Figure 4 illustrate existing and future land uses, respectively. Typical for urbanized areas, industrial and commercial areas co-locate throughout the LYNX service area. One area of concentration is around the confluence of the Florida Turnpike, US 441, and the Beachline Expressway (SR 528). The land use maps presented illustrate the expectation that this concentration will increase over time as these land use types relocate to take advantage of, among other things, highway proximity. This underscores the value of this area to the regional economy.

Table 2: LYNX Service Area Land User Percentage Comparison

Land Use	Existing Land Use %	Future Land Use %
Agricultural	3%	1%
Conservation*	-	19%
Industrial	3%	2%
Institutional / Public	12%	2%
Recreational	1%	1%
Residential	35%	42%
Commercial / Office	9%	5%
Planned Development*	-	20%
Water	1%	2%

* Not a category in the Metroplan Orlando generalized existing land use data

Note: Small inconsistencies between existing and future land use categories make exact substitutions difficult, and table totals may not sum to 100 percent as not all categories are shown.

Source: MetroPlan Orlando, derived from FDOT generalized land use (2020)

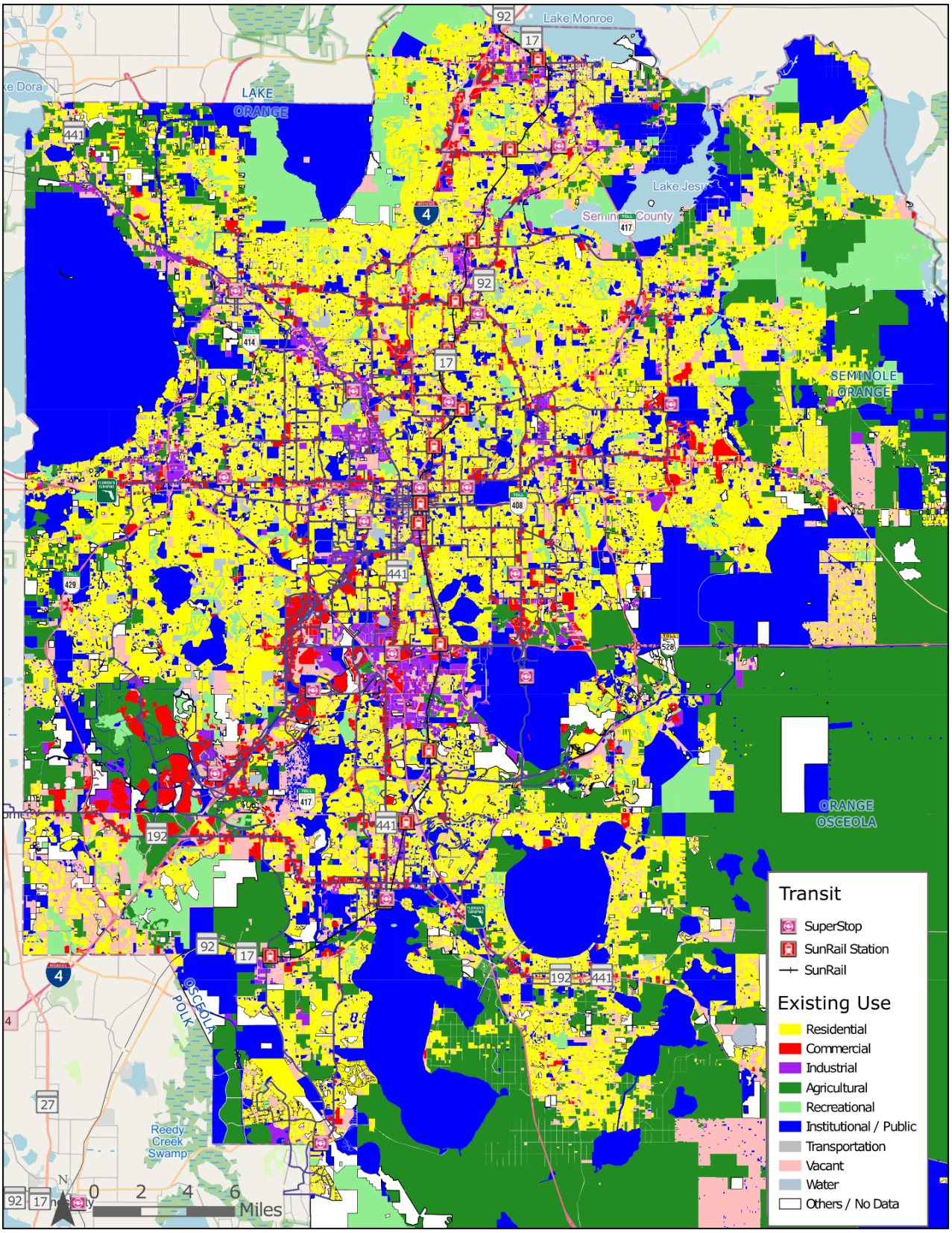


Figure 3: Existing Land Use

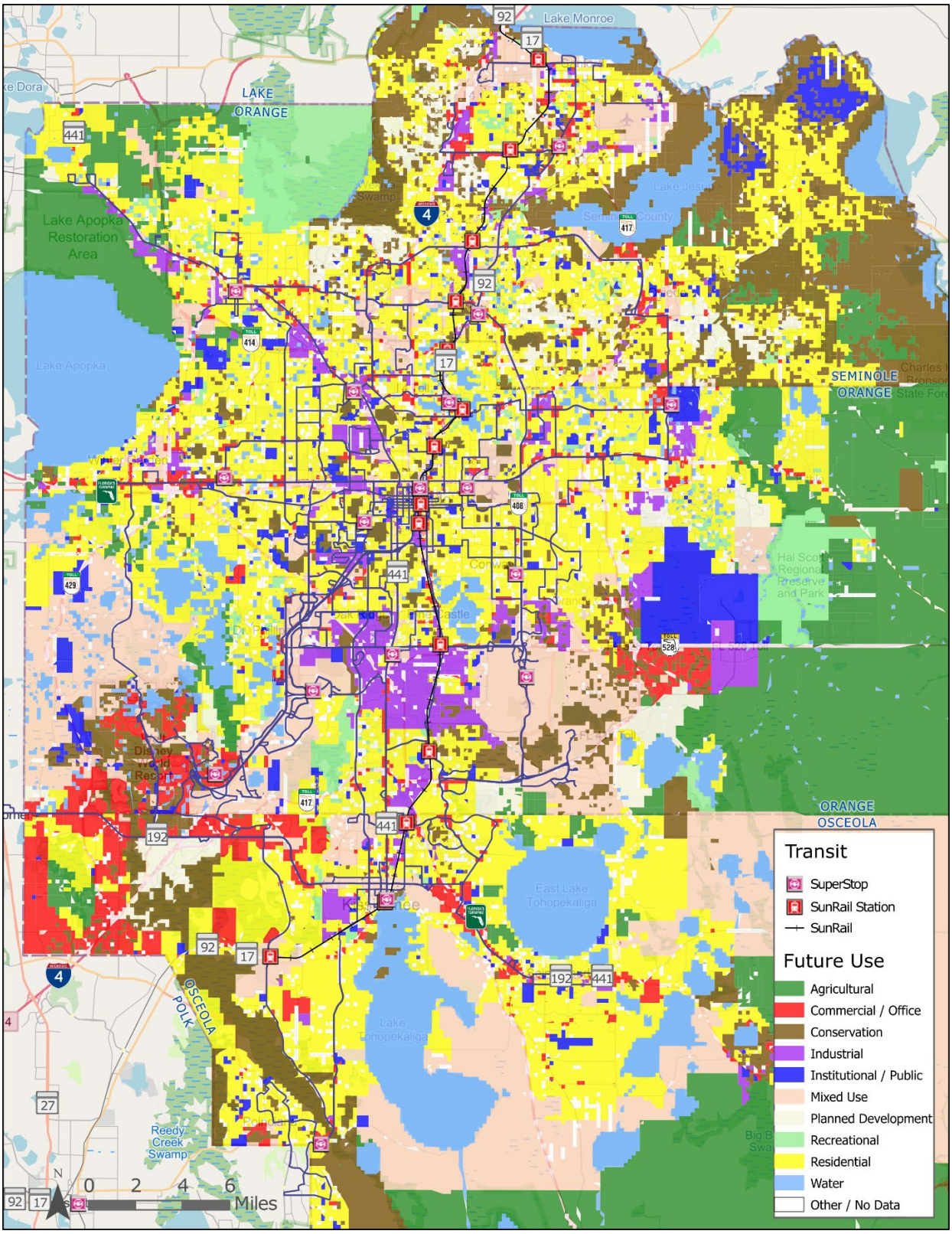


Figure 4: Future Land Use

Source: MetroPlan Orlando

There are also many developments in the early planning stages, including residential construction in the Four Corners area and Disney's 80-acre development in southwest Orange County which includes over 1,300 affordable housing units near the theme parks. New construction is also occurring in Horizon West located in southwest Orange County near Winter Garden and the Disney theme parks. In Osceola County, the Sunbridge development will consist of a large master planned community spanning from Osceola to Orange County.

In the Clermont area, the planned Wellness Way corridor will consist of more than 15,000 acres near Horizon West and Walt Disney World. The project is located in Lake County, bordered to the west by US 27 and Lake Louisa State Park and will also include a 243-acre master planned community focused on sports and wellness. A new five-mile expressway is being constructed just below the property and will link US 27 in south Lake County to SR 429 in west Orange County.

These future developments could benefit from premium transit services along the growth corridors. LYNX and its regional partners have an opportunity to continue coordination on future transit services. This will promote desired land uses, leave road space clear for commercial vehicles, and improve public health outcomes from reduced automobile use.

Population and Employment Profile

LYNX's three-county region is home to almost 2.3 million people. According to the American Community Survey (ACS), the entire Orlando Metropolitan Statistical Area contains about 2.6 million residents. LYNX's service area includes almost 81 percent of these residents, approximately 2.1 million people.[1] Orange County has almost 1.4 million residents and the largest proportion of the population (62 percent). Osceola and Seminole Counties have 380,000 (17 percent) and 480,000 (21 percent) residents, respectively. Figure 5 depicts the service area population by county. All population estimates are based on 2020 values from the Central Florida Regional Planning Model or the ACS, as noted.

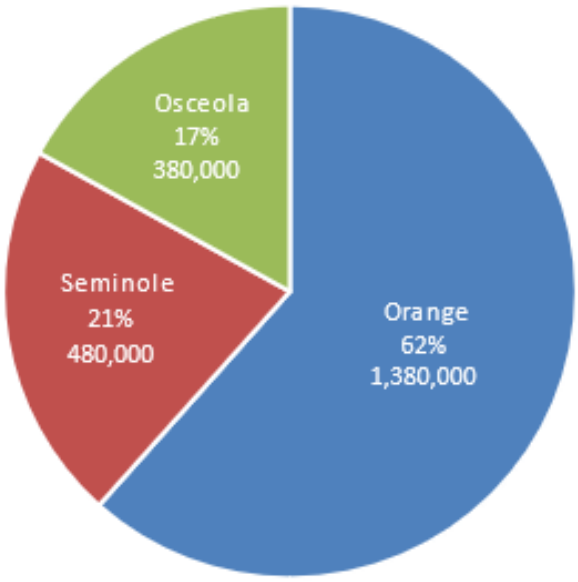


Figure 5: LYNX Service Area Population Distribution

Source: Central Florida Regional Planning Model (2020)

Population Density

Transit use depends in large part on population density. The closer destinations are to each other, the more useful walking, bicycling, and transit become to people living and working in each neighborhood. High-density neighborhoods often have more multi-family housing, smaller lot sizes, and shallower setbacks combined with less space dedicated to parking.

Figure 6 through Figure 8 show the population density for 2020, 2045, and the percent change between these years, respectively. High-density areas in 2020 include neighborhoods to the southeast of downtown Orlando near Conway, Oak Ridge on the west side of Belle Isle, and north Kissimmee. Outlying pockets include East Orlando near the University of Central Florida campus and south of SR 50 in the same area. These areas are all served by fixed-route bus and rail transit and that service corresponds to existing high-density housing and economic

[1] Service area population statistic from the National Transit Database, published by the Federal Transit Administration. Due to differences in methodology, the Central Florida Regional Planning model estimates are slightly higher at 2.24 million people.

activity centers. Some of those activity centers include planned communities like Avalon Park and Waterford Lakes, with deliberate co-location of mixed land uses.

Areas with higher population densities and less fixed-route service include areas along Colonial Drive in eastern Orange County. Pine Hills, Ocoee, and Winter Garden also have high densities and less fixed-route service, but are served by NeighborLink.

In 2045, population densities generally intensify around where they are currently concentrated. There are increasing densities extending south from Colonial Drive towards SR 528, in the St Cloud Area, and western Osceola County. This likely reflects long-run impacts of development already underway, with future businesses and residences continuing to accumulate in areas of existing desirability. The forecasted density intensification is suggestive of the comprehensive planning and regional strategies described in the Land Use section, emphasizing growth where services already exist. These areas would benefit from additional fixed-route service.

Notwithstanding, many outlying areas of the region experience large percentage changes in population density, underscoring the ongoing issue of sprawl. Areas with increasing development include Apopka and Paradise Heights to the northwest, Bithlo and Wedgefield to the east, and the area south of Lake Tohopekaliga. Most of these areas may continue to see low-density single-family developments not supportive of productive transit. These areas may benefit from connective circulator service if future commute patterns indicate trip-making into more urbanized areas of the LYNX service area.

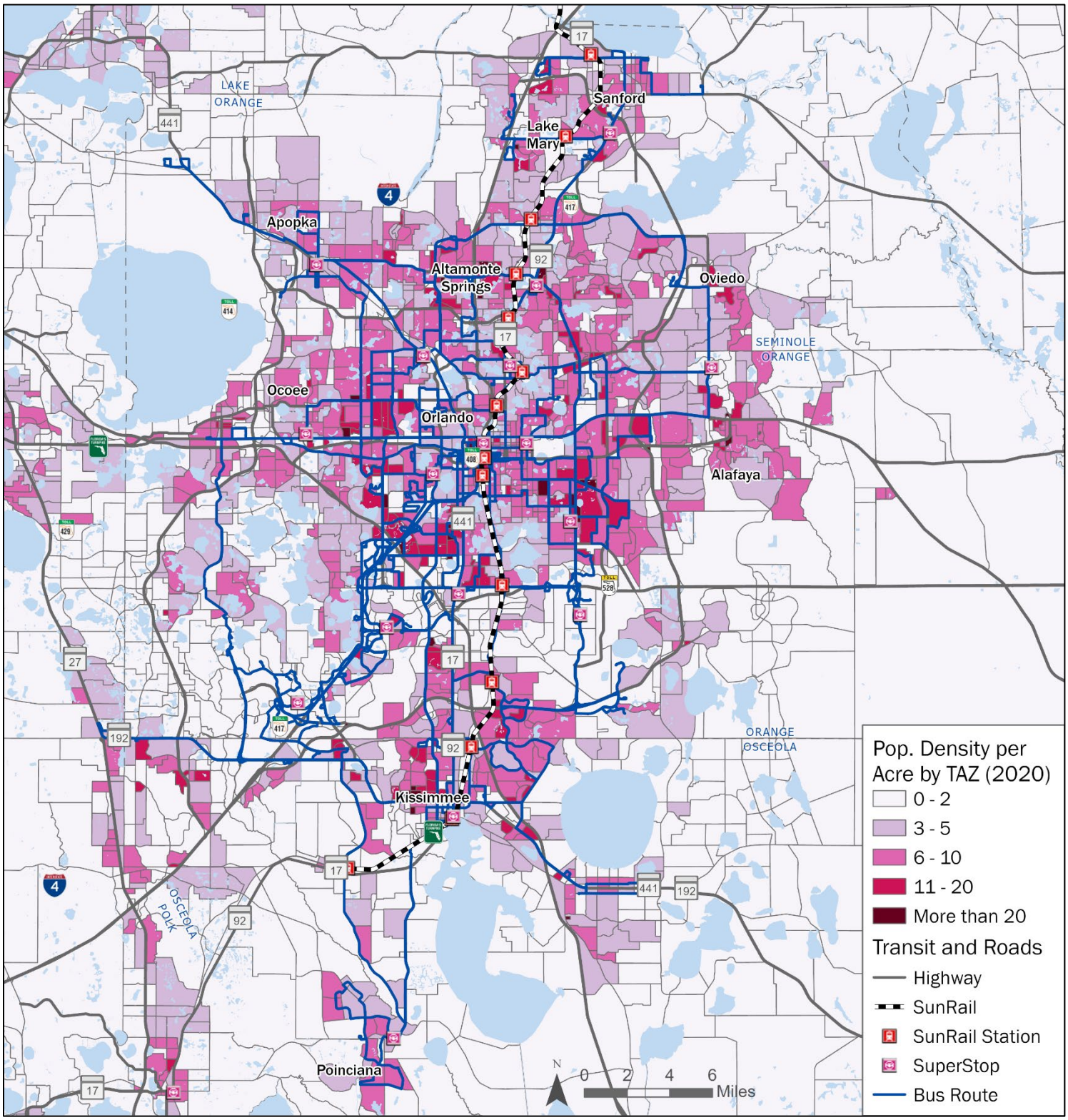


Figure 6: Population Density (2020)

Source: Central Florida Regional Planning Model (2020)

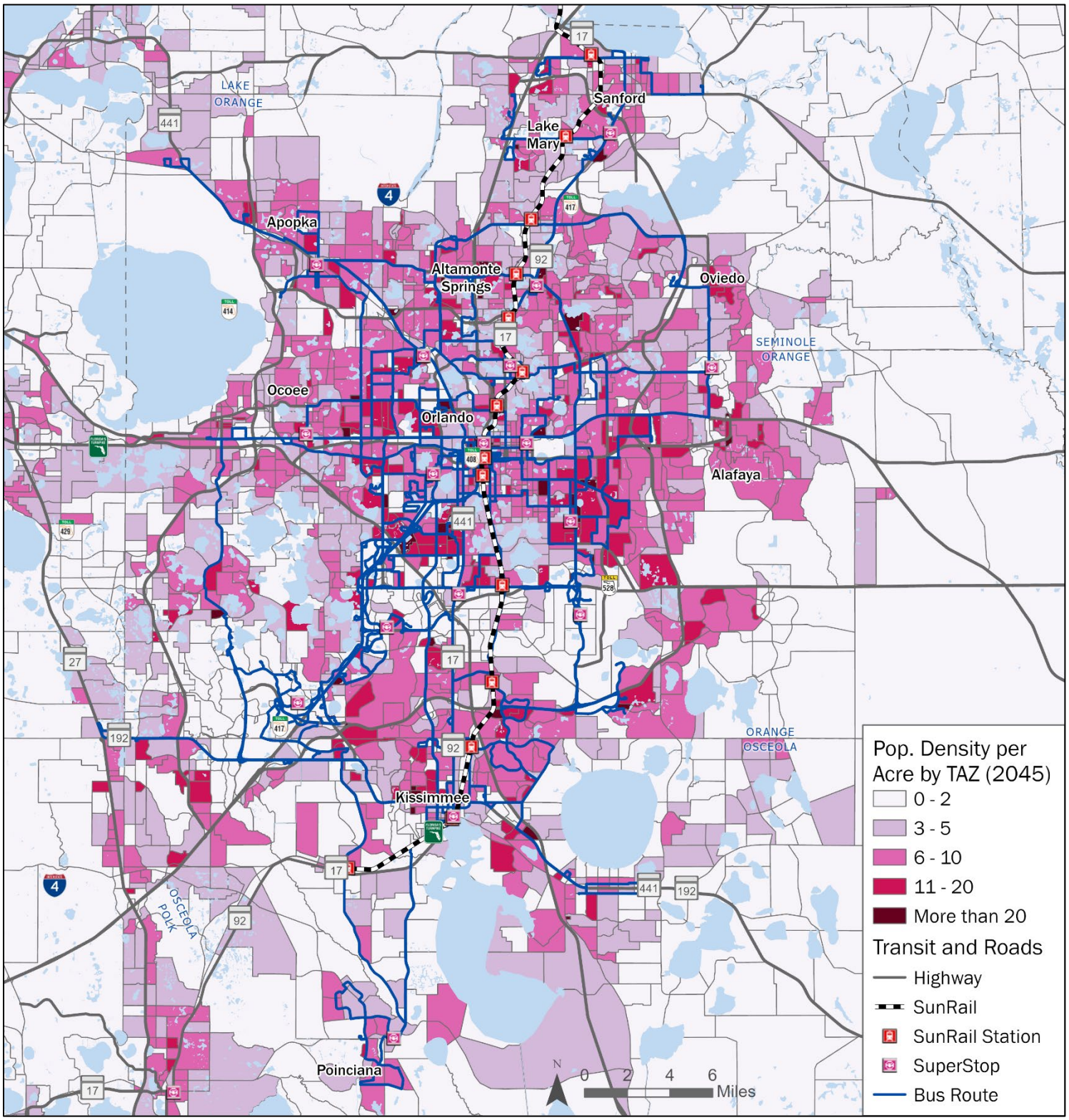


Figure 7: Population Density (2045)

Source: Central Florida Regional Planning Model (2020)

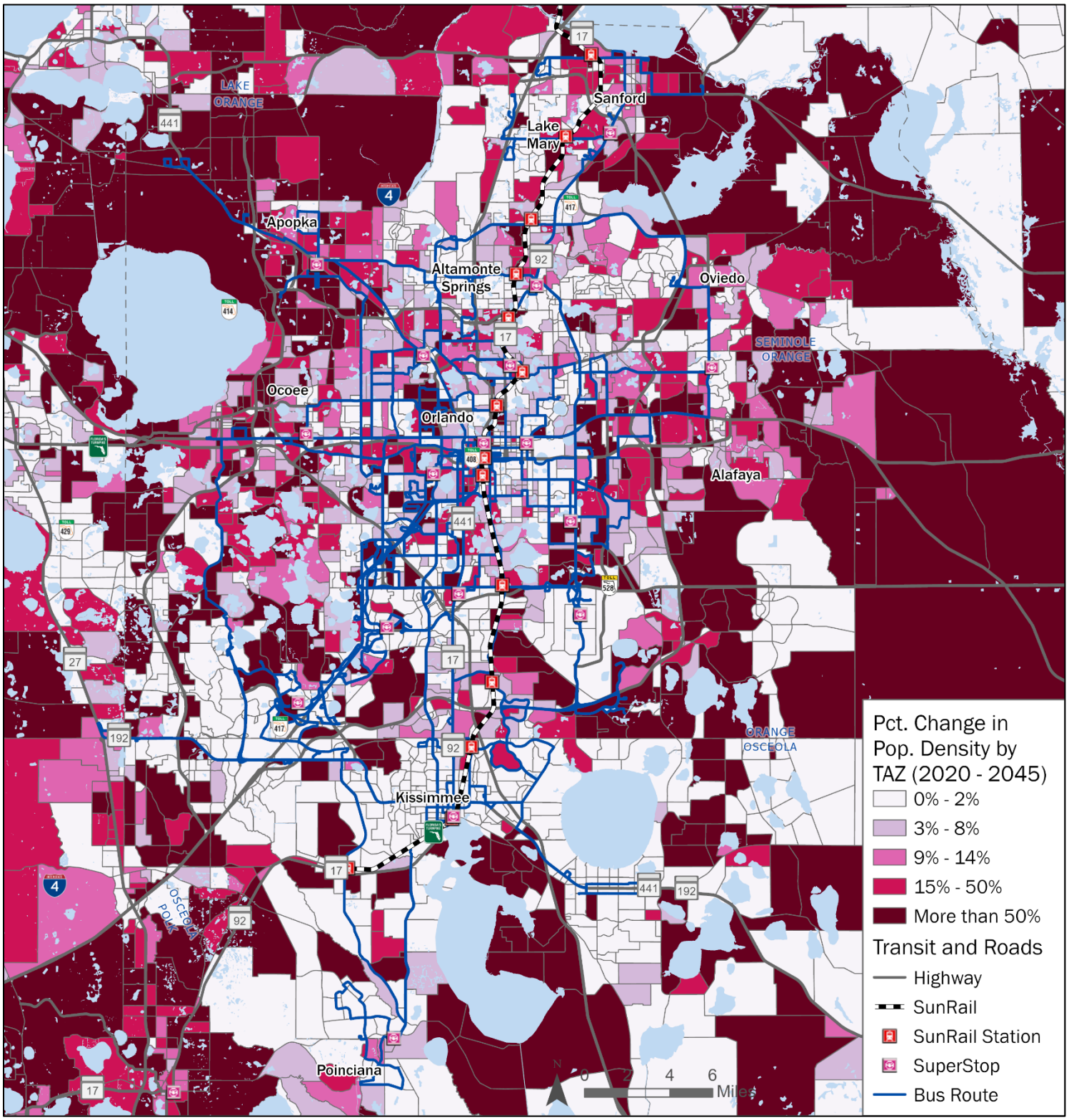


Figure 8: Percent Change in Population Density (2020 - 2045)

Source: Central Florida Regional Planning Model (2020)

Population Demographics

Transit riders come from all backgrounds, physical abilities, ages, socioeconomic classes, races and ethnicities. Understanding the service area's demographics is essential to ensuring that transit service in fact serves its intended users, including the composition and location of historically underserved populations, racial and ethnic minorities, older adults and youngsters, and those of different income levels. This leads to an understanding of where more and less transit-oriented populations reside. In turn, this helps agencies craft a strategy for providing service.

An understanding of service area demographics also helps transit agencies meet the requirements of Title VI of the Civil Rights Act of 1964 and Executive Order 12898. Both these rules require that no community be excluded from participation in, be denied the benefit of, or be subjected to discrimination under any program or activity receiving federal financial assistance, including public transportation services.

Transit-Oriented Populations Index

A Transit-Oriented Population index identifies areas with higher numbers and concentrations of potential transit dependent customers. The index highlights areas throughout the service area that need or demand transit and is constructed from various demographic statistics in five categories. The five categories include population (including race and ethnicity), age, income, vehicle ownership, and disability status. After scoring each Census block group in these categories, the scores are weighted and combined to create the overall Transit-Oriented Population index. Table 3 details the weights used for each category.

Table 3: Transit-Oriented Populations Index

Category	Weight
Population (General / Minority)	30
Vehicle Ownership (Zero / One Car)	30
Income (Less than 150% of Poverty Line)	20
Age (Youth / Senior)	10
Disability Status (Yes)	10

The Transit-Oriented Population index is mapped in Figure 9**.** Most of the block groups with the highest index values are in the Orlando metropolitan area, but moderate and moderate-high concentrations of transit-oriented populations are spread throughout the LYNX service area. Sanford, Lake Mary, Apopka, Alafaya, Ocoee, and Poinciana all feature block groups with moderate and moderate-high index values, indicating those areas have a large number of existing or potential transit riders who could potentially benefit from transit service.

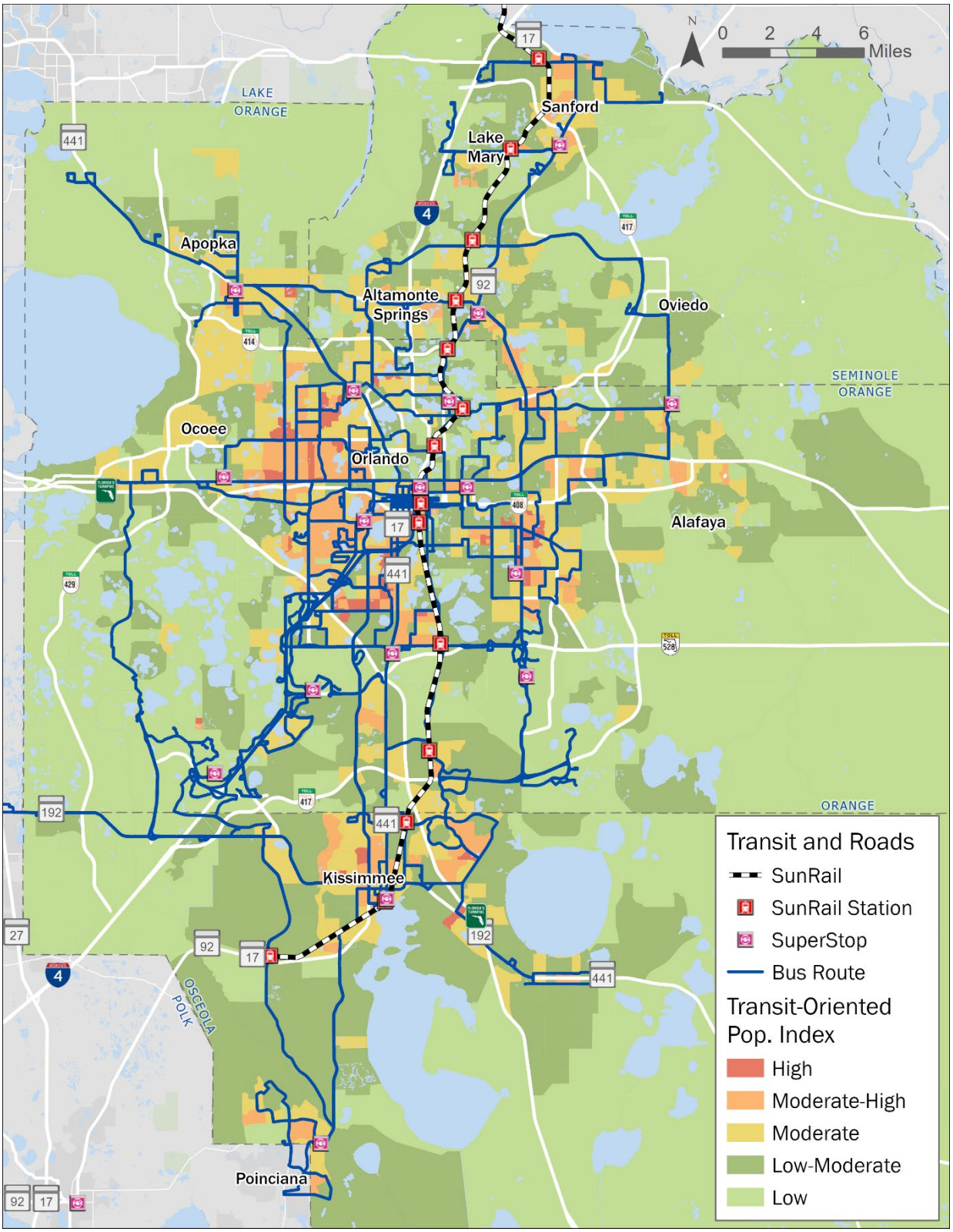


Figure 9: Transit-Oriented Populations

Source: 2020 American Community Survey (ACS) 5-year Estimates

Population Below Poverty Line

Poverty is a strong indicator of transit propensity. Automobiles are expensive to own and operate and these costs represent a larger relative share of a low-income household's expenses. Table 4 displays the total persons and percentage of total population below the poverty line by county within the service area. Orange County has the highest share of persons living in poverty at 14.2 percent, while Seminole County has the lowest with 9.8 percent.

Table 4: LYNX Service Area Population Below Poverty Line

	Orange	Osceola	Seminole	LYNX Service Area
Persons	190,145	48,325	45,273	283,743
% of Total Population	14%	13%	10%	13%

Source: 2020 American Community Survey (ACS) 5-year Estimates

Household Vehicle Availability

Vehicle availability is a strong indicator of transit dependence and households without vehicles have more difficulty completing necessary trips. It is important to note that while urban households may not need automobiles to complete daily travel, households in mixed or dispersed settlement patterns must cover longer distances which automobiles and transit are better suited to facilitate.

Table 5 reports the number and percentage of zero-vehicle households by county in the LYNX service area. Consistent with the dispersed existing land use pattern, a majority of residents in the LYNX service area have greater access to vehicles. Only about five percent of households in each county do not have access to a vehicle. Among the three counties, the percentage of households with zero vehicles has increased only in Seminole County since the 2018 LYNX TDP. Whereas the percentage of zero-vehicle households in Orange County decreased by just over one percent. As a comparison, roughly six percent of Florida households are zero-vehicle households which equates to about 500,000 out of almost eight million households.

Table 5: LYNX Service Area Population with Zero Vehicles

	Orange	Osceola	Seminole	LYNX Service Area
Zero Vehicle Households	24,961	5,682	6,455	37,098
% of Total Households	5%	5%	4%	5%

Source: 2020 American Community Survey (ACS) 5-year Estimates

Age Distribution

Age is an important factor affecting transit use. Individuals over the age of 65 and under the age of 18 are less likely to have access to a personal vehicle, either because they are unable to drive for physical or legal reasons or have other mobility-related issues that make non-automobile travel more onerous. As a result, these two groups are more likely to use public transit. Table 6 shows the population distribution for the three service area counties. The under 18 population represents approximately 22 percent of the service area's total population. Those over the age of 65 represent between 12 and 16 percent. Figure 10 shows the distribution of both age groups throughout the service area.

Table 6: LYNX Service Area Age Distribution

	Orange		Osceola		Seminole	
Years Old	Persons	% Total Population	Persons	% Total Population	Persons	% Total Population
<5	83,420	6%	22,847	6%	24,537	5%
5-9	84,179	6%	24,163	7%	28,175	6%
10-14	85,134	6%	25,912	7%	27,457	6%
15-19	89,999	7%	25,523	7%	27,982	6%
<18	304,105	22%	88,829	24%	98,092	21%
20-24	104,979	8%	24,461	7%	28,121	6%
25-34	231,605	17%	52,505	14%	68,541	15%
35-44	196,613	14%	52,825	15%	64,319	14%
45-54	180,224	13%	48,203	13%	64,399	14%
55-59	84,269	6%	20,882	6%	30,988	7%
60-64	69,652	5%	18,757	5%	29,695	6%
65 +	163,710	12%	47,588	13%	72,481	16%
Total	**1,373,784**		**363,666**		**466,695**	

Source: 2020 American Community Survey (ACS) 5-year Estimates

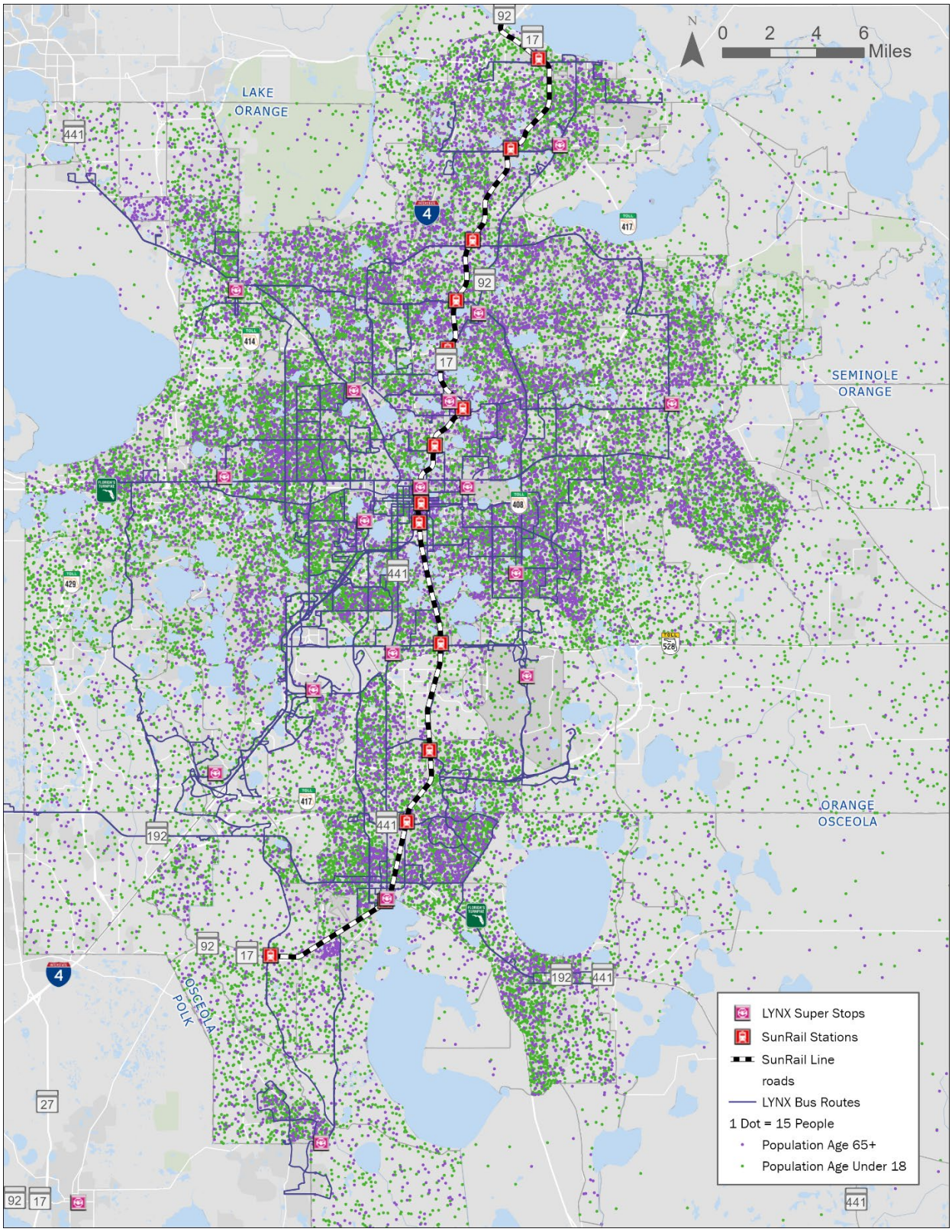


Figure 10: Population Density Age 65+ and Under 18

Source: 2020 American Community Survey (ACS) 5-year Estimates

Minority Populations

Minority populations refer to certain racial and ethnic groups that are not White Caucasian. Importantly, the US Census differentiates some racial and ethnic categories from each other. Specifically, identifying as Hispanic or Latino is distinguished from racial classifications, even though identifying as Hispanic or Latino may also be considered identification with a minority population in the US. Table 7 presents the population estimate and proportion of minority populations in the LYNX service area.

Table 7: Service Area Race by Ethnicity

	LYNX Service Area	Orange		Osceola		Seminole	
	Persons	Persons	% Total Population	Persons	% Total Population	Persons	% Total Population
White and Hispanic or Latino	476,000	283,600	21%	129,500	36%	62,900	13%
Minority and Hispanic or Latino	266,400	157,600	11%	69,400	19%	39,400	8%
Minority and Not Hispanic or Latino	534,300	393,700	29%	52,600	14%	88,000	19%
Total	**1,276,700**	**834,900**	**61%**	**251,500**	**69%**	**190,300**	**41%**

Source: 2020 American Community Survey (ACS) 5-year Estimates

Table 8 and Table 9 show the population demographics for both racial minorities and Hispanic and Latino identity, respectively. Figure 11 illustrates the minority population distribution throughout the LYNX service area. Minority groups account for 40 percent of the total Orange County population. In Seminole County these groups are 27 percent of the total county population. Thirty-two percent of Orange County residents are Hispanic or Latino. Osceola County's minority population accounts for 34 percent of the service area population. However, 55 percent of Osceola County residents identify as Hispanic or Latino.

Table 8: Minority Population by Race

	Orange		Osceola		Seminole	
	Persons	% Total Population	Persons	% Total Population	Persons	% Total Population
American Indian and Alaska Native	2,780	<1%	1,264	<1%	1,120	<1%
Asian	72,469	5%	10,055	3%	22,063	5%
Black or African American	288,370	21%	39,470	11%	55,780	12%
Native Hawaiian and Other Pacific Islander	969	<1%	94	<1%	209	<1%
White	822,463	60%	241,619	66%	339,282	73%
Some other race	84,227	6%	38,647	11%	21,650	5%
Two or more races	102,506	7%	32,517	9%	26,591	6%
Total Non-white	**551,321**	**40%**	**122,047**	**34%**	**127,413**	**27%**

Source: 2020 American Community Survey (ACS) 5-year Estimates

Table 9: Persons Identifying as Hispanic or Latino

	Orange		Osceola		Seminole	
	Persons	% Total Population	Persons	% Total Population	Persons	% Total Population
Hispanic or Latino	441,234	32%	198,952	55%	102,310	22%
Non-Hispanic or Latino	932,550	68%	164,714	45%	364,385	78%
Total	**1,373,784**		**363,666**		**466,695**	

Source: 2020 American Community Survey (ACS) 5-year Estimates

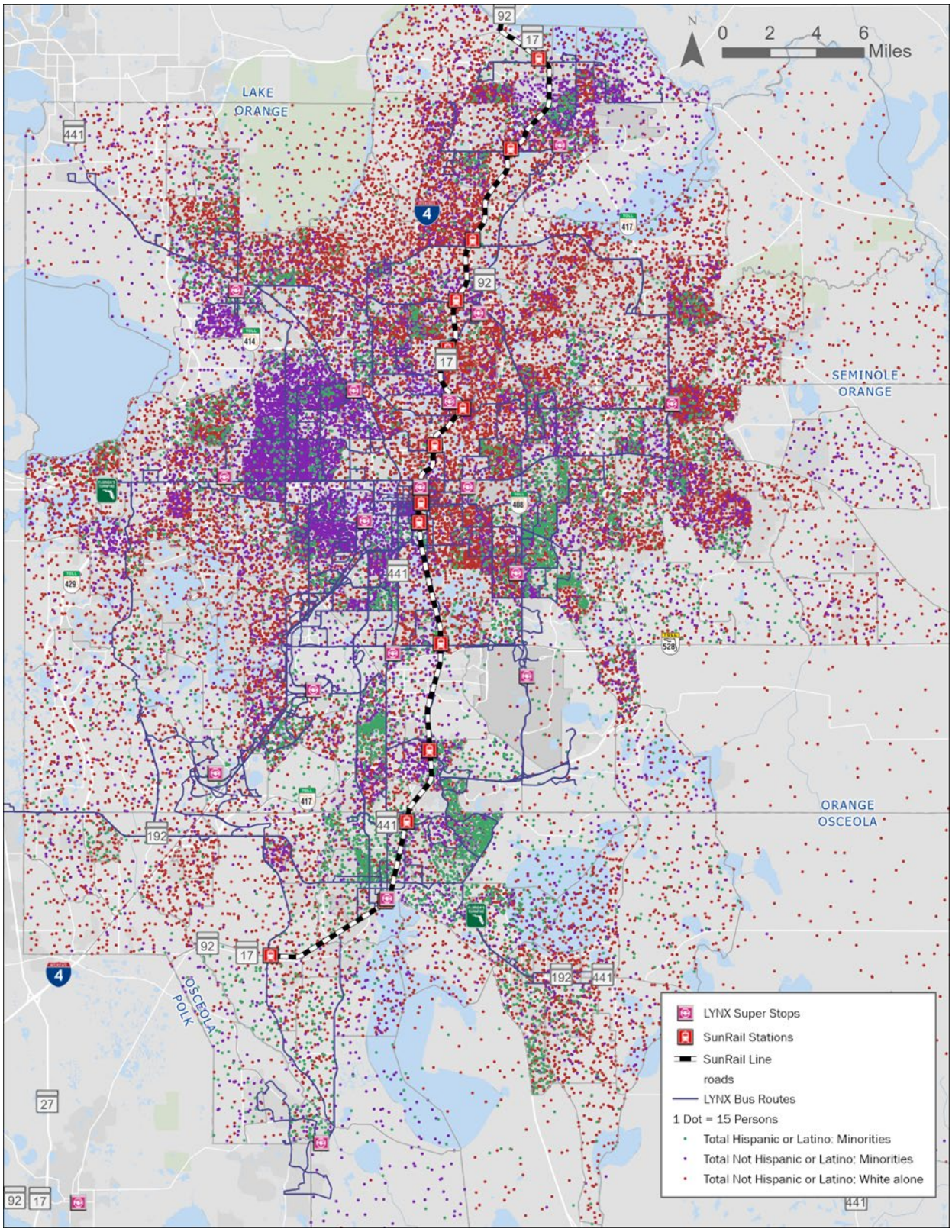


Figure 11: Population Density by Ethnic Group

Source: 2020 American Community Survey (ACS) 5-year Estimates

Limited English Proficiency

In accordance with the Federal Transit Administration's Circular on Title VI requirements, Limited English Proficiency (LEP) persons refers to those for whom English is not their primary language and who have a limited ability to read, write, speak, or understand English. It includes people who reported to the US Census that they speak English less than very well, not well, or not at all. For the LYNX service area population, 39 percent of the population speak another language and English less than "very well". Table 10 illustrates LEP populations by county and service area. LEP indicates two important considerations for transit agencies. First, LEP residents are unlikely to be able to obtain a driver's license and therefore will depend on transit or other modes. Second, LEP residents will struggle to interpret schedules and maps written entirely in English. Consequently, transit agencies can use this information to ensure their services reach those most reliant on their service and make that service as useful as possible for those very populations.

Table 10: Limited English Proficiency

	Orange	Osceola	Seminole	LYNX Service Area
Number of Persons who Speak Another Language and English less than "Very Well"	185,475	67,354	30,262	283,091
% Total Population	14%	19%	6%	39%

Source: 2020 American Community Survey (ACS) 5-year Estimates

Housing Unit Occupancy

Eighty-five percent of housing units in the LYNX service area are occupied. Half of the residences are owner-occupied, with one quarter to one third renting and the remainder being vacant or seasonally occupied. This pattern likely reflects the presence of vacation rental homes, a common feature in the region. Table 11 shows the distribution housing units by county. Seminole County has the highest occupancy rate, as well as the largest proportion of owner-occupants. Occupancy and tenure are additional context for income and other transit propensity factors. Seasonal occupancy may not commend itself to additional year-round service, but high rates of occupied rental housing combined with higher prevalence of low-income populations indicates that the residents in that area are likely to either rely on transit or that their households would benefit greatly from transit services.

Table 11: LYNX Service Area Housing Units

	Orange		Osceola		Seminole		LYNX Service Area	
	Housing Units	% Total Units	Housing Units	% Total Units	Housing Units	% Total Units	Housing Units	% Total Units
Total Units	545,974		155,925		192,073		893,972	
Occupied Units	468,075	86%	109,642	70%	178,094	93%	755,811	85%
Owner-Occupied Units	262,241	48%	70,613	45%	117,211	61%	450,065	50%
Renter-Occupied Units	205,834	38%	39,029	25%	60,883	32%	305,746	34%

Source: 2020 American Community Survey (ACS) 5-year Estimates

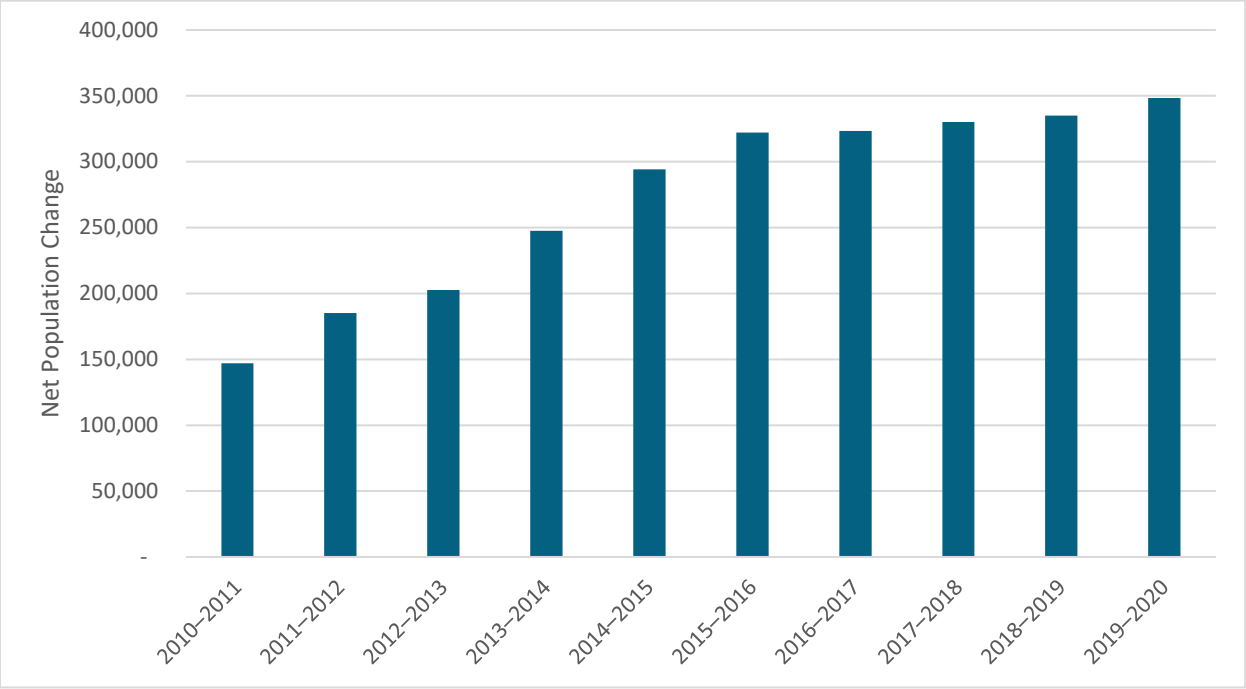
Population Projections

According to the Bureau of Economic and Business Research (BEBR) at the University of Florida, Florida's population increased by an average of 17 percent per year between 2010-2016. This is a much larger rate than in more recent years where statewide population has grown by less than ten percent per year since 2016 (Figure 12). In general, the population continues to grow statewide, though there has been some leveling off in the last five years. Economic trends including those from the COVID-19 pandemic make projections somewhat uncertain, but growth is still forecasted.

Table 12 illustrates BEBR projections for the three counties in the LYNX service area from 2020 to 2045. According to BEBR, the LYNX service area is expected to grow in population by 39 percent (+885,258 people) from 2020 to 2045. Osceola County is projected to grow by 66 percent over the same period and that growth estimate reflects the largest change among the three counties making up the LYNX service area. Both Orange and Seminole counties are projected to grow by 37 percent and 22 percent by 2045, respectively.

Although the LYNX service area population is projected to grow 39 percent by 2045, the growth rates decrease within different temporal ranges for each county. For example, Osceola County—projected to grow the most by 2045—will grow at a rate of 17 percent between 2020-2025 and that rate will decline to seven percent between 2040 to 2045. Similarly, Orange and Seminole counties are each projected to grow at a rate of ten percent or less each year starting in 2025. As population continues to grow, but at a slower rate, future transit developments will have to be cognizant of developing transit systems that support the projected populations efficiently and sustainably.

Figure 12: Annual Population Change, LYNX Service Area, 2010-2020



Source: Bureau of Economics and Business Research, Special Population Reports, Number 11

Table 12: LYNX Service Area Population Projections

	2020	2025	2030	2035	2040	2045	% Change in Population (2020-2045)
Orange	1,415,260	1,558,700	1,678,400	1,777,900	1,864,300	1,941,800	37%
Osceola	387,055	453,600	512,500	560,700	603,600	643,100	66%
Seminole	476,727	505,100	528,500	548,400	565,100	579,400	22%
LYNX Service Area	2,279,042	2,517,400	2,719,400	2,887,000	3,033,000	3,164,300	39%

Source: Bureau of Economics and Business Research, Florida Population Studies, "Projections of Florida Population By County, 2025–2050, With Estimates For 2021" (2022)

Employment Characteristics

The health of the labor market affects transit ridership because more employment means more work trips. Work trips make up a significant portion of transit trips. In addition, greater labor force participation increases household income, enabling discretionary spending and additional transportation demand. Despite increased unemployment between 2019 and 2021, the Central Florida labor market in 2022 is rebounding.

Consistent with statewide trends, Orange, Osceola, and Seminole counties saw increased unemployment levels during the first year of the COVID-19 pandemic (Figure 13). As shown in that figure a sharp increase in unemployment occurred between March 2019 and March 2021.

However, the labor market has improved significantly since then. By March 2022, the labor force had expanded to 1,209,000 persons in the three-county service area, and the unemployment rate declined to three percent (Table 13). As the labor market improves and more people look for and find jobs, LYNX services will provide more workers with an important link between home and work.

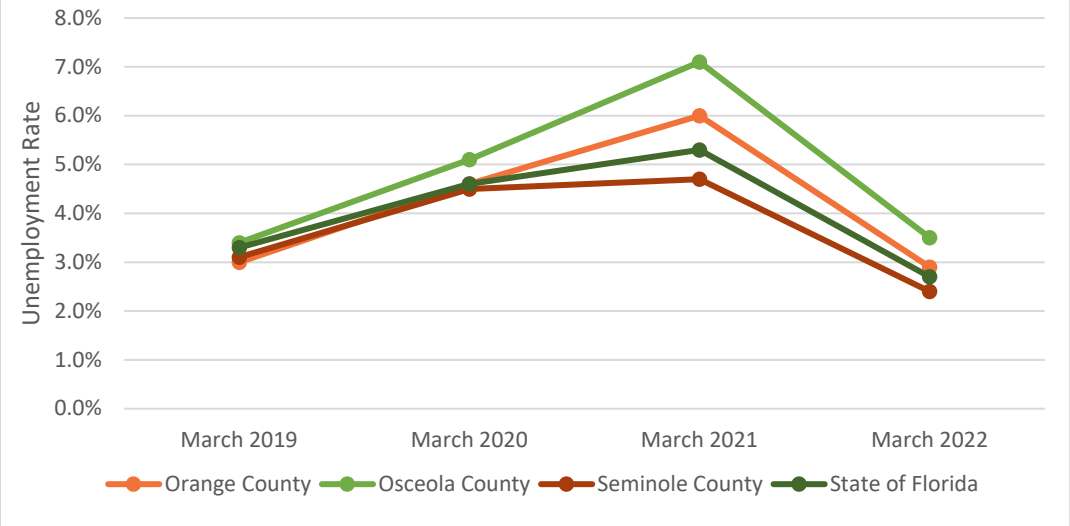


Figure 13: Unemployment Rate in LYNX Service Area, 2019-2022

Source: U.S. Bureau of Labor Statistics, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org

Table 13: Unemployment and Labor Force

	Metric	Mar 2020	Mar 2021	Mar 2022
Orange	Unemployed Persons	35,000	43,000	22,000
	Civilian Labor Force (Employed and Unemployed Persons)	752,000	719,000	764,000
	Unemployment Rate	5%	6%	3%
Osceola	Unemployed Persons	10,000	13,000	7,000
	Civilian Labor Force (Employed and Unemployed Persons)	187,000	181,000	191,000
	Unemployment Rate	5%	7%	4%
Seminole	Unemployed Persons	11,000	11,000	6,000
	Civilian Labor Force (Employed and Unemployed Persons)	250,000	237,000	254,000
	Unemployment Rate	5%	5%	2%
State of Florida	Unemployed Persons	472,000	534,000	284,000
	Civilian Labor Force (Employed and Unemployed Persons)	10,207,000	10,152,000	10,544,000
	Unemployment Rate	5%	5%	3%

Source: U.S. Bureau of Labor Statistics, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/

Employment Density

In addition to the overall health of the job market, the location and density of jobs play a key role in transit use. When many jobs are located close to each other, transit service can efficiently connect more workers to their workplaces. Typically, a base level of transit service is justified at a density of four or more jobs per acre. The Central Florida Regional Planning Model provides job counts by traffic analysis zone (TAZ) for the LYNX service area, from 2020 through 2045. Figure 14 shows job densities in 2020, Figure 15 shows densities in 2045, and Figure 16 visualizes the percent change between those two years. Based on these estimates, LYNX currently serves areas where the highest job densities exist and where jobs will continue to remain. However, job growth is evident in outlying areas where existing LYNX service is minimal or non-existent.

The map of current job density in Figure 14 shows job clusters in Orange, Osceola, and Seminole counties. The highest densities include Downtown Orlando, Altamonte Springs, the University of Central Florida and Waterford Lakes, the Heathrow International Business Center and other commercial developments along International Parkway. Other areas with high job densities include commercial developments near the SR 414 (Maitland Boulevard) and I-4 interchange, workplaces near the AdventHealth SunRail station, the concentration of major area theme parks (i.e., Disney World, Sea World, Universal Studios), Downtown Kissimmee, and the Orlando International Airport.

The map in Figure 16 visualizes projected changes in employment density between 2020 and 2045. Places where job densities are projected to increase may merit new or increased transit service. The largest increases are generally associated with ongoing exurban development, including near Narcoossee, Kissimmee, Apopka, Ocoee, and in master planned communities southwest of Orlando along I-4. Large increases are also apparent near major employment hubs, including Orlando International Airport and business parks near the interchange of SR 528 and St. John Young Parkway.

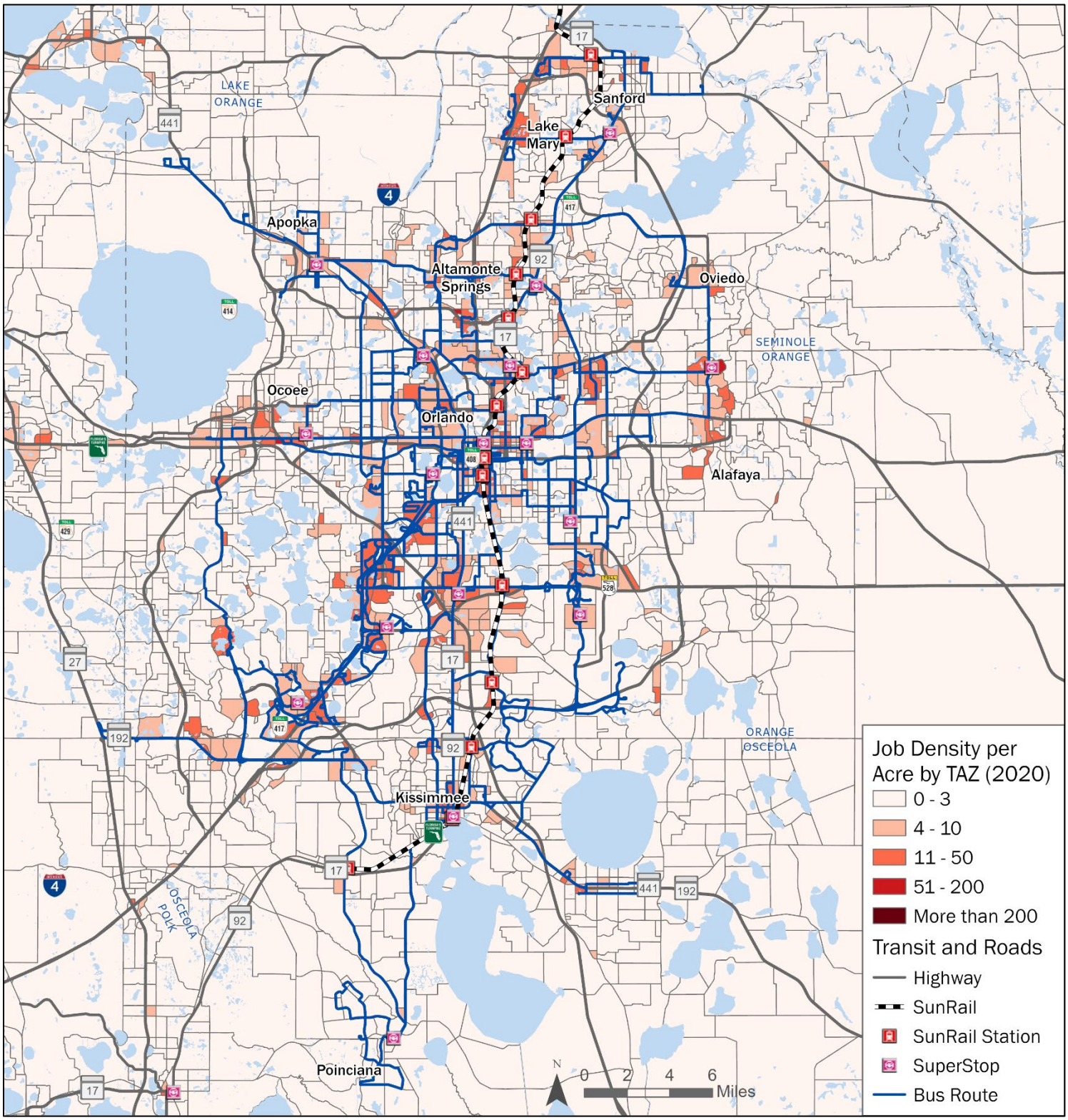


Figure 14: Job Density (2020)

Source: Central Florida Regional Planning Model (2020)

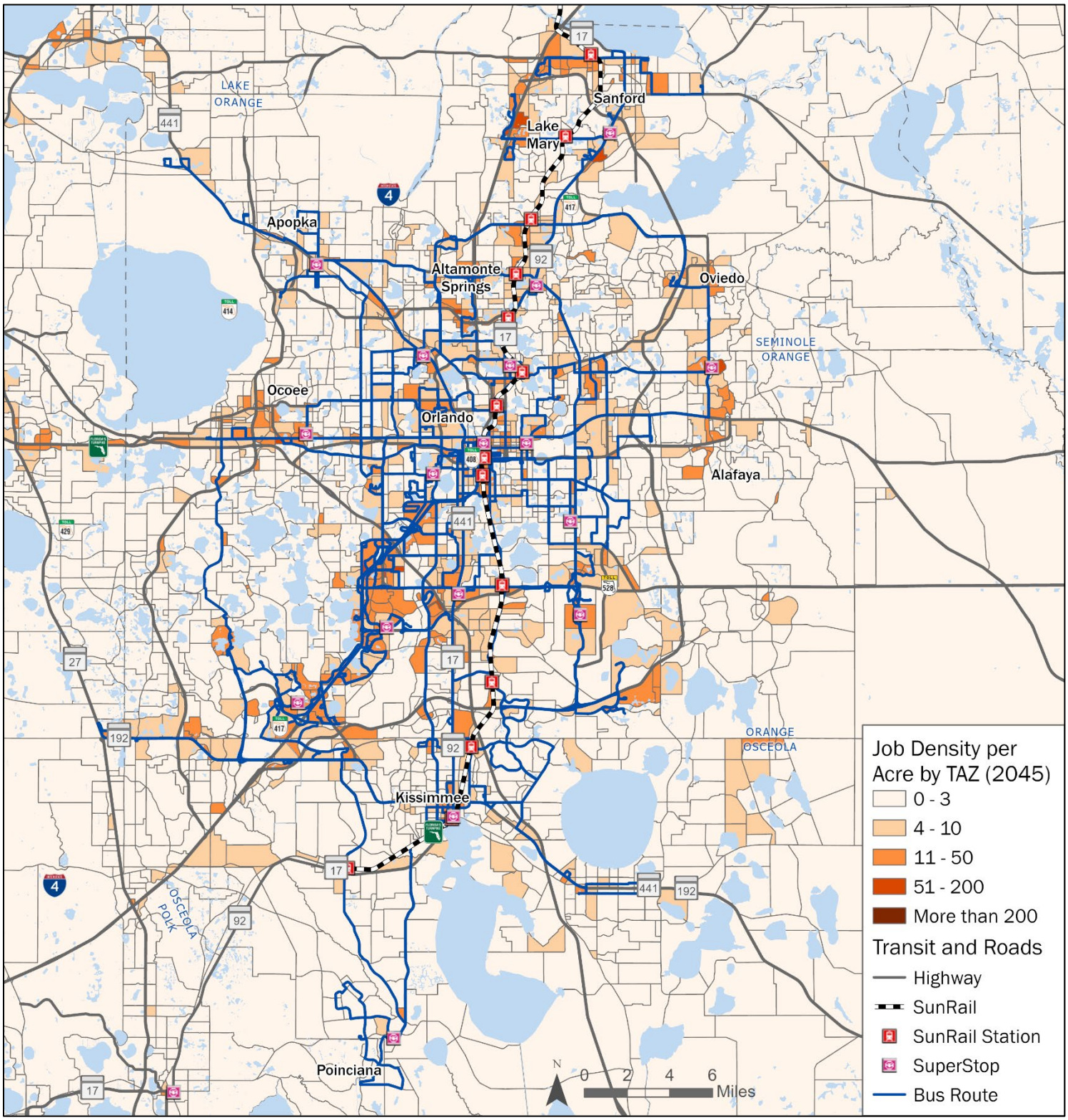


Figure 15: Job Density (2045)

Source: Central Florida Regional Planning Model (2020)

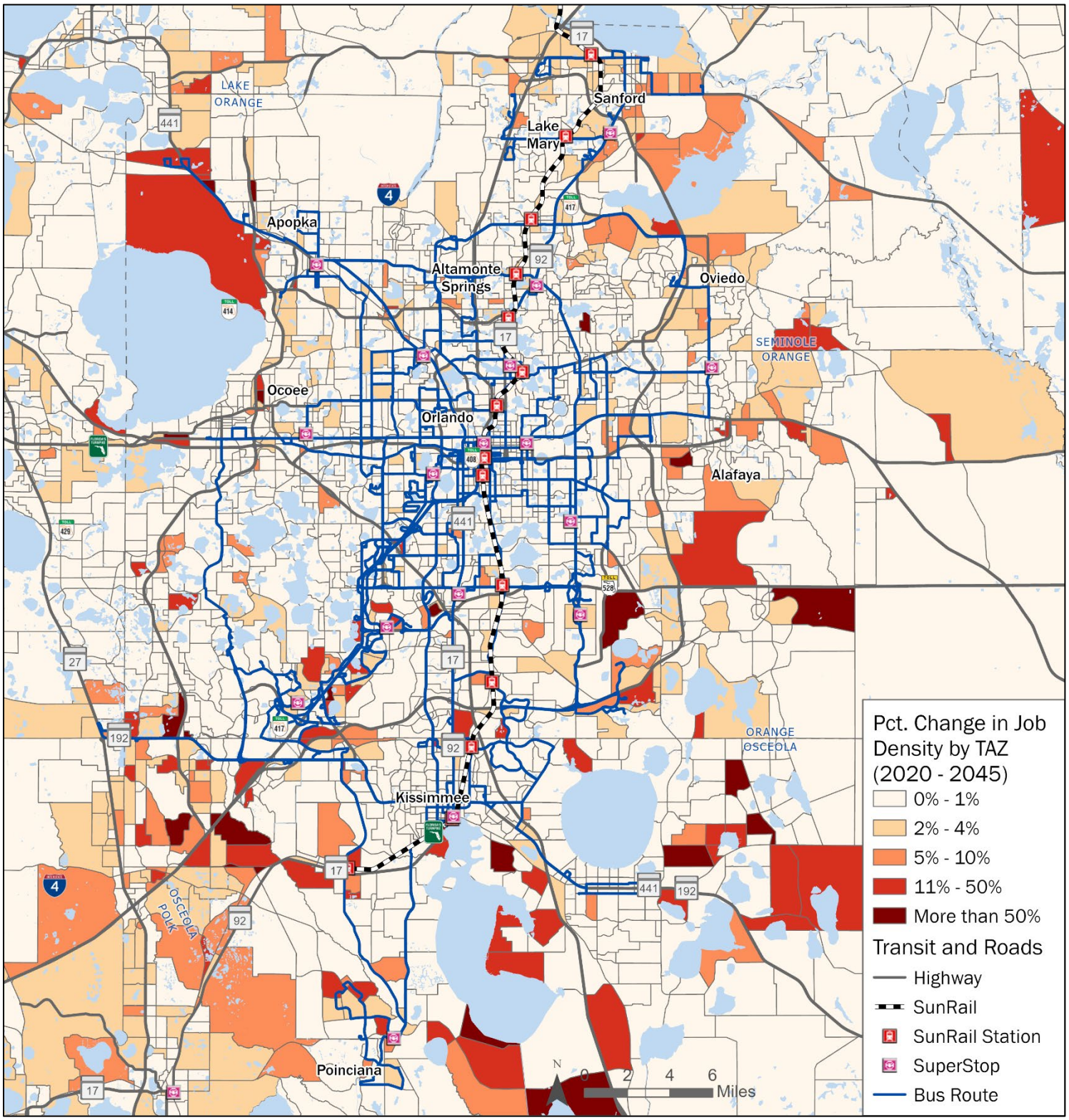


Figure 16: Percent Change in Job Density (2020-2045)

Source: Central Florida Regional Planning Model (2020)

Major Employers

Major employers generate large numbers of commute trips, which could efficiently be served by transit. The Orlando Economic Partnership produces lists of the Orlando metropolitan area's top employers. Table 14 shows the top 40 employers by number of employees. LYNX service reaches many of the top employers, including the Walt Disney World Resort, AdventHealth, Universal Orlando, Orlando International Airport, and the University of Central Florida. Altogether, the Orlando area's top 75 employers account for almost 300,000 employees, or roughly 25 percent of the total civilian labor force as of March 2022.

Table 14: LYNX Service Area Major Employers

Company	County	Employment
Walt Disney World Resort	Orange	58,478
AdventHealth	Various	37,000
Universal Orlando (+Resort)	Orange	21,143
Orlando Health	Orange	19,657
Orlando International Airport	Orange	15,783
Publix Super Markets Inc.	Various	15,511
University of Central Florida	Orange	12,354
Lockheed Martin	Orange	10,000
Siemens Energy	Orange	5,541
Westgate Resorts	Orange	4,975
SeaWorld Parks & Entertainment	Orange	4,472
Valencia College	Various	4,226
Marriott Vacations Worldwide	Orange	4,210
The Ritz-Carlton Orlando, Grande Lakes	Orange	3,838
Southwest Airlines	Orange	3,000
U.S. Army, Navy, Air Force, Marine Corps Commands	Orange	2,942
YMCA of Central Florida	Various	2,717
JetBlue Airways	Orange	2,661
Rosen Hotels & Resorts	Orange	2,658
Truist Bank	Various	2,610
Travel + Leisure Co. (Previously Wyndham Destinations)	Orange	2,500
Full Sail University	Orange	2,200
Deloitte Consulting	Seminole	2,100
Nemours	Orange	2,087
CAE Orlando	Orange	2,000
JP Morgan Chase	Orange	1,900
Bank of America	Various	1,800
Chase Card Services	Seminole	1,800
UF Health Central Florida	Lake	1,705
Alight Solutions (Previously Aon Hewitt)	Orange	1,500
Seminole State College of Florida	Seminole	1,455
Darden Restaurants	Orange	1,400
Liberty Mutual Group	Seminole	1,325
CVS Health	Orange	1,308
Duke Energy	Orange	1,301
Verizon Corporate Resources Group	Seminole	1,296
Spectrum	Various	1,229
Charles Schwab	Orange	1,200
Mitsubishi Power Systems Americas	Various	1,200
United Parcel Service	Orange	1,107

Source: Orlando Economic Partnership

Commute Patterns (Mode, Trip Length, Vehicle Availability, and Time of Day)

Like the location of major employers, the timing and mode of commute trips can inform decisions about transportation policies, transportation capital investments, and transit service. Table 15 summarizes data on when commutes happen and on average how long they take. That information is broken down by mode for counties in the LYNX service area.

In the LYNX service area, commutes by public transit take longer than commutes by driving alone or by carpool. In all three counties, more than 35 percent of public transit commuters have commutes longer than an hour, compared with fewer than 15 percent of commuters who drive alone. The average commute time for commuters who drive alone to work is roughly 27 minutes, much less than the 50 to 60-minute average travel time for transit commuters in Orange and Seminole Counties. The mean travel time was unavailable for Osceola County.

The data also suggests more transit commuters travel to work outside the typical peak period in Orange and Seminole Counties. In those two counties, 44 percent or more of transit commuters get to work later than 9:00 a.m. and between 28 to 31 percent of commuters who drive alone get to work later than 9:00 a.m. Regardless of mode, a large portion of commutes to work end after 9:00 a.m., and in Osceola County there is no clear differentiation in arrival times by mode.

Vehicle availability can affect household commute decisions. In Orange and Osceola Counties a much larger portion of transit commuters live in households with no available vehicle or only one vehicle available (over 60 percent). Interestingly, this trend is different in Seminole County where the largest portion of transit commuters reside in households with two vehicles available, over 37 percent.

Table 15: Commute Statistics

	Orange			Osceola			Seminole		
	Drove Alone	Carpool	Public Transportation	Drove Alone	Carpool	Public Transportation	Drove Alone	Carpool	Public Transportation
Travel Time to Work									
Less than 10 minutes	5.6%	5.2%	0.6%	5.0%	6.5%	5.0%	7.8%	8.1%	3.4%
10 to 14 minutes	9.1%	9.5%	5.9%	6.4%	9.1%	0.0%	11.7%	13.4%	2.2%
15 to 19 minutes	13.6%	15.3%	6.4%	8.7%	10.6%	11.4%	15.1%	14.8%	0.1%
20 to 24 minutes	16.7%	16.2%	7.2%	10.2%	12.1%	22.0%	15.1%	15.6%	11.1%
25 to 29 minutes	8.8%	7.2%	4.0%	8.2%	4.0%	0.0%	7.2%	9.0%	1.8%
30 to 34 minutes	20.6%	19.6%	14.9%	19.9%	20.8%	6.3%	16.8%	13.6%	16.3%
35 to 44 minutes	9.9%	9.8%	3.4%	12.5%	13.3%	2.9%	8.4%	7.4%	15.0%
45 to 59 minutes	10.2%	10.7%	14.7%	16.0%	14.3%	11.0%	10.7%	10.2%	14.4%
60 or more minutes	5.6%	6.4%	42.9%	13.1%	9.3%	41.3%	7.1%	7.8%	35.8%
Mean travel time to work (minutes)	**27.8**	**28.4**	**57.0**	**-**	**-**	**-**	**27.3**	**27.5**	**50.4**
Vehicles Available									
No vehicle available	1.3%	5.3%	32.8%	1.0%	2.1%	42.2%	1.0%	4.4%	16.7%
1 vehicle available	21.1%	26.4%	36.9%	17.3%	23.8%	21.0%	18.3%	19.2%	30.0%
2 vehicles available	46.2%	36.2%	22.6%	41.9%	41.7%	20.4%	45.5%	40.3%	37.7%
3 or more vehicles available	31.4%	32.2%	7.7%	39.8%	32.4%	16.4%	35.3%	36.1%	15.5%
Arrival Time to Work									
12:00 a.m. to 4:59 a.m.	4%	4%	2%	5%	4%	2%	2%	1%	5%
5:00 a.m. to 5:59 a.m.	5%	4%	5%	5%	2%	5%	5%	5%	1%
6:00 a.m. to 6:59 a.m.	14%	16%	13%	17%	14%	9%	13%	17%	7%
7:00 a.m. to 7:59 a.m.	23%	23%	20%	26%	23%	12%	26%	25%	11%
8:00 a.m. to 8:59 a.m.	23%	20%	16%	18%	20%	39%	25%	21%	20%
9:00 a.m. or later	31%	33%	44%	30%	37%	32%	28%	30%	55%

Source: 2020 American Community Survey (ACS) 5-year Estimates

Major Destinations Commute Origins Analysis

The Census Bureau's LODES datasets allow for origin-destination analysis of commute trips. Figure 17 through Figure 21 show the density of commute origins for five major destinations in the LYNX service area. They include Altamonte Springs, Disney, Downtown Orlando, Kissimmee, and Lake Nona/Orlando International Airport (OIA). Destinations like Altamonte Springs and Kissimmee have more geographically concentrated commuter origins. Conversely, Disney and Downtown Orlando draw commuters from a larger portion of the LYNX service area

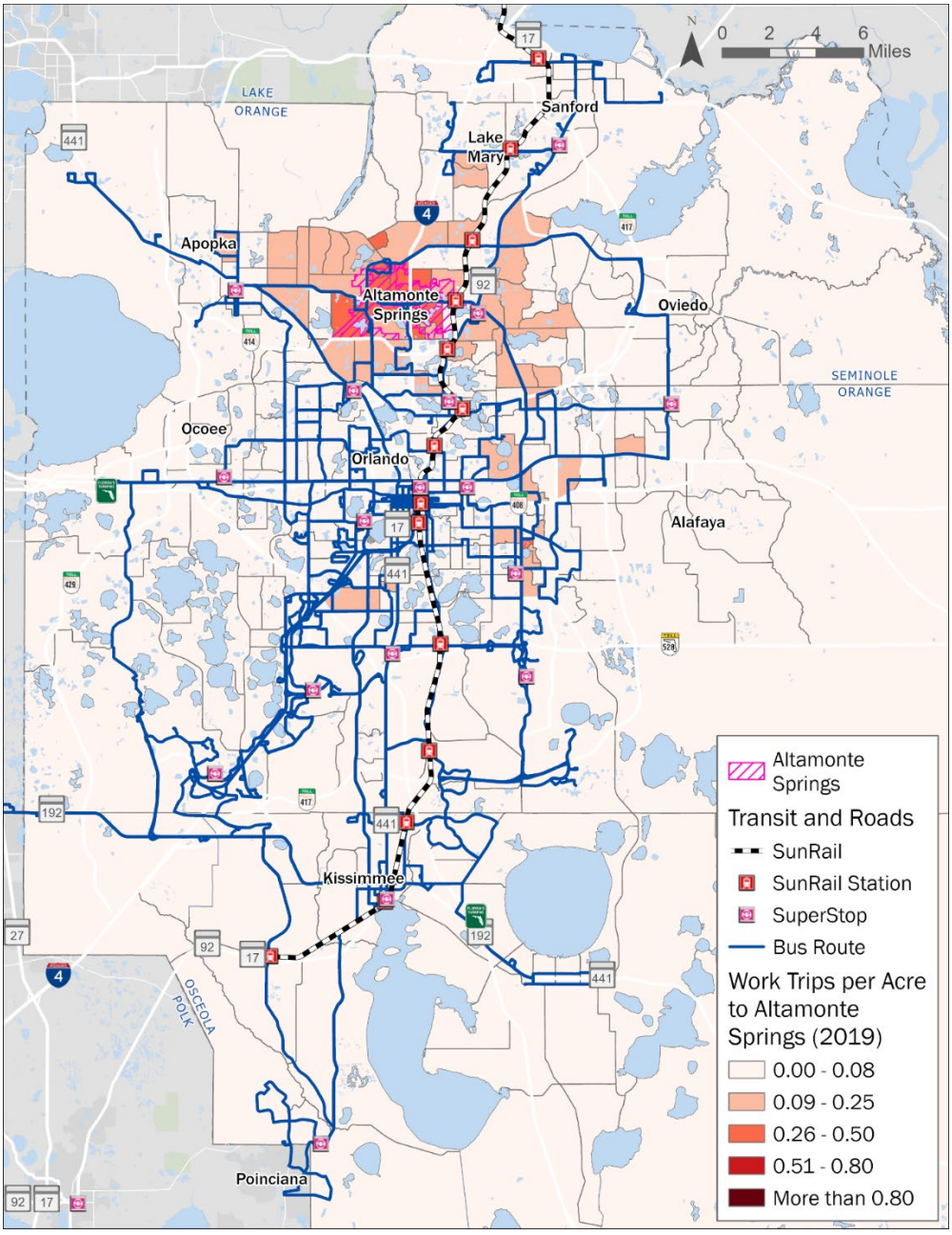


Figure 17: Distribution of Work Trips to Altamonte Springs

Source: LODES data for 2019 were accessed via the Census' OnTheMap web application: https://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap

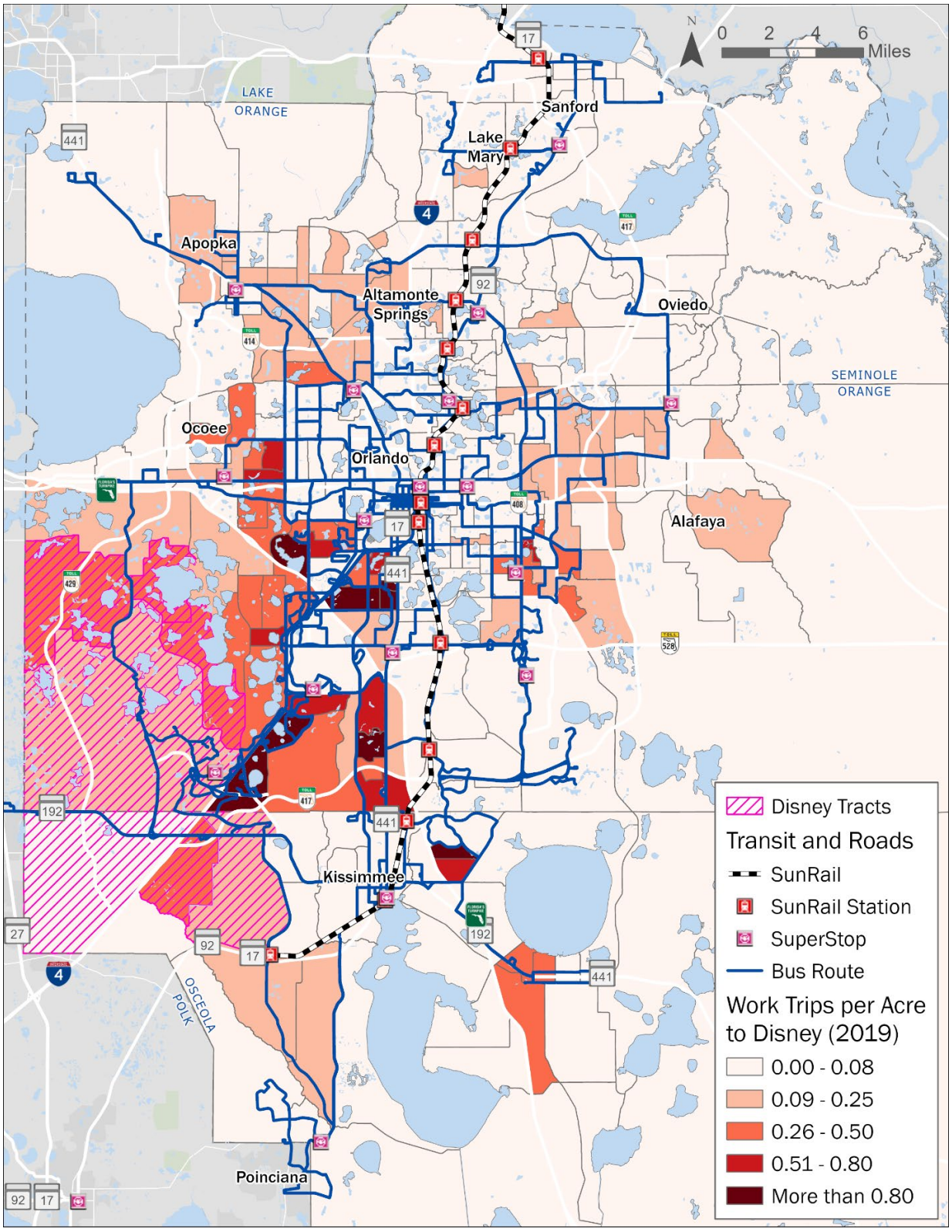


Figure 18: Distribution of Work Trips to Disney

Source: LODES data for 2019 were accessed via the Census' OnTheMap web application: https://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap

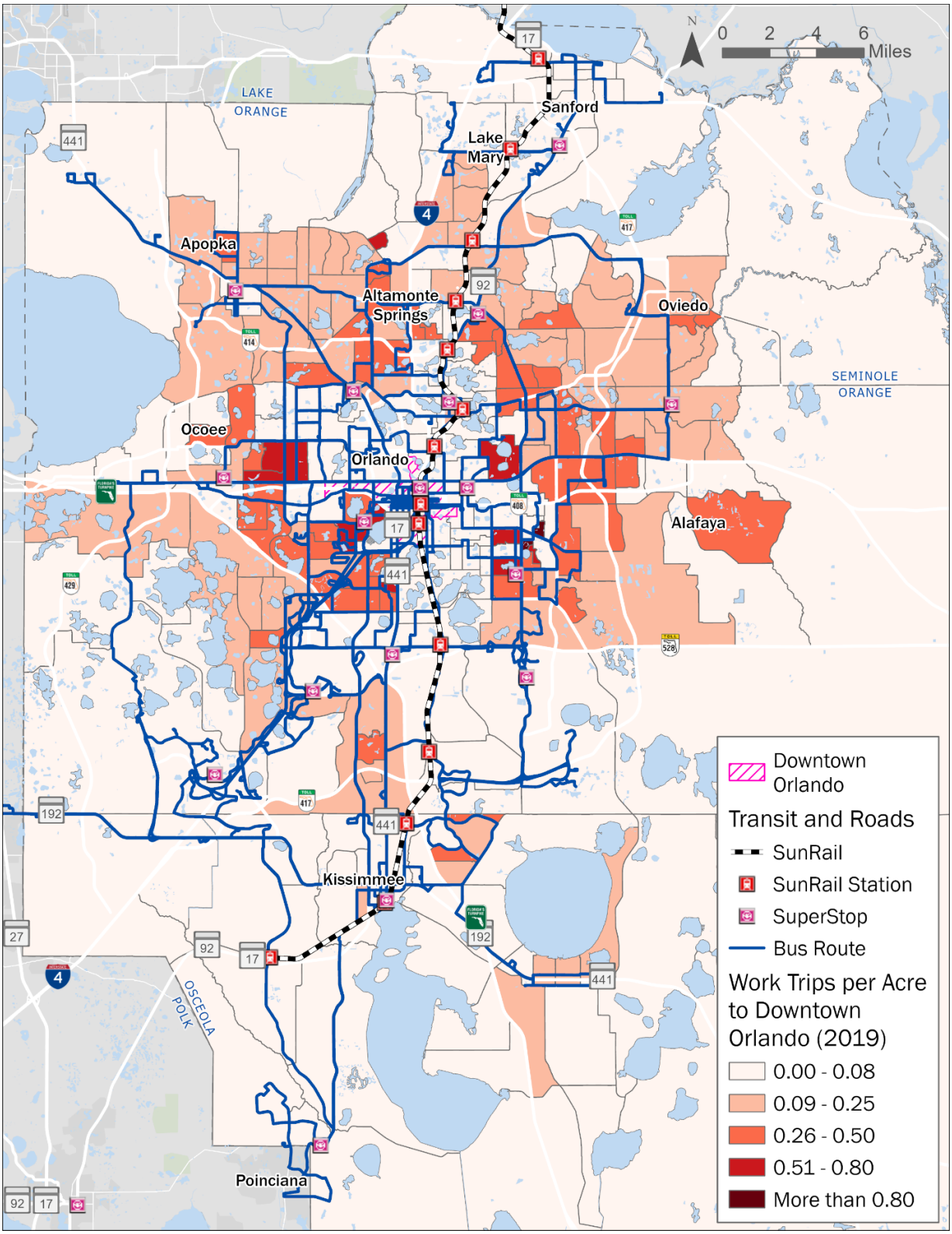


Figure 19: Distribution of Work Trips to Downtown Orlando

Source: LODES data for 2019 were accessed via the Census' OnTheMap web application: https://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap

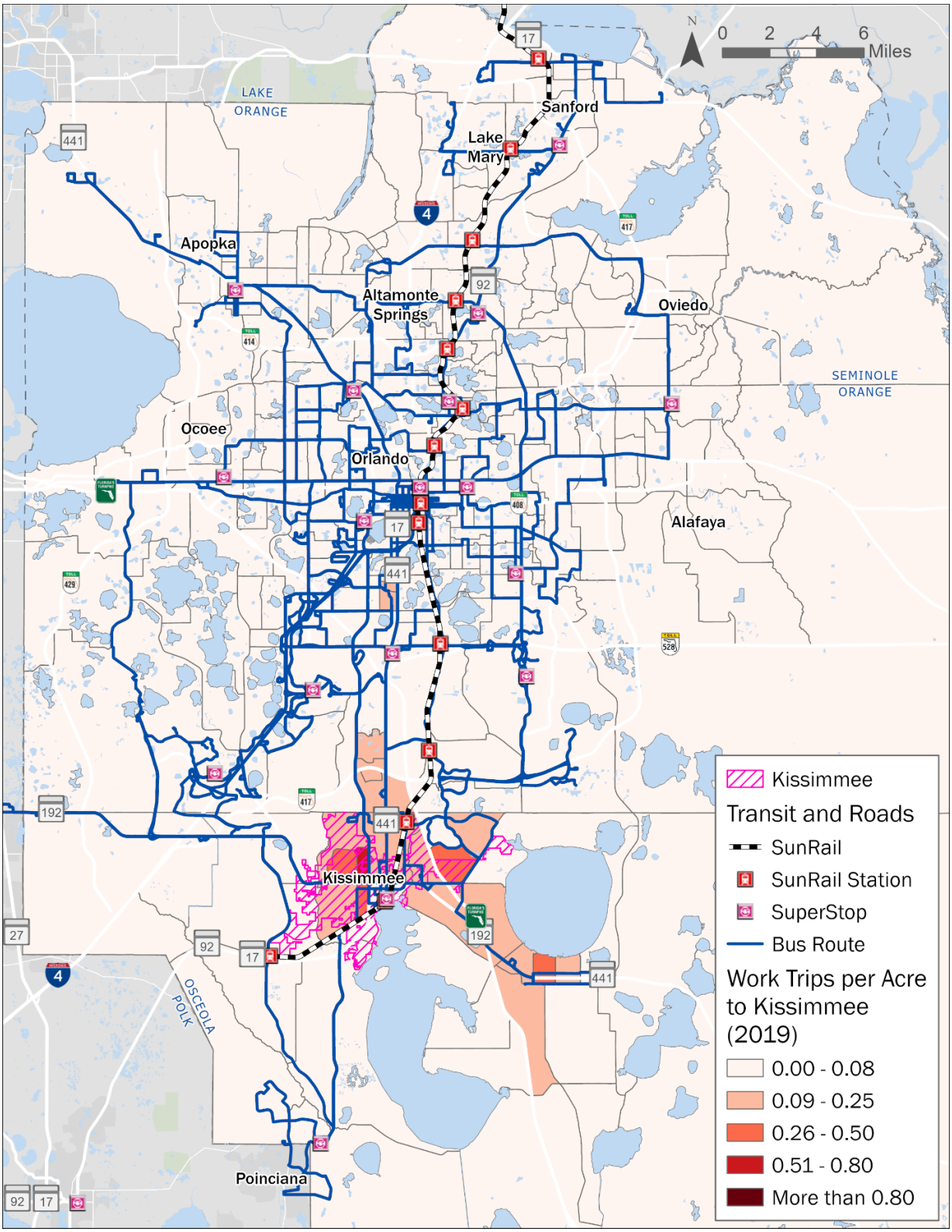


Figure 20: Distribution of Work Trips to Kissimmee

Source: LODES data for 2019 were accessed via the Census' OnTheMap web application: https://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap

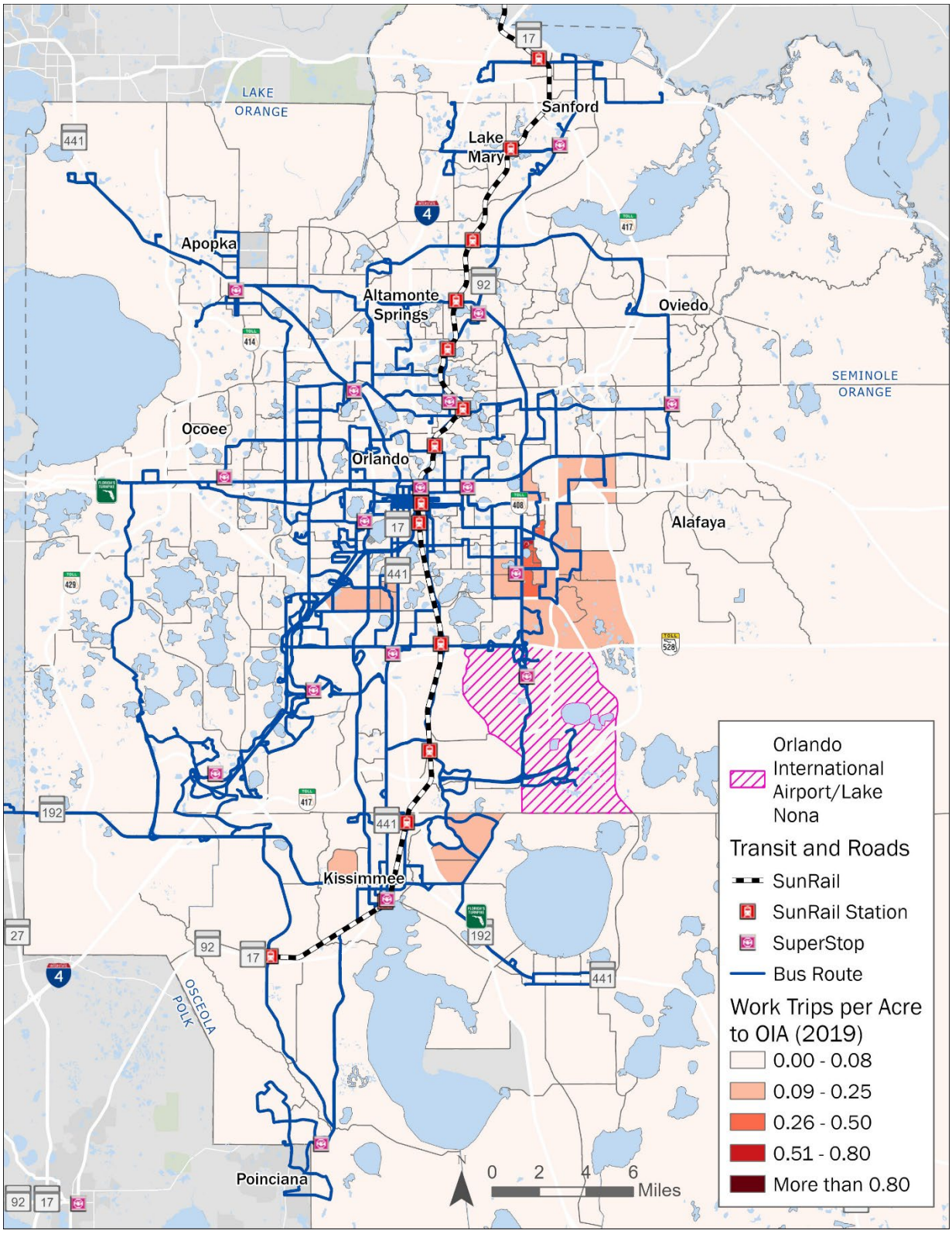


Figure 21: Distribution of Work Trips to OIA

Source: LODES data for 2019 were accessed via the Census' OnTheMap web application: https://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap

Major Activity Centers

Non-commute trips are as important as commute trips. Tourist destinations, medical facilities, and educational facilities are more likely to attract or generate these non-commute trips. Figure 22 displays hotel room density and tourist destinations, many of which are connected by existing LYNX service, particularly southwest of Orlando at major commercial destinations, including several theme parks. Figure 23 shows medical facilities in the LYNX service area. The region features more than 20 hospitals, most of which are accessible by LYNX service. Numerous smaller medical facilities are also accessible by LYNX. Figure 24 shows student density and educational facilities in the LYNX service area. LYNX service links educational facilities to many areas with especially dense student populations, most notably the University of Central Florida in eastern Orange County.

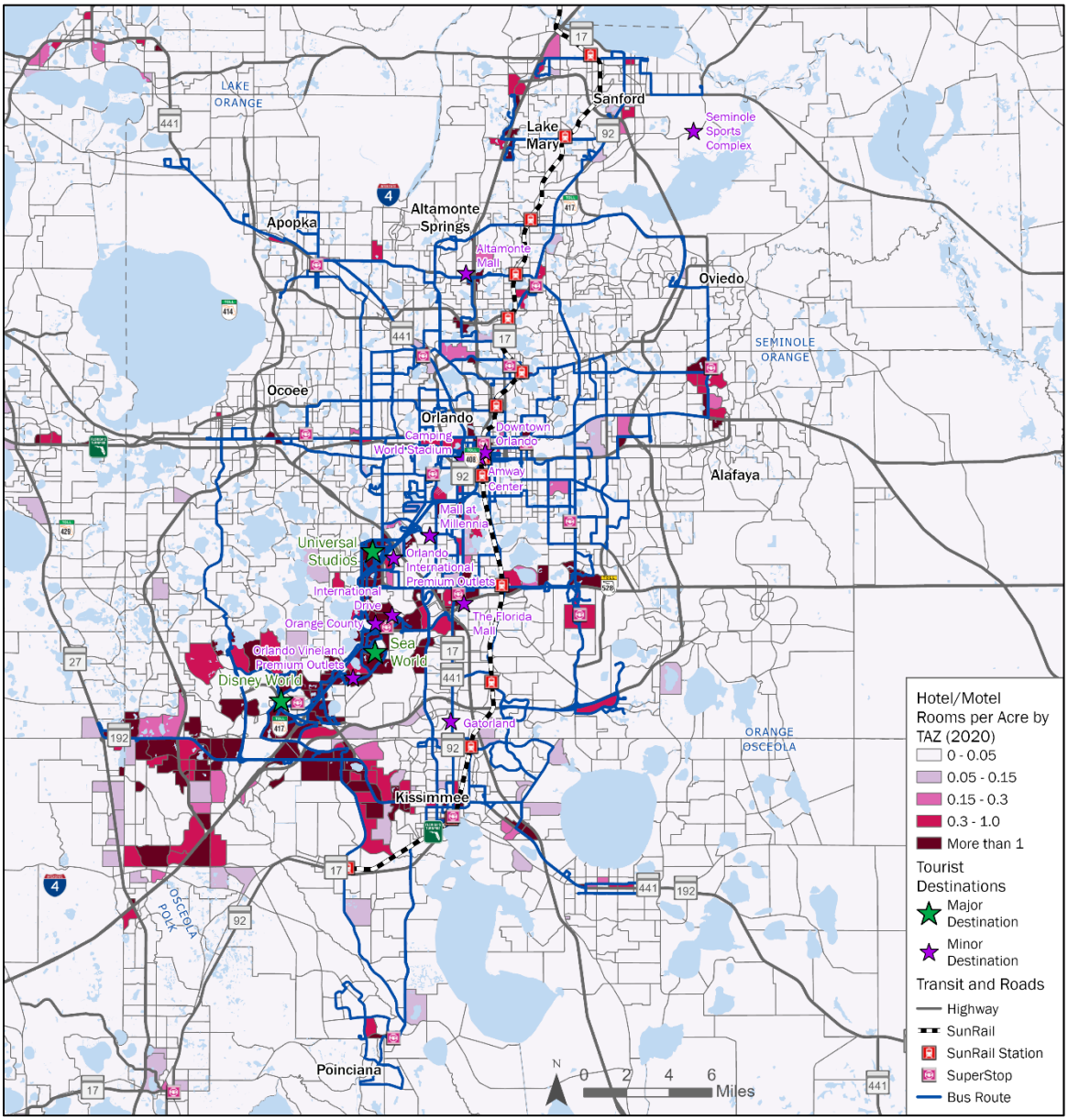


Figure 22: Hotel/Motel Room Density
Source: Florida Geographic Data Library

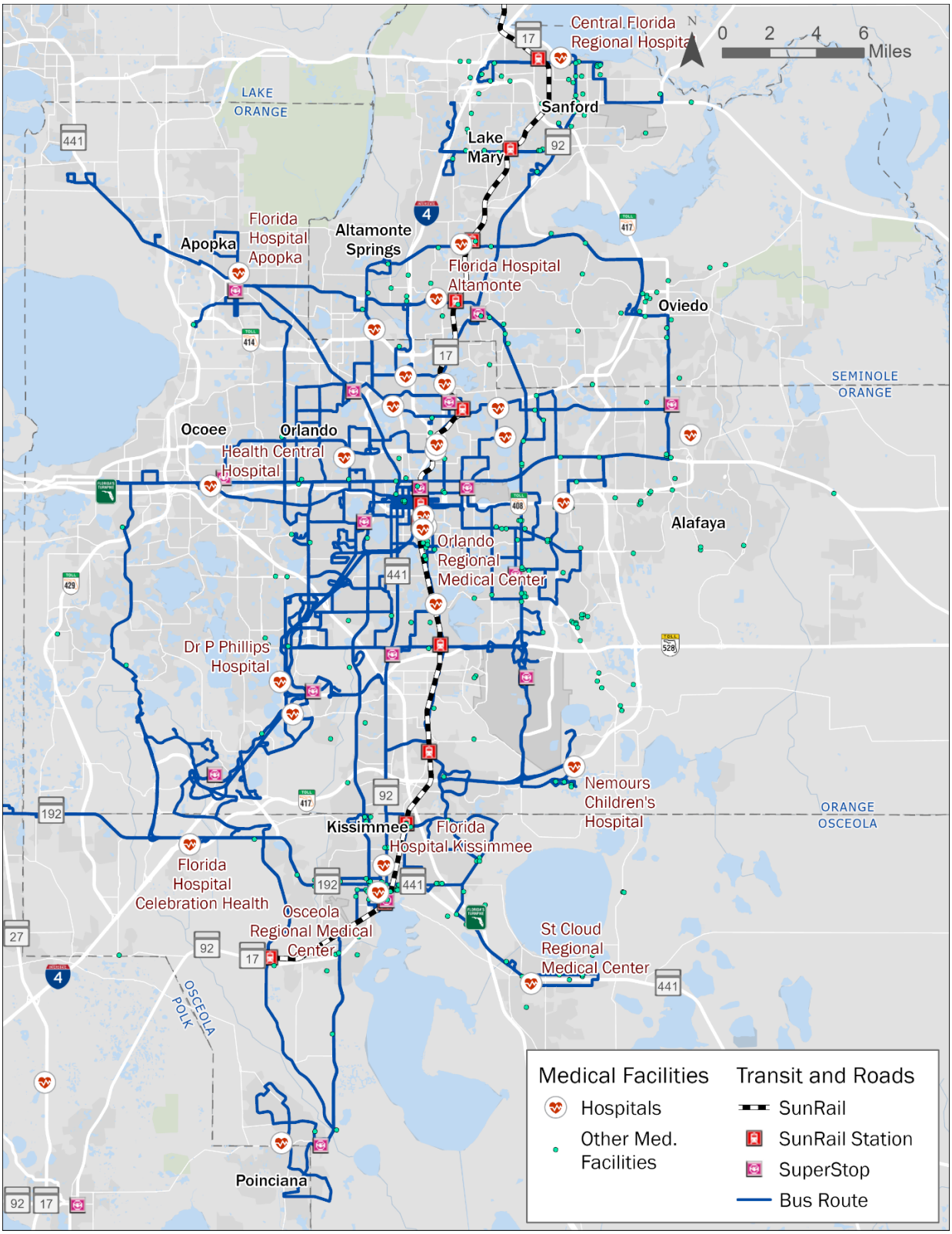


Figure 23: Medical Facilities

Source: Florida Geographic Data Library

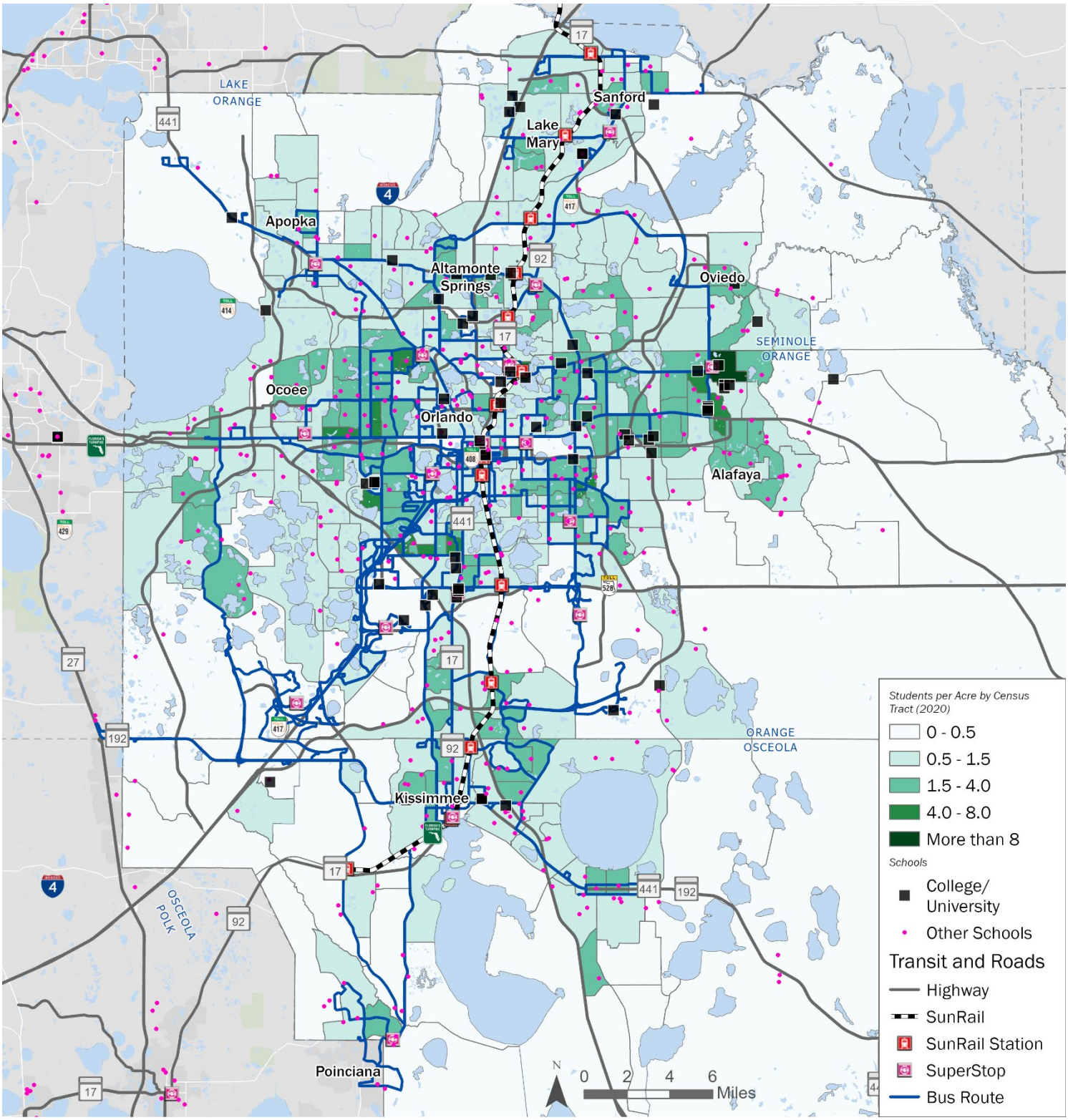


Figure 24: Student Density

Source: Florida Geographic Data Library, ACS 2020

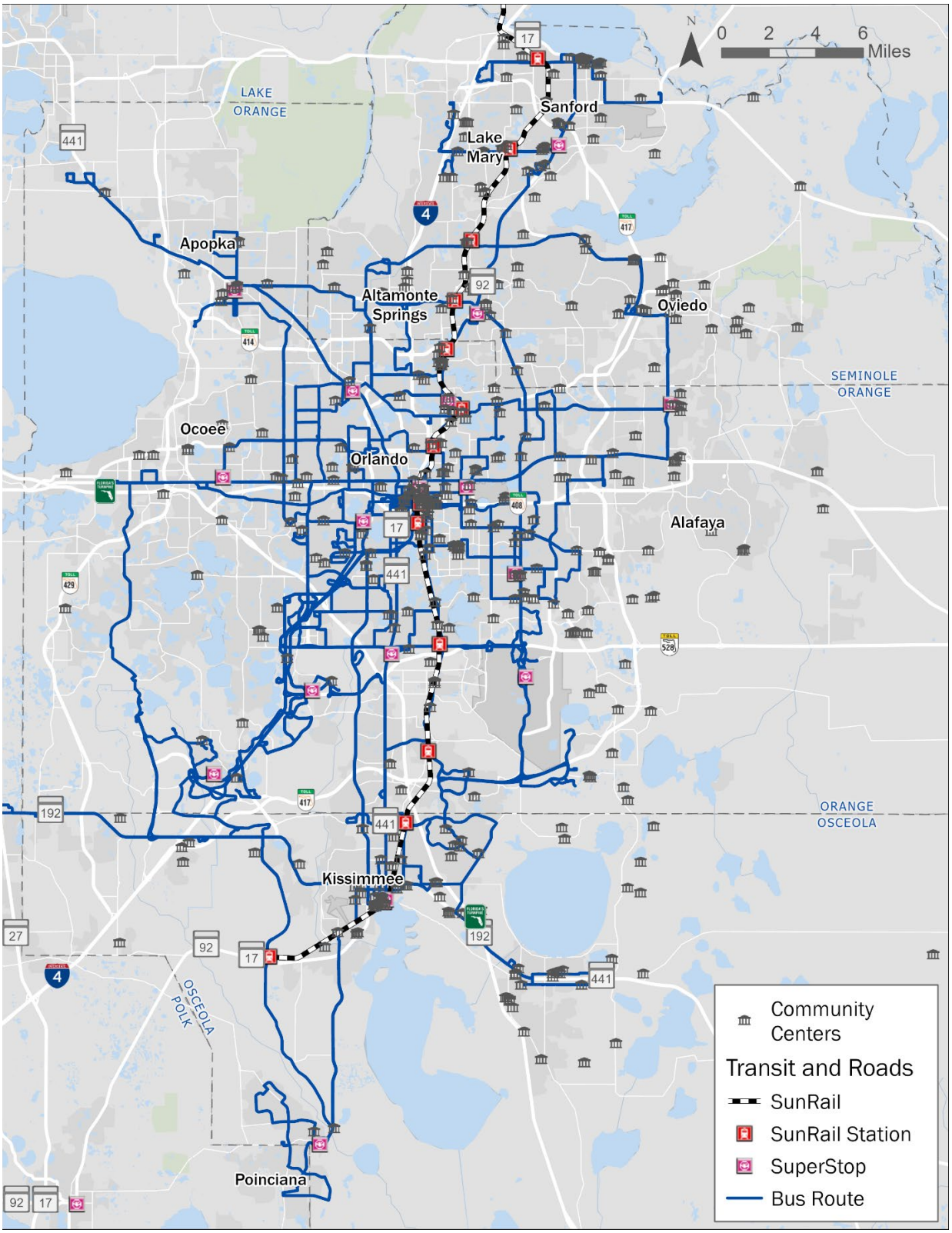


Figure 25: Community Centers

Sources: Florida Geographic Data Library

Transportation, Transit, and Land Use Plans and Policies

A review of regional and local transportation, transit, and land use plans was conducted for this TDP Major Update. That review is consistent with the FDOT TDP Rule which requires transit agencies to review and understand the policy context in which they operate. Furthermore, consistency with regional and local transportation goals and objectives is important in order to facilitate implementation of the TDPs goals and objectives.

Table 16 details the plans, policies, and codes included as part of this review. That table is organized to include the following elements for each document reviewed:

- The last date the plan was last updated
- Geographic applicability
- Who is responsible for the plan
- A plan/program overview
- Plan/program recommendations, objectives, strategies
- Key takeaways

Documents in this review include a broad range of materials including other LYNX planning studies, such as the LYNX Transit Development Plan (2021 Annual Update), the LYNX Transit Service Design Guidelines, and comprehensive/growth management plans for Orange, Seminole, and Osceola Counties. Table 16 provides further details on the overlap between the LYNX TDP and regional and local transportation, transit, and land use planning documents.

Table 16: Plans and Program Review

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
LYNX Transit Development Plan (2021 Annual Update)	Orange, Seminole, and Osceola Counties	LYNX	Planning document for LYNX to provide the fourth annual update to the Transit Development Plan (TDP) Major Update. The annual update covers years 2022 through 2031.	The Plan identifies revisions to the implementation program for FY 2022. Categories covered include service modifications (no revisions at time of publishing) and Future Transit Services Program (previously referred to as LYNX Forward). The Plan also provides a revised financial plan.
	Key Considerations/ Implications for TDP: • Past year accomplishments compared to the original implementation program. • Analysis of discrepancies between the plan and its implementation for the past year and steps to be taken to attain original goals and objectives (of particular note are changes to service plans). • Any revisions to the implementation program for the coming years, including the incorporation of select recommendations from the Route Optimization Study (ROS) completed in 2018. Revised financial plan for the tenth year.			
Orange County Transit Plan (2022)	Orange County	LYNX/Orange County	Planning document intended to identify funding sources to implement a redesigned transit system and define a schedule for phased implementation. This plan will become part of the overall regional transit network plan.	The Plan identifies several service objectives specific to Orange County. These objectives include the following. For Bus Service: • Increase Frequency • Expand Service Hours • Fast and Direct Job Access • New and Improved Regional Transit Center For Higher Capacity Service: • Enhanced High-Capacity Corridors • Increased SunRail Service Levels Including Weekends
	Key Considerations/ Implications for TDP: • Identifies several service types for the future LYNX Orange County transit network • Identifies capital investments required to implement the Plan, including vehicle acquisition, new vehicle maintenance facility, transit centers, SunRail station and track improvements, passenger amenities and access improvements, and park and ride facilities. • Identifies six phases for implementing new transit service, including: 1) Implementation of service improvements that do not require several new transit centers and other facilities. 2) Incorporation of high frequency service on three corridors, implementing the western piece of the commuter express east-west service along S.R. 408, completing the build-out of the LYMMO routes, and adding more primary and secondary local routes. 3) Implementation of additional high frequency service corridors throughout the service area, furthering the restructuring of the local service network in the eastern part of the LYNX Orange County service area. Implementation of additional on-demand/flex route services. 4) Implementation of the western portion of the Colonial Drive high frequency corridor along with two limited stop overlay services. Local and circulator routes in the westside of the LYNX Orange County service area and incorporating more on-demand/flexible services. 5) Implementation of two more high frequency corridors along with more local routes in the southwest part of the LYNX Orange County service area. 6) Implementation of the remainder of the high frequency corridors, along with two north-south primary local corridors, several secondary local routes, and a few on-demand/flexible services. • Identifies operating requirements and costs, which were developed for each of the six phases of implementation as previously described.			

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
Seminole County Transit Plan (2021)	Seminole County	LYNX/ Seminole County	Planning document structured to be consistent with the Orange County Transit Plan and designed to provide a consistent transit network throughout the Central Florida region. The Plan details modifications and enhancements to services that could be implemented with the reallocation of existing resources or with additional funding.	The Plan identifies several service objectives specific to Seminole County. These objectives include the following. For Bus Service: • Increase Frequency • Expand Service Hours • Fast and Direct Job Access • New and Improved Regional Transit Center For Premium Service: • Premium Rapid Transit • Enhanced SunRail Service Levels on weekdays and weekends
	Key Considerations/ Implications for TDP: • Identifies several service types for the future LYNX Seminole County transit network • Identifies capital investments required to implement the Plan, including vehicle acquisition, new vehicle maintenance facility, transit centers, and passenger amenities and access improvements. • Identifies four phases for implementing new transit service, including: 1) Regional express service. 2) U.S. 17/92 Corridor and S.R. 434. 3) High Frequency Corridors in the west and southwest LYNX Seminole County service areas. 4) State Road 436 Improvements/Other Service Enhancements. • Identifies operating requirements and costs, which were developed for each of the four phases of implementation as previously described.			
Osceola County Transit Plan (2021)	Osceola County	LYNX/Osceola County	Planning document designed to be consistent with regional transit plans. The Plan details modifications and enhancements to services that could be implemented with the reallocation of existing resources or with additional funding.	The Plan identifies several service objectives specific to Osceola County. These objectives include the following. For Bus Service: • Increase Frequency • Expand Service Hours • Fast and Direct Job Access • New and Improved Regional Transit Center For Premium Service: • Premium Rapid Transit • Enhanced SunRail Service Levels on weekdays and weekends
	Key Considerations/ Implications for TDP: • Identifies several service types for the future LYNX Osceola County transit network • Identifies capital investments required to implement the Plan, including vehicle acquisition, new vehicle maintenance facility, and transit centers. • Identifies four phases for implementing new transit service, including: 1) Regional express service. 2) U.S. 192 Corridor West and Connections to Poinciana. 3) U.S. 192 Service East and Improvements in Kissimmee. 4) Osceola Parkway and Local Poinciana Service Improvements. • Identifies operating requirements and costs, which were developed for each of the four phases of implementation as previously described.			

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LYNX Transit Service Design Guidelines (2022)	Orange, Seminole, and Osceola Counties	LYNX	Service Guidelines created to document best practices for LYNX in meeting the needs of the community. Provides information across three sections, including: Service Design Guidelines; Evaluation Metrics, and Service Change Process	The Service Guidelines identify several performance evaluation measures. These measures help LYNX monitor and evaluate services for both the service quality they provide the customer as well as whether a service is an effective use of resources. For all transit services provided by LYNX, performance targets are established. They include on-time window, on-time goal, peak max load, and off-peak max load.
	The three sections of the Service Guidelines cover several important considerations for the TDP. • Service Design Guidelines (Section 1). Covers technical best practices for determining route alignments and building public schedules for all transit service. This section also identifies where transit services may be most successful and this helps inform decisions based on the built environment. Transit service standards are established for current and planned future transit service. • Evaluation Metrics (Section 2). Outlines the importance of and defines performance metrics. These standards establish three measures for evaluating service effectiveness and the efficient use of resources including passengers per revenue hour, average load, and farebox recovery. • Service Change Process (Section 3). Describes how to apply the lessons learned of the first two sections in order to implement successful service planning. As part of this process, engagement from the affected community is encouraged.			
LYNX 2022 GIS Strategic Plan Update	Orange, Seminole, and Osceola Counties	LYNX	Planning document that provides a review of the current GIS technologies employed by LYNX, provides information on the spatial based data exchange and use between LYNX departments, identifies existing GIS needs and goals for the agency, and recommends GIS solutions based on industry trends and emerging technology.	The GIS Strategic Plan has six Goals, which are broadly summarized as: 1) Automate data collection and processing capabilities for location-based data by adopting innovative technologies and techniques. 2) Configure mobile data that ties to the central LYNX GIS database. 3) Enhance customer-facing location-based services. 4) Enhance coordination of systems across the Central Florida region. 5) Create policies and standards to enhance IT operation. 6) Enhance staff training.
	The GIS Strategic Plan Update includes short-term (next 5 years), mid-term (6-10 years), and long-term (10-20 years) strategies. Short-term strategies include: • Expand enterprise GIS adoption agency-wide • Enterprise GIS access optimization • Configure and implement enterprise geodatabase • Establish integrations between corporate data/systems and enterprise GIS • Configure distributed and partnered collaborations • Implement Esri GeoEvent Server and GTFS Realtime Connector • Implement Esri transit solutions Long-term strategies include: • GIS architecture enhancements • Technology adoption			

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LYNX Transit Asset Management (TAM) Plan (2021)	Orange, Seminole, and Osceola Counties	LYNX	Planning document that improves upon lifecycle planning and capital programming practices to include fleet management plans and alignment with the agency's strategic goals. The Plan identifies further opportunities for improvement, clearly identifies that the Department of Planning and Development is the leader of the TAM program and establishes a cross-functional TAM Steering Committee.	The Federal Transit Administration (FTA) published the TAM Final Rule, which was established to help transit agencies achieve and maintain state of good repair (SGR) for capital assets through TAM. A capital asset is in SGR when that asset: • Can perform its designed function, • Does not pose a known unacceptable safety risk, and • Has lifecycle investments that have been met or recovered.
	Key Considerations/ Implications for TDP: • Emphasizes importance of complying with TAM regulations and maintaining assets in SGR. • Identifies the total revenue fleet that LYNX manages, which comprises the largest share of LYNX assets. This revenue fleet includes buses, cutaways, vans, SUVs, and minivans. • Identifies support buildings, which comprises the second-largest asset class of all LYNX assets. Support buildings include the LYNX Central Station (LCS), LYNX Operations Center (LOC), leased facilities, and the pavement around some SuperStops and Transfer Centers. • Indicates that in order to maintain assets in SGR, LYNX will need to reinvest in them regularly and this includes rehabilitation and replacement of aging assets. The level of reinvestment needed to clear the current SGR backlog of deferred replacement or renewal is estimated at around $176.3 million. • Identifies estimated capital funding for LYNX, which is insufficient to meet need and will result in growing backlog over time. • Outlines investment priorities in a funding-constrained environment that are aligned with LYNX's TDP and strategic goals. LYNX Investment Prioritization Criteria include safety and security, service reliability, customer experience, and efficiency (operating and maintenance cost). • Establishes a calendar of Annual Activities and Improvement Activities, which will be led by the TAM Steering Committee. The TAM Steering Committee will provide guidance and review progress against milestones. The TAM Steering Committee will also review annual SGR performance measures and targets for reporting to the National Transit Database (NTD).			
LYNX Transportation Disadvantaged Service Plan (TDSP) (2022)	Orange, Seminole, and Osceola Counties	LYNX	Planning document that reflects LYNX's commitment to maintain and improve transportation services for the transportation disadvantaged (TD) and serves as a framework for evaluating transit service performance. LYNX serves the TD community primarily through the ACCESS LYNX program. The TDSP outlines a strategy for meeting the state of Florida requirements through service planning, development, and implementation of transportation resources.	The overall goal of the Coordinated Transportation System in the LYNX service area is "*To coordinate and provide seamless access to transportation services to meet the mobility needs of those who, because of age, income, or disability, can neither provide nor arrange for their own transportation*." The goals for the ACCESS LYNX program specifically are: 1) Transition Transportation Disadvantaged (TD) customers to the most appropriate mode of transportation; 2) Customer outreach and education; 3) Improve community perception of public transportation; 4) Adopt service guidelines, standards, and processes and procedures for mobility services in Central Florida, and 5) Provide transit services that support regional mobility options and changing travel demands.

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
(cont.) LYNX Transportation Disadvantaged Service Plan (TDSP) (2022)	Key Considerations / Implications for TDP: • Provides an overview of the service area, including background information on the Transportation Disadvantaged (TD) service program, service area description, demographics, and major trip generators. • Provides a forecast of transportation disadvantaged population by county. This group includes persons that may be utilizing the ACCESS LYNX service • Provides a service plan, including descriptions of service operations and how to access services. • Defines ACCESS LYNX eligibility, including via the Transportation Disadvantaged (TD) service rogram, American with Disabilities Act of 1990 (ADA) Paratransit Service, and trip prioritization. • Provides an overview of the LYNX Mobility Management Operating Model, which become effective on December 1, 2017. This Model includes call center functions being operated directly by LYNX to improve ACCESS LYNX program management, the determination of the most efficient mode of travel, and free travel training offered to customers that instructs them on how to use the fixed route system.			
LYNX Intelligent Transportation Systems Strategic Plan Update (2022)	Orange, Seminole, and Osceola Counties	LYNX	Planning document that provides an update on LYNX ITS development activities and applications. The initial ITS Strategic Plan was completed in 2003. Updates were prepared in 2011 and 2016.	The LYNX ITS program has seven goals: 1) Focus on LYNX's core mission of providing transit services; 2) Increase coordination with regional agencies on facilitation of LYNX operations; 3) Develop enhanced performance monitoring of all aspects of LYNX operations; 4) Any data used or provided by LYNX meets applicable industry standards, so that it can be used to support third-party applications that customers are already using to meet their needs; 5) Improve operations and maintenance practices to increase fleet readiness and increase cost effectiveness; 6) Minimize risk to the extent possible by integrating the safety and security of projects as a top priority, including cybersecurity; and 7) Develop enhanced IT systems and training to achieve a reduction in paper processing and improved access to databases.
	Key Considerations / Implications for TDP: • Identifies existing and prospective technologies, including mobile apps and real-time passenger information. • Provides a needs assessment based on the review of past ITS plans. Identifies the reasons why relevant projects were not implemented. • Identifies several funding sources for ITS projects, including federal (FTA Section 5303, FTA Section 5307, FTA Section 5312, FTA Section 5314b, FTA Section 5339, and DHS Rail and Transit Security Grant Program), state (multiple FDOT funding programs, including the Public Transit Service Development Program), and local. • Provides a prioritized ITS Improvement Program with 31 projects over a 5-year timeframe (nine with nominal costs).			

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LYNX Human Services Transportation Plan Update (2022)	Orange, Seminole, and Osceola Counties	LYNX	Planning document that provides an update to the LYNX Human Service Transportation Plan (HSTP). LYNX initiated an update to this plan to reflect any changes under the Federal Transit Administration (FTA) Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities program, the November 2021 transportation funding and authorization bill (Infrastructure Investment and Jobs Act), and to include the most current local conditions including changes in population and service needs.	The overall purpose of the Plan is to establish future transportation needs for projects that improve coordination and mobility for older adults and individuals with disabilities. Projects are implemented if funding is available and as eligible applications are submitted.
	Key Considerations / Implications for TDP: • Provides overview of relevant background including background on LYNX service. • Provides overview of relevant federal programs including the Section 5310 Program (Enhanced Mobility of Seniors and Individuals with Disabilities), Section 5311 Program (Formula Grants for Rural Areas), the Infrastructure Investment and Jobs Act, and fund braiding. • Provides a review of related existing plans and programs, as well as a peer review of best practices. • Establishes existing conditions and outlines the public outreach process. • Identifies needs and strategies for addressing service and coverage gaps. Implementation strategies are organized into near-term (1-3 years), intermediate-term (4-6 years), and long-term (over 7 years) timeframes. • Near-terms strategies cover topics related to planning (e.g., Continue coordination with FDOT on providing alternatives to public transportation across urbanized and rural boundaries and using a methodology to split the trip expenses.); mobility services (e.g., Continue to promote travel training information to human services agencies and notify the general public that the travel training service is available.); operations (e.g., Upgrade the ACCESS LYNX telephone system to better communicate with passengers regarding pick up, drop off, and other information via text messages, phone calls, or email.), and customer service (e.g., Request updated contact information for ACCESS LYNX clients to improve the availability of mobility device data and multiple ways to deliver information updates to clients.)			
MetroPlan Orlando MPO 2045 Metropolitan Transportation Plan (MTP) (2020)	Orange, Seminole, and Osceola Counties	MetroPlan Orlando	Planning document that advances the Central Florida regional vision for a regional transportation system that safely and efficiently moves people and goods through a variety of options that support the region's vitality.	Goal areas of the plan include: • Safety & Security - Provide a safe and secure transportation system for all users • Reliability & Performance - Leverage innovative solutions to optimize system performance • Access & Connectivity - Enhance communities and lives through improved access to opportunities • Health & Environment - Protect and preserve our region’s public health and environmentally sensitive areas • Investment & Economy - Support economic prosperity through strategic transportation investment.

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(cont.) MetroPlan Orlando MPO 2045 Metropolitan Transportation Plan (MTP) (2020)	Key Considerations / Implications for TDP: • Identifies several needs for the region, including pedestrian and bicyclist needs, regional transit needs, and multimodal needs. • The Plan includes projects from years 2026-2045. During this time frame the Plan identified $13.19 billion in federal, state, and local funded projects and another $14.69 billion in projects funded with tolls by Central Florida Expressway Authority and Florida's Turnpike Enterprise. In total, the plan identifies $27.9 billion in project needs. • This Plan diversifies the Central Florida transportation system by investing in multimodal projects for all users. The Plan also represents a shift from moving cars to moving people. • The Central Florida region's transportation needs greatly outweigh what the region can afford based on current funding projections.			
MetroPlan Orlando MPO Transportation Improvement Program (TIP) (2021)	Orange, Seminole, and Osceola Counties	MetroPlan Orlando	The purpose of MetroPlan Orlando's Transportation Improvement Program (TIP) is to identify all federal and state funded transportation projects that have been scheduled for implementation in the Orlando Urban Area (Orange, Seminole, and Osceola Counties) during the FY 2021/22 - 2025/26 timeframe. The projects listed in the TIP include improvements to the area's highway, transit, and aviation systems. Rail projects are also included.	Goal areas of the plan include: • Safety & Security - Provide a safe and secure transportation system for all users • Reliability & Performance - Leverage innovative solutions to optimize system performance • Access & Connectivity - Enhance communities and lives through improved access to opportunities • Health & Environment - Protect and preserve our region's public health and environmentally sensitive areas • Investment & Economy - Support economic prosperity through strategic transportation investment.
	Key Considerations / Implications for TDP: • Identifies all federal and state funded transportation projects that have been scheduled for implementation in Orange, Seminole, and Osceola Counties during the program timeframe. Some of the listed projects for transit related improvements for LYNX include: • Southern Operations Base (Osceola County) • Transit centers, super stops, passenger amenities, and transit enhancements • Purchase commuter vans, replacement buses, electric buses, and capital for buses and equipment • Fixed route capital, maintenance, and support equipment • Fixed guideways improvements • Commuter assistance			

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Comprehensive Plan – Orange County (2021)	Orange County	Orange County	Planning document to guide the development of Orange County. The Plan includes adopted Goals, Objectives, and Policies, as well as the adopted Future Land Use Map series.	Goal categories of the Plan include Urban Framework, Urban Strategies, Urban Form, Horizon West, Innovation Way, Protection of Rural Land Resources and Other Assets, Regionalism, and Implementation
	Includes several objectives and policies related to public transportation and transit, including but not limited to: • The County may grant an exception from transportation concurrency for projects that promote public transportation, as defined in Chapter 163.3164(37), Florida Statutes. (Added 05/09, Ord. 2009-15; Amended 06/12, Ord. 2012-14; Amended 03/13, Ord. 2013-07) [OBJ T2.8] • The County shall promote mobility in Orange County by continuing to fund public transportation. [OBJ E3.2] • New development and redevelopment in the State Road 436/50 Area Redevelopment Plan Study Area shall promote connectivity to existing development through pedestrian connections, cross-access easements, and enhanced transit stops, where possible. (Added 10-13-09, Ord. 2009-28) [FLU2.4.5] • The County shall support high-frequency public transit including, but not limited to, commuter rail, light rail, circulator systems, and Bus Rapid Transit (BRT), where appropriate. [T3.3.1] • The County shall continue to coordinate with LYNX and MetroPlan Orlando to accommodate the special needs of the transportation disadvantaged in accordance with Federal, State, and local regulations and definitions. This includes the provision of safe, accessible, and convenient public transportation service and facilities, through financial and technical assistance and through inter-agency agreements. [T3.4.6] • Orange County shall encourage a vertical mix of land uses to provide opportunities for live/work structures and commercial base for supporting public transportation. [UD4.2.1] • Defines a Traditional Neighborhood Development (TND), which uses include mixed use communities with "towns and villages" designed to be within walking distance of central commercial and transit stops. Defines Mixed Use Corridor (MUC), which are intended to promote redevelopment of suburban corridors and transit-oriented development, including transit design standards, in conjunction with Activity Centers and transit planning efforts. [Table 1.1.4B - Urban Service Area - Urban Mixed-Use] • Several future land uses are explicitly encouraged to include transit-friendly development. [e.g., FLU1.1.5] • Provides overview of two transit-oriented/friendly developments, including Horizon West and Innovation Way. [GOAL FLU4; GOAL FLU5] • Identifies several sources of funding for transportation improvements, including available state or federal transit funds.			

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Comprehensive Plan – Seminole County (2021)	Seminole County	Seminole County	Planning document to guide the development of Seminole County. The Plan serves the Seminole County community by providing a guidebook for decision makers to use in spending public funds and approving private development	The vision of the Plan includes: 1) An adopted future land use map and facility strategy which limits urban sprawl, 2) A natural lands acquisition and management program designed to restore key ecosystems and protect wildlife and natural areas, 3) An economic incentives program to attract targeted industries and create new high paying jobs, 4) An urban design element and program to maintain community quality and create neighborhood compatibility, and 5) A secure and solid infrastructure support system.
	Several elements of the comprehensive plan include objectives and policies that address public transportation and transit. These include: • Capital Improvements Element. Identifies funding for public transportation services and identifies the Proportionate Fair-Share Program. [Policy CIE 1.11] [Policy CIE 4.3] • Conservation Element. Identifies transit-oriented solutions to reduce greenhouse gas emissions, including continuing support for LYNX public transit improvements. [Policy CON 5.4] • Future Land Use Element. Identifies the following: a commuter rail system and responsibility for the stations and surrounding parking; multimodal transportation as a way to combat urban sprawl; links between energy conservation and transportation options; ongoing financial contributions to LYNX. [Issue FLU 4] [Policy FLU 1.16] [Policy FLU 5.2] [Policy FLU 15.3] • Intergovernmental Coordination. Identifies coordination with Central Florida Commuter Rail (SunRail) for commuter rail, commuter rail station area issues, and LYNX regarding mass transit. [Issue IGC 5] • Recreation & Open Space. Identifies ongoing coordination with LYNX to evaluate and expand public transportation access. [Policy REC 2.4] • Transportation. Identifies the following: the need for coordination of project design with transit systems, the need to increase multimodal access, including to transit, transit impact on LOS, the possibility of bus rapid transit on State Road 436, and offering of NeighborLink in areas not currently served. Also indicates that the inclusion of transit stops or transit shelters will be required during the redevelopment of parcels on current or future transit corridors. [Policy TRA 2.2.16.4] [Policy TRA 3.4.26.7] [Policy TRA 1.1.5.2] [Policy TRA 1.1.6] [Policy TRA 2.3.3.2.E &F] [Policy TRA 2.3.8]			
Comprehensive Plan - Osceola County (2020)	Osceola County	Osceola County Office of Planning and Design	Planning document that identifies guidelines and standards for development in Osceola County. The Plan also reflects the County's vision.	The Plan identifies the principles, guidelines, standards, and strategies for the orderly and balanced future economic, social, physical, environmental, and fiscal development of the area. The Plan also reflects Osceola County's vision and community commitments which implement the plan. These principles and strategies guide future decisions in a consistent manner and contain programs and activities to ensure the Comprehensive Plan is implemented.
	Several elements of the comprehensive plan include objectives and policies that address public transportation and transit. These include: • Future Land Use Element. Identifies transit-oriented development and transit-oriented development design principles as part of the sustainable development strategy. [OBJECTIVE 1-4.3] [OBJECTIVE 1-4.5] • North Ranch Element. Identifies the following: multimodal transportation, including design standards and right-of-way reservation; major transportation facilities for premium transit, BRT, light rail, and commuter rail. [OBJECTIVE 5-1.2] [Policy 5-1.1.14] • Transportation Element. Identifies necessary annual reporting for public transportation, including LYNX and SunRail. Also identifies the need for an integrated transportation network and the need to incorporate transit into future planned corridors. Includes a goal for "Management of the Multimodal Transportation System" [Policy 6-1.2.3] [OBJECTIVE 6-3.1] [OBJECTIVE 6-3.2] [GOAL 6-4] • Osceola Green Initiative Element. Identifies shifting transportation demand, including to multimodal options, as a strategy to reduce GHG emissions [GOAL 18-1]			

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Comprehensive Plan/Growth Management Plan – City of Orlando (2012)	City of Orlando	City of Orlando	Planning document that describes the city's vision for the future and translates that vision into policies, programs, and public investments	The Vision of the Plan focuses on growth management and preserving much of what makes Orlando unique. The Plan is defined by the following sections: urban design, future land use, transportation, housing, historic preservation, conservation, recreation, cultural arts, stormwater & aquifer recharge, potable water, wastewater, solid waste, intergovernmental coordination, capital improvements, public school facilities, and monitoring & evaluation.
	Several elements of the comprehensive/growth management plan include objectives and policies that address public transportation and transit. These include: • Urban Design Element. Identifies that a transit circulator with loop and feeder route shall be addressed by an urban design plan for Colonial Town Center. [Policy 2.1.5] • Future Land Use Element. Focuses on transit-oriented development, a variety of housing and transportation choices, and developing a multimodal system. Identifies planning for Activity Centers or Activity Center expansions which must consider proximity to mass transit and premium transit offerings. Also identifies transit access as a tool to combat sprawl and preserve land. [Objective 1.5] [Goal 2] [Policy 1.4.1] • Transportation Element. Establishes a goal to develop a balanced transportation system, which include public transit and intermodal facilities. Establishes a goal to define mobility areas which ensures that transportation options are available for multiple modes of travel. Establishes as a goal that the transportation plan must be financially feasible and meet the accessibility demands of city residents. [Goal 1] [Goal 2] [Goal 3] • Conservation Element. Identifies the following: access to mass transit as a strategy to reduce automobile emission pollution; transit-oriented development as a strategy to improve air quality and increase energy conservation through more efficient urban forms. [Policy 1.1.1] [Goal 2] • Capital Improvements Element. States the following: the City shall strive to maintain or improve a 30-minute weighted average headway on the majority of designated transit corridors, that transit corridors must be given high priority for transit frequency increases to provide additional capacity to the transportation system; that the City shall fund its local share of the cost of providing regional transit systems and services; that the City shall actively support the establishment of dedicated revenue sources for public transit; that the first priority for funding transit improvements shall be based upon improving headways on existing routes; and that the City shall monitor level of service conditions for public transit through annual evaluations of transit route headways [Policy 1.2.12] [Policy 1.2.13] [Policy 1.4.32] [Policy 1.4.34] [Policy 1.4.36] [Policy 2.2.23]			
Land Development Code – City of Kissimmee (2021)	City of Kissimmee	City of Kissimmee	The Code constitutes a recodification of the general and permanent ordinances of the City of Kissimmee.	The Land Development Code has several applicable Chapters, including Introduction and Applicability, Development Review Boards and Procedures, Zoning, Downtown and Vine Street Form-Based Code, Standards for Accessory, Temporary and Other Uses, Access Circulation, and Parking, Landscaping, Environment, Subdivision and Site Design, Public Improvements, and Signs
	Some elements of the land development code include goals, objectives, and policies that address public transportation and transit. These include: • Downtown and Vine Street Form-Based Code. Identifies that the purpose of form-based regulations are to, in part, promote transit-oriented design and foster a relationship between new development and existing and proposed transit stop locations and their proximity to SunRail Facilities in Kissimmee and Osceola County. Establishes transect zones, including T5-U, Mixed-Use Urban Corridor, whose purpose is, in part, to promote transit-oriented design and foster a relationship between new development and transit stop locations. States that as part of access, circulation, and parking requirements that developments of 50,000 gross square feet or more may be required to provide access for on-site public transit. [14-5-1] [14-5-4 E] [14-5-9 A/11] • Access Circulation, and Parking. Identifies that for projects which exceed 10,000 square feet of gross square floor area may be required to provide wider internal sidewalks if, in part, it is located within a redevelopment, multi-modal, or transit-oriented overlay district. [14-7-3]			

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Comprehensive Plan – City of Altamonte Springs (2010)	City of Altamonte Springs	City of Altamonte Springs	Planning document that addresses elements involving land use, transportation, housing, infrastructure, conservation, recreation and open space, intergovernmental coordination, capital improvement, and public school facilities. Although the Comprehensive Plan is organized into individual chapters, each element is interrelated and consistent.	City Plan 2030 Vision: The City of Altamonte Springs envisions the city to be a unique, quality and sustainable community achieved through diverse and compact land use with modern amenities (parks, lakes, urban plazas, walkways, and landscaping) and multi-modal transportation that meet the needs of both residents and businesses.
	Several elements of the comprehensive plan include objectives and policies that address public transportation and transit. These include: • Future Land Use Element. Identifies that Activity Centers serve as the main focus for future development and are placed at strategic transportation corridor crossroads to effectively function as urban nodes for high intensity employment, commerce and residential activities. These Activity Centers will support multi-modal transportation and are also connected to regional transit systems. Establishes a goal that the City shall emphasize and focus on the integration of land use and multi-modal transportation. Defines design standards that will support multi-modal transportation. [Introduction] [Policy 1-1.2.7] • Multimodal Transportation Element. Establishes a goal to integrate the multi-modal transportation system with the future land use element, the FLUM, and the land development code. That integration would guide development types, densities, intensities, and site design that supports and enhances the city's multi-modal transportation system and the city's mobility goals. [Goal 2-1] • Housing Element. Promotes high density residential development as a means to encourage transit and other multi-modal transportation services. Promotes the integration of affordable housing with multi-modal transportation. [Policy 3-1.1.2] [Policy 3-1.2.3] • Conservation Element. Identifies the promotion of multi-modal transportation as a tool to reduce vehicle emissions. [Policy 5-1.6.3] • Intergovernmental Coordination Element. Identifies the necessity of continuing to coordinate with other local government agencies and with LYNX on sub-regional transit systems. [Policy 7-1.2.6]			
Comprehensive Plan – City of Sanford (2018)	City of Sanford	City of Sanford	Planning document that addresses elements including future land use, housing, mobility, infrastructure, recreation and open space, public school facilities, conservation, capital improvements, intergovernmental coordination, and general monitoring and public participation.	The Plan establishes a vision of Sanford as a significant cultural and business hub for the Central Florida Region. With its showcase waterfront, extensive transportation network, distinctive cultural corridor and historic downtown, Sanford is a vibrant and safe City in which people choose to live, work, raise a family, attend school, shop, play, and retire.
	Several elements of the comprehensive plan include objectives and policies that address public transportation and transit. These include: • Future Land Use Element. Defines the I-4 High Intensity Center--one of the development criteria is whether development accommodates and encourages use of multi-modal transportation systems. Defines the US 17-92 Corridor TCEA--development and redevelopment within the TCEA shall occur at densities and intensities that support multi-modal transportation services. Also includes a policy of assessing intermodal transportation facilities. [OBJECTIVE FLU 1.10] [Policy FLU 2.3.1] [Policy FLU 2.7.8] • Mobility Element. Establishes as a goal that there shall be a plan for a multimodal transportation system that places emphasis on public transportation systems, where feasible. Establishes that the City's future focus is on providing a more balanced transportation system, including transit. [Statutory Basis] [Sustainable Vision] • Conservation Element. Establishes that the City shall encourage land use, multimodal transportation systems, and urban design which minimizes energy consumption and maximizes effectiveness of energy consumed. [Policy CON 1.12.2]			

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
FDOT Florida Transportation Plan - May 2020	State of Florida	FDOT	Planning document that represents the single overarching statewide plan guiding Florida's transportation future. It is a plan for all of Florida created by, and providing direction to, the Florida Department of Transportation (FDOT) and all organizations that are involved in planning and managing Florida's transportation system, including statewide, regional, and local partners.	The FTP includes seven goals to guide transportation planning decisions, including: 1) Safety and security for Florida's residents, visitors, and businesses 2) Agile, resilient, and quality infrastructure 3) Connected, efficient, and reliable mobility for people and freight 4) Transportation choices that improve equity and accessibility 5) Transportation solutions that strengthen Florida's economy 6) Transportation solutions that enhance Florida's communities 7) Transportation systems that enhance Florida's environment.
	Several goals of the FTP include objectives and progress indicators that address public transportation and transit. These include: • Infrastructure and Mobility Goals. Objectives include the following: Maintain Florida's transportation assets in a state of good repair for all modes; Increase the resilience of infrastructure; Meet customer expectations for infrastructure quality and service, and; Improve transportation system connectively. Progress indicators include the following: Transit vehicle and facility condition; Customer satisfaction, and; Connections between modes/systems and extent of system gaps. • Mobility Goal. Objectives include the following: Increase access to jobs, education, health, and other services for all residents, and; Increase alternatives to single occupancy vehicles. Progress indicators include the following: Transportation options for traditionally underserved communities; Travel time reliability, and; On time departure or arrival for aviation and passenger rail. • The FTP also outlines several key strategies that relate to public transportation and transit. • Complete Transportation Networks. The FTP establishes as a goal that Florida will improve connectivity among local transit systems, between regional and local transit systems, and between transit systems and other modes. Improving connectivity also includes data, technology, and business processes between transportation modes and systems. • Prioritize People & Freight Mobility. The FTP establishes goals that indicate Florida will do the following: integrate multiple modes and systems to support efficient and reliable end-to-end mobility choices; improve customer awareness of existing and emerging mobility options; regularly conduct market research to understand customer needs and preferences, and; develop and enhance performance measures and design standards to focus on mobility and accessibility.			
Florida Transportation Disadvantaged Program (2005)	State of Florida	Florida Commission for the Transportation Disadvantaged	Planning document that provides a framework for the growth of Florida's Transportation Disadvantaged program. This plan has been developed in cooperation with the Florida Commission for the Transportation Disadvantaged (CTD) and is designed to help the CTD fulfill its mission and achieve its vision.	The goals provided in this Plan include: • Provide a sound financial system • Provide adequate quality services • Provide an accessible physical infrastructure • Enhance coordination, cooperation, and inclusion • Develop education and marketing tools.

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
(cont.) Florida Transportation Disadvantaged Program (2005)	The FTDP provided several recommendations to increase access to the transportation disadvantaged. These include: • Develop a permanent stream of state funding that leverages local and federal dollars and is sufficient to meet current and future transportation disadvantaged needs. • Develop and adopt uniform and comprehensive standards for the equitable and accountable distribution and use of funds. • The Commission for Transportation Disadvantaged will continue to seek funding and support collaborations to meet all trip requests within the law. • Community design will facilitate access to all modes for all citizens. • Maintain and preserve an efficient and effective transportation infrastructure that is accessible to all eligible transportation disadvantaged citizens while meeting the needs of the community. • Establish a statewide transportation disadvantaged system that functions seamlessly by coordinating service and operations across local government lines and that is flexible enough to accommodate and link special riders with providers. • Maintain an educated public regarding the value of a coordinated TD system for the community and also the rights and responsibilities of TD riders and providers.			
East Central Florida Regional 2060 Plan (2011)	East Central Florida (Marion, Volusia, Sumter, Lake, Seminole, Orange, Osceola, and Brevard Counties)	East Central Florida Regional Planning Council	Strategic regional policy plan whose goals and policies are intended to inform and guide local decision making in a manner that leads toward the implementation of the Central Florida Regional Vision.	The 2060 East Central Florida Regional Plan Goals include: Coordinate with economic development agencies, local governments, and educational institutions to implement the region's Comprehensive Economic Development Strategy; Develop a balanced multi-modal transportation network that connects compact centers of development with mixed use transit-served corridors; Prepare communities to effectively respond to disasters by implementing an all-hazards approach to emergency preparedness planning and coordination at the regional level; Assure that an adequate supply of safe, sanitary, and affordable housing is equitably distributed throughout the region; Protect, conserve, and enhance the quantity and quality of the region's sustainable water resources; Improve and enhance the region's development character by assuring a high standard of design in all development, and; Promote a regional agricultural system that results in gains to the local economy, greater food security, preservation of rural heritage, and improved land stewardship and agricultural practices.
	The ECFR Plan provided several recommendations that related to transportation and transit. These include: • Promote innovative design for development in harmony with natural resources. • Promote the development and attraction of high-wage, value-added, and export-oriented technology and manufacturing industries. • Encourage an interconnected street network for all future local roads. • Plan for multi-modal connections from airports and seaports to job and tourist centers. • Encourage transit-oriented and transit-ready developments that are proximate to transit stations. In transit served corridors, move toward reducing off street parking requirements, consider parking maximums, encourage shared parking, and consider placing retail on the ground floor of parking structures. • Encourage transit ready design elements, such as right-of-way acquisition consistent with local and regional transportation plans to optimize network connectivity and efficiency. • Promote mixed uses in existing communities to reduce vehicle miles traveled and energy use. • Encourage land use patterns and multi-modal transportation systems that promote energy efficiency. • Build new centers and rebuild existing urban centers in the most appropriate locations that can reasonably provide urban services and multi-modal transportation.			

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
Orlando Transportation 2030 (2020)	Orlando region (including Orange, Osceola, Seminole, Volusia, Brevard, Polk, and Lake Counties)	Alliance for Regional Transportation/ Orlando EDC	The purpose of this Study is to develop a blueprint for the region's transportation future. The workgroup developed as part of this study reviewed current trends and disruptions facing the region, identified key mobility challenges and opportunities, reviewed successful practices both within Central Florida and nationwide, and received input from leadership of regional agencies.	The Plan identifies seven regional priorities including the following: Build out and speed up regional transit systems; Transform all of Interstate 4 (I-4); Improve east-west connectivity; Strengthen Central Florida's global gateways; Lead in transportation innovation; Empower a regional transportation authority; Invest boldly.
	Key Considerations for the TDP include the following: • Executive Summary notes that "Orlando does not enjoy the full range of multimodal transportation options - particularly public transit - that many competing regions have developed." • Two of the seven regional priorities relate directly to transit: 1) Build out and speed up regional transit systems and 6) Empower a regional transportation authority.			
Seminole County Evaluation and Appraisal Report (EAR) Technical Memo 3.3	Seminole County	Seminole County	The technical memo provides an analysis of Seminole County's mobility network in support of the County's Vision Plan and Evaluation and Appraisal Report (EAR). The technical memo details the defining characteristics of the network, the capacity of the network, the network's accessibility to jobs and amenities, and how the network influences land use in the County.	The technical memo identifies Seminole County's mobility network as primarily vehicular and suburban with a street network, public transit service, and paved multi-use trail options.
	A Key Consideration and Implication for the TDP: • Identifies that public transit service is provided by the SunRail commuter rail line and various LYNX bus services. • The highest relative accessibility via transit in Seminole County is in the Casselberry area. The area near the SunRail stations have relatively moderate accessibility. Pockets of low accessibility are present near most of the municipalities in the County.			

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
City of Orlando Community Action Plan (2018)	City of Orlando	City of Orlando	Planning document that provides a framework for progressing the City of Orlando's sustainability goal in alignment with the United Nation's (UN) Sustainable Development Goals (SDGs) in a manner that addresses social equity, climate resiliency and smart technology and innovation.	The plan identifies goals and strategies for several focus areas: Clean Energy, Green Buildings, Local Food, Livability, Solid Waste, Transportation, and Water. The goals for Transportation include: • Majority of trips to be made by foot, bike, carpooling, or transit • Achieve a Gold ranking for the League of American Bicyclists Bicycle Friendly Community Score • Increase miles of safe, sustainable transportation infrastructure (bike lanes and paths, transit lines, and sidewalks) • Double street miles within the city that meet "complete streets" criteria • Eliminate pedestrian and bike fatalities • Increase the use of electric vehicles (EVs) and alternative fuel vehicles throughout the city • Attain a "good" rating on the Air Quality Index (AQI) 365 days/year.
	The Plan identifies community prioritized strategies to achieve the identified Transportation goals, inclusive of transit strategies. These strategies include: • Develop Smart App Technology to Improve Ridership on Transit and Alternative Mobility Options • Develop a Car Sharing Program Targeted to Low-Income Communities • Expand Drive Electric Orlando Program with 100 New Public EV Charging Stations • Deploy Electric Bus/Shuttle Technology on the LYMMO Via the Autonomous Vehicle Mobility Initiative (AVMI) • Prioritize Funding for Healthy Transportation Options (Sidewalks, Urban Trails, Bicycle Lanes, Bike Infrastructure and Public Transit Service) Over Improvements for Vehicles • Develop and Implement Vision Zero Plan • Expand Bike Share and Scooter Share			

Plan Title (Year Completed)	Geographic Applicability	Responsible Agency	Plan / Program Overview	Recommendations / Objectives / Strategies
City of Orlando 2030 Electric Mobility Roadmap (2021)	City of Orlando	City of Orlando	Planning document that builds on the goals and strategies of the City of Orlando's Community Action Plan. The program looks to transform mobility in Orlando in a way that pushes reliance towards multimodal transportation, reduces emissions, and moves away from the use of single occupancy vehicles and fossil fuels.	The plan identifies four goals with specific targets and indicators to measure progress towards electric mobility. These goals are: • Goal 1: Provide equitable and affordable access to e-mobility • Good 2: Accelerate EV adoption in multiple transportation sectors • Goal 3: Develop a robust charging ecosystem • Goal 4: Advance multimodal e-mobility options
	The Plan identified targets, indicators, and strategies for achieving the goals and vision of the roadmaps. The targets, indicators, and strategies relevant to the TDP include: • Pursue additional charging hubs in partnership with LYNX, OUC, and others that includes DCFC, micromobility charging, and other technologies. An emphasis to be placed on underserved communities. (Goal 1 Strategy) • Partner with Orange County Public Schools (OCPS) and LYNX to support electrification of school and transit bus fleets. Prioritize deployment in disadvantaged communities (Goal 1 Strategy) • Support development of integrated apps / platforms to enable more seamless use of multiple modes, charging options, and inclusive payment methods. Encourage open data standards and utilization of the FDOT SunStore. (Goal 1 Strategy) • Create a fleet electrification plan and procurement policy designed to reach targets (Goal 2 Strategy) • Establish coordinated funding and financing strategy for EV charging that includes pursuing grants, forming public–private partnerships, collecting revenue, etc. (Goal 3 Strategy) • Establish all-electric transit and school bus fleets by 2040 (Goal 4 Target) • Percentage of residents within a 10-minute walk of electric car sharing, bike sharing, transit stops, or transportation docks (Goal 4 Indicator) • Pursue additional charging hubs in partnership with LYNX, OUC, and others that includes DCFC, micromobility charging, and other technologies. An emphasis to be placed on underserved communities. (Goal 4 Strategy) • Partner with OCPS and LYNX to support electrification of school and transit bus fleets, prioritizing deployment in disadvantaged communities (Goal 4 Strategy)			
Orange County 2030 Sustainable Operations and Resilience Action Plan (2021)	Orange County	Orange County	A concise, measurable, collaborative, and data driven Action Plan for ensuring the consideration of sustainability, resilience, and environmental preservation in all County decisions. The Action Plan provides a framework for Orange County to lead-by-example in the commitment to innovation, sustainability, and resilience.	The 17 goals of the Action Plan span six focus areas that include Energy and Climate Action, Buildings and Infrastructure, Water Use and Quality, Mobility and Fleet, Supply Chain and Materials Management, and Trees and Lands.
	Key Considerations / Implications for TDP: • Mobility and Fleet goals focus on transitioning the County fleet to alternative fuels and electric vehicles while enhancing technology on key corridors. That approach is anticipated to improve vehicle, pedestrian, and bicycle safety, connectivity, and real time diagnostics. Strategies to achieve this include optimizing vehicle fleet performance with on-board technology, reducing use of petroleum-based fuel, developing EV-ready infrastructure, converting light-duty fleet to electric or alternative fuel, and improving vehicle, bicycle, and pedestrian roadway safety, resilience, and interoperability through traffic technology retrofits.			

3. Evaluation of Existing Services

Existing services provided by LYNX include a fixed bus route system, demand response services including a neighborhood flex service and paratransit services, vanpool, and partnerships for roadside safety. This section provides an overview of those existing services along with operating characteristics and fare structure information.

Fixed Route System

As of April 2022, LYNX operates 68 Links (i.e., Bus Routes) throughout its service area. The service area is defined as all of Orange, Seminole, and Osceola Counties. The majority of LYNX service is provided in Orange County, with 43 links operating exclusively within Orange County and 16 links which provide intra-County service across Osceola County and Seminole County. Osceola County is served by a total of 14 Links, four of which operate exclusively within Osceola County. Seminole County is served by a total of 12 Links, five of which operate exclusively within the County.

A description and evaluation of LYNX fixed route services is provided in this subsection. To facilitate review, each fixed route service is categorized into a service type based on its operating characteristics. Service types align with the service types defined in the County Transit Plans (see Section 7). As indicated, this section also includes an evaluation of the performance of each route based on FY 2021 performance statistics. The following performance statistics and measures are included in a corresponding table, Table 17 through Table 19, for each service type.

- Revenue Miles
- Revenue Hours
- Passengers per Revenue Mile
- Passengers per Revenue Hour

A comparison of route-by-route passengers per revenue hour to the overall average within each service type is also provided. This evaluation serves as a basis for evaluating performance and informs the performance monitoring program included in Appendix A of this TDP. In addition to the evaluation presented in the tables, a detailed route-by-route comparison is provided in Appendix A.

Local Service

Local service is provided in each County in the LYNX service area. Local service generally operates on major roadways and local streets with a 30 to 60-minute service frequency. Currently there are 28 links that operate at 30-minute frequencies and 19 links that operate at 60-minute frequencies.

The service profile and FY 2021 performance evaluation for the local service links are shown in Table 17.

Figure 26: Local Service Bus

Table 17: FY 2021 Local Service Profile and Performance

Link #	Name	Weekday Frequency (minutes)	Weekday Service Span		FY 2021			Pax per Revenue Mile	Pax per Revenue Hour	% of Pax per Rev Hour Avg
			From	To	Ridership	Revenue Miles	Revenue Hours			
1	Winter Park / Altamonte Springs	60	6:10 AM	9:58 PM	37,446	96,849	6,918	0.39	5.41	46%
3	Lake Margaret	60	5:30 AM	9:15 PM	119,657	186,021	12,602	0.64	9.50	80%
6	Dixie Belle	60	6:00 AM	8:51 PM	16,001	62,527	3,848	0.26	4.16	35%
7	S. Orange Ave. / Florida Mall	60	5:05 AM	11:15 PM	166,681	129,714	9,108	1.28	18.30	155%
9	Winter Park / Rosemont	60	5:45 AM	11:53 PM	88,921	147,690	8,927	0.60	9.96	84%
10	East U.S. 192 / St. Cloud	30/60[1]	4:00 AM	10:42 PM	184,203	365,025	20,842	0.50	8.84	75%
11	S. Orange Ave. / Orlando International Airport	30	4:20 AM	10:45 AM	250,628	284,743	16,051	0.88	15.61	132%
13	University of Central Florida / LCS	60	5:30 AM	10:45 PM	119,943	233,618	14,783	0.51	8.11	69%
15	Curry Ford Rd. / Valencia Comm. College East	30	4:50 AM	11:15 PM	258,232	284,923	18,483	0.91	13.97	118%
18	S. Orange Ave. / Kissimmee	60	5:30 AM	7:30 PM	186,083	280,193	17,172	0.66	10.84	92%
20	Malibu Street / Mercy Drive	60	5:00 AM	10:00 PM	119,476	122,279	9,455	0.98	12.64	107%
21	Universal Studios	30/60[2]	4:45 AM	12:15 AM	434,957	440,840	30,613	0.99	14.21	120%
23	Winter Park / Spring Village	60	5:31 AM	9:07 PM	66,354	137,109	9,220	0.48	7.20	61%
24	Millenia	60	6:00 AM	6:29 PM	29,864	54,480	3,904	0.55	7.65	65%
25	Mercy Drive / Shader Road	30	5:20 AM	9:45 PM	179,375	184,626	14,110	0.97	12.71	107%
26	Pleasant Hill Road	30	5:05 AM	9:45 PM	176,488	274,490	14,067	0.64	12.55	106%
28	E. Colonial Dr. / Azalea Park	30	4:15 AM	12:17 AM	215,387	189,863	14,773	1.13	14.58	123%
29	E. Colonial Dr. / Goldenrod	30	4:35 AM	12:15 AM	239,236	221,511	15,346	1.08	15.59	132%
34	Sanford / Goldsboro	30	5:30 AM	10:08 PM	76,661	99,788	6,192	0.77	12.38	105%
36	Lake Richmond	60	6:00 AM	11:15 PM	96,137	172,091	11,974	0.56	8.03	68%
37	Pine Hills / Florida Mall	30	4:45 AM	11:13 PM	512,253	502,678	35,588	1.02	14.39	122%
40	Americana Blvd. / Universal Orlando	60	4:00 AM	11:45 PM	236,168	227,289	16,793	1.04	14.06	119%
42	International Drive / Orlando International Airport	30	4:43 AM	1:16 AM	511,858	515,359	32,686	0.99	15.66	132%
44	Hiawassee Road / Zellwood	60	5:07 AM	9:09 PM	110,527	189,382	8,222	0.58	13.44	114%
45	Lake Mary	30	5:00 AM	9:09 PM	34,306	162,698	9,865	0.21	3.48	29%

Link #	Name	Weekday Frequency (minutes)	Weekday Service Span		FY 2021			Pax per Revenue Mile	Pax per Revenue Hour	% of Pax per Rev Hour Avg
			From	To	Ridership	Revenue Miles	Revenue Hours			
46E	SR 46 / Midway	30	5:30 AM	7:30 PM	19,744	101,157	5,772	0.20	3.48	29%
46W	SR 46 / Seminole Town Center	30	5:21 AM	9:45 PM	24,030	55,466	3,308	0.43	7.29	62%
48	W Colonial Dr. / Powers Dr	30	4:15 AM	11:45 PM	344,231	185,186	13,898	1.86	24.77	209%
49	W Colonial Dr. / Pine Hills Rd	30	4:30 AM	12:15 AM	325,576	198,659	14,056	1.64	23.16	196%
51	Conway / Orlando International Airport	60	5:15 AM	9:15 PM	138,293	187,366	10,182	0.74	13.58	115%
54	Old Winter Garden Rd.	60	5:30 AM	7:45 PM	72,678	105,025	6,580	0.69	11.05	93%
55	West U.S.192 / Four Corners	30	5:15 AM	10:25 PM	389,950	430,061	23,695	0.91	16.46	139%
56	West U.S.192 / Magic Kingdom	30	4:12 AM	12:05 AM	364,111	535,824	27,484	0.68	13.25	112%
57	John Young Parkway	60	5:15 AM	9:28 PM	110,721	186,137	10,336	0.59	10.71	90%
104	East Colonial Drive / UCF	30	5:15 AM	10:15 PM	309,475	367,455	22,057	0.84	14.03	118%
105	West Colonial Drive / Winter Garden	30	5:15 AM	11:15 PM	351,296	330,369	21,565	1.06	16.29	138%
106	N. U.S. 441 / Apopka	30	4:45 AM	23:45	358,497	363,811	21,374	0.99	16.77	142%
108	S. Orange Blossom Trail / Kissimmee	30	4:30 AM	1:29 AM	321,170	283,747	17,833	1.13	18.01	152%
111	Orlando International Airport / Sea World	30	5:15 AM	11:16 PM	120,555	299,481	15,151	0.40	7.96	67%
125	Silver Star Road Crosstown	30	4:30 AM	12:45 AM	468,335	469,908	30,408	1.00	15.40	130%
155	Buena Ventura Lakes / Osceola Parkway	30	5:15 AM	7:37 PM	5,290	68,780	4,088	0.08	1.29	11%
319	Richmond Heights / Richmond Estates	30	4:35 AM	11:45 PM	182,004	185,467	14,497	0.98	12.55	106%
405	Apopka Circulator	60	4:45 AM	12:51 AM	39,924	91,001	4,844	0.44	8.24	70%
426	Poinciana Circulator	30	5:00 AM	10:52 PM	47,984	160,183	7,880	0.30	6.09	51%
434	SR 434 Crosstown	60	5:15 AM	9:26 PM	86,149	245,351	12,587	0.35	6.84	58%
443	Winter Park / Pine Hills	60	5:15 AM	8:53 PM	134,305	124,863	9,978	1.08	13.46	114%
709	Kissimmee Connector	30	6:30 AM	8:09 PM	9,880	47,333	5,163	0.21	1.91	16%
436N[3]	Fern Park / Apopka	30	4:30 AM	12:58 AM	269,238	325,608	20,742	0.83	12.98	110%
436S[3]	Fern Park / Orlando International Airport	30	4:00 AM	12:54 AM	604,410	439,646	28,226	1.37	21.41	181%
		Local Service Total			**9,564,688**	**11,351,862**	**713,138**			
		Local Service Average						**0.76**	**11.84**	

1. 30 minutes westbound, 60 minutes eastbound
2. 30 minutes Monday-Thursday and 60 minutes on Friday
3. Operating statistics based on the Links 112 (436S) and 113 (436N)

High Frequency Local Service

LYNX operates four routes with a weekday frequency of 15 to 20 minutes. These routes, Links 8, 102, 103, and 107, operate on major roadways and connect to the LYNX Central Station or to LYNX SuperStops. These high frequency services provide efficient connections to major destinations throughout the three-county service area.

LYMMO

LYMMO routes are also higher frequency, Bus Rapid Transit (BRT) service, operating in dedicated bus lanes with 7 to 15 minute frequencies. LYMMO routes operate primarily as circulators in Downtown Orlando. LYMMO Link 60, 61, and 62 provide connections for shorter trips within a single area but also connect into the LYNX Central Station in order to provide access to the LYNX network and SunRail.

The service profile and performance evaluation for the higher frequency and LYMMO routes are provided in Table 18.

Figure 27: Route 102 Bus

Figure 28: LYMMO Bus and Station

Table 18: FY 2021 High Frequency and LYMMO Service Profile and Performance

Link #	Name	Weekday Frequency (minutes)[1]	Weekday Service Span		FY 2021			Pax per Revenue Mile	Pax per Revenue Hour	% of Pax per Rev Hour Avg
			From	To	Ridership	Revenue Miles	Revenue Hours			
8	W. Oak Ridge Rd. / International Dr.	15	4:45 AM	12:15 AM	1,319,307	969,295	66,419	1.36	19.86	132%
60	LYMMO Orange - Downtown	7	6:00 AM	11:03 PM	203,178	103,206	15,674	1.97	12.96	86%
61	LYMMO Lime	15	6:00 AM	10:52 PM	22,556	55,035	5,638	0.41	4.00	26%
62	LYMMO Grapefruit	10	6:00 AM	11:09 PM	205,977	107,224	12,094	1.92	17.03	113%
102	Orange Ave. / South U.S. 17-92	20	4:30 AM	11:45 PM	344,046	423,025	28,319	0.81	12.15	80%
103	North U.S. 17-92 / Sanford	20	5:10 AM	10:46 PM	161,967	275,983	14,630	0.59	11.07	73%
107	Downtown Orlando / Florida Mall	20	4:15 AM	12:15 AM	626,744	280,301	21,893	2.24	28.63	190%
		High Frequency Total			**2,883,775**	**2,214,068**	**164,667**			
		High Frequency Average						**1.33**	**15.10**	

1. Frequencies are lower on Saturday and Sunday

Limited Stop Routes

LYNX operates five routes with non-stop or limited stop service along major roadways or interstates. Link 38, 300, and 350 operate on I-4 and provide express service from Downtown Orlando, Universal Studios, Orange County Conventional Center, and Disney Parks.

LYNX operates three limited stop service routes branded as FastLink. FastLink 441, 407, and 418 provide connections between Kissimmee Intermodal Station, Lake Nona, Orlando International Airport, and Downtown Orlando.

Disney Direct

Six routes are called Disney Direct routes because they provide limited stop service to Disney parks, transfer centers, and hotels within the Disney property. The Disney Direct routes operate on an all-day service schedule, providing access for employees and visitors from SuperStops and between other routes in Orange County and Osceola County.

The service profile and performance evaluation for the limited stop, Disney Direct, and FastLink routes are shown in Table 19.

Table 19: FY 21 Limited Stop Service and Disney Direct Profile and Performance

Link #	Name	Weekday Frequency (minutes)	Weekday Service Span		FY 2021			Pax per Revenue Mile	Pax per Revenue Hour	% of Pax per Rev Hour Avg
			From	To	Ridership	Revenue Miles	Revenue Hours			
38	Downtown Orlando / International Dr.	30	5:45 AM	10:15 PM	61,287	206,275	8,363	0.30	7.32	67%
300	Downtown Orlando / Hotel Plaza	30	5:15 AM	11:15 PM	10,374	18,662	772	0.56	13.47	122%
301	Pine Hills / Animal Kingdom	-- [1]	6:04 AM	6:28 PM	29,096	35,374	1,972	0.82	14.72	134%
302	Rosemond / Magic Kingdom	-- [1]	5:50 AM	6:27 PM	27,541	41,791	2,162	0.66	12.71	116%
303	Washington Shores / Disney's Hollywood Studios	-- [2]	6:10 AM	6:14 PM	10,730	20,257	1,025	0.53	10.44	95%
304	Rio Grande / Vistana Resort	-- [1]	6:11 AM	6:25 PM	28,888	31,420	1,800	0.92	16.01	146%
306	Poinciana / Magic Kingdom	-- [3]	6:12 AM	6:24 PM	14,502	19,194	821	0.75	17.66	161%
312[4]	Disney Direct/Ocoee	-- [3]	6:05 AM	7:43 PM	-	-	-	-	-	-
350[4]	Destination Pkwy / Disney Springs	30	5:15 AM	10:45 PM	-	-	-	-	-	-
407	Kissimmee / Medical City / OIA Fastlink	60	5:30 AM	8:28 PM	18,738	151,230	5,039	0.13	3.78	34%
418	Meadow Woods / Lake Nona / Florida Mall	60	6:00 AM	8:32 PM	39,706	186,205	7,883	0.22	5.12	47%
441	FastLink 441	60	5:50 AM	7:02 PM	80,566	166,674	9,221	0.48	8.75	80%
		Limited Stop Total			**321,428**	**872,174**	**38,862**			
		Limited Stop Average						**0.54**	**11.00**	

1. 3 one-way peak hour trips
2. 2 one-way peak hour trips
3. 2 bi-directional peak hour trips
4. Links 312 and 350 were not in operation in FY 2021

Demand Response Services

NeighborLink

The NeighborLink service is an on-demand, flexible service that provides transportation anywhere within a designated service area or zone. Riders in the designated area can call, use the NeighborLink mobile application, or website to request a trip at least two hours in advance of their desired pick-up time. Riders can also flag down the NeighborLink vehicles and board when vehicles stop at designated stops or transfer locations. A subscription service is also available for riders needing to make the same trip at the same time and on the same day of the week, each week. The subscription service eliminates the need to book trips in advance.

Currently, there are 11 NeighborLink service areas; two areas within Seminole County, two areas within Osceola County, and seven areas within Orange County. In FY 2021, LYNX provided 75,345 passenger trips through the NeighborLink service. NeighborLink ridership, revenue hour, and passenger per revenue hour trends from 2016 to 2021 are shown in Figure 29. Decreases in FY 2020 and FY 2021 are a result of the impacts of the Covid pandemic.

LYNX is currently going through a NeighborLink "re-imagining" effort intended to find ways to better serve existing NeighborLink passengers and encourage new riders to use the service. This effort includes the expansion of NeighborLink service zones to a wider variety of destinations, such as shopping centers, grocery stores, and medical facilities. LYNX staff is analyzing various ridership data and trip patterns to better understand where major activity generators are located near NeighborLink zones. Furthermore, the NeighborLink re-imagining effort is a collaborative effort that focuses on the needs of vulnerable populations, including minority, older adults, youth populations, and low-income and zero-vehicle households.

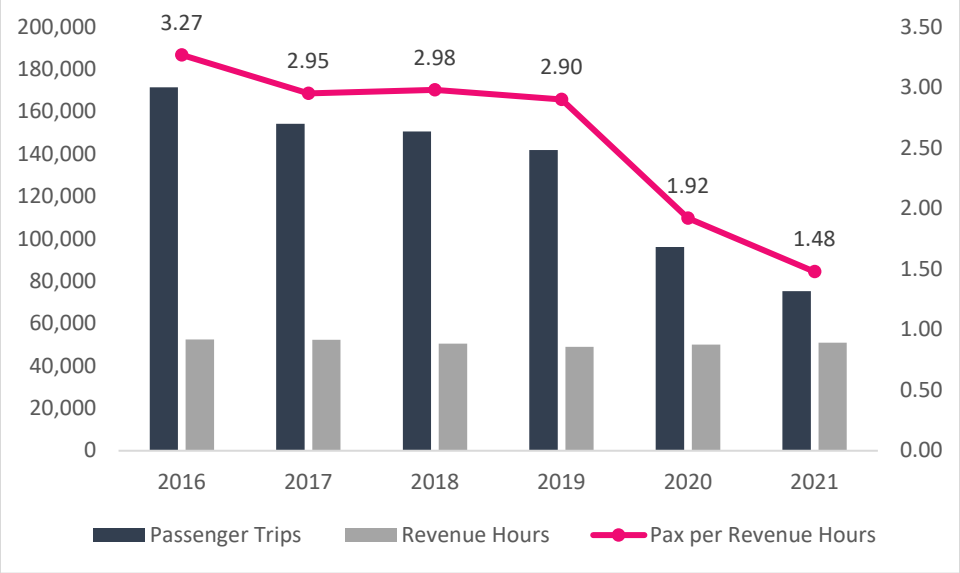


Figure 29: NeighborLink Ridership Trend

Figure 30: NeighborLink Vehicle

ACCESS LYNX

ACCESS LYNX is a shared ride, door-to-door paratransit program. The ACCESS LYNX program provides service for eligible individuals who are not able to use the regular fixed route bus service because of a disability or other limitations.

LYNX provides ADA paratransit service throughout the three-county service area with a $4 fee when the origin and destination of the trip is within ¾ of a mile of a fixed-route bus alignment. The fare for trips that start or end outside of that area is $7.

Eligible Transportation Disadvantaged (TD) riders who cannot access a fixed-route bus or do not have access to their own transportation due to disability, age, and/or income, may also reserve a trip with ACCESS LYNX. Eligible ACCESS LYNX riders can plan and book a trip via a call center or using WebACCESS online to make trip reservations, cancellations, and view estimated arrival times. TD service is provided if the origin or destination is not within ¾ of a mile of a fixed-route bus alignment and within Orange, Osceola, or Seminole counties.

In FY 2021 ACCESS LYNX provided 530,218 trips for riders who were not able to use the regular fixed route bus service. As shown in Figure 31, ridership and passengers per revenue hour for the combined ADA and TD programs have remained generally consistent since 2016.

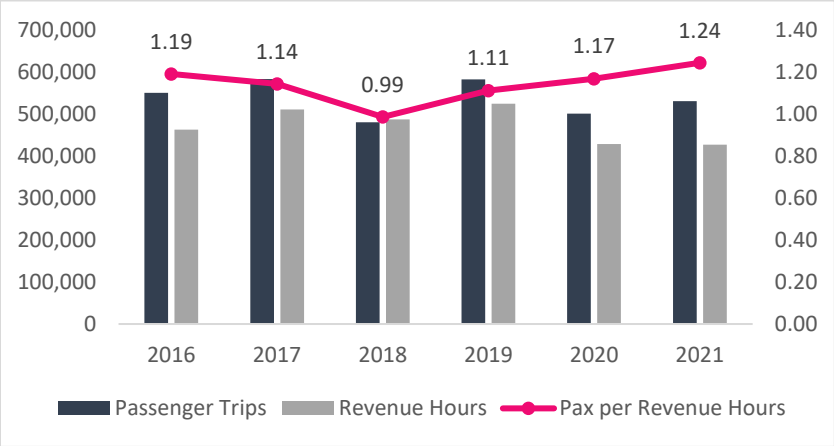


Figure 31: ACCESS LYNX Ridership Trend

Other LYNX Services

Vanpool

Vanpool service is a contracted service through a third-party vendor. LYNX manages the contract and provides the vehicles for the service. Specific schedules and pick up/drop off locations are determined by the vanpool driver in coordination with the vanpool members. One person from the group volunteers as the primary driver while all of the participants may share the driving based on satisfactory completion of the program criteria and a motor vehicle report. Any participant that is registered may use the van for errands during the day, provided they coordinate the arrangements with the primary driver.

The cost of the LYNX Vanpool service varies and is based on the size of the vehicle. The cost is shared by the participants and includes all maintenance and insurance expenses for the van. Fuel and tolls are additional costs that are also shared by vanpool participants. Vans can accommodate up to 15 passengers. A minimum of six to eight participants is recommended.

In addition, LYNX provides a separate, employer-based vanpool service called LYNX Agency Program. The cost is a single monthly rate and is usually subsidized by the company interested in providing this service to its employees or clients. The monthly fee covers the van lease, insurance, full maintenance package, and 24-hour roadside service.

Road Rangers

The Road Ranger fleet covers 48 miles of I-4 including a section from I-95 in Volusia County to Lake Mary Boulevard in Seminole County and another section from SR-528 in Orange County to CR 532. The Road Rangers program is sponsored by State Farm and consists of a partnership between LYNX and the Florida Department of Transportation to help stranded motorists and minimize traffic congestion caused by breakdowns. The fleet of trucks are equipped to make minor car repairs, assist with crashes and communicate with law enforcement and emergency services. The services provided by the Road Ranges include:

- Minor vehicle repairs (tire changes, fuel/fluid replacement, and other minor jobs, etc.)
- Removal of vehicles from travel lanes
- Securing minor, accident scenes
- Debris removal from the roadway
- Free use of a cell phone to contact assistance

Other Transportation Services

In addition to the services provided by LYNX, there are several other transportation services that are a key part of the regional transportation network. An important spine in regional transportation network is the SunRail commuter rail corridor operated by the Central Florida Commuter Rail Commission. SunRail operates on a 30-minute service frequency, Monday through Friday, and serves 16 stations. Fifteen of those stations are within the LYNX service area. Connections to LYNX fixed route and NeighborLink services are provided by way of connections at those SunRail stations.

The regional network is further connected with micro-mobility options like bike and scooter share options in the City of Orlando, transportation network companies (i.e., Uber, Lyft, etc.), and personal modes of travel.

Fleet and Facilities

In order to deliver the full complement of LYNX transit services, LYNX owns, operates, and maintains a full fleet of vehicles and capital facilities. Based on the LYNX 2021 Transit Asset Management (TAM) Plan update, fleet assets represent 52 percent of LYNX assets. Fleet assets include 807 vehicles made up of heavy duty buses, cutaways, vans, sport utility vehicles, and minivans.

The second largest asset class includes facilities. Facilities include the LYNX Central Station, the Operations Center, leased facilities, superstops, and Transfer Centers. Other assets include the bus guideways for the LYMMO service, the non-revenue fleet, facility equipment, bus stops, and technology support systems.

Existing transfer centers and superstops in the LYNX service network are listed below.

- LYNX Central Station
- Florida Mall
- Valencia College/Winter Park SuperStop
- University of Central Florida SuperStop
- Apopka Superstop
- Rosemont SuperStop
- Colonial Plaza SuperStop
- Fern Park Transfer Center
- Sanford Seminole Centre
- Kissimmee Intermodal Center
- Poinciana Walmart
- Social Security Admin (Dixie Bell/Gatlin Ave)
- Disney Springs Transfer Center
- Destination Parkway
- Washington Shores SuperStop
- West Oaks Mall SuperStop

Fare Policy

The current LYNX fare policy for fixed-route and NeighborLink services is summarized in Table 20. Single ride and day passes are available for fixed-route service. Discounted fares are also available for half of the standard fare. Discount prices are applicable only to those who qualify under the Youth Fare or AdvantAge Fare Program. Youth IDs are given to riders ages 10 to 18 or riders still in high school. Each must present a birth certificate or government issued ID. Riders ages 7 to 9 are eligible for the Youth Fare Program but do not need to show a Youth ID. Riders age 6 and under ride free when accompanied by an adult. The AdvantAge Fare Program includes riders who are age 65 or over and that present a Medicare card, a birth certificate, or government issued ID. An application is required to be eligible for the AdvantAge Fare Program.

Table 20: Fare Policy

SINGLE RIDE FARE	
Single Ride Fare	$2.00
Discount Fare	$1.00
Transfer Transfers are limited to 90 minutes. Transfers are not valid on the same link or for round trip purposes. Transfers are free between NeighborLink and fixed-route services.	FREE
LYMMO	FREE
ALL-DAY PASS	
All-Day Pass	$4.50
Discount Fare	$2.25
All-Day Passes are valid from 4:00 a.m. on the date issued until 3:00 a.m. on the following day. This pass is only available by request from the Operator when boarding.	
7-DAY PASS	
7-Day Pass	$16.00
Discount Fare	$8.00
30-DAY PASS	
30-Day Pass	$50.00
Discount Fare	$25.00
NEIGHBORLINK	
NeighborLink	$2.00
Discount Fare	$1.00
Link 709 Kissimmee Connector	FREE

System Level Performance Analysis (Trend Analysis)

Fixed route and demand response trend analyses were conducted consistent with the TDP requirement to prepare performance analyses for existing transit services. Data obtained from the FTA National Transit Database (NTD) for fiscal years 2017 through 2021 were used to examine trends for select performance, service effectiveness, and cost efficiency measures. Table 21 displays the measures included in the trend analyses. The three general areas reviewed include the following:

- ***General Service*** – Summarizes agency characteristics and overall level of transit service provided by the agency and consumed by its customers.
- ***Service Productivity and Coverage –*** Evaluate how many passengers are served per unit of service, how well an agency deploys its resources, and the degree to which service is provided within the service area.
- ***Cost Efficiency and Effectiveness*** – Assesses the system's financial performance.

This trend analysis spans the COVID-19 pandemic, an important and disruptive public health emergency. Public transit use declined rapidly early on, the recovery is ongoing, and the end state was unknown at the time of completion of this report. Observed decreases between FY 2019 and FY 2020 may relate to the interaction of public policies and public behavior over the course of the pandemic.

Table 21: Trend Analysis Measures

General Service	Service Productivity and Coverage	Cost Efficiency and Effectiveness
Service Area Population	Passenger Trips per Capita	Operating Expense per Capita
Passenger Trips	Passenger Trips per Revenue Mile	Operating Expense per Passenger Trip
Passenger Miles	Passenger Trips per Revenue Hour	Operating Expense per Passenger Mile
Vehicle Miles	Revenue Miles per Capita	Operating Expense per Revenue Mile
Revenue Miles	Revenue Hours per Capita	Operating Expense per Revenue Hour
Vehicle Hours	Vehicle Hours / Revenue Hours	Operating Expense per Peak Vehicle
Revenue Hours	Vehicle Miles per Peak Vehicle	Farebox Recovery Ratio
Operating Expenses		Fuel Cost per Vehicle Mile
Fare Revenue		Fuel Cost per Peak Vehicle
Peak Vehicles Operated		
Fuel Cost		

Fixed-Route Trend Analysis

LYNX's fixed-route transit services include motorbus, commuter bus, and bus rapid transit modes, as reported to the NTD.

General Service Measures

General Service Measures include agency characteristics and overall level of transit service provided by the agency and consumed by its customers. These operating statistics are used to calculate effectiveness and efficiency measures. Table 22 provides an overview of all the general service metrics, highlighting the differences between pre-pandemic and pandemic years. A summary of the general service measures over the five-year analysis period is provided below and figures illustrating the five-year analysis is provided in Appendix B.

- ***Passenger trips*** decreased by 45.8 percent over the five-year period, with the most drastic decrease (43.9 percent) between FY 2019 and FY 2021. Pandemic-related concerns of virus transmission in crowded spaces during FY 2020 and persisting into FY 2021 have depressed transit trip-making. Trips were already declining pre-pandemic, albeit at a slower rate, with a decrease of 3.5 percent between FY 2017 and FY 2019.
- ***Passenger miles*** increased slightly between FY 2017 and FY 2019, then decreased by 51.5 percent between FY 2019 and FY 2021. The slight increase in miles despite a decrease in trips pre-pandemic suggests that ridership was shifting towards longer commuter and circulator uses rather than shorter trips. The latter observation of a decrease in this statistic is consistent with the decrease in trips during the pandemic.
- ***Vehicle miles*** decreased over the five-year period with the most drastic change occurring between FY 2019 and FY 2020. That decrease reflects service modifications made in response to the changes in transit use during the pandemic.
- ***Revenue miles*** had a downward trend from FY 2018 until FY 2020 but increased by 3.1 percent from FY 2020 to FY 2021. Revenue miles reflect distances when vehicles are in revenue service, regardless of whether they are actually carrying passengers. There is consistency across years despite the pandemic dip in FY 2020.
- ***Vehicle hours*** fluctuated each year over the five-year period, with an overall 0.4 percent decrease.
- ***Revenue hours*** decreased by 1.3 percent over the five-year period, but most significantly between FY 2019 and FY 2020. This may be explained by pandemic-related service adjustments. There was an increase in revenue hours by five percent between FY 2020 and FY 2021, which partly reflects efforts to reinstate previously discontinued service.
- ***Operating expenses*** increased by 8.6 percent from FY 2017 until FY 2021 while ***fare revenue*** decreased by 42.6 percent during the same period. Both FY 2020 and FY 2021 having drastically lower fares collected, and this most likely is a direct result of LYNX going fare free between March and September 2020. While inflation may account for some of the increases in operating expenses, declining transit ridership certainly relates to lower revenue. As with the other elements discussed, sharp decreases in revenue after FY 2020 may be attributed to a sudden decline in pandemic trip-making.
- ***Peak vehicles*** in operation increased from FY 2017 until FY 2019, then decreased in FY 2020 by 13 vehicles.
- ***Fuel costs*** increased from FY 2017 until FY 2019. A decrease was then experienced between FY 2019 and FY 2021.

Table 22: Fixed-Route General Service Measures, FY 2017 – FY 2021

Performance Measures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	% Change FY17 - FY21	Pre-Pandemic Average (FY17-FY19)	Pandemic Average (FY20-FY21)
Service Area Population	2,134,411	2,134,411	2,134,411	2,134,411	2,134,411	0.0%	2,134,411	2,134,411
Passenger Trips	23,785,877	23,239,148	22,963,782	16,296,399	12,880,333	-45.8%	23,329,602	14,588,366
Passenger Miles	131,719,516	133,174,830	140,922,980	85,041,400	68,281,636	-48.2%	135,272,442	76,661,518
Vehicle Miles	17,633,294	17,510,447	17,501,162	16,401,844	16,667,611	-5.5%	17,548,301	16,534,728
Revenue Miles	15,494,544	15,660,195	15,554,710	14,565,675	15,022,203	-3.0%	15,569,816	14,793,939
Vehicle Hours	1,211,203	1,135,646	1,221,325	1,163,318	1,206,357	-0.4%	1,189,391	1,184,838
Revenue Hours	1,130,236	1,135,646	1,133,386	1,063,019	1,115,846	-1.3%	1,133,089	1,089,433
Operating Expense	$99,924,963	$100,807,521	$105,141,264	$107,144,472	$108,557,449	8.6%	$101,957,916	$107,850,961
Fare Revenue	$23,167,708	$22,264,528	$21,717,609	$10,981,771	$13,301,830	-42.6%	$22,383,282	$12,141,801
Peak Vehicles Operated	258	260	268	255	259	0.4%	262	257
Fuel Cost	$8,086,038	$8,573,117	$9,412,994	$8,285,869	$6,786,769	-16.1%	8,690,716	7,536,319

Service Productivity and Coverage Measures

Service productivity and coverage measures are derived from general service statistics to evaluate how many passengers are served per unit of service, how well an agency deploys its resources, and the degree to which service is provided within the service area. Table 23 provides an overview of LYNX service productivity and coverage measures across the five-year time period. A summary of the observed service productivity and coverage trends between FY 2017 and FY 2021 is provided below and figures illustrating the five-year analysis are provided in Appendix B.

- Between FY 2017 and FY 2019, ***passenger trips per capita*** were fairly consistent, but decreased significantly by FY 2021. Over the same five-year period revenue hours and miles per capita were fairly consistent.
- ***Passenger trips per revenue mile*** and ***passenger trips per revenue hour*** both decreased significantly, 44.1 and 45.2 percent, respectively. That decrease is most likely a result of reduced transit trip-making during the pandemic.
- ***Vehicle miles per peak vehicle*** represents the average mileage driven by each peak vehicle on an annual basis. Over the five-year period, this metric decreased by 5.8 percent, suggesting that travel behavior shifted away from peak travel times during the evaluation period.

Table 23: Fixed-Route Productivity and Coverage Measures

Performance Measures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	% Change FY17 - FY21	Pre-Pandemic Average (FY17-FY19)	Pandemic Average (FY20-FY21)
Passenger Trips per Capita	11.1	10.9	10.8	7.6	6.0	-45.8%	10.9	6.8
Passenger Trips per Revenue Mile	1.54	1.48	1.48	1.12	0.86	-44.1%	1.50	0.99
Passenger Trips per Revenue Hour	21.1	20.5	20.3	15.3	11.5	-45.2%	20.6	13.4
Revenue Miles per Capita	7.26	7.34	7.29	6.82	7.04	-3.0%	7.29	6.93
Revenue Hours per Capita	0.53	0.53	0.53	0.50	0.52	-1.3%	0.53	0.51
Vehicle Hours / Revenue Hours	1.07	1.00	1.08	1.09	1.08	0.9%	1.05	1.09
Vehicle Miles per Peak Vehicle	68,346	67,348	65,303	64,321	64,354	-5.8%	66,999	64,337

Cost Efficiency and Effectiveness Measures

Cost efficiency and effectiveness measures assess the system's financial performance. Cost effectiveness measures how much an agency spends per passenger trip, while cost efficiency measures the cost required to provide a unit of service. Table 24 provides an overview of LYNX service productivity and coverage measures across the five-year time period. A summary of the observed cost efficiency and effectiveness trends between FY 2017 and FY 2021 is provided below and figures illustrating the five-year analysis is provided in Appendix B.

- ***Operating expenses per passenger trip*** and ***per passenger mile*** served each roughly doubled. The sharp decreases in both passenger trips and passenger miles served in FY 2020 and FY 2021 have severely affected LYNX's expense ratios, causing them to spend more per unit of service. Pre-pandemic expenses per passenger mile were basically flat, harkening back to observations elsewhere that ridership may have been shifting towards fewer but longer trips.
- ***Operating expense per revenue mile*** and ***per revenue hour*** both increased by approximately 14 percent between FY 2017 and FY 2020. While both metrics were on an upward trend prior to the pandemic, the biggest increase was between FY 2019 and FY 2020. Although the absolute amounts also increased between FY 2020 and FY 2021, the rate of the increase has been leveling off.
- ***Farebox recovery ratio*** is the ratio of revenue collected per operating expense. As with other measures discussed in this analysis, the dramatic decrease in ridership in FY 2020 and FY 2021 has affected transit agencies' finances. LYNX's farebox recovery ratio decreased by 47.2 percent between FY 2017 and FY 2021. The ratio decreased the most, by 50.4 percent, between FY 2019 and FY 2020. That decrease can be explained in part by the fact that LYNX operated fare-free during March 30, 2020 through September 1, 2020.
- ***Fuel cost per vehicle mile*** and ***peak vehicle*** have decreased by 11.2 percent and 16.4 percent, respectively, between FY 2017 and FY 2021. Decreasing fuel costs over time may reflect an increasing fuel economy in the fleet as newer vehicles enter service.

Table 24: LYNX Fixed-Route Cost Efficiency and Effectiveness Measures

Performance Measures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	% Change FY17 - FY21	Pre-Pandemic Average (FY17-FY19)	Pandemic Average (FY20-FY21)
Operating Expense per Capita	$46.82	$47.23	$49.26	$50.20	$50.86	8.6%	$47.77	$50.53
Operating Expense per Passenger Trip	$4.20	$4.34	$4.58	$6.57	$8.43	100.6%	$4.37	$7.50
Operating Expense per Passenger Mile	$0.76	$0.76	$0.75	$1.26	$1.59	109.6%	$0.75	$1.42
Operating Expense per Revenue Mile	$6.45	$6.44	$6.76	$7.36	$7.23	12.1%	$6.55	$7.29
Operating Expense per Revenue Hour	$88.41	$88.77	$92.77	$100.79	$97.29	10.0%	$89.98	$99.04
Operating Expense per Peak Vehicle	$387,306	$387,721	$392,318	$420,174	$419,140	8.2%	$389,115	$419,657
Farebox Recovery Ratio	23.2%	22.1%	20.7%	10.2%	$0.12	-47.2%	22.0%	$0.11
Fuel Cost per Vehicle Mile	$0.46	$0.49	$0.54	$0.51	$0.41	-11.2%	$0.50	$0.46
Fuel Cost per Peak Vehicle	$31,341	$32,974	$35,123	$32,494	$26,203	-16.4%	$33,146	$29,349

Demand-Response Trend Analysis

The demand-response trend analysis was conducted to evaluate the performance of LYNX's demand response (NeighborLink) and paratransit (ADA and TD) service for the five-year period between FY 2017 and FY 2021. As noted earlier, stark differences between trends before and after FY 2020 may be attributed to the effects of the ongoing COVID-19 pandemic.

General Service Measures

General service measures for demand response services are summarized in Table 25. A summary of the demand response general service measures over the five-year analysis period is provided below and figures illustrating the five-year analysis are provided in Appendix B.

- ***Passenger trips*** for demand response services fluctuated each year over the five-year period with a nine percent decrease overall. The dramatic differences between years makes inference difficult, but the shallow trendline confirms a truism that those who make demand-response tend to rely on the service for their basic transportation needs and may have been unable to use alternatives during the pandemic.
- ***Passenger miles*** decreased by 34.5 percent over the five-year period, with the biggest decrease occurring between FY 2019 and FY 2020 (25.8 percent). Pre-pandemic changes seem to be the result of regular demand fluctuations, while pandemic-related declines likely explain the magnitude of the overall decrease.
- Both ***vehicle miles*** and ***revenue miles*** decreased over the five-year period by 13.5 and 20 percent, respectively, concomitant with noted lower service demands.
- ***Vehicle hours*** have fluctuated year to year with a significant decrease between FY 2019 to FY 2021 of 22.3 percent. ***Revenue hours*** followed a similar trend, reaching a peak of over 524,000 hours in FY 2019 but decreased by 18.6 percent by FY 2021. The causes for this will vary, but the effect of trip-making differences will necessarily affect the time required to serve them. This measure may be seen as derivative of others, indicating characteristics about the physical demands on the demand-response fleet vehicles and their operators.
- Demand response ***operating expenses*** increased by 32.1 percent between FY 2017 and FY 2021, while ***fare revenue*** decreased by 8.8 percent during that same period. The sharp rise in operating expenses is an artifact of very low expenses and revenue in FY 2017. Excluding that year, operating expenses remained basically flat. This suggests that the demand-response service is adjusting to outlays to changing demand.
- ***Peak vehicles operated*** changed stepwise throughout the five-year period, peaking in FY 2019 but at similar levels in FY 2017 and FY 2021. Trends before the pandemic are likely not related to those occurring afterwards and more information is needed to shed light on the differences in these periods.
- ***Fuel costs*** declined 21 percent over the course of the five-year period, including a 10 percent decline in the pre-pandemic years reflected in the trend analysis.

Table 25: Demand Response General Service Measures

Performance Measures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	% Change FY17 - FY21	Pre-Pandemic Average (FY17-FY19)	Pandemic Average (FY20-FY21)
Passenger Trips	582,940	479,954	582,170	500,239	530,218	-9.0%	548,355	515,229
Passenger Miles	8,676,627	7,127,339	7,564,169	5,615,122	5,679,046	-34.5%	7,789,378	5,647,084
Vehicle Miles	9,731,816	9,479,049	9,187,316	8,438,566	8,414,166	-13.5%	9,466,060	8,426,366
Revenue Miles	9,013,672	8,422,175	8,348,565	7,019,970	7,214,490	-20.0%	8,594,804	7,117,230
Vehicle Hours	564,786	487,087	606,258	510,660	471,326	-16.5%	552,710	490,993
Revenue Hours	510,333	487,087	524,076	428,401	426,512	-16.4%	507,165	427,457
Operating Expense	$19,796,239	$26,398,819	$27,116,626	$26,050,233	$26,150,743	32.1%	$24,437,228	$26,100,488
Fare Revenue	$2,088,758	$2,117,604	$2,356,303	$1,486,060	$1,904,583	-8.8%	$2,187,555	$1,695,322
Peak Vehicles Operated	155	175	210	191	142	-8.4%	180	167
Fuel Cost	$2,006,551	$2,206,239	$1,806,653	$1,732,360	$1,567,267	-21.9%	$2,006,481	$1,649,814

Service Productivity and Coverage Measures

Service productivity and coverage measures for demand response services are detailed in Table 26. A summary of observed service productivity and coverage trends between FY 2017 and FY 2021 is provided below and figures illustrating the five-year analysis are provided in Appendix B.

- All demand response service coverage measures have decreased over the five-year period. ***Passenger trips per capita*** has decreased by nine percent, ***revenue miles per capita*** has decreased by 20 percent, and ***revenue hours per capita*** has decreased by 16.4 percent. This decrease in service utilization aligns with earlier observations about changes in trip-making over time. As trips per person decrease, vehicles will operate less in terms of both time and miles.
- In contrast, service productivity measures have increased over the same five-year period. ***Passenger trips per revenue mile*** has increased by 13.6 percent and ***passenger trips per revenue hour*** has increased by 8.8 percent. Taken with the prior observation, this indicates an increase in operational efficiency.
- While overall ***vehicle miles per peak vehicle*** have decreased by 5.6 percent, this statistic has increased significantly between FY 2020 and FY 2021. The later spike may be the result of re-opening post-pandemic service, but in light of the steep decline going into FY 2020, that spike in trips may represent an evolved context where new user groups are making demand-response trips.

Table 26: Demand Response Productivity and Coverage Measures

Performance Measures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	% Change FY17 - FY21	Pre-Pandemic Average (FY17-FY19)	Pandemic Average (FY20-FY21)
Passenger Trips per Capita	0.27	0.22	0.27	0.23	0.25	-9.0%	0.26	0.24
Passenger Trips per Revenue Mile	0.06	0.06	0.07	0.07	0.07	13.6%	0.06	0.07
Passenger Trips per Revenue Hour	1.14	0.99	1.11	1.17	1.24	8.8%	1.08	1.21
Revenue Miles per Capita	4.22	3.95	3.91	3.29	3.38	-20.0%	4.03	3.33
Revenue Hours per Capita	0.24	0.23	0.25	0.20	0.20	-16.4%	0.24	0.20
Vehicle Hours / Revenue Hours	1.11	1.00	1.16	1.19	1.11	-0.1%	1.09	1.15
Vehicle Miles per Peak Vehicle	62,786	54,166	43,749	44,181	59,255	-5.6%	53,567	51,718

Cost Efficiency and Effectiveness Measures

Cost efficiency and effectiveness measures for demand response services are summarized in Table 27. A summary of the observed demand response cost efficiency and effectiveness trends between FY 2017 and FY 2021 is provided below and figures illustrating the five-year analysis are provided in Appendix B.

- Operating expense efficiency decreased significantly across all categories. Most notably, ***operating expenses per passenger mile*** increased by more than 100 percent. This may be explained by the general decrease in passenger miles over the five-year period and especially beginning in FY 2020. Reduced passenger activity strongly affects this statistic, but future trends may level out as outlays for service (e.g., number of vehicles and their scheduling) adjust to new travel behavior.
- As noted in the general service evaluation, costs in FY 2017 were apparently very low and therefore skew the trend result. Excluding that year, ***operating expenses per capita*** remained basically flat. This underscores the suggestion earlier that the demand-response service can and is adjusting to changing demand.
- The ***farebox recovery ratio*** decreased significantly over the five-year period, 31 percent, between FY 2017 and FY 2021. However, this is an incomplete story. The farebox ratio actually *declined* pre-pandemic and *increased* between FY 2020 and FY 2021. We may conclude that while the farebox recovery ratio was decreasing prior to FY 2020, service and ridership adjustments during the pandemic have changed the outcome for the service.

Table 27: Demand Response Cost Efficiency and Effectiveness Measures

Performance Measures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	% Change FY17 - FY21	Pre-Pandemic Average (FY17-FY19)	Pandemic Average (FY20-FY21)
Operating Expense per Capita	$9.27	$12.37	$12.70	$12.20	$12.25	32.1%	$11.45	$12.23
Operating Expense per Passenger Trip	$33.96	$55.00	$46.58	$52.08	$49.32	45.2%	$45.18	$50.70
Operating Expense per Passenger Mile	$2.28	$3.70	$3.58	$4.64	$4.60	101.8%	$3.19	$4.62
Operating Expense per Revenue Mile	$2.20	$3.13	$3.25	$3.71	$3.62	65.0%	$2.86	$3.67
Operating Expense per Revenue Hour	$38.79	$54.20	$51.74	$60.81	$61.31	58.1%	$48.24	$61.06
Operating Expense per Peak Vehicle	$127,718	$150,850	$129,127	$136,389	$184,160	44.2%	$135,898	$160,274
Farebox Recovery Ratio	11%	8%	9%	6%	7%	-31.0%	9%	6%
Fuel Cost per Vehicle Mile	$0.21	$0.23	$0.20	$0.21	$0.19	-9.7%	$0.21	$0.20
Fuel Cost per Peak Vehicle	$12,945	$12,607	$8,603	$9,070	$11,037	-14.7%	$11,385	$10,054

Peer Review

Peer Selection Process

Agency peer reviews are used to assess the efficiency and effectiveness of an agency's operations compared to similarly situated transit agencies. Since the Orlando region is considering several measures to expand and connect transit services throughout the region, this report compares LYNX to five current peers, based upon existing service characteristics, and five peers that LYNX aspires to resemble in the future. To identify potential future peers, various agency characteristics were scaled based on future service proposals and forecasted population numbers.

Though forecasting was used to identify potential future peers, all comparisons shown in this section are between the five current peers, five future peers, and LYNX as it is today.

Three different methods were combined to select peers for this analysis. Those three methods include:

- Comparison of recent data (FY 2020) from the Federal Transit Administration's National Transit Database (NTD) to all other transit agencies in the United States. This comparison included service area (i.e., urbanized area population, service area population, service area size) and operational characteristics (i.e., vehicles operated in maximum service, passenger trips).
- Florida Transit Information System (FTIS) TCRP G-11 Peer Selection Method. https://ftis.org/iNTD-Urban/tcrp_141.pdf
- Review of previous LYNX peers.

In addition, discussion with LYNX staff also led to the consideration of other external factors. Those factors included serving a large number of recreational/tourist destinations, providing airport connectivity and regional rail connections.

Table 28: Selected Peers

Current Peers	Future Peers
Riverside, CA (RTA)	San Antonio, TX (VIA)
Columbus, OH (COTA)	Dallas, TX (DART)
Las Vegas, NV (RTC)	Phoenix, AZ (PTD)
Fort Lauderdale, FL (BCT)	Salt Lake City, UT (UTA)
Austin, TX (CMTA)	Pittsburgh, PA (PAAC)

Note that operational comparisons examined similarities between fixed-route service characteristics only. The peer selection process did not include other modes, such as demand response, because fixed-route service represents the majority of trips served. In LYNX's case, bus rapid transit, demand response, and vanpool together represented less than ten percent of total trips.

Fixed Route Service Comparisons

Service Coverage

Service coverage measures examine the level of service an agency provides in its service area compared to its population and geographic coverage. At 2,500 square miles, LYNX has one of the largest service areas among its selected peers (Table 29). The average is around 850 square miles. This influences other statistics such as operating miles and service hours per square mile. Both of these statistics are much lower than the average peer, reflecting that LYNX provides service to a much larger area than its peers. LYNX's service area population is 16 percent larger than the average peer (Table 30), but its population density is 75 percent less. Relatedly, LYNX serves fewer passenger trips per capita. As with other statistics presented here, this likely has more to do with the area's land use and travel behavior patterns. Appendix C provides an additional comparison of the service coverage measures between LYNX and its peers.

Table 29: Fixed-Route Service Coverage

Transit Agency	Peer Group	Service Area (Sq. Miles)	Service Area Pop.	VRH per Sq. Mile of Service Area	VRM per Sq. Mile of Service Area	VRH per Service Area Pop.	VRM per Service Area Pop.	Passenger Trips per Service Area Pop.
Orlando, FL (LYNX)	LYNX	2,540	2,134,411	419	5,735	0.50	6.8	7.6
Riverside, CA (RTA)	Current	2,725	2,018,724	216	2,949	0.29	4.0	3.2
Columbus, OH (COTA)		336	1,160,165	2,547	31,855	0.74	9.2	8.9
Las Vegas, NV (RTC)		280	2,008,655	5,368	63,587	0.75	8.9	27.7
Fort Lauderdale, FL (BCT)		428	1,952,778	2,647	34,181	0.58	7.5	9.1
Austin, TX (CMTA)		546	1,318,322	2,377	26,937	0.98	11.2	15.9
San Antonio, TX (VIA)	Future	1,213	1,986,049	1,346	18,501	0.82	11.3	15.6
Dallas, TX (DART)		698	2,437,200	3,091	38,532	0.89	11.0	11.3
Phoenix, AZ (PTD)		520	2,034,618	3,387	41,739	0.87	10.7	14.9
Salt Lake City, UT (UTA)		696	2,131,121	1,643	21,475	0.54	7.0	5.7
Pittsburgh, PA (PAAC)		775	1,415,244	1,996	25,767	1.09	14.1	31.6

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Table 30: Fixed-Route Service Coverage Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Current Peer Mean	LYNX % Current Mean	Future Peer Mean	LYNX % Future Mean
Service Area (Sq. Miles)	2,540	280	2,725	863	194%	780	225%
Service Area Population	2,134,411	1,160,165	2,437,200	1,691,729	26%	2,000,846	7%
VRH per Sq. Mile of Service Area	419	216	5,368	3,669	-77%	2,786	-70%
VRM per Sq. Mile of Service Area	5,735	2,949	63,587	31,902	-84%	29,203	-82%
VRH per Service Area Population	0.5	0.3	1.1	2,631	-84%	2,292	-80%
VRM per Service Area Population	6.8	4.0	14.1	8.1	-25%	10.8	-41%
Passenger Trips per Service Area Population	7.6	3.2	31.6	13.0	-16%	15.8	-37%

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Service Productivity

Service productivity examines how many passengers are served per unit of service. Unit of service includes per hour, per mile, and per peak vehicle operated. LYNX generally falls in the lower half of the range among its peers across these statistics, serving fewer passengers per vehicle revenue hour (VRH) and vehicle revenue mile (VRM) than the others (Table 31). However, its vehicles each drive 25 percent more miles and their passengers generally take 18 percent longer trips than those of peer agencies. These statistics underscore that LYNX provides longer trips, perhaps commuter service, from outlying areas to commercial cores. Each of these statistics have grown since the last TDP supporting the observations elsewhere that the region's jobs and housing continue to sprawl further. Furthermore, LYNX buses drive very far per peak vehicle, indicating that their fleet is very lean in maximum service and that most routes are deployed for commuter or circulator service rather than serving shorter trips within core areas.

Critically, future peers generally have higher typical statistics for time and distance metrics and a lower average trip length (Table 32). This reflects the future peers' greater population densities, denser settlement patterns, and greater trip densities. Appendix C provides an additional comparison of the service productivity measures between LYNX and its peers.

Table 31: Fixed-Route Peer Service Productivity

Transit Agency	Peer Group	Passenger Trips per VRH	Passenger Trips per VRM	VRM per Peak Vehicle	Average Passenger Trip Length
Orlando, FL (LYNX)	LYNX	15.33	1.12	57,120	5.22
Riverside, CA (RTA)	Current	10.85	0.79	52,527	7.16
Columbus, OH (COTA)		12.06	0.96	39,938	3.89
Las Vegas, NV (RTC)		37.07	3.13	57,619	3.83
Fort Lauderdale, FL (BCT)		15.77	1.22	46,150	4.81
Austin, TX (CMTA)		16.13	1.42	45,961	4.32
San Antonio, TX (VIA)	Future	19.01	1.38	44,616	4.07
Dallas, TX (DART)		12.73	1.02	48,287	4.09
Phoenix, AZ (PTD)		17.22	1.40	51,800	3.54
Salt Lake City, UT (UTA)		10.71	0.82	41,404	4.36
Pittsburgh, PA (PAAC)		28.95	2.24	33,116	4.18

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Table 32: Fixed-Route Peer Service Productivity Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Current Peer Mean	LYNX % Current Mean	Future Peer Mean	LYNX % Future Mean
Passenger Trips per VRH	15.33	10.71	37.07	18.37	-17%	18	-14%
Passenger Trips per VRM	1.12	0.79	3.13	1.51	-26%	1.37	-18%
VRM per Peak Vehicle	57,120	33,116	57,619	48,439	18%	43,845	30%
Average Passenger Trip Length	5.22	3.54	7.16	4.80	9%	4.05	29%

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Maintenance Productivity

Maintenance productivity measures how well a transit agency keeps up its fleet and facilities. Up to date maintenance ensures that disruptions are minimal and that the vehicle fleet's condition remains high. LYNX operates a considerably older fleet (58 percent older) and each vehicle drives much further per maintenance employee (i.e., an average 41 percent more as shown in Table 33). This could lead one to believe that LYNX may have a more challenging time ensuring that its vehicles remain in good condition. In fact, maintenance is not an issue as the number of miles between service disruptions is very close to the average among the peers (i.e., eight percent higher as shown in Table 34). However, LYNX has fewer maintenance employees to devote to that work should a large number of its aging vehicles require major service at the same time. Appendix C provides an additional comparison of the maintenance productivity measures between LYNX and its peers.

Table 33: Fixed-Route Peer Maintenance Productivity

Transit Agency	Peer Group	Average Fleet Age	VOMS per Vehicle Maintenance Employee	VRM per Vehicle Maintenance Employee	VRM per non-vehicle Maintenance Employee	Total Miles between service disruptions
Orlando, FL (LYNX)	LYNX	8.72	1.90	108,699	15,832	10,081
Riverside, CA (RTA)	Current	5.75	2.44	128,381	21,586	13,149
Columbus, OH (COTA)		5.93	1.60	63,710	11,840	6,471
Las Vegas, NV (RTC)		3.65	-	-	-	16,030
Fort Lauderdale, FL (BCT)		3.84	1.71	79,078	14,898	2,464
Austin, TX (CMTA)		5.37	-	-	-	3,063
San Antonio, TX (VIA)	Future	5.69	1.89	84,244	16,450	3,799
Dallas, TX (DART)		6.06	1.65	79,809	13,957	6,056
Phoenix, AZ (PTD)		5.84	-	-	-	18,000
Salt Lake City, UT (UTA)		7.56	1.44	59,492	12,921	12,033
Pittsburgh, PA (PAAC)		5.61	1.31	43,477	12,019	12,568

Note: Agencies that did not report this information to the NTD are indicated by a dash.

VOMS – Vehicles Operated in Maximum Service (Peak Vehicles)

Table 34: Fixed-Route Peer Maintenance Productivity Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Current Peer Mean	LYNX % Current Mean	Future Peer Mean	LYNX % Future Mean
Average Fleet Age	8.72	3.65	7.56	4.91	78%	6.15	42%
VOMS per Vehicle Maintenance Employee	1.90	1.31	2.44	1.92	-1%	1.57	21%
VRM per Vehicle Maintenance Employee	108,699	43,477	128,381	90,390	20%	66,756	63%
VRM per non-vehicle Maintenance Employee	15,832	11,840	21,586	16,108	-2%	13,837	14%
Total Miles between service disruptions	10,081	2,464	18,000	8,235	22%	10,491	-4%

Cost Efficiency and Effectiveness

Note that this peer review used FY 2020 data. LYNX operated fare-free from March 30, 2020 to September 1, 2020.

Cost efficiency and effectiveness measures indicate how well LYNX is allocating its resources across services. Compared to its peers, LYNX is operating in a very cost-effective manner. Across the range of operating expenses (OE) examined, LYNX is one-quarter to one-third more cost effective than the average among its peers. This is especially true of operating expenses and maintenance costs, where not a single peer agency is more cost effective than LYNX (Table 35). This means that the agency provides service at lower per-unit costs than these selected peers.

LYNX is also nine percent more effective than the average peer at recovering costs from the farebox (Table 36). However, this number should be interpreted in context of the very low operating expenses and far fewer staff indicated earlier. Appendix C provides an additional comparison of the cost efficiency and effectiveness measures between LYNX and its peers.

Table 35: Fixed-Route Cost Effectiveness and Efficiency

Transit Agency	Peer Group	Total OE per Trip	Total OE per VRH	Total OE per VRM	Total General Administration Cost per VRH	Total Non-Vehicle Maintenance Cost per VRH	Total Vehicle Maintenance Cost per VRH	Total Operating Cost per VRH	Farebox Recovery Ratio
Orlando, FL (LYNX)	LYNX	$6.57	$100.79	$7.36	$20.27	$4.36	$17.13	$100.79	10%
Riverside, CA (RTA)	Current	$10.24	$111.09	$8.12	$33.92	$3.20	$14.72	$111.09	11%
Columbus, OH (COTA)		$16.22	$195.66	$15.64	$46.21	$13.00	$33.96	$195.66	2%
Las Vegas, NV (RTC)		$3.01	$111.54	$9.42	$32.70	$6.10	$21.88	$111.54	30%
Fort Lauderdale, FL (BCT)		$7.48	$117.93	$9.13	$16.71	$1.02	$26.79	$117.93	10%
Austin, TX (CMTA)		$7.62	$122.87	$10.84	$29.47	$4.25	$27.12	$122.87	7%
San Antonio, TX (VIA)	Future	$5.94	$112.84	$8.21	$21.16	$8.88	$19.85	$112.84	6%
Dallas, TX (DART)		$10.68	$136.01	$10.91	$20.84	$4.78	$30.03	$136.01	7%
Phoenix, AZ (PTD)		$6.23	$107.36	$8.71	$13.97	$4.59	$14.74	$107.36	11%
Salt Lake City, UT (UTA)		$12.55	$134.49	$10.29	$29.81	$6.00	$24.94	$134.49	10%
Pittsburgh, PA (PAAC)		$7.39	$213.98	$16.57	$35.11	$12.52	$52.02	$213.98	19%

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours; OE – Operating Expense

Table 36: Fixed-Route Cost Effectiveness and Efficiency Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Current Peer Mean	LYNX % Current Mean	Future Peer Mean	LYNX % Future Mean
Total Operating Expenses per Passenger Trip	$6.57	$3.01	$16.22	$8.91	-26%	$8.56	-23%
Total Operating Expenses per VRH	$100.79	$107.36	$213.98	$131.82	-24%	$140.94	-28%
Total Operating Expenses per VRM	$7.36	$8.12	$16.57	$10.63	-31%	$10.94	-33%
Total General Administration Cost per VRH	$20.27	$13.97	$46.21	$31.80	-36%	$24.18	-16%
Total Non-Vehicle Maintenance Cost per VRH	$4.36	$1.02	$13.00	$5.51	-21%	$7.35	-41%
Total Vehicle Maintenance Cost per VRH	$17.13	$14.72	$52.02	$24.89	-31%	$28.31	-40%
Total Operating Cost per VRH	$100.79	$107.36	$213.98	$126.65	-20%	$140.94	-28%
Farebox Recover Ratio	10%	0%	30%	12%	-14%	11%	-3%

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Demand Response Service Comparisons

The following sections presents a comparison of LYNX's demand response service, which is inclusive of both paratransit and NeighborLink services, against the set of current LYNX peers identified.

Service Coverage

Service coverage measures examine the extent of an agency's service operation within its service area. LYNX operates fewer VRH and VRM of demand response service per square mile of service area and per capita than its peer group average. This can be explained given the large LYNX service area which is over 200 percent larger than the peer group average (Table 38). Appendix C provides an additional comparison of the demand response service coverage measures between LYNX and its peers.

Table 37: Demand Response Service Coverage

Transit Agency	Service Area (Sq. Miles)	Service Area Pop.	VRH per Sq. Mile of Service Area	VRM per Sq. Mile of Service Area	VRH per Service Area Pop.	VRM per Service Area Pop.	Passenger Trips per Service Area Pop.
Orlando, FL (LYNX)	2,540	2,134,411	169	2,764	0.20	3.3	0.2
Riverside, CA (RTA)	2,725	2,018,724	53	914	0.07	1.2	0.1
Columbus, OH (COTA)	336	1,160,165	411	6,644	0.12	1.9	0.1
Las Vegas, NV (RTC)	280	2,008,655	2,430	36,019	0.34	5.0	0.6
Fort Lauderdale, FL (BCT)	428	1,952,778	1,039	16,846	0.23	3.7	0.3
Austin, TX (CMTA)	546	1,318,322	748	8,191	0.31	3.4	0.4

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Table 38: Demand Response Service Coverage Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Peer Mean	LYNX % from Mean
Service Area (Sq. Miles)	2,540	280	2,725	863	194%
Service Area Population	2,134,411	1,160,165	2,018,724	1,691,729	26%
VRH per Sq. Mile of Service Area	169	53	2,430	936	-82%
VRM per Sq. Mile of Service Area	2,764	914	36,019	13,723	-80%
VRH per Service Area Population	0.20	0.07	0.34	0.21	-7%
VRM per Service Area Population	3.3	1.2	5.0	3.0	10%
Passenger Trips per Service Area Population	0.2	0.1	0.6	0.3	-33%

VRM – Vehicle Revenue Miles; VRH – Vehicle Revenue Hours

Service Productivity

Service productivity examines how many passengers are served per unit of service. Unit of service is measured in per hour, per mile, and per peak vehicle operated. Unlike fixed-route service, demand response tends to have a wider geographic reach and therefore greater time and distance service ranges. LYNX is at the very bottom of the range compared to its peers with respect to trips served per VRM and VRH with almost one quarter fewer trips per vehicle revenue hour and half the number of trips per vehicle revenue mile than the average peer. This reflects LYNX's relatively larger service area and auto-oriented settlement pattern. The results are consistent with findings in the fixed-route peer review where LYNX's demand response passengers and the vehicles they travel in tend to take much longer journeys.

As with fixed-route service, the demand response fleet is also quite lean in maximum service, with 40 percent more VRM per peak vehicle than the average peer (Table 40). Appendix C provides an additional comparison of the demand response service productivity measures between LYNX and its peers.

Table 39: Demand Response Peer Service Productivity

Transit Agency	Passenger Trips per VRH	Passenger Trips per VRM	VRM per Peak Vehicle	Average Passenger Trip Length
Orlando, FL (LYNX)	1.17	0.07	36,754	11.22
Riverside, CA (RTA)	1.95	0.79	22,053	8.20
Columbus, OH (COTA)	1.23	0.96	31,889	11.44
Las Vegas, NV (RTC)	1.73	3.13	27,707	10.46
Fort Lauderdale, FL (BCT)	1.34	1.22	26,411	10.53
Austin, TX (CMTA)	1.35	1.42	23,415	7.21

Table 40: Demand Response Peer Service Productivity Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Peer Mean	LYNX % from Mean
Passenger Trips per VRH	1.17	1.23	1.95	1.52	-23%
Passenger Trips per VRM	0.07	0.79	3.13	1.51	-95%
VRM per Peak Vehicle	36,754	22,053	31,889	26,295	40%
Average Passenger Trip Length	11.22	7.21	11.44	9.57	17%

Maintenance Productivity

Maintenance productivity measures how well a transit agency keeps up its fleet and facilities. Up to date maintenance ensures that disruptions are minimal and that the vehicle fleet's condition remains high.

LYNX operates a considerably older fleet and each vehicle drives much further per maintenance employee, 71 percent more, which is nearly double that of its fixed-route vehicles (Table 42). However, as with fixed-route, LYNX is successful at maintaining its fleet relative to its peers. The number of miles between service disruptions is three percent higher than the peer average (Table 42). Importantly, LYNX is in the middle of the range of its peers for this metric, with some agencies reporting very few disruptions whatsoever. Appendix C provides an additional comparison of the demand response maintenance productivity measures between LYNX and its peers.

Table 41: Demand Response Peer Maintenance Productivity

Transit Agency	Average Fleet Age	VOMS per Vehicle Maintenance Employee	VRM per Vehicle Maintenance Employee	VRM per non-vehicle Maintenance Employee	Total Miles between service disruptions
Orlando, FL (LYNX)	4.98	1.43	52,388	7,630	66,973
Riverside, CA (RTA)	3.03	1.81	39,808	6,693	77,026
Columbus, OH (COTA)	2.05	0.42	13,287	2,469	66,209
Las Vegas, NV (RTC)	2.91	-	-	-	24,444
Fort Lauderdale, FL (BCT)	1.29	1.48	38,974	7,342	140,092
Austin, TX (CMTA)	3.34	-	-	-	16,549

Note: Agencies that did not report this information to the NTD are indicated by a dash.

Table 42: Demand Response Peer Maintenance Productivity Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Peer Mean	LYNX % from Mean
Average Fleet Age	4.98	1.29	3.34	2.52	97%
VOMS per Vehicle Maintenance Employee	1.43	0.42	1.81	1.23	16%
VRM per Vehicle Maintenance Employee	52,388	13,287	52,388	30,690	71%
VRM per non-vehicle Maintenance Employee	7,630	2,469	7,342	5,502	39%
Total Miles between service disruptions	66,973	16,549	140,092	64,864	3%

Cost Efficiency and Effectiveness

Cost efficiency and effectiveness measure how well LYNX's finances work for the agency's service provision goals. LYNX is generally very cost-effective compared to its peers. This means that the agency provides service at lower per-unit costs than the selected peers. Compared to the peer group average, LYNX's operating expenses (OE) per passenger trip are about 13 percent lower and its OE per revenue hour and per revenue mile are about 30 percent lower. LYNX's maintenance costs per VRH are about half that of its peers. However, the agency spends about 28 percent more on general administration per VRH (Table 43).

LYNX is also 45 percent more effective than the average peer at recovering costs from fares. However, LYNX falls in the middle of the range of its peers and the distribution is fairly well clustered around the average. This number should be interpreted in context of the low operating expenses indicated earlier. Appendix C provides an additional comparison of the demand response service cost efficiency and effectiveness measures between LYNX and its peers.

Table 43: Demand Response Cost Effectiveness and Efficiency

Transit Agency	Total OE per Trip	Total OE per VRH	Total OE per VRM	Total General Administration Cost per VRH	Total Non-Vehicle Maintenance Cost per VRH	Total Vehicle Maintenance Cost per VRH	Total Operating Cost per VRH	Farebox Recover Ratio
Orlando, FL (LYNX)	$52.08	$60.81	$3.71	$25.39	$0.08	$3.85	$60.81	6%
Riverside, CA (RTA)	$45.63	$88.79	$5.19	$13.85	$5.20	$10.29	$88.79	11%
Columbus, OH (COTA)	$84.73	$104.26	$6.45	$15.86	$5.16	$8.27	$104.26	1%
Las Vegas, NV (RTC)	$50.86	$87.98	$5.94	$27.34	$3.64	$10.12	$87.98	4%
Fort Lauderdale, FL (BCT)	$42.27	$56.76	$3.50	$19.03	$3.41	$4.90	$56.76	2%
Austin, TX (CMTA)	$75.08	$101.21	$9.24	$23.38	$0.06	$9.22	$101.21	2%

Table 44: Demand Response Cost Effectiveness and Efficiency Measures Comparison

Measures	LYNX	Peer Minimum	Peer Maximum	Peer Mean	LYNX % from Mean
Total Operating Expenses per Passenger Trip	$52.08	$42.27	$84.73	$59.71	-13%
Total Operating Expenses per VRH	$60.81	$56.76	$104.26	$87.80	-31%
Total Operating Expenses per VRM	$3.71	$3.50	$9.24	$6.06	-39%
Total General Administration Cost per VRH	$25.39	$13.85	$27.34	$19.89	28%
Total Non-Vehicle Maintenance Cost per VRH	$0.08	$0.06	$5.20	$3.50	-98%
Total Vehicle Maintenance Cost per VRH	$3.85	$4.90	$10.29	$8.56	-55%
Total Operating Cost per VRH	$60.81	$56.76	$104.26	$87.80	-31%
Farebox Recover Ratio	6%	1%	11%	4%	45%

4. Public Involvement

Consistent with requirements in the FDOT TDP Rule (FAC 14-73), a TDP-specific Public Involvement Plan (PIP) was developed at the onset of the project. The purpose of developing the PIP was to guide the public outreach process and to provide a strategy to reach out and educate the broad spectrum of community residents, stakeholders, and bus riders about the TDP. More specifically, for this TDP Major Update, the PIP was critical in ensuring that the service plan elements identified in the three individual County Needs Plans (i.e., Osceola, Seminole, and Orange counties) met the desires of the community.

The PIP developed for the FY 2023 TDP Major Update is included in Appendix D. That plan includes goals and specific public involvement activities that were performed to inform the plan development process. The remainder of this section summarizes those outreach activities and the information collected.

Public Involvement Activities

Numerous public participation strategies were included to reach LYNX riders, potential riders, concerned community members, and stakeholder organizations. Those strategies and activities consisted of a variety of engagement tools encompassing in person activities and digital outlets. Many of the materials and notifications were made available through the LYNX website and advertised in the Orlando Sentinel and El Sentinel. The outreach activities performed for the TDP were selected to maximize public participation during the plan development process.

Public involvement activities were organized into three categories:

1. Gathering Public and Stakeholder Feedback
2. Promotion & Outreach
3. Social & Digital Media Engagement

Examples of the various engagement materials used for the public involvement process are found in Appendix E.

Gathering Public and Stakeholder Feedback

Goal: Obtain public input from the community, stakeholders, and internal audiences on the current LYNX transit experience.

County Transit Plans – Prior and Ongoing efforts

It is important to acknowledge the public involvement effort performed by LYNX staff in development of the three County Needs Plans. Those plans were developed over a period of several years and included a variety of activities including numerous public meetings (in-person and virtual), outreach at LYNX transfer stations, and presentation of service proposals during development of the 2019, 2020, and 2021 TDP Annual Updates. This effort is important as public involvement and outreach is an ongoing and continuous process which occurs throughout the year, for many different purposes, and is not limited to just the timing of TDP development.

Project Management Team

A Project Management Team (PMT) was established to monitor and guide the TDP Major Update process. The PMT consisted of LYNX and Consultant staff and allowed for review and approval of the many technical details of the project. That team met on a bi-weekly schedule (every other week) throughout the life of the project and was a significant factor in ensuring timely completion of the TDP.

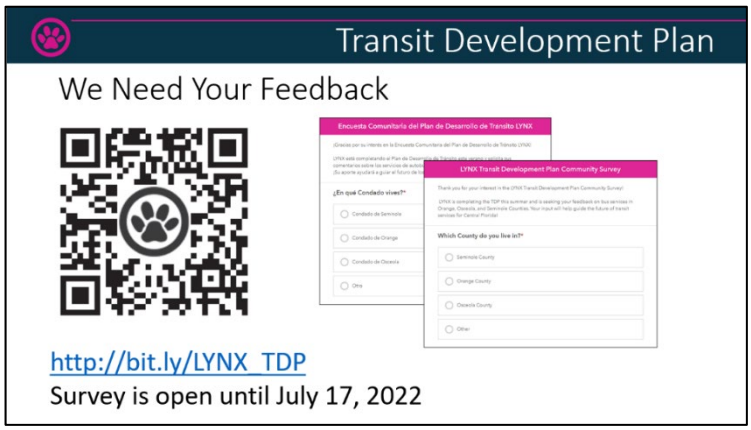
Regional Working Group and Stakeholder Feedback

The Regional Working Group (RWG) consists of a variety of stakeholders and local and regional partner agencies working within the LYNX service area. LYNX often convenes the RWG to provide a forum for communication of major initiatives and milestones to a broad group of community stakeholders. The group is represented by transportation planning agencies and operators, LYNX funding partners, local chambers of commerce, and large employers, among others. For the TDP process, members of the RWG served as a broad distribution platform for TDP workshop and survey participation information. A full listing of RWG membership is included in the TDP PIP.

Three (3) different meetings to get buy-in on the progression of the TDP were held with the RWG. Meetings and meeting content included the following:

- **Meeting #1 – May 25, 2022** – The first meeting served to provide an overview of the TDP process, the County Transit Plans, and also to present initial results from the demographic data analysis.

- **Meeting #2 – June 27, 2022** – Peer review results were presented along with an overview of the three County Needs Plan services. In addition, a summary of scheduled public workshops and information on opportunities to provide feedback were shared with the group. Comments received from the RWG included the need for additional NeighborLink service in the Lake Mary Boulevard area, service on I-4, and also expanding the existing Sanford NeighborLink area to the east near the airport in order to benefit the increasing residential development occurring in that area. In response, a Lake Mary NeighborLink service was included in the TDP Needs Plan and the Sanford NeighborLink is expanded. An I-4 service was not included at this time given that such an alignment is similar to the SunRail corridor. The next steps of the project following prioritization was also discussed including development of a financial plan, staffing, and purchasing vehicles.



- **Meeting #3 – July 25, 2022** – The third and final meeting was held to present results of the public outreach activities and the draft details of the TDP 10-year implementation plan.

Technical Advisory Committee (TAC) Meetings

A Technical Advisory Committee (TAC) was formed to guide the overall TDP effort. The TAC was comprised of representatives from FDOT, MetroPlan Orlando, CareerSource Central Florida, the cities of Orlando, Sanford, and Altamonte Springs, and the three service area counties. Given the technical expertise and service area knowledge of TAC membership, this group was instrumental in validating the technical aspects of the TDP work including gaining final approval of the major elements of the TDP service plan.

Consistent with the RWG, three meetings were held with the TAC to inform the group about the TDP. Meetings were held on June 1st, June 30th, and July 28th. Content was aligned as much as possible with RWG materials to ensure consistent messaging and information to both groups. For the TAC, more detailed and specific information was provided on the Needs Plans and the financial elements of those plans in order to facilitate an in-depth discussion. For example, for meeting #2, transit needs were presented by service type and also by county to facilitate discussion and obtain feedback from the respective geographic areas and funding partners.

Comments received from the TAC consisted of the following:

- **TAC Meeting #1** – TAC members comments included general clarifications on the County Transit Plans.
- **TAC Meeting #2** – TAC member comments included the need for NeighborLink service around the Lake Mary SunRail station, clarification on the proposed transit services, as well as discussion on future growth in Osceola County. Osceola County staff indicated that there is significant projected growth in the county with the Sunbridge development and other mixed-use development occurring in South Osceola County. Seminole County commented that proposed services along US 17-92 and SR 436 support what is in the county's data and analysis for the comprehensive plan. Following the meeting, Seminole County staff provided their draft Evaluation and Appraisal report for review.
- **TAC Meeting #3** – TAC member comments included questions related to transit service connection to major employers and major destinations located along some of the proposed express routes. One TAC member mentioned that a map showing limited stops and destinations would be helpful. The map series presented at the meeting was provided to the TAC following the meeting for further review. Seminole County representatives sent follow up written comments with recommendations for new NeighborLink service in Lake Mary and modifications to the regional express routes 309 and 310.

Key Stakeholder Interviews

The impact of this TDP in Central Florida is significant and LYNX recognizes the importance of involving community partners throughout the plan development process. To support that effort, a series of meetings with key regional stakeholders, including representation from planning partners and neighboring transportation and transit service providers, were conducted. Discussions with this group of stakeholders were held to pose key questions on priorities, service phasing, and opportunities to leverage partnerships for the purposes of implementing new and enhanced service. An interview guide was prepared to initiate the conversations, but topics covered deviated to those that were often more specific to each stakeholder. Key takeaways from each interview are summarized below.

Polk County TPO/Citrus Connection

Polk County staff were complementary about LYNX service and shared positive comments about working with staff and the organization. One of the key examples noted was the "1st fare free transfer" which the two agencies offer to passengers making transfers between the two systems seamless (i.e., LYNX and Citrus Connection).

The Polk team was also in the process of preparing a TDP Major Update. Major focal points that are relevant between the two service providers include the US 27 corridor, the Four Corners area, and Poinciana. The Polk team stated that three new routes had recently been implemented along the US 27 corridor, or "Ridge Corridor," given the growth of new residential development. Of interest to the group was connecting the Four Corners area to the Disney parks. More specifically, it was stated that Polk County is the 2nd most populous employment source for Disney, with Osceola being number one. The availability of Disney Direct type service was considered as beneficial to enhance access to those service jobs particularly because much of the ridership population in Polk County consists of service workers who are limited in their ability to access service jobs given the current Citrus Connection service span and schedule. To enhance service and meet the transportation needs throughout the community, Polk County recognizes that new funding sources will be needed.

Opportunities for enhanced coordination offered by the Polk County team include continued participation in the Central Florida MPO Alliance (CFMPOA) and also an offer to meet once a year, perhaps during the TDP annual update process, to discuss opportunities, service updates, and policy changes.

Lake-Sumter MPO

The discussion with the MPO staff focused primarily on service connections between LakeXpress and LYNX, including connections to the west of Orange County to SR 27 and connections to the north near the Orange County and Lake County line.

LakeXpress is working to enhance use of two existing park-and-ride facilities, one located in Clermont and the second located just North of Minneola. Staff indicated that there is continued interest in supporting connection from Clermont to Downtown Orlando. Currently, LakeXpress operates Route 50 East from Clermont to Winter Garden. Similar to Polk County, Lake County considers US 27 as a major growth corridor, drawing travelers up from the Four Corners area. The Four Corners area is considered a source of a substantial amount of workforce housing that commutes throughout the region. A new express service will be implemented by LakeXpress next fiscal year which will connect to Link 55 via US 27 and that will serve north/south transportation needs.

To the north, Lake County operates the Route 4, between Altoona and Zellwood. The route operates every two hours and the connection into Orange County serves as a lifeline service for transportation disadvantaged bus riders travelling into Orange County. Staff indicated that without the connecting LYNX services in Zellwood this route may have to be discontinued.

A Wellness Way Sector Plan is also in the works that is anticipated to serve as a significant economic driver for the entire region. The Sector Plan is inclusive of over 15,000 acres of land east of US 27 and just south of SR 50. A proposed expressway connection between 429 and

US 27 is also being discussed which will create a new, major transportation corridor between the two counties (i.e., Orange and Lake Counties).

MPO staff suggested that regular presentations to the Lake-Sumter MPO Board would be helpful to educate his Board and sub-committees on transit service and how transit service works in other areas. Furthermore, the CFMPOA was identified as another opportunity to outline shared transit initiatives, submit them to FDOT, and to prepare joint applications under new and expanded programs available through the IIJA federal legislation.

Greater Orlando Aviation Authority (GOAA)

The GOAA recently opened the south terminal complex which now serves as Orlando International Airport (MCO) Terminal C. The new terminal is a major intermodal center designed to serve as a hub for SunRail, Brightline, LYNX, rental car, and other transportation connections for travelers leaving and arriving in the Central Florida region via MCO. Opportunities for integrating future transportation technology (i.e., light rail, BRT, air taxis, AV, etc.) are also integrated into the design of the facility. The terminal is connected to major highways and thoroughfares and this network of roads provide connectivity through and within the MCO property.

GOAA staff indicated that there is space for LYNX to operate at the new terminal and that they are open to discuss LYNX operations at two airport locations if needed, existing Terminal A and new Terminal C. The GOAA is kicking off an update to its Strategic Plan later this calendar year and staff indicated that participation in that update process is a good opportunity to discuss future actions and coordination between LYNX and GOAA staff.

Central Florida Expressway Authority (CFX)

CFX is embarking on an innovative approach to highway design and operations that includes the implementation of part-time shoulder use (PTSU). Nineteen-foot shoulders are currently under construction on projects on SR 417 and SR 429 that will be intermittently open as general-purpose travel lanes during peak travel times. Only a 12-foot portion of the shoulder would be open to traffic with the remaining shoulder width to remain as a clear zone. Ongoing discussions with FDOT and the LYNX Innovation and IT team are underway in order to gauge appropriate technologies, signalization, and to define operational parameters to be integrated into the PTSU application. If successful, CFX plans to continue to incorporate similar applications into its facility design.

CFX staff indicated that the PTSU application is being considered with LYNX services in mind and more origin-destination and travel flow data would support efforts to delineate where these facilities would be most beneficial. Several other expansion projects were also discussed including the Lake-Orange Expressway between SR 429 and US 27 into Lake County, the Poinciana Parkway Extension, and an extension of the SR 414 Expressway which is anticipated to add more east-west capacity.

CFX staff further indicated that the opportunity to coordinate on design and development of CFX facilities is open to LYNX throughout the course of the year, with more detailed discussions on the CFX five-year work plan occurring in Spring of each calendar year.

MetroPlan Orlando

MetroPlan and LYNX continue to share a strong working relationship and the opportunity to coordinate on the TDP was considered another important action in building that relationship. Other ongoing interactions involve the sharing of Streetlight data for examining NeighborLink services and also LYNX participation in a TSM&O Master Plan steering committee. The MetroPlan team is setting the stage for development of the next Metropolitan Transportation Plan (MTP), which is due December 2025. Preparation includes development of individual master plans by transportation mode and strategic initiative. The Transportation Systems Management and Operations (TSM&O) Master Plan is one such plan that will identify priorities that will inform the MTP Update. Similarly, the TDP Major Update was considered by MPO staff as the source for MTP priorities as they relate to public transportation needs throughout the region.

MetroPlan staff did indicate a few long-range factors that will bear an impact to LYNX operations. Those factors include expansion of SunRail, the development occurring in Osceola County, cost increases in construction materials and land, and the impact of those cost increases on the MPO work plan, among others. The focus on a longer-term plan beyond the ten-year planning horizon of the TDP was considered important. Consequently, the 20-year planning horizons of the three County Needs Plans were viewed as favorable.

SunRail

As a regional transportation provider, SunRail was a key part of the stakeholder engagement in the TDP process. SunRail currently operates 16 stations, 15 of which are within the LYNX service (i.e., Seminole, Orange, and Osceola Counties). Recent collaboration between LYNX and SunRail led to improved connections and transfers between the bus and rail service with schedule changes and bus stop relocations. SunRail staff emphasized the importance and appreciation for LYNX's on-time performance in relation to SunRail riders. Also related to improved transfers, SunRail indicated they would be rolling out a new fare collection system in Spring 2022 that is anticipated to reduce the 90-second ticketing processing time currently estimated under the current system. Both LYNX and SunRail noted the importance of a collaborative fare collection system for continued discussion in the future.

SunRail and LYNX will continue to collaborate by way of data sharing in the upcoming Origin-Destination (OD) survey which will include data collection at SunRail stations. The findings from the OD survey will be an important inclusion in the Phase II South expansion Before and After Study submittal to FTA. Based on existing ridership data and discussions with SunRail ambassadors and riders, SunRail indicated opportunities for improved connectivity with LYNX services at the Tupperware, Longwood, and Sand Lake stations. Connectivity could be facilitated with NeighborLink services or circulator services like the LYNX Kissimmee Connector (Route 709) or the Sanford Trolley which is funded by the Community Redevelopment Agency (CRA). Current ridership data also indicates more SunRail trips outside of peak times than before the pandemic and this trend affords an opportunity for SunRail and LYNX to partner in leveraging and supporting more leisure trips in addition to commuters. SunRail has future plans for specific special event service and expressed interest in weekend service given additional funding opportunities.

LYNX Departmental Interviews

A meeting series was conducted with key staff from the LYNX organization. These meetings were organized to discuss the scale of the TDP service enhancements, and most importantly, to understand what is needed to implement the plan. These meetings were held with representation from various LYNX departments including Engineering and Amenities, Finance, Information Technology, Grants Administration, and Mobility Services.

LYNX staff is knowledgeable, informed, well aware of their respective roles and duties and how those responsibilities integrate and relate to the other areas of the LYNX organization. Key takeaways from the departmental interviews that are relevant to the TDP Major Update include the following:

- The volume of work identified in the County Needs Plans will exceed the capacity of existing staff and equipment resources. For example:
  - The Project Management team may need to leverage existing consultant contracts to enhance staff capacity in the short-term. Over time, it will be important to staff appropriately in order to maintain appropriate oversight over all ongoing and proposed projects.
  - Mobility Services is impacted in two ways: increases in the level of service within existing NeighborLink zones and implementation of new NeighborLink zones. Any increases in NeighborLink services in the immediate future would be difficult without expansion of the fleet.
  - The existing LCS operations and maintenance facility is at capacity.
- An emphasis was placed on the Transit Asset Management (TAM) Plan, where the TAM would drive state of good repair (SGR) needs and the TDP would drive new facilities. This is an overarching theme across several departments that supports capital plan development.
- Adoption of any technology is premised on the basis that any and all new technology and/or equipment needs to be "mission-ready" and that specifications adhere to industry standards. This is relevant in several areas including, but not limited to, zero-emission fleets, AV/CV technology, and signal priority implementations.
- With the recent Infrastructure Investment and Jobs Act (IIJA), more discretionary opportunities will be, and are becoming, available that LYNX can pursue to implement the TDP. Those opportunities may require local match in order for LYNX to be competitive.

Public Workshops

Three (3) public workshops were held in June 2022 to disseminate information about the TDP process, educate the public on the proposed improvements in the three County Needs Plans, and to provide an opportunity to collect feedback from workshop participants. Key elements of the workshops include the following:

- One workshop was held in each of the three counties within the LYNX service area, including Osceola County, Orange County, and Seminole County.
- Two of the workshops were offered in a hybrid format, where attendees could participate either in-person or virtually. This allowed for the casting of a wider net to capture potential attendees who could not join in person.
- Workshops were held in locations that were near existing transit service and at ADA accessible facilities.

- A presentation was made at the beginning of each workshop followed by a question and answer session. The remainder of each workshop was then conducted in an open house format.
- Map boards depicting the needs in the County Transit Plans were displayed in the workshop meeting space. The survey instrument was made available at the workshops in paper format and electronically. The County Needs Plans were also available for viewing.
- At the hybrid workshops, a separate virtual workshop facilitator monitored questions from virtual participants.
- Presentation materials, including recorded presentations, were posted on the LYNX website as an additional measure to reach those not able to attend the live events.

All workshop materials were translated into Spanish language, including the presentations where PowerPoint slides, graphics, and recorded material was translated by a Spanish-speaking voice over. In addition, Spanish-speaking staff was available during the workshops to provide interpretation services. Though not requested, translation and interpretation in languages other than English and Spanish were also available upon request. The date, time, and location of each workshop include:

- Monday, June 27, 2022, 5:30 p.m. – 7:30 p.m.

  City of Altamonte Springs City Hall
  Commission Chambers
  225 Newburyport Ave.
  Altamonte Springs, FL 32701

- Tuesday, June 28, 2022, 4:00 p.m. – 6:00 p.m.

  LYNX Central Station
  2nd Floor Open Space
  455 North Garland Ave.
  Orlando, FL 32801

- Wednesday, June 29, 2022, 4:00 p.m. – 6:00 p.m.

  City of Kissimmee City Hall
  Toho Conference Room – 1st Floor
  101 Church St.
  Kissimmee, FL 34741

Legal Advertisements

LYNX advertises official meetings in various publications depending on the type and locations of the public workshops and hearings. Before public meetings were held for the TDP, a legal advertisement was incorporated into the Orlando Sentinel. Additionally, this notification was published in Spanish in El Sentinel in compliance with Executive Order 13166 Access to Services for Persons with Limited English Proficiency (LEP). The notice was also made available on LYNX social media channels (Facebook and Twitter) and on the LYNX website, where Google translate enables translation into other languages. Tear sheets provided from the Orlando Sentinel and El Sentinel for their respective advertisements are included in Appendix E.

In-Person Outreach and Grassroots Activities

In-person outreach allows staff to engage one-on-one with riders and obtain meaningful input. To that end, efforts were made to engage directly with bus riders at multiple LYNX SuperStops and transfer locations. This was a critical piece of the public outreach effort. A total of eleven (11) different in-person outreach events were conducted and bus riders were invited to complete the TDP priorities survey and provide comments on proposed service changes. A deliberate effort was made to distribute activities equally throughout the LYNX three-county service area. Both English and Spanish-speaking staff were present at all outreach events to ensure riders from different backgrounds were provided the opportunity to give feedback. In-person outreach and grassroots activities included the following locations:

- Monday, June 27th, 2022
  - Fern Park Transfer Center – 7:00 AM to 9:00 AM
  - Seminole Centre – 3:00 PM to 5:00 PM
- Tuesday, June 28th, 2022
  - LYNX Central Station – 7:00 AM to 9:00 AM
  - LYNX Central Station – 1:00 PM to 3:00 PM
  - Florida Mall – 3:00 PM to 5:00 PM
- Wednesday, June 29th, 2022
  - Kissimmee Intermodal Center – 7:00 AM to 9:00 AM
  - Poinciana Walmart – 3:00 PM to 5:00 PM
- Thursday, July 14th, 2022
  - Apopka SuperStop – 7:00 AM to 9:00 AM
  - West Oaks Mall – 3:00 PM to 5:00 PM
- Friday, July 15th, 2022
  - Rosewood Way and Cinderlane Parkway – 7:00 AM to 9:00 AM
  - East Altamonte Drive and Essex Avenue (Near Sears) – 3:00 PM to 5:00 PM

TDP Priorities Survey

An online and paper survey tool was developed to gauge perspectives from respondents on the proposed services outlined in the three County Needs Plans. The survey instrument was linked on the project website and distributed via a QR code and a link on creative materials. Those links were shared at the TAC and RWG meetings, via paper and digital (on tablets) formats at all public workshops, and at in-person outreach events.

English and Spanish language versions were prepared in hard copy and digital format (see Appendix E). The survey was developed using the Survey123 platform and included eleven questions related to demographic information and questions about the respondent's likelihood of using various services. A total of 301 survey responses were collected and data collected is summarized in the next section. Thirty of the 301 surveys were completed in Spanish.

Demographics

Determining where trips begin and end is a vital data point to have when analyzing possible service improvements. A common way to gain this information is to learn where riders live and work. Survey participants were first asked to share which counties they both lived and worked in and this information allowed the project team to paint a picture of broad commuting patterns within the service area. As shown in Figure 32 and Figure 33, most respondents stated that they either live or work in Orange County. When digging a bit deeper into the data, we can determine that more than 50 percent of survey participants both live and work within Orange County while less than 3 percent live within Orange County and commute to either Osceola or Seminole County for work (Figure 129).

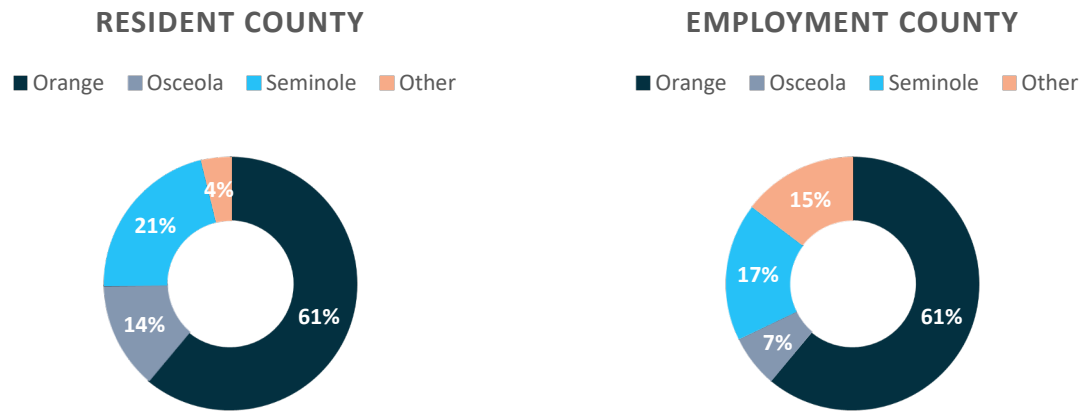
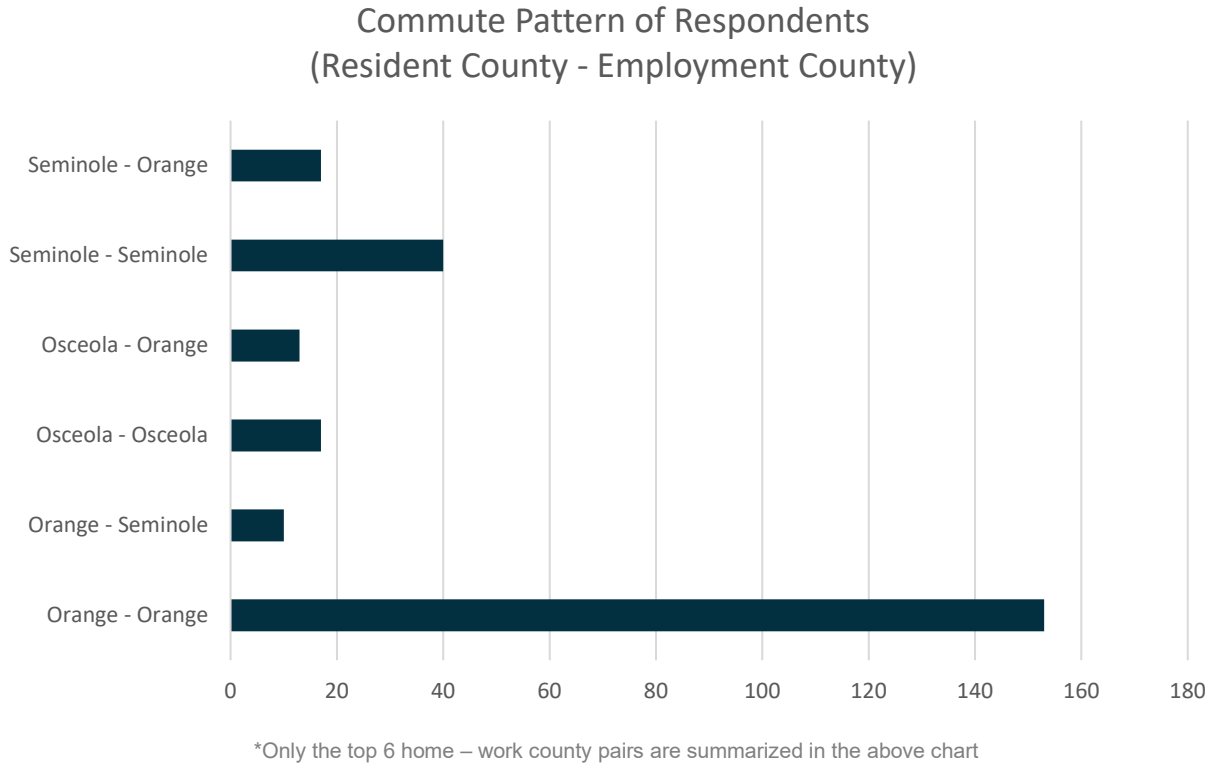


Figure 32: Resident County and Employment County Results



*Only the top 6 home – work county pairs are summarized in the above chart

Figure 33: Commute Patterns of Survey Respondents

Existing LYNX Service

To gain a better understanding of LYNX customers and the transit services that they use, survey participants were asked to answer questions about how often they use LYNX services and which routes they ride. Of the 301 participants in the survey, 87 percent of respondents stated that they have used a LYNX service within the last 12 months and 74 percent stated that they typically use LYNX services at least twice a week.

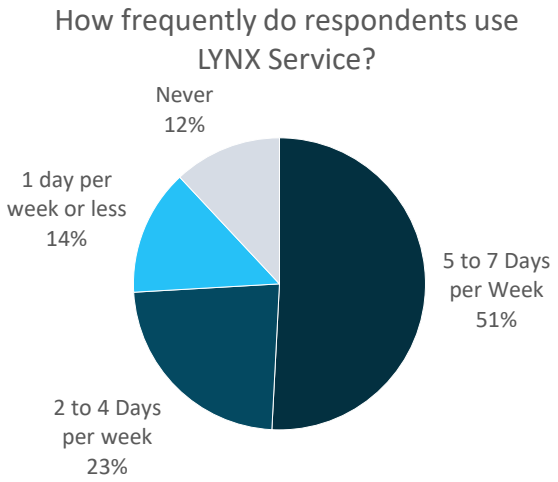


Figure 34: Frequency of LYNX Service Survey Responses

Participants were then asked to identify which LYNX routes they commonly use. The results of this question were aggregated into the different service types outlined in the County Transit Plans. The determination on service type is based on the route's current operating characteristics. The service types include High Frequency/Limited Stop routes, Regional Express service, Commuter Express service, Local routes, Circulator routes, and On-demand/Flex service. Although LYNX does not currently use the County Transit Plan service designations shown in Figure 35 in their current operation, the organization of responses into those service categories facilitates the identification of priorities from among all survey responses received.

According to the survey results, the local service is the most used service type, followed by the high frequency / limited stop routes. The top 3 selected local routes were Route 106, 108 and 436S. The top 3 selected high frequency routes were Route 107, 8, and 102. A majority of survey participants shared that they typically use at least one of the local routes offered by LYNX. Such a response is quite common as local service is typically the backbone of major transit networks and provides the most access to destinations relative to other service types (Figure 35).

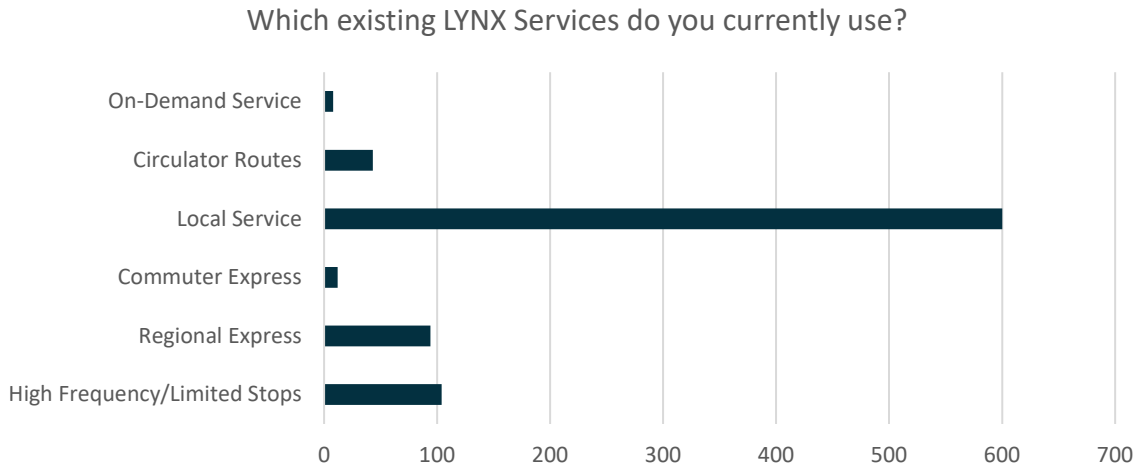


Figure 35: Use of existing LYNX Services

Service Improvements

The final section of the survey asked respondents to communicate how likely they would be to use each service type. Respondents were given brief descriptions on the operating characteristics of each service type. A likert scale was used to gauge preferences and responses are tabulated in Figure 36.

Together, the responses to the likert scale questions and the question on existing services used can support decisions on service priorities. For example, less than half of all survey respondents identified High Frequency/Limited Stop as a service they typically use today. That result might be due to the low number of routes of this type currently offered by LYNX. Conversely, 76 percent of all survey respondents reported that they are likely or highly likely to use High Frequency/Limited Stop service if in fact such a service were available. Similarly, 60 percent of respondents stated that they would be likely or highly likely to use regional/commuter express service while only about a third of respondents are currently using those same services.

It is important to note, that of the five service types queried, High Frequency service and Local Bus Service ranked highest, with 76 percent and 75 percent of respondents indicating they were Likely or Highly Likely to use one of those services, respectively.

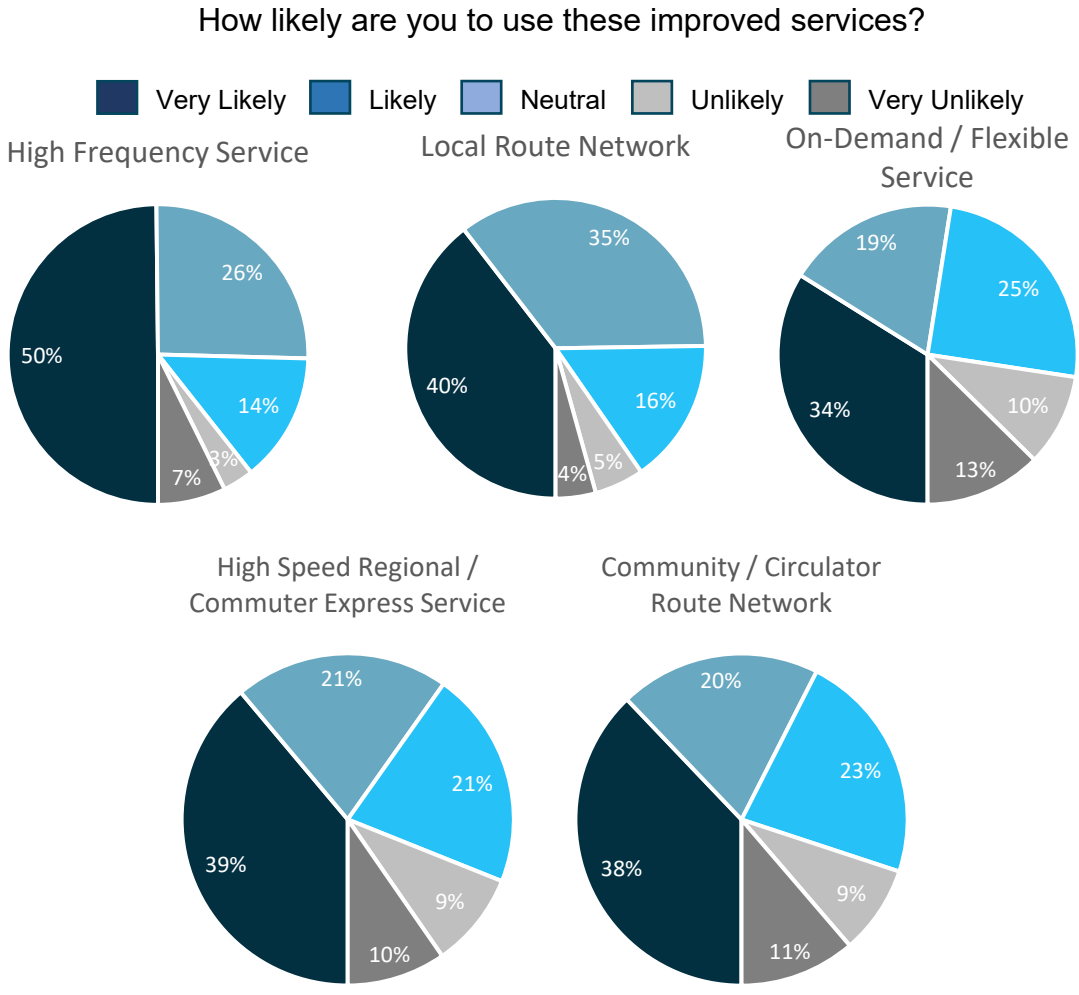


Figure 36: Likelihood of using improved LYNX Services by Service Type

Respondents were also given the opportunity to provide open ended comments as part of the survey. A variety of comments were received and those comments were organized by category, as shown in Table 45. Consistent with results from the service type preferences question, more frequent service is the top priority for respondents. The customer service category of comments included both complaints and commendations of LYNX service and covered a variety of customer service areas.

Table 45: Survey Open-Ended Responses

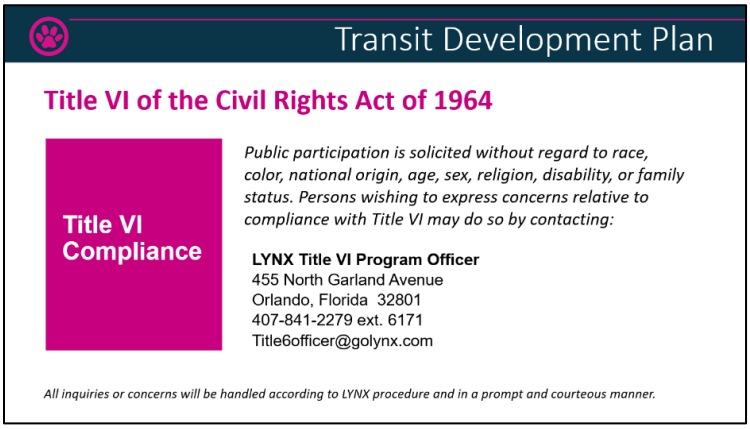
Category	Number of Comments
More Frequent Service	47
Customer Service	46
More Weekend/Later Service	30
More Passenger Amenities	29
On-Time Performance/Reliability	28
Enhanced Technology/Ticketing	23
Route Specific/New route suggestions	22
Safety	6

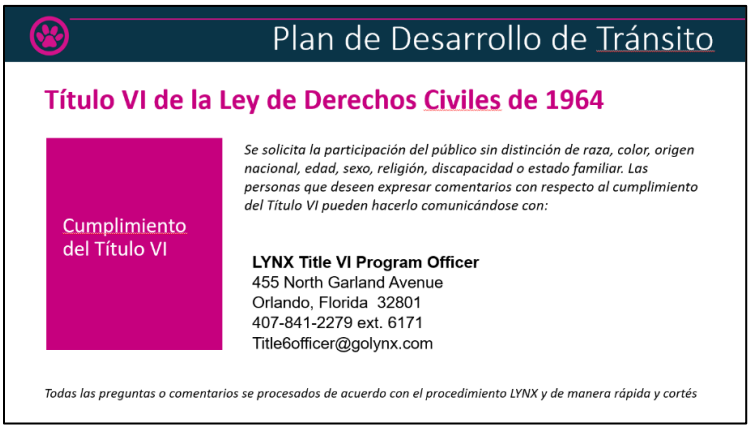
Promotion & Outreach

Goal: Create community interest and support for involvement in the LYNX TDP.

To facilitate a strong outreach campaign for the project, as well as promote overall engagement, a combination of visual communication materials and promotional materials were developed and distributed to the community. These materials include:

- Project presentations
- QR Code
- Social media advertisement graphics
- LYNX website graphics
- Flyers
- Display posters
- Graphics for electronic message signs at the LCS terminal
- Legal advertisements





As indicated in the list of materials, elements of this promotion and outreach component of the PIP were integrated into multiple facets of the overall public outreach effort.

These materials were distributed at various outlets including at public meetings, during outreach activities, at the LYNX Central Station, on social media, and via TAC and RWG partners. Materials were also developed in Spanish. Materials in other languages were available upon request.

LYNX branding was infused in each of the outreach materials and activities. This was done to strengthen public awareness of the project and to create additional visibility for LYNX. The guiding principles taken from the brand allowed for the creation of marketing materials both visually appealing and easily recognizable.

Social & Digital Media Engagement

Goal: Encourage additional engagement with project through the use of digital platforms and social media campaigns.

Electronic media and communications materials were developed in a variety of different formats including social media communications, a project website, and also creation of messaging that was posted on LYNX digital messaging signs (DMS) located at the LYNX Central Station in Downtown Orlando. All media content was translated and made available in Spanish. Samples of the DMS ads are included in Appendix E and details on social media and website media efforts are provided below.

Social Media

Social media was a key communications outlet for the LYNX TDP process. Public record and public access (i.e., Sunshine Laws) require a thoughtful, professional approach when it comes to engaging public dialogue on social media platforms. Approved content relevant to the transportation planning process was distributed on LYNX social media channels in accordance with LYNX social media communications policies and guidelines. Messaging was distributed on existing LYNX social media channels. Nine posts were made on Facebook and eight posts were made on Twitter. Samples of those media posts are shown in Figure 37 and in Appendix E. Furthermore, RWG, TAC, and other transportation planning partners in the service area were also solicited to share social media content on their respective channels.

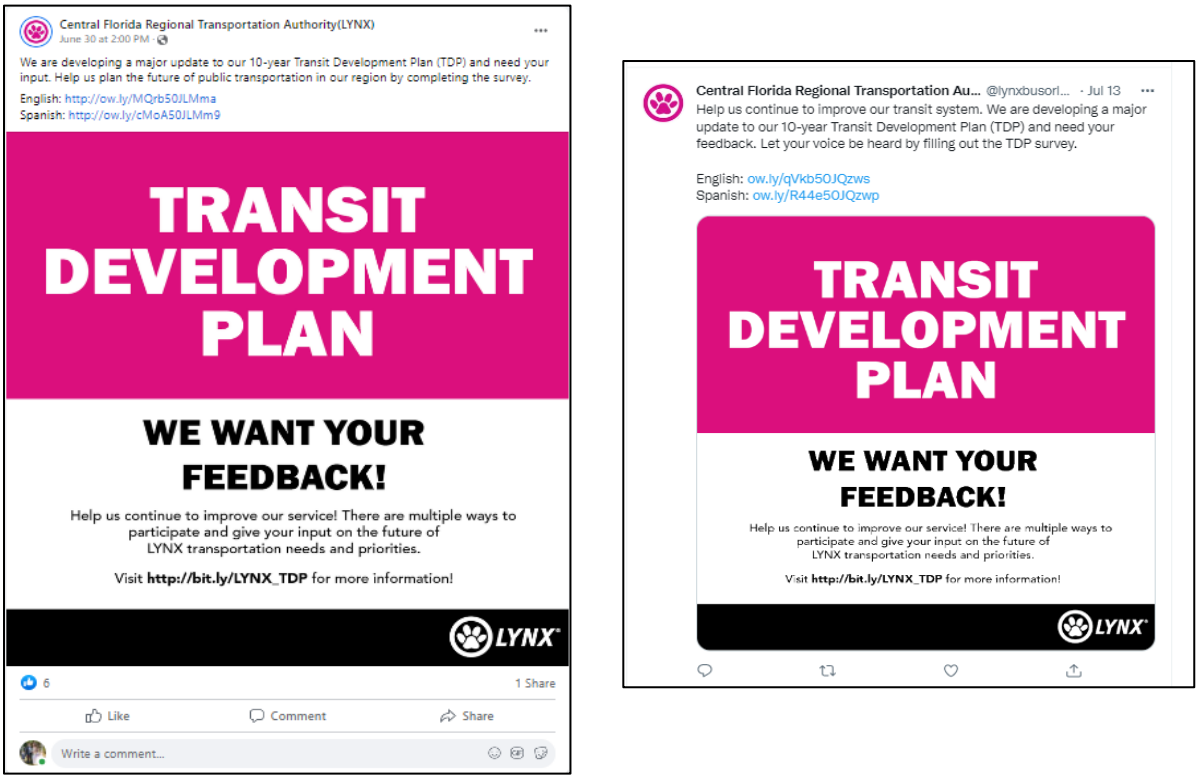


Figure 37: Sample Social Media Posts

Website

A project webpage was created to post TDP project content including project details, meeting schedules, and survey links (Figure 38). A unique QR code was also developed to facilitate access. The QR code was posted on many project communications materials.

The project website content consisted of the following information:

- Study purpose and overview
- Interactive elements such as a link to the online survey and workshop presentations
- Contact information including an email address to send comments
- Promotional web banner

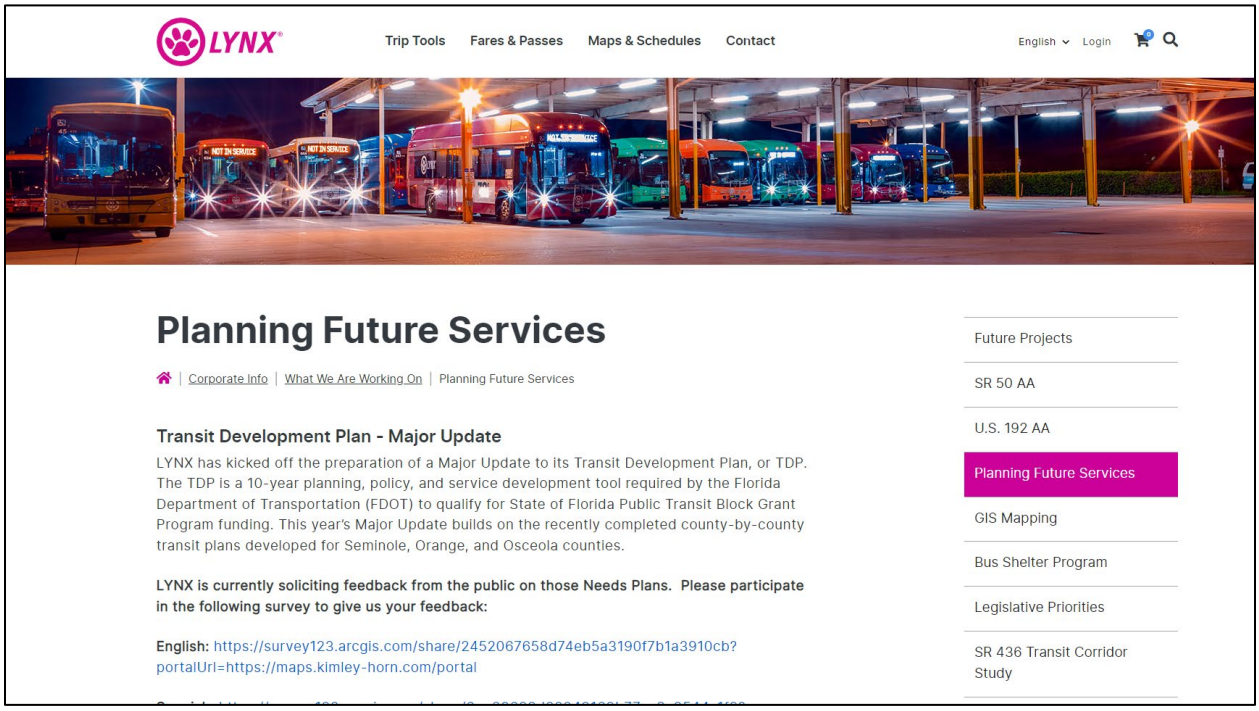


Figure 38: Sample Project Website Page

5. Situation Appraisal

The LYNX TDP serves as a strategic planning guide that includes an appraisal of factors within the agency's operating environment that affect its ability to provide safe, reliable, and productive public transportation services. Florida Rule 14-73.001 notes that, at a minimum, the situation appraisal shall address the effects of land use, state and local transportation plans, other governmental actions and policies that influence transit services, socioeconomic trends, organizational factors, and technology on the transit system. This situation appraisal synthesizes prior TDP tasks documented in this report to develop a full assessment of the conditions in which LYNX must operate. This assessment serves as one basis for identifying challenges and opportunities for LYNX to grow and reach its goals.

Transportation, Transit, and Land Use Plans and Policies

A review of regional and local transportation, transit, and land use planning documents and policies relevant to this TDP is provided in Section 2, Baseline Conditions. This subsection will focus on the strengths and challenges associated with those plans as they relate to the TDP.

Strengths. Central Florida has a robust planning system, with the three counties and multiple municipalities within the LYNX service area having adopted comprehensive plans, sustainability plans, and/or growth management plans. These plans address the importance of transit-friendly development that encourages transit and multi-modal transportation systems. From a planning perspective, this means that public transportation is supported within the LYNX service area. Furthermore, LYNX is considered a significant partner in preparation of several of those plans and LYNX staff serve as active partners when identifying priorities. LYNX itself has several planning documents, outlined in Section 2 of this report that address the needs of the agency and service area. Strengths include:

- Robust planning environment
- Encouragement of transit-friendly development
- Forward-thinking plans that address LYNX needs
- Strong partnerships with local and regional transportation planning agencies

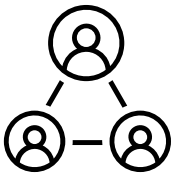
Challenges. Planning documents are a necessary and useful starting point for changing land use, encouraging transportation options, and influencing behavior. However, there are many challenges associated with actually implementing the policies and aspirations defined in the various planning efforts. Challenges with implementing planning directives include funding constraints, administrative procedures, and public perception, among others.

Planning challenges also have to do with LYNX's unique service area. Unlike many other transit agencies, LYNX covers three counties and many municipalities. Each county, and each municipality within those counties, has its own planning infrastructure, decision-making process, and priorities. Navigating this planning environment with the goal of increasing transit usage and LYNX service coverage can be a challenge.

- Plan implementation
- Unique planning environment consisting of multiple local and regional priorities
- Broad service area with many and diverse transportation goals and objectives

How Does This Relate? The Transportation, Transit, and Land Use Plans and Policies scenario relates to several other TDP situation appraisal elements, including Socioeconomic Trends and Land Use. Socioeconomic trends are frequently addressed by planning documents and are used to identify implementation steps consistent with the vision and goals defined in the respective documents. Land use trends are the main focus of most comprehensive and growth management plans and heavily influence the transit-friendliness of a given area.

Next Steps. Transportation, Transit, and Land Use Plans and Policies are frequently the first step in enacting new policies and changing consumer behavior, which can be a long process. While the plans outlined in Section 2 Baseline Conditions provide a useful framework for understanding the environment, challenges, and various goals and visions in which LYNX operates, subsequent steps must be undertaken in order to achieve those goals. This subsection has outlined some of the strengths and opportunities of the LYNX service area planning environment, but also some of its challenges. In order to fully implement the goals and visions of this TDP, a strong planning background must be enacted and cooperation within the planning environment must continue.



Socioeconomic Trends

A complete population profile for the LYNX service area is provided in Section 2. Baseline Conditions. This subsection will provide a brief overview of socioeconomic trends and focus on the strengths and challenges associated with those trends as they relate to the TDP.

The LYNX three-county service area is home to just over 2.2 million people, with the majority of those people, 62 percent, residing in Orange County. Areas of high density include neighborhoods to the southeast of Downtown Orlando near Conway, Oak Ridge on the west side of Belle Isle, and north Kissimmee. Other areas of density that are more outlying include East Orlando near the University of Central Florida and south of SR 50, also in East Orlando. These areas are projected to stay dense and continue getting more dense over the next 25 years. However, there are also low-density areas that are projected to have continued development, including Apopka and Paradise Heights to the northwest, Bithlo and Wedgefield to the east, and the area east of Poinciana. Of importance is the growing area in Osceola County just east and northeast of St. Cloud, in the southern portion of Osceola County, and the planned developments in southwest Orange County. Those developments are anticipated to bring a large and substantial mix of residential and commercial development to the region.

Populations with a high propensity for transit use are concentrated primarily west and southwest of Orlando, with additional population spread throughout the service areas in Sanford, Lake Mary, Apopka, Alafaya, Ocoee, and Poinciana.

Population within the three counties in the LYNX service area are projected to grow substantially between 2020 and 2045. Although this is beyond the 10-year planning horizon of the TDP, it is important in that the impacts of that long-term growth should inform short and mid-term capital investment decisions. The service area itself is projected to grow 39 percent during that period with Osceola County projected to grow by 66 percent, Orange County by 37 percent, and Seminole County by 22 percent.

While the unemployment rate grew significantly in the LYNX service area during the first year of the COVID-19 pandemic, it has since declined to three percent. Current employment density is highest in Downtown Orlando, Altamonte Springs, the University of Central Florida and Waterford Lakes, the Heathrow International Business Center and commercial developments along International Parkway, and commercial developments near the SR 414 (Maitland Boulevard) and the I-4 interchange. Other high employment density areas include AdventHealth and other workplaces near the AdventHealth SunRail station, Disney, Universal Studios, Sea World, Downtown Kissimmee, Old Winter Garden Road and W Colonial Drive in Ocoee, and the Orlando International Airport. Employment densities are projected to increase consistent with ongoing exurban development, including near Narcoossee, Kissimmee, Apopka, Ocoee, and in master planned communities southwest of Orlando. Large increases are also apparent near major employment hubs, including Orlando International Airport and business parks near the interchange of SR 528 and St. John Young Parkway.

Strengths. Population and employment density is projected to increase throughout the plan horizon, 2032. Population is projected to increase significantly in areas of high density, which is beneficial for transit usage. Transit use depends in large part on population density as destinations in close proximity to public transportation facilitate walking, biking, and transit usage. The further that origins and destinations are, the more difficult travel is to navigate. Further, the forecasted increase in density is suggestive of successful comprehensive land use strategies, providing further incentives for implementing the plans and policies as described in the previous section. Increases in employment are projected to occur within existing employment hubs, another promising indication for increased transit usage. Consequently, there is an opportunity for continued plan implementation and encouragement of further densification, which will likely increase transit use. Capitalizing on the “proof of concept” that recent land use plans and policies provide can demonstrate that infill, higher density, and mixed-use development has been and can be achieved. This will hopefully continue to encourage transit usage throughout the projected years.

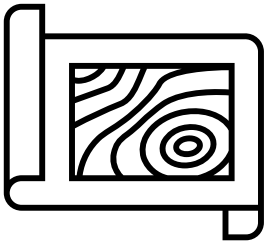
- Population and employment growth in areas of high density
- Results from plans and policies aimed at increasing transit use
- Low unemployment rates
- Plans and policies encouraging transit use may beget additional success

Challenges. While density has increased and is projected to increase in existing high density areas, sprawl in outlying areas is also projected to spread and further stretch the service area. These low-density areas are more difficult to provide service to and are projected to consist of populations with lower transit propensity (i.e., low-density) than high-density areas. Employment densities are also projected to increase with ongoing exurban development but may not reach critical levels that would encourage additional transit use.

- Increased sprawl development
- Increased low-density exurban development

How Does This Relate? The Socioeconomic Trends scenario relates to several other scenarios that are described in this Section including Transportation, Transit, and Land Use Plans and Policies, Regional Transportation, Land Use, Technology, and COVID-19 Pandemic. Planning documents frequently detail socioeconomic trends and how the plan will influence trends. Socioeconomic trends are also reliant on land use and land use policy which influence where people are able to live and make a living. Regional transportation may influence socioeconomic trends, specifically if increased or decreased regional transportation options impact where people decide to live. Technology options, and related service delivery alternatives, are heavily influenced by the population they aim to serve. The COVID-19 pandemic has greatly influenced socioeconomic trends by impacting employment rates and influencing development of new work schedules. For instance, transit usage is diminished by work-from-home or hybrid work schedules.

Next Steps. Socioeconomic Trends heavily influence and are influenced by policy decisions, land use patterns, and the types of transportation options available. Transit use propensity is influenced by a variety of socioeconomic factors, including income, age, and access to automobiles. As these socioeconomic factors change over time, reasonable assumptions about increased or decreased transit usage can be made. A more in-depth overview of socioeconomic trends is provided in Section 2, Baseline Conditions. This subsection has outlined some of the strengths and opportunities resulting from the socioeconomic trends of the LYNX service area, but also some of the inherent challenges. In order for public transportation to operate efficiently, land use policies and plans encouraging transit-oriented socioeconomic trends must be implemented.



Land Use and Urban Design

A complete land use profile for the LYNX service area is provided in Section 2, Baseline Conditions. This subsection will provide a brief overview of land use and urban design within the LYNX service area and will focus on the strengths and challenges associated with land use and urban design as it relates to transit services.

As previously noted, land use, urban design, and transportation are interconnected and influence each other. Some land use and transportation modes are more mutually beneficial than others. For instances, a mix of uses such as housing, commercial/office, and retail in close geographic proximity increases transit use, as well as walking and biking. This is because destinations within close proximity to transit facilitate transit efficiency and usefulness. Conversely, sprawled development, where destinations are further apart, makes transit usage inefficient.

Land use trends over the long-term (2020 to 2050) were identified in Section 2, Baseline Conditions. In general, the existing LYNX service area's land use trends reflect a rapidly growing population gradually transitioning to denser development. This is reflected in a greater number of parcels transitioning to residential development, but in a smaller area of total land. This is a hopeful sign for increased transit propensity. Furthermore, industrial and commercial uses will continue to co-locate, with a particular concentration currently and projected to continue occurring around the confluence of the Florida Turnpike, US 441, and the Beachline Expressway (SR 528). While this area is heavily served by automobile traffic, it is also located between residential areas served by SunRail stations. There is potential opportunity to increase transit usage in this area, given the dense development and current infrastructure.

Strengths. Land use density and the mix of uses in many areas are projected to increase throughout the TDP plan horizon, 2032. Land use density is a hopeful indication for increased transit use, as it decreases the distance between destinations. A strong land use mix is also a hopeful indication as a good mix of land use contributes to shorter and less trips that must be taken. Similar to the socioeconomic trends discussed in the previous section, the forecasted increase in land use density and mix is suggestive of successful comprehensive land use strategies, which may provide further incentive for continued adoption and implementation of transit-supportive plans.

As mentioned in the strengths section of the Socioeconomic Trends element, forecasted increases in land use density are suggestive of the success of land use policies in the Central Florida region. Consequently, there is an opportunity for continued plan implementation and encouragement of further densification that will likely increase transit use. Capitalizing on the "proof of concept" that recent land use plans and policies provide is important to demonstrate that infill, higher density, and mixed-use development has and can be achieved. This will hopefully continue to encourage transit usage throughout the projected years.

- Land use mix and density is projected to increase
- Results from plans and policies aimed at increasing transit use
- Plans and policies encouraging transit use may beget additional success

Challenges. While density has increased and is projected to increase in existing high-density areas, sprawl and automobile dependence are projected to persist. For instance, considerable growth is projected around the confluence of the Florida Turnpike, US 441, and the Beachline Expressway (SR 528). As previously mentioned, there is an opportunity to increase transit use in this area, but the interchange itself is currently designed around high volumes of automobile and heavy truck traffic. High-capacity roads tend to encourage more automobile trips and lower density development as they incentivize travelers to choose their personal vehicles for transportation.

- Continued sprawl development
- Persistence of automobile-dependent infrastructure

How Does This Relate? The Land Use element relates to several other scenarios that are described in this Section, including Transportation, Transit, and Land Use Plans and Policies, Socioeconomic Trends, and Regional Transportation. Planning documents largely address current and future planned land use policies and regulations. Therefore, they are extremely influential in shaping the future of land use trends, specifically as they relate to supporting transit

and increasing transit ridership. Land use greatly impacts socioeconomic trends, as they influence where people are able to live and make a living. Regional transportation is reliant on supportive land use development, plans, and policies, specifically those policies that cross jurisdictional boundaries. Supportive land use policies, therefore, may help or hinder regional transportation.

Next Steps. Land Use is determined by the policy and development decisions made by the leaders of the jurisdiction. Therefore, perhaps more than any other scenario, land use can be influenced by decisionmakers either to incentivize, or not incentivize, transit ridership. Transit use propensity is influenced by a variety of land use patterns, including density, distance between destinations, and land use mix. As these land use patterns change over time, reasonable assumptions about increased or decreased transit usage can be made. A more in-depth overview of land use is provided in Section 2, Baseline Conditions. This subsection has outlined some of the strengths and opportunities resulting from the land use within the LYNX service area, but also some of the inherent challenges. In order for transit ridership to remain consistent and operate efficiently, land use policies and plans encouraging transit-oriented development should be considered by government agencies who make the land use decisions that drive transportation demand.

Regional Transportation

Commuting patterns, including a major commute origins-destinations analysis and major activity centers analysis, is provided Section 2 Baseline Conditions. This subsection will provide a brief overview of regional transportation, including an overview of the LYNX service area, transportation options available, and commuting patterns. TDP-related strengths and challenges that are associated with regional transportation are presented.

LYNX supports regional transportation options with cross county bus services, SunRail feeder bus connections and connections with transit agencies in Polk and Lake counties.

Strengths. LYNX is a comprehensive regional transportation system that is not only unique in the number of jurisdictions it covers, but in the number of transportation options it provides. LYNX's services ensure that a variety of populations can be served, including those in lower-density areas (NeighborLink) and those unable to use traditional transportation services (ACCESS LYNX). Services within the region are unique and include a BRT system and commuter rail. The depth and breadth of services offered by LYNX, designed to meet the transportation needs of a variety of transportation markets, has and will continue to help promote and encourage increased transit usage. Furthermore, LYNX is supported by multiple transportation partners in the region who are working to meet the transportation needs of the greater Orlando area. Those partners include the GOAA, MetroPlan Orlando, CFX, and FDOT, among many others.

LYNX is a unique service provider since its service area crosses county jurisdictional boundaries. Many transit systems operate within single county boundaries. The breadth of the LYNX service area and the experience of LYNX in working with local municipalities presents an opportunity to continue to increase transit usage and jurisdictional cooperation. This is particularly evidenced by the recent and proposed growth of SunRail. That growth presents another opportunity for enhancing regional transportation

- Expertise in the implementation of a variety of transportation service options
- Supportive local regional transportation partners and infrastructure
- Continued and increased jurisdictional cooperation
- Regional SunRail growth

Challenges. While LYNX's diverse service area and jurisdictional cooperation can be a strength, it can also pose challenges. Ensuring service is distributed to the populations that most need it throughout the service area is difficult with limited resources. This is particularly true as land use and population patterns continue to shift and the population grows.

- Jurisdictional cooperation
- Ensuring adequate and appropriate service levels throughout a large service area

How Does This Relate? The Regional Transportation scenario relates to several other scenarios that are described in this Section, including Socioeconomic Trends, Land Use, Organizational Factors, Technology, and the COVID-19 Pandemic. Regional transportation provision and decisions are largely driven by socioeconomic trends and land use patterns. Service is prioritized to populations that need it most and in places where it is more efficient to provide service. Such areas include high-density and mixed-use development. The LYNX organizational structure and decision-making authority also influence regional transportation given that the agency must coordinate throughout the service area to provide transportation options. Technology can enhance or detract from the ease of accessing regional transportation. The COVID-19 pandemic greatly influenced regional transportation options. Stay-at-home orders and reduced travel overall caused ridership to drop and affected the provision and/or timing of routes.

Next Steps. Regional Transportation options and routes are dependent on a variety of interrelated factors. LYNX is a unique service provider given its service area spans several counties and the types of services it provides range from paratransit service to BRT. This subsection has outlined some of the strengths inherent to regional transportation options and also some of its challenges. In order for transit ridership to increase and for LYNX to achieve the goals outlined in this TDP, jurisdictional cooperation should continue, current transportation options should be optimized to reach the maximum number of riders, and supportive infrastructure should be prioritized.

Organizational Factors

This subsection will provide a brief overview of LYNX, including an agency overview, an overview of the LYNX organizational structure, and a brief funding overview. This subsection will focus on the strengths and challenges associated with organizational factors as they relate to the TDP.

The Central Florida Regional Transportation Authority (CFRTA) was created in 1989. In 1993, CFRTA assumed the operations of the former Central Florida Commuter Rail Authority and merged with the local transportation provider, Orange-Seminole-Osceola Transportation Authority (OSOTA), which was doing business as (d/b/a) LYNX. This merger creates a one-stop public transportation agency. Legally, LYNX is defined as an

independent special district of the State of Florida. An independent special district is defined, in part, as a "special district that is not a dependent special district…a district that includes more than one county is an independent special district." (Section 189.012, *Florida Statutes*).

As previously described, LYNX provides public transportation services to the Orlando metropolitan area, which includes the entirety of Orange, Osceola, and Seminole counties and part of Polk and Lake counties. As described in the Comprehensive Annual Financial Report of the Central Florida Transportation Authority d/b/a LYNX, "A five-member Governing Board serves LYNX. The members of the Governing Board are as follows: one Commissioner from Osceola County, one Commissioner from Seminole County, the Mayor of the City of Orlando (or appointed designee), the Mayor of Orange County (or appointed designee), and a representative of the Florida Department of Transportation (FDOT). Each serves a term as designated by Section 343.63, Florida Statutes." The responsibility for LYNX administration and operations resides with the LYNX CEO. The executive office is supported by a Chief Financial Officer, a Chief Administrative Officer, Chief Operating Officer, Chief Innovation Officer, and Senior Staff Attorney, as well as nine directors. These nine directors are responsible for providing management and oversight to multiple departments, including "Vehicle Maintenance, Transportation, Mobility Services, Human Resources, Information Technology, Marketing Communications, Planning and Development, Safety and Security, and Finance." (Comprehensive Annual Financial Report, page 2).

LYNX is a standalone governmental unit with an adopted operation budget of just over $175 million for the 2022 fiscal year. The majority of the agency's funding comes from the three counties in its service area (Orange, Osceola, and Seminole), plus the City of Orlando. Existing as a large governmental organization that functions within a complex operating environment (i.e., operational, political, and fiscal) presents numerous strengths and challenges in the delivery of efficient and effective public transportation services.

Strengths. LYNX has existed in its current form for nearly three decades and has successfully provided service to a comparatively (to peer agencies) large service area during that time. LYNX's organizational structure, in which its five-member Governing Board represents elected officials from all three counties, the City of Orlando, as well as the FDOT D5 Secretary, is representative of its ridership. LYNX partners with jurisdictional agencies to fund its services and also successfully augment service provision in order to properly provide service throughout the service area in a funding-constrained environment.

LYNX is also a unique service provider since its service area crosses jurisdictional boundaries. However, LYNX remains the sole provider of transit across jurisdictions and is able to make decisions as a single entity. With a fairly unique organizational set-up, LYNX has the opportunity to continue providing service throughout the region without having to coordinate across different transit agencies.

- Successful leadership across jurisdictional boundaries
- History of successful service implementation
- Funding partnerships
- Expertise in the implementation of a variety of transportation service options
- Opportunities for continued expansion of service
- Unique organizational structure

Challenges. LYNX ridership is expected to continue growing. However, persistent funding constraints threaten to jeopardize the agency's ability to maintain existing service levels. While LYNX generates some local revenue from passenger fares, it is primarily funded through its local funding partners. These partners primarily use funds from property tax revenues, which have a cap. Therefore, there is a limit to the amount of funding LYNX can receive in a year even as service demand increases.

Other challenges are associated with the broad and diverse service area which requires the agency to house multiple disciplines within its operating umbrella. With that expertise, redundancy in staffing, and retainment of experienced and knowledgeable staff becomes that much more critical. Experience and expertise with the service area and service area partners is a critical element in the ability to build, deploy, and sustain a wide-ranging set of priorities including infrastructure, service operations, and long-term funding partnerships. LYNX is exploring new employee retention strategies as well as incentives for new hires and this is anticipated to assist in the hiring and retainment of qualified staff.

The broad, and growing, service area also places pressure on the organization in terms of meeting one of its key responsibilities, maintaining efficiency in its operation. This issue relates directly to the need for a new southern operations facility. A new facility to house staff, equipment, and space for operations and maintenance activities would afford efficiency to significant day-to-day activities.

- Funding constraints
- Redundancy and retainment of staff in all disciplines
- Southern operations facility

How Does This Relate? The Organizational Factors scenario relates to several other scenarios that are described in this Section, including Regional Transportation and the COVID-19 Pandemic. Regional transportation is facilitated due to the unique organizational structure of LYNX where the agency provides transit service throughout a vast service area. The COVID-19 pandemic also impacted LYNX organization factors, particularly funding and staffing levels. The COVID-19 pandemic impacted ridership which resulted in lower passenger fare revenues. This revenue shortfall is still impacting LYNX and its ability to provide service.

Next Steps. Organizational factors significantly influence the provision of transportation services. Service impacts result from organization oversight and leadership, funding concerns, and decisions on how services are supported throughout the service area. LYNX is a unique service provider in that its service area spans several counties and the agency receives funding from a variety of partners. As LYNX attempts to increase ridership and expand service, organizational decisions and funding constraints must be taken into consideration. This subsection has outlined some of the strengths and opportunities of LYNX organizational factors, but also some of its challenges. Strengths include the efficiency of one agency overseeing a large service area and its funding diversity while challenges include funding constraints and sustained efforts to hire and retain staff.

Technology

This subsection will provide a brief overview of the technology enhancements offered by LYNX, primarily as they relate to consumer-facing tools. In addition, strengths and challenges associated with technology as they relate to the TDP are presented.

LYNX has several technology enhancements implemented or currently being developed. One of the major objectives of that effort is to improve the customer experience. To that end, the Innovation/ITS team recently completed an update to its Strategic Plan. That Strategic Plan outlines a comprehensive work plan for enhancement and expansion of LYNX's ITS capabilities.

Existing customer-facing technology and ITS initiatives include the following:

- LYNX PawPass. A free app available for download in the App Store or Google Play. This app allows customers to pay their bus fare directly on their phone. Customers can use this tool to pay fares on all buses and NeighborLink services. Fares available include a single ride fare, All-Day pass, 7-Day pass, or 30-Day pass. Once fares are purchased, they are stored in the app itself. The LYNX PawPass is also synced with ACCESS LYNX using an ACCESS LYNX ID.

- LYNX BUS TRACKER. A free app available for download in the App Store or Google Play. This app allows the user to see where a bus is located and when it is expected to arrive at a given bus stop.

- NeighborLink. A free app available for download in the App Store or Google Play allows NeighborLink customers to reserve, update, or cancel trips. Customers are also able to see the location of their vehicle on the app as it is dispatched for their pick-up.

- WebACCESS. A website that can be accessed on a computer or mobile device and allows paratransit customers to reserve and schedule ACCESS LYNX trips. The Find My ACCESS LYNX site provides real time bus tracking and arrival information.

- LYNX See & Say. A free app available for download in the App Store or Google Play. This app allows customers to communicate transit threats and safety and security concerns in real-time. A recent update to the app has a fresh design, additional support resources with local law enforcement, LYNX map brochures, and a quicker incident reporting process which will be monitored 24 hours a day.

- Trip Planner. Available on the LYNX website through a partnership with Google Maps. The Trip Planner allows users to quickly and easily plan a trip by selecting a "To" and "From" location, date, and time.

LYNX also provides several technological enhancements to increase safety, efficiency, and security. For instance, within the past few years LYNX has worked with the FDOT to deploy Transit Signal Priority (TSP) with the goal of improving wait times. LYNX also has several security systems in place, including the LYNX See & Say app, personal codes and badge credentials for operators, secure payment transactions, security cameras and personnel at LYNX facilities, and security cameras on the LYNX fleet.

Furthermore, the agency continues to operate at the edge of technology by deploying new approaches to development and implementation of a zero-emission fleet. A recent pilot project with local utility partners has allowed the agency to define its role and an appropriate capacity in the fleet conversion process. Elements of this approach include procurement of equipment only if it is "mission-ready" and also functioning in a customer role that allows experts to take charge of their respective disciplines. In this way, LYNX can focus on what they do best which is delivery of customer-focused, reliable, and sustainable public transportation services.

Strengths. LYNX has implemented several mobile applications that address frequent customer concerns. These include ease of pay and mobile payment, safety and security reporting tools, and real-time bus arrival information, among other benefits. LYNX also continues to invest in its larger safety and security infrastructure, most recently installing CCTV at a SuperStop, for example. These benefits help to retain and grow ridership. Innovative approaches to service delivery and technology applications bolster the efforts of LYNX ITS staff in leveraging partnerships, cutting edge technology, and in-house expertise and project management to fulfill their everyday charge of delivering reliable and customer-friendly transit service.

- Innovation in technology solutions that address customer concerns
- Improvement of safety and security infrastructure
- Retainment and growth of ridership
- Strategic and innovative technology approach
- Technological solutions beget additional technological solutions

Challenges. While many customers are satisfied by the solutions that technological enhancements provide, some solutions may not work for all customers. Customers without smartphones or customers who are unaccustomed to using smartphones may find it difficult or impossible to adjust to a landscape where most information and service provision is being provided through mobile apps. Because the proliferation of mobile apps may be difficult for some customers, LYNX customer service is available via phone, information is disseminated outside of the apps, and customers can still purchase their fare on the transit vehicles.

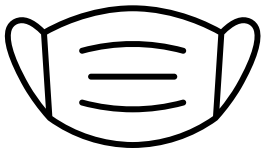
Additionally, LYNX, along with much of the transit industry, is inundated with new, cutting edge, and sometimes bleeding edge technology solutions, that have yet to demonstrate long-term and sustainable results. With many transportation solutions and ideas offered to the LYNX team, the ITS Strategic Plan becomes that much more important in order to maintain focus and supply proven, long-lasting results.

- Customers without access to smartphones
- Trend towards technological solutions for customers not comfortable with technology
- Maintenance and implementation of the ITS Strategic Plan
- Mission capable fleet technology

How Does This Relate? The Technology scenario relates to several other scenarios that are described in this Section, including Socioeconomic Trends, Regional Transportation, and Organizational Factors. As noted, there are several demographic groups that may be more or less comfortable with the widespread availability and reliance on mobile applications. Customers without access to a smartphone or for whom smartphones are more difficult to use

will not appreciate these technological solutions as much as customers more comfortable using a smartphone. Technology also relates to regional transportation, particularly in how it facilitates transportation connections throughout the region. Technological solutions allow customers to see buses in real time, facilitates transit movement, and provides enhanced safety and security at transit shelters throughout the service area, thus improving regional transportation options. Finally, technology is impacted by organization factors, specifically by the staff, funding, and project oversight necessary to implement technology improvements.

Next Steps. Technology provides solutions for a variety of problems and has the ability to address issues before they even arise. However, customer familiarity with technology varies and there is rarely a "one size fits all" technological solution or mobile application. This subsection has outlined some of the strengths inherent to technology enhancements, but also some of its challenges. LYNX should continue to develop and improve existing mobile apps, enhance safety and security, and enhance services through technological solutions. This can be achieved by funding and implementing the recently developed ITS Strategic Plan.



COVID-19 Pandemic

This subsection will focus on the strengths and challenges associated with the COVID-19 pandemic's impact on transit ridership as it relates to the TDP.

In March 2020, the United States began feeling the impacts of the global COVID-19 pandemic. Stay-at-home orders were enacted nationwide and many non-essential workers began working from home. In Florida, the statewide stay-at-home order was enacted on April 1, 2020, halting all non-essential travel. Even though the order was lifted within a few months, non-essential travel continued to be limited throughout the rest of 2020.

Stay-at-home orders, the cessation of tourism to the region (a major driver of LYNX ridership), and continued public hesitancy to travel had an adverse effect on travel of all kinds, including transit ridership. When compared to September 2019, LYNX ridership decreased by 29 percent across all travel modes in September 2020. The greatest decreases within that comparison were experienced by LYMMO (42 percent) and NeighborLink (32 percent), services. LYNX notes that although transit ridership began to decline in March 2020, ridership remained below normal levels throughout the remainder of the fiscal year. Those lower ridership levels indicate the continued influence of the COVID-19 pandemic.

With LYNX already experiencing a decline in transit ridership, the impact of COVID-19 has been particularly pronounced. LYNX responded to the pandemic, in part, with increased health and safety measures. Entering a post-pandemic world, LYNX is aiming to capture back previous customers as well as increase ridership from its multi-year decline.

One other COVID-19 impact is the effect on hiring and retainment. Low unemployment levels due to early retirements, reluctance to re-enter public-facing employment, and strong employment demand across multiple industries has diminished the pool of LYNX employment candidates. This is particularly true at the bus operator level.

Strengths. LYNX is considered an essential service to the community, providing customers with access to hospitals, medical facilities, and other essential locations within the region. This also includes providing essential workers with the ability to get

to work. LYNX enacted several enhanced health and safety measures during the height of the COVID-19 pandemic, including mandatory masking and enhanced sanitation procedures. Many of these measures remain in place, such as daily disinfection of buses and facilities. Those enhanced safety measures not only help protect customers against COVID-19, they also ensure that buses and facilities are clean and comfortable to use. Furthermore, these safety measures could be used to improve public perception of the service as clean, safe, and customer friendly.

- Provision of an essential service
- Enhanced cleanliness and sanitation
- Re-investment in service provision

Challenges. As previously noted, LYNX was already experiencing a decline in ridership when the COVID-19 pandemic began. While ridership has recovered slightly, it was still down 40 percent in February 2021 when compared to the same period in FY 2019 (https://www.bizjournals.com/orlando/news/2022/02/23/pandemic-hurts-lynx-sunrail-ridership-growth.html). Additionally, the strong labor market will continue to impact LYNX's ability to retain qualified employees as the agency works to maintain existing service levels and expand service to an ever-growing service area.

- Continued ridership decline
- Hiring and retainment of staff, particularly bus operator staff

How Does This Relate? The COVID-19 Pandemic scenario relates to several other scenarios that are described in this Section including Socioeconomic Trends, Regional Transportation, and Organizational Factors. The COVID-19 pandemic has greatly influenced socioeconomic trends. Those that relate most to transit usage include increases in work-from-home or hybrid work schedules as these varied work schedules influence how often people need to travel to work. The COVID-19 pandemic greatly influenced regional transportation options. Stay-at-home orders and reduced travel overall not only caused ridership to drop but affected the provision and/or timing of routes. Decreases in ridership, along with suspension of fares between March 30, 2020 and September 1, 2020 led to decreases in passenger fares and this further impacts the amount of available funding for service provision.

Next Steps. The COVID-19 pandemic had a significant impact on the LYNX service area and on ridership. While LYNX itself provides an essential service and enables many essential workers to get to their jobs, ridership still dropped significantly and remains at around 60 percent of pre-pandemic levels. This subsection has outlined some of the strengths inherent in the LYNX system and challenges to recovering ridership and retaining staff.

6. Goals and Objectives

A set of goals and objectives were developed to guide the preparation of the major TDP update. The goals and objectives were formulated based on the LYNX Vision, Public Transit Mission, and four Core Values.

Vision: Our Vision is to be recognized as a world-class leader for providing and coordinating a full array of mobility and community services.

LYNX Public Transit Mission: Linking our community by providing quality mobility options with innovation, integrity, and teamwork.

LYNX Core Values

1. **Safety** – Safety is the first priority at LYNX and is every employee's responsibility.
2. **Courtesy** – We present ourselves in a professional manner and treat everyone with respect.
3. **Efficiency** – We take pride in knowing our jobs and doing things right the first time.
4. **Cleanliness** – We take pride in our personal appearance and work environment.

LYNX Goals

1. **Deliver a Seamless Network of Transportation Services for the Region**
2. **Advance a reliable, safe, equitable, dynamic, and performance driven transit system**
3. **Enhance customer experience and communications**
4. **Promote economic competitiveness, sustainability, and quality of life**

Furthermore, the set of goals and objectives presented are supported by the findings of the Situation Appraisal, input from public involvement, and stakeholder engagement. More details about stakeholder engagement can be found in Chapter 4, Public Involvement.

The goals and objectives are supported by strategies, targets and measures that will be used by LYNX to chart a trajectory path to deliver quality transit to the public and measure how well the agency is achieving the established goals and objectives.

Table 46: Goals and Objectives

GOAL 1: Deliver a seamless network of transportation services for the region						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
1.1	Continue to forge relationships with key regional partners and stakeholders.	Improve partnership with MetroPlan Orlando and Municipal Partners.	At least two coordinated outreach events and two planning studies with partners.	Number of coordination events and studies coordinated with MetroPlan Orlando and Municipalities.	Planning & Development, Sustainability and Innovation, Marketing & Communications	Active
		Pursue partnership opportunities with SunRail.	Completion of plan for the joint pass program.	Development of a Plan for a transit pass program that includes both SunRail and LYNX.	Finance, Planning & Development	Proposed
		Work with CFX and the Florida's Turnpike Enterprise to develop a long-range transit strategy that addresses the use of the region's toll roads.	Plan completion.	Completion of long range transit plan that addresses the region's toll roads.	Planning & Development	Proposed
		Partner with FDOT, CFX and local agencies to develop a Park-n-Ride Program that identifies strategic locations for new facilities.	Plan completion.	Completion of a Regional Park-n-Ride Plan.	Planning & Development, Sustainability and Innovation	Proposed
		Partner with regional stakeholders to develop an approach to assess, maintain, and improve transit facilities, and those facilities that connect to them; such as sidewalks and bicycle infrastructure.	Development of a guide for that outlines the assessment, maintenance, and improvement of transit, and transit-supportive, facilities	Develop approach/plan for inventory, maintenance and improvement of transit facilities for adequate infrastructure (lighting, sidewalks, ADA etc.).	Transportation, Mobility Services, Planning & Development, Finance Human Resources, Maintenance, Engineering and Construction	Proposed
		Partner with regional stakeholders to develop consistent approach to adding facilities to support transit including through the development review process.	Have transit facility infrastructure improvements reported to MPO for inclusion in TIP and Priorities Project List.	Develop planning and design approach for partnering and adding transit facilities guidelines to guide working with the mobility needs of all transit users.	Planning & Development, Sustainability, Innovation, Engineering and Construction	Proposed

GOAL 1: Deliver a seamless network of transportation services for the region						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
1.2	Explore and implement appropriate technologies and service delivery models to improve reliability and experience of transportation systems.	Develop partnerships with Transportation Network Companies (TNCs) to enhance first and last mile trips for transit riders.	Pilot partnership between TNCs and LYNX, in support of fixed-route services.	Fulfillment of successful pilot program with contracted TNC.	Procurement, Finance	Proposed
			Increase the number of first and last mile trips that complement existing service.	Review ridership numbers and type of trips performed with contracted TNC.	Procurement, Mobility Services, Finance	Proposed
			Expand the existing rider catchment area and enhance ridership experience with provision of additional options to complete a commute for a transit dependent commuter.	Review trip origin and terminus information of contracted TNC.	Procurement, Mobility Services	Proposed
		Develop a MaaS (Mobility as a Service) application to integrate all LYNX services and connections with other transit providers.	Development of MaaS mobile application.	Advancing a completed application performing pilot test of final product.	Sustainability and Innovation, Planning & Development	Proposed
		Study improved technologies for integrated fare collection between modes (e.g. SunRail, bus, bike share, TNCs).	Complete study	Completion of fare collection integration study.	Finance, Procurement, Planning & Development, Sustainability	Proposed
		Continue to plan for how LYNX will respond to and/or incorporate connected/autonomous vehicles (CV/AV).	A study that analyzes CV/AVs and identifies opportunities that integrate LYNX services	AV/CV integration analysis.	Planning & Development, Sustainability and Procurement	Active

GOAL 2: Advance an equitable, safe, dynamic, and performance driven transit system						
	Objectives	*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
2.1	Increase connectivity for all customers and prioritize transit dependent populations (low-income, zero-auto households, elderly, youth, and persons with disabilities).	Review/update and document a methodology/process that considers transit dependent populations when new services require expansion fleet.	Development of a transit methodology/process.	Completion of a formal methodology/process that considers a transit dependent population when considering service changes.	Planning & Development, Compliance, Maintenance, Mobility Services	Proposed
		Review/update and document the service performance measures related to the transit dependent populations.	Documentation of the service performance measures.	Completion of the service performance measures as it relates to the transit dependent populations.	Planning & Development, Compliance, Maintenance, Mobility Services	Proposed
2.2	Maintain or increase service area coverage and level of service with each service change over the 10-year planning horizon of the TDP.	Evaluate Title VI and Americans with Disabilities Act service areas with each service change.	Documentation of the Equity Analyses.	Completion of an analysis documenting any adverse effects and mitigation strategies when impacts are identified.	Planning & Development, Compliance, Mobility Services	Proposed
		Evaluate appropriate technologies and service delivery models consistent with service types defined in the proposed needs.	Develop Technology Master Plan.	Completion of Technology Master Plan by 2025.	Planning & Development, Compliance, Sustainability and Innovation, IT, Mobility Services	Proposed
		Pursue discretionary funding opportunities for new and expanded services.	Identify grant opportunities for the implementation of new and expanded services identified in the needs plan.	Number of grant applications submitted.	Planning & Development, Compliance, Grants, Finance, Mobility Services	Proposed

GOAL 2: Advance an equitable, safe, dynamic, and performance driven transit system						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
2.3	Record and report service standards to improve efficiency in the system.	Implement a performance dashboard for key performance indicators.	Provide a permanent place on LYNX's website for route and system performance.	Base data that will be the basis for upcoming Service Changes.	All Departments	Proposed
		Report key performance indicators to the Federal Transit Administration's (FTA) National Transit Database (NTD) annually.	Develop and update the golynx.com website dashboard on a monthly basis.			Proposed
		Implement an on-time performance (OTP) review timeline and process to ensure that all routes have their runtimes analyzed and/or adjusted.	Provide route and system summary on an annual basis.	Performance monitoring.	All Departments	Active
		Work with high schools along particular alignments to ensure school schedules are integrated into the route schedules.	Improved on-time performance system-wide.	Achieve 80 percent or better on-time performance.	Transportation, Mobility Services, Planning & Development, Finance, HR and Maintenance	Proposed

GOAL 2: Advance an equitable, safe, dynamic, and performance driven transit system						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
2.4	Develop and implement a data driven, sustainable and equitable process for evaluating Service Changes and expansions.	Evaluate proposed new services and expansions using equity measures, including proximity to areas with higher-than-average transit equity scores.	Develop transit equity analysis evaluation matrix.	Completed analysis.	Planning & Development	Proposed
		Designate the Service Planning group as lead for all proposed Service Changes.	Create a working group that guides Service Changes for the agency and helps ensure all concerns are vetted with all necessary parties - internal and external.	LYNX point of contact and creation of a working group.	Planning & Development	Proposed
		Create a service planning working group that coordinates the entire Service Change process with internal and member agency representatives.	Utilize service planning process and apply service standards related to transit route performance and design to improve system service.	Service planning process.	Planning & Development	Proposed
2.5	Explore partnership with educational institutions	Engage and partner with area high schools, colleges and universities.	Annual increase in ridership.	Number of established partnerships.	Planning & Development, Sustainability, Marketing and Communications	Proposed
		Partner with colleges and universities to develop pre-paid transit fare programs.	Annual increase in ridership.	Number of established partnerships.		Proposed
		Explore workforce training opportunities with educational institutions to prepare the next generation of transit personnel.	Develop a long-term strategy to ensure properly trained transit workforce for the future.	Use new fare box recovery technology to identify number of trips using the passes that were paid for and provided by partnering institution.		Proposed

GOAL 3: Enhance customer experience and communications						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
3.1	Maintain system in state of good repair.	Maintain an up-to-date Transit Asset Management Plan (TAM Plan) to ensure all capital assets remain within state of good repair to service LYNX customers with high quality services and facilities.	Establish a Transit Asset Management Plan and capital asset inspection schedule to ensure infrastructure is well maintained.	Develop a transit asset management system and capital asset inspection schedule.	All Departments	Active
		Continue to improve the placement and maintenance of bus stops to maximize safety for passengers.	Establishment of a Bus Stop Placement Warrants and Amenities Improvement Program.	Complete the Bus Stop Improvement Program by 2024.	Planning & Development, Transportation, Facilities. Engineering and Construction	Active
		Complete an inventory of all existing bus stops.	A Bus Stop Inventory.	Complete the Bus Stop Inventory.	Planning & Development, Transportation and Facilities, Engineering and Construction	Active
3.2	Enhance system reliability.	Continue to improve on-time performance.	Establish a bus on-time performance review process and program.	Complete of a bus on-time performance review process.	Planning & Development, Transportation and Facilities	Proposed
		Regularly seek rider input about quality of service through passenger surveys.	Develop a quality of service review process.	Complete customer input schedule and process.	Planning & Development, Sustainability/Innovation and Marketing and Communications	Proposed
3.3	Enhance user interface and communication of information.	Implement additional real-time tracking and other technological improvements such as mobile ticketing that enhances the customer experience.	Establish a master plan that helps guide passenger technology amenity enhancements.	Complete/update technology master plan by 2025.	Sustainability/Innovation	Proposed
		Evaluate current methods of information sharing.	Conduct a study to best understand passenger preferred communication method.	Implement targeted strategies to best inform customers on LYNX services.	Planning & Development, Marketing and Communications	Proposed
		Work towards implementing Web Content Accessibility Guidelines (WCAG) and Section 508 standards.	Perform a website update that takes into account WCAG Section 508 Standards.	Complete website review.	Planning & Development, Marketing and Communications, Sustainability/Innovation	Active

GOAL 3: Enhance customer experience and communications						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
3.4	Improve outreach communication with customers.	Develop outreach procedures that aims to increase user participation in LYNX surveys and outreach by rider type.	Perform a customer input study that identifies preferred outreach methods by the various transit user markets.	Complete customer input study.	Planning & Development, Marketing and Communications, Sustainability/Innovation	Proposed
		Prepare and maintain an agency contact list.	Develop contact list that can be used to provide information to customers, agencies and organizations.	Completion and maintenance of the agency contact list.	Planning & Development, Marketing and Communications	Proposed
		Assess current outreach techniques with emerging technology outreach methods to ensure that LYNX is on the leading edge of customer engagement.	Assign a staff member and establish a process that tracks and suggests outreach improvements based on customer needs and emerging outreach technology.	Staff member identified and tracking has begun.	Planning & Development, Marketing and Communications	Proposed
3.5	Ensure continuous public input on all LYNX services (service, infrastructure, and operators).	Provide a permanent and easily accessible home on the website for all previous, current and proposed Service Changes.	Permanent service changes webpage created and populated.	Service Changes webpage created.	Sustainability, Planning & Development, Marketing and Communications	Proposed
		Create a Service Changes email account and identify responsible staff members to route/summarize/report input.	Service Changes email address created and responsible staff member identified and customer input collation/distribution initiated.	Staff member identified and tracking process initiated.	Planning & Development	Active
		Provide a permanent and easily accessible home on the website (or add to current feedback portal) an avenue to share facility related comments/concerns and identify responsible staff members to route/summarize/report input.	Provide a permanent webpage for infrastructure related comments such as bus stops, super stops, etc. Identify staff member to track and collate data for use in future capital programming.	Infrastructure comments webpage created and staff person identified.	Sustainability, Planning & Development, Marketing and Communications	Proposed
		Implement feedback opportunities into mobile application.	Integrate customer input strategies into mobile applications.	Customer input strategies integrated into mobile applications.	Sustainability, Planning & Development, Marketing and Communications	Proposed

GOAL 3: Enhance customer experience and communications						
	Objectives	*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
3.6	Improve outreach and communication with the community, key stakeholders and regional partners.	Develop and implement a communication plan to inform and educate the public and business community on the value of transit and LYNX services.	Develop a communication plan.	Communication Plan.	Marketing and Communications	Proposed
		Maintain coordination with county and municipal planning staff.	Set up a quarterly meeting with county and municipal planning staff.	Quarterly Meeting.	Marketing and Communications, Planning and Development	Active
		Continue marketing outreach efforts with civic organizations, employers and other community stakeholders.	Develop a marketing and public outreach strategy that ensures participation at community events.	Marketing and Public Outreach Strategy.	Marketing and Communications	Proposed
		Actively promote LYNX services by attending community events, fairs, and other relevant activities to engage with existing and potential riders.	Attend at least two community events throughout the region annually.	Number of community events per year.	Marketing and Communications	Proposed

GOAL 4: Promote economic competitiveness, sustainability, and quality of life						
	Objectives	*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
4.1	Increase transit-oriented development (TOD) and transit supportive development through partnerships and planning processes.	Maintain role in review of City, County and FDOT roadway and development plans to improve and raise awareness of transit supportiveness.	Continue participation in review of development plans on major transit	Percentage of plans reviewed and comments provided on major transit corridors.	Planning & Development	Proposed
			Continue participation in review of other agency roadway projects in major transit corridors.	Passenger facility and amenity improvements completed through review of development/roadway plans.	Planning & Development, Engineering and Construction	Proposed
			Increase participation in local and regional economic development planning initiatives that support transit, including Affordable Housing initiatives, Comprehensive Plan Updates, and Land Use/Zoning Code Updates.	Number of meetings attended to improve awareness of transit.	Planning & Development	Proposed
		Develop regional TOD guidelines in cooperation with partners. Guidelines should include recommendations for density, affordable housing, property values and development activity around major transit corridors, SuperStops and Transit Centers.	Develop TOD/transit supportive guidelines.	TOD Guidelines	Planning & Development	Proposed

GOAL 4: Promote economic competitiveness, sustainability, and quality of life						
	Objectives	*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
4.2	Increase local and regional economic development planning initiatives that support transit.	Develop partnerships with economic development agencies to ensure the inclusion of transit in the decision-making process.	Visit each regional chamber of commerce annually with transit ridership, programs and services information.	Frequency of meetings with each regional chamber of commerce.	Planning & Development and Marketing and Communications	Proposed
			Visit, Orange, Osceola Seminole County Public Schools, Valencia, Seminole State, and UCF annually with transit ridership, programs and services information.	Frequency of meetings with each major education provider.	Planning and Development, Sustainability, Marketing and Communications, Engineering and Construction	Proposed
			Completion of regional transit and economic development strategy with cooperation from MetroPlan Orlando and the Orlando Economic Partnership.	Completion of a regional transit and economic development strategy.	Planning & Development	Proposed
		Host annual transportation symposium at LYNX with panel of leading business and transportation partners.	Participation of at least 75 attendees.	Transportation Symposium attendance	Planning & Development	Proposed
			Host annual transportation symposium.	Hosting of annual transportation symposium.	Planning & Development	Proposed

GOAL 4: Promote economic competitiveness, sustainability, and quality of life						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
4.3	Increase eco-friendly business practices.	Develop sustainability strategy.	Completion of a sustainability plan by including how to incorporate LEED and ENVISION.	Development of a Sustainability Plan by 2024.	Sustainability& Innovation	Active
			Established sustainability performance measures by including standards for workplace waste and recycling.	Development of sustainability businesses practices and performances measures.	Sustainability& Innovation	Active
			Submit APTA Sustainability Commitment Program application when program is relaunched.	Participation in APTA's Sustainability Commitment program.	Planning & Development, Sustainability & Innovation	Proposed
		Develop a plan to improve service accessibility for non-motorized modes to SuperStops and bus stops.	Complete the plan	Development of a plan to inventory and improve the pedestrian and bicycle connectivity to bus stops and SuperStops.	Planning & Development, Mobility Services, and Sustainability & Innovation	Proposed
		Increase bicycle parking/storage at LYNX facilities and on vehicle fleet.	Increase bicycle parking at passenger facilities by two percent per year.	Number and type of alternative bicycle facilities at passenger facilities and on vehicle fleets.	Planning & Development, Mobility Services, Sustainability & Innovation	Proposed
		Reduce carbon footprint through the use of alternative fuel vehicles "Green Fleet" (CNG, low emissions, etc.).	Convert 50 percent of fixed-route and NeighborLink fleet to zero emission technology by 2028.	Operation of mission capable low and zero emission vehicles consistent with the transition plan.	Sustainability & Innovation, Planning & Development	Active

GOAL 4: Promote economic competitiveness, sustainability, and quality of life						
Objectives		*Strategies*	*Target*	*Performance Measure*	*Responsible Department(s)*	*Status*
4.4	Integrate and promote quality of life strategies.	Develop an active mobility (transportation) plan.	Completion of an active mobility plan	Completion of an active mobility plan.	Planning & Development, Mobility Services and Sustainability	Proposed
		Promote Commuter Assistance programs through Florida Department of Transportation.	Completion of at least four joint events per year	Number of joint LYNX and FDOT Commuter Assistance Events conducted per year (how many events).	Planning & Development and Mobility Services	Proposed
		Coordinate with MetroPlan Orlando, Florida Department of Transportation, the US Department of Transportation, and local governments to ensure consistency between quality of life strategies.	Document consistency of quality of life measures among FDOT, MetroPlan Orlando, US DOT, and Local Governments	Documentation of consistency between organizations/agencies.	Planning & Development, Mobility Services, Sustainability	Proposed
		Incorporate health impact assessments as part of transit initiatives.	Establishment of health impact assessment policy	Establish a policy that a health impact assessment component is included with each LYNX transit corridor study.	Planning & Development, Sustainability	Proposed

7. Transit Demand and Mobility Needs

This section presents an assessment of Transit Demand and Mobility Needs for the LYNX 10-Year TDP planning horizon. Unique to this TDP Major Update is the development of three separate County Needs Plans, one for each County in the LYNX service area, including Seminole, Orange, and Osceola counties. Service in those Needs Plans constitute a broad 20-year vision of public transportation services and forms the basis for the 10-year TDP. Major transit program elements in those Needs Plans, along with a transit market assessment and corresponding transit ridership forecasts, are presented that demonstrate how well the services identified in the County Transit Plans meet transit demand and mobility needs in the community.

Transit Market Assessment

The transit market assessment performed for this TDP Major Update consists of the evaluation of several demographic and socioeconomic characteristics presented in Section 2 of this TDP. That information serves as the basis for further evaluation of transit demand and mobility needs within the community. A description of the various market assessment tools, along with supporting map illustrations, are presented to understand how well the existing LYNX network of fixed-route, commuter, and NeighborLink services meets the various travel markets evaluated.

Population and Employment

Public transportation is most efficient when it connects population and employment centers where people can easily walk to from bus stops. The reach of transit is generally limited to within one-quarter mile to one-half mile of a bus stop, or a 10-minute walk. For this reason, the size of a transit travel market is directly related to an area's total population and population density. According to the Transit Cooperative Research Program (TCRP) Transit Capacity and Quality of Service Manual, 2nd Edition, densities of three households per acre (approximately six people per acre) or four jobs per acre can support hourly fixed route transit service.

Figure 39 illustrates 2020 population per acre within the LYNX service area (Orange, Osceola, and Seminole Counties) compared to the existing bus routes by weekday headway. Most of the three-county region with greater than six people per acre is served by the existing bus system. A few communities within the service area show demand which might exceed the existing level of LYNX transit services, including Oviedo, Alafaya, Poinciana and Lake Nona. In the future, population growth is forecasted to occur in Alafaya, Sanford, Apopka and the Celebration/northwest Kissimmee region, highlighting new areas where expanded transit service could be considered (Figure 40).

The location and number of jobs in a region are also strong indicators of transit demand, as traveling to and from work accounts for the largest single segment of transit trips in most markets. Transit that serves areas of high employment density also provides key connections to job opportunities. The Transit Capacity and Quality of Service Manual suggests that an employment density of four jobs per acre or more can typically support base-level fixed route service.

Figure 41 illustrates 2020 jobs per acre within the service area (Orange, Osceola, and Seminole Counties) and existing bus routes by weekday headway. The majority of areas throughout the three-county region with employment densities of four or more jobs per acre are served by the existing transit system. However, a few communities within the service area show demand which might exceed the existing level of transit services including Oviedo, Alafaya and Sanford. Figure 42 illustrates 2035 jobs per acre. Based on forecast in that figure, Lake Nona shows increased demand for transit service.

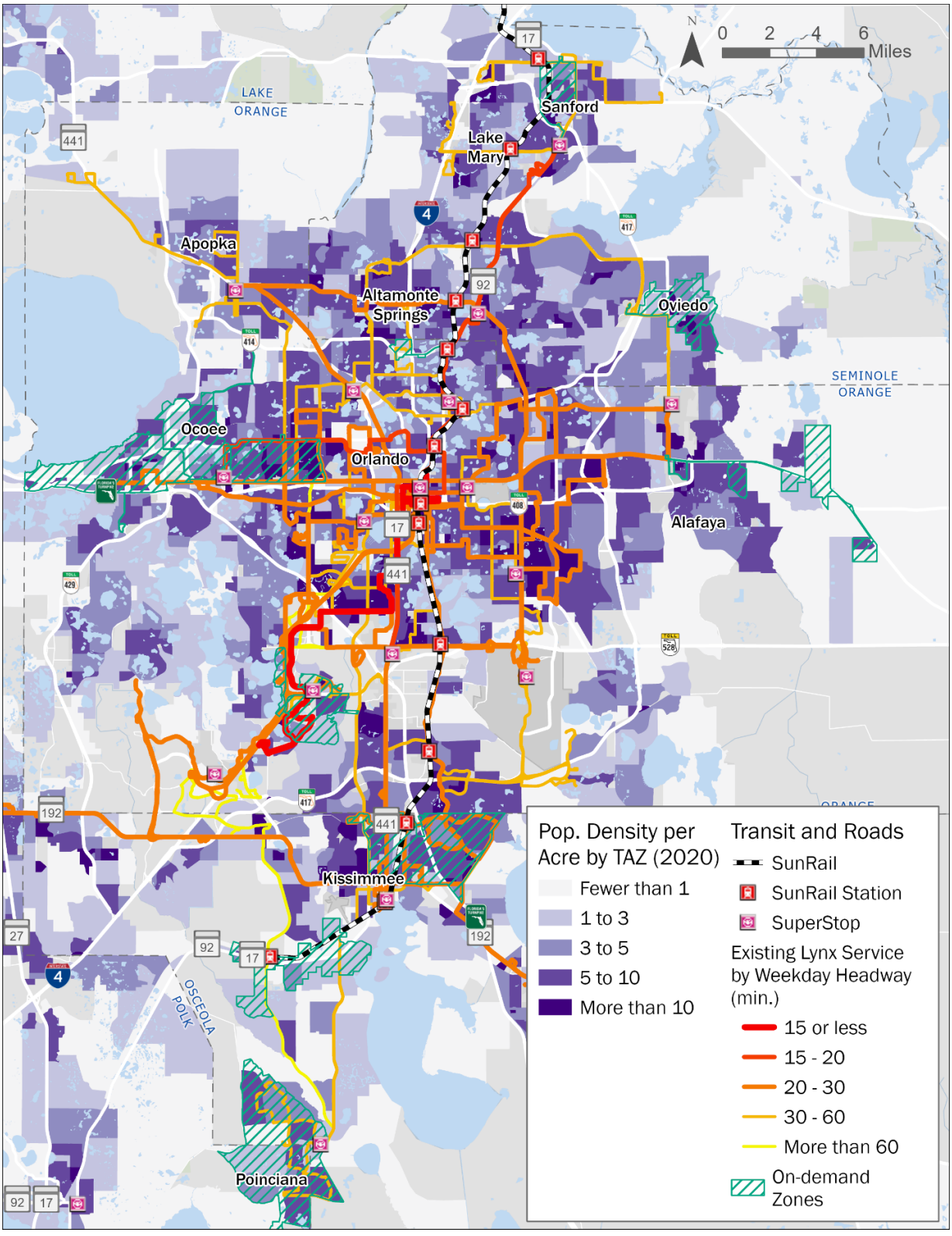


Figure 39: 2020 Population Density compared to the Existing LYNX System

Source: Central Florida Regional Planning Model (2020)

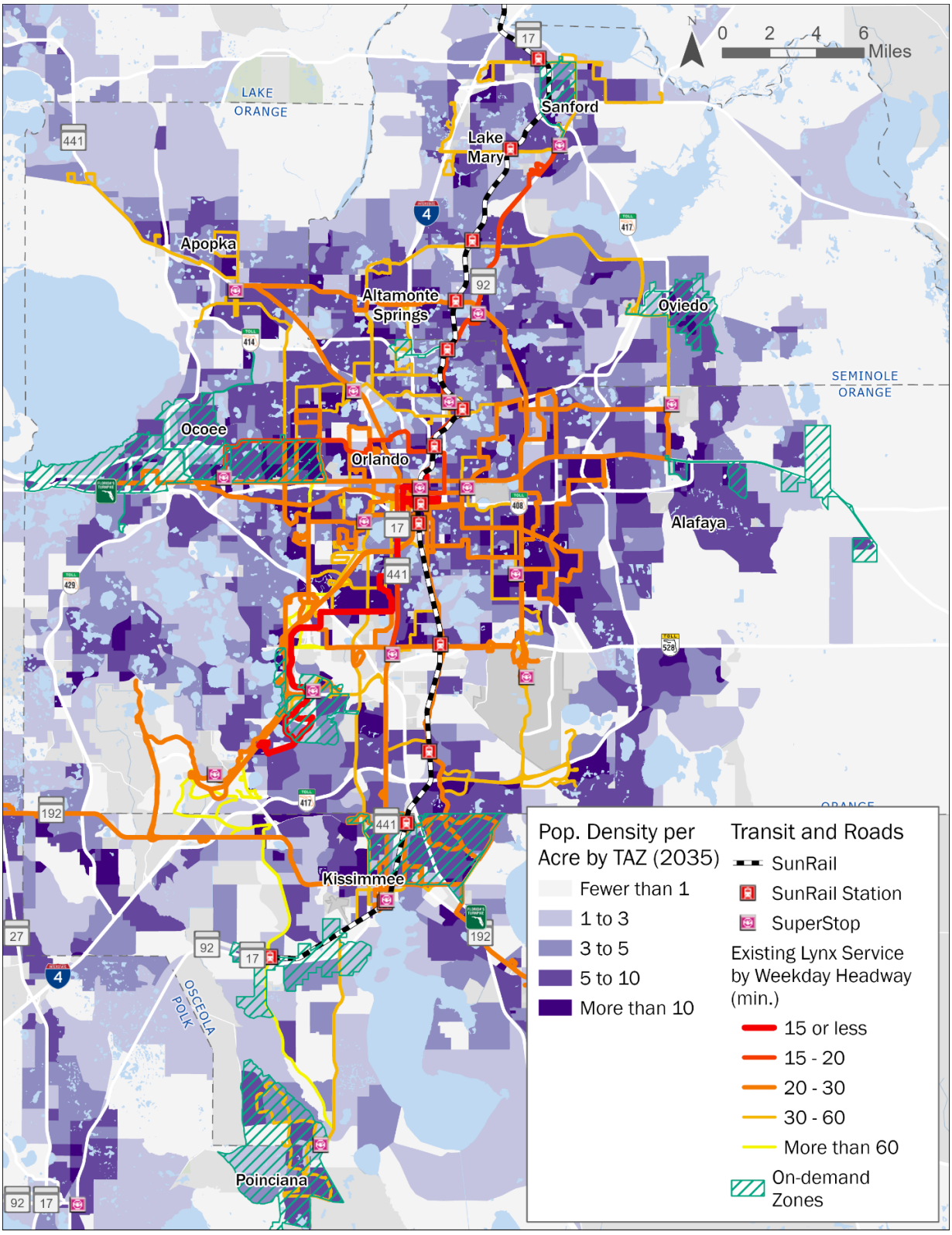


Figure 40: 2035 Population Density compared to the Existing LYNX System

Source: Central Florida Regional Planning Model (2020)

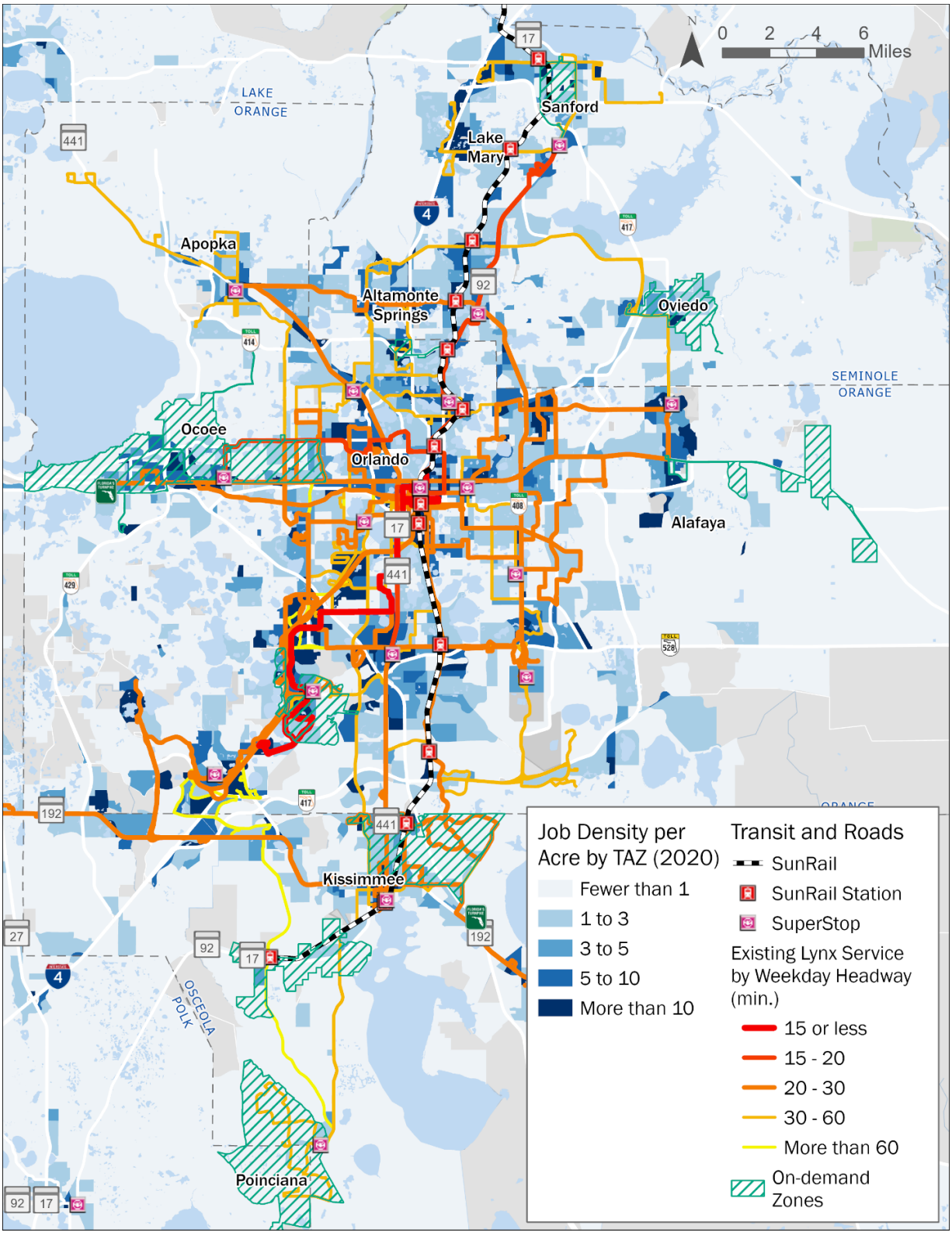


Figure 41: 2020 Employment Density compared to the Existing LYNX System

Source: Central Florida Regional Planning Model (2020)

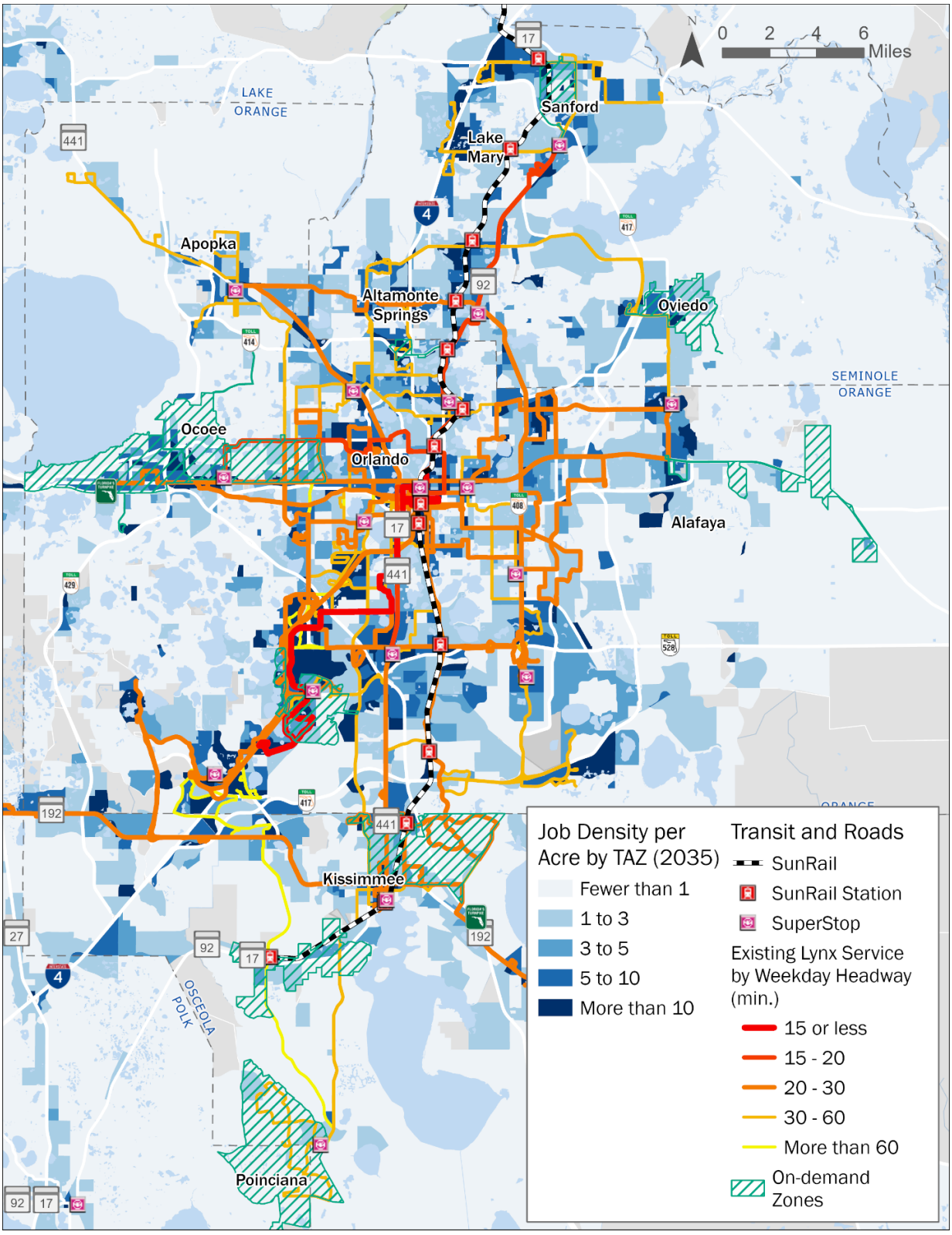


Figure 42: 2035 Employment Density compared to the Existing LYNX System

Source: Central Florida Regional Planning Model (2020)

Transit Propensity

For the purposes of this market assessment, four transit propensity indices were analyzed to gain an understanding of where potential transit trip origins and destinations are more prevalent. The four indices highlight where transit-oriented and commuter populations live and take trips:

- Transit-Oriented Population Origins – identifies where residents who are likely to use and rely on transit live.
- Commuter Population Origins – illustrates where commuters live.
- Activity Destinations – shows where residents might use transit to travel for general purposes or outside peak periods.
- Employment Destinations – identifies where jobs are heavily concentrated.

These indices are important in understanding how people are moving throughout a region. They are further combined to create suitability indices that help identify where all-day and peak services would be the most successful.

Origin Indices

The Transit-Oriented Population Origin index is comprised of five demographic categories: general population, income, disability status, vehicle ownership, and age. This index identifies areas of high concentration of potential transit-oriented communities. The areas with higher concentrations of transit-oriented population highlight neighborhoods within the service area that more likely need or would use transit. Table 47 defines the variables and weights applied within the Transit-Oriented Population Origin Index. As illustrated in Figure 43 these populations are concentrated in southern Hiawassee, Oak Ridge, and northern Kissimmee areas.

Table 47: Transit-Oriented Population Origin Index

Category	Weight
Population (General/Minority)	30
Vehicle Ownership (Zero/One Car)	30
Income (Low)	20
Age (Youth/Senior)	10
Disability Status (Yes)	10

The Commuter Origin index identifies areas of high concentrations of traditional peak-hour commuters. This index helps to understand where commuters start trips and also to identify potential new commuter markets. The data sources for this index include residents who are in the labor force or are employed, including those identifying as transit or non-single occupancy vehicle driver commuters. Table 48 defines the weights for each variable in the Commuter Origin index and Figure 44 illustrates where these populations are concentrated within the current LYNX service area. Concentrations to note include Oak Ridge, Kissimmee, and areas along Semoran Boulevard to the east of Downtown Orlando.

Table 48: Commuter Index

Category	Weight
Labor Force	90
Commuter Mode (Transit)	10

Destination Indices

The Employment Destination index is comprised of the total number of jobs and employment density in an area. Areas with high densities and numbers of jobs are likely to be locations where traditional peak-hour commuters would travel for work and are considered major trip attractors. The index relies on Longitudinal Employer-Household Dynamic (LEHD) data on the location of both public and private sector jobs where the job is the primary job held by an individual. Presented earlier in this section, Figure 41 and Figure 42 illustrate the densities of employment opportunities for 2020 and 2035, respectively.

The Activity Destination index shows where trips outside of a general work trip might be taken using transit to travel. These destinations include retail, health care, social assistance, education, government facilities, recreation, and restaurants. Table 49 defines the variables and weights applied within the Activity Destination index based upon trip type and Figure 45 illustrates where these destinations are concentrated within the LYNX service area. Celebration and the Walt Disney World Resort are areas with high concentrations of activity destinations.

Table 49: Activity Destination Index

Category	Weight
Healthcare/Social Assistance	35
Education	25
Retail/Restaurants	20
Recreation	10
Government	10

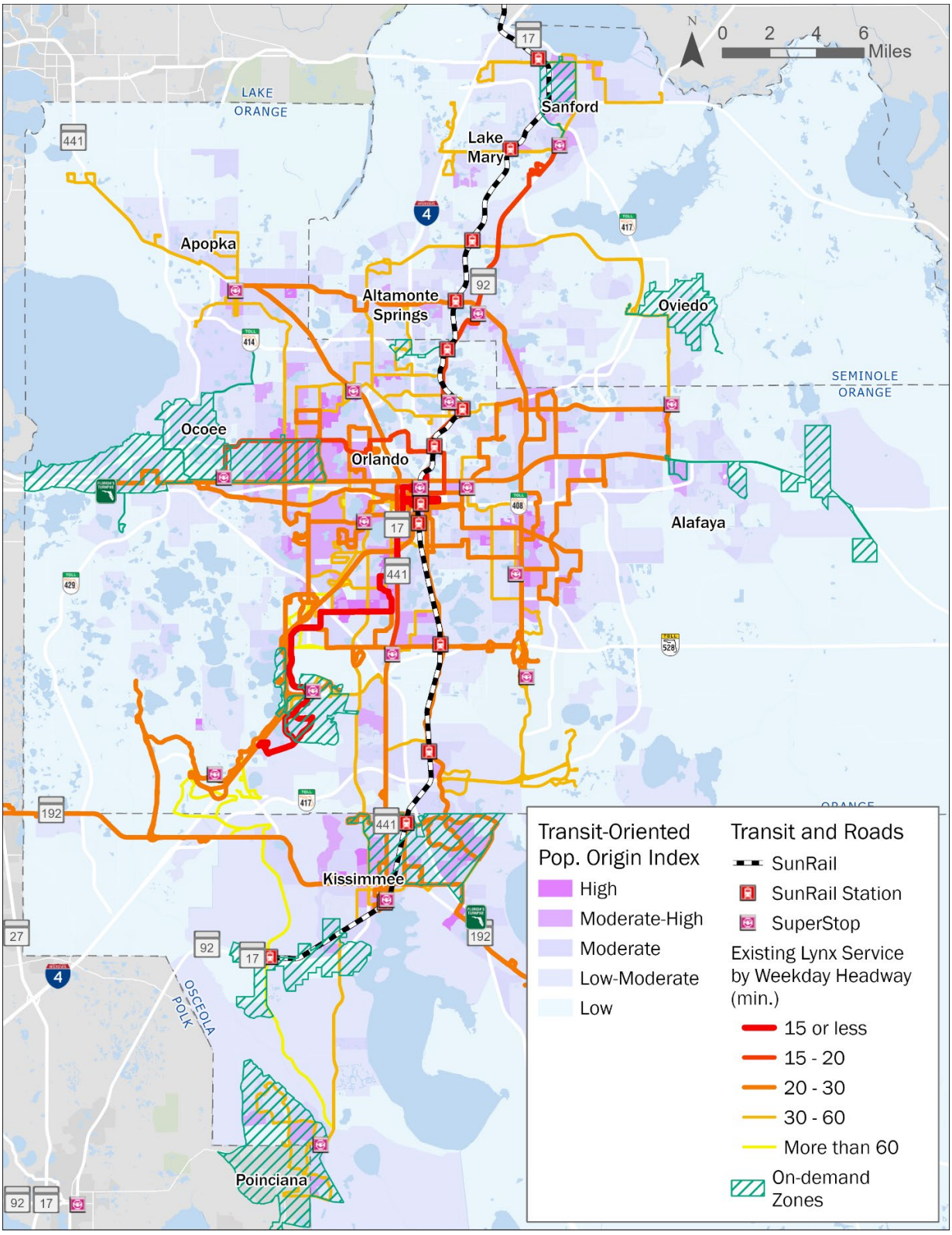


Figure 43: Transit-Oriented Population Origin Index compared to the Existing LYNX System

Sources: 2020 ACS 5-year Estimates; 2019 LEHD Data

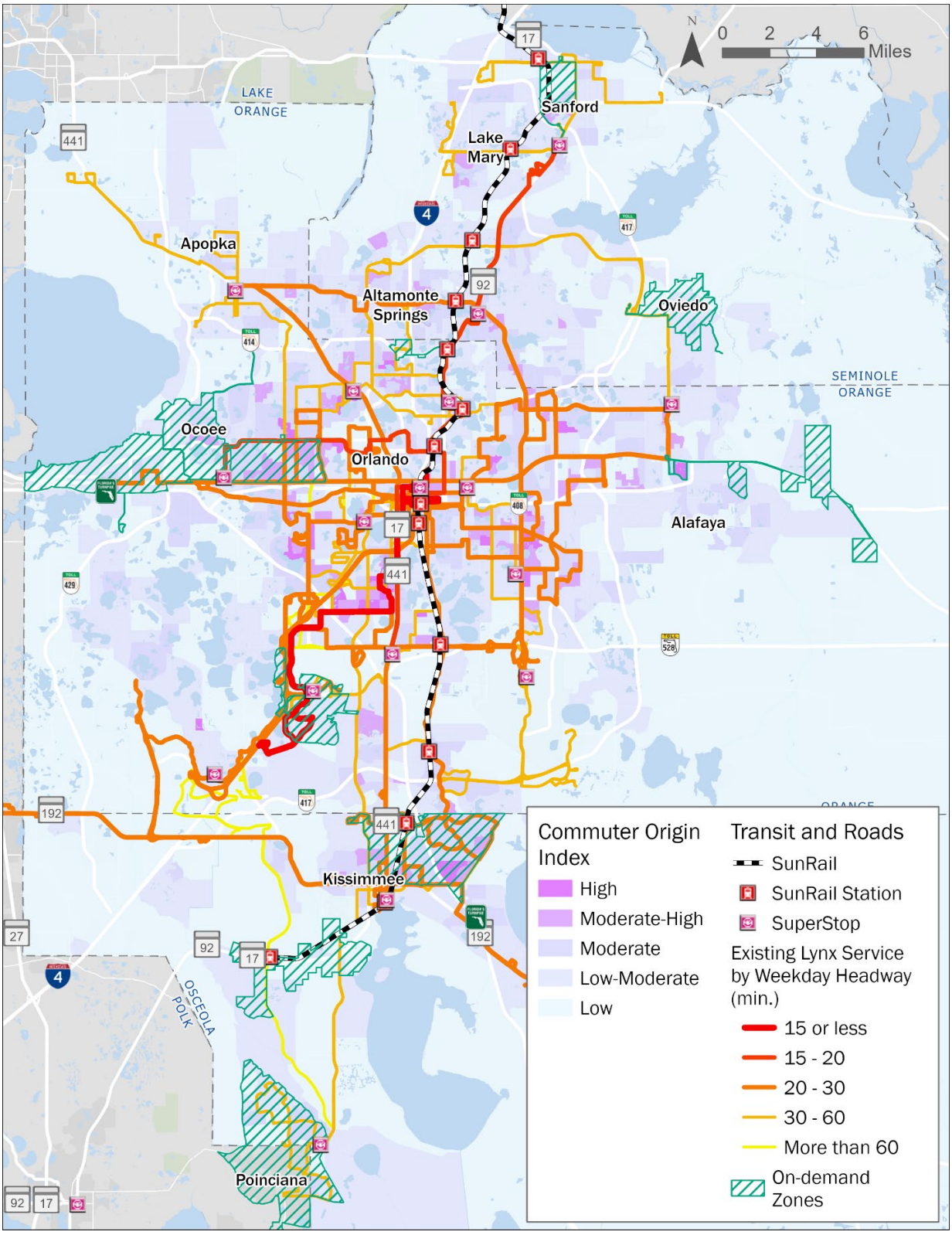


Figure 44: Commuter Origin Index compared to the Existing LYNX System

Sources: 2020 ACS 5-year Estimates; 2019 LEHD Data

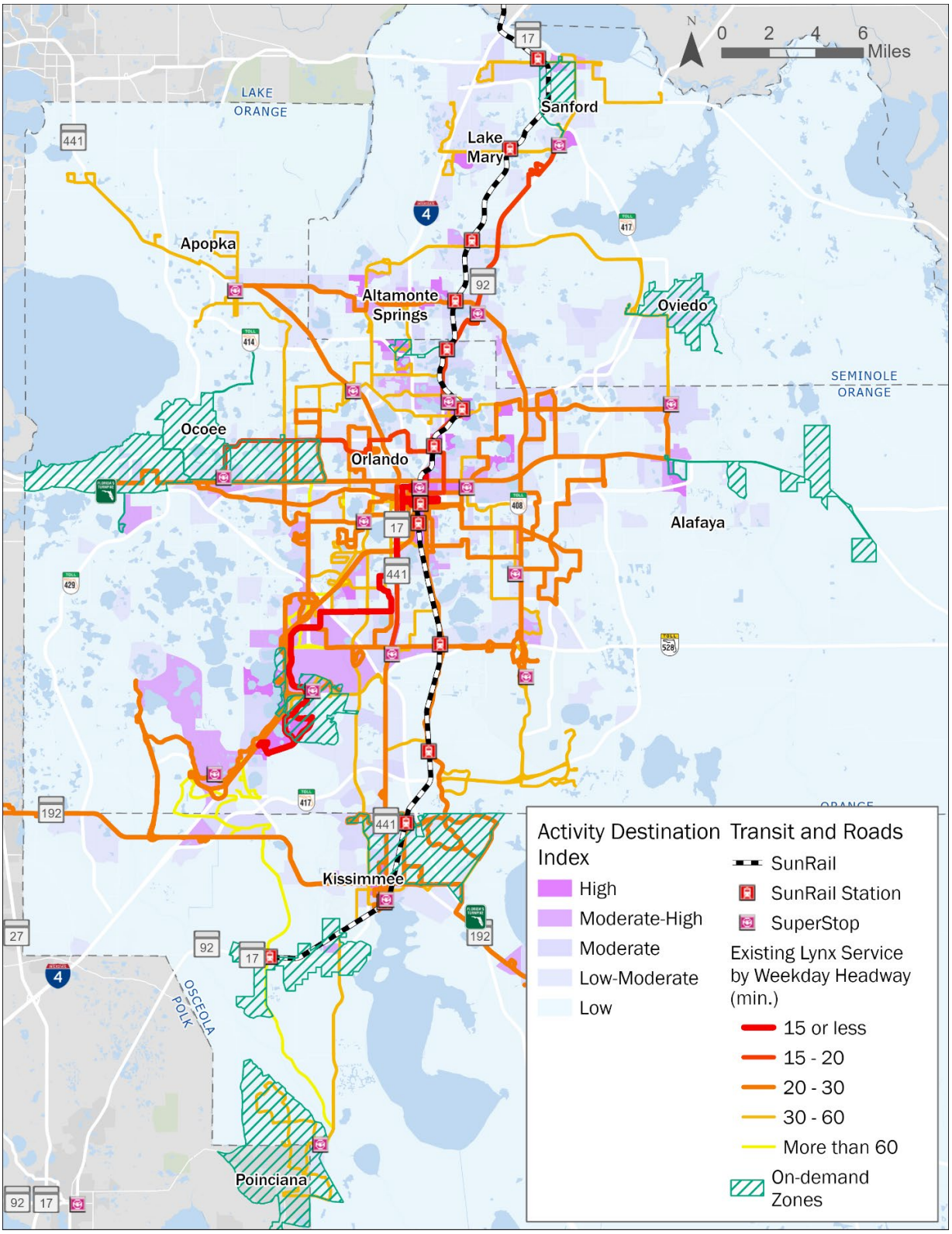


Figure 45: Activity Destination Index compared to the Existing LYNX System

Sources: 2020 ACS 5-year Estimates; 2019 LEHD Data

Gap Analysis

Combining the aforementioned propensity indices highlights areas that could benefit from enhanced or expanded transit services. Two suitability indices were created to illustrate where peak period and all-day transit services have demand throughout the LYNX service area.

The first suitability analysis, All-Day Service Propensity, examines where all-day transit service would be the most successful by identifying areas where more transit-oriented populations live and the areas with higher concentrations of activity destinations. This index identifies where it is assumed a person is more likely to take a trip throughout the day rather than just during peak periods. Figure 46 illustrates the All-Day Service Propensity Index within Orange, Osceola, and Seminole Counties and the existing bus routes by weekday headway. Within the service area, all of the high and moderate-high All-Day Service Propensity Index areas are served by LYNX fixed-route, SunRail, or NeighborLink services.

The second suitability analysis, Peak Service Propensity, identifies areas with higher levels of commuter populations and/or job concentrations which could be more suitable for commuter-oriented services. Figure 47 illustrates the Peak Service Propensity Index within the service area (Orange, Osceola, and Seminole Counties) and the existing bus routes by weekday headway. Most areas with high or moderate-high propensity are currently being served by an existing LYNX fixed-route or NeighborLink.

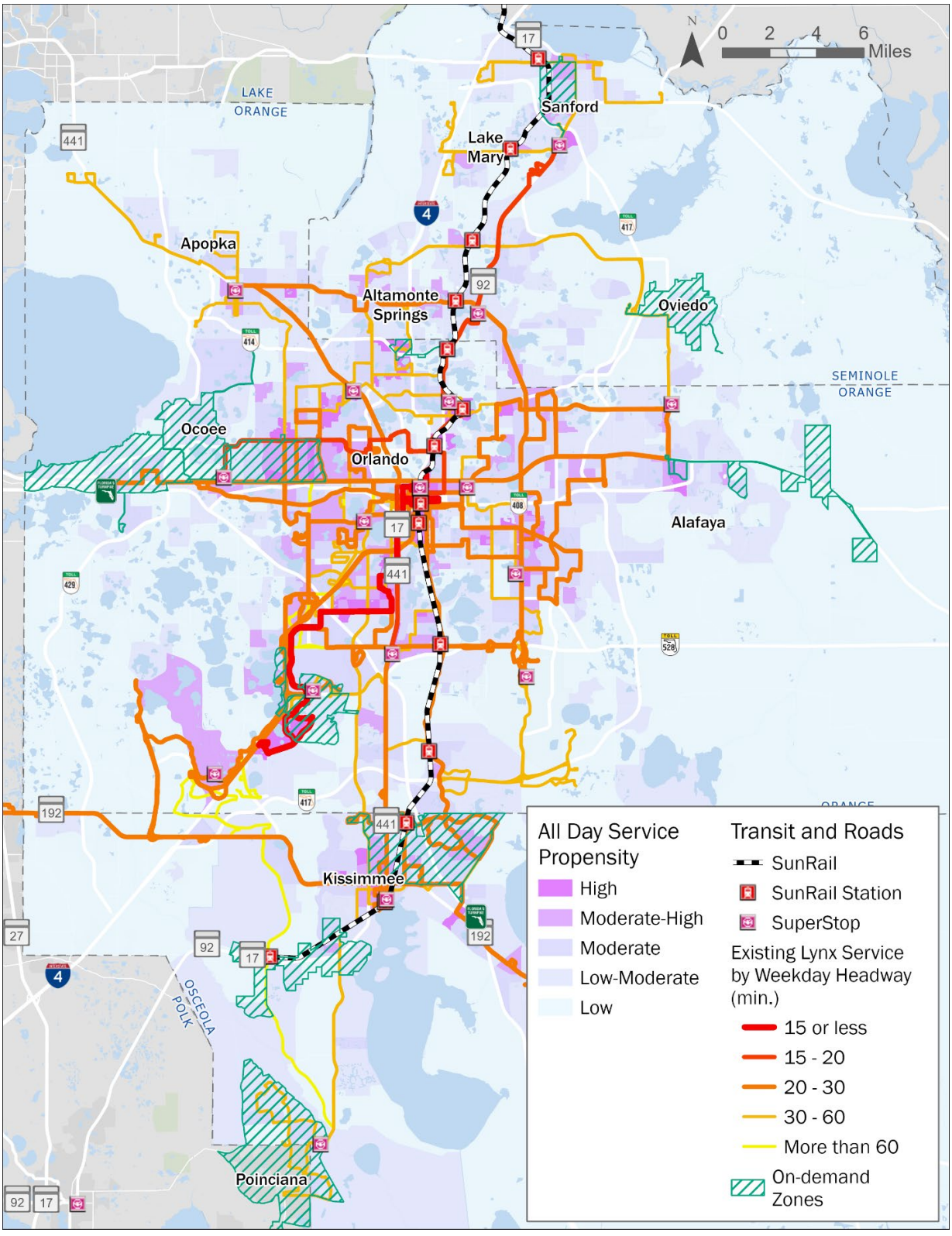


Figure 46: All Day Service Propensity Index compared to Existing LYNX Service

Sources: 2020 ACS 5-year Estimates; 2019 LEHD Data

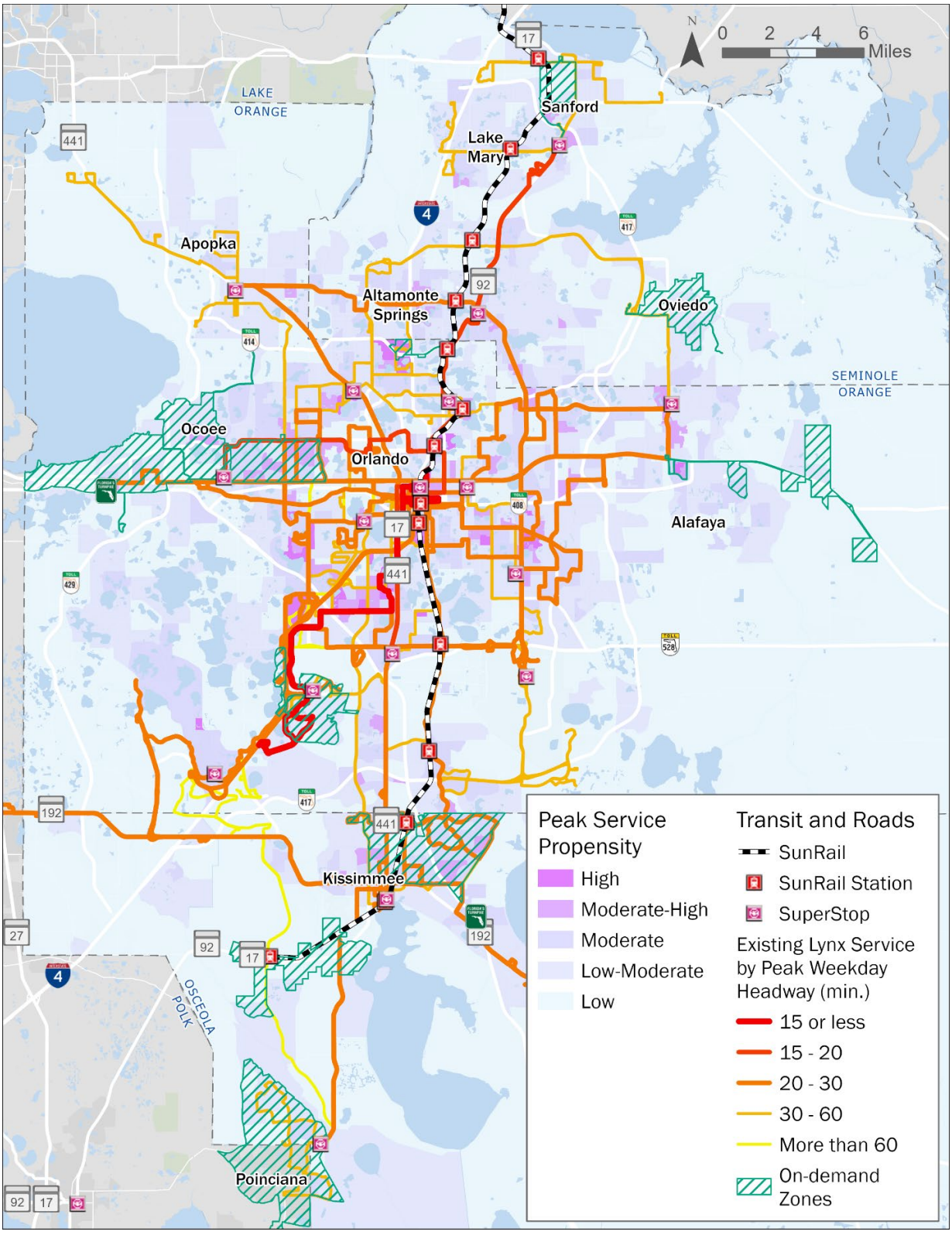


Figure 47: Peak Service Propensity Index compared to Existing LYNX Service

Sources: 2020 ACS 5-year Estimates; 2019 LEHD Data

Mobility Needs

Over the last several years, LYNX has diligently worked with its funding partners to develop three separate County Transit Plans. The County Transit Plans reflect a 20-year vision, public transportation needs, and are the product of a broad effort by LYNX to optimize its service offerings and establish a unified approach for addressing transit needs across its large service area. The preparation of the three individual County Transit Plans lay the groundwork for this TDP Major Update and are inclusive of service and capital needs. The County Transit Plans are designed to be consistent with regional plans and are based on the following elements:

- build-out of a comprehensive multi-tiered network of mobility options,
- upgraded and expanded transit passenger facilities and system support infrastructure,
- enhanced SunRail service designed to serve as the regional north-south transit spine,
- a high frequency core transit network connecting activity and employment centers along regional commercial corridors, and
- fast and frequent regional express services that vastly improve transit travel time.

Twenty-year plan elements for all three counties are compiled and summarized in this TDP Major Update and reflect the total operating and capital needs for LYNX service. The 10-year needs are a subset of the 20-year plan, including the operating and capital needs prioritized in Phases 1 through 5 in the Orange County Plan and Phases 1 and 2 in the Seminole and Osceola Transit Plans. More detailed county-by-county information is available separately in each corresponding county plan, and a list of the 20-year needs and 10-year needs is provided in Appendix H.

County Transit Plans

Given the variety of travel markets identified in the LYNX service area, the needs documented in the County Plans are categorized by major service category and then by service type. The result is a new hierarchy of public transportation services that support a multi-tiered transit network designed to meet the travel needs of a variety of different user groups. Specifically, the transit network consists of five major service categories that are divided into eight service types. Major service categories include high frequency service, regional and commuter express service, primary and secondary local service, community and circulator service, and on-demand and flexible service. Descriptions of the major service categories are provided on the following pages.

The transition to the new service hierarchy will also result in a new route nomenclature that will be inclusive of eight service types, or route series. A brief description of each route series is provided in Table 50. Together, the new network of services are layered to provide a range of mobility and accessibility options for the region that focus on:

- More routes with improved service frequency, and
- Transition from fixed route to on-demand service in areas where first- and last-mile connections will broaden coverage efficiently and cost-effectively.

Table 50: Service Type Summary

Route Series	Name	Description
100	High Frequency Local Stop Routes	Corridor-based, all stop service that facilitates access. Standard or articulated vehicles.
200	High Frequency Limited Stop Routes	Corridor-based service with fewer stops and that serves longer trips. Standard or articulated vehicles.
300	Regional Express Routes	Limited stop service that connects regional activity centers via highways and major arterials. Coach buses.
400	Commuter Express Routes	
500	Primary Local Stop Routes	Local mixed-traffic operations with minor deviations to enhance accessibility.
600	Secondary Local Stop Routes	
700	Community/Circulator Routes	Neighborhood level connectivity to and from activity nodes. Smaller transit vans.
800	On-Demand/Flexible Services	On-demand service within defined service areas and that provides for broad service coverage.

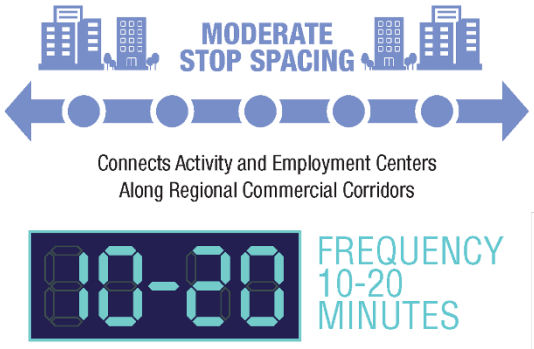
County Needs Plans Major Service Categories and Service Types

The following major service category descriptions are provided to define key characteristics of the route series in Table 50. The descriptions also allow for an understanding for the location and extent of each service type within the LYNX service area. The subsequent map series provides illustrations of the proposed service network for each referenced service category. A complete three-county service map reflecting the 20-year vision identified for all three counties is shown in Figure 52.

High Frequency Service (Figure 48)

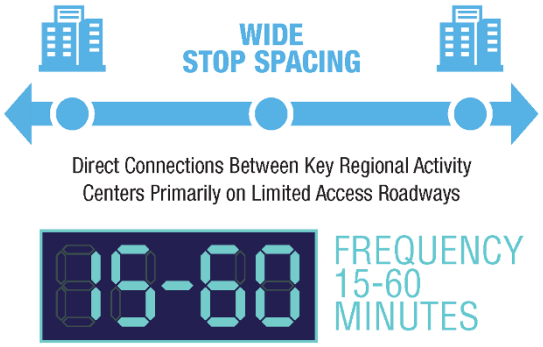
High frequency services include high frequency local routes (100 series) and high frequency limited stop routes (200 series). Key characteristics include:

- Operation along regional commercial corridors
- High quality, fast and convenient transit service
- Includes both local stop frequent service and limited stop frequent service within the same corridor.
- 100 series routes provide accessibility along the corridor
- 200 series routes provide faster service for longer trips along the same corridor.



Regional and Commuter Express Service (Figure 49)

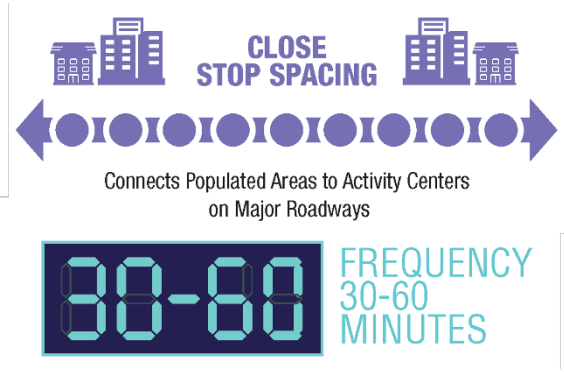
Include 300 and 400 series routes. Key characteristics include:



- Regional express service:
  - Limited stop / non-stop express service between regional activity centers (e.g., UCF to downtown Orlando) and high employment centers (e.g., Disney, International Drive, Orlando International Airport, and downtown Orlando)
  - Operate along interstate highways, tollways and major arterials.
  - Fast and direct trips across the region
  - Reduce overall travel times.
- Commuter express service:
  - Provide a rapid connection to downtown Orlando for residents of fringe areas like Clermont, West Orange, and East Orange.

Primary and Secondary Local Service (Figure 50)

Includes 500 (primary local routes) and 600 (secondary local service) series routes. Key characteristics include:



- Primary local routes:
  - Operate along major arterials and primary local streets with minimal deviations.
  - More frequent than secondary routes
- Secondary local routes:
  - Operate on primary and secondary local streets, including some deviations along the alignment
  - Provide increased accessibility than primary routes

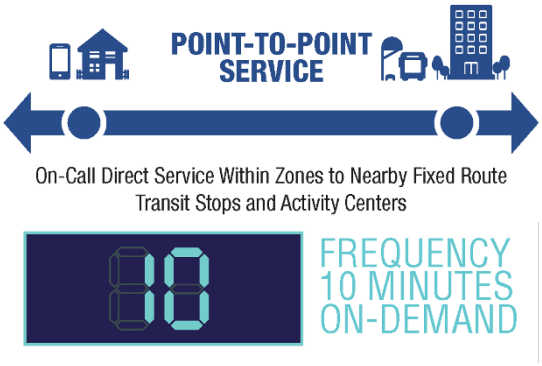
Community and Circulator Service (Figure 51)

Community and circulator routes include 700 series routes. Key characteristics include:

- Provide neighborhood level circulation
- Connect to nearby activity centers, and other transit services (e.g., SunRail, regional express, etc.)
- Many located in Downtown Orlando (i.e., LYMMO)
- Frequency ranges from 10 to 15 minute service for LYMMO to 30-minute service for other circulator routes.

On-Demand and Flexible Service (Figure 51)

On-demand and flexible services include 800 series routes. Key characteristics include:



- First- and last-mile connection services
- Broaden service coverage in an efficient and cost-effective manner
- Include Flex-Route, Flex-Route Hybrid, and Flex-Zone. Consists of a defined service area with anchor points that provide connections to the fixed route network.
- On-demand based on rider requests for service.
- Flex-Route Hybrid operates along a fixed route alignment with a defined area for on-demand trip requests.

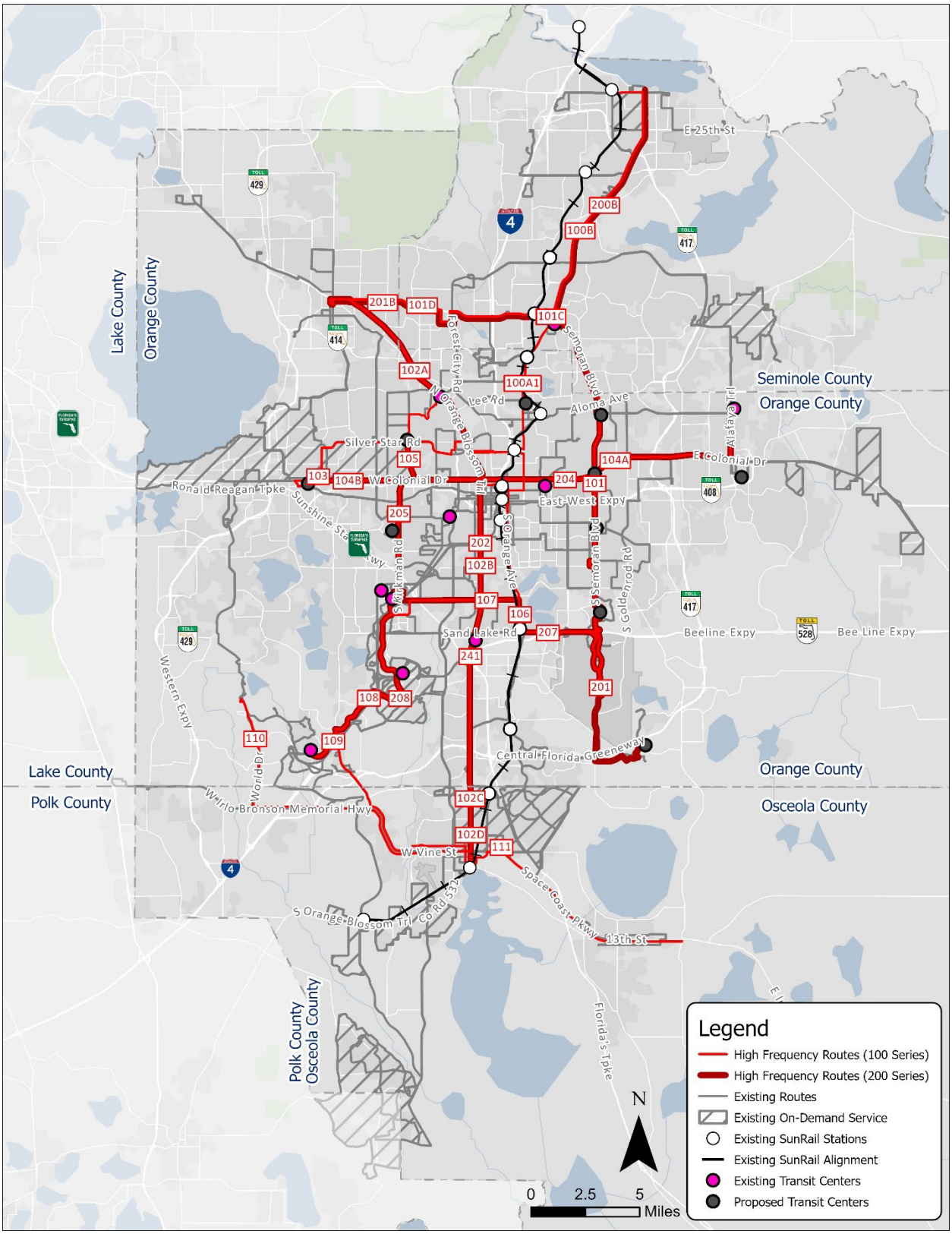


Figure 48: 20-Year Vision High Frequency Routes

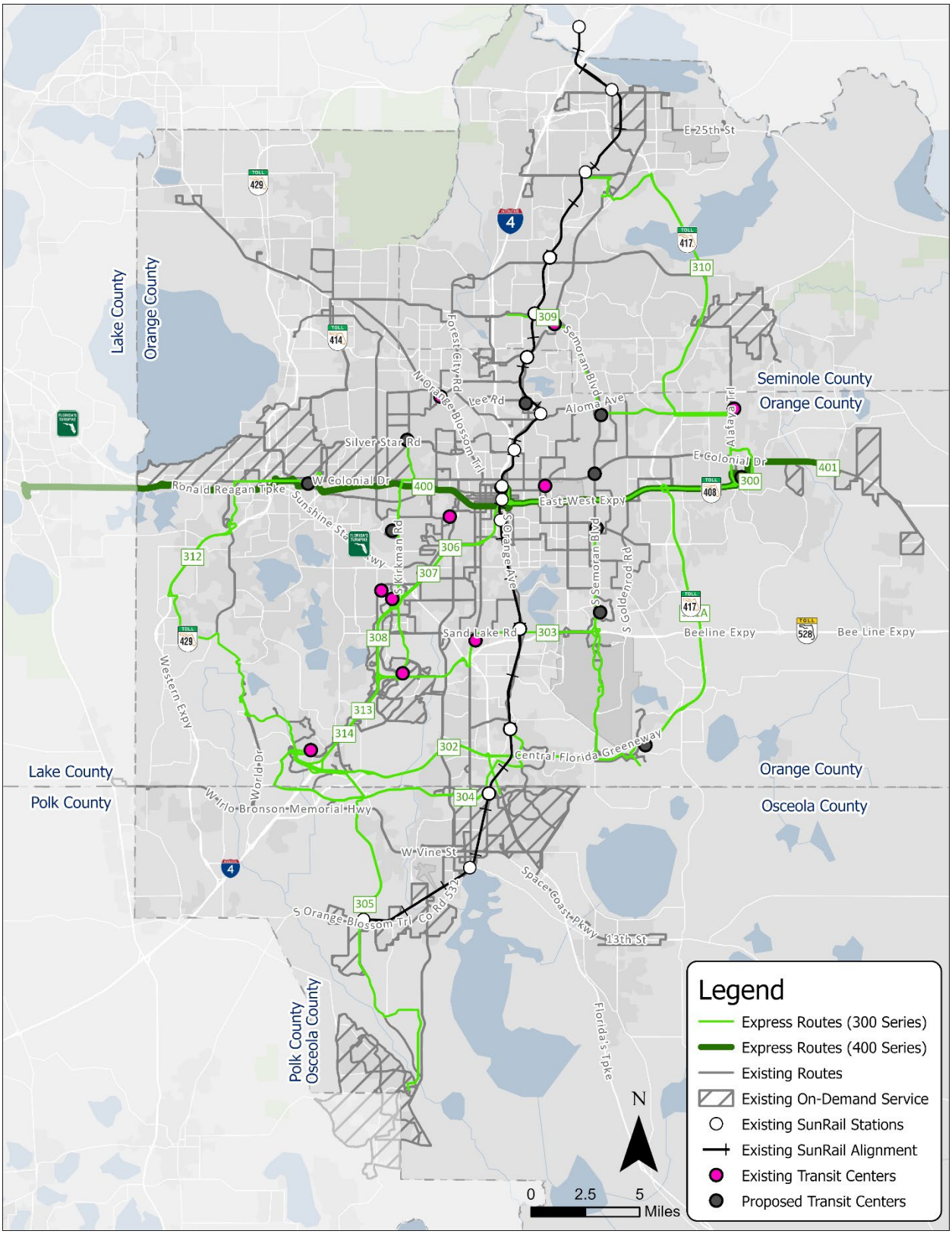


Figure 49: 20-Year Vision Express Routes

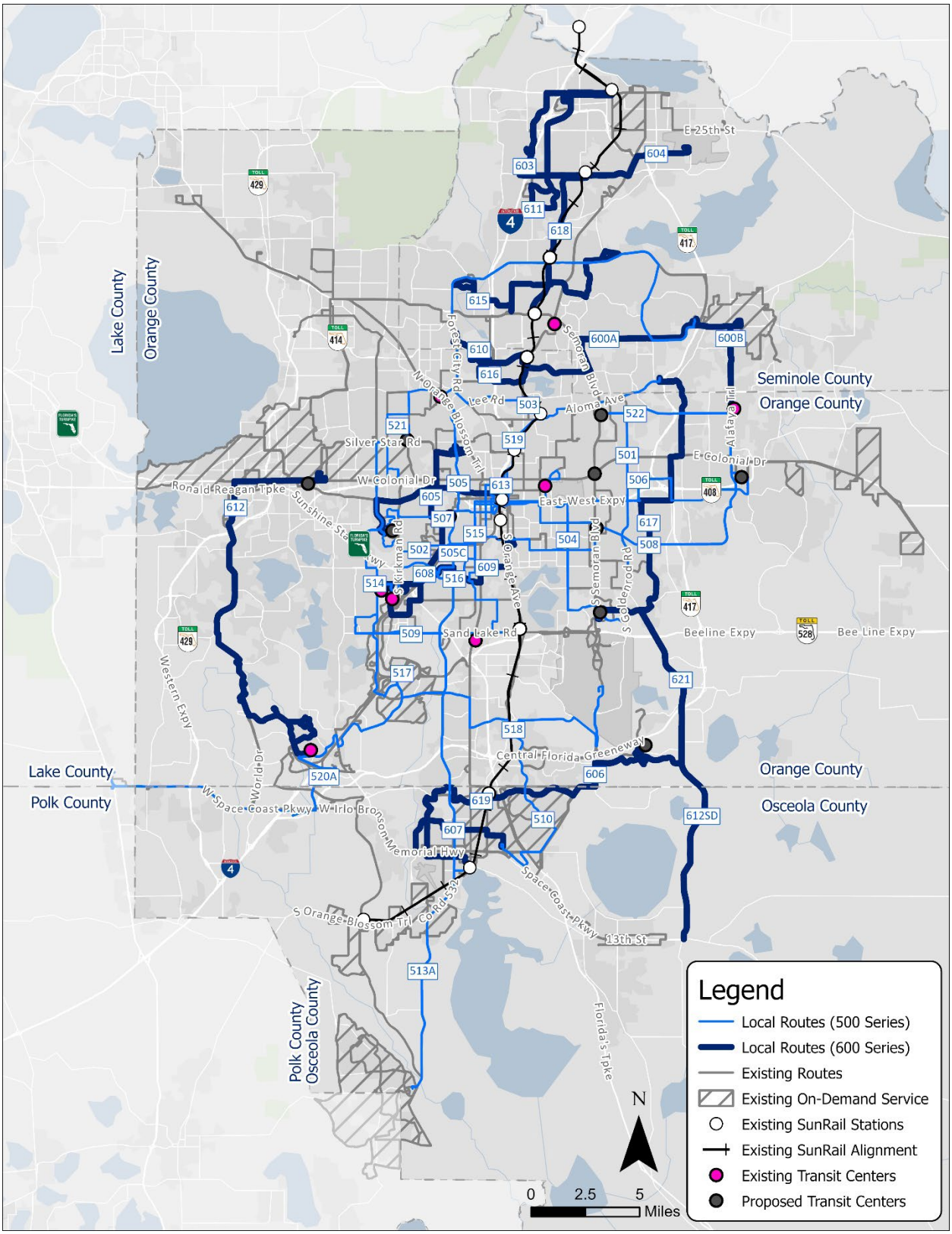


Figure 50: 20-Year Vision Local Routes

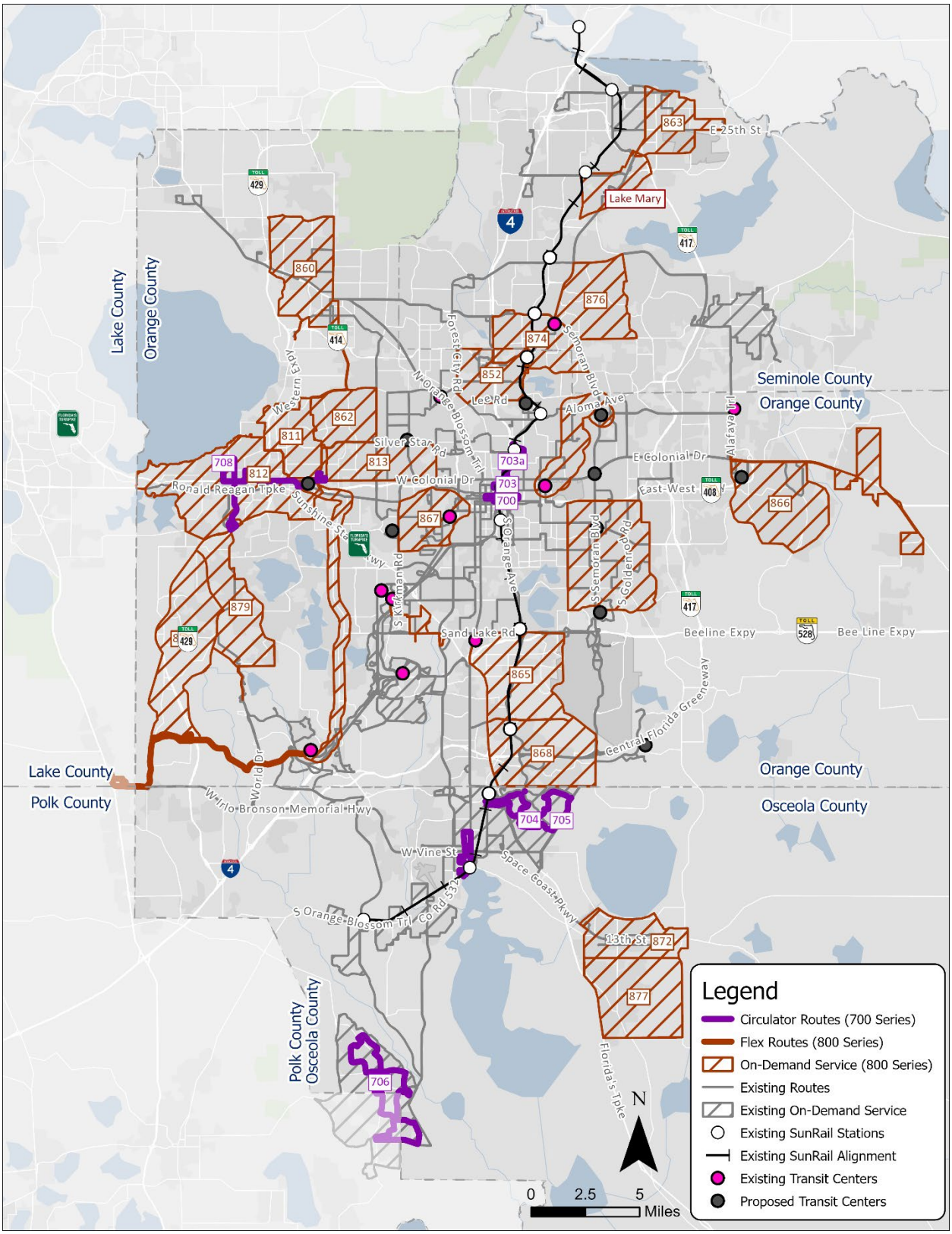


Figure 51: 20-Year Vision Circulator and On-Demand Service

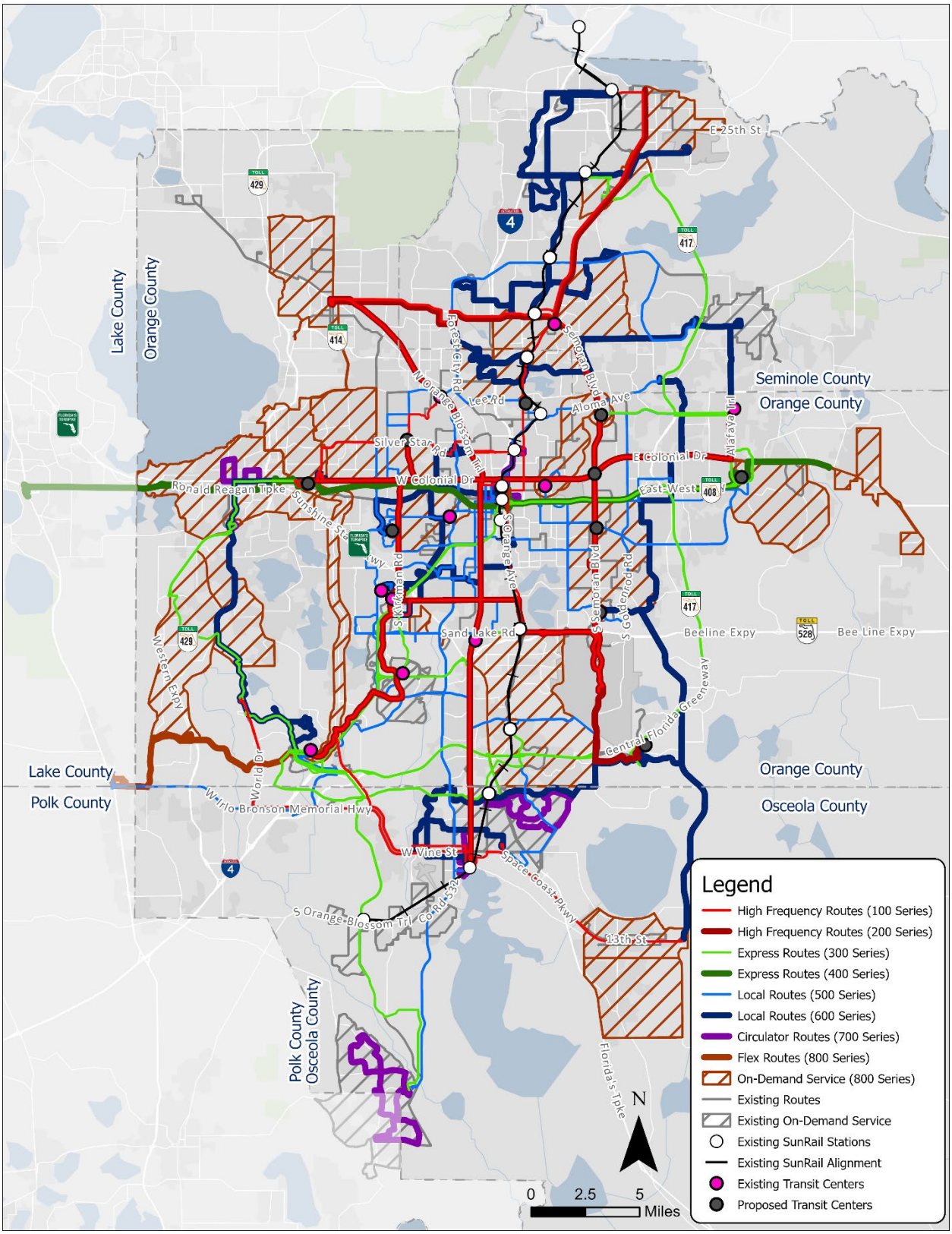


Figure 52: 20-Year Vision All Routes and Service

High Capacity and Primary Corridors

In addition to the major service types defined in Table 48, the County Needs Plans include high capacity and primary transit service corridors. These corridors are identified in all three county plans and consist of capital improvements that enable frequent, limited stop, and express services. Specific improvements for each corridor will vary depending on corridor segment travel patterns, corridor characteristics, and appropriate investment strategies.

High capacity and primary corridor improvements are envisioned to consist of high-quality transit features including walk-up stations, community stations, enhanced facility connections and access, signal timing and coordination, transit signal priority (TSP), dedicated transit lanes, and park and ride facilities. The location of proposed high capacity and primary corridors are depicted in Figure 53 and include the following:

- Silver Star Road (Orange County)
- Oak Ridge Road (Orange County)
- U.S. 17-92 (Orange County and Seminole County)
- SR 436 (Orange County and Seminole County)
- U.S. 441 (Orange County and Osceola County)
- S.R. 50 (Orange County)
- Kirkman Road (Orange County)
- International Drive (Orange County)
- SR 528 (Orange County)
- SR 408 East/West Express (Orange County)
- U.S. 192 (Osceola County)

Additional Needs

Additional needs not included in the County Needs Plans were identified after completion of those plans and during TDP-related discussions with the Regional Working Group and Technical Advisory Committee. Additional needs include the following services:

- Eatonville/Maitland NeighborLink zone in Orange County (as shown in Figure 51)
- Disney/Four Corners Flex Route in Orange County (as shown in Figure 51)
- Lake Nona/St. Cloud local route in Osceola County (as shown in Figure 50)
- Lake Mary NeighborLink zone in Seminole County (as shown in Figure 51)

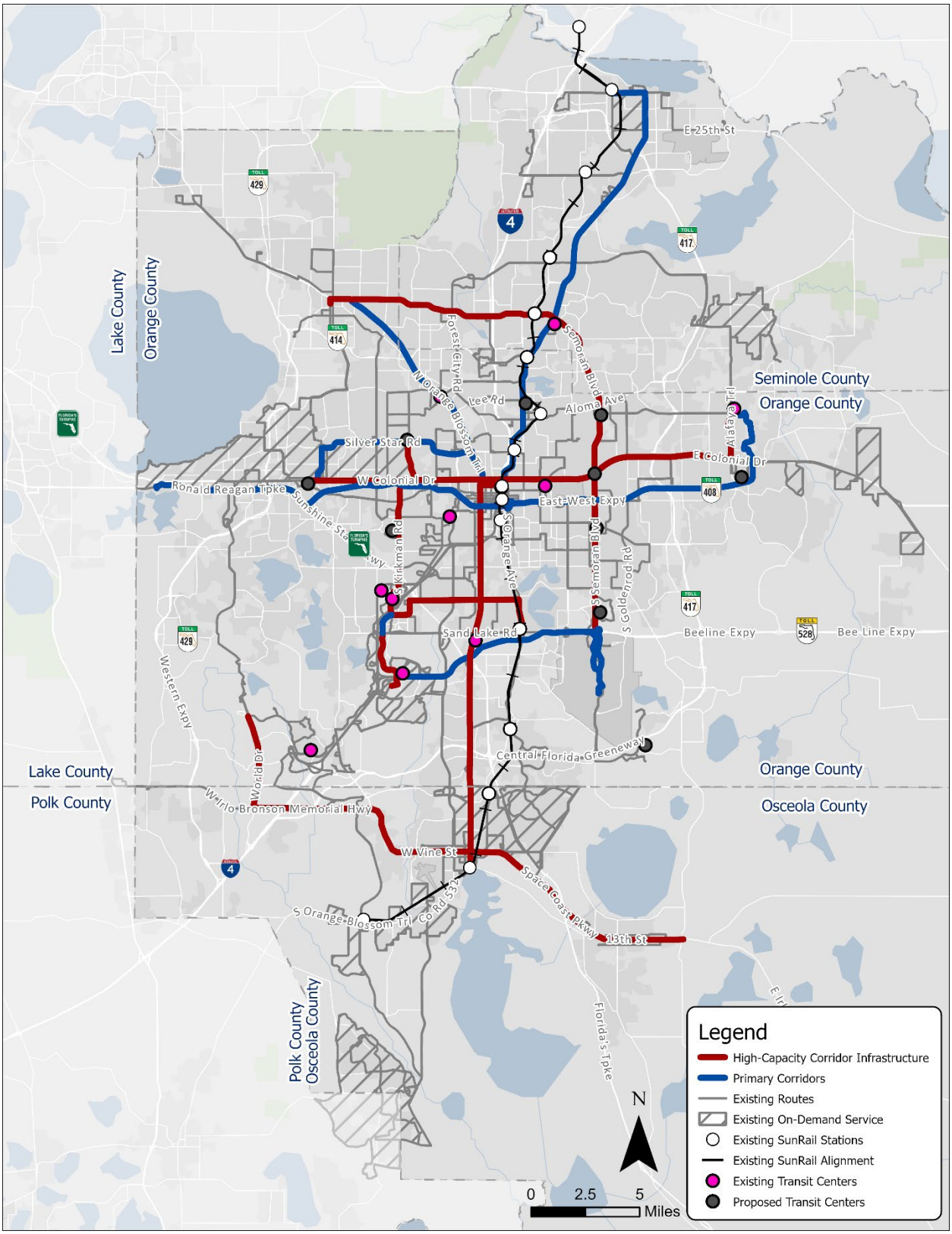


Figure 53: High Capacity and Primary Corridors

Systemwide 20-Year Vision

Summary operating statistics and service levels, including number of routes by service type, annual hours of service, and annual service miles, for the entire three-county 20-year transit network are summarized in Table 51. County-by-county operating statistics and service levels are shown in Table 52 through Table 54. In addition, Figure 54 through Figure 56 illustrate the full network of services for each county, Orange, Osceola, and Seminole, respectively, in the LYNX service area.

Table 51: Systemwide 20-Year Vision Summary by Service Type

Route Series	Name	# of Routes	Annual Service Hours	Annual Service Miles
100 and 200	High Frequency Local Stop and Limited Stop Routes	29	1,181,689	17,446,350
300 and 400	Regional and Commuter Express Routes	17	365,468	7,351,611
500 and 600	Primary and Secondary Local Stop Routes	43	1,147,172	11,537,313
700 and 800	Community/Circulator Routes and On-Demand/Flexible Services	41	425,685	1,517,828 [1]

1. Annual service miles include circulator and flex routes only

Table 52: Orange County 20-Year Vision Summary by Service Type

Route Series	Name	# of Routes	Annual Service Hours	Annual Service Miles
100 and 200	High Frequency Local Stop and Limited Stop Routes	26	910,831	13,112,255
300 and 400	Regional and Commuter Express Routes	14	288,922	5,836,367
500 and 600	Primary and Secondary Local Stop Routes	32	746,107	7,933,394
700 and 800	Community/Circulator Routes and On-Demand/Flexible Services	24	256,788	837,891 [1]

1. Annual service miles include circulator and flex routes only

Table 53: Osceola County 20-Year Vision Summary by Service Type

Route Series	Name	# of Routes	Annual Service Hours	Annual Service Miles
100 and 200	High Frequency Local Stop and Limited Stop Routes	6	101,784	1,998,291
300 and 400	Regional and Commuter Express Routes	3	42,116	798,908
500 and 600	Primary and Secondary Local Stop Routes	8	137,087	1,795,447
700 and 800	Community/Circulator Routes and On-Demand/Flexible Services	11	108,921	679,937 [1]

1. Annual service miles include circulator and flex routes only

Table 54: Seminole County 20-Year Vision Summary by Service Type

Route Series	Name	# of Routes	Annual Service Hours	Annual Service Miles
100 and 200	High Frequency Local Stop and Limited Stop Routes	7	169,075	2,335,803
300 and 400	Regional and Commuter Express Routes	2	34,429	716,337
500 and 600	Primary and Secondary Local Stop Routes	9	263,978	1,808,473
700 and 800	Community/Circulator Routes and On-Demand/Flexible Services	6	59,976	-- [1]

1. Annual service miles include circulator and flex routes only

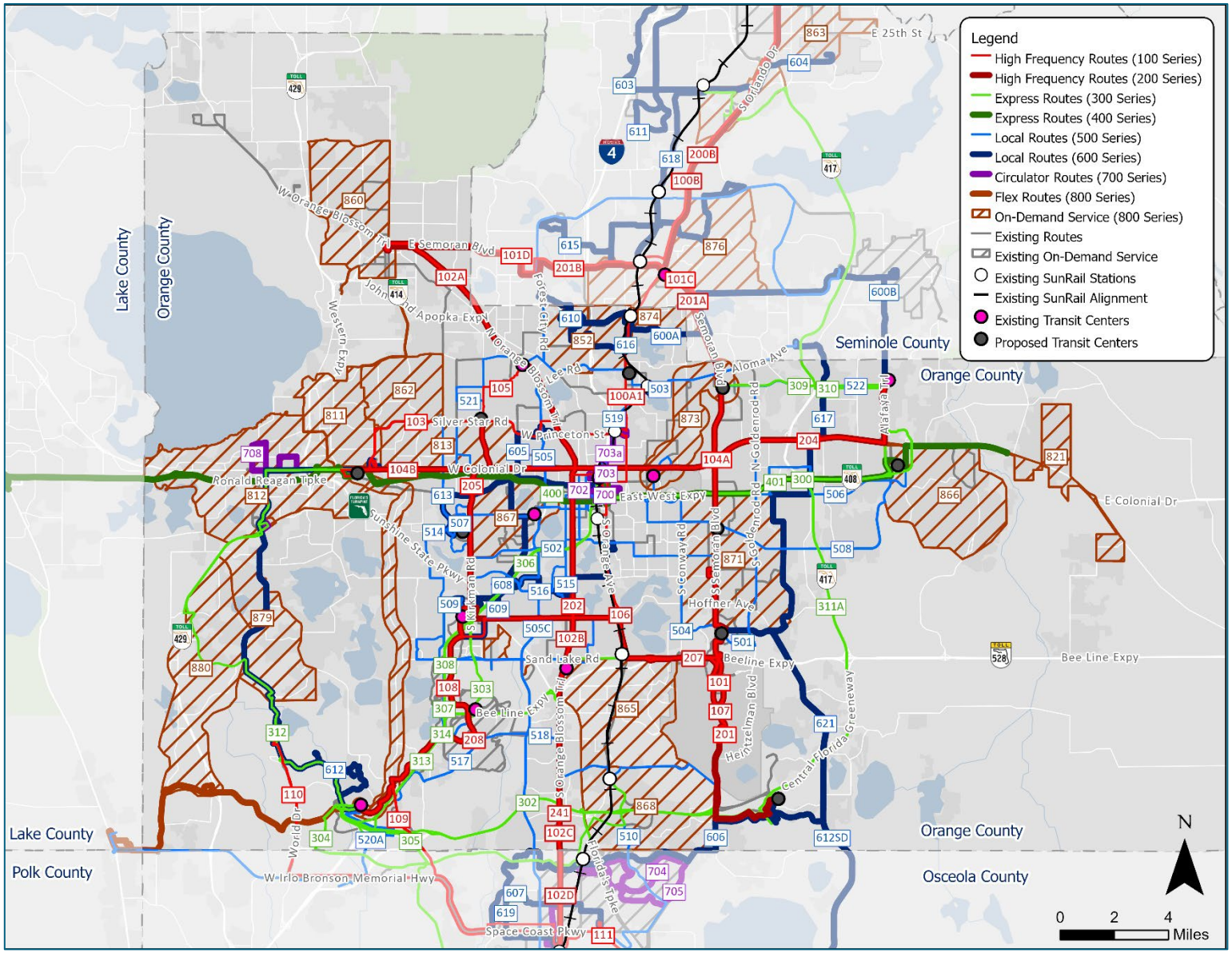


Figure 54: Orange County 20-Year Vision

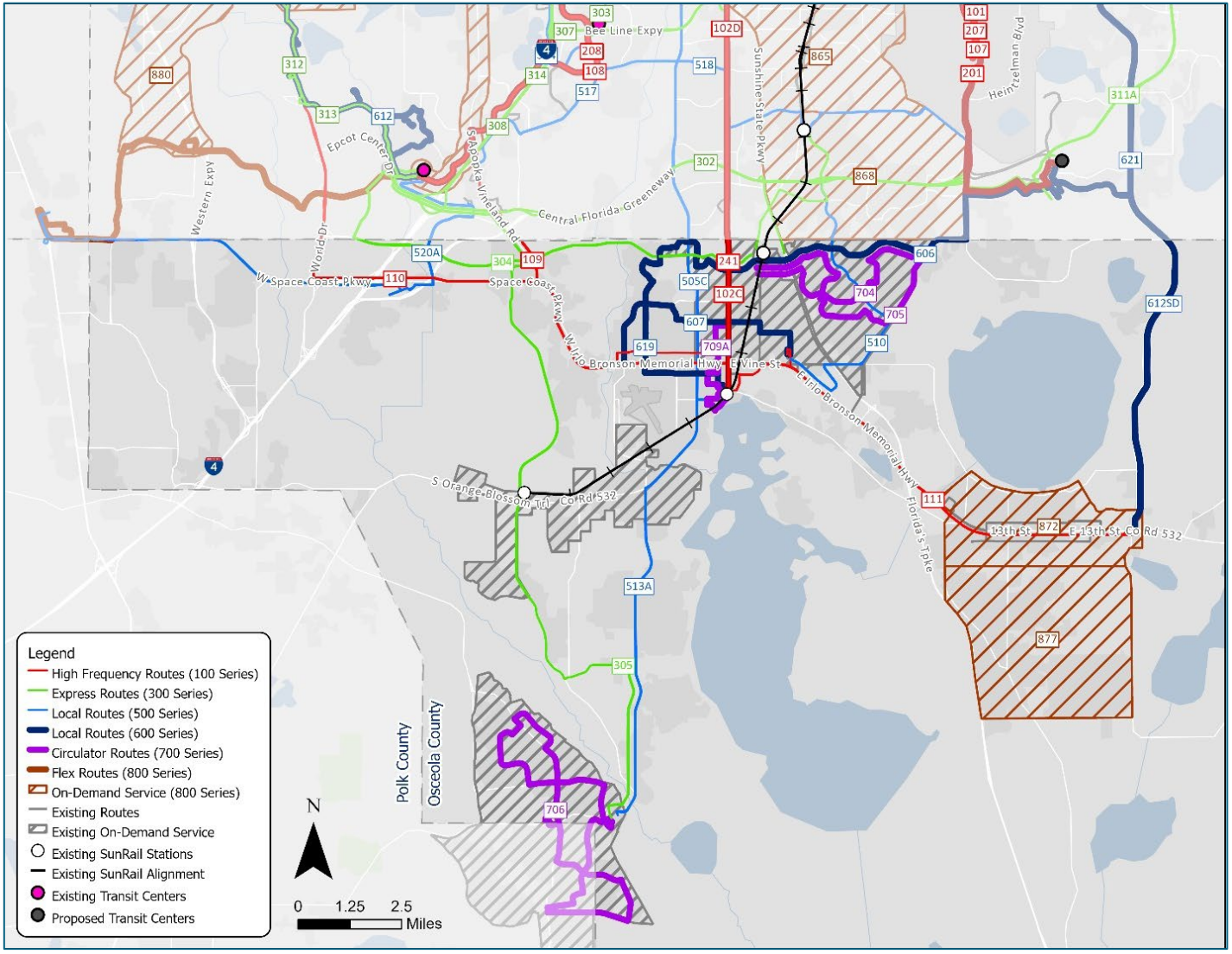


Figure 55: Osceola County 20-Year Vision

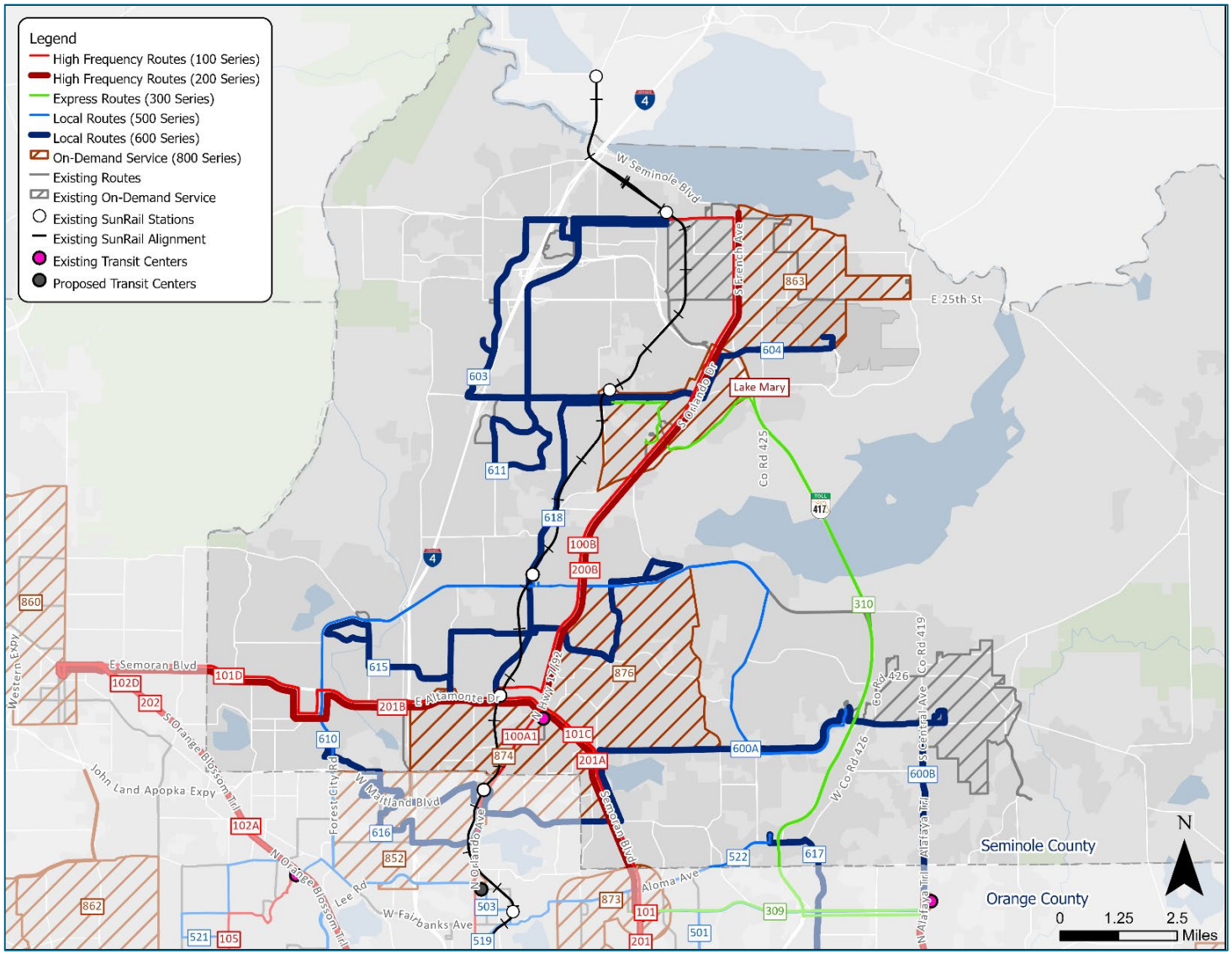


Figure 56: Seminole County 20-Year Vision

10-Year Transit Needs

The transit needs for the LYNX service area are derived from the phased implementation defined in the three County Transit Plans. The 10-year plan includes a variety of service changes, including new and replacement routes, and capital and infrastructure needs, including vehicle expansion, new or expanded transit facilities, and high-capacity corridor infrastructure.

Service Plan

The service plan for the 10-year needs is based on the new or replacement routes as indicated in Phases 1 and 2 of the Osceola and Seminole County Plans and the first five phases in the Orange County Plan. In addition, existing April 2022 routes are included that will remain within the 10-year horizon. The list of new and replacement routes are listed in Appendix F and the 10-year needs project list is included in Appendix H.

Table 55 provides a comparison of 10-year needs plan service levels as compared to existing service levels. As shown in that table, the number of routes, service miles, and service hours within each service type will increase from the current April 2022 service levels. Aligned with the priority to increase service frequency, the 100 and 200 route series increase substantially in terms of service hours and miles. The 700 and 800 series service nearly doubles in terms of hours of service, reflecting the expansion of the footprint of NeighborLink services. The entire 10-year service network is illustrated in Figure 57 and corresponding county-by-county service networks are shown in Figure 58 through Figure 61.

Table 55: 10-Year Needs Summary by Service Type

Route Series	Name	Annual Service Hours		Annual Service Miles	
		10-Year	Existing	10-Year	Existing
100/200	High Frequency Local Stop and Limited Stop Routes	877,561	150,925	11,707,399	1,855,287
300/400	Regional and Commuter Express Routes	365,468	107,509	7,351,611	2,056,612
500/600	Primary and Secondary Local Stop Routes	864,817	807,006	10,564,581	10,698,598
700/800	Community/Circulator Routes and On-Demand/Flexible Services	274,640	108,321	1,116,939	523,403
	Total	2,382,486	1,173,761	30,740,531	15,133,900

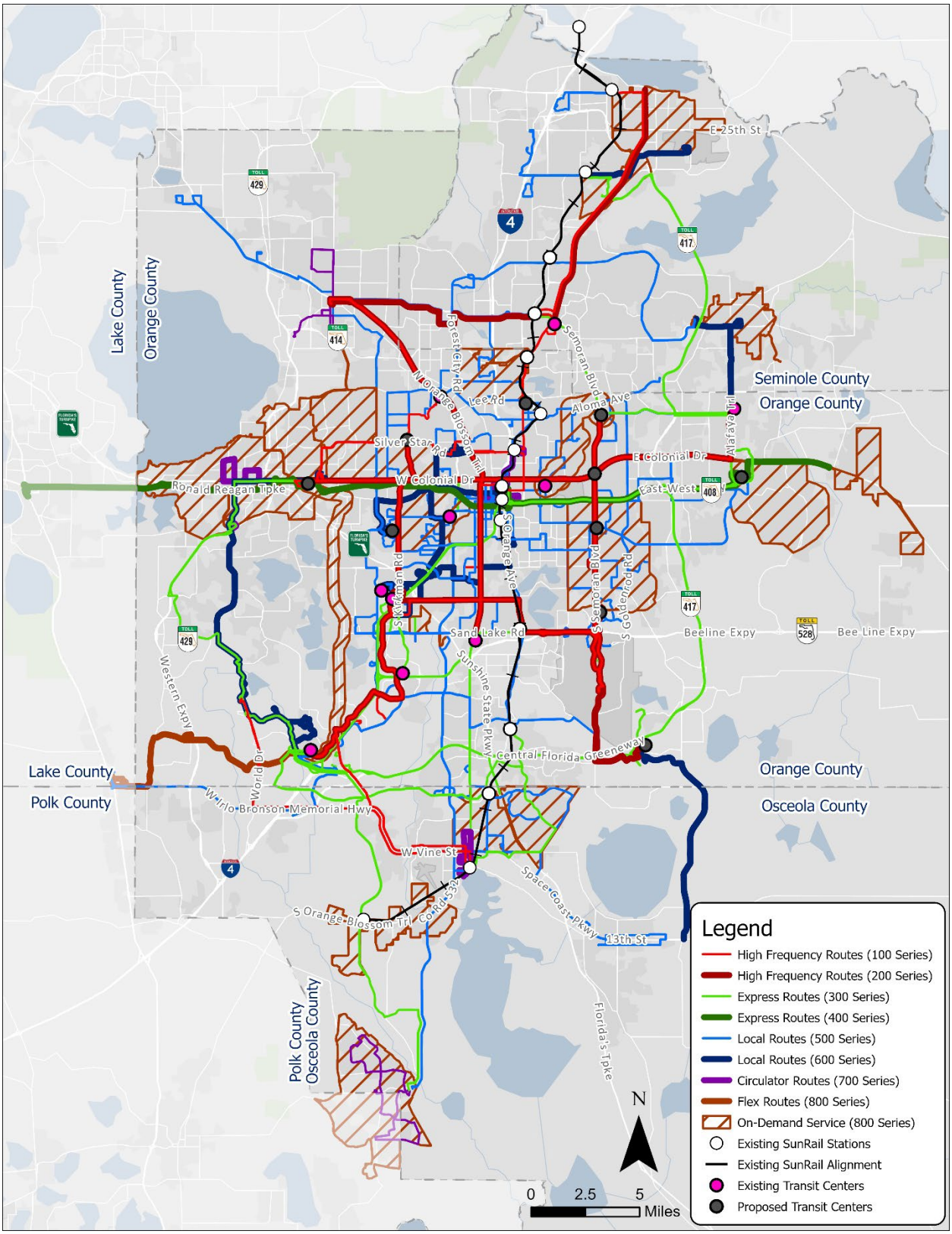


Figure 57: 10-Year Needs All Routes and Service

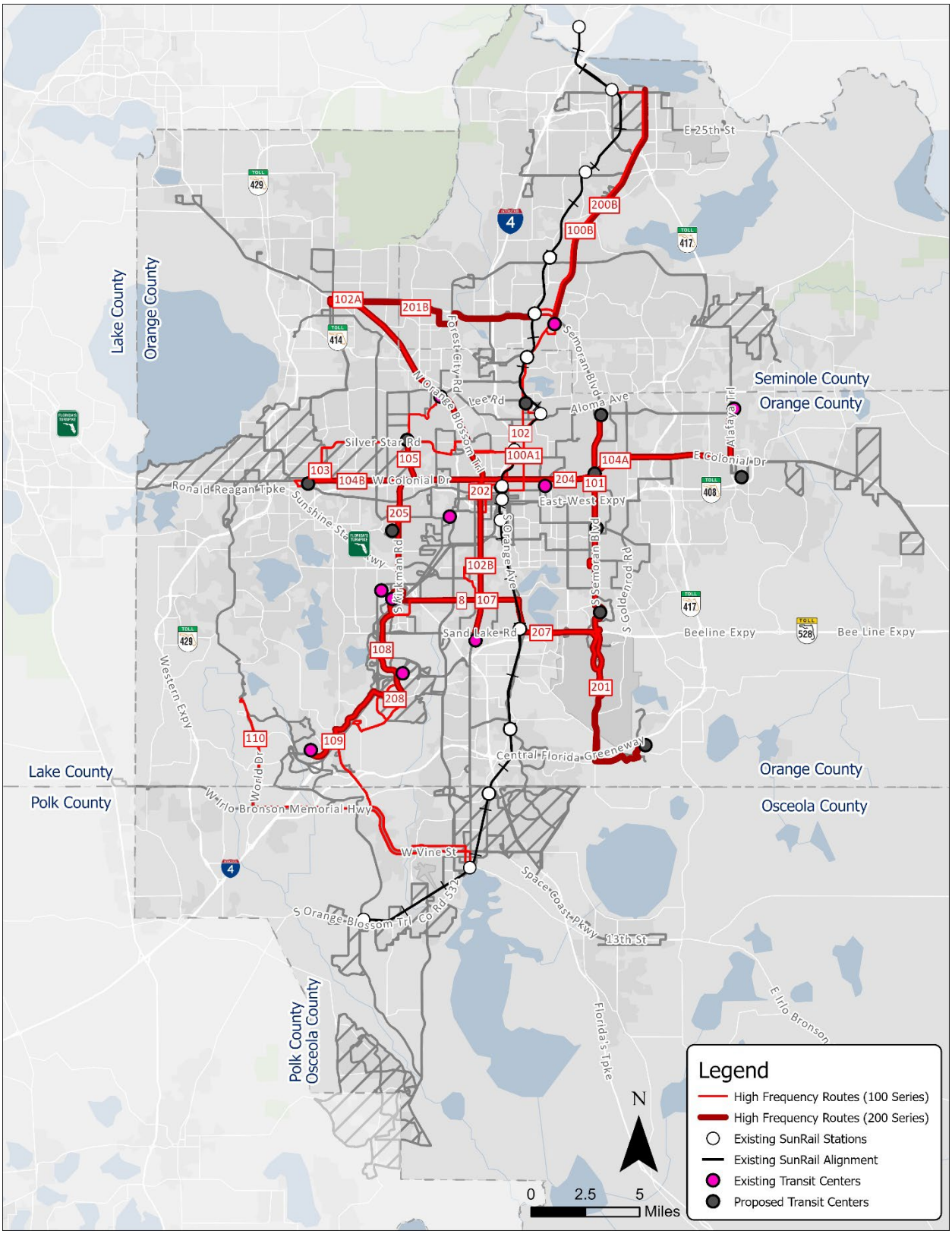


Figure 58: 10-Year Needs High Frequency Routes

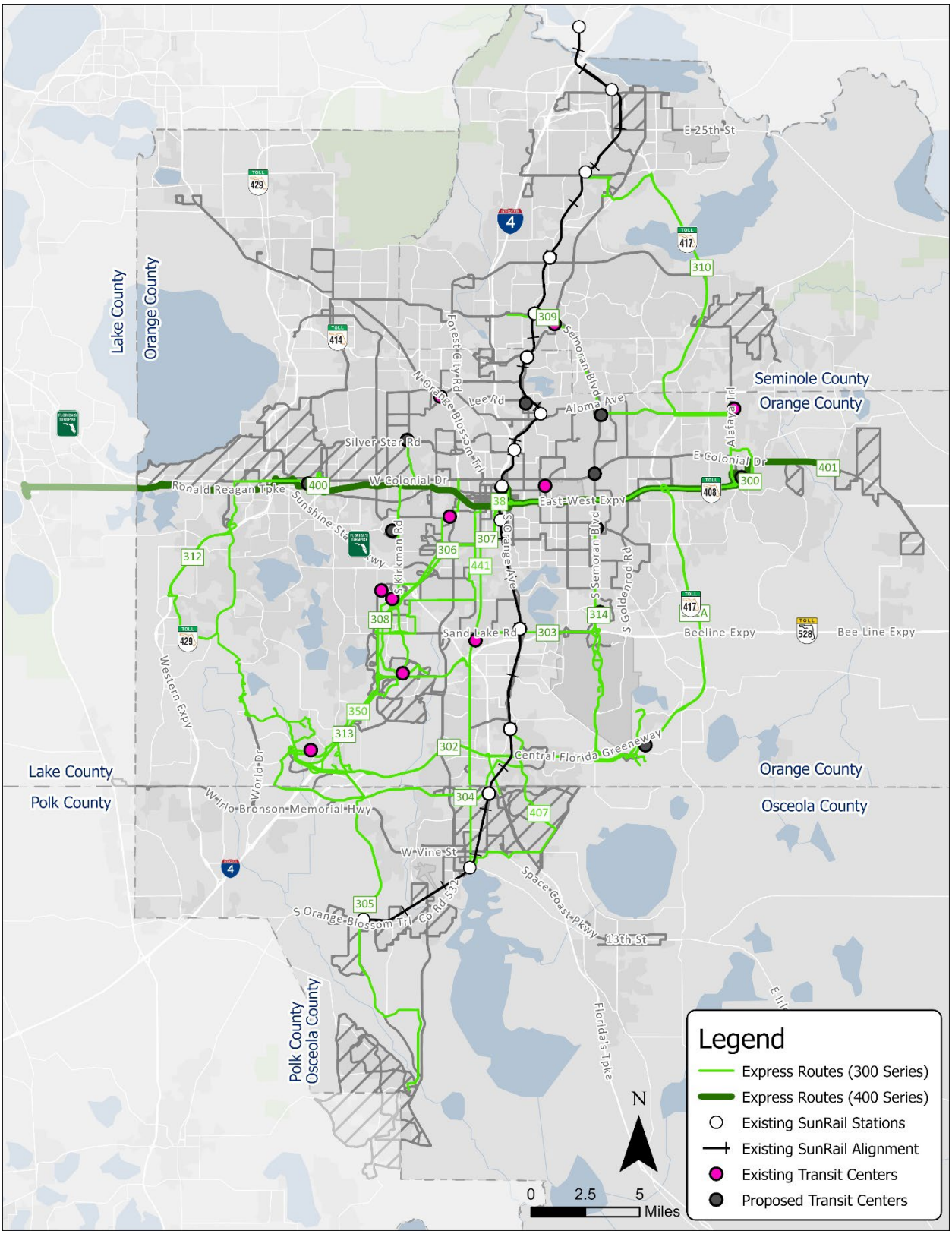


Figure 59: 10-Year Needs Express Routes

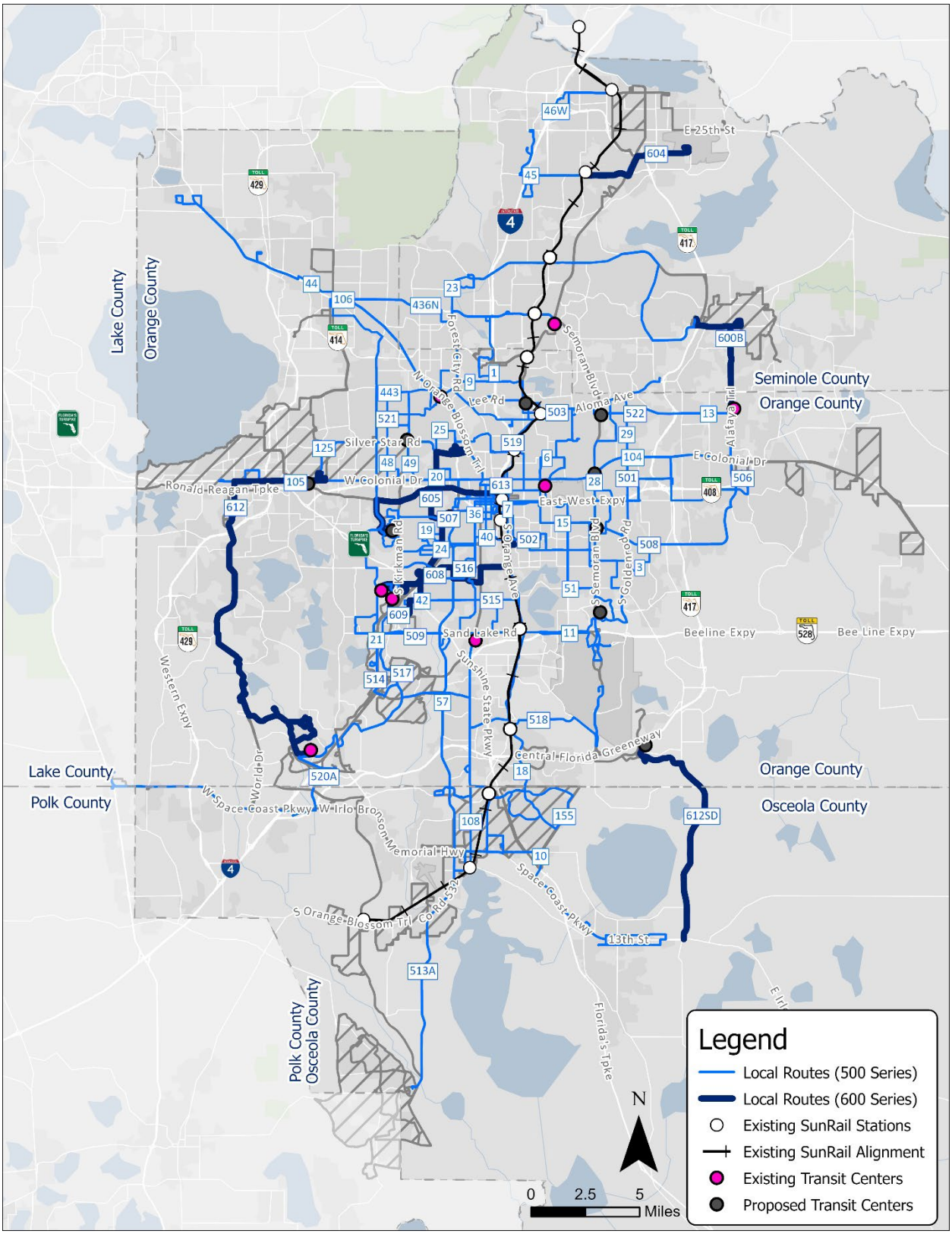


Figure 60: 10-Year Needs Local Routes

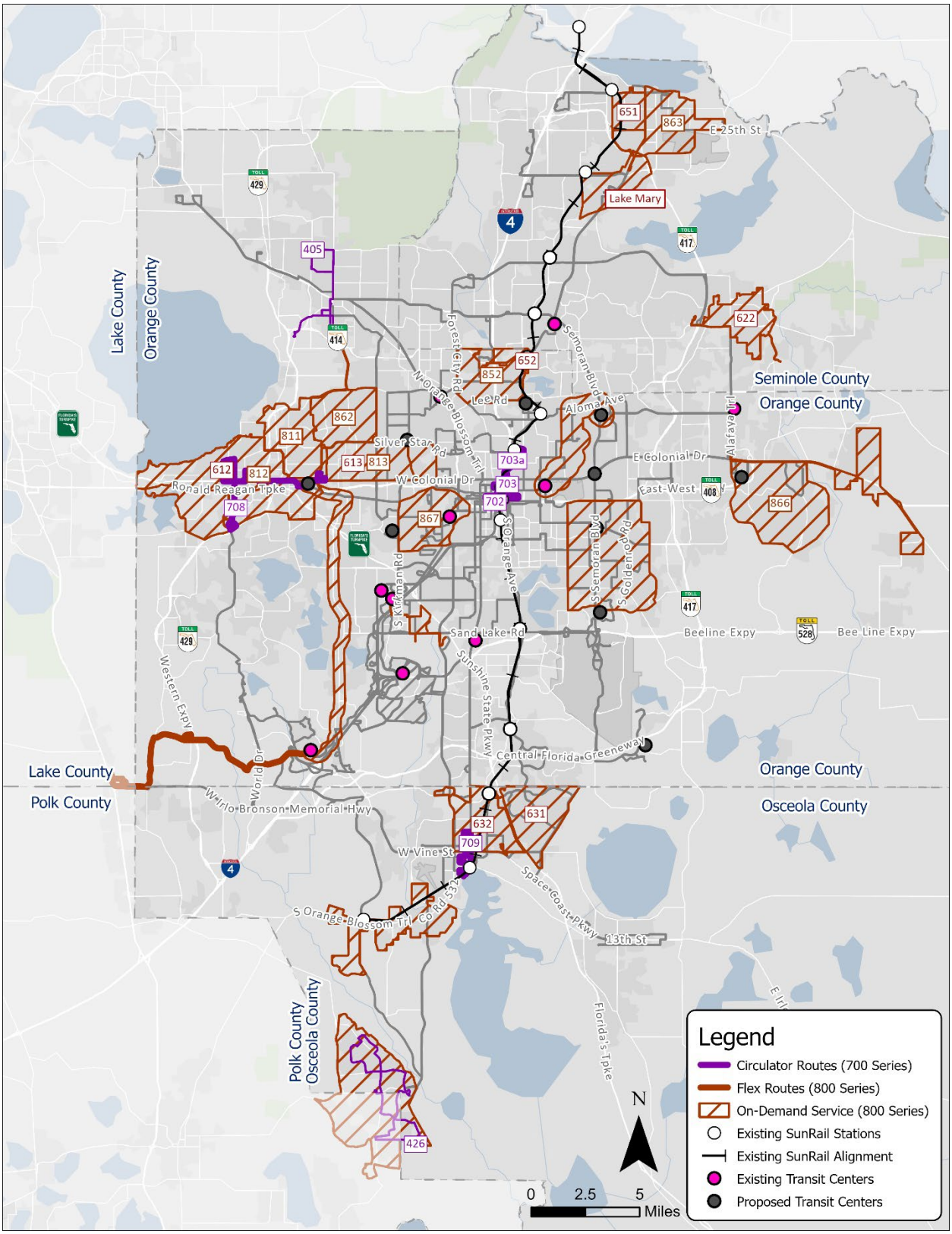


Figure 61: 10-Year Needs Circulator and On-Demand Service

Capital Improvements

A commensurate amount of capital investment will be required to support the level of service identified in the 10-year service plan. Capital improvement needs include fleet replacement and expansion, a new southern operations and maintenance facility, investment in customer amenities and facilities including new and expanded transit centers and stations. Capital also includes technology and infrastructure improvements to implement high-capacity corridors as defined in the County Transit Plans.

Three major capital improvement categories are described in this section including, transit centers, a new southern operations and maintenance facility, and high-capacity corridor infrastructure. Details on other capital needs such as fleet replacement and expansion, passenger amenities, and state of good repair investments, including associated costs, are provided in Section 8 of this report.

Transit Centers

The following list of transit centers is inclusive of new transit centers and transit center upgrades that are required to support the 10-year TDP service plan. New transit centers will serve as hubs and transfer connections for the broad set of services outlined in the service plan. The expansion of transit centers will also be required to increase passenger and bus capacity, improve customer amenities, and facilitate safe bus movement and operations given the convergence of more and different types of services as proposed in the 10-year service network.

New and Expanded Transit Centers in Orange County:

- Universal CityWalk / Parking Garage, Transfer Center
- Disney Springs, Transfer Center
- Curry Ford / S.R. 436, Transfer Center
- Full Sail, Transfer Center
- Waterford Lakes Shopping Center, Transfer Center
- OIA South Terminal, Transfer Center Expansion
- Valencia College, Transfer Center
- Meadow Woods SunRail Station, Additional Bus Bays
- Rosemont Superstop, Transfer Center Expansion
- Pine Hills Transit Center, Transfer Center Expansion
- Nemours Children's Hospital, Transfer Center
- Florida Mall, Transfer Center Expansion
- S.R. 50 / S.R. 436, Transfer Center
- SR 429/New Independence, Park and Ride
- Lee Vista/SR 436, Transfer Center
- Orlando Packing District, Transfer Center
- Colonial Plaza, SuperStop
- Maitland SunRail Station, Station and bus bays
- Orlando Health/Walmart, Transfer Center
- Sand Lake Road SunRail Station, Station and bus bays
- LYNX Central Station
- Destination Parkway, Transfer Center

New and Expanded Transit Centers in Seminole County:

- Longwood SunRail Station, Station and Bus Bays
- US 17/92 at Seminole Towne Center, Transfer Center Expansion

New and Expanded Transit Centers in Osceola County:

- Plaza Del Sol SuperStop
- Kissimmee Intermodal Station, Transit Center Expansion
- Four Corners / US 192 at Westside Blvd, Transfer Center

Southern Operations and Maintenance Facility

The existing LYNX Operations Center (LOC) is at capacity. The new service levels identified in the 10-year needs will require the development of a second operations center / maintenance facility to support fleet maintenance and other critical operational functions. A location in the southern part of LYNX's service area is necessary to meet system operational and service efficiency objectives. LYNX is currently working to identify an adequately sized site that can support the scale of new services. Site acquisition, environmental analysis, and design and construction of the new maintenance facility will have a direct impact on supporting new services and all of these activities are anticipated to be completed within the next five years.

High-Capacity Corridor Infrastructure

Eleven high-capacity and primary corridors were identified for inclusion in the 10-year service plan. As indicated earlier in this report, high capacity and primary corridor improvements are envisioned to consist of high-quality transit features including walk-up stations, community stations, enhanced facility connections and access, signal timing and coordination, transit signal priority (TSP), dedicated transit lanes, and park and ride facilities. As a result, the scale of capital infrastructure investment required to implement these projects is much larger than for other bus service identified in the service plan.

The eleven high-capacity and primary corridor projects that will require capital investment are listed below and are shown in Figure 62. These projects are consistent with short and mid-term phasing in the County Transit Needs plans that align with the 10-year planning horizon of the TDP:

Primary Corridors:

- Silver Star Road (Orlando Health to US 441)
- US 17-92 (LCS to Sanford)
- US 441 (Apopka SuperStop to LCS)
- SR 528 (Destination Parkway to OIA)
- SR 408 East/West Express (UCF to Turnpike/SR 50)
- I-Drive (Sand Lake to Universal Boulevard)

High Capacity Corridor Infrastructure:

- SR 436 (OIA to University Boulevard)
- US 441 (LCS to Florida Mall SuperStop)
- SR 50 (Ocoee to UCF)
- Kirkman Road (Pine Hills to I-Drive)
- I-Drive (Sand Lake to Sea Harbor Drive)

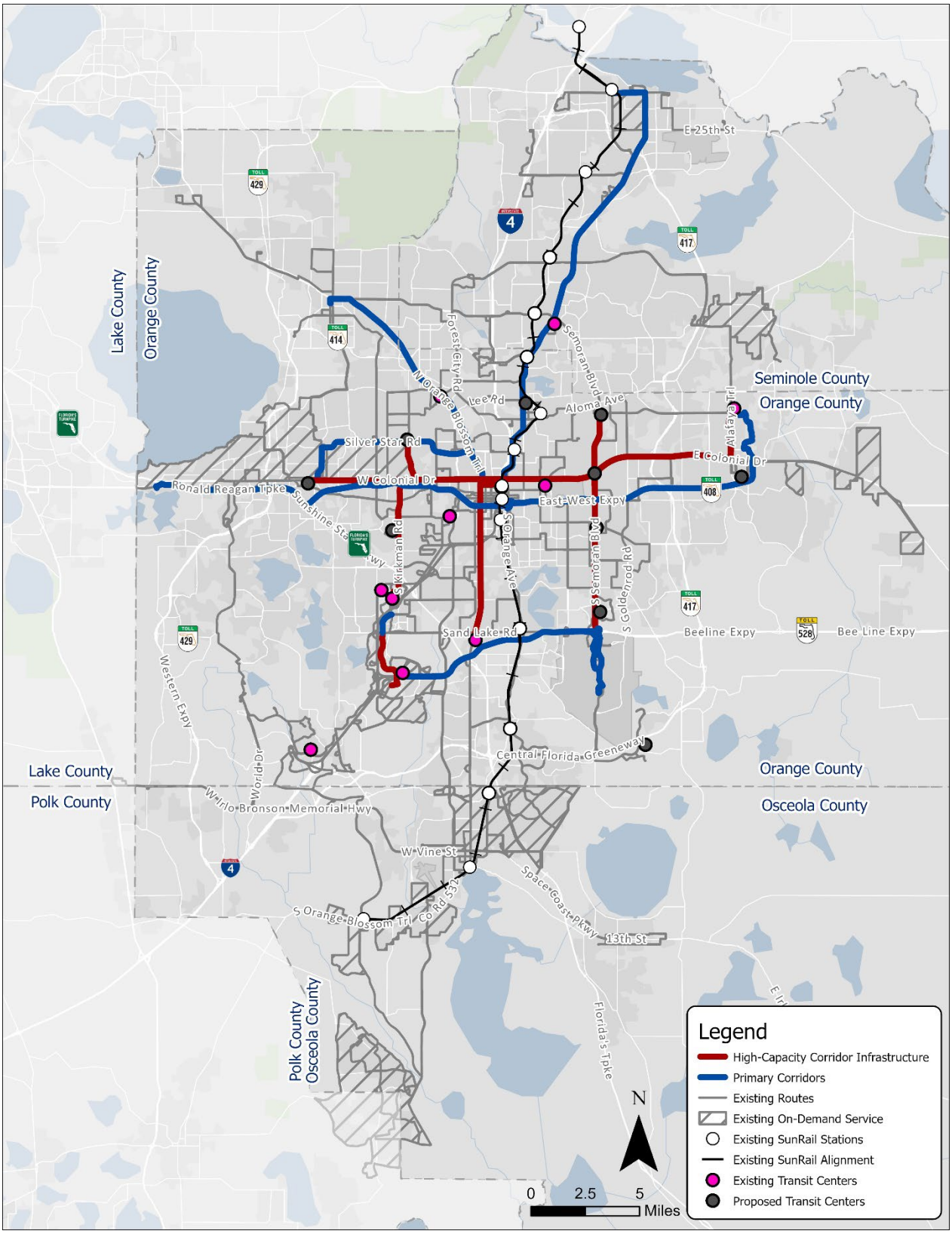


Figure 62: 10-Year High Capacity and Primary Corridors

Transportation Disadvantaged – Network Equity Analysis

The proposed 10-year network expands the LYNX fixed-route and on-demand service area across the region. An analysis of that network was performed to assess how well the new network of services expands access to transportation disadvantaged populations.

Transportation disadvantaged populations include low-income, zero-vehicle households, and senior populations, among others. A full list of populations evaluated using Census data along with the network analysis results are shown in Table 56. Figure 63 presents a visualization of the expanded service area as compared to the existing network of LYNX services. For this analysis, the service area is considered any area within a half-mile of any transit service.

Results from the equity analysis indicate that there is over a 10 percent increase in access to transit across all transit-oriented demographic groups examined. When reviewing only the general population, there is over a 16 percent increase in coverage, resulting in almost 41 percent of the population across the three-county region having access to some level of transit service. While the increase in access to employment opportunities was less significant, approximately 63 percent of job opportunities in the three-county service area would be covered by the proposed 10-year network.

As shown in Figure 63, some key areas where transit was expanded include Alafaya, Sanford, and areas north of Kissimmee, which were all identified through the previous transit propensity and gaps analyses as having the potential to support additional transit service.

Table 56: Comparison of Existing versus Proposed LYNX Network Demographics

	Current LYNX System		Proposed Network		% Population Change
	Population Total	% of Service Area Coverage	Population Total	% of Service Area Coverage	
Low Income Population	265,683	54%	286,870	58%	8%
Minority Population	618,838	48%	687,980	54%	11%
No Car Households	21,727	59%	22,539	61%	4%
Senior Population	114,769	40%	127,192	45%	11%
Youth Population	199,467	41%	229,446	47%	15%
Employment (2035)	1,053,701	35%	1,218,374	41%	16%
Population (2035)	993,546	57%	1,085,434	63%	9%

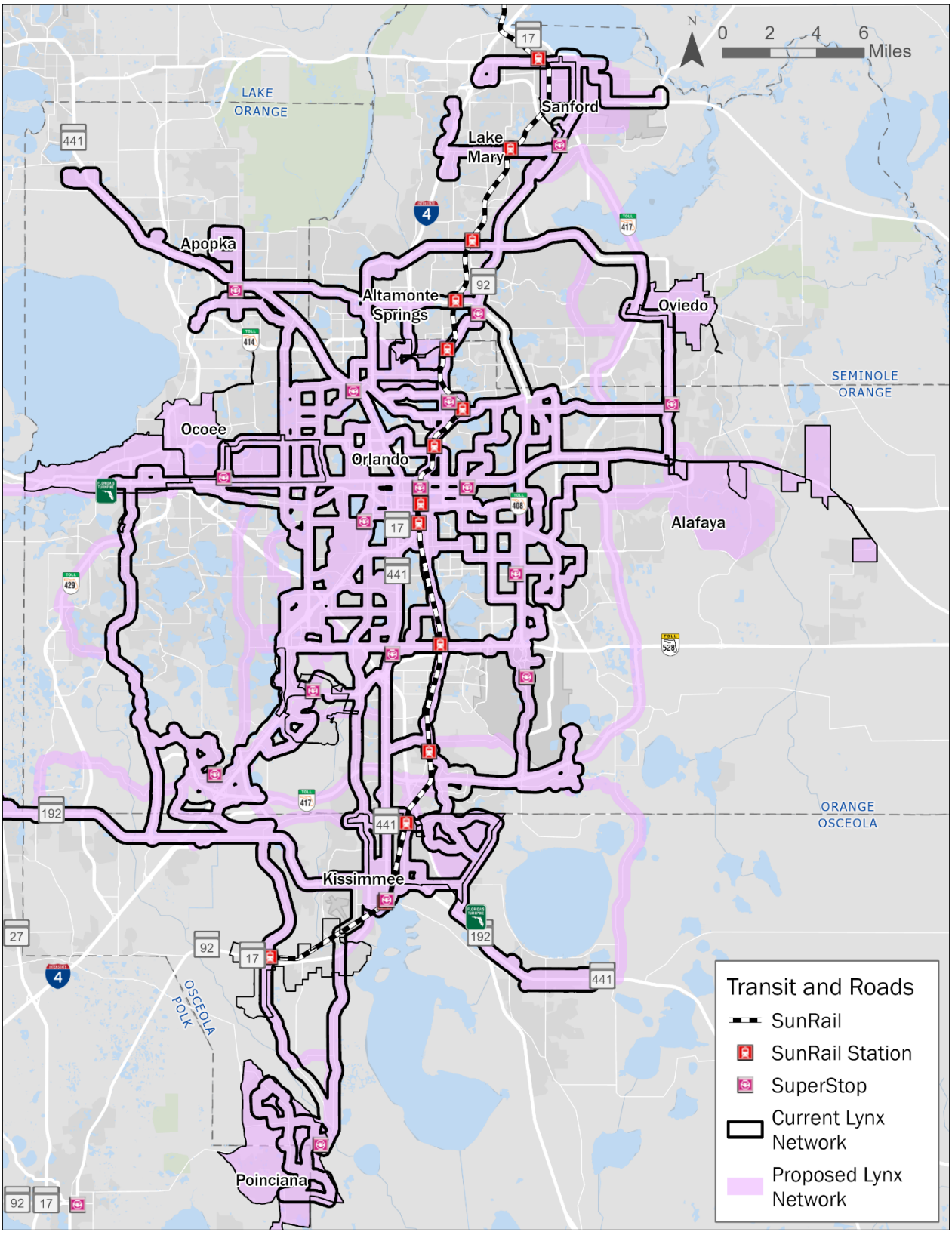


Figure 63: Comparison of Existing versus Proposed LYNX Service Area

Ridership Forecast Analysis

Ridership forecasts were prepared using the FDOT-approved transit demand forecasting tool, Transit Boardings Estimation and Simulation Tool (TBEST). TBEST is a comprehensive transit analysis and ridership-forecasting model that is capable of simulating travel demand at the individual route level. The software was designed to provide near- and mid-term forecasts of transit ridership consistent with the needs of transit operational planning and TDP development. In producing model outputs, TBEST also considers the following:

- *Transit network connectivity* – Refers to the level of connectivity between routes within the bus network. The greater the connectivity between bus routes, the more efficient the bus service becomes.
- *Spatial and temporal accessibility* – Refers to service frequency and distance between stops. The larger the physical distance between potential bus riders and bus stops, the lower the level of service utilization. Similarly, less frequent service is perceived as less reliable and, in turn, utilization decreases.
- *Time-of-day variations* – TBEST accommodates peak-period travel patterns by rewarding peak service periods with greater service utilization forecasts.
- *Route competition and route complementarities* – TBEST accounts for competition between routes. Routes connecting to the same destinations or anchor points, or that travel on common corridors, experience decreases in service utilization. Conversely, routes that are synchronized and support each other in terms of service to major destinations or transfer locations and schedule benefit from their complementary relationship.

The following section outlines the model input and assumptions used, includes a description of the TBEST scenario run performed using the model, and summarizes the ridership forecasts produced by TBEST.

Model Inputs/Assumptions and Limitation

TBEST uses various demographic and transit network data as model inputs. The inputs and the assumptions made in modeling the LYNX system in TBEST are presented below. The LYNX model utilized the TBEST 4.7 and the Land Use Model 2018 structure. For the TDP model setup, the TBEST Land Use Model 2018 was updated by adjusting the model equation constants to “fit” LYNX service area travel demand estimates with observed totals. The derived model structure was named the LYNX TBEST Model. The TBEST Land Use model is supported by parcel-level data developed from the Florida Department of Revenue (DOR) statewide tax database. The DOR parcel data contains land use designations and supporting attributes which allow the application of ITE-based trip generation rates at the parcel level as an indicator of travel activity. Although significant Saturday and Sunday service improvements were included as part of the LYNX 2032 TDP network, the TBEST model estimations for both weekend days are not included as part of this reporting. It should be noted, however, that the model is not interactive with roadway network conditions. Therefore, ridership forecasts will not show direct sensitivity to changes in the roadway traffic conditions or speeds.

- *Transit Network* – The base LYNX transit route network was created to reflect 2022 base conditions. The April 2022 LYNX fixed and express bus routes were input into TBEST using the TBEST GTFS Network Import tool. Note that significant updates were performed to the imported GTFS network within the TBEST network editing environment to correct network geometry issues derived from the GTFS. The imported routes contain all necessary model input parameters including route alignments for each unique trip path per route and direction, stop locations, stop name and description, service span,

headway, and in-vehicle travel time. Stop-level special generators were added at locations serving universities, shopping malls and Disney. Park-n-Ride locations were also coded into the TBEST network. LYNX also provided observed average daily ridership numbers as input into the TBEST model validation. SunRail is also included as part of the LYNX network.

- *Demographic Data* – The demographics used as the base input for the TBEST model are derived from Census 2010 geography and population characteristics, American Community Survey 5-year Estimates (2015-2019), Census block-level employment data provided by FDOT and 2020 parcel-level land use data from the Florida Department of Revenue. Using the data inputs above, the model captures market demand (population, demographics, employment and land use characteristics) within ¼ mile of each stop.

- *Population and Employment Growth Rates* – TBEST uses a socio-economic data growth function to project population and employment data. A population growth rate and an employment growth rate were calculated using MetroPlan 2035 TAZ-level projections. As applied, the growth rates do not reflect fluctuating economic conditions as experienced in real time.

- *TBEST Model Limitations* – According to Rule 14-73.001 Florida Administrative Code, TBEST is the FDOT-approved model for transit ridership forecasting as part of TDPs in Florida. It has long been a desire of FDOT to have a standard modeling tool for transit demand that could be standardized across the state similar to the Florida Standard Urban Transportation Model Structure (FSUTMS) model used by MPOs in developing LRTPs. However, while TBEST is an important tool for evaluating improvements to existing and future transit services, model outputs do not account for latent demand for transit that could yield significantly higher ridership, and, correspondingly, model outputs may over-estimate demand in isolated cases. In addition, TBEST cannot display sensitivities to external factors such as an improved marketing and advertising program, changes in pricing service for customers, and other local conditions.

- *NeighborLink Route Estimations* – NeighborLink ridership estimation was conducted outside of TBEST as the model framework is calibrated to simulate fixed route transit and thus does not support zone-based transit service. Appendix G contains documentation on the NeighborLink ridership estimation methodology.

Although TBEST provides ridership projections at the route and bus stop levels, its strength lies more in its ability to facilitate relative comparisons of ridership productivity. As a result, model outputs are not absolute ridership projections, but rather are comparative for evaluation in actual service implementation decisions. Consequently, it is important for the transit agency to integrate sound planning judgment and experience when interpreting TBEST results.

Using the above inputs, assumptions, and actual ridership data, the TBEST model was validated, and ridership projections were created for the following future year networks:

- 2032 No-Build Network (originating from the 2022 Base Network)
- 2032 10-Year TDP
- 2032 10-Year TDP with High-Capacity Corridor Improvements

For each scenario, the generated ridership forecasts reflect the estimated level of service utilization based on population and employment growth and proposed service changes (if implemented).

Ridership Forecasting Results

The LYNX TDP TBEST service characteristics and annualized ridership estimation results are summarized in Table 57. The report was generated using the TBEST TDP Summary Report which utilizes TDP Goal Areas to summarize multiple TDP Scenario results. The report format was developed for TDP reporting by FDOT. Per the report, estimated annual ridership increases from 15,344,800 in 2022 to 20,203,070 in the 2032 TDP 10-Year Needs Plan scenario. The 2032 TDP 10-Year Needs Plan with High-Capacity Corridor Improvements scenario generates 22,894,040 annual riders.

Table 57: LYNX 2032 TDP – Service and Performance Summary

LYNX 2032 TDP - Service and Productivity Summary					
Goal Area	Performance Measure	Scenario 1: April 2022 Base Scenario	Scenario 2: 2032 No Build Scenario	Scenario 3: TDP 10-Year Needs Plan 2032	Scenario 4: TDP 10-Year Needs Plan 2032 with High Capacity Corridor Improvements
Service Characteristics	Estimated Annual Service Miles	16,300,110	16,300,110	33,324,300	37,506,800
	Average System Speed (MPH)	14	14	15	15
	Average System Headway (minutes)	36	36	29	28
Productivity	Estimated Annual Ridership	15,344,800	16,816,210	20,203,070	22,894,040
	Boardings Per Service Mile	0.9	1	0.6	0.6
	Boardings Per Service Hour	13.3	14.6	9.1	9.4

The following sections will provide additional detail for the individual TDP scenarios including service, ridership estimations and performance indicators.

No Build Scenario

Within “no-build” scenarios, TBEST generates ridership forecasts for 10-year service horizons with respect to population and employment growth only. Service is not altered for these scenarios so that LYNX can evaluate the ridership impact of socio-economic growth upon the existing network.

Table 58 summarizes the projected number of average annual riders by route category in the 2022 Base Network and the 2032 Base No-Build Network. Table 58 also provides sub-totals for High Frequency, Primary Local, Secondary Local, Commuter Express, Regional Express, Circulator, and NeighborLink routes. In comparing the ridership potential, average weekday ridership is expected to increase 9.6 percent by 2032 with no changes to the existing transit network. NeighborLink ridership estimations were performed outside of TBEST, and the estimation methodology is summarized within Appendix G.

Table 58: 2032 Annual Base Network No Build Performance Summary

Route Grouping	2022 Annual Ridership	2032 No Build Annual Ridership	Absolute Ridership Change	Percent Change
High Frequency	2,335,302	2,517,771	182,469	7.8%
Limited Stop	933,830	1,018,574	84,744	9.1%
Regional Express	223,428	248,035	24,607	11.0%
Commuter Express	658,187	722,583	64,396	9.8%
Primary Local	6,769,732	7,395,776	626,044	9.2%
Secondary Local	3,742,941	4,149,486	406,545	10.9%
Circulator	479,837	543,148	63,311	13.2%
SunRail	201,548	220,841	19,293	9.6%
NeighborLink*	78,120	86,180	8,060	10.3%
Total	**15,422,925**	**16,902,394**	**1,479,469**	**9.6%**

**See Appendix G for NeighborLink route ridership projection methodology.*

2032 TDP 10-Year Needs Plan Scenario

TDP 10-Year Needs Plan Improvements

The TBEST 2032 TDP 10-Year Needs Plan scenario includes service improvements to increase high frequency service on core routes, expand service coverage, enhance SunRail bus connection service, incorporate limited stop service and expand LYNX express service. Under this scenario, total TBEST annual revenue miles increase by 104 percent compared with the 2022 base network. The TDP Network also features a 177 percent system increase in high frequency (30-minute headway or less) revenue miles. Table 59 summarizes this scenario's service improvements by route groupings (i.e., increase in revenue miles). Figure 64 illustrates the difference in vehicle trips by Census Block Group between the 2032 TDP 10-Year Needs Plan network and the 2022 base network for the LYNX service area. In addition to the fixed route service improvements, the TDP service plan calls for expansion of NeighborLink route coverage. NeighborLink coverage includes approximately 8.6 percent of LYNX service area residents in 2022 and 21.9 percent in 2032.

Table 59: 2032 TDP 10-Year Needs Plan Service Improvement Summary

Route Grouping	2022 Annual Revenue Miles	2032 TDP Annual Revenue Miles	Absolute Service Change	Growth Rate
High Frequency	1,692,116	3,531,533	1,839,417	108.7%
Limited Stop	992,423	7,027,929	6,035,505	608.2%
Regional Express	400,243	4,513,502	4,113,258	1027.7%
Commuter Express	1,657,520	2,960,438	1,302,918	78.6%
Primary Local	6,117,123	10,898,320	4,781,197	78.2%
Secondary Local	4,370,292	2,373,070	-1,997,221	-45.7%
Circulator	572,713	1,129,536	556,824	97.2%
SunRail	497,681	889,970	392,290	78.8%
Total	**16,300,110**	**33,324,298**	**17,024,188**	**104.4%**

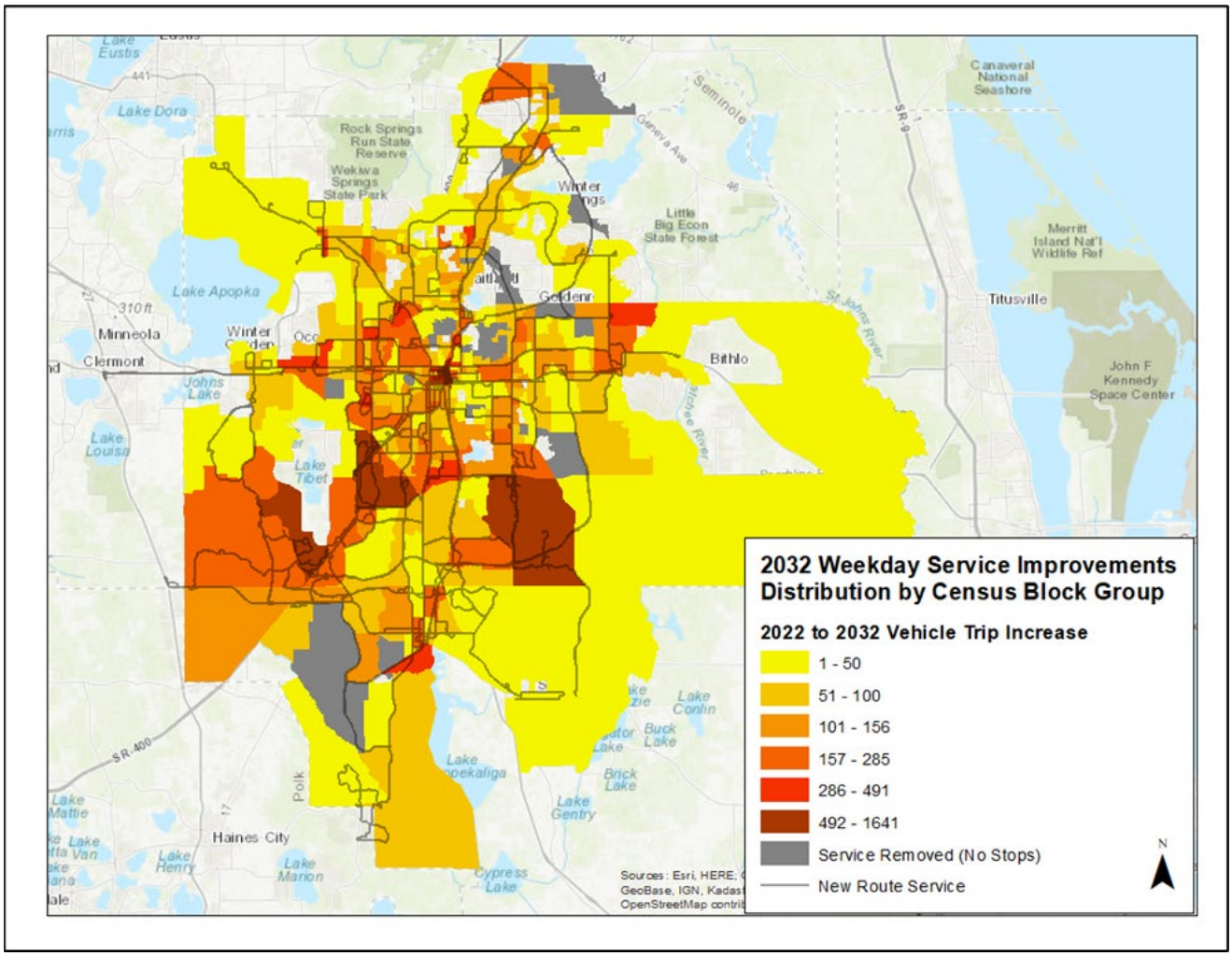


Figure 64: 2032 TDP 10—Year Needs Plan Fixed Route Weekday Service Improvement Distribution

TDP 10-Year Needs Plan Ridership Estimation

Within TBEST, ridership was projected for the proposed service improvements for the 2032 TDP 10-Year Needs Plan scenario. The results indicate that the 104 percent increase in annual revenue service miles over the 2022 base network will result in a 32.4 percent increase in annual total boardings (i.e., from 15,422,925 to 20,419,804). TBEST reporting indicates that the expected system annual performance is slightly lower in this scenario, 0.6 boardings per service mile, than in the 2032 No Build scenario, 0.9 boardings per service mile. Table 60 summarizes average annual ridership by route grouping for both the 2022 base network and the projected 2032 TDP 10-Year Needs Plan scenario.

Table 60: 2032 TDP 10-Year Needs Plan Annual Ridership Estimation Summary

Route Grouping	2022 Annual Ridership	2032 TDP Annual Ridership	Absolute Ridership Change	Percent Change
High Frequency	2,335,302	2,462,569	127,267	5.4%
Limited Stop	933,830	3,808,336	2,874,506	307.8%
Regional Express	223,428	766,293	542,865	243.0%
Commuter Express	658,187	1,071,124	412,937	62.7%
Primary Local	6,769,732	8,163,443	1,393,711	20.6%
Secondary Local	3,742,941	2,336,130	-1,406,811	-37.6%
Circulator	479,837	1,274,033	794,196	165.5%
SunRail	201,548	321,146	119,598	59.3%
NeighborLink*	78,120	216,730	138,610	177.4%
Total	**15,422,925**	**20,419,804**	**4,996,879**	**32.4%**

**See Appendix G for NeighborLink route ridership projection methodology.*

Evaluation of the TBEST network model results indicate that existing and choice riders would respond to the 104.4 percent increase in core route service, the increased regional connectivity, improved service to the Airport, and first-mile/last mile trip continuity provided by NeighborLink route coverage. The implementation of High Frequency service shows an average route productivity of 0.7 boardings per service mile as opposed to the 0.6 boardings per service mile for the full scenario. With the investment in High Frequency and Limited stop routes, ridership estimates for local routes increase by 7.1 percent with a 30.2 percent increase in service miles. Express route ridership estimates increase by 108 percent with a significant (263%) increase in service miles.

2032 TDP 10-Year Needs Plan with High-Capacity Corridor Improvements

TDP 10-Year Needs w/ High-Capacity Corridor Improvements - Service Improvements

The TBEST 2032 TDP Needs Network *with* High Capacity Corridor Improvements scenario includes service improvements to increase high frequency service on the following corridors:

1. SR 436 High-Capacity Corridor: Frequency and bus stop spacing improvements to Route 201 including: 20-minute to 15-minute headway, average stop spacing increase from 1,844 ft. to 3,939 ft. with stops served decreasing from 117 to 55.
2. US 441 – Downtown to Florida Mall High-Capacity Corridor: Frequency improvements to Route 202 including: 20-minute to 15-minute headway with no stop spacing changes.
3. Kirkman Road – Pine Hills Drive to I-Drive High-Capacity Corridor: Frequency and bus stop spacing improvements to Route 205 including: 20-minute to 15-minute headway, average stop spacing increase from 1,628 ft. to 3,882 ft. with stops served decreasing from 60 to 24.
4. SR 50 – UCF to Ocoee High-Capacity Corridor: Improved Route 204 service from 20-minute to 15-minute headway.
5. Oak Ridge – OIA to Convention Center: Improved Route 207 service from 20-minute to 15-minute headway.
6. US 192 – Kissimmee to Disney: Added Limited Stop route service with 15-minute headway.
7. SR 408 Enhanced Express Service: 5% travel time improvements to routes 300, 400, 401A and 401B

The service changes resulted in a system-wide service expansion of 130 percent. This is higher than the 104 percent expansion calculated for the TDP 10-Year Needs Plan scenario *without* High Capacity Corridor improvements. The corridor improvements (i.e., revenue miles) were added to the Limited Stop grouping which resulted in a growth of 1,029 percent relative to the 2022 base network. High Frequency routes within this scenario resulted in a service expansion of 108 percent. Table 61 summarizes increases in annual revenue miles for each route grouping in the 2032 TDP 10-Year Needs Plan *with* High-Capacity Corridor Improvements scenario. Figure 65 illustrates the distribution of new vehicle trips for that same scenario.

Table 61: 2032 10-Year TDP with High-Capacity Corridor Improvements Service Summary

Route Grouping	2022 Annual Revenue Miles	2032 TDP Annual HC Corridor Revenue Miles	Absolute Service Change	Growth Rate
High Frequency	1,692,116	3,531,533	1,839,417	108.7%
Limited Stop	992,423	11,210,433	10,218,010	1029.6%
Regional Express	400,243	4,513,502	4,113,258	1027.7%
Commuter Express	1,657,520	2,960,438	1,302,918	78.6%
Primary Local	6,117,123	10,898,320	4,781,197	78.2%
Secondary Local	4,370,292	2,373,070	-1,997,221	-45.7%
Circulator	572,713	1,129,536	556,824	97.2%
SunRail	497,681	889,970	392,290	78.8%
Total	**16,300,110**	**37,506,803**	**21,206,692**	**130.1%**

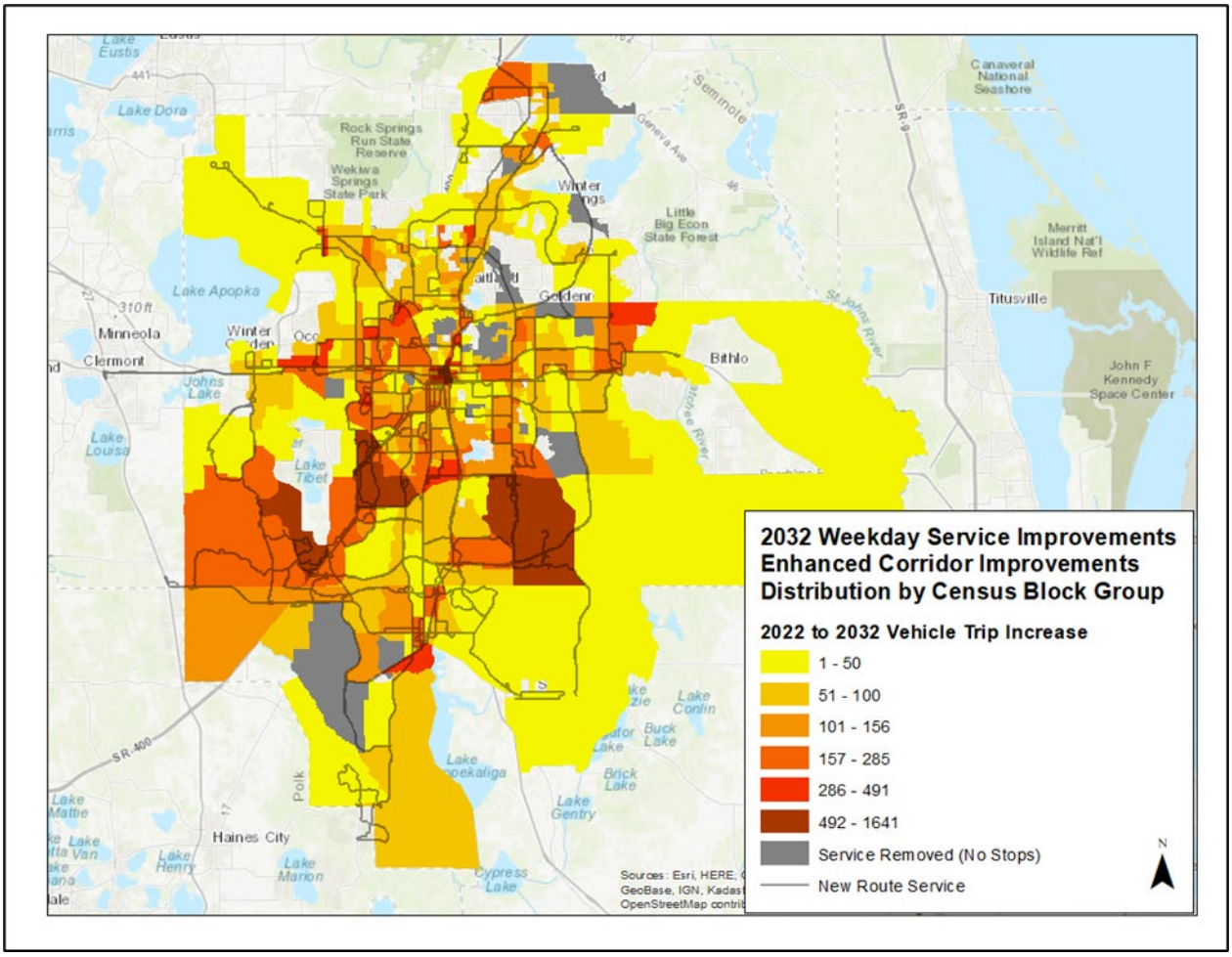


Figure 65: 2032 TDP 10-Year Needs Plan Fixed Route Service Improvement Distribution with High-Capacity Corridor Improvements

TDP 10-Year Needs w/ High-Capacity Corridor Improvements – Ridership Estimation

Within TBEST, ridership was projected for the proposed service improvements for the 2032 TDP 10-Year Needs *with* High-Capacity Corridor Improvements scenario. The results indicated that the 130 percent increase in weekday revenue service miles over the 2022 base network will result in a 49.8 percent increase in weekday total boardings (Table 62). While ridership on High Frequency and Limited Stop routes is expected to improve by 91 percent in the TDP 10-Year Needs Plan network, implementation of the High-Capacity Corridor Improvements are expected to further improve High Frequency route ridership by approximately 159 percent over the base year network. TBEST reporting indicates that the expected system performance should marginally decrease under this scenario, from 0.9 to 0.6 boardings per service mile. Table 62 summarizes the projected average annual ridership by route category for both the 2022 base network and the 2032 TDP 10-Year Needs *with* High-Capacity Corridor Improvements scenario.

Table 62: 2032 10-Year TDP with High-Capacity Corridor Improvements Ridership Estimation Summary

Route Grouping	2022 Annual Ridership	2032 TDP Enhanced Annual Ridership	Absolute Ridership Change	Percent Change
High Frequency	2,335,302	2,667,104	331,802	14.2%
Limited Stop	933,830	5,804,304	4,870,474	521.6%
Regional Express	223,428	824,158	600,730	268.9%
Commuter Express	658,187	1,093,617	435,430	66.2%
Primary Local	6,769,732	8,456,852	1,687,120	24.9%
Secondary Local	3,742,941	2,391,019	-1,351,922	-36.1%
Circulator	479,837	1,327,303	847,466	176.6%
SunRail	201,548	329,687	128,139	63.6%
NeighborLink*	78,120	216,730	138,610	177.4%
Total	**15,422,925**	**23,110,774**	**7,687,849**	**49.8%**

8. Ten-Year Financial & Implementation Plan

A finance plan was developed to help understand funded and unfunded needs. The financial plan consists of the evaluation of costs and revenues for both TDP service needs (i.e., operating) and capital needs. Understanding available funding also facilitates the development of a reasonable implementation plan for the TDP priorities. In this section, cost, revenue, and policy assumptions used to develop the TDP financial and implementation plans are presented. Expenses are then compared against projected estimates for existing revenue sources to identify the unfunded need for both operating and capital. Financial summaries and supporting charts and figures are presented to provide a visual representation and understanding of the scale of funded versus unfunded needs.

Financial Plan Assumptions

Operating Cost Assumptions

A number of assumptions were developed to forecast operating costs for the 10-year planning horizon of the TDP. The basis of those assumptions includes the three County Transit Plans, discussions with LYNX staff, historical cost information, and information from previously completed TDP Annual Updates.

- The operating cost for existing and new fixed route and on-demand service is based on revenue service hours and operating cost per hour assumptions established in the County Transit Plans.
- The FY 2023 operating cost for fixed route services is $130 per vehicle revenue hour, $130 per vehicle revenue hour for LYMMO service, and $100 per vehicle revenue hour for NeighborLink service.
- The cost for ADA and TD paratransit services is $76.06 per trip and is based on total FY 2021 paratransit trips, 530,218 trips.
- Operating costs are reflected in year of expenditure dollars using conservative cost per hour assumptions. The conservative approach to costs assumes the capture of operating cost increases over time along with consideration of recent increases in energy costs and wages.
- The Road Ranger operating cost are consistent with FY 2021 costs reported in the FY 2022 LYNX TDP Annual Update.
- Additional operating costs for the high capacity and primary corridors were based on the additional fleet requirement for each service. An operating cost factor of $346,000 per 60-foot vehicle was assumed for high-capacity service.

Capital Cost Assumptions

Similar to operating costs, reasonable assumptions were developed for projecting capital costs. Sources included the County Transit Plans, discussions with LYNX staff, and the LYNX capital investment plan.

- The FY 2023 capital costs are based on LYNX's FY 2023 to FY 2027 Capital Investment Plan (CIP) Budget. That CIP reflects a balanced budget in the first year of the plan.
- New vehicle costs are assumed to include the necessary fleet expansion for implementing the 10-year needs plan enhancements and also replace vehicles in the existing fleet that will reach their useful life within the 2032 plan horizon year. This assumes a 12-year life span for 40-foot, 60-foot, and over the road coaches, and a 5-year life span for cutaway vehicles. The vehicle unit cost assumption and the size of the total fixed-route and Neighborlink fleets are shown in Table 63.

Table 63: Vehicle Cost and Total Fleet

	Vehicle Cost (2020$)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
35 ft	$535,000	40	30	35	35	29	29	29	29	29	29
40 ft	$595,000	194	205	223	223	223	223	223	223	223	227
60 ft	$850,000	42	49	86	86	143	136	155	164	186	186
Cutaway	$275,000	19	20	20	20	22	22	35	35	35	44
OTR	$1,100,000	0	13	24	24	29	29	29	101	101	101
Total Fleet		**295**	**317**	**388**	**388**	**446**	**439**	**471**	**552**	**574**	**587**

- Of the vehicles purchased, 65 percent were assumed to be zero emission in order to meet LYNX's goal of achieving a 50 percent zero emission fleet by 2028. In 2020 dollars, an additional $400,000 per vehicle was assumed for 35-foot, 40-foot, 60-foot, and over-the-road coach buses. An additional $75,000 per cutaway vehicle was assumed.
- The annual capital costs in FY 2024 to FY 2032 for the following capital cost components are based on the needs identified in the County Transit Plans. Lump sum costs defined in those plans were divided equally across the 10-year plan horizon.
    - Paratransit Fleet Expansion and Replacement
    - Facility Improvements (Enhancements to existing facilities)
    - Passenger Amenities
    - State of Good Repair
- State of good repair expenses consist of ongoing replacement of technology and maintenance equipment, refurbishment and rehabilitation of facilities, and upgrades to safety and security systems.

- Transit Centers costs are based on the construction costs defined for each facility assumed in the first ten years of the County Transit Plans. In addition, the project development costs for the following Transit Centers were included in the TDP because they are programmed to be open in 2034, which is beyond the 10-Year TDP horizon.
  - Oviedo Mall SuperStop
  - Seminole Towne Centre SuperStop
  - NeoCity Way, SuperStop
  - US 192 at Narcoossee Road, Transfer Center
  - US 192 at Commerce Center Blvd, Transfer Center
- The Southern Operations Facility capital cost is based on LYNX's draft FY 2023 to FY 2027 CIP Budget which includes land acquisition, design/engineering, and construction costs. That cost is $97,040,000 in 2023 dollars.
- High Capacity and Primary Corridor costs are based on the project development and construction costs assumed in the County Transit Plans. The construction costs include stations, pedestrian improvements, transit signal priority, queue jump, bus only lanes or business access and transit (BAT) lanes, and other roadway improvements.
- Project development costs for Transit Centers and High-Capacity Corridors are distributed over a three or four-year period in the capital plan depending on the size and scale of each project.

Operating and Capital Revenue Assumptions

Operating and capital revenue assumptions were developed to identify and project available funding sources over the 10-year TDP implementation period. Revenue assumptions and projections are based on LYNX's draft capital investment plan and FY 2023 operating budget.

- The total operating budget for FY 2023 is $177,315,821.
- The total capital budget for FY 2023 is $102,398,400 and includes:
  - Grants applied for development of the Southern Operations Facility ($11,727,724)
  - Capital carryover funds from FY 2022 ($46,403,530)
- A total of $6.8 million in FTA Section 5307 Urbanized Area Formula funding is assumed for preventative maintenance in each year of the financial plan.
- Federal capital match and discretionary funding is assumed for several capital expense categories including high-capacity corridor infrastructure (50%), fleet purchases (80%), transit centers and major facilities (50%).
- Other Federal operating revenue consists largely of FTA Section 5310 and 5311 funding.
- Contractual services/Local revenue consists of special services and purchased transportation provided by LYNX to service area communities such as the Reedy Creek Improvement District.
- The Plan assumes continued funding through the Public Transportation Block Grant (PTBG) program.
- Revenues include recently awarded FTA Section 5339(c) Program funding for zero-emission vehicles. That funding amounts to approximately $22.5 million.

Operating Costs and Revenues

Table 64 provides a summary of the annual operating statistics and costs, in 2023 dollars, for the fixed route and NeighborLink service in the 10-year TDP implementation plan. In addition to the costs shown in Table 64, LYNX annual operating costs include paratransit service and Road Rangers expenses and those expenses are reflected in the operating summary in Table 66.

Table 64: 10-Year TDP Fixed Route and NeighborLink Annual Summary

Service Plan	# of Routes	Annual Service Hours	Annual Operating Cost (2023$)	Total Fleet Size
Existing Services	79	1,173,700	$151.2 M	295
10-Year TDP Needs Plan	104	2,412,700	$305.6 M	587

As shown in Figure 66, operating costs would be funded by a mix of revenue from local, state, and federal sources. Currently, local funding makes up the majority of operating revenue, approximately 82 percent. This is significant in that LYNX uses all available local funds to leverage state and federal operating assistance. State and federal operating assistance makes up about 18 percent of total revenues.

Based on the 10-Year needs, there is approximately $1.1 billion of unfunded operating needs. That level of need is due to the increase in services and service levels over the 10-year TDP horizon. The annual increase in operating costs that exceed annual operating revenue is shown in Figure 67. In addition, Figure 67 highlights that revenues do not keep pace with increasing costs over time and that the unfunded need is further pronounced with the addition of new and enhanced services.

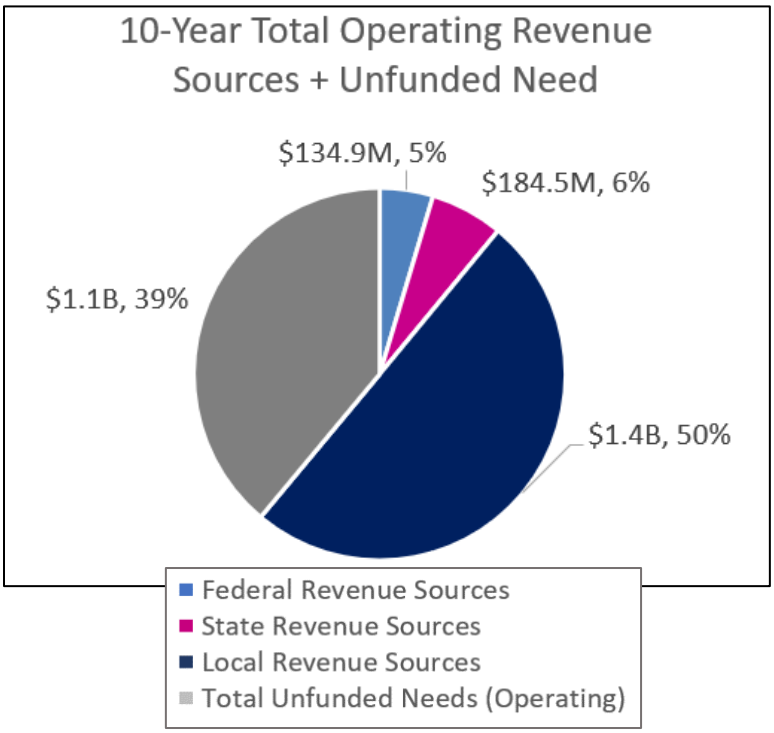


Figure 66: 10-Year Operating Revenue Sources

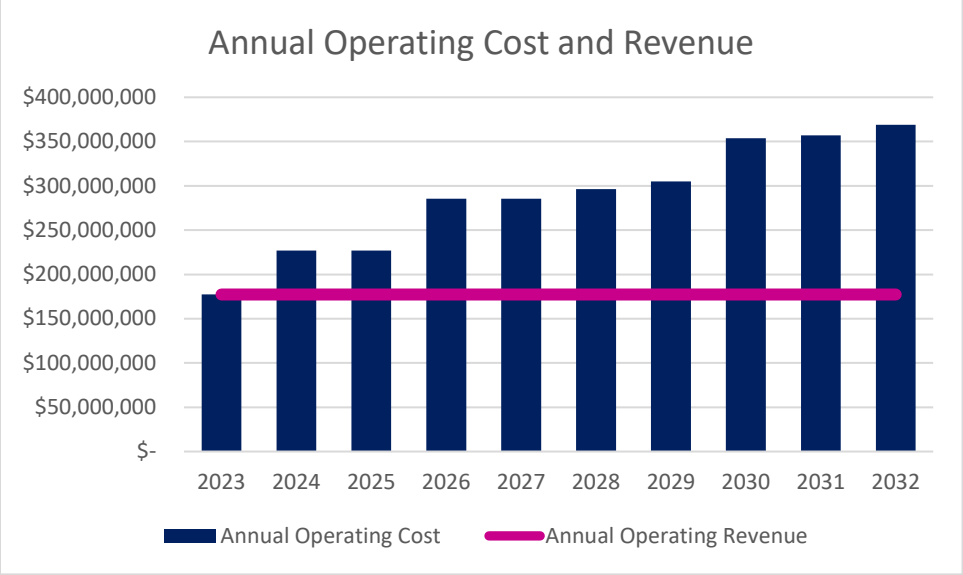


Figure 67: Annual Operating Cost and Revenue from FY 2023 to FY 2032

Capital Costs and Revenues

Estimated total capital costs for the 10-year needs are approximately $2.2 billion, as shown in Table 65. Based on the capital revenue projected over the 10 years shown in Table 66, the capital program unfunded need is approximately $1.16 billion. Increases in capital expenses in FY 2024 and FY 2025 can be attributed to development of the southern operations and maintenance facility. In later years, much of the year-to-year cost differential can be attributed to fleet replacement and development of high-capacity corridor infrastructure. These expenses are consistent with the largest capital expense categories shown in Table 65.

Table 65: 10-Year TDP Capital Costs (YOE)

	2023 to 2027	2028 to 2032	10-Year Total
Facility Improvements	$228,700,000	$272,800,000	$501,500,000
Replacement Fleet	$134,300,000	$45,300,000	$179,600,000
Expansion Fleet	$197,800,000	$191,800,000	$389,600,000
Passenger Amenities	$31,800,000	$16,800,000	$48,600,000
New Transit Centers	$72,000,000	$32,000,000	$104,000,000
New Southern Operations Facility	$97,000,000	$-	$97,000,000
High Capacity & Primary Corridors	$270,400,000	$408,200,000	$678,600,000
Paratransit Fleet	$33,300,000	$37,800,000	$71,100,000
State of Good Repair	$67,700,000	$75,200,000	$142,900,000
Total	**$1,133,000,000**	**$1,079,900,000**	**$2,212,900,000**

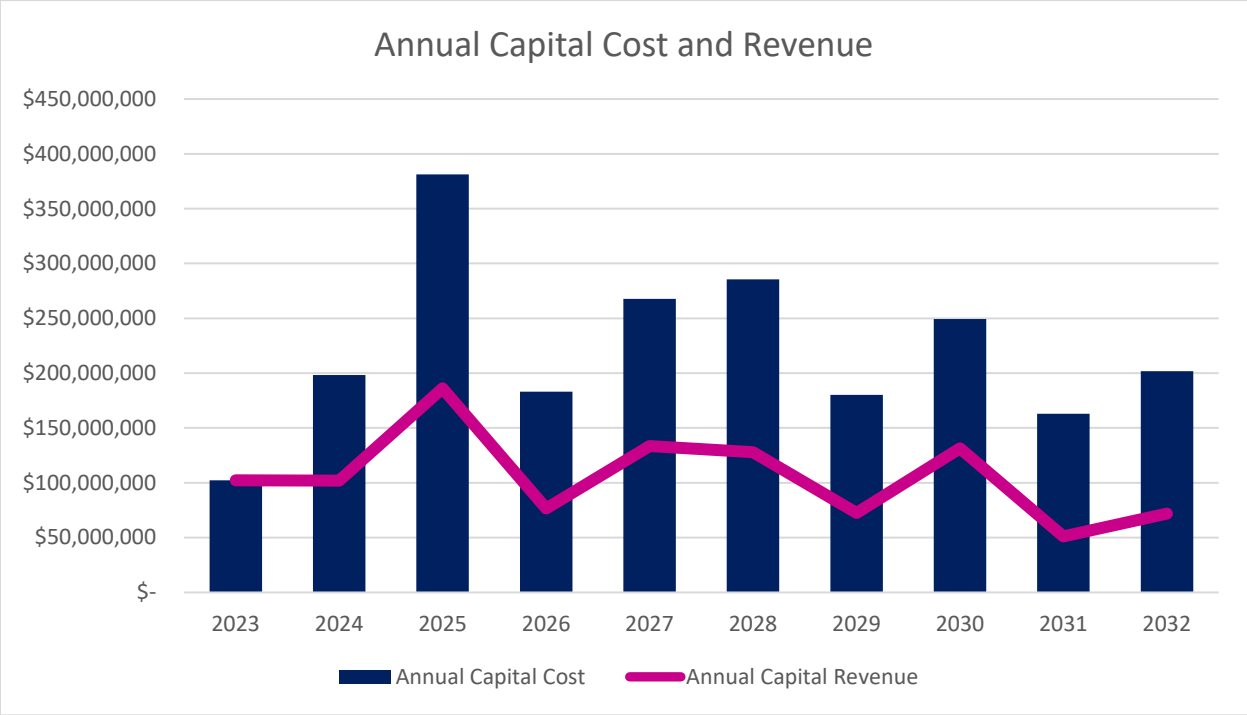


Figure 68: Annual Capital Cost and Revenue from FY 2023 to FY 2032

10-Year Cost/Revenue Summary

Table 66 and Table 67 summarize the annual operating and capital costs and supporting revenues for the Plan, respectively. As shown, the Plan would cost $2.9 billion to operate and includes another $2.2 billion in capital costs. The operating costs would be funded with a mix of local, state, and federal sources and fare-based revenues generated by existing and added transit services. The operating plan shows a balanced budget in the first year, FY 2023. The capital plan reflects a 10-year revenue estimate of $1.1 billion, resulting in unfunded needs in the amount of $1.16 billion.

Table 66: 10-Year TDP Financial Plan Operating Cost and Revenue Summary

Operating Cost											
Fiscal Year	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**Total**
Existing Service											
Fixed Route	$133,288,365	$135,663,992	$135,663,992	$113,806,749	$113,806,749	$85,471,410	$85,471,410	$51,534,810	$51,534,810	$29,887,797	$936,130,084
On-Demand (NeighborLink)	$2,177,659	$4,074,400	$4,074,400	$3,644,600	$3,644,600	$3,644,600	$3,644,600	$1,875,900	$1,875,900	$1,875,900	$30,532,559
Paratransit (ACCESS LYNX)	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$40,328,381	$403,283,811
Other (Road Rangers)	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$1,521,416	$15,214,159
Proposed New Service											
Fixed Route	$0	$42,323,006	$42,323,006	$116,382,056	$116,382,056	$153,320,906	$153,320,906	$232,745,186	$232,745,186	$266,099,286	$1,355,641,592
On-Demand (NeighborLink)	$0	$2,998,800	$2,998,800	$5,997,600	$5,997,600	$8,246,700	$8,246,700	$13,494,600	$13,494,600	$13,494,600	$74,970,000
High Capacity	$0	$0	$0	$3,806,000	$3,806,000	$3,806,000	$12,456,000	$12,456,000	$15,570,000	$15,570,000	$67,470,000
Annual Operating Cost	**$177,315,821**	**$226,909,994**	**$226,909,994**	**$285,486,802**	**$285,486,802**	**$296,339,413**	**$304,989,413**	**$353,956,293**	**$357,070,293**	**$368,777,380**	**$2,883,242,205**
Operating Revenue											
Federal Revenue Sources											
5307 (Preventative Maintenance)	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$6,800,000	$68,000,000
Other Federal Revenue	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$6,689,445	$66,894,450
State Revenue Sources											
TD Commission (T&E Grant)	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$3,912,213	$39,122,130
PTBG and Road Ranger	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$14,536,165	$145,361,650
Local Revenue Sources											
Contract Services/Local Revenue	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$10,828,973	$108,289,730
Customer Revenue	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$18,367,662	$183,676,620
Advertising	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$2,505,000	$25,050,000
Interest and Income	$980,000	$980,000	$980,000	$980,000	$980,000	$980,000	$980,000	$980,000	$980,000	$980,000	$9,800,000
Local Rev Funding Partners	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$112,696,363	$1,126,963,630
Annual Operating Revenue	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$177,315,821**	**$1,773,158,210**
Total Unfunded Needs (Operating)	**$-**	**$(49,594,173)**	**$(49,594,173)**	**$(108,170,981)**	**$(108,170,981)**	**$(119,023,592)**	**$(127,673,592)**	**$(176,640,472)**	**$(179,754,472)**	**$(191,461,559)**	**$(1,110,083,995)**
Rollover Balance	**$-**	**$(49,594,173)**	**$(99,188,347)**	**$(207,359,328)**	**$(315,530,309)**	**$(434,553,901)**	**$(562,227,492)**	**$(738,867,964)**	**$(918,622,436)**	**$(1,110,083,995)**	

Table 67: 10-Year TDP Financial Plan Capital Cost and Revenue Summary

Capital Cost											
Fiscal Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Vehicles											
Bus Fleet Replacement and Expansion	$46,023,042	$48,695,000	$137,255,000	$27,020,000	$72,980,000	$33,900,000	$36,350,000	$108,050,000	$24,300,000	$34,450,000	$569,023,042
Paratransit Fleet Expansion and Replacement	$3,000,000	$7,566,000	$7,566,000	$7,566,000	$7,566,000	$7,566,000	$7,566,000	$7,566,000	$7,566,000	$7,566,000	$71,094,000
Facility Improvements											
Facility Improvements	$10,450,099	$54,550,000	$54,550,000	$54,550,000	$54,550,000	$54,550,000	$54,550,000	$54,550,000	$54,550,000	$54,550,000	$501,400,099
Transit Centers (County Transit Plans)	$-	$17,500,000	$35,000,000	$6,500,000	$13,000,000	$6,083,333	$13,433,333	$4,200,000	$3,333,333	$4,966,667	$104,016,667
South County Bus Garage	$17,040,000	$20,000,000	$60,000,000								$97,040,000
Passenger Amenities	$18,374,551	$3,350,000	$3,350,000	$3,350,000	$3,350,000	$3,350,000	$3,350,000	$3,350,000	$3,350,000	$3,350,000	$48,524,551
Support Equipment	$2,797,949										$2,797,949
Technology	$1,908,660										$1,908,660
Security	$1,564,000										$1,564,000
LYMMO	$1,240,099										$1,240,099
High Capacity & Primary Corridors	$-	$31,550,000	$68,470,000	$69,140,000	$101,270,000	$165,100,000	$49,930,000	$56,540,000	$54,750,000	$81,900,000	$678,650,000
State of Good Repair (County Transit Plans)	$-	$15,040,000	$15,040,000	$15,040,000	$15,040,000	$15,040,000	$15,040,000	$15,040,000	$15,040,000	$15,040,000	$135,360,000
Annual Capital Cost	**$102,398,400**	**$198,251,000**	**$381,231,000**	**$183,166,000**	**$267,756,000**	**$285,589,333**	**$180,219,333**	**$249,296,000**	**$162,889,333**	**$201,822,667**	**$2,212,619,067**

Table 67 (Continued): 10-Year TDP Financial Plan Capital Cost and Revenue Summary

Capital Revenue											
Fiscal Year	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**Total**
Federal Revenue Sources											
5307	$22,721,556	$22,295,000	$22,295,000	$22,295,000	$22,295,000	$22,295,000	$22,295,000	$22,295,000	$22,295,000	$22,295,000	$223,376,556
5310	$1,989,000	$1,950,000	$1,950,000	$1,950,000	$1,950,000	$1,950,000	$1,950,000	$1,950,000	$1,950,000	$1,950,000	$19,539,000
STP Transfer	$2,900,000	$19,600,000									$22,500,000
5339 Low-No Emission Grant Awards	$7,689,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000	$70,689,000
SGR LYMMO Funds	$154,000	$486,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$2,240,000
Other Federal Funding (Capital Match Funds and Discretionary Programs)	$-	$39,513,800	$149,921,800	$40,293,800	$97,326,800	$91,619,467	$36,219,467	$95,167,800	$14,899,467	$35,821,133	$600,783,533
State Revenue Sources											
FDOT Anticipated Grant for Pine Hills Building	$500,000										$500,000.00
State Resiliency Grant	$1,300,000										$1,300,000
Road Ranger Specific	$143,590	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$1,583,590
FDOT Sub – Recipient Funding		$1,000,002	$1,000,002	$1,000,002	$1,000,002	$1,000,002	$1,000,002	$1,000,002	$1,000,002	$1,000,002	$9,000,018
Local Revenue Sources											
Local Partner Capital Funding	$1,450,000	$3,627,495	$3,627,495	$3,627,495	$3,627,495	$3,627,495	$3,627,495	$3,627,495	$3,627,495	$3,627,495	$34,097,455
Other Local Funding	$2,720,000										$2,720,000
Other Revenue Sources											
VW Settlement Funds	$2,700,000	$6,300,000									$9,000,000
Infrastructure/Other South Ops Base Grants	$11,862,724										$11,862,724
Carryover from 2022	$46,403,530										$46,403,530
Annual Capital Revenue	**$102,398,400**	**$101,932,297**	**$186,154,297**	**$76,526,297**	**$133,559,297**	**$127,851,964**	**$72,451,964**	**$131,400,297**	**$51,131,964**	**$72,053,630**	**$1,055,460,406**
Total Unfunded Needs (Capital)	**$-**	**$(96,318,703)**	**$(195,076,703)**	**$(106,639,703)**	**$(134,196,703)**	**$(157,737,370)**	**$(107,767,370)**	**$(117,895,703)**	**$(111,757,370)**	**$(129,769,036)**	**$(1,157,158,660)**
Rollover Balance	**$-**	**$(96,318,703)**	**$(291,395,406)**	**$(398,035,109)**	**$(532,231,812)**	**$(689,969,182)**	**$(797,736,551)**	**$(915,632,254)**	**(1,027,389,624)**	**$(1,157,158,660)**	