



2045

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# 2045

## Metropolitan Transportation Plan

Technical Series #11  
Regional Transit Needs Assessment

Adopted: 12/09/2020

# What is in this document?

This technical series document identifies transit needs and outlines a path to fulfilling the region's transit vision within the 2045 Metropolitan Transportation Plan (referred to as the 2045 Plan or MTP in this document). The MetroPlan Orlando region contains Orange, Osceola, and Seminole counties.

This document includes an overview of the existing transit services in Central Florida, from LYNX to SunRail and others. Key issues impacting public transportation are explored, with a summary of land use policies and best practices. Also listed are transit projects that would help fulfill the region's transit vision, with cost estimates for each phase.

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# Introduction

Our region is rapidly growing and continues to urbanize, making transit an important transportation solution for the region. Transit is a key element of the 2045 Plan to equip the region to handle the increasing demands of a growing population and new development. To better understand the region's transit needs, a thoughtful approach and thorough process was followed in order to reflect public input, previous planning efforts, and emerging transit service areas.

The Regional Transit Needs Assessment is focused on a time horizon of 10 to 15 years, seeking to align planning funds with policy objectives. The list of transit needs is longer than what our region can currently afford. Investment and innovative partnerships will be needed to deliver the region's vision for fast, frequent, well-connected, and reliable transit service.

## Approach

Public participation is critical and frames the entire Metropolitan Transportation Plan (MTP) transit strategy. Input collected from across the region sent a clear message: the region wants and needs more frequent transit service that takes them to more places (see *Public Participation Report* for details on public feedback). The process to identify Transit Needs is informed by this public input, supplemented by review of existing transit planning documents and previous studies. Areas for potential new transit service were identified through the 2045 Plan model, which identified areas of need that reflect the 2045 Plan's goals and objectives.

## Process

The process to develop the 2045 Plan's Transit Needs included five steps, outlined below:

**Identify Key Issues and Existing Initiatives** - This first step included utilizing feedback gained through public participation, reviewing planning documents, and analyzing transit-supportive land use policies. Several key issues were explored, including funding, serving diverse populations and needs, integrating with other mobility options and regional connections, alternative fuels and vehicle types, and the implications of Scenario Planning. Transit continues to be at the center of the conversation of many social issues, including affordable housing, congestion management, and the health impacts of transportation choices. These additional topics were also examined.

**Develop Solutions** - Through review of best practices to develop an evidence base, potential solutions were outlined for various issues, such as more frequent service, faster and more direct service, different vehicle types, and other infrastructure solutions like dedicated lanes and bus shelters.

**Identify and Prioritize Projects and Programs** - Priorities were identified through exploring feasible solutions and developing cost estimates for the various projects and programs.

**Develop Implementation Timeline** - Considering financial resources are available in five-year bands, a timeline was developed to guide implementation of the prioritized projects and programs.

**Identify and Analyze Strategies and Policies** - Special attention was paid to existing policies and project delivery methods to identify gaps and new approaches to successfully implement the region's transit vision.



# Transit Service in Central Florida

The Central Florida Regional Transportation Authority (d/b/a LYNX) is the primary public transit system in the MetroPlan Orlando region. Regional commuter rail service is provided by SunRail, currently operated by the Florida Department of Transportation. Local circulators are operated by the City of Sanford's Community Redevelopment Agency (CRA) and the I-Drive Business Improvement District in their respective areas. Private transit service also operates in the tri-county area, including the University of Central Florida's bus system, charter buses that connect visitors from the airport to key destinations, and Brightline, whose expansion from West Palm Beach to Orlando is well underway.

## LYNX

LYNX operates public transit service in Orange, Osceola, and Seminole counties (and small portions of Lake and Polk Counties), serving approximately 2,500 square miles and 2.06 million residents. LYNX's average local route frequency in urban areas is every 30 minutes, with outlying areas receiving hourly service. LYNX provided approximately 25 million passenger trips in FY 2019.

LYNX provides several different types of service, outlined below:

- Local bus service operating on fixed-routes and schedules
- FastLink, which provides express service with limited stops
- Bus Rapid Transit (BRT) lines serving downtown Orlando, known as the LYMMO system
- NeighborLink, a demand-response system to serve nontraditional service areas
- ACCESS LYNX service, which is paratransit service for individuals eligible through the Americans with Disabilities Act (ADA) or Transportation Disadvantaged (TD) requirements
- A vanpool program that makes vehicles available to commuter groups to use for work trips

As the Central Florida Regional Transportation Authority, LYNX is an independent governmental unit that is managed by a five-member Board of Directors, who represent each of the counties LYNX serves (Orange, Osceola, and Seminole) as well as the City of Orlando and the Florida Department of Transportation District 5. Funding for LYNX is provided through a combination of local, state, and federal funding on an annual basis, comprising an annual operating budget of \$148,911,424 (FY2020).

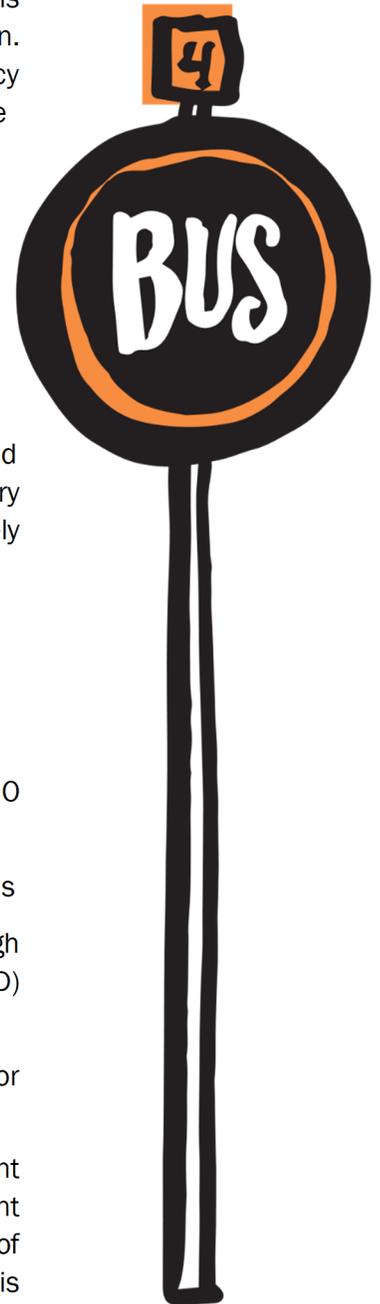
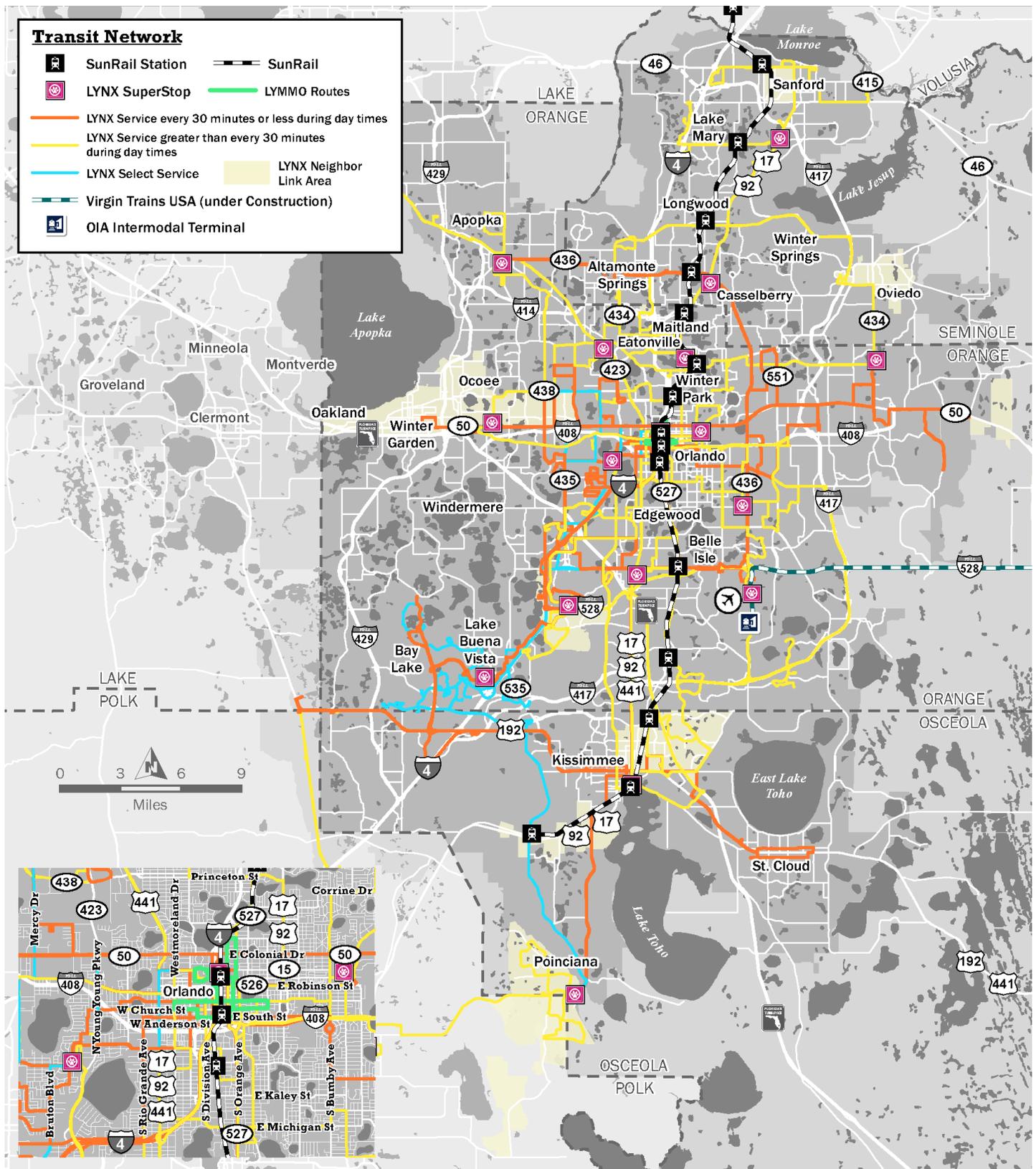


Figure 11.1 | Existing Regional Transit Network



Source: LYNX and SunRail, 2020



# SunRail

SunRail is a commuter rail system providing weekday service from DeBary (Volusia County) to Poinciana (Osceola County). Phase 1 opened in 2014 and provided 32 miles of service, serving 12 commuter rail stations in Volusia, Seminole, and Orange counties. Phase 2 South opened in 2018, extending commuter rail service 17.2 miles to four additional stations (Meadow Woods in Orange County to three stations in Osceola County). Service operates Monday through Friday, with 30-minute headways during peak hours and less frequent service during midday.

Phase 2 North is a proposed segment which would extend commuter rail service an additional 12 miles from the DeBary SunRail station to the DeLand Amtrak station in Volusia County. Phase 3 is a potential connection from the mainline to the Orlando International Airport (OIA) South Terminal Intermodal Center.

The Florida Department of Transportation (FDOT) currently operates SunRail and will continue to do so until a transition plan is confirmed. At that time the responsibility to fund, operate, and maintain the system transfers to the Central Florida Commuter Rail Commission, a body comprising local elected officials from the primary funding partners (the City of Orlando and Orange, Osceola, Seminole, and Volusia counties).

According to the National Transit Database (NTD), SunRail provided 1,469,654 passenger trips in 2019.

Based on the SunRail Origin-Destination Analysis reported in Technical Series #3, ridership patterns show that the strongest connections are between core stations in the urban center (i.e., downtown Orlando) and two to three stations at each end of the system. There is relatively little end-to-end travel, travel within the core stations, or travel between the core stations and immediately adjacent stations. This is typical of commuter rail services, as service frequency of 30 minutes provide little travel time savings for short trips.



# Local Bus Circulators and Regional Connectors

While LYNX and SunRail provide most of the region's fixed-route transit and rail service, there are additional transit systems that provide more localized service that is funded through different means. Regional transit connections are made possible at transfer sites at key locations.

## I-Ride Trolley

The I-Ride Trolley is a fixed-route service operated by the I-Drive Improvement District in Orange County. I-Ride Trolley operates a Red Line and a Green Line, which travel a 24-mile circular route on 20- to 30-minute headways. Ridership in FY 2018 was over 1.3 million passenger trips.



## Sanford Trolley

The City of Sanford's Community Redevelopment Agency (CRA) operates a free trolley between downtown Sanford and the Sanford SunRail Station. The trolley operates six days per week, with extended evening service on Fridays.

## Connecting Neighboring Regions

LYNX's Link 44 travels to Zellwood in northwest Orange County to facilitate transfers to Lake County's Route 4 on their transit service, known as LakeXpress. Link 105 and NeighborLink 612 enable West Orange County transit riders to make a connection to LakeXpress Route 50, which travels the S.R. 50 corridor and connects to Park & Ride lots in Lake County.

In Osceola County, LYNX riders can transfer to Citrus Connection, Polk County's transit service, by way of Link 426 and the service area covered by NeighborLink 601.

Citrus Connection extended service to SunRail's Poinciana station in September 2020 to provide a direct connection to and from commuter rail service. Polk County is exploring funding options for additional connections to the SunRail line, such as express bus service and an extension of rail service.

Regional connections to Volusia County are possible at the DeBary SunRail station, which is the northern terminus of the commuter rail service. This station is served by Votran, the Volusia County public transit system.

## Amtrak

Amtrak, the National Railroad Passenger Corporation, provides service in the Central Florida region through stations in Sanford, Winter Park, Orlando, and Kissimmee. The Silver Service line provides a connection to Tampa (through which travel to Miami is possible) and north to South Carolina, Washington, D.C., and New York. The Auto Train (boarding in Sanford) allows riders to transport their vehicles to auto train stations in the D.C. area.

## Brightline

Brightline (formerly All Aboard Florida and Virgin Trains) is a private intercity rail service currently operating in South Florida. A connection is being built to connect the West Palm Beach station to the OIA South Terminal Intermodal Center and then extending to Disney Springs and later Tampa. Revenue service (Orlando to Miami) and the groundbreaking of the Orlando to Tampa line is expected to begin in 2022.



## Other Intercity Passenger Services

The Orlando International Airport South Terminal Intermodal Center is equipped to provide connection points for transit riders, including bus and rail service. Additional private transit service is provided by several companies, including Greyhound, RedCoach, Megabus, Jet Set Express, SuperTours, GMG Transport, HBCU Shuttle, and Florida Express Bus Service. Many of the top tourist destinations (e.g. Disney, Universal, etc.) provide direct bus service from the airport to their properties.

## Public Participation: What the Region Wants

Input collected from across the region sent a clear message: the region wants more frequent transit service that takes them to more places. The same sentiment was shared by current LYNX riders, captured during the public involvement process of the last LYNX Transit Development Plan (TDP). Feedback from the TDP also featured interest in more frequent transit service from business leaders, who may not be riding transit but understand the value of the service to fuel the local economy.



A public opinion survey was conducted through an online panel to identify the top three transportation changes that the public desires. The survey reinforced the interest and need for investments in public transportation, as indicated by the second and third ranked desires.

1. “Smart” traffic signals and sensors
2. More frequent public transportation that goes to more places
3. Better connections between public transportation and destinations

## Goals and Objectives

Public transportation can play a pivotal role in support of the goals and objectives of the 2045 Plan. For each of the five goal areas, the impact that transit can make is outlined below.

**Safety & Security** – Transit is one of the core services to help prepare for, respond to, and recover from emergencies. As transit providers embrace technology to deliver their service, ensuring system security will become imperative.

**Reliability & Performance** – Increasing transit ridership means more roadway capacity for those who must drive. This goal area also applies to the delivery of transit service. Investments in transit-supportive infrastructure, such as dedicated lanes for Bus Rapid Transit (BRT), can improve On-Time Performance, a key performance indicator of transit service.

**Access & Connectivity** – Transit options provide an affordable way for people to access a variety of educational, professional, medical, and social resources. Oftentimes, the conditions along the first or final mile to access a transit stop influence the rider’s experience of the transit service. Investments to improve the built environment can positively impact the delivery of transit service.

**Health & Environment** – From reducing vehicle emissions to supporting physical activity, transit is an important player in improving community health and environmental standards.

**Investment & Economy** – Public transportation allows Central Floridians to stretch their paycheck to cover other expenses, like housing and healthy food. Transit that provides access to jobs in industries that offer higher wages is another way to expand access to economic opportunities.



In addition to considering the needs of the public, the 2045 Plan also acknowledges the research of other agencies outside the transportation sector. The Alliance for Regional Transportation, a part of the Orlando Economic Partnership, released its Orlando Transportation 2030 report in Spring 2020. The goal of the report was to identify recommendations that will improve transportation in the Orlando region. Specifically, the report outlines transportation priorities that will enhance the safety and security of Orlando’s transportation system; improve access to jobs, schools, and healthcare; and increase the competitiveness of businesses in order to position the region for continued prosperity through 2030 and beyond. The report calls for the “build out and speed up” of a regional transit system through public and private mobility solutions. The report also states the need to empower a regional transportation authority to expand, manage, and operate this regional transit system.

## Transit Plans: What Transit Agencies Need

As the primary public transit service in the MetroPlan Orlando region, LYNX leads the conversation about their needs, key issues, and identifying potential solutions. There are multiple planning documents that outline these areas, which provide a helpful guide in determining recommendations for the 2045 Plan.

The primary findings from each of these planning studies echo a common theme: *the region’s needs are greater than the agencies’ financial resources*. As the region tackles new demands on the region’s infrastructure from a growing population, the collection of planning studies outlines a path forward with transit as a solution.

The major planning documents are summarized in Appendix 11A and outlined in Table 11.1.

**Table 11.1 | Primary Transit Planning Documents**

Agency	Plan	Adoption Year
LYNX, Orange County	Orange County Transit Plan	2020
LYNX	Transit Development Plans (TDP)	2018 (Major Update) 2019 (Annual Progress Report)
LYNX	Route Optimization Study (ROS)	2018 (part of LYNX Forward TDP)
Central Florida MPO Alliance	Regional Transit Study (10 counties)	2018
LYNX	SR 436 Transit Corridor Study Alternatives Analysis (AA)	2018
LYNX	SR 50/UCF Connector Alternatives Analysis (AA) SR 50 BRT Health Impact Assessment SR 50 BRT Station Area Analysis	2015 2016 2019
LYNX, Osceola County	US 192 Alternatives Analysis	2013
FDOT	OIA Refresh Alternatives Analysis	2016
LYNX	Vision 2030	2011
LYNX	Transit Asset Management Plan	2018
SunRail/FDOT	Transit Asset Management Plan	2018
LYNX	ITS Strategic Plan	2016
LYNX	GIS Strategic Plan	2016



# Local Government Plans: The Lay of the Land

As local leaders began exploring funding models to bring the region's transit plans to fruition, a plan was needed to guide future investments. LYNX developed a framework as to how a potential Orange County sales tax could enhance existing service and introduce premium transit corridors, along with recommendations regarding the impacts to service in Osceola and Seminole counties.

## Orange County Transit Plan

LYNX and Orange County staff refined the LYNX Forward transit plan to recommend a series of new routes, enhanced service levels, and new or expanded facilities to support the various services. Several service types are included in this plan, including the following:

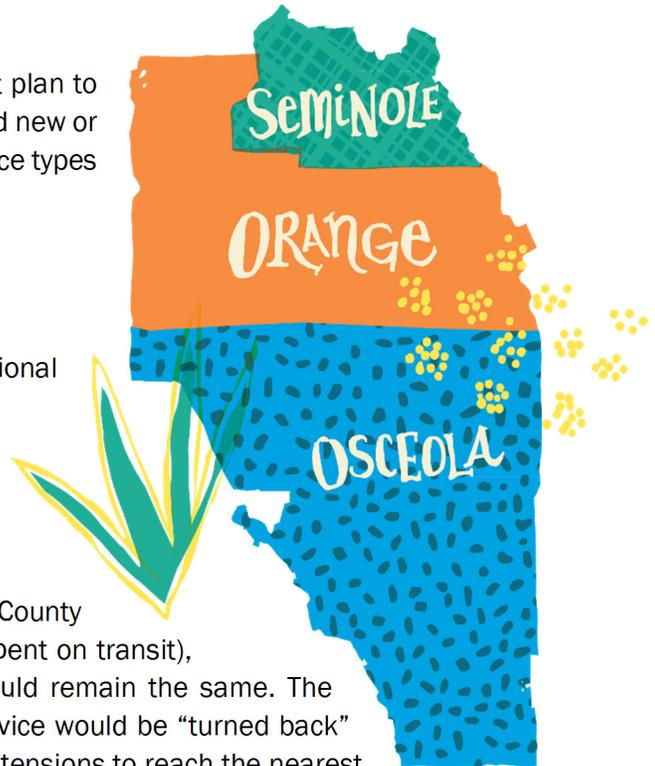
- Commuter rail service (SunRail)
- High frequency bus service and premium corridors
- Express bus service (commuter service and regional connections)
- Local routes, community circulators, and on-demand service
- Paratransit service

The recommendations within the plan focused on Orange County (where a portion of the potential sales tax revenue would be spent on transit), with the assumption that service in the adjacent counties would remain the same. The Orange County Transit Plan identifies transit centers where service would be “turned back” prior to crossing county lines, with some exceptions for minor extensions to reach the nearest SunRail station or another transit center.

The Orange County Transit Plan includes a plan for implementation, outlining a series of capital investments and improvements that must take place to support the proposed expanded service. Improvements and expansion of transit service is to be introduced in phases, each one building on the capital improvements of the previous phase over the course of 30 years.

## Seminole County and Osceola County Transit Plans

Preliminary plans were presented by LYNX staff to Seminole County and Osceola County staff for consideration in Summer 2020. Each of the county plans laid out the proposed Orange County Transit Plan, with its higher level of service levels and various ways to “turn back” service at county lines due to funding limitations. Further direction was pending review and input from each county's Board of County Commissioners.



# Key Issues

The MetroPlan Orlando region is affected by a number of key issues that are known to impact transit systems locally, regionally, and nationally.

## Funding

LYNX is primarily funded through a series of agreements with local government partners. These funding agreements are negotiated annually, with no guarantee of what budget may be slated for LYNX service. This lack of a dedicated funding source prevents the implementation of many of the agency's plans.

In 2019, an initiative was started in support of a transportation sales tax referendum in Orange County. If successful, the sales tax was projected to raise approximately \$596 million each year, with more than half of that revenue generated by tourists and visitors. A portion of the revenue was to be directed to public transportation (i.e. LYNX and SunRail), though improvements in roadways, sidewalks, and technology would also have proven to be transit-supportive investments. Due to the economic impacts of the COVID-19 pandemic, consideration of this sales tax referendum was cancelled in 2020.

No other funding solutions, for either LYNX or SunRail, were identified following the deferment of the Orange County transportation sales tax referendum. This funding squeeze continued as the impacts of the pandemic continued to develop. Revenue projections from the Florida Department of Transportation outline a future where tough decisions will be warranted. Private investments in transit (e.g. Brightline) continued during the pandemic, offering hope for public-private partnerships as a remaining potential funding solution.

As local governments consider what their annual contribution to LYNX will be in the coming years, one thing is clear: transit funding must increase to maintain current levels of service. MetroPlan Orlando's policy of using up to 30 percent of District Dedicated Revenue (DDR) for the operation of premium transit will not solve the need for operating funds for the local bus service that is delivering essential workers to jobs across the region.

## Serving Diverse Needs

Our region is primarily reliant upon the personal automobile for travel to work and other destinations. The average metropolitan Orlando resident can access more than a half million jobs by car within 30 minutes, while transit riders only have access to 5,600 jobs in the same travel time. Despite this reality, 76.5% of LYNX riders are employed, using the region's transit service to access jobs, educational opportunities, shop for groceries, receive medical care, and more.

These trips support the region's economy, from hospitality to healthcare, even though current transit service does not align with the "24/7" schedule of these industries. Transit service that ends at night or simply does not run on weekends presents everyday challenges for those workers that depend on the service to get to and from their jobs.



LYNX also provides paratransit service. The needs of the paratransit and Transportation Disadvantaged (TD) riders are just as unique and diverse as fixed-route passengers. Opportunities across our “super-region” will surely expand for motorists; a thoughtful approach is needed to provide similar regional connections to those for whom transit is their primary mode.

As the region pushes toward Mobility as a Service (MaaS) solutions, such as mobile fare payments and leveraging Transportation Network Companies (TNCs), the needs of the current riders must be kept at the foreground of decision-making and policies. Assumptions as to the prevalence and availability of smart phones and data plans must be investigated to guard against disenfranchising the unbanked population. Every effort must be made to ensure accessibility to new services, particularly those delivered by private vendors (e.g. Lyft, Uber).

## Integrating with Other Mobility Options

Several mobility options have been introduced throughout the region, particularly in downtown Orlando. The Central Florida Carshare Program, a partnership between the Florida Department of Transportation and the City of Orlando, brought hourly car rentals to downtown Orlando in 2013. The launch of SunRail in 2014 saw a parallel launch of solutions to the first/last mile dilemma including the City of Orlando’s first bikeshare program. Since that time, multiple bikeshare and other micromobility vendors have entered and left the market. A pilot program for e-bikes was launched in 2018 by the City of Orlando; this was followed by the introduction of multiple scooter vendors at the beginning of 2020.



These mobility options provide new ways for transit riders to reach their final destination in a timely manner. However, these services were introduced with varying levels of integration with the wider public transit network. The original “docked” bike share program (known as Juice Bikes) benefited from a partnership with LYNX and the City to allow kiosks to be installed on-site at LYNX Central Station. Mobility as a Service – the ability to plan a trip and pay for all legs of the trip across different providers – has not yet been accomplished in the Central Florida region. Establishing data standards will be essential to integrate current mobility options and prepare the region to incorporate the next big disruptor. It will also allow transit to be integrated into bigger picture plans to support Connected Automated Vehicles in the region.

In 2019, the Orlando community Lake Nona began operating an automated shuttle service known as Beep, the first in the state. Other areas in the three-county region and across the state are also exploring similar privately-operated autonomous shuttles. The Lake Nona shuttles, operated by Beep and manufactured by NAVYA, will act as a litmus test for autonomous mobility in the region.

Transportation Network Companies (TNC) successfully disrupted the ride-for-hire market, in part thanks to an understanding of customer expectations and providing a seamless user experience. Public sector agencies in the mobility marketplace must adopt a similar commitment to a frictionless customer experience to capture new users and build transit ridership. This will become increasingly important as new services such as Brightline come online and a new audience is introduced to premium transit.



# Alternative Fuels and Vehicle Types

Over a decade ago, LYNX became the first public transit agency in the nation to convert its fleet to run on biodiesel, blending the fuel on-site and making it available to Orange County and Orlando Utilities Commission (OUC). Since then, LYNX has continued its innovative approach to incorporating alternative fuels and vehicle types in pursuit of the region’s sustainability goals.

LYNX is has recently acquired battery electric buses, which will first be deployed on the BRT service (known as LYMMO) in downtown Orlando. These battery electric buses would supplement the existing LYMMO fleet, which consists of Compressed Natural Gas (CNG) buses, setting the path to achieve the City of Orlando’s goal to transition the BRT service to an all-electric, zero-emission service.

The Transit Asset Management plan for LYNX outlines a commitment to purchase CNG buses. The agency intends to move towards the goal of having half of their fleet run on electric batteries and the other half as CNG to provide resiliency should either of those fuel sources be restricted (e.g. in case of a weather event impacting access to charging stations). In addition to their current commitments in their TAM Plan, LYNX is in the process of studying electric vehicle fleets and how to best prepare for automation.



# Transit’s Evolving Role in Solving Social Issues

One of the most pressing issues in the Central Florida region is the lack of affordable housing. What is defined as “affordable” is housing that costs only 30-percent of a household’s income. The American Community Survey (2016) reports that 230,344 Central Florida households have housing costs that exceed 30-percent of their income. The region’s median earnings range from \$26,000 to \$36,500, making it difficult to afford the median cost of housing in Central Florida.

These high housing costs mean fewer resources are available for other expenses, such as food, healthcare, and education. Transportation is the second largest expense after housing; the Center for Neighborhood Technology’s (CNT) Housing and Transportation (H+T) Affordability Index shows that these two expenses are leaving little for other needs among our region’s residents.

The region’s limited transit service only increases this financial pressure, essentially requiring households to have multiple motor vehicles in order to access jobs and other opportunities. This is why transportation options play such a vital role in a number of social issues: it’s not just about solving congestion but offering the chance to improve one’s quality of life.

**Table 11.2 | H+T Affordability Index**

Area	Housing	Transportation	H+T Total
<i>Recommended ranges</i>	30%	15%	45%
MetroPlan Orlando Region	33%	26%	59%
Orange County	33%	25%	58%
Osceola County	31%	27%	58%
Seminole County	35%	26%	61%

Source: Housing and Transportation (H+T®) Affordability Index; The Center for Neighborhood Technology



# Implications from Scenario Planning

Part of the 2045 MTP process was to look at alternative projections of what the future may hold, recognizing that there are many uncertainties and that we find ourselves in unprecedented times. The Scenario Planning process helps identify strategies to prepare the region for a range of possibilities.

The scenario framework includes four possible futures: Traditional Trends; Disruption Dilemmas; Tech Transformations; and Climate Consequences (see *Technical Series 8: Scenario Planning* for more details). Transit is a potential strategy in many of the scenarios, though its importance is placed in context with other needs that may force resources in different directions.

For the roadway network, expanding the use of managed lanes for express bus service is “very important” in three out of the four scenarios. It is only “somewhat important” in the Disruption Dilemma scenario, which could bring a decrease in both VMT and congestion levels, making the need for express bus service less urgent. When it comes to interregional connectivity, expanding passenger rail service is very important for the Tech Transformation and Climate Consequences scenarios, as well as for the Traditional Trends outlook.

What does transit and shared mobility look like in the future? Keeping our systems in a State of Good Repair is always going to be important; what the pandemic has shown us is just how important ensuring the safety of passengers is, especially when a communicable disease is at play. Additional ways that transit could play a role in the four possible futures include the following:

- Alternative fuels and new vehicle types (including automated systems) are “very important” for the Tech Transformation and Climate Consequences scenarios, but less so in the Traditional Trends and Disruption Dilemma outlooks.
- Expanding first/last mile connection options and integrating fare payment options are less important if the future continues along the Traditional Trends.
- Creating regional mobility hubs will play a larger role in the Tech Transformation and Climate Consequences scenarios.
- Accommodating riders during intense weather, such as heat or precipitation, will be very important if the Climate Consequences future is what comes to pass.
- Enhancing Transportation Disadvantaged (TD) services will be important in the Disruption Dilemmas and Tech Transformations, but less so in the other scenarios.



# Potential Solutions & Best Practices

Creating a transit network that serves diverse needs, supports the region’s “24/7” economy, and provides real options for a growing population will take leadership, new funding sources, and a sensible plan. These efforts must be built upon best practices, from different types of service to better leveraging land use policies, to deliver a successful transit system for the region.

## Transit Service Types

Many different types of transit service are described throughout LYNX’s planning documents. Selecting which service to offer depends on the need, available infrastructure, and funding to build and operate the system. Table 11.3 provides a simplified overview of each service type, with further descriptions following the table.

**Table 11.3 | Transit Service Operational Features**

Transit Service Types	Key Characteristics
Local bus service	Rubber tire vehicles operating along lines with stops placed closer together
Express bus service	Rubber tire vehicles operating along a line with longer distance between stops, designed to connect trip origins and destinations over a shorter travel time due to higher travel speeds
Bus Rapid Transit (BRT)	Rubber tire vehicles operating mostly in a separate right-of-way, with signal priority, and other enhanced technology elements designed to improve travel times, service, and passenger experience
Streetcar service	Electrified railcars, typically operated within an activity center in lanes shared with regular traffic
Light Rail Transit (LRT)	Electric powered rail vehicles operating along either exclusive or shared right-of-way
Commuter Rail Transit (CRT)	Heavy rail transit typically designed to connect outlying suburban/residential areas with a Central Business District (CBD) or employment center

**Local Bus Service** - LYNX primarily offers local bus service today. Local bus service operates with stops approximately every quarter mile to allow passengers to board or exit the bus. It operates in regular traffic, which when combined with the frequent stops, leads to lower average speeds. Frequency of the service is determined by funding levels, which is potentially influenced by demand.

**Express Bus Service** - Express service is similar to local service in that it likely operates in regular traffic, but its hours of service are during peak commute periods to connect workers to jobs with traditional schedules. The service travels longer distances, connecting housing to employment centers. Coach-style vehicles, with more comfortable seating and other amenities, make these longer trips more attractive for riders. Travel times tend to be competitive with driving, as most of the pick-ups and stops take place at the beginning or end of the route, with few or no stops in the middle. Park & Ride lots are examples of infrastructure that supports express bus service, providing a clear area for commuters to park their personal vehicles and ideally access additional amenities.

The Orange County Transit Plan identifies two different types of express service: regional express and commuter express. While LYNX previously offered multiple express bus services, these routes have since been supplanted by SunRail (i.e. Link 204 from Volusia County and Link 208 from Osceola County) or replaced with local bus service (i.e. LakeXpress Route 50, serving a similar corridor as the former express Link 204 to Lake County). While not publicly advertised as express service, the LYNX Route Optimization Study and subsequent county plans refer to Links 38, 50, and 111 as express service due to overlapping service characteristics, such as traveling on limited access roadways.



**Bus Rapid Transit** - Bus Rapid Transit (BRT) is a premium transit service, operating in dedicated lanes and benefitting from traffic signal priority. These systems are typically delivered with low-floor vehicles and are fare-free to encourage efficient boarding and alighting. BRT systems reflect unique branding that distinguishes it from local bus service.



In Central Florida, BRT service is branded as LYMMO, though it is operated by LYNX. There are four LYMMO routes in downtown Orlando, connecting different areas within the Central Business District. Sections of some of these routes operate in mixed traffic, which does lead to slower travel times (i.e. Grapefruit line, Lime line, and the Orange Line North Quarter).

**Streetcars** - Streetcar service is a premium transit service and is typically a single car operated on rails traveling at lower speeds. It is used for shorter distances than light rail and works well when serving tourist populations. Streetcar systems are usually uniquely branded, have medium frequencies, and are semi-segregated from traffic. Stops can have minimal or more substantial infrastructure. Vehicles are typically powered by overhead poles and wires. There are currently no streetcars operating within the region.

**Light Rail Transit** - Light rail transit (LRT) is a type of premium transit service. While streetcar is a form of light rail, the two tend to serve different markets. Light rail can be one or two cars in length and operates on rail. It is segregated from regular traffic but will have at-grade crossings. It operates at medium speeds, has medium frequencies, and makes frequent stops. Light rail systems are normally branded separately from the local bus service. There is usually a greater number of station locations that include amenities such as off-board ticketing, information kiosks, and bicycle connections along the route. There is currently no light rail service in the Orlando metropolitan region.

**Commuter Rail Transit** - SunRail is the only example of commuter rail transit (CRT) in Central Florida. CRT service typically provides an option for longer distance travel, connecting suburban residents to employment centers. Stations are substantial infrastructure and normally feature sizeable parking lots at suburban stops. Commuter rail has multiple-car trains and operates on a rail corridor. It is segregated from traffic and so can operate at higher speed. Frequency is determined by funding levels; in Central Florida, SunRail operates at a 30-minute frequency during weekday peak hours but less often during off-peak hours.

**High Speed Rail** - High Speed Rail (HSR) offers a higher level of service with travel speeds well above CRT or LRT speeds, thanks to traveling along dedicated high-speed rail corridors. Brightline, now operating in south Florida, is building an extension of its rail service to Orlando, with plans for further extensions west to the Tampa Bay area. This service would operate as high-speed rail, providing the region's first service of this type. Brightline passengers enjoy several onboard amenities, including food service and reclining seats; these amenities are expected to be features of the service when extended to Orlando.

## The Cost of the Region's Transit Vision

Without new revenue sources, the projects identified in the 2045 Transit Vision are unlikely to be implemented. Outlining the path to identify one or more sources of funding for transit requires an understanding of both the operating and capital costs.



## Operating and Capital Costs

Costs were developed for each identified transit need based on estimates in readily available documents. LYNX operating costs were determined using existing service hour costs for current operations, multiplied by estimated hourly rates related to the fiscal year (FY) 2018 preliminary budget. The costs included for additional projects are based on the projections included in each study. Key operating and capital cost assumptions are displayed in Table 11.4, while long-term costs from the LYNX ROS are explored in Table 11.5 and Table 11.6. For SunRail, costs were based on the information available in the Full Funding Grant Agreement (FFGA) for the approximately 62-mile system. SunRail Phase III capital and operating costs are based on estimated costs per track mile for SunRail Phases I and II.

An escalation factor was added to all costs in the plan consistent with the Consumer Price Index (CPI) and industry averages for inflation to project operating and capital costs through 2045. The resulting projected operating and capital costs for the region totals approximately \$14.2 billion through 2045.

**Table 11.4 | Key Operating and Capital Cost Assumptions**

Assumption	Notes/Source	FY2018 Cost
Fixed Route Operating Cost per Vehicle Hour	LYNX Regional Model	\$89.36
Fixed Route Operating Cost per Vehicle Mile	LYNX Regional Model	\$6.33
ADA Paratransit Operating Cost per Trip	LYNX Regional Model	\$28.62
TD and Medicaid Paratransit Operating Cost per Trip	LYNX Regional Model	\$28.62
NeighborLink Operating Cost per Revenue Hour	LYNX Regional Model	\$34.88
Operating Cost Inflation Rate	US Cities – CPI-U (2007-2017)	1.87%
Capital Cost Inflation Rate	FDOT Construction Cost Index	3.00%

Source: Central Florida Regional Transportation Authority LYNX Forward Transit Development Plan – Section 8: Financial Plan (2018)

**Table 11.5 | LYNX ROS Long-Term Plan Annual Operating Costs by Service Type**

Service Type	Annual Operating Costs (2018 \$)
High Frequency Service	\$152,716,000
Regional Express Service	\$30,327,000
Local Service	\$77,736,000
Neighborhood/Circulator Service	\$49,111,000
On-Demand/Flexible Route Services	\$16,415,000
System	\$326,305,000

Source: Central Florida Regional Transportation Authority LYNX Forward Route Optimization Study Long Term Plan (2018)

**Table 11.6 | LYNX ROS Long-Term Plan Bus Capital Costs**

New Transit Vehicles	# of Vehicles	Capital Costs (2018 Million \$)
40-foot Transit Buses	59	\$42.7
60-foot Articulated Buses	57	\$62.7
Over-the-Road Transit Coaches	67	\$50.3
Small/Cutaway Buses	129	\$25.8
<b>Vehicle Capital Grand Total</b>	<b>312</b>	<b>\$181.5</b>

Source: Central Florida Regional Transportation Authority LYNX Forward Route Optimization Study Long Term Plan (2018)



# Transit-Supportive Land Use Policies

Land use patterns can have a direct impact on creating supportive conditions for an accessible and effective multimodal transportation system, inclusive of transit options. Under Florida Statutes 163, examining the impacts of growth trends and travel patterns on the availability of transportation services is a required procedure that falls under the local comprehensive plan development process. Although comprehensive plans contain policies that address mobility issues, investigating the influence that these policies have on shaping the built environment, and ultimately guiding travel behavior, is a crucial element needed to promote transit supportive land use designations.



A popular method of examining the relationship of the built environment and travel demand involves three principal variables: density, diversity, and design, commonly known as the ‘3Ds,’ a phrase coined by Robert Cervero and Kara Kockelman in 1997.

**Density** – This refers to the amount of a specific unit in relation to a specific area. Common attributes used to evaluate density include population, dwelling units, employment, and building floor area.

**Diversity** – This element refers to the different land uses in a specific area and the degree to which land uses are represented in land area, floor area, and recreation sites. Common attributes used to evaluate diversity include jobs to housing ratios and jobs to population ratios.

**Design** – In this context, this refers to street characteristics in a given area. Common attributes used to evaluate design include average block size, proportions of four-way intersections, number of intersections per square mile, sidewalk coverage, average street widths, numbers of pedestrian crossings, and street trees.

Travel demand studies highlight the importance of analyzing three additional metrics to further understand the connection between the built environment and travel behavior: destination accessibility, distance to transit, and demand management.

**Distance to Transit** – Getting to the transit stop is essential, with the required distance greatly impacting the likelihood that someone will choose to ride transit. Common attributes used to evaluate distance to transit include distance from residences or workplaces to the nearest transit stop, transit route density, distance between stops, number of stations per unit area, and bus service coverage rate.

**Destination Accessibility** – The ease of access to one’s final destination greatly influences a person’s transit trip. Common attributes used to evaluate destination accessibility include distance to the Central Business District, number of jobs or other attractions, and distance from home to the closest store.

**Demand Management** – Additional methods and programs can help reduce vehicle trips, resulting in more efficient use of transportation resources. Common attributes of travel demand management projects include park and ride facilities, carpool and vanpool promotions, and active transportation programs.

Appendix 11B catalogues the existing transit-supportive land use policies for Orange, Osceola, and Seminole counties, noting the likelihood that they would support one or more of the characteristics outlined above. Additional planning documents were also reviewed (i.e., Broward County, Volusia County) to provide examples of policies from other areas. Investigation of these policies and their impacts can lead to recommendations for the region and identify areas of opportunity.



# Transit Needs and Desires

Outlining a path forward for the region’s transit system is an important element of the 2045 Plan. Through review of LYNX’s previous planning efforts, hearing the public’s call for more service to more places, and balancing the realities of funding constraints, the following sections outline the region’s transit needs. Appendix 11C presents the region’s transit needs in a series of tables with anticipated costs. The following section provides more information on each category of need and the region’s broader transit vision.

## Existing Transit Service

According to the latest LYNX TDP and the Orange County Transit Plan, operation costs for both LYNX and SunRail require \$266,978,145 annually (in 2019 dollars). Maintaining the region’s current transit service levels through 2045 will not be achievable without an increase in funding. We know that existing services will cost more in the future, as a dollar today will not purchase the same amount of goods 10, 15, or 20 years from now. Even if no new services are introduced, current funding levels will not support the existing transit system much longer.

The region is not equipped to give the public what they want and may have to look at reducing service that offers critical lifelines for so many. Central Florida is poised to face tough choices regarding what programs and services receive funding post-pandemic. Currently, LYNX and SunRail services provide almost 26 million passenger trips per year according to the 2018 National Transit Database (NTD). LYNX provides more than 23 million fixed route bus trips, about one million trips on the LYMMO BRT system, 480,000 demand response trips, and 360,000 trips via commuter vanpools. SunRail provided approximately 831,000 trips in 2018. The story that these ridership numbers tell is that Central Florida truly relies upon transit. Whether the region decides to fund transit will impact countless people.

## Operations Infrastructure

The Orange County Transit Plan, developed in coordination with LYNX, outlines the agency’s plans should a dedicated source of funding be identified. The plan is based on the 2018 LYNX Forward Transit Development Plan and Route Optimization Study. The introduction of new or enhanced services is presented in terms of phases that build upon the investments of the previous phase. As of this plan’s writing, Seminole and Osceola Counties are engaged in a similar process to refine the LYNX Forward network and establish phased implementation.

Operations infrastructure comprises the most urgent near-term need. This includes expansion of the SunRail parking facilities at the Meadow Woods, Tupperware, and Poinciana stations. LYNX is in dire need of new operating bases at the southern and northern parts of its service area. LYNX’s current operating facilities are already exceeding its design capacity of vehicles. These six essential transit operations infrastructure needs are listed in Table 11.7.

**Table 11.7 | Essential Transit Operations Infrastructure Needs**

Facility Location	Type / Description	Cost (Current Year)
Southern part of LYNX service area	New Operating Base	\$83,400,000
Northern part of LYNX service area	New Operating Base	\$15,000,000
Meadow Woods SunRail Station	Park & Ride Facility Expansion	\$14,000,000
Tupperware SunRail Station	Park & Ride Facility Expansion	\$2,308,825
Poinciana SunRail Station	Park & Ride Facility Expansion	\$2,815,816
LYNX Central Station	Facility Modifications	\$3,000,000



An additional 29 capital investments in operations infrastructure are identified between the Orange County Transit Plan, LYNX’s Route Optimization Study, and SunRail’s capital improvement plans. In the case of LYNX service, many of the proposed service enhancements identified for later phases are dependent upon capital improvements taking place in earlier phases. Examples of operations infrastructure needs range from track improvements (e.g., new track crossovers and signals) to transfer centers and terminals.

## 2045 Transit Vision

The vision for transit in 2045 is bigger than just maintaining existing service with minimal enhancements.

Public input documented through the 2045 MTP outreach efforts shows that residents want expanded transit service that can take them to more places. Drivers are seeking new options, as increased congestion combined with new micromobility options make transit more attractive than ever. Central Florida’s “24/7” economy requires transit that makes sense for its workforce, with service hours that are aligned with real-world work schedules.

Decades of planning efforts reflect regional desires to connect SunRail to the Orlando International Airport, providing travel options for visitors and airport employees. Local headlines reflect the excitement around Brightline’s expansion to Orlando, hinting at the prospects of new partnerships to expand rail service west to Tampa Bay.

## Near-Term Needs

To move the region closer to its vision, improvements to the existing transit service are needed first. These enhancements can be introduced as funding becomes available, building support for the next layer of service with each phase. This approach is in line with the recommendations from the Orange County Transit Plan and LYNX’s TDP efforts. Pending availability of funding, these services could be implemented within the next five years.

In the near term, the first phase of transit enhancements can re-introduce express service to the region, providing critical connections to employment centers at travel times that are competitive with driving, and improve local bus service in certain areas. Table 11.8 outlines these near-term enhancements; see Appendix 11C for the full descriptions and costs. The series number for each of the service categories references the route number conventions proposed in the LYNX Route Optimization Study (ROS).

**Table 11.8 | Near Term Transit Needs: Enhanced Fixed Route Service and New Express Service**

Service Category	Description	Costs (Current Year)
Primary Local Service	Improvements to five local bus routes (500 series) along John Young Parkway, Lake Underhill to UCF, International Drive to Disney Springs, and service from the Orlando International Airport to the Meadow Woods SunRail station	\$18,122,160
Regional Express Service	Ten new express services serving UCF, Disney Springs, Orlando International Airport, the Florida Mall, Universal Studios, International Drive, Lake Nona, Ocoee, and Pine Hills; notably, these services can be implemented without a direct capital investment by using private contractors (300 series)	\$30,873,480
Commuter Express Service	Two new regional express routes that connect Lake County to downtown Orlando and Waterford Lakes to downtown Orlando; service could be implemented through use of private contractors (400 series)	\$1,560,600



## Mid-Range Needs

Following initial investments in operations infrastructure and vehicles, additional transit enhancements can be introduced to the region in the ten- to fifteen-year range. These are summarized in Table 11.9, with more information in Appendix 11C.

The route numbers from LYNX’s planning documents infer that new routes are being introduced with existing routes being cancelled. However, many of the “new routes” are essentially existing LYNX routes renamed using the proposed numbering system, but with improvements to frequency and some adjustments to alignments.

**Table 11.9 | Mid-Range Transit Needs: Enhancements Following Capital Investments**

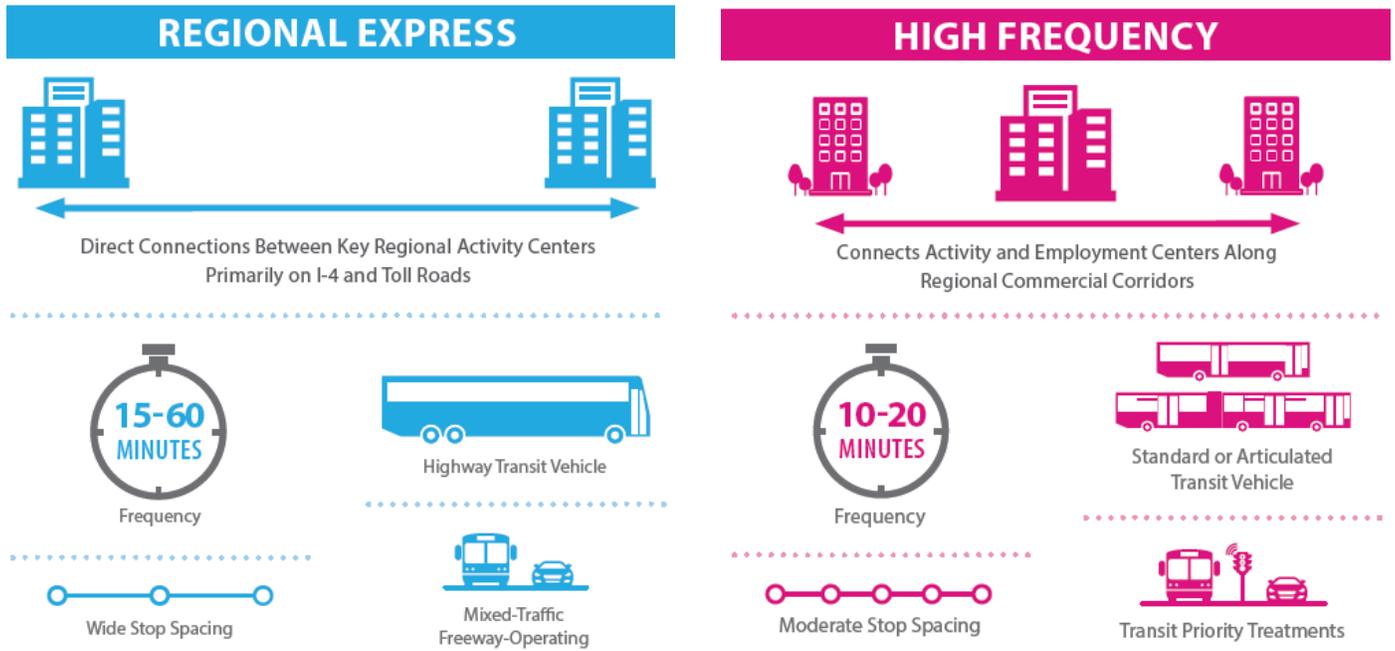
Service Category	Description	Costs (Current Year)
High Frequency Local Service	Five routes in the 100 series, serving U.S. 17/92 in Orlando and Winter Park, U.S. 441 in Apopka to the Florida Mall, Silver Star Road, and Kirkman Road to the Universal Studios area	\$24,005,603
High Frequency Limited Stop Service	Three routes in the 200 series, serving U.S. 17/92, U.S. 441, and Kirkman Road to the Universal Studios area	\$14,641,197
Primary Local Service	Five routes in the 500 series, serving S.R. 434, Sand Lake Road, Hiawasse Road/Turkey Lake Road, Winter Park, and Rosemont/Pine Hills area	\$21,815,395
Secondary Local Service	Two routes in the 600 series that would provide service in Maitland and Eatonville	\$1,732,560
Circulators	For the near term, the enhancements in circulator services are related to the downtown Orlando BRT system, LYMMO; this includes expanding the North Quarter service to AdventHealth (700 series)	\$7,920,720
Flex Zone and Hybrid Flex Zone	Two zones of service in Bithlo and the Waterford Lakes/Avalon area	\$2,024,190



# A Regional Transit System

Once fully built, the transit network laid out in LYNX's planning documents reflect a system that would elevate the entire region, providing critical connections for those that rely upon transit and offering frequency to entice drivers from behind the wheel. This network consists of layers of different types of service that provide reliable, fast, and direct access to more connections throughout the region. These service types are described in Figure 11.2, which is sourced from the LYNX Transit Development Plan.

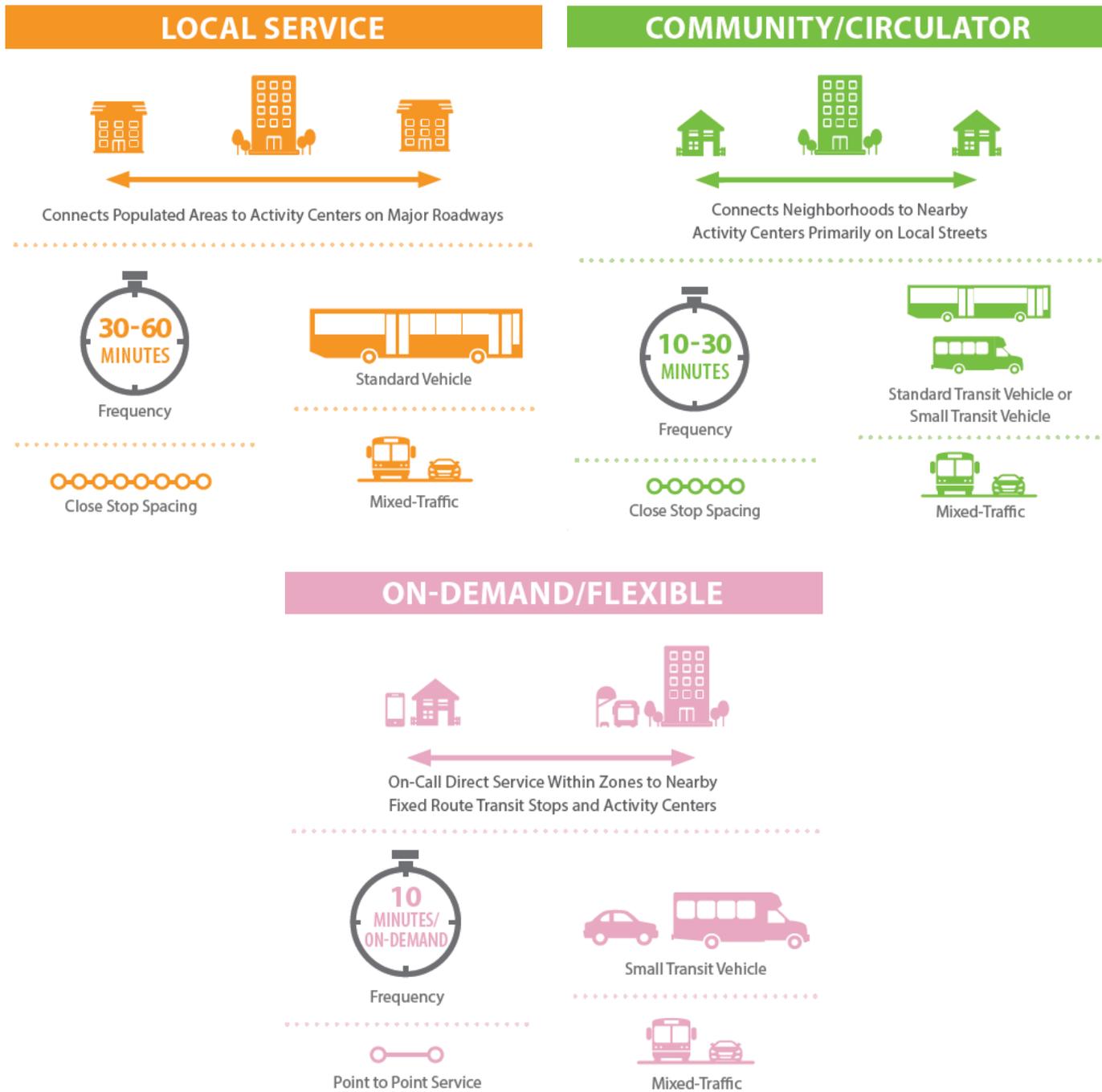
Figure 11.2 | Proposed LYNX Transit Service Types



Source: LYNX, 2019



Figure 11.2 | Proposed LYNX Transit Service Types (continued)



Source: LYNX, 2019



## Premium Transit Service and Emerging Needs

To identify multimodal needs, a data driven approach was developed that incorporated over 25 indicators. These data points aligned with the MTP goal areas of Safety and Security; Reliability and Performance; Access and Connectivity; Health and Environment; and Investment and Economy. This screening process identified additional areas where transit service may be needed, as well as corridors for premium transit service. Some of the premium transit corridors that are identified include the following (see Appendix 11C for the full list):

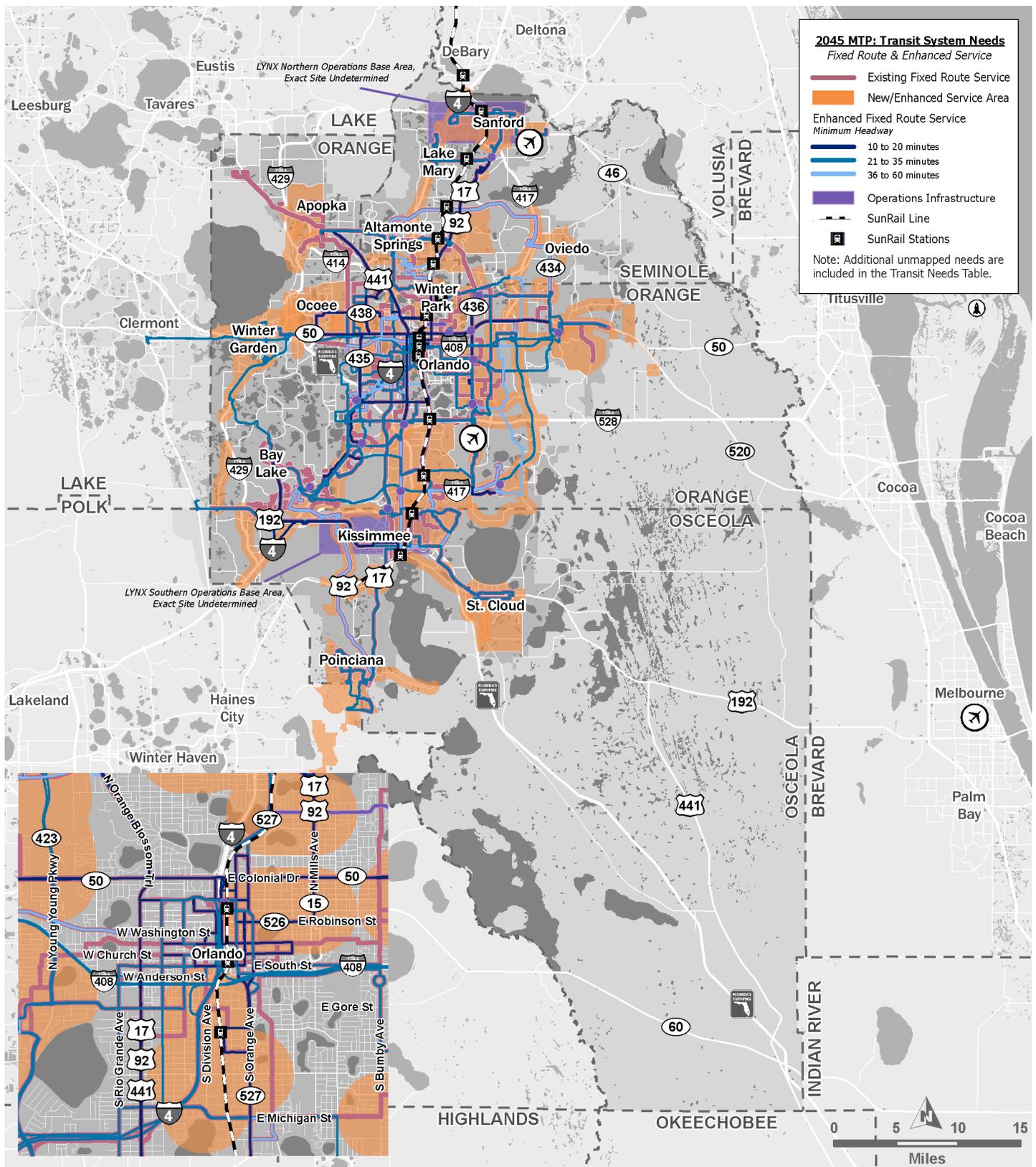
- U.S. 441
- U.S. 17/92
- S.R. 50
- Orlando Int'l Airport to International Drive
- Kirkman Road to International Drive
- Oak Ridge Road to International Drive
- International Drive
- U.S. 192
- S.R 436



Two maps were developed to assist with visualizing where the region's transit system needs to grow. Figure 11.3 reflects the region's transit system needs, focusing on new and enhanced service levels, as well as the operations infrastructure required to move the region's system forward. Figure 11.4 depicts the broader vision for a series of premium transit service, including BRT, commuter rail, and high-speed rail. Specific alignments are not identified, though corridors of service are indicated with wider color swaths.



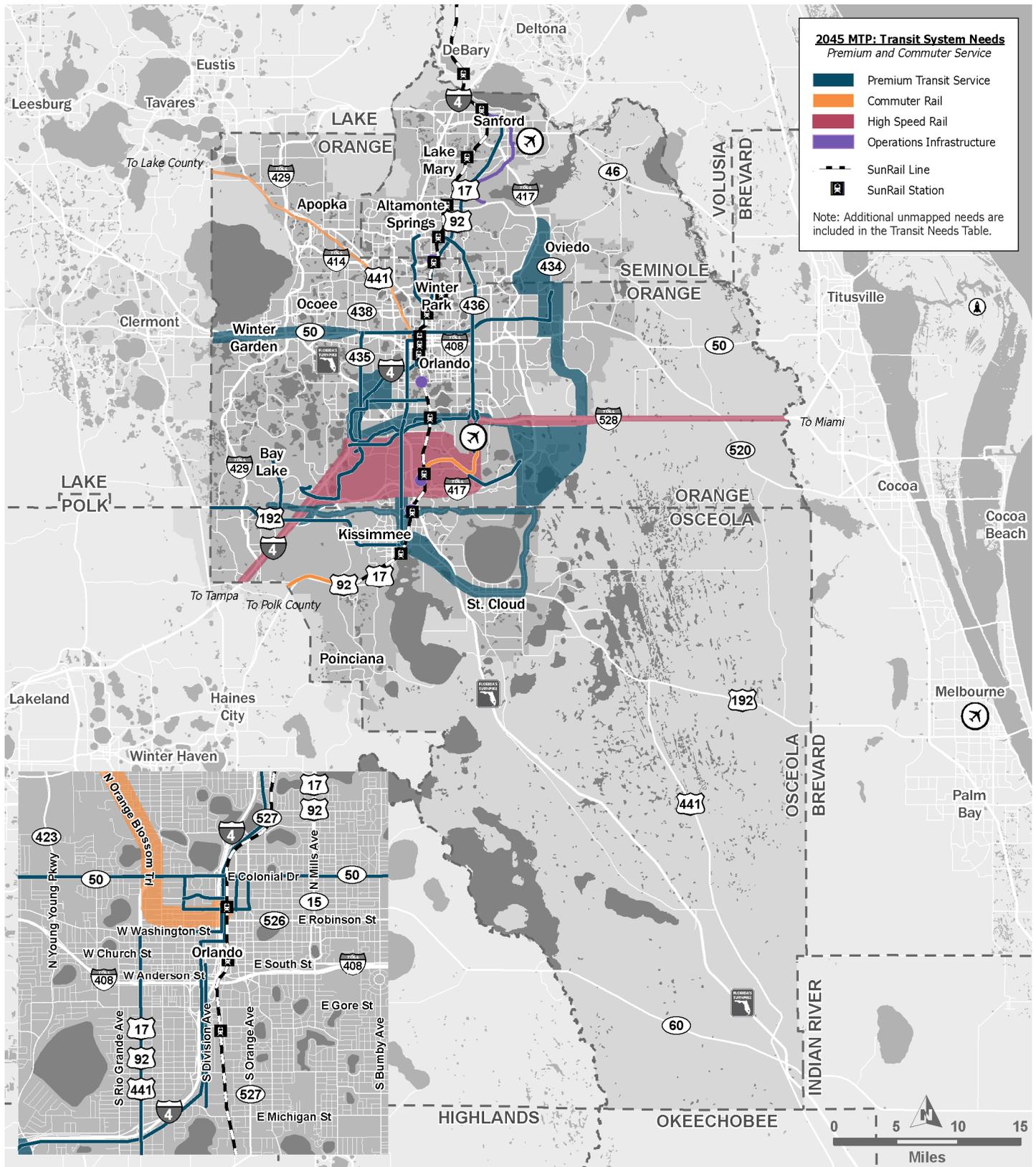
Figure 11.3 | 2045 Transit System Needs: Fixed Route and Enhanced Service



Source: 2045 MTP



Figure 11.4 | 2045 Transit System Needs: Premium Transit Service



Source: 2045 MTP, October 2020



# Conclusion

Transit is a key element of the 2045 Plan to handle a growing population and new development. Identifying pragmatic funding solutions is a critical next step. As the region resets itself following the economic and social impacts of the pandemic, public transportation will play an even larger role in addressing a variety of social issues. Finding the funding so that the region's transit vision can come into fruition can no longer be delayed.

Central Florida's residents and commuters want more frequent transit service that takes them to more places – and they want it right now. Yet transit desires are far greater than what we can afford. In fact, the region finds itself at a point not deciding which premium transit project to launch, but asking which of the current transit services may be cut to balance the budget.

By understanding the costs of what the public wants, as well as the costs of not acting, local leaders can answer the public's call for more transit to more places. Innovative partnerships will surely be a part of the solution; the first step is agreeing on the endgame. The vision for transit in 2045 is about more than just maintaining existing service; the future demands a more robust transit system as much as the present does. Whether we have the will to get there is yet to be determined.





# Appendix 11A: Transit Plan Review



## LYNX Transit Development Plan (2018 Major Update, 2019 Annual Progress Report)

Florida transit agencies receiving funds through the State Public Transit Block Grant program are required by Rule Chapter 14-73, Florida Administrative Code (F.A.C.) to complete a Transit Development Plan (TDP) Major Update every five years and an Annual Progress Report (APR) each year between major updates. The TDP is the main planning, development, and operational guidance document for the transit agency over a ten-year planning horizon. LYNX's 2018 Major Update, branded LYNX Forward, was accompanied by a Route Optimization Study (ROS). The APR adopted in 2019 made minor updates to LYNX Forward.

The LYNX 2018 TDP projects that the 10-year total capital needs will be \$673.8 million for the period from FY2018 to FY2027. However, the total capital revenue is projected to be \$506.4 million. This would result in a 10-year shortfall of \$167.4 million.

LYNX will need to identify and secure additional capital funding to meet the projected backlog of needs. LYNX has been looking for other sources of funding, such as discretionary federal grants. Also, LYNX is discussing how to build support for a dedicated source of transit funding with regional partners.

The LYMMO North (Florida Hospital - College Park) and South (Orlando Health) Extension Projects are included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A: Premium Transit Prioritized Project List, ranked #5 (project development, design, and construction for expansion of the LYMMO BRT system north and south of current service area). The TDP reflects implementation taking place in 2026 and estimates the annual operating cost of the North extension as \$1,310,555 and South as \$1,024,066.

A System Expansion/LYNX Forward project is included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category C: Enhancements to Existing System & New Service Prioritized Project List, ranked #1. Capital funds for additional vehicles to improve fixed route transit services as determined in LYNX Forward, estimated cost \$51,500,000. Project #2 on the Category C list is expanded bus service along major corridors in the region, as determined by LYNX Forward, with an estimated cost of \$1,600,000.

### Route Optimization Study (2018)

Performed alongside the TDP Major Update, this study evaluated existing transit services, assessed travel markets and segments, identified passenger facility and vehicle needs, and proposed service requirements and costs. The objectives for the ROS included the following:

- Meet future mobility needs through improved mobility services
- Allocate resources in the most effective and efficient manner possible
- Improve regional connectivity to SunRail
- Continue to service existing riders while gaining new riders
- Serve new markets with focused and specialized service delivery models and integration with complementary on-demand modes, such as ridehailing and bikesharing

A key finding of the ROS market analysis is that the core market of transit riders is “largely transit dependent,” differing from the profile of the typical SunRail rider. LYNX riders are traveling to jobs that typically operate on shift schedules that are not fully supported by the current transit service. More than half of the system's daily ridership is generated on 15 routes, traveling corridors with both the highest employment densities and the highest transit propensity areas.



### Central Florida MPO Alliance Regional Transit Study (2018)

The Central Florida MPO Alliance Regional Transit Study (RTS) outlined a consensus-driven Regional Transit Vision in response to recommendations from the East Central Florida Corridor Evaluation Study (ECFCES). Input was provided by representatives of MPOs across ten counties, including Brevard, Flagler, Lake, Marion, Orange, Osceola, Polk, Seminole, Sumter, and Volusia.

The Conceptual Regional Transit Vision Framework identifies an initial range of feasible and appropriate alternatives and technologies for the major travel corridors within the 10-county region for two target years (2040 and 2060). This framework includes an identification of high-priority transit investments that could be implemented in the nearer-term that will support a longer-term vision (Table X.1).

**Table 11.10 | RTS Short-Term High Priority Regional Transit Investments (Capital)**

Project	Route Length	Mode	Total
LakeXpress 4 Service and US 19 / US 441 Improvements	N/A	Enhanced Bus	\$2,300,000
LakeXpress 5E / 5W Service Improvements	N/A	Enhanced Bus	\$2,300,000
Express Bus from ESC to UCF	36	Express Bus	\$11,000,000
Express Bus from County to OIA	39.7	Express Bus	\$11,000,000
Link 427 Service Improvements	N/A	Enhanced Bus	\$1,300,000
SR 436-Apopka SuperStop to Altamonte SunRail	9.9	BRT Light	\$18,000,000
SR 436-Altamonte Springs SunRail to OIA	18.3	BRT Light	\$29,600,000
SR 50-Orlando Health to UCF Transfer Ctr.	22.8	Mixed BRT	\$207,400,000
East / West Express-UCF to Turnpike / SR 50	33.1	Express Bus	\$16,800,000

Based on this transit vision framework, a strategic work plan, including potential investment options, is provided for advancing the Conceptual Regional Transit Vision Framework to the next stage. Approaches and processes for advancing longer-term elements of the framework are also presented in the plan.

The capital cost of the high-priority investments identified for Orange, Osceola, and Seminole counties in this plan is approximately \$300 million. These services are not currently in the financially constrained plans of the MPOs that participated in the study.

### LYNX SR 436 Transit Corridor Study Alternatives Analysis (2018)

The SR 436 Transit Corridor Study was conducted to identify and advance solutions to improve transit service along the SR 436 corridor. The study area included the 23-mile segment between SR 424 in Altamonte Springs and the Orlando International Airport (OIA) South Terminal.

SR 436 serves multiple roles for all the communities along the corridor as the main street and commercial corridor, as an employment hub, as the regional arterial, as the transit corridor, and as the gateway to the region from OIA. The most relevant opportunities and issues identified in this study are:

- Dense employment pockets along the corridor, including Orlando International Airport (OIA) and the Altamonte Mall area, which provide natural anchors for high-quality transit service
- There are multiple transportation infrastructure planning and implementation efforts by PAWG member agencies. Many efforts are targeted to address pedestrian and bicycling safety.
- For much of the corridor, right-of-way is expansive presenting opportunities for additional multimodal infrastructure



The following are some issues along the SR 436 corridor that new transit investment needs to address.

- Pedestrian and bicycling comfort and safety is a challenge along SR 436, negatively impacting the attractiveness and ease of transit use.
- Pedestrian and vehicular traffic safety is a concern along SR 436.

The recommendations are categorized by target implementation timeline: ongoing, short-term, and long-term. Ongoing actions are activities already being carried out by various agencies and can be refined/aligned with SR 436 transit initiative. The short-term transit recommendation is to overlay FastLink service between the Orlando International Airport (OIA) and the Altamonte Springs SunRail station. The existing Link 436S route is recommended to be extended north to the SunRail station to match the alignment of the limited-stop bus service. The long-term transit recommendation is to implement Bus Rapid Transit (BRT) between OIA and SunRail. The BRT would operate on a combination of mixed-traffic and dedicated lanes, depending on each roadway segment's context. BRT stations would be substantial and feature amenities to make waiting more comfortable and speed up boarding and alighting.

MetroPlan Orlando has adopted a District Dedicated Revenue (DDR) policy that allows up to 30 percent of the DDR funds to be used for the operation of premium transit, effective FY 2020/21. MetroPlan Orlando uses the FTA definition of premium transit as “transit modes that provide higher comfort, capacity, speed and frequency than typical local bus operations or create a positive perception to users.” Projects meeting this definition include commuter rail, light rail, BRT, streetcars, etc.

In order to qualify for the DDR funds, the projects must be identified as cost feasible in the MetroPlan Orlando Long-Range Transportation Plan (LRTP) and must have gone through either an Alternatives Analysis or similar analysis to evaluate measures of effectiveness, costs and benefits with study results being incorporated in the LRTP.

The SR 436 Corridor Premium Transit/Complete Streets project is included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A: Premium Transit Prioritized Project List, ranked #5. The planning phase was funded in FY 2017/18. Estimated cost of next phase \$14-\$35 million.

### **LYNX SR 50/UCF Bus Rapid Transit (2015-2019)**

The SR 50 corridor was identified as particularly well-suited for high-capacity transit service in Vision 2030. This finding led to the 2015 SR 50/UCF Alternatives Analysis, and the project's inclusion in the MetroPlan Orlando 2040 Long Range Transportation Plan.

A 2015 Alternatives Analysis found that the preferred alternative for the corridor from UCF west along SR 50 to Powers Drive is Bus Rapid Transit (BRT). The SR 50 Locally Preferred Alternative is BRT service traveling in mixed traffic. The alignment would run along SR 50 from Oakland in west Orange County to Parramore Avenue. It would then turn south to serve the Downtown area using the proposed exclusive lanes of the LYMMO Lime line along Amelia Avenue and Livingston Street, continuing east to LCS. Connection to LCS will provide transfer opportunities to the rest of the LYNX bus system and SunRail. From LCS it uses the existing exclusive lanes of the LYMMO Orange line and then turns north onto the Orange Avenue and Magnolia Avenue one-way pair, and travels east along SR 50 to Alafaya Trail, and north to UCF.

The project will be implemented in two phases. Phase 1 will initially provide BRT service to the portion of the corridor with the highest immediate need (minimum operating segment), between Powers Drive and Goldenrod Road, a total of approximately 12.2 miles. Phase 2 will consider extending BRT service to Oakland and UCF, expanding the total length of the corridor to 30 miles, and would be implemented in later years. The implementation will depend upon future growth and development patterns along SR 50 and the associated ridership demand.



As part of the next stage in project development, a Station Area Analysis was completed in 2019. This analysis used the FDOT Transit-Oriented Development (TOD) Readiness Assessment Tool as the basis for analysis of land use and physical context of each station area along the corridor. The identified station areas included the following locations:

- Powers Drive
- Pine Hills Road
- Mercy Drive
- SR 423 / John Young Parkway
- US 441 / Orange Blossom Trail
- North Quarter
- SR 50 / Mills 50
- Primrose Drive
- Fashion Square
- SR 436 / Semoran Boulevard
- Goldenrod Road
- Econlockhatchee Trail
- SR 434 / Alafaya Trail
- Research Park

The SR 50 BRT service is projected to serve approximately 14,300 riders per day with an estimated capital cost of \$36 million (\$2 million per mile) and additional operating and maintenance cost of \$2 million per year. The SR 50 Corridor project is included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A Premium Transit Prioritized Project List, ranked #4, for project development, design, and construction for BRT on SR 50 from Powers Drive to Goldenrod Road and includes express bus service from Downtown Orlando to UCF. The Alternatives Analysis with a selected LPA was adopted in March 2015. Costs were listed as \$540,000 for project development, \$4.32 million for design, and \$36 million for construction.

#### [LYNX/Osceola County US 192 Alternatives Analysis \(2013\)](#)

In 2013, LYNX partnered with Osceola County to study alternatives for transit service along 23 miles on the US 192 corridor, as well as transit service along 8 miles of US 441/Orange Blossom Trail and John Young Parkway. Challenges for this specific corridor included:

- Corridor congestion due to growth in population and employment, increase land use densities, and high levels of tourist travel
- Deficiencies in existing transit service (service area, frequency, access, and performance)
- Lack of infrastructure that serves all modes (motorists, transit riders, pedestrians, and cyclists), including transit-supportive land uses
- Increasing demand in a corridor with a high level of transit dependent demographic groups
- Lack of transit visibility
- Lack of transportation options for all ages, incomes, and abilities, including lack of connections to SunRail

The study identified that enhanced bus service, bus rapid transit (BRT), or light rail transit (LRT) would be the best technology alternatives for the corridor, with additional provisions for transit signal priority (TSP), queue jumps, and dedicated travel lanes. A conceptual design was developed that depicted the recommended alternative: a dedicated busway in the median of US 192 for BRT service for sections of the corridor, queue jumps in the remainder of the corridor, and BRT stations throughout the corridor. The project was intended to be a foundation for transformative improvements to the entire corridor. Ridership was projected at 10,300 riders by 2030, with the potential for thousands more from hotel visitors.



The capital costs were estimated at \$120MM-\$130MM in 2013 dollars. The US 192 project is included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A: Premium Transit Prioritized Project List, ranked #3, for project development, design, and construction for BRT on US 192 from US 27 to US 441. Project development is funded in FY 2017/18. Additional costs include \$15.6 million for design and \$120 million for construction. The 2018 LYNX Forward ROS split service along this corridor between the proposed 210 U.S. 192/WDW and 211 U.S. 192 / St. Cloud limited stop service.

### FDOT OIA Refresh Alternatives Analysis (2016)

FDOT conducted the Orlando International Airport (OIA) Connector Refresh Alternatives Analysis (AA) study in consultation with the City of Orlando, Orange County, Osceola County, and the Greater Orlando Aviation Authority (GOAA). The goal of the OIA AA was to identify a recommended premium transit alternative that best addressed the mobility needs of the study area by identifying and evaluating viable alternatives.

Alternative 6, an at-grade, semi-exclusive BRT alignment connecting the OIA South Terminal and Destination Parkway Transit center (DPTC) was the selected alternative. Due to the high interest from regional partners and other stakeholders, FDOT decided to advance another option (Alternative 5, SunRail to OIA) under a separate study. Alternative 5, the SunRail-OIA connection, would be along a 5.5-mile-long corridor, beginning at a wye turnout on the existing CFRC mainline where the OUC Stanton Spur track begins, approximately 3 miles south of the Sand Lake Road station and 1.5 miles north of the proposed Meadow Woods station. From that point the project corridor would continue east approximately 3.5 miles along the existing OUC Stanton Spur, and then continue approximately 2 miles, on airport property to the proposed Intermodal Terminal at the OIA South Terminal.

This SunRail Phase 3 project is included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A: Premium Transit Prioritized Project List, ranked #1, with an estimated cost of \$225 million for construction only. The OIA Connector project is included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A: Premium Transit Prioritized Project List, ranked #2 (project development, design, construction of BRT from OIA to the Orange County Convention Center). PD&E is funded in FY 2017/18. \$3 million for project development, \$24 million for design, and \$200 million for construction.

### LYNX Vision 2030 (2011)

Vision 2030 was completed in 2011 as a joint venture between LYNX and MetroPlan Orlando. The plan was a comprehensive analysis of transit corridors and future transit needs for the region, identifying 22 Emphasis Corridors for enhanced transit service. A number of improvements were identified to support the high-emphasis corridors to provide connectivity and circulation between the corridors and activity centers, residences, and employment centers. The SR 50 corridor was identified as particularly well-suited for high-capacity transit service. This finding led to the 2015 SR 50/UCF Alternatives Analysis, and the project's inclusion in the MetroPlan Orlando 2040 Long Range Transportation Plan.

The LYNX Vision 2030 emphasis corridors are listed below:

- Winter Park SunRail Connector – from WP SunRail station to 17-92 & Lee Road
- US 192: Disney to Kissimmee – from Kissimmee SunRail station to Disney Transportation Center via 192 and World Drive
- US 192: Lake County to St. Cloud – 27 miles
- Silver Star Road to Parramore
- Sanford SunRail Connector – from downtown Sanford to Sanford SR
- Innovation Way: OIA to UCF



- US 17-92: Fern Park to Downtown Orlando
- US 17-92: Sanford to Fern Park
- SR 436: Apopka to Fern Park
- SR 436: Fern Park to OIA
- US 441: Apopka to Downtown Orlando
- US 441/17-92: Downtown Orlando to Florida Mall
- US 441/17-92: Florida Mall to Kissimmee
- SR 50: West Oaks Mall to UCF
- John Young Parkway: Downtown Orlando to International Drive
- Orange Avenue: Downtown Orlando to Sand Lake Road
- Kirkman Road: Park Promenade to International Drive
- SR 528: Disney to OIA
- SR 434: Maitland Blvd. to UCF
- Aloma Avenue: Winter Park to Oviedo
- Maitland Boulevard: SR 434 to US 17-92
- Seminole Way: Sanford to UCF

### LYNX Transit Asset Management Plan (2018)

The LYNX Transit Asset Management (TAM) Plan was adopted in 2018 as part of a new FTA requirement. The plan must be updated every three years. Within the TAM Plan horizon, LYNX will perform the planned preventive maintenance and implement the scheduled asset renewal and replacement projects.

LYNX has planned to implement the following major capital projects:

- Parking Lot and Modular Facility for LYNX Paratransit Operations (LOC Expansion)
- LYNX Southern Operations, Maintenance, and Transportation Training Center (Southern Operations Facility)
- Pine Hills Transfer Center
- Purchase of Compressed Natural Gas (CNG) Buses
- Bus Stop Improvement Program
- Information technology system upgrades (including an automated fuel and mileage tracking tool, expansion of VUEWorks to address all facilities maintenance, and new enterprise resource planning software)

Besides federal formula grants, LYNX relies heavily on subsidies from local jurisdictions and, to a lesser extent, state funding for both operating and capital expenditures. LYNX needs to secure additional funding for capital renewal projects.

In addition to capital renewal projects, some capital expansion projects are strategic investments to save operating costs and help LYNX achieve a State of Good Repair (SGR) more efficiently in the long run (for example, the Southern Operations Facility and information system improvement projects). Funding must be identified for these strategic capital expansion projects to move forward.

Currently, capital funding from local jurisdictions is based on a \$2 per service hour formula, which when combined with federal formula funds has proved insufficient for LYNX to maintain a SGR. Meanwhile, substantial federal funds are used for maintenance due to the lack of operating funding.



## SunRail Transit Asset Management Plan (2018)

The SunRail TAM Plan was submitted in 2018 and covers four years (2018-2022). The needs list covers five years to align with the time horizon requirements of SunRail's Full-Funding Grant Agreement (FFGA) with the Federal Transit Administration (FTA). At least every four years, SunRail must fully review and revise its TAM plan in accordance with FTA requirements. Certain events, such as natural disaster or opening a new facility, may require revisions prior to the four-year timeframe.

Based on the Transit Economic Requirements Model (TERM) Lite analysis, SunRail's SGR backlog as of April 2018 is estimated to be approximately \$2.1 million; meaning that as of April 2018, it would require roughly \$2.1 million to perform the necessary reinvestment actions to bring all SunRail assets to a full state of good repair. Subsequent to the April analysis, a decision was made to make approximately \$2 million in improvements to the Lake Monroe Drawbridge in 2019/2020. Given that SunRail's transit assets have an estimated total replacement value of \$317 million, the SGR backlog is estimated to represent roughly 0.7 percent of all SunRail assets (by value), which is extremely low by industry standards, and effectively indicates a "state of good repair."

## LYNX ITS Strategic Plan (2016)

The LYNX ITS Strategic Plan outlines a 20-year plan of ITS investments to be implemented in phases. Intelligent Transportation Systems (ITS) for transit comprise the digital technologies that support transit operations, including Computer-Aided Dispatch (CAD)/Automatic Vehicle Location (AVL), Closed-Circuit Television (CCTV), Automatic Passenger Counters (APCs), Transit Signal Priority (TSP), Interactive Voice Response (IVR), and fareboxes.

Mobile applications also fall under the ITS umbrella. LYNX has several customer-facing mobile applications, including a real-time bus tracker, fare payment, and safety/security incident reporting.

Future implementation of these ITS strategies promise great potential for the agency:

- Upgrades or consolidation of mobile applications
- Introduction of a multimodal fare payment to enable interoperability between transit services
- Transit signal priority
- Security systems
- Maintenance systems
- Bus technology/connected vehicles (e.g., collision avoidance systems)
- Super Wi-Fi

LYNX's Mobility Services division updated their web-based paratransit trip scheduling tool in March 2020. The platform, called WebACCESS, offers paratransit customers an easier way to reserve and schedule ACCESS LYNX trips on personal computers or mobile devices through a secure website.

At the federal level, the primary funding programs for transit ITS projects include FTA Section 5303 (Metropolitan Transportation Planning), Section 5307 (Urbanized Area Formula), Section 5312 (Mobility on Demand Sandbox), Section 5314 (Human Resources and Training) and Section 5339 (Grants for Buses and Bus Facilities Formula) programs. The Department of Homeland Security also has its Rail and Transit Security Program. The Florida Department of Transportation has multiple funding programs for transit capital projects that could be used by LYNX to obtain funds for ITS enhancements. The most notable one is the Public Transit Service Development Program, where funds for service development projects involving the use of new technologies to improve operations, maintenance, and marketing are eligible. The State also serves as a pass-through of ITS funding to LYNX through the Federal Highway Administration (FHWA).



The ITS Enhanced Transit project included in MetroPlan Orlando's FY 2024/25 – 2039/40 Category A: Premium Transit Prioritized Project List, ranked #7 (capital and operations of ITS-enhanced transit service within a focused area – Altamonte Springs, Casselberry, Longwood, Lake Mary, Sanford, and Maitland).

### LYNX GIS Strategic Plan (2016)

The 2016 update to LYNX's GIS Strategic Plan follows up on the previously adopted 2012 plan. The plan includes a short-term plan for years 2013-2017, as well as a longer-term plan for years 2016-2026. The plan evaluates technologies currently in use at LYNX and desired improvements, seeking to understand the data flows between internal LYNX Departments and external stakeholders; existing location-based needs; identifying goals and objectives; recommending implementation programs; identifying industry trends; and analyzing areas of collaboration between Planning, GIS, and ITS practices. The plan identifies a number of improvements to LYNX GIS applications, including the following:

- Create and maintain a catalog of location-based data
- Consolidate location-based database for on-board equipment on fixed-route vehicles
- Improve GIS data structure and data access
- Automate field data collection process
- Enhance organization-wide access of location-based data
- Enhance regional data sharing
- Implement location-based technologies recommended in the concurrently developed ITS Strategic Plan





# Appendix 11B: Transit-Supportive Land Use Policies



# Orange County Transit-Supportive Land Use Policies

The following table lists transit-supportive land use policies identified through review of the Orange County Comprehensive Plan 2010-2030. The plan was originally adopted in May 2009 and last amended in July 2019. Each policy was assessed for the likelihood that it would help achieve or support density, design, diversity, distance to transit, destination accessibility, and/or demand management. These assessments are not been to be comprehensive, as each policy may contribute in additional ways to each area. If a policy was clearly transit-supportive but not evidently aligned with one of the six characteristics, no marker was placed.

**Table 11.11 | Orange County Transit-Supportive Land Use Policies**

Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
<b>FLU1.1.2 (B)</b>	Allows for future residential densities up to 50 DU/AC	X					
<b>FLU1.1.5</b>	Orange County shall encourage mixed-use development, infill development and transit-oriented development to promote compact urban form and efficiently use land and infrastructure in the Urban Service Area. The County may require minimum FARs and densities in its Land Development Code to achieve the County's desired urban framework. Infill is defined as development consistent with the Infill Master Plan (2008).	X		X	X	X	
<b>FLU2.2.1</b>	Within the Urban Service Area, Orange County shall encourage a mixture of land uses within activity and mixed-use commercial centers. Office and residential land uses shall be part of the balanced land use mixture, in addition to the commercial component. (Added 3/99, Ord. 99-04; Amended 12/00, Ord. 00-25, Policy 3.8.8-r)	X		X	X	X	
<b>FLU2.2.2</b>	Orange County shall use its parking standards to better integrate adjoining land uses, to cluster development near available transit service, to provide flexibility to implement smart growth strategies, and to use land efficiently in the Urban Service Area.	X		X	X	X	X
<b>FLU2.2.7</b>	As part of its transportation planning efforts, Orange County may establish Mixed-use Corridors (MUC) with minimum FARs. To achieve and maintain the desired mixture of land uses within mixed-use corridors, the percentage of total gross leasable floor area within mixed-use corridors shall be consistent with the ranges provided for each use. The following is an example of a desirable standard. This standard should be implemented through modifications to the Land Development Code. This may be accomplished through creation of a new mixed-use zoning district or retooling of the Urban Village and Neighborhood Activity Corridor zoning districts.	X	X	X	X	X	



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
FLU2.2.9	By 2010, Orange County shall promote smart growth principles in residential design, parking standards, minimum project size and open space requirements of the Village zoning district. These changes include providing for development of infill parcels and redevelopment of greyfield sites between 10 and 200 acres. This development and redevelopment shall provide an integrated mix of residential and residential-support uses, including recreation and limited neighborhood commercial, office and personal services. To create a community/village-like setting, the land uses within each Urban Village shall be interconnected and oriented around a Village Center and shall have specific design standards.	X	X	X	X	X	
FLU2.2.14	Orange County will encourage and promote effective examples of mixed-use development at appropriate scales through incentives, public education, transit planning, Traditional Neighborhood Development (TND) and Village principles, and via its Design Awards program. (Policy 3.6.1-r)	X		X		X	
FLU2.3.3	To maximize existing infrastructure and enhance mobility options, Orange County shall designate Alternative Mobility Areas, or AMAs (referred to in Florida Statutes as Transportation Concurrency Exception Areas) as identified in the Transportation Element. These efforts will be coordinated in conjunction with the County's Capital Improvements Element. Part of this effort will include adoption and implementation of long-term strategies to support and fund mobility enhancements within designated areas.			X			
FLU2.3.8	The County shall work with LYNX to coordinate routing of regional transit service and location of facilities with the location of Activity Centers, as identified in the Future Land Use Element. (Added 12/00, Ord. 00-25, Policy 3.6.8)				X	X	
FLU2.3.9	Orange County will support land use policies that reinforce effective transportation management. This includes support for activity centers, transit-oriented developments and sector planning. (Added 12/00, Ord. 00-25, Policy 3.6.9)	X		X	X	X	
FLU2.3.11	Orange County shall encourage the use of new urbanism and sustainability concepts, such as but not limited to Traditional Neighborhood Development, Urban Villages, vertical mixed-use, livability and pedestrian-friendly environments (including safety enhancements improvements), and Transit Oriented Development, and the County shall incorporate such concepts into the Land Development Code in order to reduce urban sprawl, decrease trip lengths, promote internal capture and promote multimodal travel. (Added 12/00, Ord. 00-25 Policy 3.6.11-r)	X	X	X	X	X	



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
FLU3.1.1 (E)	The development shall be designed in a manner that encourages multiple modes of transportation, walking, bicycling, park-and-ride, and transit. Both walking and transit is encouraged by locating residential neighborhood within 1,600 feet of transit stops.				X	X	X
ID1.3.1	A direct transit connection from the International Airport and Activity Center shall be pursued by Orange County.				X	X	
ID2.2.5	All available transit system funding sources shall be continuously pursued by Orange County.						
ID2.2.8	Density/intensity bonuses for on-site provision of major and minor Transit Stations shall be given as outlined in the Activity Center development guidelines.	X					
E3.2.1	Support the expansion of commuter rail stations to major employment centers such as OIA, International Drive, and Central Florida Research Park.					X	
T2.8.1	Orange County shall grant an exception from transportation concurrency for projects that promote public transportation, Projects that promote public transportation are developments within the Urban Service Boundary that directly affect the provision of public transit, including transit terminals, transit lines and routes, separate lanes for the exclusive use of public transit services, transit stops (shelters and stations), office buildings or projects that include fixed-rail or transit terminals as part of the building, and projects which are transit oriented and designed to complement reasonably proximate planned or existing public facilities. (Added 05/09, Ord. 2009-15, Policy T2.6.1; Amended 06/12, Ord. 2012-14)		X		X	X	
T.2.5.14	Transit. The County shall work with LYNX to ensure that the MMTD is well-connected via transit to major trip generators and attractors both inside and outside of the MMTD, that transit stops and waiting areas are safe and comfortable, and to enhance intermodal connections. (added 09/11, Ord. 2009-28) A. Identified needs shall be reflected in the LYNX Transit Development Plan (TDP) and/or the Orange County capital improvements program and priority shall be given to funding of improvements that increase the availability, speed, frequency, duration and reliability of transit serving the MMTD. B. The County shall coordinate with LYNX regarding the provision of transit centers, super stops, and other facilities for the transfer of passengers to and from the MMTD via the regional transit system. C. The County shall coordinate with LYNX regarding the provision of benches, signage, lights, and covered or enclosed waiting areas for transit stops within the MMTD. D. The County shall coordinate with LYNX regarding the provision of bicycle parking at transit stops and		X		X	X	



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
	bicycle racks on buses as a means to interface bicycle travel with public transit						
<b>T3.4.1</b>	The County, in collaboration with FDOT, METROPLAN Orlando, LYNX, local governments, and the private sector, will plan viable and financially feasible roadway, mass transit and public transportation facilities and services, including rail or Bus Rapid Transit (BRT) technologies, on a local and regional scale.					X	
<b>T2.8.5</b>	Land uses shall be organized in such a way that the densities and intensities promote transit use, primarily with higher density uses such as commercial offices, multifamily residential, and institutions shall be located within walking distance to activities along the major route. The densities along perpendicular facilities to the major route will decrease as distance from the major route increases.	X	X				
<b>T3.1.1</b>	The County shall require land use densities, intensities and mixed uses that integrate and support alternative transportation modes, enhance the feasibility of transit, decrease trip lengths, and promote internal capture.	X		X	X	X	
<b>T3.1.2</b>	Orange County shall promote pedestrian-friendly, compact, transit-ready and transit-oriented development in Mixed-Use Development and other Activity Centers as a means for making more efficient use of land, infrastructure and services within the Urban T-17 Service Area boundary. Mixed-Use Development and other Activity Centers will help reduce automobile use through greater multi-modal connectivity, supporting transit services, and opportunities for workforce housing, while encouraging quality urban design standards.	X	X	X	X	X	



# Osceola County Transit-Supportive Policies

The following table lists transit-supportive land use policies identified through review of the Osceola County Comprehensive Plan 2040 and Land Use Development Code for Mixed Use District Development (MUDD). The Future Land Use (FLU) elements that were reviewed were adopted in December 2018. The Transportation (T) element was adopted in May 2019. The Land Use Development Code was adopted in December 2019.

As done with the Orange County policies, each of these policies was assessed for the likelihood that it would help achieve or support density, design, diversity, distance to transit, destination accessibility, and/or demand management. These assessments are not been to be comprehensive, as each policy may contribute in additional ways to each area. If a policy was clearly transit-supportive but not evidently aligned with one of the six characteristics, no marker was placed.

**Table 11.12 | Osceola County Transit-Supportive Land Use Policies**

Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
<b>FLU Policy 1.2.16</b>	To further facilitate the 2017 Osceola County Strategies for a Sustainable Future Report, Osceola County shall establish Urban Infill Centers within the Urban Growth Boundary (UGB) to promote integrated urban environments that encourage walkability and transit use through compact development and design standards. Center types shall include Neighborhood, Community, Urban, and Employment with varying scales of intensity and density identified herein. Application shall be exclusively in the Urban Infill Area outside of the Urban Expansion Area.	X	X		X	X	
<b>FLU Policy 1.2.16.10</b>	New Employment Centers may be permitted only when adjacent to two avenues and/or boulevards; or premium transit corridor.				X	X	
<b>FLU Policy 1.2.17</b>	The Commercial land use designation is intended for existing commercial areas where centers are not feasible and allows for a wide range of intensities and uses as appropriate based on proximity to framework roadways or transit, neighboring development, and development standards identified in the Land Development Code. Maximum intensity shall not exceed 2.5 FAR. Residential development is permitted at a minimum consistent with MDI.	X		X	X		
<b>FLU Policy 1.3.3.</b>	Establish planned Mixed Use Districts within the County’s UGB for large, undeveloped properties located outside the existing developed or developing urban area that shall provide for the creation of complete communities. These Mixed Use Districts are to promote a balanced social, environmental, and economically sustainable environment.			X		X	



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
<b>T Policy 1.1.2</b>	Consistent with the Future Land Use Element, the transportation system shall be planned and implemented to increase connectivity, provide high-frequency transit and create a pedestrian environment to reduce reliance on automobile travel, as well as to recognize the build-out of the County to a new sustainable vision that encourages a balanced 1:1 jobs to housing ratio.	X			X	X	X
<b>T Policy 1.2.3</b>	The County shall comply with statutory requirements for comprehensive plans by preparing a multimodal system table which documents and tracks the degree to which adopted transportation policies are being implemented year over year.						X
<b>T Policy 2.2.6</b>	The County shall continue to coordinate with the FDOT and the City of Kissimmee to ensure station designs which meet the needs of future patrons and promotes transit oriented development in a manner consistent with adopted Future Land Use policies.						X
<b>T Policy 3.2.1</b>	The County shall continue to financially support and/or promote public transit routes within the Urban Growth Boundary.	X					X
<b>T Policy 3.2.2</b>	The County shall ensure that future roadways and expansion of existing major roadways be designed as future transit corridors to accommodate automobiles, bicycles, pedestrians, and transit, specifically by incorporating public transit facilities and sidewalks into planned and existing roadway projects. Future Transit Corridors are illustrated on TRN 4 of the Transportation Map Series.		X	X			
<b>T Policy 3.2.3</b>	The County shall promote Park and Ride facilities in order to promote transit ridership by residents living at the periphery of the overall public transit coverage area.						X
<b>T Policy 4.3.1</b>	For corridors identified in this element as higher density and intensity, the County shall focus its premium transit network and promote a system designed to serve high-use areas with greater transit options.	X			X	X	
<b>T Policy 4.3.2</b>	Where feasible, the County shall provide a transit network feeder system designed to serve an entire area, with comparable level of service across the network.					X	X
<b>T Policy 4.3.3</b>	The County shall connect high ridership areas and high employment areas, focusing on direct transit routes between these key areas.				X	X	
<b>LU Policy 4.1.1</b>	Traditional Neighborhood Design (TND) is the preferred form of development within the Urban Infill Area of the UGB. It is the required form of development within the Urban Expansion Area of the UGB and Urban Infill Activity Centers. The County shall amend its Land Development Code to include, but not be limited to, the following TND design principles .... Promote increased accessibility and interconnectedness through an integrated multimodal	X	X		X	X	



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
	transportation system, featuring a strong pedestrian network and where applicable dedicated transit corridors.						
<b>LU Policy 4.1.3</b>	To alleviate the pressure of urban sprawl, reinforce a more efficient pattern of urban development, discourage the reliance of the automobile, and create a stronger sense of place through innovative design criteria, the County will encourage traditional neighborhood design (TND) and development patterns, as well as other innovative approaches, which shall be articulated in the Land Development Code.	X	X				
<b>LU Policy 4.3.1</b>	The County shall encourage the use of mass transit in order to decrease the dependency upon the automobile for work and non-work trips.					X	
<b>LU Policy 4.3.2</b>	The County shall coordinate with the LYNX and METROPLAN ORLANDO and other regional agencies regarding the provision of transit corridors and station locations, types, and development characteristics for each of the proposed station stops.		X				
<b>LU Policy 4.3.4</b>	Transit Oriented Development shall be allowed in areas within the Urban Growth Boundary and located along a designated transit corridor as identified in Transportation Map TRN: 8 Transit Corridors.	X	X		X		
<b>LU Policy 4.3.5</b>	The County shall use transit systems as a way to reinvest in blighted or identified redevelopment areas and increase property values.						X
<b>MUDD 3.13.1, B, 2a, vi</b>	Transit supportive building densities and land uses are provided within walking distance of transit stops.	X		X	X		
<b>MUDD 3.15.1., B, 2a, i</b>	New development and re-development within the CRA will be compact, pedestrian-oriented and transit accessible places designed to reduce over-reliance on automobile vehicle miles traveled.	X	X		X		
<b>MUDD 3.2.6 B4</b>	The Urban Infill Centers are special purpose districts within the Urban Infill Areas of the Growth Boundary of the Future Land Use Map that are designated as Neighborhood Center, Community Center, Employment Center and Urban Center to promote integrated urban environments that encourage walkability and transit. New development within a Community Center, Urban Center, or Employment Center that complies with the Urban Infill Center standards, and which is located within one-half (0.5) mile walking distance of a premium transit corridor shall be considered a Transit Oriented Development. Urban Infill Centers Standard can be found herein.	X		X	X	X	X



# Seminole County Transit-Supportive Policies

The following table lists transit-supportive land use policies identified through review of the Seminole County Comprehensive Plan’s Future Land Use (FLU) Element and Transportation (T) Element, last amended in May 2017. As done with the two prior counties’ set of policies, each policy was assessed for the likelihood that it would help achieve or support density, design, diversity, distance to transit, destination accessibility, and/or demand management. These assessments are not been to be comprehensive, as each policy may contribute in additional ways to each area. If a policy was clearly transit-supportive but not evidently aligned with one of the six characteristics, no marker was placed.

**Table 11.13 | Seminole County Transit-Supportive Land Use Policies**

Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
<b>FLU 1.16</b>	Encourage More Efficient Urban Land Use Patterns Supportive of Multimodal Transportation			X			X
<b>FLU 1.16.B</b>	Continuing to participate in planning efforts with LYNX, including the LYNX Five-Year Improvement Program, and funding of LYNX routes, to improve transit headway in areas where more concentrated and compact development will be located, focusing in particular upon the US 17-92 Community Redevelopment Area (CRA) Corridor, the four SunRail stations, and the transit corridors within the Urban Centers and Corridors Overlay.	X					X
<b>FLU 1.17.D</b>	Promotion of land use patterns that facilitate multimodal means of transportation and the efficient use of infrastructure.			X			
<b>FLU 2.3</b>	Residential Development Supportive of the Multimodal Transportation Network			X	X	X	
<b>FLU 4.2</b>	Pursuant to Objective IGC 8 Joint Planning for US 17-92 Community Redevelopment Area and its policies, the County shall, in partnership with cities participating in the US 17-92 Community Redevelopment Agency (CRA), continue to refine the CRA strategy to encourage infill and development opportunities within the US 17-92 CRA area, implement the updated CRA Master Plan of 2012, and jointly encourage revised City and County Future Land Use Elements and Land Development Regulations as needed, to encourage beneficial infill development and redevelopment through measures which may include, but are not limited to, those measures listed in this Policy. In addition, The County shall continue to encourage a more compact and walkable land use pattern in its major transit redevelopment corridors and urban centers through the measures provided in this Policy.	X		X	X	X	
<b>FLU 4.3</b>	In support of infill development, revitalization of Community Development Block Grant eligible Target Areas, and the Urban Centers and Corridors Overlay, the Land Development Code (LDC) will be amended as needed. Revisions resulting from this policy will provide flexibility in placement of buildings and setbacks to enable	X			X	X	X



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
	<p>revitalization of existing neighborhoods and commercial areas; preserve and enhance existing large canopy trees and natural vegetation; support the County’s multimodal mobility strategy by reducing required minimum parking in areas well served by transit, commuter rail, and other mobility alternatives; and support a compact, walkable land use pattern by allowing reduced building setbacks and build-to lines for infill projects in areas served by transit.</p>						
<p><b>FLU 5.17(E)3</b></p>	<p>Developments must be designed to be transit-ready, whether current service is available or not. Internal mobility corridors must be complete streets. Vehicular entry to a development via connections to arterial roads must be held to a minimum. Developments along major transit corridors shall provide external transit shelters and sidewalks that link to internal pedestrian and bicycle paths within the development. Cross access points to neighboring developments, including pedestrian and bicycle access, must be provided wherever possible. Proposals that include multifamily uses within ½ mile of a SunRail station or a public school must include pedestrian and bicycle path access to the station or public school.</p>		X			X	
<p><b>FLU 14.3</b></p>	<p>Seminole County shall continue to draw upon the expertise of the County’s regional partners and use the results of studies financed through the US Department of Housing and Urban Development to assist in the development of creative development features for the Land Development Code (LDC) that will improve pedestrian safety and the ease of transit and bicycle use within the US 17-92 corridor and major urban transit corridors within the Urban Centers and Corridors Overlay. Features that may be considered include but are not limited to: use of incentives to encourage mixed use developments that improve ease of pedestrian access to multimodal transportation, including SunRail commuter rail; frontage roads in mixed developments; bus shelters that are a component of mixed-use buildings and multiple use parking structures; recharge stations for electric and hybrid vehicles; pedestrian overpasses or underpasses; elevated and signalized pedestrian crosswalks that link developments to SunRail stations or major employment centers along major urban transit corridors; and multipurpose trails for use by pedestrians and bicyclists to reach SunRail stations, employment centers and parks within major urban centers and corridors.</p>	X	X				X
<p><b>FLU 15.2</b></p>	<p>Seminole County and the US 17-92 Community Redevelopment Agency shall investigate the feasibility of creating an incentive program for those property owners within the US 17-92 corridor to install amenities such as lighted bus shelters and informational kiosks for pedestrians at locations that will encourage pedestrian activity and transit usage.</p>						X



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
FLU 15.3	Seminole County shall continue to provide staff support, land use, population and job projection data, and review comments/analysis during the LYNX planning efforts, and shall coordinate the ongoing development, implementation and evaluation of the County's multimodal mobility Strategies with LYNX and MetroPlan Orlando during the preparation and updating of the LYNX Long-range Strategic Master Plan and the Five Year Service Plan updates. These plans will identify Functional and Enhanced Core Systems, improvements to existing core systems, such as primary corridors like US 17-92, and enhanced systems, such as improved headways on primary corridors, SunRail access, service to new regional urban centers, identification of feeder corridors and identification of candidate bus rapid transit (BRT) corridors such as State Road 436. BRT service is intended to attract "choice" riders (those with transportation options).						X
FLU 15.5	Coordinate with and support Altamonte Springs Flex Bus						X
FLU 15.6	Seminole County will coordinate with and support the operation of LYNX NeighborLink service that picks up callers who have reserved a ride at least two hours prior to departure, delivers riders to any location within the service area, and allows for transfers to the LYNX fixed bus routes and the Sanford SunRail station. Seminole County is supporting the NeighborLink service, as well as the connecting LYNX fixed bus routes.						X
FLU 16.1	Seminole County shall continue to coordinate with the cities in the development of policies to include within the County and city Comprehensive Plans and land use codes regarding transit-oriented land use patterns within ½ mile of stations, mobility strategies to enable pedestrian and bicycle access of stations, and code changes to foster long term transit-readiness. Coordination efforts shall also examine possible long term passenger amenities and possible passenger-supportive uses at rail stations.		X		X	X	X
TRA 1.1.10	In order to avoid a taking or to support the Central Florida Regional Growth Vision, the County shall evaluate the potential positive impacts of approval of land development projects within that portion of the County that is not included within the Transportation Concurrency Exception Area (TCEA) when such projects meet one of the following criteria: the project incorporates public transit-related mobility projects as listed and defined herein or the project involves the use of development agreements or the project involves the use of development phasing. This policy shall apply when a development order is subject to denial on the basis of backlogged substandard operational level(s) of service on the major road system outside of the TCEA under the following circumstances:		X				



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
TRA 1.3.11	To ensure the implementation of a livable transportation system, the County will strive to provide its residents and business community multiple travel choices and the ability to move from one mode of travel to another with ease, such as, parking one's car at a park and ride lot and accessing rail, express bus or local transit circulator, to reach one's destination in a timely fashion. A livable, multimodal transportation system is depicted in Exhibit TRA: 2025 Multimodal Transportation map exhibit and will be used by the County to conceptually plan for future transportation needs.						X
TRA 2.1.14	New or expanded developments whose traffic is projected to utilize roadways designated as backlogged facilities outside of the Transportation Concurrency Exception Area shall be subject to additional enhancement techniques and activities to maintain and improve the roadway's average peak hour operating speeds at the time of plan adoption. These techniques and activities shall include, but are not limited to: ride-sharing, access control, signal optimization, transit accessibility, and staggered work hours.		X				X
TRA 2.2.6	The County shall adopt and enforce performance frameworks, policies, and land development regulations that encourage and incentivize shared parking and reduced parking requirements within mixed use centers and major transit development/redevelopment corridors, especially as a part of development approvals including ride sharing, vanpooling and other Transportation Demand Management (TDM) agreements.			X			X
TRA 2.2.7	Through the policies and performance frameworks of the Comprehensive Plan, and land development regulations in the Land Development Code, the County shall continue to require the accommodation of desirable multimodal features in site planning and design.		X				
TRA 2.2.8	The County shall, from time to time, evaluate and, as deemed necessary, modify its land use policies, performance framework and land development regulations to allow higher density, mixed-use development along designated transit corridors to encourage increased transit ridership and discourage urban sprawl.	X		X			X
TRA 2.2.9	The County's establishment of new mixed use centers shall be coordinated with the County's approval of plans for multi-modal mobility, which include, at a minimum, integrated roadway, transit, pedestrian and bikeway systems designed to reduce demand for automobile travel and reduce greenhouse gas emissions.	X					X
TRA 2.2.16.4	To encourage the use of transit in redevelopment areas, Seminole County shall require site and building design for infill and redevelopment projects within the transit service area to be coordinated with public transit, bicycle, and pedestrian systems. Requirements may include, but not be limited to, pedestrian		X		X		



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
	access to transit vehicles, transit vehicle access to buildings, bus pull-offs, transfer centers, shelters, pedestrian and bicycle “LYNX trails” to allow neighborhood access to nearby transit stops and shelters via dedicated paths rather than limiting such access to vehicular rights-of-way only, and bicycle facilities. Further guidance is provided in the Future Land Use Element.						
TRA 2.3.3.1	The County shall continue to evaluate and, as deemed necessary, implement additional mass transit, paratransit and transportation demand management strategies and programs which support the Future Land Use Element, improve the Mobility Strategy for the Dense Urban Land Area/Transportation Concurrency Exception Area, address the special needs of the service population, and increase the efficiency of transit services. Such strategies and programs may include improved services at rail stations, carpools/vanpools, Park-and-Ride, Dial-a-Ride, parking management, express bus services, transfer stations and increasing frequency of bus service. The County shall continue to evaluate and, as deemed necessary, modify its policies, standards and regulations to promote increased usage of taxi, limousine and other "for hire" paratransit services.	X					X
TRA 3.1.3	The County shall continue to review and, as deemed necessary, revise its right-of-way and building setback policies, standards and regulations to include new or additional provisions for the acquisition, reservation and protection of mass transit rights-of-way and designated rail/mass transit corridors.		X				
TRA 3.3.6	The County shall support legislative initiatives to increase existing funding and provide new State funding sources for the County road system, the State highway system within the County, the city street system, transit capital and operations, pedestrian and bicycle facilities, and other transportation facilities and services of regional significance such as SR 417. The County shall request the Legislature to support legislative initiatives to establish dedicated sources of revenue for the provision of transit services without a requirement for a local referendum.						X
TRA 3.4.26	Seminole County shall continue to coordinate with the cities of Longwood, Lake Mary, Sanford, and Altamonte Springs in the development of transit supportive land uses surrounding the SunRail stations. In addition, with the use of a grant from the US Department of Housing and Urban Development (HUD) administered by the East Central Florida Regional Planning Council, the County shall work with the East Altamonte neighborhood and the City of Sanford to develop plans for areas surrounding the Altamonte Springs and Sanford SunRail stations. These Station Area Plans will serve as the basis for potential amendments to the County Comprehensive Plan and Land Development Code, which will be coordinated with amendments to the City of Sanford		X		X	X	



Section, Page	Relevant Excerpt	Density	Design	Diversity	Distance to Transit	Destination Accessibility	Demand Management
	Comprehensive Plan and Land Development Code. The Station Plans will address improved and safe access to the SunRail station from the surrounding areas to enable them to benefit from proximity to commuter rail, as well as identifying potential types of land uses desired around the stations (including mixed use development and employment based land uses), and may identify specific transportation and development implementation actions related to key parcels.						

## Transit-Supportive Policies from Other Areas

In addition to reviewing the region’s comprehensive plans to identify transit-supportive policies, documents from other areas were also inspected. This included Broward County’s Land Use Plan, the River to Sea Transportation Planning Organization’s (TPO) Transportation Impact Analysis (TIA) Guidelines, and the East Central Florida Regional Planning Council’s 2060 Plan. This collection of policies is provided below as a resource to area planners and leaders seeking best practices from across the state.

### Broward County

The following transit-supportive policies are listed in Broward County’s Land Use Plan, originally adopted in April 2017 and amended in April 2020. The bulleted list below is the original text from their policy documents.

- Prioritize new development and redevelopment to existing and planned downtowns and major transit corridors and transit hubs.
- Make the best use of the regional transportation network to move people, goods and services safely and efficiently while incorporating and promoting Complete Streets principles where appropriate in a context sensitive manner.
- Promote and support a sustainable funding source for countywide transit and mobility needs.
- Identify and implement a multi-modal level of service standard for redevelopment proposals.
- Local governments may propose a specific area for designation on the Broward County Land Use Plan as an Activity Center. The municipality shall include within their land use element policies that ensure the proposed Activity Center will support the location of uses in a manner oriented around the five-minute (i.e. quarter-mile) walk and/or within approximately quarter-mile on either side of a transit corridor. Multiple nodes of activity oriented around the five-minute (i.e. quarter mile) walk or transit corridor may be included within one Activity Center. The municipality shall include within their land use element policies that ensure that the proposed Activity Center will support the location of uses and internal circulation such that pedestrian mobility is a priority. All land uses in an Activity Center shall be directly accessed via pedestrian ways, and accessible to existing or future alternate public transportation modes, including bicycle and transit.
- Minimum and Maximum FAR (Floor Area Ratio) for non-residential uses within an Activity Center must be specified by the local government and described in the permitted uses section of the Broward County Land Use Plan. Minimum non-residential FARs (Gross) of 2 are encouraged. Non-residential intensities may vary



along transit corridors and may be specified at the option of the local government, either as a maximum FAR in geographically designated areas and/or as an overall maximum square footage by use.

- To reduce reliance on automobile travel, local governments shall ensure convenient access to high use mass transit stops or multi-modal facilities within a proposed Activity Center.
- Local governments shall include within their local land use element policies that encourage internal transit systems to serve the residents and employees within the proposed Activity Center (e.g. trolley, community transit services). Transit shelters should be incorporated in the local design guidelines to provide safe and comfortable service and to encourage transit usage.
- Local land use element policies must include guiding principles for municipal design guidelines to adequately address the transition to adjacent residential development and to promote connectivity to transit stations and stops.
- The municipality shall include within their land use element policies that ensure that areas designated as Activity Centers include design features that promote and enhance pedestrian mobility, including connectivity to transit stops and stations.
- Local plan policies must include requirements for internal pedestrian and transit amenities to serve the residents and employees within the area designated as an Activity Center (such as seating on benches or planter ledges, shade, light fixtures, trash receptacles, information kiosks, bicycle parking) or other amenities that could be incorporated into adjacent publicly accessible areas and plaza.
- Municipalities are encouraged to use some or all of the above design elements, or to develop other design strategies, which accomplish the goals of using design elements to enhance pedestrian and transit mobility. County review of applications seeking the Activity Center land use category designations will only determine whether the municipality has adopted, through plan policies, a cohesive set of implementation strategies to accomplish the design strategies sought, and will not seek to require a specific design approach or a fixed set of design approaches as a requirement for County approval of the land use designation sought.
- Broward County will continue, through the criteria established within the Broward County Land Development Code, to provide a transportation concurrency fee credit for new development located in proximity to transit stops.
- No municipal government shall accept a building permit application, nor issue a building permit, unless the applicant presents evidence from Broward County either that the impact of the proposed development on the regional transportation network has been mitigated by payment of road impact fees or transit impact fees, based on the appropriate provisions of the Broward County Land Development Code, or that no such payment is due. The County Commission may adopt land development regulations which exempt from this requirement categories of building permits that clearly do not create additional transportation impacts.
- Promote mass transit use and discourage automobile travel by encouraging local governments to locate mixed land uses along major roadway corridors with mass transit facilities.
- Large developments which generate high traffic volumes should be located with direct access to mass transit.
- Regional or community libraries, clinics,... and other public facilities should be located in areas of concentrated activity, such as downtown areas and community or regional shopping centers, in order to allow multi-purpose trips, provide easy access by mass transit and economize on parking areas.
- Development designs should be context-sensitive and consider existing and planned adjacent land uses. Development projects should be considered both separately and as part of a connected network with integrated pedestrian, bicycle and transit facilities generally consistent with the Broward Complete Streets Guidelines or equivalent principles.



## River to Sea TPO Transportation Impact Analysis Guidelines

The River to Sea TPO adopted their TIA guidelines in June 2016, seeking to identify and develop consistent standards related to the impacts of proposed developments on the area's transportation network. The guidelines indicate at which point developers should be directed to coordinate further with transit. These specific transit references are listed below.

- For TIAs within Volusia County, if impacts are identified to the existing and/or future transit network on road segments within the TIA analysis area identified under Section 4.b, the applicant shall refer to Votran's Transit Infrastructure Recommendations by Type of Development Table. In the event that impacts to the existing and/or future funded transit network are identified, and transit infrastructure improvements are required based on the proposed development type, the applicant shall refer to Votran's adopted Transit Development Design Guidelines (TDDG).
- Potential transit impacts in Flagler County shall be coordinated with Flagler County Public Transportation (FCPT) based on funded transit service improvements included in the adopted FCPT TDP or R2CTPO adopted LRTP Cost Feasible Plan.
- Documentation that impacts to Votran, FCPT, and/or SunRail networks have been reviewed and agency contact has been made, as appropriate, must be included within the TIA. Potential options to address identified transit impacts shall be discussed and documented during the TIA process.

## East Central Florida Regional Planning Council's 2060 Plan

In recognition that development decisions of one community can have larger ripple effects on neighboring communities, the East Central Florida Regional Planning Council (ECFRPC) set forth a Strategic Regional Policy Plan in November 2011. The goals and policies of the plan are intended to deter the region's historic trends toward sprawl. Transportation is discussed in Chapter 5 of the plan, with a goal of developing "a balanced multi-modal transportation network that connects compact centers of development with mixed use transit-served corridors." The following policies are included in the transportation chapter:

- Support passenger rail transit (i.e. light rail, commuter rail, streetcar, and highspeed rail) in select corridors to connect population centers.
- Recommend minimum densities and mixed uses within walking distance of rail stops and along transit-served corridors.
- Encourage transit-oriented and transit-ready developments proximate to transit stations.





# Appendix 11C: Transit Needs and Costs



# Transit Needs & Costs

The following tables outline transit needs and their related costs.

**Table 11.14 | Transit Operations Infrastructure**

Facility Location	Type / Description	Cost (Current Year)
Southern part of LYNX service area*	New Operating Base	\$83,400,000
Northern part of LYNX service area*	New Operating Base	\$15,000,000
Meadow Woods SunRail Station*	Park & Ride Facility Expansion	\$14,000,000
Tupperware SunRail Station*	Park & Ride Facility Expansion	\$2,308,825
Poinciana SunRail Station*	Park & Ride Facility Expansion	\$2,815,816
LYNX Central Station*	Facility Modifications	\$3,000,000
Nemours Children's Hospital (Lake Nona)	Transit Facility	\$3,500,000
Disney Springs	Transit Center Improvements	\$2,000,000
John Young Pkwy & Town Center Blvd (at "The Loop" retail complex)	Transit Layover Facility	\$650,000
Valencia College West	Transit Center	\$5,000,000
Maitland SunRail Station	Bus Facility Enhancement	\$4,500,000
Florida Mall	Transit Center Expansion	\$2,000,000
Universal Studios	Transit Center Expansion	\$7,500,000
Pine Hills	Transit Center Expansion	\$650,000
Waterford Lakes/Avalon Town Center	Transit Center/Transfer Facility/Turnback	\$3,500,000
Orlando Packing District Development	Transit Center	\$5,000,000
US 441 & Hunter's Creek	Transit Turnback Facility	\$1,250,000
SR 436 & Curry Ford Road	Transit Center	\$5,000,000
West Oaks Mall/Health Central Hospital and the adjacent Walmart (general area)	New Transit Center	\$6,000,000
SR 436 & SR 50	Transfer Center	\$6,500,000
Fashion Square Mall	New Transfer Facilities	\$1,250,000
Grant National/Oak Ridge (I-Drive North)	Transit Center	\$1,250,000
Meadow Woods SunRail Station	Bus Facilities Expansion	\$2,000,000
Orlando International Airport	Expansion of LYNX access	\$3,000,000
Sand Lake Road SunRail Station	Bus Facilities Expansion	\$2,000,000
Destination Parkway (I-Drive South)	Transit Center Enhancements	\$650,000
Full Sail University (SR 436 & University Blvd)	New Transit Center	\$6,000,000
Lee Vista Area (near SR 436)	New Transit Center	\$6,000,000
Holden Ave/Gatlin Rd	New SunRail station and associated bus facilities	\$12,650,000
Rosemont Transit Center	Transit Center Expansion	\$1,000,000
Winter Park Lee Rd/Webster Avenue area	New Transit Center	\$1,250,000
Seminole Center SuperStop	SuperStop Expansion	\$3,000,000
Osceola Parkway Walmart (Simpson Road)	New Transfer Center	\$500,000
North of Maitland SunRail Station	New track crossover and signal	\$500,000
South of Meadow Woods SunRail Station	New track crossover and signal	\$500,000



Facility Location	Type / Description	Cost (Current Year)
US 441 North	Primary Corridor Improvements	\$8,800,000
US 17/92 North	Primary Corridor Improvements	\$25,600,000
Silver Star Corridor	Primary Corridor Improvements	\$7,000,000
<i>*These facilities are currently needed to maintain and improve efficiency of existing service levels, even if no new transit service is introduced.</i>		

**Table 11.15 | Near Term Transit Needs: Enhanced Fixed Route Service and New Express Service**

Transit Need / Improvement	Service Description	Cost (Current Year)
Primary Local Service	505A - John Young Parkway	\$1,897,440
Primary Local Service	505B - John Young Parkway	\$3,794,880
Primary Local Service	506 - Lake Underhill - UCF	\$5,239,440
Primary Local Service	517 - S. I-Drive / Disney Springs	\$2,718,480
Primary Local Service	518 - OIA-MDW SunRail	\$4,471,920
Regional Express Service	300 - UCF - Downtown	\$2,153,880
Regional Express Service	302 - OIA - Disney Springs	\$3,020,040
Regional Express Service	303 - OIA / Florida Mall / Universal Studios	\$3,585,480
Regional Express Service	306 - Downtown - Universal Studios	\$1,656,840
Regional Express Service	307 - Downtown-S. I-Drive	\$2,479,920
Regional Express Service	308 - Downtown - Disney Springs	\$2,479,920
Regional Express Service	311B - UCF - Medical City/Lake Nona - Meadow Woods	\$3,520,800
Regional Express Service	312 - Ocoee - Disney	\$3,297,600
Regional Express Service	313 - Pine Hills / Disney	\$4,637,400
Regional Express Service	314 - S.R. 436 / Disney	\$4,041,600
Commuter Express	400 - Lake County Commuter Express	\$826,200
Commuter Express	401 - Waterford Lakes Commuter Express	\$734,400

**Table 11.16 | Near Term Transit Needs: Service Expansions Dependent on Capital Investments**

Transit Need / Improvement	Service Description	Cost (Current Year)
High Frequency Local Service	100-A1 - AMS - MILLS AVE/U.S. 17-92	\$3,593,003
High Frequency Local Service	102A - N. U.S. 441/Apopka	\$4,381,680
High Frequency Local Service	102B - S. U.S. 441/Florida Mall	\$3,472,920
High Frequency Local Service	103 - Silver Star Road	\$6,183,720
High Frequency Local Service	105 - Pine Hills / Kirkman / Universal	\$6,374,280
High Frequency Limited Stop Service	200-A1 - AMS - N U.S. 17/92 Limited Stop	\$3,509,037
High Frequency Limited Stop Service	202 - U.S. 441 Limited Stop	\$6,710,400
High Frequency Limited Stop Service	205 - Pine Hills/Kirkman Rd./Universal Limited Stop	\$4,421,760
Primary Local Service	500 - S.R. 434	\$6,494,395
Primary Local Service	509 - Sand Lake Connector	\$3,965,880
Primary Local Service	514 - Hiawassee Road / Turkey Lake Road	\$5,942,520
Primary Local Service	519 - Winter Park - Downtown	\$2,229,000
Primary Local Service	521 - Rosemont / Pine Hills Circulator	\$3,183,600



Transit Need / Improvement	Service Description	Cost (Current Year)
Secondary Local Service	610 - Maitland Connector	\$774,480
Secondary Local Service	616 - Maitland Center / Eatonville	\$958,080
Circulator	700 - LYMMO Orange	\$1,104,840
Circulator	701 - LYMMO Lime	\$1,104,840
Circulator	702 - LYMMO Grapefruit Line	\$1,842,480
Circulator	703 - LYMMO Tangerine Line	\$2,026,080
Circulator	703a - LYMMO Orange Line - North Quarter to AdventHealth	\$1,842,480
Hybrid Flex Zone	821 - E. Colonial Drive/Bithlo Flex Route/Hybrid	\$1,349,460
Flex Zone	866 - Waterford Lakes-Avalon Flex Zone	\$674,730

**Table 11.17 | Mid-Range Transit Needs**

Transit Need / Improvement	Service Description	Cost (Current Year)
High Frequency Local Service	101A - S.R. 436	\$5,349,480
High Frequency Local Service	102C - S. U.S. 441/Kissimmee	\$1,949,777
High Frequency Local Service	104 - S.R. 50	\$8,364,240
High Frequency Local Service	106 - Orange Avenue	\$3,257,400
High Frequency Local Service	107 - Oak Ridge Road / OIA	\$5,151,120
High Frequency Local Service	108 - International Drive	\$5,260,320
High Frequency Local Service	109 - US 192	\$3,358,465
High Frequency Local Service	110 - US 192	\$3,528,775
High Frequency Local Service	111 - US 192 - St. Cloud/KIS	\$2,957,943
High Frequency Limited Stop Service	201- S.R. 436	\$7,003,920
High Frequency Limited Stop Service	204 - S.R. 50 Limited Stop	\$8,693,280
High Frequency Limited Stop Service	207 - Oak Ridge Road Limited Stop	\$5,087,640
High Frequency Limited Stop Service	208 - International Drive Limited Stop	\$4,924,920
High Frequency Limited Stop Service	209 - US 192 - Disney Springs/KIS via SR 535	\$3,743,470
High Frequency Limited Stop Service	210 - US 192 - KIS/WDW via World Drive	\$3,933,543
High Frequency Limited Stop Service	211 - US 192 - St. Cloud/KIS	\$3,317,711
High Frequency Limited Stop Service	241 - 441 FastLink LTD	\$478,829
Regional Express Service	309 - UCF - Altamonte Springs Regional Express	\$1,340,775
Regional Express Service	310 - UCF-Lake Mary Regional Express	\$1,391,942
Primary Local Service	501 - Goldenrod	\$3,265,680
Primary Local Service	502 - Lake Margaret / 33rd / Valencia College - inbound	\$3,942,840
Primary Local Service	503 - Rosemont/Winter Park/University Blvd	\$3,388,080
Primary Local Service	504 - Conway Road	\$2,718,480
Primary Local Service	507 - Raleigh / Gore	\$3,427,680
Primary Local Service	508 - Curry Ford Road	\$4,247,400
Primary Local Service	510 - Buenaventura Blvd - MDW-SRL/KIS	\$2,558,205
Primary Local Service	513 - Poinciana/Kissimmee	\$2,375,818
Primary Local Service	515 - Rio Grande Avenue	\$3,851,040



Transit Need / Improvement	Service Description	Cost (Current Year)
Primary Local Service	516 - Texas / Westmoreland/ Conroy / Universal Studios	\$4,468,440
Primary Local Service	522 - UCF - S.R. 436 / Aloma	\$2,626,680
Primary Local Service	520 - Four Corners / Celebration / Disney	\$3,827,133
Secondary Local	600 - Red Bug Lake / Alafaya	\$1,851,306
Secondary Local	601 - Oviedo / Lockwood	\$1,244,632
Secondary Local	603 - Lake Mary/Heathrow/Sanford	\$1,960,153
Secondary Local	604 - Lake Mary / Orl/Sanford Int'l Airport	\$566,435
Secondary Local Service	605 - Mercy / Ivey	\$1,014,240
Secondary Local	606 - Kissimmee-Lake Nona	\$1,094,695
Secondary Local	607 - Kissimmee - Carroll / Donegan	\$789,850
Secondary Local Service	608 - Vineland Road / Universal	\$1,548,960
Secondary Local Service	609 - Holden Avenue / Millenia Boulevard	\$1,640,760
Secondary Local	611 - Lake Mary Rinehart	\$1,252,617
Secondary Local	612 - Lake Nona / St. Cloud	\$1,256,600
Secondary Local Service	613 - Old Winter Garden Rd	\$1,548,960
Secondary Local	614 - Ocoee - Pine Hills	\$598,381
Secondary Local	615 - Altamonte Springs / Casselberry	\$1,292,502
Secondary Local Service	617 - Eastside Crosstown	\$2,323,440
Secondary Local	618 - Ronald Reagan / Longwood-Lake Mary	\$825,805
Secondary Local	619 - Kissimmee Connector	\$1,157,782
Secondary Local	620 - Rosemont / Pine Hills Circulator	\$586,413
Secondary Local Service	621 Lee Vista - Lake Nona	\$1,811,760
Circulator	704 - Buenaventura Lakes Circulator	\$938,043
Circulator	705 - Buenaventura Lakes Circulator	\$1,047,481
Circulator	706 - Poinciana Circulator	\$875,403
Circulator	708 - Winter Garden Circulator	\$2,891,520
Circulator	709 - Kissimmee Circulator	\$581,586
Circulator	712 - Seminole State College Circulator	\$268,196
Flex Zone	811 - Ocoee NeighborLink Flex Zone	\$674,730
Flex Zone	812 - Oakland/Winter Garden NeighborLink Flex Zone	\$674,730
Flex Zone	813 - Pine Hills NeighborLink Flex Zone	\$674,730
Flex Zone	860 - Apopka Flex Zone	\$674,730
Flex Zone	862 - Hiawassee Flex Zone	\$674,730
Flex Zone	867 - Richmond Estates/Heights Flex Zone	\$674,730
Flex Zone	868 - Meadow Woods Flex Zone	\$674,730
Flex Zone	871 - South SR 436 Flex Zone	\$674,730
Flex Zone	873 - Fashion Square/Baldwin Park/Full Sail Flex Route	\$674,730
Flex Zone	Hunters Creek/Sky Lake Flex Zone	\$674,730
Flex Zone	Poinciana Flex Zone	\$674,730
Flex Zone	Buena Ventura Lakes (BVL) Flex Zone	\$674,730
Flex Zone	Intercession City/Campbell City Flex Zone	\$674,730



Transit Need / Improvement	Service Description	Cost (Current Year)
Flex Zone	North Kissimmee Flex Zone	\$674,730
Flex Zone	Sanford Flex Zone	\$674,730
Flex Zone	South Altamonte Flex Zone	\$674,730
Flex Zone	Casselberry Flex Zone	\$674,730
Flex Zone	South St. Cloud Flex Zone	\$674,730
Flex Zone	Southwest Poinciana Flex Zone	\$674,730
Flex Route/Hybrid	St. Cloud Flex Route	\$674,730
Flex Route/Hybrid	Oviedo Flex Route/Hybrid	\$674,730
Transportation Network Company (TNC) Zone	865 - Taft TNC Zone TNC	\$674,730

**Table 11.18 | Additional Transit Service Needs, 2045 MTP Model**

Transit Need / Improvement	Service Description	Cost (Current Year)
Enhanced Service Area	East of Lake Toho	\$180,000.00
Premium Transit Service	US 441 Downtown to Florida Mall Premium Rapid Transit	\$101,100,000
Enhanced Service Area	Lake Nona / Innovation Way	\$72,000.00
Premium Transit Service	Premium Transit/Commuter Rail along US 441 to Lake County	\$780,000,000
Premium Transit Service	US 17/92 Premium Transit Service	\$239,187,500
Enhanced Service Area	Orlando International Airport	\$125,000.00
Enhanced Service Area	West of Kissimmee	\$103,000.00
Enhanced Service Area	Osceola Four Corners	\$98,000.00
Enhanced Service Area	Downtown South	\$63,000.00
Premium Transit Service	SR 50 Premium Rapid Transit	\$229,400,000
Enhanced Service Area	Orange 408 West	\$181,000.00
Premium Transit Service	Kissimmee Transit Circulator from Sand Lake Road SunRail Station to Kissimmee Intermodal Center	\$1,320,964
Enhanced Service Area	SE Apopka	\$101,000.00
Premium Transit Service	OIA to I-Drive Light Rail Transit	\$1,408,350,000
Enhanced Service Area	Convention Center	\$77,000.00
Premium Transit Service	International Drive Streetcar	\$338,400,000
Enhanced Service Area	St Cloud	\$299,000.00
Premium Transit Service	Kirkman Rd - Pine Hills to I-Drive Premium Rapid Transit	\$108,600,000
Enhanced Service Area	Hunters Creek	\$34,000.00
Enhanced Service Area	Kissimmee	\$423,000.00
Enhanced Service Area	University / Goldenrod	\$98,000.00
Premium Transit Service	Light Rail (I-4 general parallel)	\$1,540,800,000
Enhanced Service Area	Winter Garden / Ocoee	\$341,000.00
Primary Corridors	Silver Star Corridor Improvements	\$7,000,000
Enhanced Service Area	Sanford	\$116,000.00
Enhanced Service Area	Disney	\$526,000.00
Enhanced Service Area	Downtown North	\$141,000.00
Premium Transit Service	LYMMO Extension South	\$1,024,066



Transit Need / Improvement	Service Description	Cost (Current Year)
Enhanced Service Area	Boggy Creek	\$337,000.00
Premium Transit Service	US 192 Premium Transit Service	\$120,000,000
Enhanced Service Area	Maitland Center / Winter Park	\$244,000.00
Primary Corridors	US 17/92 North Corridor Improvements	\$25,600,000
Enhanced Service Area	Waterford Lakes	\$222,000.00
Enhanced Service Area	Altamonte Springs	\$209,000.00
Enhanced Service Area	Goldenrod / Curry Ford	\$72,000.00
Premium Transit Service	SR 436 Premium Rapid Transit (Orlando International Airport to Altamonte Springs SunRail Station)	\$206,177,426
Enhanced Service Area	Apopka	\$190,000.00
Premium Transit Service	SunRail South to Polk County	\$171,600,000
Enhanced Service Area	Taft	\$89,000.00
Premium Transit Service	Oak Ridge Rd - Orange Ave to I-Drive Premium Rapid Transit	\$115,200,000
Enhanced Service Area	UCF/Research Park	\$324,000.00
Enhanced Service Area	NE Rural Orange	\$109,000.00
Primary Corridors	US 441 North Corridor Improvements	\$8,800,000
Enhanced Service Area	West of Lake Toho	\$203,000.00
Premium Transit Service	LYMMO Extension North	\$1,310,555
Enhanced Service Area	South Horizons West	\$177,000.00





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