FLORIDA RAIL SYSTEM PLAN

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DRAFT

Chapter 3

Proposed Passenger Rail Improvements & Investments

FDOT FREIGHT & RAIL

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Chapter 3 Proposed Passenger Rail Improvements & Investments

Florida is committed to maintaining a well-connected and reliable system of passenger rail services that provides alternative travel options for users across the state to be able to reach multiple destinations affordably. This chapter describes the ongoing, proposed, and potential initiatives to develop or expand intercity passenger rail, commuter rail, and urban rail transit services in Florida.

3.1 Florida's Passenger Rail Vision

Florida's geographic profile and proximity between major urban areas are ideally suited for providing efficient and effective intercity and regional passenger rail service in multimodal corridors. Recognizing the need for a new statewide passenger rail strategy, FDOT embarked on an effort in 2021 to analyze the role that passenger rail could play in enhancing mobility in the state – connecting residents with jobs, bringing visitors to vacation destinations, and providing new, equitable, safe, and sustainable travel options while enhancing economic prosperity and preserving the quality of Florida's environment and communities. The analysis concluded by identifying specific strategies, policies and recommendations for improving statewide mobility through the enhancement of intercity passenger, commuter, and urban rail transit services.

Capitalizing on Florida's geography and development patterns, FDOT's Freight and Rail Office set a strategic vision to develop a well-connected passenger rail system that will enhance statewide mobility, improve transportation system reliability, provide safer and cleaner travel options, and promote economic development. FDOT's passenger rail strategy is multimodal and includes:

- Intercity passenger trains as a key element of multimodal corridors connecting major population centers
- Commuter trains providing regional mobility
- Urban rail transit systems rapidly moving people within heavily populated metropolitan centers

FDOT intends to carry out its passenger rail strategy in conjunction with public and private partners to systematically enhance the statewide passenger rail system to assure its continued and increased availability to meet current and future statewide mobility needs, while ensuring proper maintenance and safety. Key elements of the strategy include the following policies and activities to support three strategic principles:

- **Vision** – Guide development of passenger rail in Florida through a long-range vision that:
  - Supports intercity, regional, and urban mobility needs and integrates with community visions
  - Serves as a catalyst for public and private partnerships
  - Integrates passenger rail with other modes to strengthen the efficiency, safety, and reliability of the state's multimodal transportation infrastructure
- **Opportunity** – Position FDOT to capitalize on strategic passenger rail opportunities by:
  - Leveraging partnerships to expand and enhance intercity passenger services, leading the planning and development of regional systems, and supporting local government initiatives to implement urban systems

  - Being open to strategic acquisitions of right-of-way and infrastructure when appropriate, and preserving space on key road corridors for rail
  - Supporting urban and regional rail systems when funding is in place to sustain long-term operations, and leveraging state investments with federal and local funding

- **Capacity** – Continue building on existing organizational capacity and technical expertise to:
  - Be the go-to agency in the development of passenger rail
  - Maintain and leverage state-owned rail assets
  - Ensure proper inspection, maintenance, and safety of passenger rail systems

FDOT's passenger rail vision included an assessment of the services and key components needed to develop and deliver successful models of passenger rail transportation and establishing strategic recommendations for each component.

3.1.1 Intercity Passenger Rail Services

FDOT established the following strategy recommendations to guide the future development and delivery of intercity passenger rail service in the state:

- Reset the intercity passenger rail vision by:
  - Developing a new model for delivering intercity passenger rail service in Florida that leverages the best attributes of current public and private models
  - Developing policy recommendations for USDOT to consider regarding Amtrak service, subsidy requirements, and agreement terms. The current requirement for state support on routes less than 750 miles in length may not be workable for many states, and there is concern over the lack of transparency for Amtrak's cost allocation model
- Capitalize on strategic intercity passenger rail opportunities by:
  - Conducting statewide planning to evaluate needs and exploring opportunities to advance high and higher-speed intercity passenger rail connecting Florida regions
  - Determining the public role in private systems and conditions for potential public-private partnerships
  - Preserving space in highway rights-of-way and state-owned rail corridors for future intercity passenger rail services
  - Providing funding for intercity capital investments when leveraged with federal or private funding sources. Also establish a framework and standards for providing funding support
- Continue to enhance intercity passenger rail system performance by:
  - Applying passenger rail safety and engineering best practices from other states and countries

3.1.2 Commuter Rail Services

FDOT established the following strategy recommendations to guide the future development and delivery of commuter rail service in the state:

- Strategically advance development of regional commuter rail systems by:
  - Leading the planning and development of FDOT-supported regional rail systems and projects
  - Ensuring regional/local funding mechanisms are in place to support long-term operations before project implementation begins

- Pursue regional opportunities and define inter-agency roles and responsibilities by:
  - Structuring agreements so that regions take primary funding responsibility for commuter rail operations. This may require institution of a regional funding mechanism
  - Acquiring right-of-way for strategic corridors, owning infrastructure, and maintaining state-owned assets when feasible. Also leverage corridors as an asset and generate revenue to support rail operations and maintenance
  - Providing upfront capital funds, initial operating support, and other resources to allow for the development of regional commuter rail services
  - Assisting regions with obtaining access to existing rail corridors for new passenger services. This may include shared usage agreements and/or right-of-way acquisition
- Ensure adequacy of regional passenger rail technical expertise by:
  - Providing technical assistance to local government partners

3.1.3 Urban Rail Transit Services

FDOT established the following strategy recommendations to guide the future development and delivery of urban rail transit service in the state:

- Ensure urban passenger rail (transit) systems are in alignment with statewide vision by:
  - Supporting local government partners with the planning and development of passenger rail systems and providing state oversight
- Achieve multimodal balance on state facilities by:
  - Taking the lead role in evaluating the impact of urban projects on state facilities and balancing the needs of all modes and users
  - Providing capital funding support and initial operating assistance
- Ensure adequacy of urban passenger rail technical expertise by:
  - Providing technical assistance to local government partners.

3.1.4 Funding

Public funding for passenger rail planning, construction, operations, and maintenance comes from multiple federal, state, and local sources. FDOT recognizes the opportunity to leverage the heightened levels of federal funding for passenger rail transportation made available through the Bipartisan Infrastructure Law (BIL). FDOT established the following strategy recommendations to guide the future funding of intercity passenger and commuter rail service in the state:

- Support the statewide passenger rail vision by:
  - Providing capital funding and initial operating assistance for intercity, regional, and urban passenger rail systems
- Identify additional passenger rail funding by:
  - Conducting a needs assessment and determining the level of passenger rail funding needed to support the passenger rail vision. Develop a financial plan by overlaying passenger rail priorities with state, federal, local, and private funding sources
  - Leveraging the new infrastructure bill's $66 billion passenger and freight rail funding, including $12 billion in Federal-State Partnership for Intercity Passenger Rail grants (available for the National Network for new and expanded intercity passenger rail service, including high-speed rail)

- Enhance passenger rail funding flexibility by:
  - Providing capital funding flexibility by leveraging State New Starts, SIS, and other applicable funding sources
  - Providing initial operating support for urban rail transit projects with District Dedicated Revenues, Transit Service Development, Transit Corridor Program, and other eligible sources of state funding

3.1.5 Organizational Structure

FDOT's passenger rail program is implemented through a coordinated effort of its Central Office, District Offices, and the Florida Rail Enterprise (FRE). FDOT established the following strategy recommendations to position FDOT resources, responsibilities, and decision-making to respond to future opportunities for passenger rail development:

- Align organizational resources to support statewide passenger rail vision by:
  - Developing an organizational structure to reflect the Department's commitment to passenger rail, leveraging the FRE and the Department's Central Office, Districts, and SunRail expertise
  - Revamping the FRE to advance higher-speed and high-speed passenger rail activities in the state. Align the organizational structure to better integrate passenger rail and transit
- Elevate the importance of the Department's rail program by:
  - Developing a brand identity for the rail activities within the Department
- Enhance organizational capacity and technical expertise by:
  - Structuring the FRE to oversee passenger and freight rail activities and consider the benefits and possibility of relocating proximate to existing state-owned rail assets
  - Creating a statewide Rail Engineer position in the Department to leverage existing rail expertise as statewide resources.

3.1.6 Partnerships

Passenger rail implementation is complex and involves coordination and agreement among multiple partners, including federal agencies, service providers, track infrastructure owners, and local governments. FDOT's involvement in the development and operation of regional commuter rail services has been key to the success and ongoing operation of both the Tri-Rail and SunRail systems. Partnerships and effective relationships between FDOT and SFRTA, and between FDOT and the future regional operator of SunRail, will continue to be imperative. In addition, FDOT will strengthen its partnerships with Amtrak and Brightline Florida as the state pursues new development opportunities for intercity passenger service.

Close coordination with Class I freight railroads also is necessary to operate intercity and regional trains safely and reliably on shared tracks. FDOT investments in multimodal passenger terminals and the state's lease of right-of-way for Brightline Florida expansion provide examples of how FDOT can support future initiatives. The Department will continue to seek win-win opportunities with freight railroads that strengthen these partnerships and address host railroad concerns in the four critical areas of safety, track capacity, liability, and funding.

FDOT established the following strategy recommendations to guide future partnership opportunities regarding intercity passenger and commuter rail service expansion in the state:

- Align statewide passenger rail vision with partner initiatives by:
  - Developing a shared statewide rail vision between FDOT, Amtrak, Brightline Florida, and freight railroads (CSX, NS, FEC, and short lines) that benefits all parties
- Work with partners to identify and advance passenger rail opportunities by:
  - Leveraging existing partnerships with Amtrak and Brightline Florida to explore feasible opportunities to expand intercity passenger rail services while combining the best attributes of current public and private models
  - Working with Amtrak to establish higher service frequencies and greater service reliability on Florida routes
- Maximize program capacity and technical expertise by:
  - Partnering with other states to leverage resources through organizations like the Southeast Corridor Commission and Southern Rail Commission
  - Enhancing agreements with regional and local partners

As Florida shares rail corridors and services with other states, the Department also will continue to coordinate with other states and the FRA on future intercity passenger rail plans and services. FRA's Southeast Regional Rail Plan,[1] developed in coordination with Florida and five other southeastern states, provides a common, long-term vision for how intercity passenger rail service may improve regional mobility in the southeastern U.S. Meanwhile, multi-state organizations like the Southeast Corridor Commission (described below) have a broad focus and could help enhance rail connections to other cities such as Atlanta and Charlotte.

3.2 Southeast Regional Rail Plan

The FRA in partnership with stakeholders throughout the Southeast U.S. has been working to develop a long-term vision for intercity passenger rail in the Southeast. Their work culminated in the December 2020 publication of the Southeast Regional Rail Plan, a multi-state network conceptual planning study for high-performance rail (HPR) across the region. The plan is part of a national passenger rail planning effort led by FRA that included the development of the Southwest Multi-State Rail Planning Study in 2014[2] and the Midwest Regional Rail Plan in 2021.[3]

FRA's Southeast Regional Rail Plan creates a framework for developing HPR by establishing a common, long-term vision for intercity passenger rail service in a multi-state core study area consisting of Florida, Georgia, North Carolina, South Carolina, Tennessee, Virginia, and Washington D.C., and identifying the potential institutional arrangements and planning and development activities needed to achieve the vision. This plan builds on established rail initiatives for the Southeast, plus ongoing state planning efforts and other activities in the region.

The plan included participation from a Southeast Stakeholder Group that was charged with the following responsibilities:

[1] SOUTHEAST REGIONAL RAIL PLAN | SEC Commission (southeastcorridor-commission.org)
[2] FRA SW Study Summary Report.pdf (dot.gov)
[3] Midwest Regional Rail Plan Final Report | FRA (dot.gov)

- Provide input on developing a conceptual vision for an integrated high-performance, regional intercity passenger rail network for the Southeast.
- Share, collaborate with, and consider all input needed for analysis.
- Identify potential institutional, governance, and financial arrangements.
- Review the full range of opportunities and constraints, as well as state and regional priorities.
- Strategize future planning activities and priorities.
- Consider potential roles for public-private partnerships.

The study utilized the FRA's CONceptual NEtwork Connections Tool (CONNECT), which serves as the analytical foundation for FRA-led regional passenger rail planning studies, to develop an initial network of potential corridors where intercity passenger rail could provide a feasible passenger transportation alternative. The study established three "service tiers" to define the types of service frequencies, service characteristics, and infrastructure levels proposed for each corridor. The service tiers can be summarized as follows:

- **Core Express:** Core express service would operate on corridors serving major metropolitan centers. Trains would operate under electric power on dedicated tracks, except in terminal areas, at speeds of 125 mph or higher, with frequent service provided.
- **Regional:** Regional services would operate on corridors connecting mid-size urban areas with each other or with larger metropolitan areas. Trains could operate under electric or diesel power, using both dedicated and shared tracks, at speeds between 90 and 125 mph, with frequent service provided.
- **Emerging:** Emerging services would operate on corridors connecting mid-sized and smaller urban areas with each other or with larger metropolitan areas. Trains would operate on shared tracks at speeds of up to 90 mph.

The study does not identify specific routes or alignments for each corridor, however. Project prioritization will take into account the constraints of the service plans. Estimated costs, benefits, and funding of the network plan will drive future investments, environmental studies, and planning activities. The study's initial set of corridors and proposed service levels is shown in Figure 3-1.

According to the plan, there is a large potential for intercity passenger services between Georgia and Florida and within Florida. The study anticipates that corridors and services identified will require long-term implementation and an incremental phasing of construction and service additions, based on the results of future studies and available funding sources. The plan considers the possibility of developing an intercity passenger rail network in Florida in three incremental phases:

- A baseline network that includes the regional Miami-Orlando corridor
- A backbone network that includes an Atlanta to Orlando Core Express spine and the extension of the regional Miami to Orlando corridor to Tampa
- A full network that includes an extension of the regional Miami to Tampa corridor to Naples and an emerging corridor between Orlando and Gainesville

Figure 3-1 | Southeast Regional Network Vision

Source: Southeast Regional Rail Plan, FRA, December 2020

In July 2022, the Southeast Corridor Commission released a follow-up report, the Development Strategy for High-Performance Rail in the Southeast.[4] The report presents a 30-year passenger rail expansion and implementation plan that concentrates on connecting the Core Express routes in the network to provide high-performance rail services between major metropolitan areas throughout the Southeast. The Commission proposes the following phased approach to the buildout of the network based on the readiness of current segments and the priority of providing interstate connections:

[4] https://www.southeastcorridor-commission.org/_files/ugd/f32a1d_3440c715f68444c899c24a9435ce05fe.pdf

- Phase 1: Washington, D.C. to Raleigh, North Carolina
- Phase 2: Raleigh, North Carolina to Atlanta, Georgia
- Phase 3: Atlanta, Georgia to Jacksonville, Florida
- Phase 4: Jacksonville to Orlando, Florida and Atlanta, Georgia to Chattanooga, Tennessee
- Phase 5: Chattanooga to Nashville, Tennessee

The report notes that the specific infrastructure needs of each future segment will be determined through a "service first" approach to planning, where the intercity and interstate markets determine what infrastructure is appropriate to build.

3.3 Amtrak

Amtrak is the nation's federally-chartered intercity passenger rail operator and infrastructure provider. Amtrak provides a range of services across the U.S., includes short-distance corridors with multiple daily departures in regions with high travel demand and long-distance trains operating once per day or several times per week on longer routes that span multiple regions and connect distant population centers.

3.3.1 State-Supported Service Line

Amtrak operates 28 state-supported routes. Train operations on these routes are funded by 19 partners from 17 states, including state departments of transportation and regional authorities chartered specifically to administer individual rail corridors. None are located in Florida. Collectively, these transportation departments and other entities are referred to as State Partners, and the routes they fund are referred to as state-supported routes. All such routes are under 750 miles in length as defined by statute.

The service characteristics of existing and planned state-supported corridors align with Amtrak's statutory goals and mission. They are trip time competitive with other modes, operate efficiently, and align with population growth, urban densification, and demographic trends, maximizing the benefits of federal investments. Based on pre-COVID-19 operations, the state-supported routes carry just under half of Amtrak's total ridership. The different service variations operating today provide multiple models that can be applied across the country to seed new corridor services and grow existing ones.[5]

3.3.2 Long Distance Service Line

The Long Distance Service Line (LDSL) provides a unique intercity transportation experience that connects the nation's major metropolitan regions with more than 300 diverse and varied communities across the country. Long-distance trains provide an alternative to automobiles, buses, and airplanes.[6]

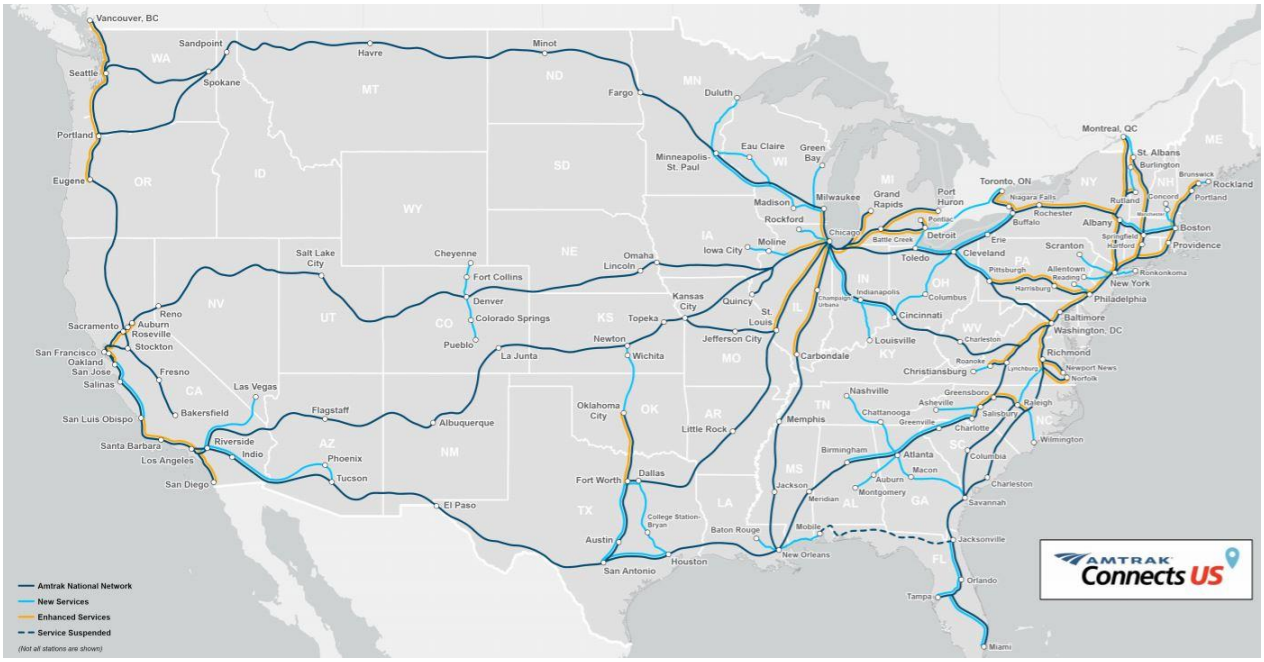
Amtrak operates three daily long-distance trains linking Florida and the Northeast U.S.: the Auto Train, Silver Meteor, and Silver Star. Amtrak serves 18 stations and runs on 423 miles of track in Florida, with two-thirds of Florida residents living within 25 miles of an Amtrak station.

[5] Service & Asset Line Plans FY22-27 (amtrak.com)
[6] Service & Asset Line Plans FY22-27 (amtrak.com)

3.3.3 Amtrak Connects US

In March 2021, Amtrak released a long-term vision plan for new corridors and enhanced service frequencies on existing routes that could be developed in conjunction with state partners by 2035. It is called the “Amtrak Connects US” plan (Figure 3-2).

Figure 3-2 | Amtrak Connects US Plan



Amtrak’s Connects US 15-year Vision Plan seeks to enhance existing rail routes and create new ones throughout the entire U.S., focused on connecting city pairs within the country’s ‘megaregions’.[7] The Amtrak Connects US vision specifically calls for expanding service and adding 160 new stations to double the number of passengers that state-supported trains carried in 2019. The Amtrak Connects US 15-year vision includes the following:

- 39 new routes and enhancements to 25 routes, bringing service to 160 new stations
- Provide intercity passenger rail service to the top 50 population metropolitan areas
- Expand corridor passenger rail service in 20 states and bring new corridor passenger rail service to 16 states
- New stations in over half of U.S. states

Amtrak’s plan appears to depend on the use of tracks that are primarily owned by freight railroads. Although Amtrak has a right of access to operate on freight railroad tracks, new services will require a significant investment in infrastructure to ensure that a sufficient level of new track capacity will be in place to allow the passenger trains to run on time and not materially impact the host railroad’s ability to provide freight service on its tracks.

[7] Amtrak-2021-Corridor-Vision-May27_2021.pdf

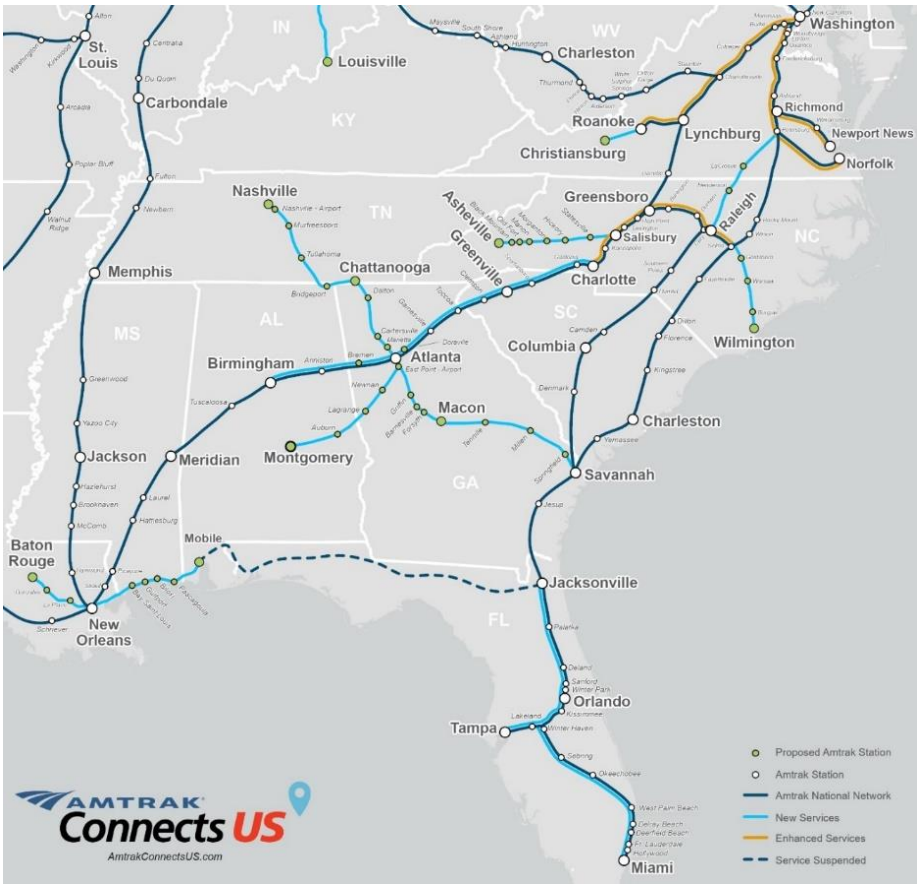
Amtrak's vision for expanding regional services includes routes in Florida. Over the next 35 years[8] Amtrak's plan proposes, in partnership with the FRA, the state of Florida, host railroads, and others, to introduce the following new routes:

- Jacksonville-Orlando-Tampa – two daily round trips
- Orlando-Miami – two daily round trips
- Tampa-Miami – three daily round trips

The Amtrak Connects US corridor strategy would connect rapidly-growing Southeast business, population, and tourist centers while increasing travel options through the communities along these heavily traveled corridors. Under this initiative, Amtrak's focus in Florida would broaden from the long-distance trains it operates today to also state-supported trains on shorter distance routes. By federal law, states are required to provide funding for Amtrak service on corridors of 750 miles or less in length. Amtrak's plan also depends on capital funding made available through the BIL. The state-supported corridor trains would be expected to operate in addition to the existing overnight, long-distance trains from New York, which would continue in service.

Figure 3-3 illustrates Amtrak's rail expansion vision for the Southeast U.S. including Florida.

Figure 3-3 | Amtrak Connects US Southeast Corridors Map



[8] Amtrak General and Legislative Annual Report & Fiscal Year 2022 Grant Request

3.3.4 Amtrak Five-Year Strategic Improvement Plan

Each year, Amtrak releases a five-year strategic plan to satisfy requirements under Section 11203(b) of the Fixing America's Surface Transportation (FAST) Act. In April 2022, Amtrak released its Fiscal Year (FY) 2022 "Five Year Line Plans," which outline strategic five-year initiatives for each service line and asset line between FY 2022 and FY 2027.[9] These plans do not identify initiatives for individual trains but focus on overall improvements that benefit particular types of services, including long-distance trains and state-supported regional trains, regardless of location.

Amtrak's five-year plan does not identify the establishment of new long-distance routes as a strategy or initiative. It does, however, support the introduction and expansion of regional, state-supported passenger rail corridors of up to 750 miles in length.

Amtrak's five-year plan for the Long Distance Service Line, which includes the *Auto Train*, *Silver Meteor*, and *Silver Star* trains that serve Florida, lists the following overall strategies:

- **Sustain the company:** Amtrak continues to control costs and protect employees by adjusting the size of long-distance train operations and service requirements, balancing the reduced demand for travel during the pandemic with the need to provide service. Service reductions enacted during the pandemic played an essential role in sustaining the company by reducing operating losses during a period of uncertain federal funding for Amtrak.
- **Gain New Customers:** Strategies to gain new customers through promotional campaigns and new technology:
    - Emphasize the benefits of private sleeping compartments as an accommodation that offers physical distancing space, privacy, comfort, complimentary meals, priority boarding, and more. Efforts to promote these benefits include new promotional media campaigns, new experiential travel landing pages on Amtrak.com, and flash sales offering free companion travel.
    - Improve features on the Amtrak.com website and Amtrak app to enhance travel planning and fare finding by presenting a seven-day calendar of available fares on the proposed date of travel as well as up to three days prior and three days later. This feature will improve the way in which long-distance customers can find available travel dates on trains operating less than daily.
    - Install Wi-Fi equipment on the Superliner cars used on long-distance trains in the West. Free Wi-Fi is already available on the Superliner-equipped *Auto Train* in the East and on eastern long-distance trains that use single-level equipment.
- **Fleet Planning and Acquisition:** The acquisition of new locomotives and passenger cars will provide the opportunity for Amtrak to accomplish several goals, including:
    - Modernizing equipment and amenities to match updated service models and improve customer satisfaction.
    - Redesigning train consists to match passenger demand, create operating efficiencies, and reduce capital needs.
    - Reducing car and locomotive maintenance and turnaround costs.
    - Reducing engine and car related mechanical delays to improve on-time performance.
    - Reducing fuel consumption and emissions of greenhouse gases and other pollutants.

[9] Amtrak, Five-Year Service and Asset Line Plans Fiscal Years 2022-2027. Retrieved from: Service & Asset Line Plans FY22-27 (amtrak.com)

- **Address Reliability and On-Time Performance:** Continue to use a data-driven approach to address host railroad and Amtrak-related delays, and work with the host railroads to understand the causes of host railroad and Amtrak responsible delays, opportunities to mitigate them, and the actions required to improve on-time performance. The release of revised Metrics and Standards for measuring the performance of Amtrak services by the FRA in FY 2021 and the requirement of all host railroads and Amtrak to either certify the viability of Amtrak operating schedules is providing a framework for enforcing Amtrak's right of preference over freight transportation and offers a path for addressing on-time performance issues. Amtrak's five-year strategic plan includes ridership projections through FY 2027. Table 3-1 depicts the projections for ridership on the three long-distance trains serving Florida.

Table 3-1 | Amtrak's Ridership Projection for LDSL servicing Florida

	FY22	FY23	FY24	FY25	FY26	FY27
Silver Star	316.9	350.4	383.8	387.6	391.3	395.1
Silver Meteor	279.7	315.5	351.2	354.7	358.1	361.6
Auto Train	181.6	212.0	242.4	244.6	246.9	249.2

Source: Service & Asset Line Plans FY22-27 (amtrak.com)
Note: Ridership projections are for the entire national route

3.3.5 Equipment Acquisitions

Amtrak's 5-year plan also outlines initiatives to purchase new cars and locomotives and overhaul additional equipment. The plan notes that in early FY 2022, Amtrak had approximately 220 road diesel locomotives owned or leased, 66 electric locomotives in regular service and 15 more in reserve, 1,335 railcars, and 20 high-speed trainsets. Amtrak also operates in regular service 49 Alstom Surfliner railcars jointly owned with California, as well as 88 locomotives and 146 railcars solely owned by state partners. The plan notes that the average age of railcars that Amtrak owns or leases is 35 years old, and the average locomotive or trainset is more than 22 years old.

Figure 3-4 | New Amtrak ALC-42 Locomotive

In February 2022, Amtrak deployed the first of its new Siemens-built ALC-42 locomotives in revenue service. Amtrak placed an $850 million order with Siemens in December 2018 for 75 new diesel locomotives with the model designation ALC-42 (for "Amtrak Long-distance Charger 4,200-horsepower).[10] Built in California, the ALC-42 locomotives will replace P40 and P42 model passenger locomotives delivered in the 1990s on some state-sponsored routes but primarily on the Long Distance portion of the Amtrak National Network. The Amtrak-owned Chargers are similar to other Siemens-built passenger locomotives acquired by state and commuter agencies for use

[10] Amtrak news release, Amtrak Prepares for New Diesel Locomotive Fleet. August 5, 2020. Retrieved from: https://media.amtrak.com/2020/08/amtrak-prepares-for-new-diesel-locomotive-fleet/

on state-supported intercity passenger services or commuter trains. The ALC-42 locomotive model (shown in Figure 3-4) has a larger fuel tank and increased power-generating capabilities to supply heat, light, and ventilation to passenger cars to better accommodate the characteristics of long-distance service and equipment. The new locomotives will feature cleaner Tier 4 emissions technologies that will reduce nitrogen oxide by more than 89 percent and particulate matter by 95 percent and also reduce fuel consumption. The locomotives can operate at up to 125 mph (15 mph faster than the P42 locomotives) and accelerate 30 percent faster. Amtrak projects the entire fleet to be in service by 2025. In June 2022, Amtrak ordered an additional 50 ALC-42 locomotives, bring the total fleet to 125 units, which will fully address the locomotive needs of the existing long-distance service line and allow for future planning. The contract for the full 125-unit order has a value up to $2 billion, which includes the original contract for $850 million, and incorporates both the manufacturing as well as a long-term service agreement for technical support, spare parts, and material supply.[11]

Between 2014 and 2021, Amtrak took delivery of a 130-car order of new single-level equipment that is now being deployed on long-distance trains in the East Coast, including the Silver Meteor and Silver Star trains serving Florida. The order for new Viewliner II cars, built in New York state by CAF USA, consists of 70 baggage cars, 10 baggage-dorm cars, 25 food-service cars, and 25 sleeping cars. The new cars supplement 50 Viewliner I long-distance cars built in 1995 and 1996 by Morrison-Knudsen. The new Viewliner II cars have allowed for the retirement of 60 (plus)-year-old equipment used on trains serving Florida, which has reduced maintenance costs, improved reliability, and improved customer satisfaction. In addition, the cars provide Amtrak with the opportunity to increase passenger capacity and revenue by relocating on-board, off-duty service crews to space in the baggage-dorm cars, freeing up rooms in the sleeping cars for additional sales to customers.

Amtrak operates two equipment maintenance facilities in Florida, in Miami and Sanford. The Hialeah maintenance facility in Miami performs servicing and light overhauls of Amtrak's single-level Viewliner and Amfleet equipment used on long-distance trains. In April 2012, Amtrak completed a $32.7 million improvement project at Hialeah featuring an enhanced servicing facility 50 feet wide by 920 feet long and includes a 600-foot in-ground pit with an in-floor jacking system to remove and replace wheel trucks. Amtrak maintains 7 miles of yard tracks leading to and within the Hialeah complex. Amtrak's Sanford maintenance facility performs servicing for the Auto Train's equipment, including auto carriers and bilevel Superliner cars. Under contract with FDOT, Amtrak also provides periodic heavy maintenance and repair services to SunRail commuter equipment at its Sanford facility.

3.3.6 Station Improvements

The five-year plan also documents Amtrak's plans to improve stations and make train stations compliant with Americans With Disability Act (ADA) requirements. Key objectives for Amtrak stations include:

[11] https://press.siemens.com/global/en/pressrelease/amtrak-orders-50-more-charger-locomotives-siemens-mobility

- **Provide safety and protection during the pandemic:** Adapt station protocols and practices as needed to meet the challenges of the pandemic while keeping customers and employees safe.
- **Deliver consistency in station image and behavior:** Improve the identity and recognizability for customers of Amtrak stations across the network through consistent branding, furnishings, and customer service, with a focus on signage, restroom and interior cleanliness/conditions, seating, access, lighting, and building conditions.
- **Standardize the designs and elevate the offerings of all station lounges:** Major stations have Metropolitan Lounges for use by customers traveling in first-class accommodations or with higher-tier loyalty program memberships. Standardizing lounge designs and offerings will help enhance the customer experience with the current and next generation customer in mind.
- **Offer personalized and connected services:** Enhance customer experience in stations with personalized touches through push notifications and custom coupons or upgrades. This also improves Amtrak's ability to understand customer patterns and preferences for future trips.
- **Reduce operational inefficiencies:** Improve operational practices such as ticker sales, baggage handling, and boarding through process re-engineering, automation, and station design upgrades where possible.

Accessibility Upgrades

Amtrak's FY22-27 strategic plan includes initiatives to improve the customer experience at passenger rail stations and make stations accessible in accordance with the Americans with Disabilities Act of 1990s. Key efforts in this plan include improving station platform accessibility for people who use wheeled mobility devise at the stations where Amtrak has ADA responsibility for platforms; installing or improving Passenger Information Display Systems (PIDS) and audible public address systems at stations for which Amtrak has ADA responsibility; and improving accessibility to or within station buildings at stations where Amtrak has ADA responsibility. Out of the 516 train stations in the U.S. used by Amtrak trains, Amtrak has sole ADA responsibility at 147 stations and shared ADA responsibility at another 238 stations. Across the system, Amtrak has 76 stations that are fully ADA compliant and another 71 stations that are compliant for all elements except the platform. During FY 22 and 23 Amtrak expects to complete construction projects at 60 stations and Public Information Display System (PIDS) deployments at 27 stations to improve ADA compliance.

From 2009 through the end of April 2021, Amtrak installed 192 station based mobile lifts, constructed new low level platforms with compliant detectable warnings at 70 stations, constructed new level boarding platforms with compliant detectable warnings at 3 stations, installed new detectable warnings on existing platforms at an additional 38 stations, made accessible parking improvements at 154 stations, made accessible restroom improvements at 69 stations, installed accessible station signage at 239 stations, installed PIDS at 51 stations, and made numerous other ADA improvements at stations across the country.[12]

[12] https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Stations-ALP-Appendix-FY22-27.pdf

During that time, improvements have been made at Orlando, Sanford, Fort Lauderdale, and Winter Park. Improvements at Orlando and Winter Park were made in conjunction with the implementation of SunRail commuter rail service. In Winter Park, a new station building and dual platforms were dedicated in 2014, and built with federal and local funding. In Orlando, a new 1,200-foot island platform was built, enabling the station to provide platform access to serve three tracks instead of two, and a station renovation was completed in 2015.

Among the 18 passenger rail stations served by Amtrak trains in Florida, Amtrak has full ADA responsibility for six stations (Jacksonville, Miami, Okeechobee, Sanford, Sebring, and Winter Haven) and partial ADA responsibility for two additional stations (the station structure in DeLand and the platform in Tampa).[13] By Fiscal Year 2021 Amtrak had also completed ADA improvements at the Sebring and Tampa stations. In Sebring, Amtrak built a new station platform, restored the platform canopy, and improved lighting. In December 2020, Amtrak placed into service a new ADA-compliant level boarding platform and platform canopy at Tampa Union Station.[14] Specific station projects are noted in Appendix D.

While some of the station needs identified in the 2009 Amtrak study have been addressed, others remain undone. Further, the stations will need repair on an ongoing basis. Accordingly, Amtrak's strategic plan forecasts $24.9 million in short-range improvements through FY 2027 at Amtrak stations in DeLand, Jacksonville, Miami, and Winter Haven for ADA and state-of-good-repair needs.

Miami Intermodal Center

Amtrak has been working with FDOT on a planned relocation of Amtrak service in Miami to the Miami Intermodal Center (MIC) station near the Miami International Airport. Built by FDOT and opened to Tri-Rail commuter rail service in 2015, the MIC was designed to bring Amtrak, Tri-Rail, Metro Rail, Greyhound, Megabus, car rentals, and other transportation services together in one location, connected to Miami International Airport by an elevated automated people mover system.

[13] https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Stations-ALP-Appendix-FY21-26.pdf

[14] http://www.collage-usa.com/2020/12/07/safely-upgrading-handicap-accessibility-at-the-historic-tampa-union-station-2/

The facility included a platform for Amtrak complete with ticket counters, a baggage room, restrooms, and offices. Adjacent roadway improvements were made by FDOT in 2016 to accommodate Amtrak's long-distance train consists at the MIC. In February 2022, Amtrak ran a test train to the MIC as it continued talks with FDOT regarding terms and conditions of a lease agreement governing Amtrak's use of the station. See Figure 3-5. Once Amtrak moves its operations to the MIC upon agreement of terms, Amtrak's existing Miami Station in Hialeah will be converted to a support role for Amtrak operations in Florida.

Figure 3-5 | Amtrak arrival at the MIC

Jacksonville Station Relocation

An expansion of intercity passenger service would increase the need for a larger, centralized train station in Jacksonville. The current Amtrak passenger rail station is located approximately 4 miles northwest of the downtown area in an industrial area that is not walkable and has no direct multimodal transit connections. The station was opened in 1974, allowing passenger trains to relocate from the historic Jacksonville Terminal built in 1919, and since repurposed as the Prime Osborn III Convention Center.

The station's location presents an operational challenge for accommodating expanded passenger rail service. The rail lines entering Jacksonville from Miami, Orlando, Tampa, Georgia, and Baldwin converge at junctions near the downtown location of the convention center. Rail access to the existing Amtrak station from the downtown junctions requires trains to pass by several rail yards where trains are switched or change crews, creating the potential for passenger and freight train delays.

Since the late 2000s, the Jacksonville Transportation Authority (JTA) and the Florida Department of Transportation (FDOT) have discussed a plan to relocate Amtrak service closer to downtown at a multimodal facility in the LaVilla neighborhood near the former Jacksonville Terminal. In May 2020, the JTA opened the Jacksonville Regional Transportation Center in LaVilla to serve as downtown Jacksonville's main multimodal transfer hub. The facility currently serves the Jacksonville Skyway, the city's First Coast Flyer bus rapid transit system, local bus routes, and intercity buses.

Lakeland Intermodal Center

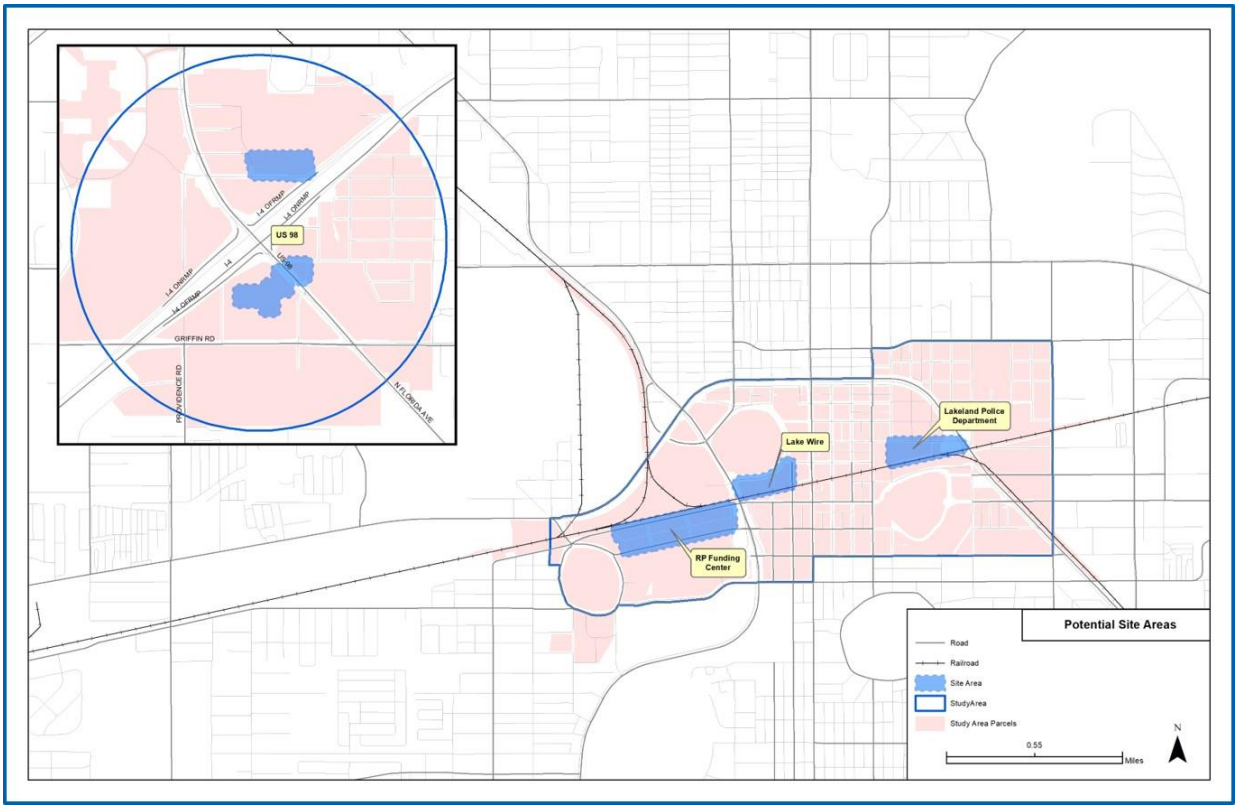
In 2020, FDOT completed the Lakeland Intermodal Center Feasibility Study,[15] which determined a preferred location, configuration, and capabilities for an intermodal center in downtown Lakeland. The preferred site is located between Main Street and Lemon Street directly north of

[15] 442569-1 Lakeland Intermodal Center Feasibility Study (swflroads.com)

the RP Funding Center (see Figure 3-6).[16] While it is adjacent to the CSX tracks, it is separated from them by Main Street. It currently consists of vacant and industrial use parcels, several of which are in public ownership.

The project would create a new, modern transit terminal to facilitate convenient transfers between multiple modes of travel, including Amtrak intercity passenger rail, intercity bus, local bus, pedestrian, bicycle, taxi, carpooling, ridesharing, bikesharing, and future SunRail commuter service. The facility would also include a parking garage and administrative offices for the Lakeland Area Mass Transit District (LAMTD).

Figure 3-6 | Lakeland Intermodal Center Potential Site Areas



Refined cost estimates were developed for the final concept design. The total construction cost estimate in 2020 dollars was $27,185,000 with an estimated range of construction cost between $25 million and $30 million.[17] FDOT is currently working with the City of Lakeland and the Polk County TPO on advancing the next steps in the development process, which are expected to include a National Environmental Policy Act (NEPA) environmental analysis, design work, property acquisition, and facility construction.

[16] http://www.swflroads.com/lakelandintermodal/images/V4_LIMC_05072020_withapp.pdf
[17] Polk 2045 LRTP Summary/Adoption Report (polktpo.com)

Palatka Station Improvements

The City of Palatka was awarded $8.2 million in FY 2021 Rebuilding America Infrastructure with Sustainability and Equity (RAISE) grant funding to improve multimodal connectivity at the A. Philip Randolph Regional Multimodal Transportation Hub. The project will lengthen the passenger loading platform at the Amtrak station to accommodate a baggage area, adjust the platform height to meet ADA requirements and allow bicycles to be loaded and unloaded at the station. It will construct complete streets improvements including resurfacing the roadway, installing new ADA-compliant sidewalks and curb and gutter designating bike lanes, and adding other accessory safety improvements in the project area.

3.3.7 Sanford Subdivision Improvements

Amtrak was awarded a $3.85 million federal Consolidated Rail Infrastructure and Safety Improvements (CRISI) program grant in Fiscal Year 2018 for the Sanford Subdivision Infrastructure Renewal project. The project will rehabilitate 52 miles of CSX's Sanford Subdivision (also known as the A-Line) between Palatka and DeLand. CSX is expected to transfer ownership of that segment of the A-Line. The south end of the Sanford Subdivision connects directly with FDOT's Central Florida Rail Corridor operated by SunRail.

Amtrak is also working with FDOT on a project to replace the existing Persimmon Avenue grade crossing in Sanford with a grade separation. The highway-rail grade crossing is located at the throat of Amtrak's Sanford maintenance facility, and experiences road blockages several times during the day when Amtrak switches cars and assembles or uncouples the Auto Train. (The Auto Train is the longest train that Amtrak operates, extending up to 50 cars in length.) The Auto Train's scheduled arrival and departure occurs at the shoulder of commuting times, creating the potential to delay motorists during times of peak auto travel.

3.3.8 Sunset Limited-Service Suspension

In partnership with FDOT, Amtrak extended its tri-weekly long-distance train between Los Angeles and New Orleans, named the Sunset Limited, eastward through the Florida Panhandle beginning in the 1990s. The train initially ran all the way to Miami from 1993 to 1996, then was scaled back to originate and terminate in Sanford, and ultimately Orlando from 1997 onward. Although the train had the distinction of being the only direct coast-to-coast intercity passenger rail service in the U.S., its three-night, 3,066-mile cross-country trip (later cut back to 2,764 miles) afforded multiple opportunities for in-route delays that regularly impacted reliably. The service was suspended east of New Orleans in 2005 when Hurricane Katrina severely damaged the CSX freight rail line between New Orleans and Jacksonville that the passenger train used. Although freight service ultimately was restored over the line, passenger service has remained suspended.

The loss of service eliminated intercity passenger rail service at stations not served by other Amtrak routes. The stations impacted, 50% of which are located in Florida, are listed below:

- Lake City, Florida
- Madison, Florida
- Tallahassee, Florida

- Chipley, Florida (Panama City)
- Crestview, Florida (Ft. Walton Beach)
- Pensacola, Florida
- Atmore, Alabama
- Mobile, Alabama
- Pascagoula, Mississippi
- Biloxi, Mississippi
- Gulfport, Mississippi
- Bay St. Louis, Mississippi

In 2015, Amtrak conducted a ridership and revenue study for the Southern Rail Commission that outlined potential options for restoring service along the Gulf Coast between New Orleans and Florida. In its study, Amtrak identified five options, summarized below:

- Alternative A: Extend the City of New Orleans from New Orleans to Orlando and operate a single state-supported round trip between New Orleans and Mobile. This alternative had the largest forecast of ridership.
- Alternative A1: Extend the City of New Orleans from New Orleans to Orlando without additional service between New Orleans and Mobile. This alternative had the lowest funding need (costs less revenue).
- Alternative B: Operate two daily state-supported round trips between New Orleans and Mobile.
- Alternative B1: Operate two daily state-supported round trips between New Orleans and Mobile, with a dedicated Amtrak Thruway bus connection between Mobile and Jacksonville (JAX).
- Alternative C: Operate a standalone long-distance train between New Orleans and Orlando. This alternative had less than half the riders forecast for Alternatives A and A1 and by far the highest funding need.

The Fixing America's Surface Transportation (FAST) Act of 2015 awarded $500,000 for FY 2016 and another $500,000 for FY 2017 to convene the Gulf Coast Working Group, led by FRA and consisting of representatives from Amtrak, the state departments of transportation in Florida, Alabama, Mississippi, and Louisiana, host freight railroads CSX and Norfolk Southern, the Southern Rail Commission, and other stakeholders. The group was charged with evaluating the options in Amtrak's 2015 study, selecting a preferred option, developing a prioritized capital investment program, and identifying federal and non-federal funding sources to restore the Gulf Coast service. The working group produced a report, completed in 2017, that identified the preferred option for restoring service as:

- One daily round-trip long-distance train between Orlando and New Orleans (with through service to Chicago)
- One daily round-trip state-supported train between Mobile and New Orleans

While the group's work was underway, Amtrak, in partnership with CSX, NS, and the Southern Rail Commission, operated a two-day inspection train in February 2016 on the line from New Orleans to Jacksonville. The train made stops at all previously served stations and garnered significant media and political attention. Since the completion of the working group's report, Amtrak has continued its efforts to restore service along the Gulf Coast and is currently working with the Southern Rail Commission to operate two daily round-trip state-supported trains

between Mobile and New Orleans. The New Orleans-Mobile corridor service is included in the Amtrak Connect US plan, and an intercity service from New Orleans to Atlanta via Mobile and Pensacola was identified as an Emerging Corridor in the Southeast Regional Rail Plan.

FRA has awarded the Southern Rail Commission a $33 million CRISI grant and $5 million Restoration and Enhancement program grant to help fund startup and initial operating costs. Amtrak submitted a petition to the Surface Transportation Board in March 2021 to allow for the operation of two daily round-trip intercity passenger trains over the lines of CSX and NS between Mobile and New Orleans. The case is currently pending.

In Florida, the rail line used by the Sunset Limited across the Panhandle was purchased from CSX by the shortline holding company Rail USA. The new owner formed the Florida Gulf & Atlantic Railroad in 2019 to operate the property, which includes a 351-mile main line from Baldwin to Pensacola as well as a 21-mile branch line from Tallahassee to Atapulgus, Georgia.

3.4 Brightline Florida

Brightline Florida operates the only for-profit passenger rail service in the U.S. Its intercity passenger rail service was privately funded and developed and opened for revenue operations in 2018, serving Miami-Dade, Broward, and Palm Beach Counties.

Along its 67-mile corridor, Brightline Florida serves three stations in Miami, Fort Lauderdale, and West Palm Beach, providing 17 weekday round trips, ten on Saturday, and nine on Sunday. This service is identified by Brightline Florida as the South Florida Express line. In 2018, during its first partial year of operation, Brightline Florida carried 579,000 passengers and in 2019, its first full year of operation, served 1 million passengers. More than train service, Brightline Florida is part of a real estate vision to reenergize static neighborhoods with transportation hubs including modern stations, food halls, office space, retail, residential, and commercial space. Trains operate at a top speed of 79 mph between Miami and West Palm Beach. The extension to Orlando currently under construction will allow for projected maximum speeds of 110 mph between Wet Palm Beach and Cocoa and 125 mph between Cocoa and Orlando.[18]

3.4.1 Service Concept

Brightline Florida's goal is to provide limited-stop intercity passenger rail service that offers an attractive transportation alternative to connect Miami, Fort Lauderdale and West Palm Beach with future service to Orlando and Tampa. The service is intended to ease the stress of driving, provide a simple and intuitive experience from door to destination, and foster new opportunities to explore more of Southeast Florida. Trains are fully ADA accessible, pet friendly, feature onboard Wi-Fi and at-seat power outlets and USB ports, have large windows aligned with all seats for unobstructed viewing, contain bike racks and carry-on luggage racks, offer hands-free restrooms, and have automatic end doors and wide 32-inch aisles that allow for ease of travel through the train with wheelchairs, strollers, or luggage. Checked baggage is also provided. Passenger can select from two classes of service: a business class (called Smart Class, on Brightline Florida) or a first class (Premium Class). Smart Class service includes coaches with

[18] https://hsrail.org/Brightline%20Florida

two-by-two seating, 19-inch seats, and at-seat food and beverages for purchase. Premium Class includes coaches with two-by-one seating, 21-inch seats, complimentary food and beverages, and access to Premium Class lounges at stations.

The "All Aboard Florida (AAF) Final Environmental Impact Statement and Section 4(f) Evaluation (FEIS)" described the purpose and need of Brightline Florida's private venture passenger rail service as providing reliable and convenient intercity passenger rail transportation between Orlando and Miami. The proposed service "would offer a safe and efficient alternative to automobile travel on congested highway corridors, add transportation capacity within those corridors (particularly Interstate 95), and encourage connectivity with other modes of transportation such as light rail, commuter rail, and air transportation." An additional purpose of Phase I of the project (Miami to West Palm Beach) was to enhance intercity rail service in South Florida "by providing a transportation alternative for Floridians and tourists, supporting economic development, creating jobs, and improving air quality." The document indicated the project was needed to provide a fast, sustainable, and reliable means of travel that responds to the transportation needs of Floridians now as well as in the future. Factors driving the need included: "increasing congestion on highway corridors, longer travel times, limited existing capacity, limited and constrained opportunities for corridor expansion, limited alternative modes of transportation, and increasing travel demand generated by growth in population and tourism." Per comment provided separately by AAF, the target market for the service is two-fold: business travelers and tourists.

3.4.2 Ridership Projections

Before the start of service, while the FEIS was being prepared, Brightline Florida had projected that with the completion of the extension to Orlando, ridership would exceed 4 million passengers a year by 2030.

However, a May 2015 All Aboard Florida Ridership and Revenue Study, prepared by Louis Berger Group, revised these projections upward. The study forecasted 2020 ridership at 5.4 million, growing to just over 7 million by 2030. In 2018, a second Ridership and Revenue Study prepared by Louis Berger Group, revised these projections upward once again and provided ridership forecast for the extension to Tampa. The study forecasted 2023 ridership to Orlando at 6.6 million, growing to just under 8 million by 2030. The study forecasted 2023 ridership with the extension to Tampa at approximately 9.5 million, growing to just over 10 million by 2030.[19]

In November 2020, WSP prepared the Ridership and Revenue Study Supplement for the purpose of incorporating a number of the Brightline Trains Florida, LLC initiatives at the time, including the new in-line stations and the station at Disney Springs, into the Ridership and Revenue Study. While these estimates are based on the Ridership and Revenue Study, Brightline Trains Florida, LLC has assumed a 2.8% annual increase in fares, based on expected inflation and increased fares from 2016. Additionally, WSP estimated a two-year ramp-up period. The Ridership and Revenue Study Supplement estimates that ridership will reach

[19] https://www.sec.gov/Archives/edgar/data/1737516/000114036118043289/s002218x4_ex99-1.htm

approximately 9.9 million passengers annually in 2024, after the Miami to Orlando service, new in-line stations, and new Disney Springs station are completed.[20]

3.4.3 Equipment

Brightline Florida trainsets have a diesel-electric locomotive at each end and single-level coach cars, allowing trains to operate bidirectionally and ensuring reliability and smooth operations at speeds of up to 125 mph. All of the equipment is built by Siemens in Sacramento, California. Each trainset has four coaches, three Smart Class cars with 66 seats (except for the end car with the checked baggage compartment, which has 58 seats) and one 49-seat Premium Class car. The double locomotive configuration allows for a future addition of more passenger cars per trainset under a phased growth plan. Additional phases of expansion are expected to include the addition of a café car to each trainset. The FEIS projected trainsets would ultimately grow to seven cars consisting of two first-class cars, a café car, and four coaches, powered by two locomotives. All Aboard Florida separately reported that trainsets might actually range from four to eight cars.

Five trainsets had been delivered by October of 2017 for the initial service launch from Miami, with five more trainsets built in 2021 and 2022 for the extension of service to Orlando. With the completion of an extension to Orlando, eight trainsets would be needed to provide the daily scheduled service, according to the FEIS. Five of the train sets would be stored at the Vehicle Maintenance Facility (VMF) near the Orlando International Airport (MCO), and the remaining five at either the West Palm Beach storage and maintenance facility or the Miami station.

The 12-acre West Palm Beach facility, currently in operation, serves as Brightline Florida's maintenance and operations center. The facility has four tracks to store, clean, inspect, maintain, fuel, and repair Brightline Florida trainsets. The facility also contains the crew base where Brightline Florida train crews report on duty.[21]

3.4.4 Level Boarding

The floor height of the passenger cars are the same as the station platforms, allowing for level boarding. Passengers do not have to step up and into cars as they do today at many intercity and commuter rail train stations. Brightline Florida's trains are equipped with retractable gap fillers that extend from the train doors to meet the platform edge when the train is in a station, providing a seamless pathway on and off the train. Besides removing a barrier for people with physical disabilities, level boarding speeds the boarding and alighting of trains, thus contributing to on-time train performance.

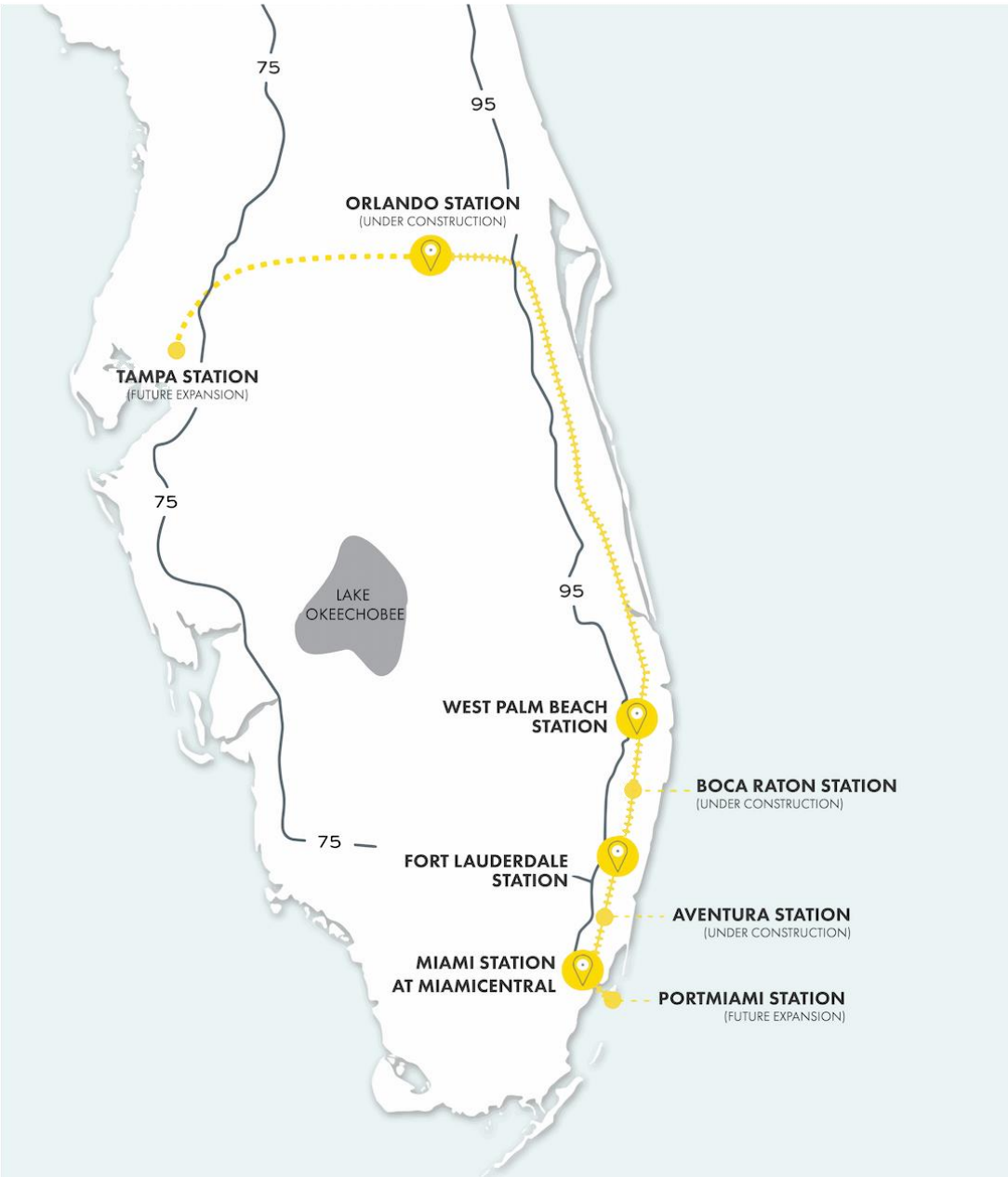
[20] Florida Development Finance Corporation (msrb.org)

[21] https://miamicentral.com/brightline-reveals-first-completed-trainset-full-innovations-set-reinvent-train-travel-us/

3.4.5 Planned Service Improvements

A route extension from South Florida to Orlando International Airport (MCO) is currently under construction, and Brightline Florida is also actively planning a further extension from Orlando west to Tampa. In addition, new opportunities for the expansion of Brightline Florida come with the announced addition of three new stations in Aventura, Boca Raton, and the Port of Miami. See Figure 3-7.

Figure 3-7 | Brightline Florida's Stations (Existing, Under Construction and Proposed)



Source: Brightline, 2022

Orlando Extension

Brightline Florida is actively constructing a 168-mile extension of its existing service to bring passengers from Miami, Fort Lauderdale, and West Palm Beach to Orlando. The work consists of expanding and upgrading the existing 130-mile Florida East Coast freight corridor between West Palm Beach and Cocoa and constructing a new 38-mile passenger rail line between Cocoa and Orlando. The project includes construction of a new South Intermodal Terminal Facility rail station at the MCO and a vehicle maintenance facility near the airport, as well as acquisition of five new trainsets built in California by Siemens. Service is expected to begin in 2023, with trains operating once per hour in each direction throughout most of the day.

Figure 3-8 | Brightline Florida test arrival into Orlando's South Intermodal Terminal Facility

Source: Brightline train pulls into Orlando airport facility in station's 1st test (clickorlando.com)

Trains will operate at a maximum speed of 125 miles per hour on the dedicated passenger-only segment between Cocoa and Orlando, earning the distinction of Florida's fastest rail line. Passenger train speeds on the segments shared with Florida East Coast Railway freight trains will be 110 miles per hour between Cocoa and West Palm Beach and 79 miles per hour between West Palm Beach and Miami. The dedicated track segment between Cocoa and Orlando will consist of a single-track main line with short sections of double track, whereas improvements on the FEC main line south of Cocoa will include construction of a second main track. The project includes a substantial rehabilitation of the Loxahatchee River drawbridge in Jupiter to add a second track, rehabilitate the existing track, replace all electrical and mechanical components, and modify the bridge spans to increase the bridge's clearance and allow more boats to pass beneath the bridge when it is in the lowered position.

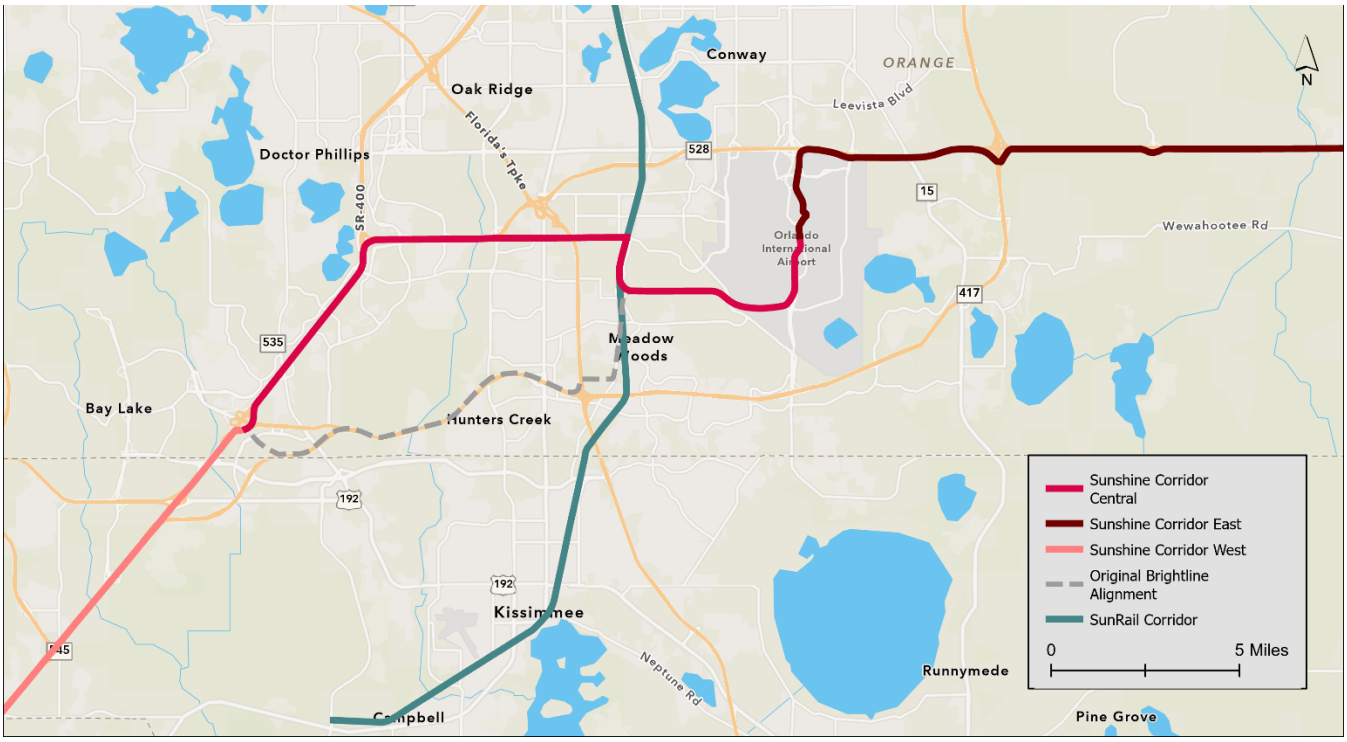
According to the Final EIS developed for the Miami-Orlando corridor, Brightline Florida intends to provide 16 revenue round-trips leaving hourly in each direction from 5:00 AM to 9:00 PM between Orlando and Miami. Trains would stop at the two intermediate stations in West Palm Beach and Ft. Lauderdale (and presumably also stop at two new stations under construction in Boca Raton and Aventura). The last scheduled northbound revenue train would arrive in Orlando at 12:10 AM, and the last scheduled southbound would arrive in Miami at 11:10 PM. Brightline Florida anticipates the travel time over the entire 235-mile corridor between Miami and Orlando to be approximately 3 hours and 15 minutes, which is competitive with current driving times.

Tampa Extension

Brightline Florida is also actively developing an extension of its service west from Orlando to Tampa. The extension will include one or more intermediate station stops in the Orlando area and a western terminal station in the Tampa area. Brightline Florida began engineering and design work of the extension in 2020. Talks are underway between FDOT, Brightline Florida, SunRail, Orange County, and other local and private entities to jointly develop the segment of the Brightline Florida route through Orlando as the Sunshine Corridor (see Figure 3-9). The project will develop a shared-use passenger rail corridor between MCO and a station along South International Drive near Lake Buena Vista and the Walt Disney World Resort. It will accommodate Brightline Florida intercity passenger trains and SunRail commuter trains, with an intermediate station at the Orange County Convention Center and a transfer station with SunRail's existing north-south line near Pine Castle. The Sunshine Corridor is projected to use existing trackage owned by the Orlando Utilities Commission, then a portion of the Central Florida Rail Corridor operated by SunRail in Orlando, then will parallel West Taft Vineland Road, SR 528, and I-4 west to South International Drive, where an intermediate station near Lake Buena Vista is proposed. West of that location, the extension will continue to follow I-4 west to Tampa. Brightline Florida and FDOT signed a right-of-way access agreement for an alignment paralleling I-4 in early 2022.[22]

[22] https://stpetecatalyst.com/what-you-need-to-know-about-brightlines-plans-for-high-speed-rail-in-tampa-bay/

Figure 3-9 | Proposed Sunshine Corridor Through Orlando



In May 2022, Brightline Trains LLC was awarded $15.9 million in federal grant funding from the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program, matched with an additional $15.9 million in private funds from Brightline Florida, to fund preliminary engineering activities to advance the design and construction of 67 miles of the Brightline Florida's Tampa extension south of Orlando, on a grade-separated and mainly double-track railway mostly within the alignment paralleling I-4. Under current projections, the Tampa extension could be completed as early as 2028.

New Stations

Brightline Florida has announced plans to construct three additional passenger rail stations along its South Florida corridor between Miami and Orlando. In 2022, construction had begun on new stations at Boca Raton and Aventura. Brightline Florida is also planning to build a station at PortMiami.

During the FY 2020 CRISI Grant cycle the City of Boca Raton was awarded $16.35 million for the Boca Raton passenger rail station project. The funding will help construct a station facility along the Brightline Florida rail corridor, improve tracks near the station area, and construct a new parking garage that will provide an intermodal connection between vehicles and passenger rail transportation. The city will supplement the grant award with $9.9 million of local funding for the parking garage.[23] The remainder of the project's cost, approximately $30 million, will be funded by Brightline Florida.

[23] https://www.gobrightline.com/press-room/brightline-breaks-ground-boca-raton-station

Safety Improvements

Brightline Trains LLC was awarded a $2.4 million federal CRISI grant in FY 2017 for the South Florida East Coast Rail Corridor Intrusion Prevention Project. The project installed supplemental safety features at 48 grade crossings between West Palm Beach and Miami, among them delineators at 11 crossings, exit gates at nine crossings, and active signs at 28 crossings. The improvements are designed to reduce the frequency of grade crossing violations by keeping motorists and pedestrians from trespassing on the railroad corridor when trains approach. In 2021, Brightline Florida pledged to make nearly $32 million of safety improvements at 32 crossings in Indian River County where trains to and from Orlando will operate.

In 2021, Brightline Florida began initial tests of a new rail corridor intrusion detection system using red-light cameras at locations between West Palm Beach and Fort Lauderdale. Using this technology, Brightline Florida will be able to monitor and implement railroad safety features to reduce trespassing in the corridor. Brightline Florida has also been testing the effectiveness of planting shrubbery to prevent corridor intrusion. In 2021, Brightline Florida partnered with Community Greening, an urban forestry non-profit firm based in Delray Beach, to begin a massive tree and shrub planting project along 10 miles of the Brightline Florida/Florida East Coast right-of-way in Palm Beach County. The program is designed to develop a sustainable method for creating a safe barrier between the railroad corridor and surrounding community that not only will improve public safety but also enhance the environment. Under the project, more than 3,000 native trees and shrubs were planted along the rail corridor, generating ecosystem benefits valued at approximately $1.8 million, including $198,000 of stormwater benefits, $690,000 of energy saved, and $924,000 of air quality improvement.

In September 2021, Brightline Florida was awarded an Operation Lifesaver Rail Transit Safety Education Grant for $20,000 to continue its efforts to educate the public about rail safety through its innovative Buzz Boxx initiative. The program promotes rail safety and mental health awareness with a mobile barbershop experience that offers free haircuts to the public. Prior to their haircuts, participants sign the Operation Lifesaver Rail Safety Pledge promising to stay safe around railroad tracks, and during their haircuts participants engage in conversations with their barber, who has received mentorship, safety training, and resources (such as suicide prevention) to improve the overall wellbeing of the youth and homeless population. Additional materials are on hand for participants to take with them as a resource for themselves or to help others in need of mental health support. The Operation Lifesaver grant will support 10 additional events (four in Miami-Dade, four in Broward, and two in West Palm Beach) from November 2021 to February 2022 with one-to-three barbers per activation. Brightline Florida launched Buzz Box in 2018 to connect with people that might not respond to traditional safety messaging methods such as public service announcements or vehicle message signs at highway-rail grade crossings. In 2019, Brightline Trains was awarded the American Public Transportation Association (APTA) Certificate of Merit for Safety.

In 2022, Brightline Florida announced it would invest $450,000 to develop a pilot program of a red-light camera system. They formed a partnership with technology firm NovoaGlobal to pilot a red light camera project in North Miami using Railroad-Safe™ technology, a grade crossing safety system to prevent rail-related fatalities by warning and educating drivers about illegal

actions. This traffic safety solution collects information, educates the public, reduces the number of traffic violations, and helps decrease the risk of vehicle accidents. Railroad-Safe™ also detects drivers who fail to heed the railroad warning signals and drive through the crossing gates when trains are approaching. This technology had already been proven successful in reducing the number of railroad crossing violations in Orlando on SunRail's corridor.

3.5 Other Potential Intercity Passenger Rail Improvements

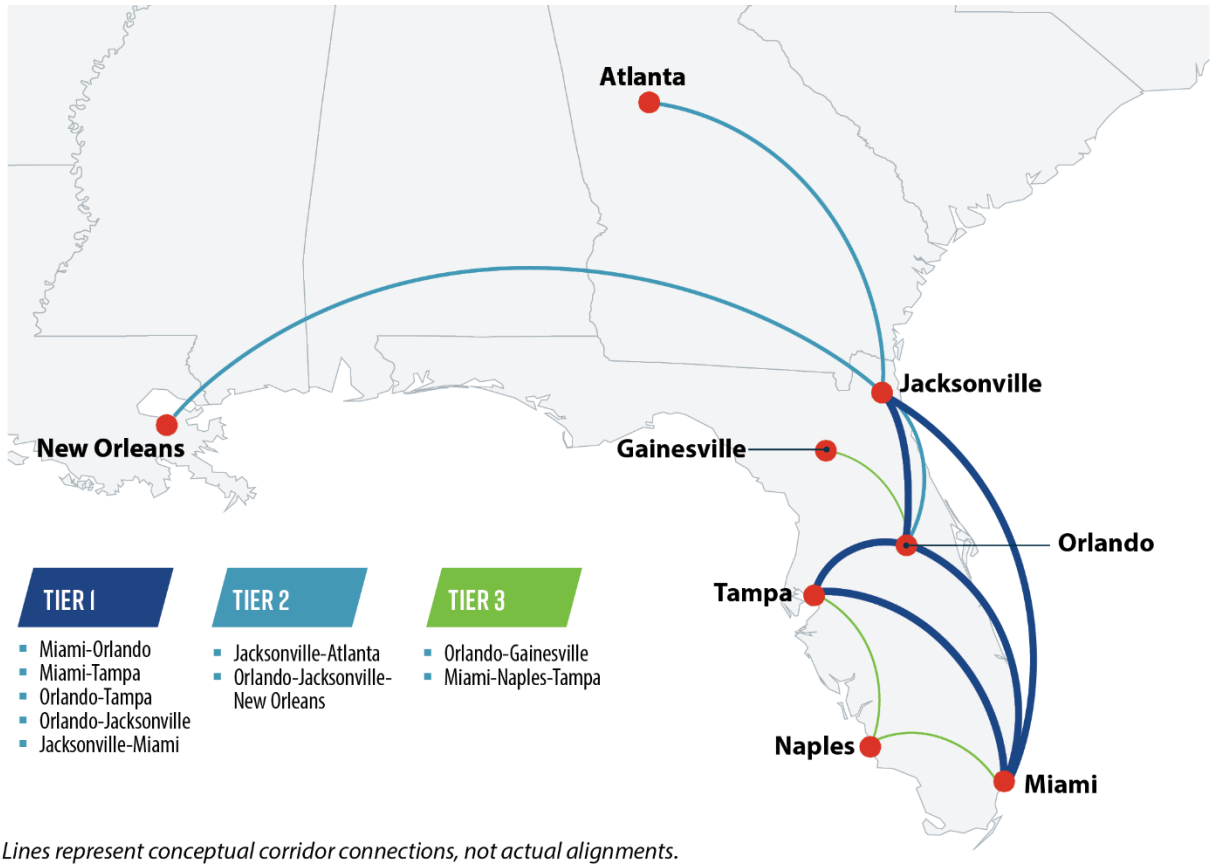
3.5.1 Long-Term Investments by FDOT in Intercity Corridor Development

As discussed earlier in the chapter, FDOT established a new statewide vision and strategy in 2021 for the future development of intercity passenger rail services. Following the establishment of the new vision, FDOT completed a passenger rail corridor assessment to identify and evaluate new intercity passenger rail corridors proposed for development, as well as existing intercity passenger rail corridors proposed for an expansion of service. The assessment strategically evaluated and identified passenger rail corridors where future investments should be focused. In addition to working with Amtrak, FDOT's vision for passenger rail includes working with for-profit service providers to develop public-private partnerships that would enhance statewide mobility.

Leveraging new passenger rail funding available in the Bipartisan Infrastructure Law, FDOT has determined that the following intercity passenger rail corridors, see Figure 3-10, should be advanced with further study and development in order to assess their ability to help achieve FDOT's statewide vision for passenger rail:

- New intercity passenger rail routes of less than 750 miles
  - Orlando-Tampa
  - Miami-Tampa
  - Orlando-Jacksonville
  - Miami-Jacksonville
- Enhancement of an existing intercity passenger rail route of less than 750 miles
  - Miami-Orlando (service is planned to begin in 2023)
- Restoration of service over all or portions of an intercity passenger rail route formerly operated by Amtrak
  - Orlando-New Orleans (Sunset Limited route, 769 miles)
  - FDOT is potentially supportive of a service restoration in this corridor as an Amtrak National Network long-distance train that would not require operating financial support from the state
- Increase of service frequency of a long-distance intercity passenger rail route
  - New York-Miami via Charleston, SC (Silver Meteor route) and New York-Miami via Raleigh, NC and Tampa, FL (Silver Star route)
  - FDOT is potentially supportive of service frequency increases on these long-distance routes as additional Amtrak National Network long-distance trains that do not require operating financial support from the state

Figure 3-10 | Conceptual Intercity Passenger Rail Corridor Connections



Lines represent conceptual corridor connections, not actual alignments.

In addition, FDOT is agreeable to providing support in an advisory capacity to other multistate, regional, or local public agencies that wish to develop and implement other intercity passenger rail corridors serving Florida linking Jacksonville and Atlanta, or long-distance routes of more than 750 miles.

3.6 Commuter Rail

Mobility options that allow residents and visitors to use regional commuter rail and avoid state highway and local roadway congestion contribute measurably to the economic and environmental well-being of a city center and outlying areas.

While operating and maintenance costs are likely to remain the primary responsibilities of state and local government, significant increases in federal funding for capital project development have recently been enacted for commuter and urban passenger rail projects through the Federal Transit Administration's Capital Investment Grants Program (CIG). In addition, the FDOT New Starts Transit Program is available to project sponsors to provide matching funds to leverage or in some cases supplant these federal programs when appropriate.

FDOT's leadership in the development of regional rail systems is critical, given the complexities associated with multiple jurisdictions and the need to enhance and supplement local technical

capacity. This includes leading planning efforts, project development, capital investment, providing operating support, and acquiring right-of-way. For example, the State of Florida purchased the 72-mile South Florida Rail Corridor from CSX for Tri-Rail commuter service in 1988 and purchased the 61.5-mile Central Florida Rail Corridor for SunRail commuter service in 2011.

FDOT continues to provide significant capital, operations, and maintenance funding for both Tri-Rail and SunRail and continues to manage and operate the SunRail commuter rail service. Future state acquisition of corridors for intercity rail service may also provide access for new or expanded commuter rail services as well.

3.6.1 SunRail Extensions

When working with FTA to fund SunRail in the early 2010s, FTA requested that FDOT divide the project into segments to better match up with anticipated New Starts fund availability. The 31-mile Phase 1 between Sand Lake Road and Debary was completed and opened for revenue service on May 1, 2014. In planning for Phase 2, it was determined that Phase 2 South and Phase 2 North could not be considered as one FTA New Starts project because they were not contiguous. The 17-mile Phase 2 South leg qualified for federal funding under the FTA New Starts evaluation criteria and was implemented first, extending service by linking Sand Lake Road in Orange County to Poinciana in Osceola County, and opening for revenue service in July 2018.

Phase 2 North, currently under construction, is a 12-mile northern extension from the Phase 1 DeBary station to a new terminus adjacent to the existing DeLand Amtrak station in Volusia County. See Figure 3-11. Specific improvements for the Phase 2 North extension include adding 6 miles of second track in the corridor (4 miles south of DeLand and 2 miles north of DeBary), installing additional safety features at grade crossings such as dynamic envelopes, and improvements to the DeLand station to accommodate the new service, such as construction of an island platform and second platform track and improvements to the parking lot and bus traffic flows. The project includes the purchase of three additional rail vehicles. Construction of Phase 2 North is expected to be completed in 2024.[24]

In early 2022, FDOT estimated the construction cost of Phase 2 North to be $44 million.[25] As this segment could not meet the scoring criteria thresholds to qualify for FTA funding as a stand-alone project, FDOT creatively flexed federal transportation funds to FTA, providing the federal dollars for Phase 2 North necessary to keep the local funding commitments intact.[26]

Other SunRail capital projects currently included in the FDOT Work Program include:

- Acquisition of additional vehicles at an estimated cost of $50 million
- Construction of a vehicle maintenance facility to obviate SunRail's reliance on Amtrak's Sanford facility. While SunRail did not provide a cost estimate, this plan assumes a $50 million lump sum for this project based on costs for comparable projects elsewhere

[24] https://sunrail.com/team-fl-june2021-article/
[25] https://beacononlinenews.com/2022/02/21/speed-bump-in-sunrails-going-to-deland/
[26] SunRail Phase 2 North - Orlando, Florida (dot.gov)

- Implementation of positive train control (PTC) at an estimated cost of $20 million
- Safety upgrades costing an estimated $8 million

3.6.2 Future SunRail Plans

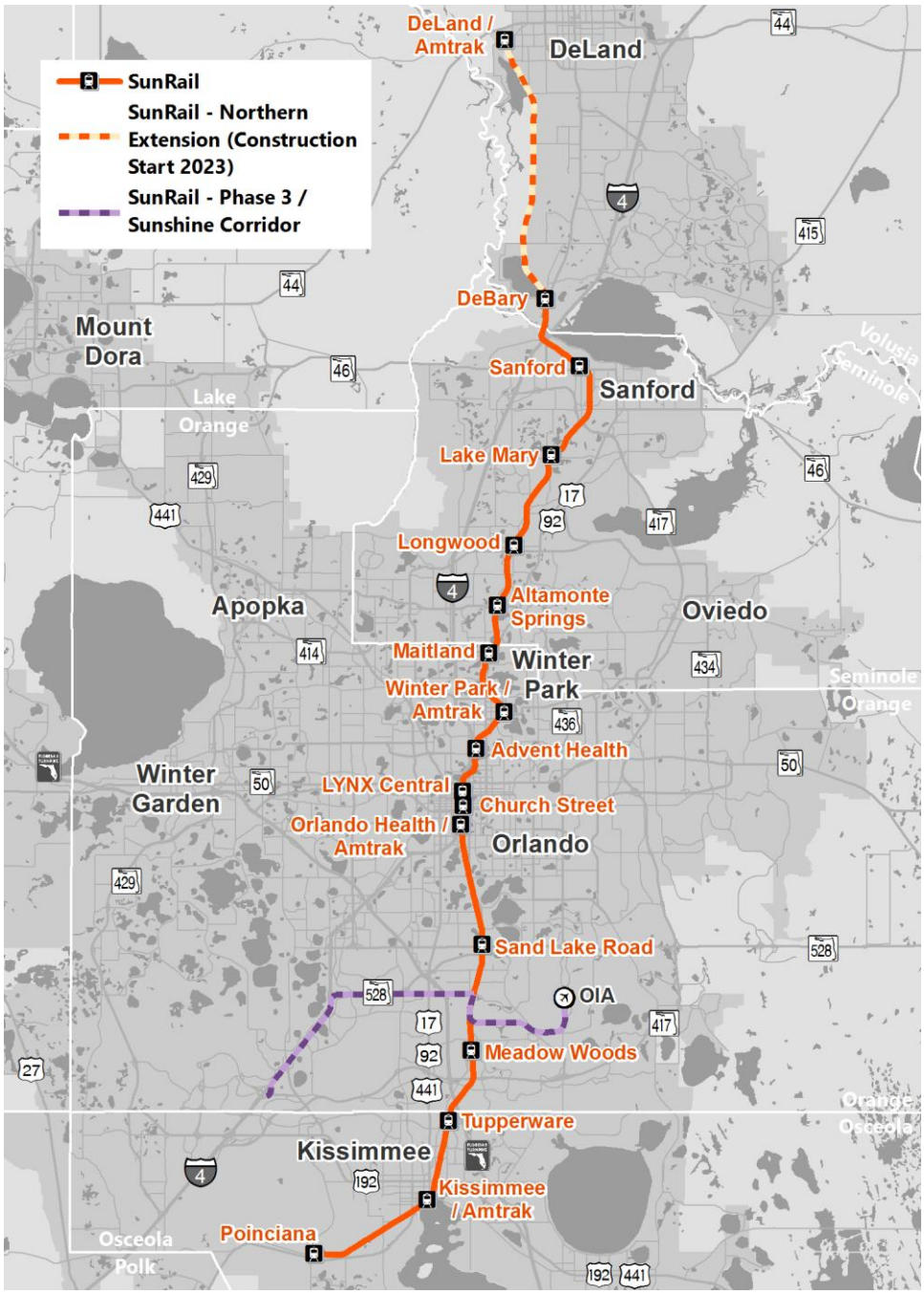
SunRail Phase 3 Airport

The current connection between SunRail and the airport requires a bus transfer at the Sand Lake Road Station; however SunRail officials in the mid-2010s began investigating a Phase 3 expansion which would extend the service to the MCO Intermodal Terminal. To advance the airport extension, SunRail is working with FDOT, Brightline Florida, the City of Orlando, Orange County, and other local and private entities to develop a new shared-use passenger rail corridor through Orlando known as the Sunshine Corridor. See Figure 3-11.

The project would enable SunRail and Brightline Florida trains to share tracks on a new rail line between the MOC and South International Drive, with an intermediate station at Orange County Convention Center. From South International Drive, the proposed corridor would follow I-4 east to the Orange County Convention Center, then extend east along SR 528 and West Taft Vineland Road to reach the current SunRail alignment. The corridor would include the existing SunRail alignment south to a new transfer station with trains on SunRail's existing north-south line near Pine Castle. South of Pine Castle, the corridor would travel 3.5 miles from the current SunRail alignment east along an existing Orlando Utilities Commission (OUC) rail spur which runs along the southern boundary of the airport's property and is used exclusively by coal trains to serve the Curtis H. Stanton Energy Center in eastern Orange County. Passenger trains would then diverge onto a new 2-mile spur that would terminate at the MCO Intermodal Terminal.

The MCO Intermodal Terminal opened in 2017 and is connected to the main airport terminal via a people mover. It is also adjacent to the airport's new south terminal, which is under construction and expected to open in 2023. The MCO Intermodal Terminal will also be the terminus of Brightline Florida intercity passenger trains from Miami.

Figure 3-11 | SunRail Extension, Phase 2 North and Phase 3 Sunshine Corridor



Source: FDOT, 2022

Extension to Polk County

FDOT is conducting a Transit Concept and Alternatives Review (TCAR) Study for a proposed extension of SunRail into Polk County. Interest in an extension of SunRail from its current terminus at Poinciana into Polk County has existed for many years, and has been studied preliminarily on multiple occasions, including the following:

- FDOT District One's Rail Traffic Evaluation Study (Passenger Rail Options Technical Memorandum), 2009
- Passenger Rail Options for Polk County; March 26, 2014
- Technical Report – SunRail Extensions into Polk County, May 2015

The 2014 and 2015 studies were conducted in coordination with the development of Polk Transportation Planning Organization's (TPO) Long Range Transportation Plan (LRTP) Momentum 2040. A summary of this information was presented in Polk TPO's Momentum 2040 and Momentum 2045.

The current TCAR study will be based on the process outlined in FDOT's TCAR Guidance, which describes the process as "a uniform approach for advancing transit projects by linking early planning work to the FDOT PD&E and FTA Project Development (PD) processes." The study will examine project alternatives, benefits, costs, funding options, economic development, mobility, and environmental considerations, and will address transportation equity. The study's primary objective is to select a recommended alternative and to prepare that alternative for entry into the FTA Capital Investment Grant (CIG) Project Development process.

3.6.3 Tri-Rail

Tri-Rail has taken significant steps in recent years to expand service and travel options for passengers. The extension of Tri-Rail service to the Miami Intermodal Center in 2015 improved travel choices, established convenient service to Miami International Airport, and shortened trips to downtown Miami via connecting MetroRail trains.

Tri-Rail also constructed two east-west rail connections between the South Florida Rail Corridor and the Florida East Coast Railway main line to accommodate future Tri-Rail service expansions on FEC tracks and provide operating flexibility between the two corridors. The project received funding through a USDOT Transportation Investment Generating Economic Recovery (TIGER) grant award and a multi-agency, public-private partnership. The Miami (Iris) connection and the West Palm Beach connection (Northwood) were completed by June 2019. The 4.5-mile Iris connection will enable Tri-Rail trains from Mangonia Park on the SFRC to operate directly into the MiamiCentral Station on FEC and Brightline Florida tracks. The Northwood connection will enable Tri-Rail trains from Miami to use the SFRC as far as West Palm Beach, then continue north on FEC tracks to Jupiter. A third connection at Pompano Beach is discussed in the long-range improvements section (see Section 6.4.2.3).

As a result of the COVID-19 pandemic, ridership had plummeted toward 20% in March 2020, prompting Tri-Rail to reduce service to 18 weekday and 12 weekend trains for several months. Tri-Rail incrementally added frequencies four times through October 2020, reaching a level only slightly below a full schedule. By October 2021, when all trains were restored to a full schedule of 50 weekday and 30 weekend trains, Tri-Rail ridership had reached 60% of its pre-pandemic ridership levels.[27] In 2022, FDOT and Miami-Dade County completed construction of the $60 million Golden Glades Multimodal Transportation Facility, which provides direct access from Tri-

[27] https://www.tri-rail.com/pressreleases: October 20, 2021. "Tri-Rail Returns to Full Train Schedule Starting Monday, October 25, 2021"

Rail's Golden Glades station to a new 4,500-square-foot transit hub that includes a multi-level parking garage, new multi-bay bus terminals, new designated passenger waiting areas, and new retail areas.[28]

Short-Range

New Northern Layover and Light Maintenance Facility

Tri-Rail is planning a new Northern Layover and Light Maintenance Facility in Palm Beach County north of the Mangonia Park Station. The facility will provide a more efficient end-of-line location at the northern end of its line for some equipment maintenance, fueling, cleaning, and additional storage capacity. Heavy equipment maintenance will still be performed at the Hialeah maintenance facility, which Tri-Rail shares with Amtrak. A cost estimate for the facility is $36.1 million. The Hialeah facility has no room for expansion, however, constraining Tri-Rail's ability to acquire and maintain more train sets. The crowded conditions contributed to the decision to move ahead with the new northern facility. Another factor contributing to the decision was the potential to reduce deadheading (non-revenue moves) of equipment from Mangonia Park to Hialeah for storage and maintenance, thus reducing expenses and increasing operating efficiency. The new facility, which would be located in an industrial area, will have storage capacity for four train sets. The facility is to be surrounded with sound walls to mitigate noise impacts. Federal environmental clearance was received in late 2013, and key funding support has been forthcoming from the Palm Beach Metropolitan Planning Organization.

New Tri-Rail Station in Boca Raton

This project involves a new Tri-Rail station near Glades Road, serving the Boca Town Center Mall area. A station feasibility study completed by SFRTA in 2016 concluded that building a second Tri-Rail station in Boca Raton near Glades Road and Military Trail was feasible. Shuttle bus, pedestrian, and limited parking facilities would be included. SFRTA's 2019-2028 10-Year Capital Plan[29] estimates the new station would cost approximately $24 million. The project is included in the Palm Beach MPO TIP.

Downtown Miami Link

SFRTA is working with FDOT, Brightline Florida, and other partners to extend Tri-Rail commuter trains south to the MiamiCentral Station, providing direct, one-seat-ride service between Mangonia Park and downtown Miami. As part of the project, a 9.05-mile extension project known as the Tri-Rail Downtown Miami Link was built to connect the South Florida Rail Corridor at the Tri-Rail Metrorail Transfer Station with the Florida East Coast Railway corridor into downtown Miami.[30] Figure 3-12 shows the existing and future routes for Tri-Rail trains to Miami. Tri-Rail will continue to provide direct train service between Mangonia Park and the Miami Intermodal Center after the completion of the Downtown Miami Link, providing passengers with additional mobility, improved connectivity, and new options for rail travel in South Florida.

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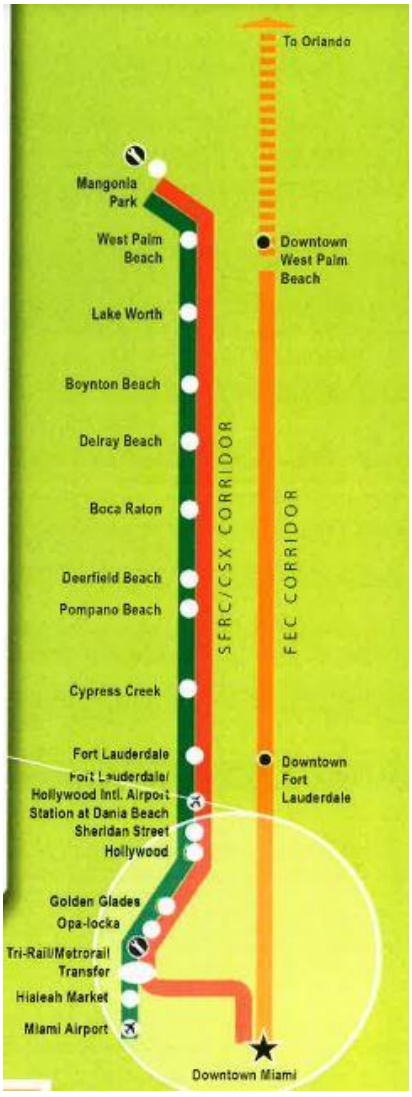
[28] https://www.fdotmiamidade.com/current-projects/north-miami-dade/golden-glades-multimodal-transportation-facility--1.html

[29] https://media.tri-rail.com/Files/About/SFRTA/Planning/Reports/SFRTA%20-%20TDP%20MAJOR%20UPDATE%202019-2028_compressed.pdf

[30] https://www1.tri-rail.com/pages/view/downtown-miami-link

According to the SFRTA Environmental Technical Analysis published in January 2018,[31] among Tri-Rail's 50 revenue weekday trains (25 round trips), 24 trains will operate to and from the Miami Airport Station within the Miami Intermodal Center and 26 trains will operate to and from MiamiCentral Station in downtown Miami. In addition, Tri-Rail intends to operate 26 rail shuttles between the Metrorail Transfer Station and the Miami Airport Station, connecting with the 26 Tri-Rail trains planned to serve MiamiCentral Station, thus ensuring no reduction to current revenue service. The project will enable future service increases of up to 30 Tri-Rail trains per day (15 round trips) to serve MiamCentral. Work currently underway includes completing improvements to the tracks approaching Miami Central Station and within the station's train concourse to accommodate the Tri-Rail commuter trains.

Figure 3-12 | Tri-Rail Downtown Miami Link



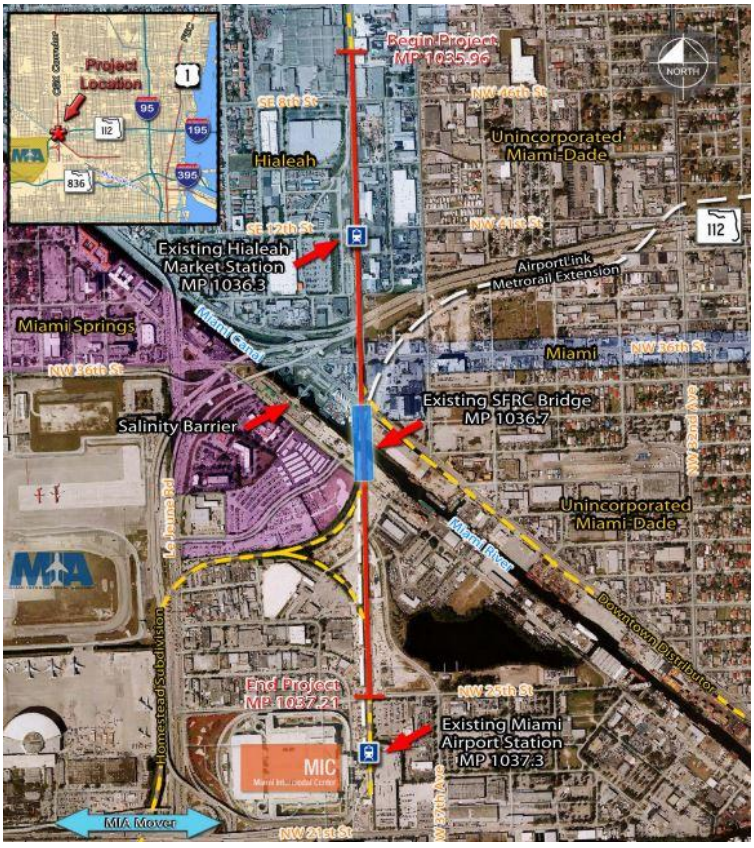
[31] https://media.tri-rail.com/Files/About/SFRTA/Planning/DTML/Reports%20and%20Presentations/TRDML-Env-Tech-Analy-Final-1.8.18.pdf

Miami River – Miami Intermodal Center Project

The double tracking project that was completed in 2007 left one section of SFRC single track in the vicinity of the Miami River. The Miami River-Miami Intermodal Center project will fill in the gap by constructing a second mainline track for 1.25 miles from just north of the Tri-Rail Hialeah Market station to the Miami Airport Station located within the Miami Intermodal Center. The project will add track capacity and alleviate an operational bottleneck for Tri-Rail, Amtrak, and CSX trains, improving reliability and on-time performance. The project also involves replacing the existing railroad drawbridge across the Miami River with a new fixed-span crossing that accommodates two tracks to the west of the existing drawbridge. An Environmental Assessment of alternatives was completed in 2016, and a locally preferred alternative was selected for the project. The cost estimate for the project is approximately $88.9 million. Most project phases are now included in the Miami-Dade MPO TIP. Figure 3-13 shows a map of the project area.

A Memorandum of Agreement was signed by the Federal Transit Administration, FDOT, SFRTA, and the Florida State Historic Preservation Officer in 2017 that identified mitigation effects to historic resources along the project corridor, including demolition of the National Register of Historic Places-eligible CSXT Railroad Bridge over the Miami River.[32]

Figure 3-13 | Miami River – Miami Intermodal Center Project Area



[32] https://media.tri-rail.com/Files/About/SFRTA/Planning/Current%20Projects/MR%20MICCI/MR-MICCI%20MOA%20Final%20Signed%2001.12.18.pdf

Safety

Tri-Rail is working with FRE on grade crossing safety initiatives, including a safety outreach plan for the South Florida Rail Corridor. Ten grade crossings in Miami-Dade County have been identified for rehabilitation.

Long-Range

During the creation of 2018 plan, Tri-Rail reported multiple potential long-range projects, inclusive of full implementation of the Coastal Link, other service extensions, and several station improvements.

CSX – FEC Rail Connection at Pompano Beach

A third east-west connection between the FEC and SFRC is planned at Pompano Beach. This connection will provide for freight rail rationalization to/from Port Everglades, resolve a SFRC bottleneck, and facilitate the full implementation of the Tri-Rail Coastal Link concept. The cost for the improvement is estimated at $29 million

CSX-Tri-Rail Dolphin Extension Phase I

In April 2015, SFRTA released the "Miami-Dade County Rail Opportunities Plan," which identified multiple potential new Tri-Rail routes and service options that could help Miami-Dade County achieve future mobility and development goals.[33] Among the new routes proposed for consideration was the Dolphin/East-West Extension, which would add Tri-Rail service from the MIC on 11.2 miles of CSX trackage west from the Miami Intermodal Center (MIC) along SR 836, past the Dolphin Mall, ending just west of the Florida's Turnpike, with a stop at Florida International University's Sweetwater Campus. This corridor is one of the six proposed new corridors in the Strategic Miami Area Rapid Transit (SMART) Plan adopted by the Miami-Dade Transportation Planning Organization in 2016. (Section 3.9.3 contains additional information about the SMART Plan.) The project has an estimated cost of $150 million in SFRTA's 2018 Transit Development Plan. The Dolphin Expressway is the most heavily traveled east-west highway in South Florida, the plan notes, connecting major employment, residential, shopping, and educational centers. Phase I assumes minimal double tracking and basic station amenities.

Kendall/Homestead Extension

Another route proposed for consideration by SFRTA in the "Miami-Dade County Rail Opportunities Plan," was the Kendall/Homestead Extension, which proposed adding Tri-Rail service from the MIC on a corridor southwest of Miami to Homestead that used CSX's Homestead Subdivision (between Oleander Junction and Homestead/Florida City) and the CSX Lehigh Spur (parallel to SR 836/Dolphin Expressway) The project has an estimated cost of $302.7 million in SFRTA's 2018 Transit Development Plan excluding the purchase cost of the CSX rights-of-way, which are unknown.

[33] https://media.tri-rail.com/Files/About/SFRTA/Planning/Reports/SFRTA-Miami-Dade-County-Rail-Opportunities_ver2.pdf

Okeechobee Link

An additional route proposed for consideration by SFRTA in the "Miami-Dade County Rail Opportunities Plan," was the Okeechobee Link, which proposed adding a new Tri-Rail route from the MIC on a 10-mile corridor west to Miami Lakes, terminating at the planned American Dream Mall. The $4 billion retail and entertainment complex, currently projected to open in 2027, is expected to be the largest mall in the United States and employ approximately 25,000 people. The project has an estimated cost of $325 million in SFRTA's 2018 Transit Development Plan.

Miami International Airport/PortMiami Extension

SFRTA's "Miami-Dade County Rail Opportunities Plan" also proposed the development of a rail link between the Miami International Airport and the PortMiami cruise ship terminal. Trains would be strategically scheduled to provide a new congestion-free travel alternative during high travel demand periods (typically weekends) associated with cruise ship arrivals and departures. The 12-mile route would use a combination of SFRC and FEC tracks. The project has an estimated cost of $25 million in SFRTA's 2018 Transit Development Plan.

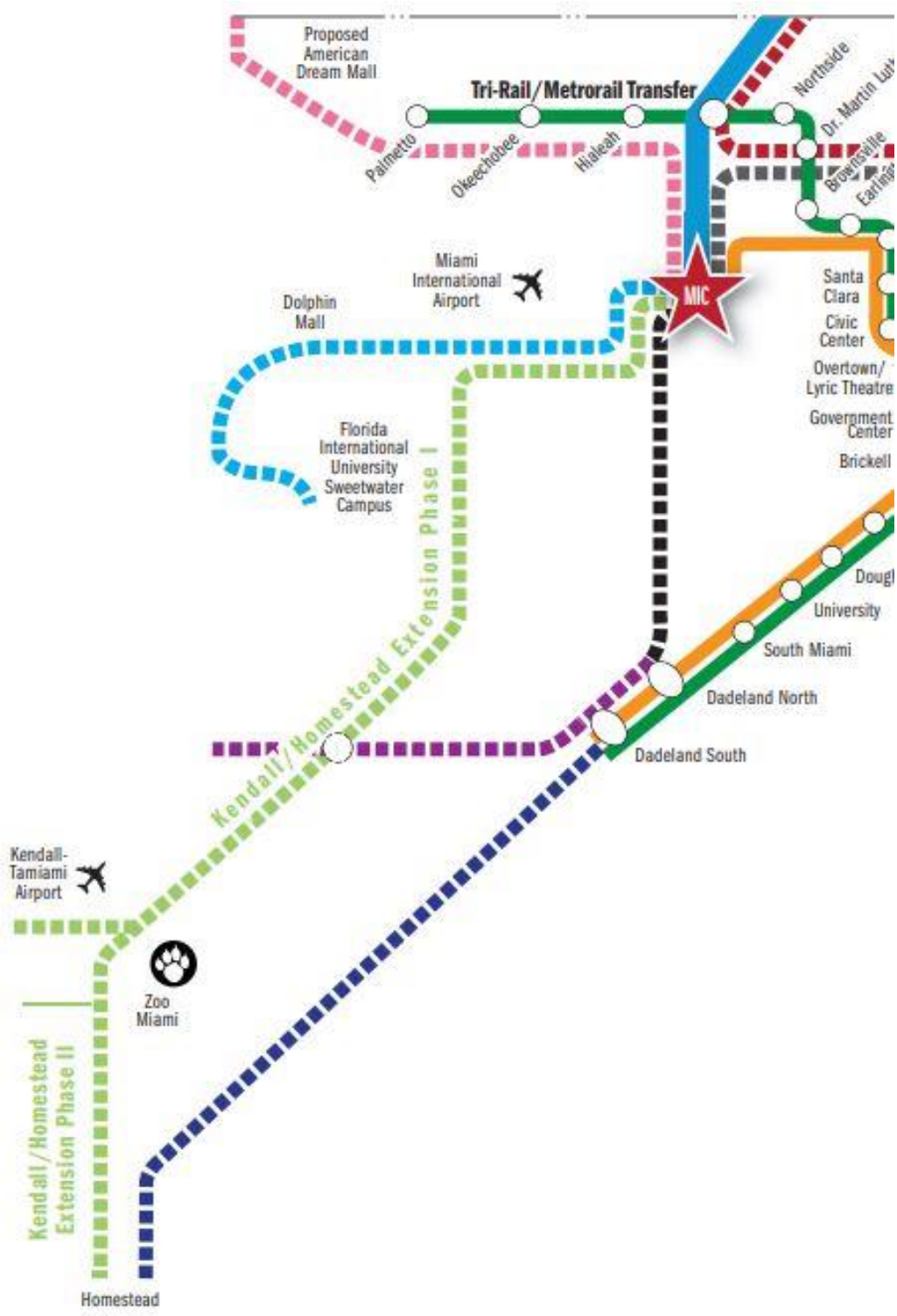
Ludlam Corridor, Kendall Link, and US-1 Extension

SFRTA's "Miami-Dade County Rail Opportunities Plan," also included options for light rail or Diesel Multiple Unit (DMU) services that could connect with Tri-Rail commuter trains and provide new rail transit options on additional unserved corridors. The "Ludlam Corridor" is a proposed rail transit line that would extend south from the MIC for 10 miles to Dadeland using an inactive railroad corridor owned by FEC. The corridor's southern end would connect with the Metrorail heavy rail system at the Dadeland North Station. The Ludlam corridor's 100-foot width could allow for opportunities to develop multimodal "rails-with-trails" alternatives that enable rail transit to share an alignment with a pedestrian/bike trail. The project has an estimated cost of $300 million in SFRTA's 2018 Transit Development Plan.

SFRTA's plan also proposed for consideration the "Kendall Link," a new rail transit corridor in Dadeland that could connect with either the proposed Ludlam Corridor or the existing Metrorail system at Dadeland North and extend west along Kendall Drive. Two potential options for the Kendall Link's western extension were identified, a terminal at SR 874/Don Shula Expressway (and potential future connection with the proposed Tri-Rail Kendall/Homestead Extension), creating a 3-mile corridor, or a terminus west of Florida's Turnpike, creating a 5.5-mile corridor. The project has an estimated cost of $325 million in SFRTA's 2018 Transit Development Plan.

The plan also proposed a third rail transit corridor at Dadeland, the "US-1 Extension," which would extend from the Dadeland South Metrorail station 20 miles to Homestead. The rail line would follow the South Dade Busway alignment, which was built on a former FEC railroad right-of-way and was designed to allow for potential future rail expansion. The project has an estimated cost of $500 million in SFRTA's 2018 Transit Development Plan. Figure 3-14 depicts the new commuter rail and rail transit routes proposed to serve areas west and south of Miami in the plan.

Figure 3-14 | Potential Commuter and Rail Transit Routes South and West of Miami



The Kendall Link and US-1 Extension are two of the six proposed new transit corridors in the SMART Plan adopted by the Miami-Dade Transportation Planning Organization in 2016.[34] (Section 3.9.3 contains additional information about the SMART Plan.)

Tri-Rail Extension: Northern CSX to VA Hospital

This project would extend Tri-Rail commuter service three miles northwest of its current terminus at Mangonia Park to a new station at the West Palm Beach Veterans Administration Medical Center, located in the City of Riviera Beach. The extension would occur on CSX tracks in the SR 710 corridor and provide direct rail service to one of Palm Beach County's largest employers. Tri-Rail currently operates a shuttle service between the Mangonia Park Station and the V.A. Medical Center on 15-minute headways, which would be replaced by trains on the extension. The project has an estimated cost of $63.4 million in SFRTA's 2018 Transit Development Plan.

Deerfield Beach Tri-Rail Station Improvements

This project calls for a new parking deck along with pedestrian, bus circulation, shelter, and bike improvements. Improvements will support the additional ridership anticipated from a Transit Oriented Development project adjacent to the station area. The project has an estimated cost of $18 million in SFRTA's 2018 Transit Development Plan.

New Tri-Rail Station at Palm Beach International Airport

This project is for a new Tri-Rail station to be located in the vicinity of Southern Boulevard (SR 80). The proposed site was selected based on the results of a 2011 study completed by SFRTA. Depending on the exact station location, the facility may also include parking facilities to serve commuters from the western communities. The proposed site is more than 2 miles south of the existing Tri-Rail West Palm Beach station and north of the Tri-Rail Lake Worth station. Tri-Rail previously had a station on Mercer Avenue serving Palm Beach International Airport, but the facility closed in 1999 to provide space for a highway interchange that connected I-95 to the airport. The project has a cost estimate of $22.5 million. It is included in the Palm Beach MPO 2040 LRTP Cost Feasible Plan.

Delray Beach Tri-Rail Station Improvements

This project involves a new parking deck with about 265 spaces, along with pedestrian, bus circulation, shelter, and bike improvements. The project has a cost estimate of $6 million.

Boynton Beach Tri-Rail Station Improvements

This project involves a surface parking lot expansion on existing SFRTA right-of-way, along with pedestrian, bus circulation, shelter, and bike improvements. The project has a cost estimate of $900,000.

Mangonia Park Tri-Rail Station Improvements

This project involves construction of a new parking deck, along with pedestrian, bus circulation, shelter, and bike improvements. The project has a cost estimate of $10 million. It is included in the Palm Beach MPO 2040 LRTP Cost Feasible Plan.

[34] https://www.miamitodaynews.com/2022/03/01/progress-of-six-legs-of-transit-smart-plan-updated/

Boca Raton Tri-Rail Station Improvements

The Boca Raton Station at Yamato Road is one of the three busiest stations on the Tri-Rail commuter rail system. The project involves building a new parking deck, along with pedestrian, bus circulation, shelter, and bike improvements. The project has an estimated cost of $8 million in SFRTA's 2018 Transit Development Plan. It is included in the Palm Beach MPO 2040 LRTP Cost Feasible Plan.

Boca Raton Intermodal Center

For the longer term, this project involves construction of a new intermodal facility, at either the existing Tri-Rail station or a proposed new Boca Raton station near Glades Road, to improve connections between Tri-Rail and new local transit routes anticipated to begin as part of the Boca Raton Multi-modal Transportation District. The project would construct a 300-space parking deck and add circulation areas to support additional Palm Tran buses and SFRTA commuter connection buses. The project has an estimated cost of $24 million in SFRTA's 2018 Transit Development Plan. It is included in the Palm Beach MPO 2040 LRTP Cost Feasible Plan.

Resilience Mitigation and Hurricane Hardening

SFRTA has developed a program hurricane hardening improvements for the Tri-Rail commuter rail system, based on impacts experienced during Hurricane Irma in 2017. Among the initiatives in the program is a project to provide sufficient redundant storage and servicing capacity at the planned Northern Layover facility in Mangonia Park in the event of a service interruption at the Hialeah yard and shop; a project to reduce the exposure of escalators at the MIC to driving rain, improving passenger safety; weatherproofing of pedestrian bridges, platform canopies, stairways at stations to provide better structural support and improve passenger safety; improving emergency lighting at stations; and addressing severe drainage issues at stations. The program has an estimated cost of $19.3 million in SFRTA's 2018 Transit Development Plan. It is included in the Palm Beach MPO 2040 LRTP Cost Feasible Plan.

3.6.4 Coastal Link

Coastal Link Study

Figure 3-15 | Coastal Link Study Map

The Coastal Link Study, previously known as both the Tri-Rail Coastal Link Study and the South Florida East Coast Corridor (SFECC) Study, analyzed reintroducing commuter rail service along an 85-mile stretch of the Florida East Coast (FEC) Railway corridor between downtown Miami and Jupiter. The study area is shown in Figure 3-15. The service would connect the centers of densely populated municipalities in eastern Miami-Dade, Broward and Palm Beach Counties, improve north-south mobility, offer new travel options to replace driving on congested streets and highways, encourage stronger east-west connections, promote redevelopment and revitalization, and enhance freight movement. The corridor is anticipated to serve as the spine of a regional intermodal network, connecting to existing rail transit and bus systems, including both Tri-Rail and Metrorail, as well as the Miami International, Fort Lauderdale-Hollywood International, and Palm Beach International airports. Since the release of a corridor-wide Project Development Report in 2014, two separate but coordinated Project Development & Environment (PD&E) studies have moved forward with an anticipated third study not yet identified.

The first study, known as the Northeast Corridor (NE Corridor) study and being led by Miami-Dade County Department of Transportation and Public Works, examines an extension of commuter rail service from Downtown Miami to the City of Aventura along the existing FEC railway for an approximate length of 14.5 miles. (For more information on this project, see Section 3.7.1.)

The second study, known as the Broward Commuter Rail (BCR) study, is being led by FDOT District 4 in conjunction with Broward County. This study area begins at Aventura and will ultimately go north approximately 27 miles to Deerfield Beach in Broward County. The Project will run along the existing FEC railway for an approximate length of 27 miles. For more information on this project, see Section 3.8.) The recommended locally preferred alternative currently under study terminates south of the New River in Fort Lauderdale, pending determination on the means by which trains will negotiate the crossing (i.e. bridge vs. tunnel). (For more information on this project, see Section 3.7.2.)

Tri-Rail Coastal Link - Jupiter Extension Service

Both the planned Northern Layover and Light Maintenance Facility and the Northwood connection completed in 2019 linking the SFRC and FEC tracks in West Palm Beach will facilitate a 10-mile extension of Tri-Rail service on the FEC corridor between West Palm Beach and Jupiter. This project is another component of the Coastal Link study that is advancing independently, and it is shown in Figure 3-15. Going north from the existing Tri-Rail West Palm Beach station, the Jupiter Extension would serve stations on the FEC at West Palm Beach, Riviera Beach, Lake Park, Palm Gardens and Jupiter. The extension is part of the Palm Beach Transportation Planning Agency's 2020-2045 Long Range Transportation Plan, which notes that $1.4 million in funding for a PD&E study is in the FY 20-24 Transportation Improvement Program.[35] A steering committee assembled by the Palm Beach County Transportation Planning Agency to advance the project released an updated capital cost estimate in 2018 of $107 million to build the extension.[36]

Palm Beach County Coastal Link Implementation

The Palm Beach Transportation Planning Agency's 2020-2045 Long Range Transportation Plan also includes a project to expand commuter rail service on the FEC corridor from West Palm Beach to Boca Raton, with stations at Boca Raton, Delray Beach, Boynton Beach, Lake Worth, and West Palm Beach. The LRTP notes that $2.5 million in funding for a PD&E study is in the FY 20-24 Transportation Improvement Program. The project has an estimated cost of $158 million in SFRTA's 2018 Transit Development Plan.

3.7 Other Potential Long-Range Commuter Rail Improvements

3.7.1 Northeast Corridor Rapid Transit Project

Miami-Dade County has been leading an effort in partnership with FDOT, Brightline Florida, and Florida East Coast Railway to establish commuter rail service on approximately 14.5 miles of the Florida East Coast corridor between Miami and Aventura. Trains would serve seven stations at Aventura, North Miami Beach/Biscayne Bay, North Miami, 79th Street/El Portal, Mid-Town/Design District, Wynwood/Edgewater, and Miami Central Station in downtown Miami. The Northeast Corridor is one of six corridors in the Strategic Miami Area Rapid Transit (SMART) Plan adopted by the Miami-Dade Transportation Planning Organization in 2016.[37] (Section 3.9.3 contains additional information about the SMART Plan.) Figure 3-16 shows the communities that the Northeast Corridor line would serve. Establishing commuter rail service in the corridor would improve mobility options, promote economic development, reduce emissions, and improve travel times for residents and visitors in a region with heavy road congestion and a projected increase in population.

[35] https://www.jupiter.fl.us/DocumentCenter/View/24313/19?bidId=

[36] https://www.palmbeachtpa.org/static/sitefiles/meeting/2018_FEB_26_Tri_Rail_Steering_Committee_Meeting_Presentation.pdf

[37] https://www.miamitodaynews.com/2022/03/01/progress-of-six-legs-of-transit-smart-plan-updated/

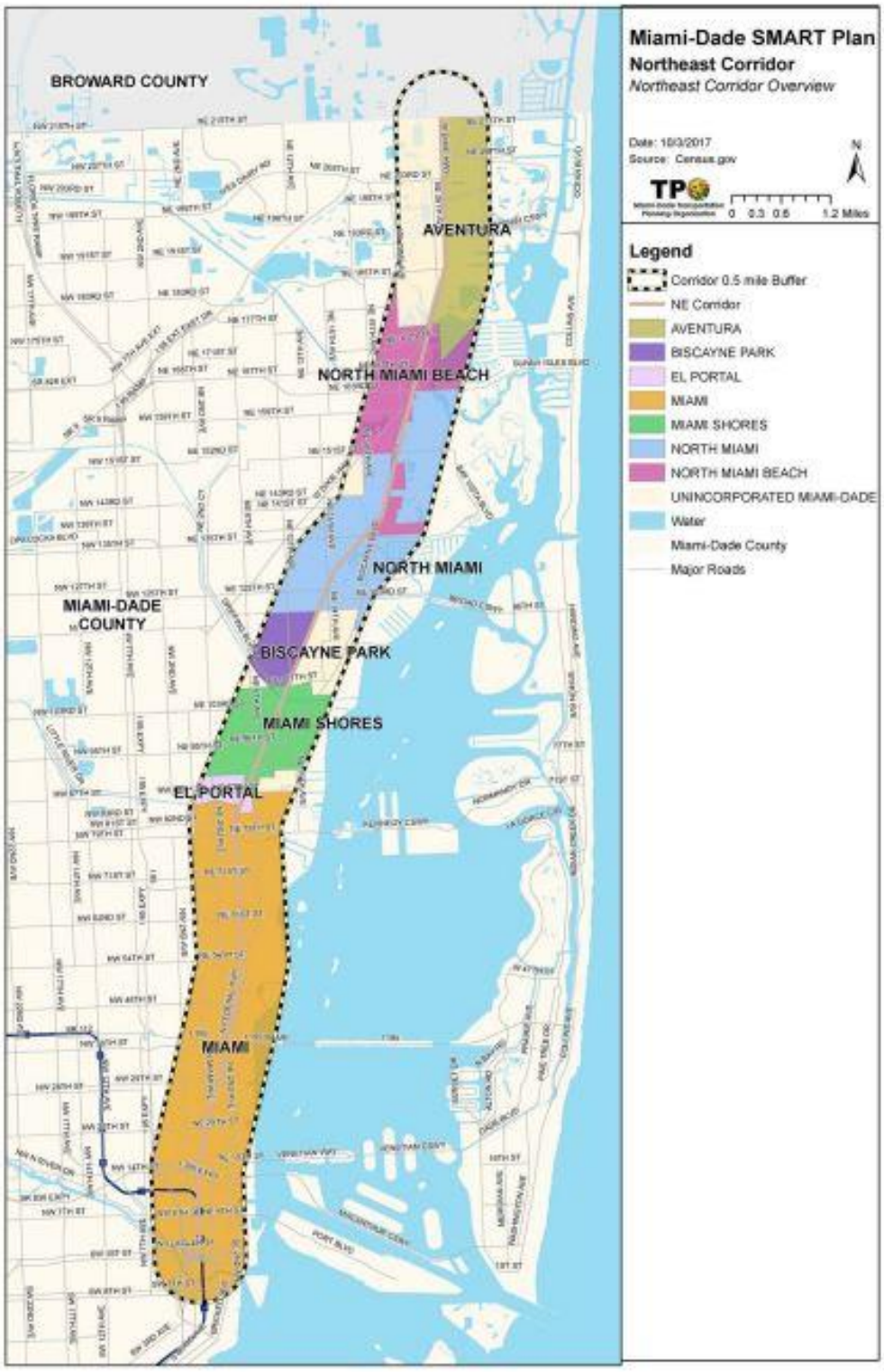
The Miami-Dade County Commissioners signed an agreement in 2020 with Virgin Trains (now Brightline Florida) to provide operations and maintenance for the commuter rail service. Trains are projected to operate every 30 minutes during the morning and afternoon rush hours, with a projected trip time of 15 minutes between Miami and Aventura. The Miami-Dade County Department of Transportation and Public Works (DPTW) is currently working with the FTA on securing federal funding for the project under the New Starts program. DPTW expects to complete an environmental evaluation, adopt the locally preferred alternative into the fiscally constrained long-range plan, and initiate engineering in 2022, in anticipation of receiving a Full Funding Grant Agreement in 2023. The FTA's 2021 New Starts report estimated the cost of the project to be $414 million, which includes costs to construct stations, park-and-ride facilities, an equipment maintenance facility, and acquire rolling stock.[38] The county anticipates requesting $207 million in New Starts funding and will likely request state funding from FDOT to cover an additional 25% of the capital cost, with the remainder of funding coming from local sources, including the local half-percent county sales tax dedicated for transit.

Brightline Florida's agreement with Miami-Dade County includes a commitment to cap commuter fares at no more than 65 percent of the price of a ticket on a Brightline Florida intercity passenger train between Fort Lauderdale and Miami, however the county is working with Brightline Florida to determine the feasibility of offering a subsidy to further reduce commuter fares.[39] Lowering commuting costs would result in higher ridership and will encourage a modal shift in regional commuter travel from highway to rail. A Transit Oriented Development is planned for the Aventura station area. Miami-Dade County owns the land where the Aventura station will be built. Revenue service could begin as early as 2025. (For more information, visit www.miamidadetpo.org/smartplan.asp and click on the Northeast Corridor updates/links.)

[38] https://www.transit.dot.gov/sites/fta.dot.gov/files/2021-10/FL-Miami-Dade-Northeast-Corridor-Rapid-Transit-Project-Profile.pdf

[39] https://www.miamidade.gov/chambergazette/winter2020/partnership-aventura-downtown.page

Figure 3-16 | Northeast Corridor Commuter Rail Route



3.7.2 Broward Commuter Rail

FDOT and Broward County have formed a partnership to examine the feasibility of establishing commuter rail service along the Florida East Coast Railway north of Aventura. FDOT District Four and Broward County signed a memorandum of understanding on January 28, 2021 to collaborate on the Broward Commuter Rail (BCR) PD&E study.[40] The objective of the PD&E study is to evaluate alternatives and assess the viability of a commuter rail service on approximately 27 miles of the FEC railroad corridor from Aventura in Miami-Dade County to Deerfield Beach in Broward County to expand existing passenger rail service options, relieve I-95 congestion, improve connectivity and transportation choices, foster economic development, and promote sustainable land use through transit-oriented development. Commuter trains would share the FEC tracks with Brightline Florida intercity passenger trains and FEC Railway freight trains.

The BCR project originated as a regional planning study known as “Coastal Link,” which evaluated the feasibility of establishing a commuter rail service on the existing FEC corridor for a total of 85 miles through Miami-Dade, Broward, and Palm Beach Counties (see Figure 3-17). FDOT is the technical lead on the PD&E study, while Broward County is taking the lead on financial planning, related agreements, and coordination with local governments and other stakeholders.

Current projections anticipate that BCR will have similar train frequencies, headways (intervals between trains), costs, and passenger station spacing (2 to 5 miles) as Tri-Rail commuter service. The project envisions that up to 60 BCR commuter trains could operate each weekday. Technical recommendations have been made for six station locations in Hollywood, Fort Lauderdale/Hollywood International Airport, downtown Fort Lauderdale, Oakland Park, Pompano Beach, and Deerfield Beach. The adopted Locally Preferred Alternative, terminating south of the New River, is currently under evaluation by FTA for entry into Small Starts Project Development in the Capital Investment Grant Program. During PD, a National Environmental Policy Act (NEPA) evaluation will be completed, as well as engineering evaluations an assessment of project benefits, and selection of a Locally Preferred Alternative to be included in the financially feasible element of Broward County’s Long Range Transportation Plan. (For more information on this project, visit www.browardcommuterrailstudy.com.)

[40] https://www.fdot.gov/projects/broward-commuter-rail/about-the-project

Figure 3-17 | Broward Commuter Rail Route

Broward County is responsible for developing the financial plan and identifying the funding sources that will be used for the project. Local funding could be a combination of funding from the county and municipalities, which would most likely be supplemented with federal and state funding to match the local contributions. Initial construction cost estimates have been developed as part of the PD&E, ranging from $735 million to $2.5 billion, depending on which of three options is selected as the Locally Preferred Alternative to allow commuter trains to cross the New River in downtown Fort Lauderdale while maintaining the river's navigability.[41] Broward County expects that operations and maintenance costs for the service will be covered by local funding, including farebox revenue. Ridership forecasts estimate that BCR service could attract 9,500 daily riders, and more than 24,000 daily riders if service is combined with the Miami-Dade County Northeast Corridor segment.[42]

3.7.3 First Coast Commuter Rail

The 2009 First Coast Commuter Rail Feasibility Study, sponsored by the Jacksonville Transportation Authority (JTA), explored the potential for a commuter rail service centering on Jacksonville. The First Coast Commuter Rail concept envisioned three lines, all sharing a terminus in Jacksonville. The lines are seen in Figure 3-18.

- North Corridor would run north from Jacksonville Central Business District (CDB) along the abandoned section of the S-Line to the CSX Kingsland Subdivision, then to Yulee.
- Southwest Corridor would run from the CBD along the CSX Sanford Subdivision to Green Cove Springs.
- Southeast Corridor would run along the FEC southeast from the CBD to St. Augustine.

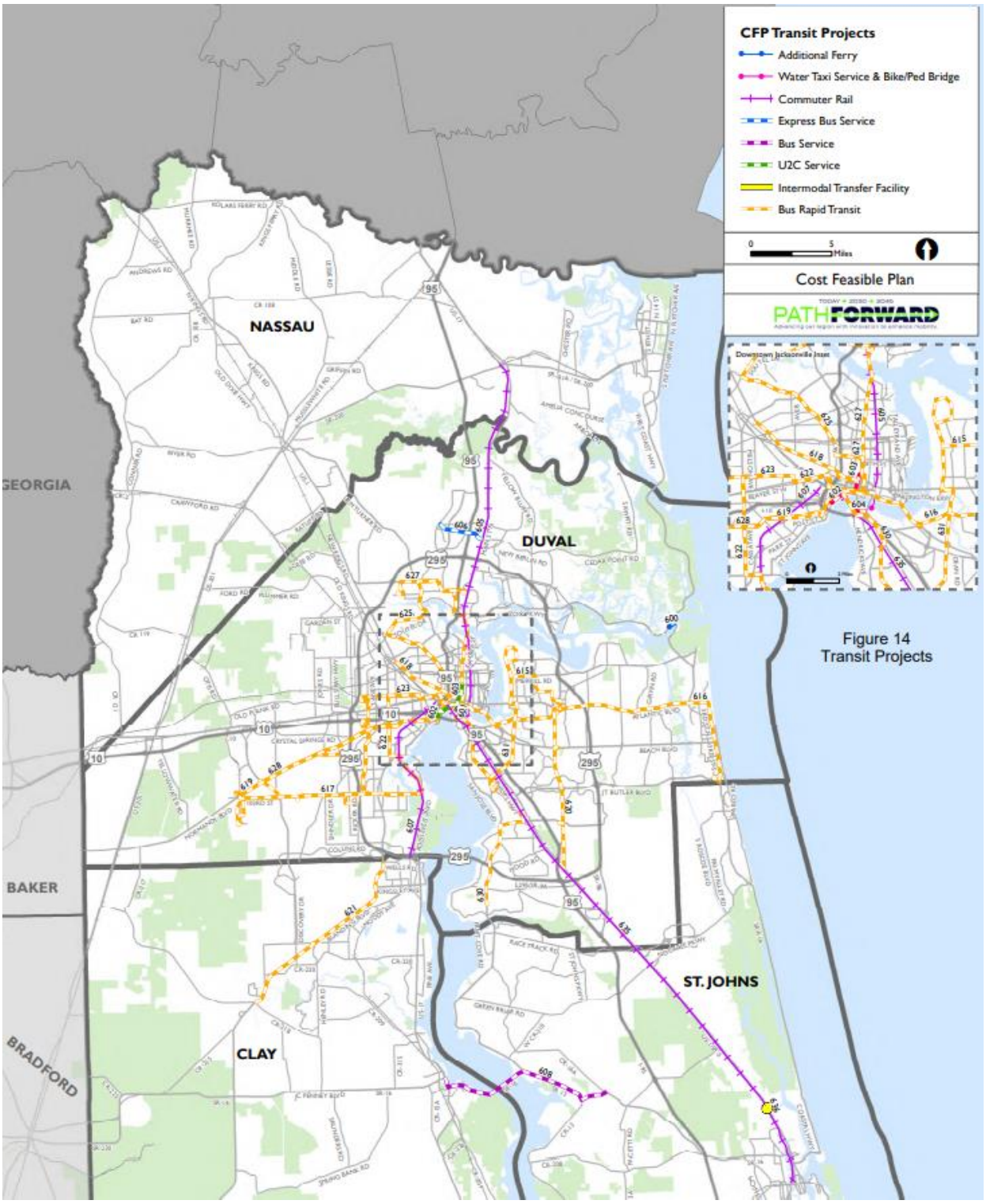
The cost to implement the 90-mile system was estimated at $622 million. Weekday ridership was estimated in the range of 4,700 to 9,300 passenger trips. Operating and maintenance costs were estimated to be about $40 million per year.

The Better Jacksonville Plan, approved by voters in 2000, is a $2.25 billion plan to provide transportation infrastructure, environmental preservation, economic development and new public facilities. It is funded in part by a half-cent sales tax. The plan designated $100 million toward acquisition of "rapid transit" right-of-way.

[41] https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/projects_browardcommuterrail/bcr_newsletter_no-3.pdf?sfvrsn=2c15c5a_2

[42] https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/projects_browardcommuterrail/bcr-frequently-asked-questions.pdf?sfvrsn=ee1a3852_2

Figure 3-18 | First Coast Commuter Rail Routes



Source: North Florida TPO 2045 Cost Feasible Plan

In 2022, JTA commissioned a study to analyze the feasibility and projected costs of establishing commuter rail service on a 38-mile route between Jacksonville and St. Augustine. Building the case in favor of commuter rail as a mitigation strategy during scheduled I-95 maintenance of traffic (slated to begin in 2023) and to meet continued population and employment growth, the proposed service will also connect the two cities of Jacksonville and St. Augustine with employment and activity centers to provide a cohesive regional user experience.[43] First Coast Commuter Rail will connect downtown Jacksonville to downtown St. Augustine by means of four total stations; JRTC at LaVilla, Avenues Walk, Racetrack Road, and King Street. The Rough Order of Magnitude costs are estimated to be:

- $395 million in Total Capital Costs
- $25.1 million Total Annual Operating Costs

Currently, FEC owns the track and Right-of-Way (ROW) for the entire commuter rail corridor between downtown Jacksonville and St. Augustine. The ROW, 100 feet, is wide enough for four track lines, a significant expansion opportunity for commuter rail. While there are some segments of double track, most of the rail corridor is single track with switches (the current configuration). Today this corridor is exclusively used for freight, but Brightline Trains owns the passenger rail rights to the corridor, representing considerable interest in bringing passenger rail to Northeast Florida.

3.7.4 Tampa Commuter Rail

In June 2020, the Tampa Bay Regional Transit Authority (TBARTA) released its Envision 2030 Regional Transit Development Plan.[44] Envision 2030 presents a five-county regional transit vision, establishes an organizational and financial strategy for TBARTA, and outlines an implementation plan for the coming decade. The plan includes the findings from a Regional Transit Feasibility Plan completed in 2018 for Hillsborough, Pinellas, and Pasco counties that identified five top-performing corridors for premium transit (defined as rail, bus rapid transit, or ferry) from which the regional transit vision was developed.[45] These corridors included:

- Clearwater to St. Petersburg, a 23.8-mile corridor that generally follows I-275, Roosevelt Boulevard, and East Bay Drive
- Downtown Tampa to University of South Florida (USF), a 9.6-mile corridor that generally follows the existing CSX rail line near 30th Street and Nebraska Avenue
- South Tampa to Downtown Tampa, a 9.1-mile corridor that generally follows the existing CSX line near Selmon Expressway
- Wesley Chapel, USF, Tampa, St. Petersburg, a 40.5-mile corridor that generally follows I-275
- Westshore to Brandon, a 15.5-mile corridor that generally follows I-275 and Selmon Expressway

[43] First Coast Commuter Rail (jtafla.com)
[44] https://www.tbarta.com/media/1740/envision-executive-summary_061220_final_update.pdf
[45] https://www.tbarta.com/media/1170/regional-transit-feasibility-plan.pdf

These five corridors provide critical regional transportation connections for workers traveling to their places of employment. There are more than 675,000 total jobs within a one-half mile radius of these corridors and more than 200,000 daily work trips to the activity centers that these five corridors serve.

Following the identification of the corridors, the plan conducted an evaluation to determine the potential transit mode options that could best serve the top performing connections in an optimal setting, considering evaluation criteria that included preliminary FTA rating, return on investment, engineering feasibility, community benefits (including size of travel markets served), and public opinion. The six transit modes evaluated during the process were rubber-tired vehicles operating in toll lanes (similar to Express Bus), rubber-tired vehicles operating in dedicated lanes (similar to bus rapid transit), rubber-tired autonomous vehicles, light rail/streetcar, commuter rail, and elevated rail. The screening process indicated that a rail alternative – light rail or commuter rail – would be feasible alternative for the following corridors:

- Downtown Tampa to University of South Florida (USF), 9.6 miles following the existing CSX rail line
- Wesley Chapel – USF – Tampa – St. Petersburg, 40.5 miles following I-275

A third screening process developed conceptual alignments and service plans to evaluate the corridor's cost effectiveness, employment and population densities, and projected annual riders and new rivers new riders. Results from that process recommended carrying forward the Wesley Chapel USF – Tampa – St. Petersburg corridor for further analysis as a Bus Rapid Transit project and carrying forward the Tampa to USF corridor for further analysis as the CSX Urban Rail project. Figure 3-19 shows the two corridors highlighted in black as the top transit options for the region.

Figure 3-19 | Top Tampa Transit Options

During outreach sessions, feedback from stakeholders prompted additional study of the CSX Urban Rail concept, and the feasibility of extending rail service along the existing CSX freight rail corridor from Tampa that connects to Brooksville (Brooksville Subdivision) as well as Clearwater and St. Petersburg (Clearwater Subdivision). The team evaluated the impacts of extending the CSX concept beyond USF and Tampa and concluded extensions would not be cost effective per FTA guidelines.

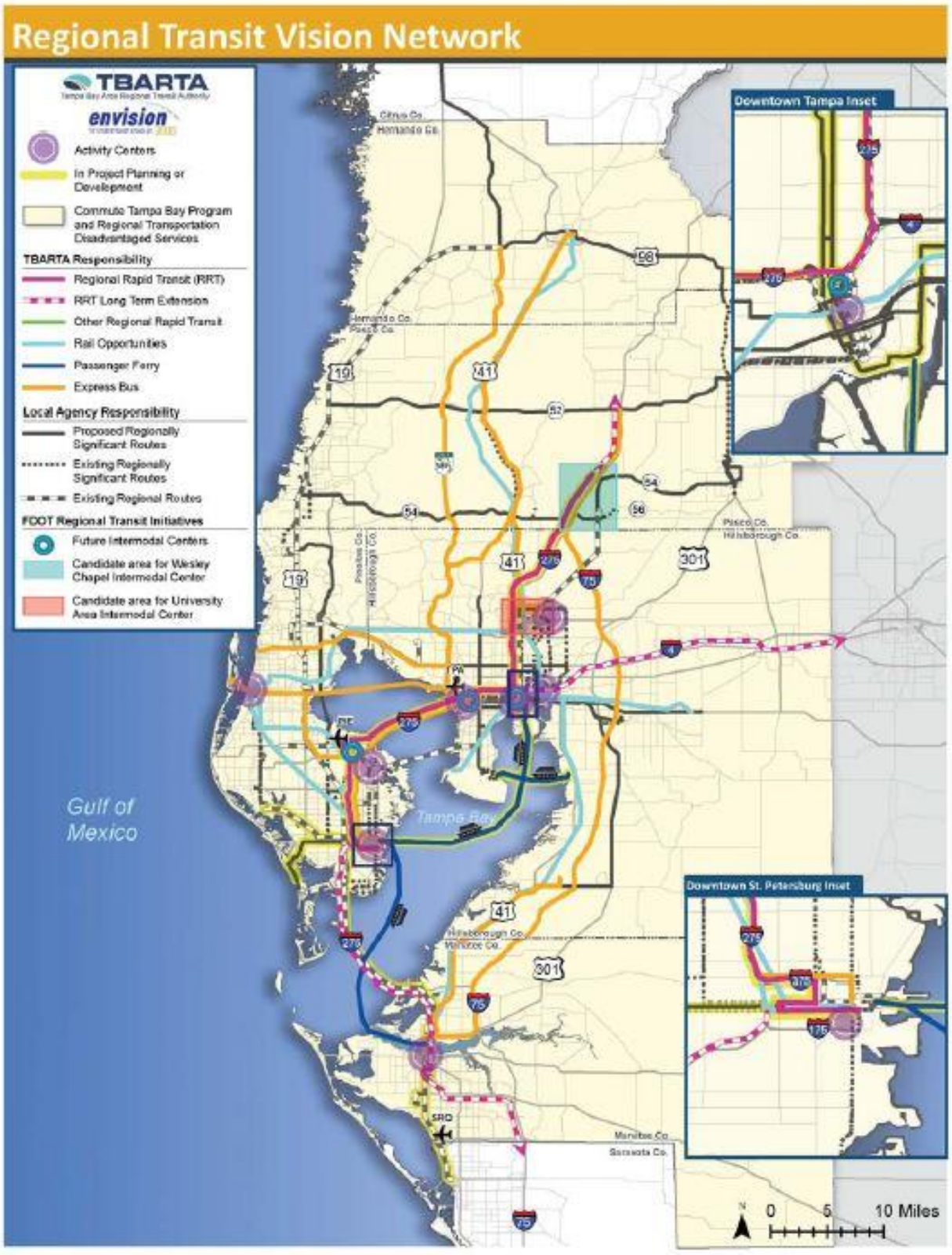
Although the study ultimately concluded with a recommendation to advance the Wesley Chapel – St. Petersburg Bus Rapid Transit concept as a catalyst project for development, interest in future development of rail corridors from Tampa to Brooksville and Clearwater remains. TBARTA continues to seek opportunities to work with planning partners and leverage local contributions with federal, state, and private dollars to further study the feasibility of developing commuter or urban rail transit services in the region.

Transportation studies prepared by other stakeholders also recommend projects to establish commuter rail in the Tampa region. The Mobility 2045 long-range transportation plan for Pasco County called for developing regional rail north of Tampa on the US 41 corridor. TBARTA's Envision 2030 Regional Transportation Plan identified additional regional transit needs and potential improvements where rail transportation could play a role as part of TBARTA's Regional Transit Vision Network. These included the following:

- Potential Commuter Rail Routes
  - South Tampa to Downtown Tampa Rail
  - Brandon Rail
  - Downtown Tampa to Downtown St. Petersburg Rail
  - Bradenton Rail
  - USF (Tampa) to Brooksville Rail
- Potential Rail Transit Routes
  - USF (Tampa) to Downtown Tampa Rail
  - Clearwater to Downtown St. Petersburg Rail
- Potential Streetcar Routes
  - HART Streetcar Extension
  - Tampa International Airport to Westboro Streetcar

Figure 3-20 illustrates the Regional Transit Vision Network developed by TBARTA.

Figure 3-20 | Tampa Regional Transit Vision Network



3.8 Urban Rail Transit

Urban rail transit systems take several forms in Florida, including heavy rail (Miami-Dade Metrorail), automated people mover (Miami-Dade Metromover and Jacksonville Skyway), and historic streetcar (Tampa). FDOT supports the development of new and expanded rail transit systems, recognizing the important role that rail transit can play in providing mobility options and solutions that can reduce capacity constraints on state- and locally-owned highway facilities. The ability for residents and visitors to utilize urban rail transit and thereby avoid state highway and local roadway congestion delays contributes measurably to the economic and environmental well-being of Florida's city centers and outlying areas.

This section identifies critical rail transit projects that FDOT is working to advance in partnership with local and regional entities.

3.8.1 Tampa Streetcar Extension and Modernization

With significantly higher ridership demonstrated following the waiver of fares, the city of Tampa moved forward with a plan to extend and upgrade the system with modern streetcar technology. In partnership with FDOT and the Hillsborough Area Regional Transit Authority (HART), the City conducted a public transportation feasibility study and other project development activities to expand and modernize the Tampa Streetcar system.

The City completed the first phase of the InVision: Tampa Streetcar study in Spring 2018 and in June 2018 received approval from FTA to enter the Project Development phase to select a preferred alternative and refine improvement plans and strategies.[46] While ridership on the system suffered during the height of the COVID-19 pandemic, high growth and economic development along the corridor has now led to record levels of daily ridership.

The existing, 2.7-mile Tampa Historic Streetcar System extends from downtown Tampa and the Channelside District to the Ybor City historic district. The preferred alternative for the project consists of the following project elements:

- Replacement of the existing replica streetcar vehicles with modern streetcar vehicles
- Construction of a 1.3-mile fixed guideway with overhead power within existing rights-of-way from the western terminus of the existing system through the core of Downtown Tampa to Tampa Heights
- Construction of stops along the extension guideway
- Modifications to the existing 2.7-mile alignment guideway, power system, and stops to support modern streetcar operations
- Modifications to the existing vehicle maintenance and storage facility to accommodate the new vehicles

3.8.2 Miami-Dade SMART Plan

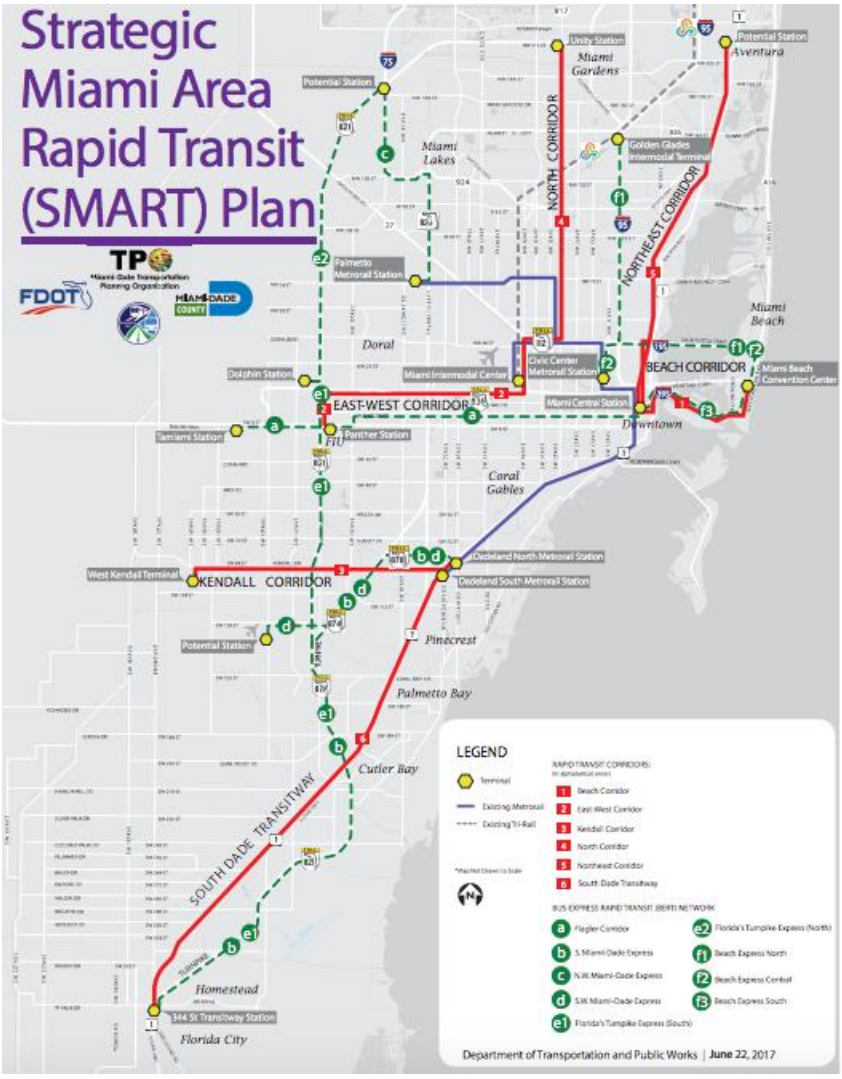
Miami-Dade's SMART Plan is advancing six rapid transit corridors to implement mass transit projects in Miami-Dade County. See Figure 3-21. To ensure the SMART Plan moves forward, the Transportation Planning Organization (TPO) Governing Board directed the Miami-Dade

[46] https://www.tampa.gov/mobility/transportation/projects/streetcar

TPO Executive Director to work with the TPO Fiscal Priorities Committee to determine the costs and potential sources of funding for PD&E studies for the projects, and to also take all necessary steps to implement the SMART Plan.[47] The plan includes:

- Beach Corridor
- East-West Corridor
- Kendall Corridor
- North Corridor
- Northeast Corridor
- South Dade Transitway

Figure 3-21 | Strategic Miami Area Rapid Transit (SMART) Plan



[47] SMART Plan - Miami-Dade County (miamidade.gov)

The six corridors would provide new local transportation options to a significant portion of Miami-Dade County's residents and workers. Among the plan's findings:

- 63 percent of the county's population (1.7 million residents) live within a 2-mile radius of the corridors
- 75 percent of the county's workforce (855,000 employees) work within a 2-mile radius of the corridors

Following the plan's release, PD&E studies were initiated, which led to the development of locally preferred alternatives for the choice of mode. Of the six corridors studied, it appears that the following three are selected for rail transit mode development:

- **Beach Corridor:** On January 30, 2020, the Miami-Dade Transportation Planning Organization (TPO) Governing Board selected the Locally Preferred Alternative (LPA) as elevated rubber tire technology for the Beach Corridor Trunkline; extension of the Metromover along Miami Ave to NW 41st Street for the Beach Corridor Design District extension; and dedicated lanes for bus/trolley along Washington Ave for the Beach Corridor Convention Center extension.
- **North Corridor:** On December 6, 2018, by Resolution #52-18, the Miami-Dade TPO Governing Board selected an elevated fixed guideway transit system as the LPA for the North Corridor. The LPA was then refined to select Elevated Heavy Rail on October 31, 2019, by Resolution #55-19.
- **Northeast Corridor:** The Project Development and Environmental (PD&E) study identified commuter rail on the existing Florida East Coast corridor as the desired transit option for the corridor, provided those subsequent alternative evaluations determine the project is feasible. This project would be the southernmost part of the planned Tri-Rail Coastal Link commuter service.

3.8.3 Broward County Light Rail

The Broward MPO adopted a Locally Preferred Alternative (LPA) in 2012 to provide premium transit service from the Sawgrass Mills area in the western portion of the county to downtown Fort Lauderdale via Fort Lauderdale-Hollywood International Airport and Port Everglades. However, the study was placed on hold following termination of the Wave Streetcar project. In 2018, Broward County voters approved a 1% sales tax that established a dedicated local funding source for transportation improvements, including transit. The surtax currently generates approximately $375 million per year. As a result, FDOT and the project partners have continued to advance the Central Broward Transit efforts by focusing on the

Figure 3-22 | Broward County Light Rail Corridor

3.8-mile Broward Boulevard corridor (Figure 3-22). The purpose of the current effort is to provide a premium transit service that will improve mobility, offer an alternative to single-occupant vehicles, and provide convenient access to major destinations in central Broward County.

3.8.4 Miami Metrorail Improvements

Downtown Intermodal Terminal

The Downtown Intermodal Terminal is proposed to be integrated with a TOD development in the Government Center area, which will also provide an intermodal connectivity with the Metrorail and Metromover systems. The project will plan, design, and construct an enhanced surface bus terminal in the vicinity of Government Center in Downtown Miami. The Downtown intermodal terminal will serve SMART Plan corridors and the Bus Express Rapid Transit (BERT) routes such as the East-West Corridor, Flagler Corridor, Beach Express South (Route f3), and several existing high ridership routes.

3.8.5 Miami Metromover Improvements

Metromover Guideway Superstructure Structural Retrofit

This project includes feasibility evaluation, simulations, design criteria and design-build services to add new switches, crossovers, bypasses, and all necessary infrastructure modifications to the existing Metromover guideway superstructure to allow for Metromover express services between the Government Center station and the future Herald Plaza area station. The project encompasses all civil and structural work for the retrofit of the Metromover guideway superstructure and substructure to install three (3) new crossovers with switches near the Government Center, College North, and Freedom Tower stations inclusive of one (1) bump track at Government Center approximately 350 feet long.

Project elements include guideway demolition of existing superstructure, fabrication and installation of new superstructure segments including structural framing, guide rail, special details, new bearings, retrofitted superstructure supports where needed, new cable trays, new traction power cable rungs from adjacent traction power substations (main and redundant service), new fiber and communication runs from source to point of connections, and other miscellaneous connections as needed.

FDOT

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